PACIFIC SALMON COMMISSION
TRANSBOUNDARY TECHNICAL COMMITTEE

REPORT TCTR (92)-1

TRANSBOUNDARY RIVER SALMON PRODUCTION, HARVEST AND ESCAPEMENT ESTIMATES, 1990

JANUARY, 1992

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EXECUTIVE SUMMARY

Estimates of catches and escapements of Pacific salmon returning to the transboundary Stikine, Taku, and Alsek Rivers for 1990 are presented and compared with historical patterns. Relevant information pertaining to the management of appropriate U.S. and Canadian fisheries is presented and the use of in-season management models is discussed.

The 1990 Stikine sockeye run was estimated at 67,200 fish, of which 29,800 fish were harvested in various fisheries and 37,400 escaped to spawn. The estimated U.S. marine commercial and test fishery catches of Stikine sockeye salmon were 9,400 and 400 fish, respectively; the Canadian inriver commercial, Indian food, and test fishery catches were 15,000, 3,000, and 1,900 fish, respectively. The preseason forecast of 94,000 sockeye salmon overestimated the actual run. In-season, the Stikine Management Model also overestimated the Stikine sockeye run, predicting a total run size of 140,700 fish the week of July 1 and between 95,700 to 125,000 thereafter. This overestimation was due in large part to misclassification problems of the in-season stock composition analysis which, compared to post season estimates, overestimated the catch of Stikine sockeye salmon in the U.S. catches. The model, however, did correctly predict a smaller than average portion of the run being from the Tahltan stock. Estimates of the total allowable catch (TAC) are derived from predictions of the total Stikine River run. Both Canada and the U.S. harvested less than the TAC allowed by the management model but were slightly over the allowable harvest range estimated from the postseason analysis. Due to the low run size of the Tahltan stock (26,200 fish) and, in spite of a low exploitation rate (40%) on this stock (2,200 fish in marine catches and 8,100 fish in inriver catches), the resulting spawning escapement to Tahltan Lake (14,900 fish) was below the 20,000 to 40,000 goal range established by the Transboundary Technical Committee. The escapement of 22,500 non-Tahltan Stikine sockeye salmon fell within the escapement goal range for that stock group.

The chinook catch in Canadian fisheries in the Stikine River was a record 3,200 fish (including the second highest catch of jacks on record; 1,000), approximately 49% more than the 1980 to 1989 average, with approximately 72% harvested in commercial fisheries and 28% harvested in the Indian food fishery. The U.S. marine catch in the District 106 and 108 mixed stock fisheries was 2,700 fish, approximately 80% more than the 1980 to 1989 average catch. Chinook spawning escapements were near average in 1990, with a count of 4,400 large adults through Little Tahltan weir and a total inriver escapement estimate of 17,600 large fish. The total escapement was near the 1985 to 1989 average of 18,200 fish but was below the escapement goal range of 19,800 to 25,000 fish.

The Stikine coho run was relatively strong in 1990. The U.S. marine harvest of Stikine River coho salmon is not known since there is no stock identification program in place; however, total coho gill net catch in District 106 was more than twice the 1980 to 1989 average. The Canadian coho catch was just over 4,000 fish, near the Treaty entitlement. Coho aerial survey escapement counts were above average.

The Stikine River runs of pink and chum salmon are typically very small. In 1990, Canadian catches of these two species were approximately 500 fish each.

This is approximately half the 1980 to 1989 average for pink salmon and near average for chum salmon.

The 1990 total Taku sockeye run was estimated at 224,300 fish and included a catch of 131,500 fish and an escapement of 92,800 fish. The estimated U.S. marine commercial and inriver personal use catches were 108,500 and 1,600 fish, respectively, records in both fisheries. Canadian commercial, Indian food fishery, and test fishery catches were 21,100, 100, and 300 fish, respectively. The Pacific Salmon Treaty defines harvest sharing of Taku River sockeye salmon as 18% of the TAC to Canada and 82% to the U.S. Since the escapement goal set by the Transboundary Technical Committee is expressed as a range, 71,000 to 80,000 fish, the resulting TAC is also determined as a range. In 1990, Canada took 14% to 15% and the U.S. took 72% to 76% of the TAC. The estimated spawning escapement for Taku sockeye salmon exceeded the upper level of the escapement goal range.

The chinook catch in the Canadian commercial fishery in the Taku River was 1,400 fish, more than three times the 1980 to 1989 average. The catch in the U.S. District 111 mixed stock fishery was 3,500 fish, approximately 67% higher than the 1980 to 1989 average. Above average escapements were observed in most of the Taku chinook tributaries surveyed in 1990. The estimated escapement of chinook salmon to the entire drainage was 21,300 to 24,500, the largest since the methodology was standardized in 1974, but still less than the escapement goal range of 25,600 to 30,000 fish.

The Taku coho run was strong in 1990. The U.S. harvest of coho salmon in the District 111 mixed stock fishery was a record 67,300 fish, 81% greater than the 1980 to 1989 average. The Canadian coho catch was 3,200, close to the Treaty limit of 3,000 fish. The above-border run size was estimated to be 75,000 to 85,000 coho salmon.

The catches of pink and chum salmon in the U.S. District 111 fishery were 153,000 and 145,500 fish, respectively, below the 1980 to 1989 average for pink salmon and above average for chum salmon. The catch of summer run chum salmon, comprised of coastal Alaskan wild and hatchery stocks, was a record, while the fall run of chum salmon, typically comprised of Taku River and Port Snettisham stocks, was weak. Canadian inriver catches included 400 pink and 12 chum salmon, a fraction of the 1980 to 1989 averages for both species.

The sockeye run to the Alsek River was above average as indicated by average U.S. terminal and Canadian catches and above average escapement counts. The U.S. Dry Bay catch was 17,000 sockeye salmon, near the 1980 to 1989 average catch. The Canadian sport fishery catch of 400 fish and Indian food fishery catch of 2,000 sockeye salmon were near the 1980 to 1989 averages. The count of 26,000 sockeye salmon through Klukshu weir was approximately 40% more than the 1980 to 1989 average, although the early run component was weak.

The chinook run to the Alsek River was about average. The U.S. Dry Bay catch of 100 fish was approximately one-fifth of the 1980 to 1989 average catch. The Canadian sport and Indian food fishery catch of 700 fish was approximately 60% greater than the 1980 to 1989 average. The chinook count through the Klukshu River weir, 1,900 fish, was below the 1984 to 1989 average of 2,300 fish.

The coho run to the Alsek River was poor. The U.S. Dry Bay coho catch of 1,400 fish was one-fourth the 1980 to 1989 average and the Canadian food and sport fishery catch of 100 fish was near average. The Klukshu weir count of 300 fish was less than one-third the 1980 to 1989 average.

The U.S. Dry Bay pink and chum salmon catches of zero and 500 fish, respectively, were near average for pink salmon and 55% of the 1980 to 1989 average for chum salmon. There are no recorded Canadian catches of pink or chum salmon in the Alsek River.

INTRODUCTION

This report presents the 1990 catch and escapement data for Pacific salmon runs to the transboundary Stikine, Taku, and Alsek Rivers and discusses management actions taken during the season. Catch and effort data are presented by management week (U.S. statistical week) for each river for both U.S. and Canadian fisheries. Spawning escapement data for most species are reported from weir counts or other escapement monitoring techniques. Sockeye runs to the three rivers are reconstructed using harvest data and spawning escapement estimates.

STIKINE RIVER

Stikine River salmon are harvested by U.S. gill net fisheries in Alaskan Districts 106 and 108, by Canadian commercial gill net fisheries located in the lower and upper Stikine River, and by a Canadian Indian food fishery in the upper portion of the river (Figure 1). Additional catches of unknown quantity are taken in Alaskan troll and seine fisheries and in Alaskan sport fisheries near Wrangell and Petersburg. A small sport fishery also exists in the Canadian portion of the Stikine drainage.

Harvest Regulations and the Joint Management Model

The harvest and management of Stikine River salmon stocks for the period 1988 to 1992 is governed by Annex IV, Chapter I, of the Pacific Salmon Treaty as negotiated by the Pacific Salmon Commission in February of 1988. Sharing arrangements for sockeye salmon are:

Total Sockeye Allowable Catch		Canadian Allowable Catch	
From	To	Minimum	Maximum
0	0	4,000	4,000
1	20,000	10,000	15,000
20,001	60,000	15,000	20,000
60,001	infinity	20,000	30,000

Under this annex the U.S. is allowed to catch the remainder of the total allowable sockeye catch after the Canadian allowable catch is subtracted from the total. However, even when the calculated total allowable catch (TAC) for the U.S. is low or zero, incidental catches of Stikine sockeye salmon are allowed in District 106. In addition, Canada is restricted to an annual catch of 4,000 coho salmon. This schedule, which is conditionally in effect until 1992, is tied to a commitment by the Parties to undertake a cooperative sockeye enhancement program commencing in 1989.

Prior to the 1990 season, the Transboundary Technical Committee updated the management plan and determined new parameters for input into the in-season run forecast model, referred to as the Stikine Management Model. Details regarding these subjects appear in "Salmon Management Plan for the Transboundary Rivers", Pacific Salmon Commission Transboundary Technical Committee Report TCTR (90)-2, April 1990. As required by the annex, a preseason forecast of the total Stikine sockeye run was made to guide the initial fishing patterns of U.S. and Canadian fisheries. The preseason forecast for 1990 was 94,000 sockeye salmon. Beginning the first week of July, in-season forecasts of total run size and TAC produced by the Stikine Management Model and based on catch-per-unit-effort (CPUE) data were used to assist in determining weekly fishing plans (Table 1).

Table 1. Weekly forecasts of run size and total allowable catch for Stikine River sockeye salmon as determined in-season by the Stikine Management Model, 1990. The run size is estimated from the preseason forecast in weeks 25 and 26, from the average model predicted run size (district and inriver predictions) for week 27, and from the inriver cumulative CPUE of all sockeye salmon for the remaining weeks.

Stat. Week	Start Date	Forecasts		U.S. Fishing Regime			Canada TAC	Cumulative Catch	
		Run Size	TAC	6	8	TAC		U.S.	Canada
Model Generated by U.S.									
25	17-Jun	94,000	34,000	I	D	14,000	20,000	2,688	0
26	24-Jun	94,000	34,000	I	D	14,000	20,000	6,808	285
27	01-Jul	140,690	80,690	I	D	50,690	30,000	11,614	1,580
28	08-Jul	95,671	35,671	I	D	15,671	20,000	19,215	2,560
29	15-Jul	106,106	46,106	I	D	26,106	20,000	35,241	9,223
30	22-Jul	110,962	50,962	I	D	30,962	20,000	28,904[a/]	10,445
31	29-Jul	105,128	45,128	I	D[b/]	25,128	20,000	35,273	13,104
32	05-Aug	104,970	44,970	I	D[b/]	24,970	20,000	38,332	16,827
Model Generated by Canada									
25	17-Jun	94,000	34,000	I	D	14,000	20,000	2,781	0
26	24-Jun	94,000	34,000	I	D	14,000	20,000	6,808	285
27	01-Jul	140,690	80,690	I	D	50,960	30,000	12,571	1,580
28	08-Jul	95,671	35,671	I	D	15,671	20,000	19,127	4,298
29	15-Jul	125,048	65,048	I	D	35,048	30,000	35,103	9,606
30	22-Jul	111,381	51,381	I	D	31,381	20,000	35,103[c/]	12,285
31	29-Jul	105,635	45,635	I	I	25,635	20,000	45,091	13,837
32	05-Aug	105,841	45,841	I	I	25,841	20,000	48,574	16,704
33	12-Aug	102,707	42,707	I	I	22,707	20,000	38,268[a/]	17,150
34	19-Aug	98,827	38,827	I	I	18,827	20,000	38,268[c/]	17,646
35	26-Aug	97,770	37,770	I	I	17,770	20,000	57,881	17,848
36	02-Sep	108,848	48,848	I	I	28,848	20,000	57,881[c/]	17,848

I indicates indirect fishery allowed; D indicates directed fishery allowed.

a/ Cumulative U.S. catch decrease due to use of a modified analytical technique to estimate the Stikine component of the catch to minimize misclassification problems.

b/ The U.S. fishing regime for District 108 as written in the annex is based on TAC and the cumulative catch in District 106. By week 30 the U.S. total cumulative catch was estimated as being greater than the TAC. Therefore, although the Treaty says directed fisheries may take place in District 108 after this time, the remaining TAC is zero and no more Stikine sockeye salmon should be taken.

c/ Where U.S. cumulative catch is the same in succeeding weeks, catch data was not available in the succeeding week when the model was run.

The preseason forecast of 94,000 Stikine sockeye salmon indicated a slightly below average run (1980 to 1989 average was 99,602 fish). In-season predictions of total run ranged from 95,671 to 140,690 sockeye salmon; U.S. and Canadian weekly predictions differed because different updates of catch and stock composition estimates were used by each country (Table 1). The high prediction in week 27 was due largely to a high catch estimate for Stikine stocks in District 106-41. After week 27, the run forecasts were based on inriver CPUE only and stabilized in the 96,000 to 125,000 range. By the end of the fishing season, the Stikine Management Model predicted a total run of 108,848 Stikine sockeye salmon with a total TAC of 48,848 fish, a Canadian TAC of 20,000 sockeye salmon, and a U.S. TAC of 28,848 sockeye salmon.

At the end of the season, the model predicted a cumulative catch of 57,881 and 17,848 Stikine sockeye salmon in the U.S. and Canadian fisheries, respectively; the final postseason catch estimates are 9,420 Stikine sockeye salmon in the U.S. fisheries and 18,024 in the Canadian fisheries. The in-season estimates of stock composition in the U.S. catches in 1990 were not accurate due to large differences in the scale growth patterns between 1989, used as in-season standards, and 1990 returns. During the early part of the season, it was obvious the Stikine component of the U.S. catch was being overestimated and adjustments to the in-season analysis were made that partially corrected this. This adjustment was applied in week 30 in the U.S. model runs and in week 33 in the Canadian model runs as seen by the decrease in cumulative catch (Table 1).

An in-season examination of age composition and brain parasite (*Myxobolus neurobius*) occurrence both indicated a lower proportion of Stikine sockeye than was estimated by scale pattern analysis. Had the non-Tahltan Stikine stock group been a major component of the District 106 catch, as the SPA indicated, then age-0.+ fish, which normally make up 9% to 20% of the non-Tahltan Stikine component, should have been present in more than the trace amounts that were found in the catch samples. Tahltan fish have a zero parasitism rate, non-Tahltan Stikine fish, a 30% rate, and Alaskan fish, nearly 100%. The rate observed in a sample of 150 sockeye salmon from the Sub-district 106-41 catch was 40%, indicating a substantial number of Alaskan fish. In-season SPA was apparently misclassifying Alaskan fish as Stikine fish. This was obvious in a test analysis where the in-season SPA was applied to a catch sample from the District 101, where Stikine fish are not present in significant numbers. Results showed a 40% occurrence of Stikine fish in the District 101 catch. An adjustment to the in-season SPA was obviously warranted. Quadratic analysis of scale patterns was used with discriminant functions built from the scale patterns of age-1.2 fish from 1989 escapement samples. Use of these functions to classify the age-1.3 fish in the 1990 catch resulted in much lower estimates of Stikine River fish in the District 101 catch and in estimates of the contribution of Alaska stocks in the District 106 catches which were closer to those supported by the brain parasite and age composition data. Therefore, the stock compositions were re-estimated for previous weeks and the quadratic analysis was used for the remainder of the in-season analysis.

U.S. Fisheries

In 1990, the District 106 commercial gill net fishery catch was 2,107 chinook, 185,805 sockeye, 164,211 coho, 319,186 pink, and 73,232 chum salmon (Appendix A.7). The catch in the District 108 fishery was 557 chinook, 11,574 sockeye, 8,218 coho, 13,822 pink, and 9,382 chum salmon (Appendix A.10). Catches of chinook, sockeye, coho, and chum salmon were above the 1980 to 1989 averages and pink salmon catches were below average (Figure 2). Test fisheries were conducted in Subdistrict 106-41 and District 108 to help managers ascertain in-season the run strength of various salmon species. Test fisheries catch low numbers of fish compared to commercial fisheries (Appendices A.12 and A.13). Annual commercial and test fishery catches from 1964 for these districts are provided in Appendix Tables B.1 through B.16. Catches of each species in District 106 and 108 fisheries consist of fish from several stocks; the contribution of Stikine River stocks is estimated only for sockeye salmon.

Postseason analysis of stock compositions in U.S. marine catches was based on linear discriminant function analysis of scale patterns with functions derived from 1990 escapement standards. The in-season estimate of the contribution of Stikine River sockeye salmon to the District 106 catch was approximately nine times higher than that of the postseason analysis (18.6% compared to 2.1%) (Figure 3). The Sumner Strait fishery (Subdistricts 106-41 and 106-42) harvested 2,712 Stikine sockeye salmon (Appendix A.3), which was 2.6% of the total sockeye harvest in that fishery. The Clarence Strait fishery (Subdistrict 106-30) harvested 1,189 Stikine sockeye salmon (Appendix A.6), which was 1.5% of the total sockeye catch. The terminal area fishery near the mouth of the Stikine (District 108) harvested 5,519 Stikine fish (Appendix A.11), which was 47.7% of the total sockeye catch. Thus, an estimated total of 9,420 Stikine sockeye salmon was taken in U.S. gill net fisheries in Districts 106 and 108.

The 1990 fishing season in Districts 106 and 108 was open from June 17 to September 24. During the first three weeks of the fishery, both District 106 and 108 were restricted to a two-day fishery each week due to the average to below average CPUE in both districts. During this time period, the Stikine Management Model indicated a strong run to the Stikine River and District 108 remained open. After the first two days of fishing during the fourth week, the sockeye CPUE was 10% above the 1980 to 1989 average despite the poor weather. The Stikine Management Model continued to indicate a good run to the Stikine River and a 24-hour extension was given. Sockeye catches during the fifth through the eighth week of fishing were average or above average in both districts. Fishing pressure in District 106 during weeks five through eight was 17% to 37% above average, so fishing time was limited to two days each week except during the sixth week, when the fishing time was extended for one day. The extension was given because the sockeye CPUE was 35% to 40% above average. The District 106 and 108 sockeye harvests of 185,805 and 11,574 fish, respectively, exceeded the 1980 to 1989 averages of 145,666 and 4,943 fish, respectively.

During the 1990 season, the District 106 drift gill net fishery was open for 34 days from June 17 to September 24, 17% above the 1980 to 1989 average of 29 days. Subdistricts 106-41, 106-42, and 106-30 were all open simultaneously each week throughout the season with an area restriction for Salmon Bay used during part of the fishery. In 1990, the District 108 openings coincided with District 106

openings and totaled 34 days, more than twice the 1980 to 1989 average of 16 days. Area restrictions were used for the first two weeks around the mouth of the Stikine River to protect the Stikine chinook run. Area restrictions were also used during portions of the fishery in Frederick Sound to protect chinook stocks. Fishing effort in District 106 started out above average and generally remained above the 1980 to 1989 average throughout the entire fishery.

Canadian Fisheries

The catches in the combined Canadian commercial and Indian food fisheries in the Stikine River in 1990 included: 2,250 large chinook, 959 jack chinook (fish which weigh less than 2.27 kg), 18,024 sockeye, 4,037 coho, 496 pink, and 499 chum salmon and 199 steelhead trout (Figure 4 and Appendices A.15- A.18). Catches of chinook salmon were above the 1980 to 1989 average while catches of all other species designated were below average (Appendices B.17-B.22). A test fishery to determine migratory timing and stock composition of the sockeye run and run timing and relative abundance of coho salmon was conducted again in the lower Stikine River. The test fishery was located just upstream from the Canada/U.S. border. Test fishery catches included: 231 chinook, 1,940 sockeye, 405 coho, 47 pink, and 77 chum salmon and 24 steelhead trout (Appendices A.19-A.21).

Lower Stikine Commercial Fishery

The Canadian commercial fishery catch in the lower Stikine River was 1,569 large chinook, 680 jack chinook, 14,530 sockeye, 4,020 coho, 496 pink, and 499 chum salmon and 188 steelhead trout in 1990 (Appendix A.15). The sockeye catch was 96% of the 1980 to 1989 average of 15,168 fish (Appendix B.17).

The fishery commenced at noon on Monday, June 25 (statistical week 26), for a two-day opening. The sockeye catch and CPUE for the first week of the season was below average. However, fish availability improved over the subsequent three weeks and weekly catches and CPUE values were above average for each of statistical weeks 27 through 29. Preliminary catch and effort inputs to the Stikine Management Model for week 29 resulted in a predicted run of 125,048 sockeye salmon, which translated into a Canadian catch quota of 30,000 fish. In response, fishing time for week 29 (July 15 to 21) was increased to three days. The forecast for this week using updated catch numbers for that week declined to 119,195 sockeye salmon and the Canadian quota decreased to 20,000 sockeye salmon.

By statistical week 30 (July 22-28), the run forecasts began to decline and the lower Stikine commercial fishery was reduced to one day per week for weeks 30 and 31. Thereafter, and until the end of the sockeye fishery, fishing times were adjusted according to the guideline weekly catch quotas and run strength. A precipitous drop in the CPUE in week 33 (August 12-18) marked a somewhat early end to the sockeye season. Generally, the weekly sockeye CPUE was below the 1980 to 1989 average for the latter half of the season. With a final in-season sockeye run forecast of approximately 108,400 fish, the TAC for Canadian fisheries was 20,000 sockeye salmon (according to Annex provisions). Allowing for the sockeye catch in the upper Stikine fisheries, the total allowable lower

Stikine catch was 16,506 fish. The actual catch of 14,530 sockeye salmon in the lower Stikine commercial catch was 1,976 fish below this target.

Management emphasis switched to coho towards the end of August and the fishery was restricted to two days per week during the early part of the coho season (weeks 34 and 35, August 19 to September 1) due to below average coho CPUE. Additional time was fished in the subsequent two weeks as the run strength improved and CPUE values approached and exceeded average values. The final fishing period (week 38, September 16 to 22) was reduced to two days, in spite of a coho CPUE that was 47% above average, to keep the total harvest in line with the 4,000 coho allocation; a total of 4,020 coho salmon was harvested in the lower Stikine commercial fishery.

Twenty license holders participated in the fishery throughout the season with an average of 11 present each week. Effort was similar to the previous two years, 328 boat-days in 1990 compared to 325 in 1989 and 320 in 1988, well below the 1980 to 1989 average of 455 boat-days. Each license holder was allowed the use of one gill net with a maximum length of 135 meters. A maximum mesh size restriction of 146 mm (to July 15) was implemented to reduce the incidental catch of chinook salmon. As in past years, both drift and set netting techniques were utilized.

Upper Stikine Commercial Fishery

A small commercial fishery has existed near Telegraph Creek on the upper Stikine River since 1975. The catch recorded in 1990 included 472 sockeye (approximately 77% of the 1980 to 1989 average catch of 613 sockeye salmon), and 68 chinook salmon, including 20 jack (compared to the 1980 to 1989 average of 110 chinook salmon). Fishing effort was similar to that in previous years with one to four people fishing one day per week from late June through the second week of August.

Indian Food Fishery

The catch taken at the Indian food fishery, centered around Telegraph Creek, was 892 chinook (including 259 jacks), 3,022 sockeye, and 17 coho salmon. The chinook catch was below the 1980 to 1989 average of 1,013 fish, and the sockeye catch was 73% of the 1980 to 1989 average of 4,134 fish and reflected the below average run of Tahltan sockeye salmon. Weekly catches in 1990 and annual catches since 1975 are listed in Appendices A.18 and B.20.

Escapement

Sockeye

A total of 14,927 sockeye was counted through the Tahltan Lake weir in 1990. The count was 71% of the 1985 to 1989 average count of 21,083 fish and below the escapement goal range of 20,000 to 40,000 fish (Appendix B.25). The final in-season Stikine Management Model prediction of the Tahltan escapement was 24,701 sockeye salmon, 9,774 above the weir count.

The total spawning escapement for the non-Tahltan stock group is estimated indirectly by computing the ratio of Tahltan to non-Tahltan stocks in the total inriver sockeye run using the stock compositions, estimated with egg diameter analysis, from the inriver test fishery. The ratio is then applied to the estimated inriver Tahltan run size which results in an estimate of the total non-Tahltan run size. The non-Tahltan escapement is estimated by subtracting the estimated catches of non-Tahltan sockeye in the Canadian fisheries. The postseason estimate of non-Tahltan escapement was 22,495 fish, while the final estimate derived in-season from the Stikine Management Model was 34,327 sockeye salmon. Aerial surveys of non-Tahltan sockeye escapement index areas indicated near average numbers of spawners in 1990 (Appendix B.26).

Chinook

For the sixth consecutive year, an enumeration weir was utilized in 1990 to assess the total Little Tahltan River chinook escapement. The 1990 count of 4,392 large adults was slightly below the 1985 to 1989 average of 4,559 while the jack count of 417 was above the 1985 to 1989 average of 375 fish. The chinook escapement (large adults) to the entire Stikine drainage, estimated by multiplying the Little Tahltan Weir count by a factor of 4, was 17,568 fish (Figure 5), near the 1985 to 1989 average of 18,236 fish, but still below the escapement goal range of 19,800 to 25,000 fish. Results from aerial surveys conducted on other tributaries also indicated an average chinook escapement in 1990. Counts for 1990 were: Little Tahltan River, 1,755; Beatty Creek, 271; Tahltan River, 2,134; and Andrew Creek, 664 chinook salmon. The index counts were above the 1985 to 1989 average for Tahltan River and Andrew Creek and below average for Little Tahltan River and Beatty Creek.

Coho

As indicated by the coho catch in the lower Stikine commercial fishery, coho run strength was below average early in the season, was greatest during week 38 (September 16-22), and remained strong during the middle and late season. The CPUE was above the 1980 to 1989 average at the close of the fishery when the quota of 4,000 fish was caught. As in 1986 through 1989, the lower Stikine test fishery was extended to cover the coho migration to determine run timing and relative abundance. If one assumes equal catchability of sockeye and coho salmon in the test fishery nets (unproven assumption), the relative magnitude of the coho run was 36% of the sockeye run. This technique indicated an inriver coho run of 20,659 fish, which was approximately 77% of the 1986 to 1989 average of 26,800 fish. However, aerial surveys of coho index streams indicated an above average run.

Sockeye Run Reconstruction

The postseason estimate of the total run of Stikine sockeye salmon was 67,242 fish of which 41,013 were non-Tahltan stocks and 26,230 were of Tahltan origin (Table 2). This total run size is 68% of the 1980 to 1989 average run size of 99,602 sockeye salmon. The postseason estimate is based on catch and escapement

data, inriver egg-diameter stock composition data, inriver test fishery run timing data, and scale pattern stock composition data from Districts 106 and 108. The Stikine Management Model, which predicts run size from in-season CPUE and stock composition data, overestimated the total run size by 62%; the final estimate from the model was 108,848.

The Tahltan escapement, counted at a weir, was 14,927 sockeye salmon, 42% below the final in-season Model prediction of 25,673 fish. The postseason estimate of the total escapement to the Stikine River was 37,422 sockeye salmon, 58% of the 1980 to 1989 average.

The estimated smolt-to-adult 1990 return for Tahltan sockeye salmon was 4.0%, slightly below the 1986 to 1989 average of 4.5%. The smolt count in 1990 totalled 607,645 fish, roughly 90% of which originated from the 1988 escapement of 2,536 sockeye salmon. This represents an estimated egg-to-smolt survival of 17% (assumed average fecundity and equal sex ratio), approximately seven times the assumed standard for wild sockeye salmon.

Table 2. Run reconstruction for Stikine River sockeye salmon, 1990. The run includes those stocks which spawn above the U.S./Canada border.

	Tahltan	non-Tahltan	Total
Escapement	14,927	22,495	37,422
Canadian Harvest			
Indian Food	2,720	302	3,022
Upper Commercial	425	47	472
Lower Commercial	5,029	9,501	14,530
Total	8,174	9,850	18,024
% Harvest	78.8%	57.7%	65.7%
Test Fishery Catch	822	1,118	1,940
Inriver Run	23,923	33,464	57,386
U.S. Harvest			
106-41&42	801	1,911	2,712
106-30	114	1,075	1,189
108	1,280	4,239	5,519
Total	2,195	7,225	9,420
% Harvest	21.2%	42.3%	34.3%
Test Fishery Catch	112	324	436
Total Run	26,230	41,013	67,242
Escapement Goal			
Minimum	20,000	20,000	40,000
Maximum	40,000	40,000	80,000
Total Allowable Catch			
Minimum	0	1,013	0
Maximum	6,230	21,013	27,242
Actual Catch	11,303	18,517	29,820

TAKU RIVER

Taku River salmon are harvested in the U.S. gill net fishery in Alaskan District 111, in northern Southeast Alaska seine and troll fisheries, and in the Juneau area sport fishery and inriver personal use fishery (Figure 6). Canadian fisheries for Taku River salmon include a commercial gill net fishery located in the river near the U.S./Canada border, a sport fishery, and an Indian food fishery.

Harvest Regulations

The 1988 to 1992 harvest and management of Taku River salmon stocks is governed by Annex IV, Chapter 1, of the Pacific Salmon Treaty as negotiated at the February 1988 meeting of the Pacific Salmon Commission. The annex allows Canada to harvest 18% of the TAC of Taku sockeye salmon, 3,000 coho salmon, and incidental catches of other species. This regime is conditional on the Parties proceeding with a cooperative sockeye enhancement program which began in 1990.

Prior to the 1990 fishing season, the Transboundary Technical Committee met to exchange management plans for the Taku River. The results from this exchange are documented in: "Salmon Management Plan for the Transboundary Rivers", Pacific Salmon Commission Transboundary Technical Committee Report TCTR (90)-2, April 1990.

U.S. Fisheries

Catches in the District 111 drift gill net fishery in 1990 totaled 3,480 chinook, 126,884 sockeye, 67,310 coho, 153,036 pink, and 145,530 chum salmon (Appendix C.1). Catches of sockeye and coho salmon were comprised primarily of mixed wild stocks from the Taku River, Port Snettisham, and other drainages. Catches of chinook, pink, and chum salmon were comprised of both wild and local hatchery stocks. Catches of sockeye and coho salmon were the highest ever recorded in the District 111 gill net fishery (Figure 7 and Appendix D.1). The 1990 sockeye and coho catches were 78% and 81%, respectively, above the 1980 to 1989 averages. The chinook harvest was 67% above the 1980 to 1989 average, a reflection of the presence of a large number of small, immature chinook salmon during the early weeks of the fishery. Pink salmon catches were about average for even years, while chum harvests varied according to the major stocks fished. The summer chum salmon catch (prior to August 19, statistical week 34) was exceptional. The record catch of 112,260 fish was three times the 1980 to 1989 average and is believed to have been primarily comprised of Alaskan coastal wild and hatchery stocks. On the other hand, wild fall chum salmon from Port Snettisham and the Taku River contributed 33,270 fish to the District 111 gill net catch, 65% of the 1980 to 1989 average.

The majority of the sockeye salmon harvest in District 111 (an estimated 86% or 108,499 fish) was of Taku River origin and 14% (18,385 fish) was of Port Snettisham origin, based on scale pattern analysis (Appendices C.3 and C.4). By

stock, the catches were 42,676 (33.6%) Mainstem, 36,332 (28.6%) Tatsamenie, 24,952 (19.7%) Trapper, 14,242 (11.2%) Crescent, 4,539 (3.6%) Kuthai, and 4,143 (3.3%) Speel sockeye salmon. The estimated combined marine commercial and inriver personal use catch of 110,059 Taku sockeye salmon was 72% to 76% of the TAC, approximately 8,278 to 15,658 fish less than the level allowed for in the Annex.

As a result of above average sockeye salmon catches in the District 111 drift gill net fishery and subsequent above average sockeye CPUE recorded at the Canyon Island fish wheels, the weekly fishing time was maintained at three days for the duration of the summer season. An additional 24 hours of fishing was allowed during statistical week 30 (July 22-28), because district catches were high as were fish wheel catches and inriver run size estimates generated by the mark-recapture program. In order to reduce the harvest of immature chinook salmon, the District 111 gill net fishery was closed from 10 pm to 4 am from July 8 to July 18. In addition, portions of Stephens Passage were closed from July 8 to August 1, to provide chum salmon brood stock for the Snettisham Hatchery. This closure also protected Port Snettisham sockeye salmon and was primarily responsible for the minor contribution of these stocks to the District 111 sockeye salmon catch. Despite the closure and the lack of additional fishing time allowed to harvest fish, the summer chum catch was triple the 1980 to 1989 average. Fall management was initiated on August 19 (statistical week 34), when the District 111 gill net fishery was opened for three days. By this time it became clear that the Taku River and Port Snettisham coho runs were above average, but wild chum runs were below average. Consequently, beginning August 26 (statistical week 35), fishing time and area were increasingly reduced to provide protection for the weak chum stocks. The 24-hour extension during the last week of the fishery was in response to extremely poor weather conditions. Because Taku Inlet was closed in the protected waters above Greeley to Cooper points, very little fishing occurred during the initial 24-hour opening.

Several fisheries, other than the commercial fisheries, harvest salmon including transboundary river stocks in District 111. The U.S. personal use fishery located in U.S. portions of the Taku River harvested approximately 52 chinook, 1,560 sockeye, 206 coho, 130 pink, and 92 chum salmon. A small test fishery was again operated in Port Snettisham for one day each week during the month of July and the first week of August. Catches totaled 21 chinook, 57 sockeye, 0 coho, 38 pink, and 217 chum salmon and are believed to be of Port Snettisham origin. The ADF&G Division of Sport Fish estimated that the spring sport fishery near the mouth of the Taku River, open from mid-April to mid-June, caught approximately 700 large mature chinook salmon; although estimates are not made for that area specifically. Several stocks are thought to contribute to the sport fishery, including Taku, Chilkat, King Salmon, and Unuk River stocks and local hatchery stocks, but the majority are believed to be of Taku River origin.

Canadian Fisheries

The Taku River commercial fishery catch was 1,258 large chinook, 128 jack chinook (fish less than 2.27 kg), 21,100 sockeye, 3,207 coho, 378 pink, and 12 chum salmon and 22 steelhead trout (Appendix C.5). Catches of chinook and sockeye were above the 1980 to 1989 averages of 422 and 15,406 fish, respectively, while

catches of the remaining species were below average (Figure 7, Appendix D.5). The fishery was open for 28 days, near the 1980 to 1989 average. The seasonal fishing effort was 295 boat-days in 1990 compared to the 1980 to 1989 average of 250 boat-days.

In addition to the commercial catches, an Indian food fishery existed in the river in 1990 which took 15 chinook, 74 sockeye, and 74 coho salmon. The inriver test fishery catch was 48 chinook, 285 sockeye, and 472 coho salmon and 20 steelhead trout.

The commercial fishery commenced at noon on Monday, June 25 (statistical week 26). The CPUE for the first two weeks (combined) was more than 40% above average; the CPUE for the first opening was a record. The CPUE values dropped to near average values after these first two weeks; however, the CPUE value recorded for the week of August 6 was the lowest on record for that week. Unusually high water conditions persisted throughout the fishing season. The fishery was closed for the season August 21, when the Treaty limit of 3,000 coho salmon was attained.

Forecasts of the total sockeye return were made on a regular basis using data collected from the Canada/U.S. tagging program and catch statistics reported from U.S. District 111 and Canadian gill net fisheries. The forecasts were used in conjunction with historical timing information to develop both seasonal and weekly cumulative catch guidelines for the Canadian fishery (Table 3); weekly fishing times were adjusted according to these guidelines. The first in-season run forecast was made in week 27 at which time a total run of 183,000 to 281,000 sockeye salmon was predicted. A wide range is typical for the initial weeks of the season due to uncertainty over run timing; the range narrows as the season progresses. The run projections increased from week 27 to a maximum forecast of 255,000 to 309,000 fish in weeks 31 and 32 and, thereafter, decreased to a final in-season estimate of 229,000 in week 34. The forecasts used in weeks 33 and 34 were the lower numbers in the ranges since it was obvious by this time that the run timing was earlier than normal. The predicted season allowable catch for the Canadian fishery ranged from 23,000 fish predicted in week 28 to approximately 36,000 fish in weeks 30 through 32. By the end of the season, the TAC had dropped to about 27,000 sockeye salmon.

Table 3. Canadian in-season forecasts of total run size, TAC, and Canadian TAC of Taku sockeye salmon, 1990.

Stat. Week	Run Forecast			Total TAC	Canada TAC	Escapement
	Lower	Upper	Used			
27	183,000	281,000	232,000	152,000	27,000	80,000
28	170,000	245,000	208,000	128,000	23,000	80,000
29	238,000	306,000	272,000	192,000	35,000	80,000
30	253,000	307,000	280,000	200,000	36,000	80,000
31	255,000	309,000	282,000	202,000	36,000	80,000
32	255,000	309,000	282,000	202,000	36,000	80,000
33	244,000	274,000	244,000	164,000	30,000	80,000
34	229,000	257,000	229,000	149,000	27,000	80,000

The final Canadian in-season estimate of TAC was approximately 149,000 to 154,000 sockeye salmon excluding any allowance for District 112 seine interceptions. Canadian fishermen caught 21,174 sockeye salmon (commercial plus IFF catch), or roughly 14% of the aforementioned estimates of the sockeye TAC, which was 4,802 to 6,422 fish less than allowed under the Annex.

The combined commercial and Indian food fishery catch of coho salmon totaled 3,281 fish which slightly exceeded the Annex provision of 3,000 fish.

As in recent years, both set and drift gillnetting techniques were utilized with the majority of the commercial catch taken in drift gill nets. Mesh sizes were restricted to less than 146 mm through July 15 to minimize the incidental catch of chinook salmon.

Escapement

Sockeye

Total spawning escapement in the above-border is estimated from the joint U.S./Canada mark-recapture program. The estimated escapement of 92,795 fish was 6% above the 1985 to 1989 average of 87,390 fish (Figure 8 and Appendix D.8) and was over the upper limit of the escapement goal range of 71,000 to 80,000 sockeye salmon.

Escapement counts are made at several weirs throughout the Taku drainage. The escapement of 9,443 fish through the Little Trapper Lake weir was below the 1985 to 1989 average of 12,180 sockeye salmon and the escapement through Little Tatsamenie Lake weir of 5,706 fish was slightly below the 1985 to 1989 average of 6,456 sockeye salmon. A weir was also operated at the Nahlin River in 1990 and a total of 2,515 sockeye salmon was counted. Helicopter surveys of the mainstem Taku River were made during the fall of 1990 and good spawning demislies of fish were observed at several spawning locations. The escapements of Port Snettisham stocks were mixed. A record total of 18,064 sockeye salmon was counted through the Speel Lake weir, 48% higher than that observed in the next highest year (1989), and over twice the 1985 to 1989 average of 7,089 fish. The sockeye count at the Crescent Lake weir was 1,262 fish, below the 1985 to 1989 average of 4,162 fish. However, the actual escapement to Crescent Lake in 1990 is unknown because the weir was underwater for extended periods of time after several heavy rainstorms allowing fish to pass uncounted.

Chinook

Above average escapements were observed in most of the Taku chinook tributaries surveyed in 1990. The total chinook escapement estimates of 21,278 (U.S.) and 24,498 (Canada) fish were generated from aerial survey counts expanded to account for the entire drainage escapement. The U.S. estimate is made by expanding the combined Nahlin and Nakina counts by a factor of 1/0.45 and the Canadian estimate is made by expanding the combined Nahlin, Nakina, Kowatua, Tatsatua, Tseta, and Dudidontu counts by a factor of two. These estimates were the largest observed since the aerial survey indices were standardized in 1974, but were still below

escapement goals of 25,600 (U.S.) and 30,000 (Canada). Escapement estimates for 1979 to 1990 are shown in Figure 9.

Coho

Water conditions at Canyon Island in the Taku River in late summer and fall remained suitable for fish wheel operation, allowing a substantial but unknown portion of the coho run to be tagged. Mark-recapture and test fishery information indicated that the interim above-border escapement goal of 27,500 to 35,000 fish was exceeded and that the overall coho escapement was strong.

The mark-recapture estimate of run size through the end of the inriver commercial fishery (statistical week 34, August 23) was 22,454 fish. This is similar to run size estimates for comparable time periods from 1987 to 1989. Tag-recovery after the end of the commercial fishery was limited to the test fishery catches; few tags were recovered and the precision of the resulting run size estimates for this time period was poor. The mark-recapture estimate of inriver run size through the end of the test fishery (September 29) was 75,036 fish. A second method of estimating the above-border run size was made by expanding the inriver estimate through week 34 by the proportion of the cumulative test fishery CPUE that occurred after this time; the estimate was 85,053 fish. A total of 3,753 coho salmon were harvested from the above-border run.

Only limited, comparable, index escapement data exists for Taku coho salmon. A total of 907 coho salmon was counted through the Yehring Creek weir. The weir was inundated by high water on several occasions which presumable allowed fish to pass uncounted. A mark-recapture estimate of the total coho escapement to this index system was 2,522 fish. The escapement count of coho salmon at the Little Tatsamenie Lake was 529 fish counted through the weir and 140 fish counted holding below the weir when it was removed. The aerial counts of coho salmon in Flannigan Slough were 414 fish, 28% of the 1986 to 1989 average of 1,475 fish; however, surveyors felt that the count occurred late in the run and was not an accurate reflection of run strength. Survey counts for the Dudidontu River and upper portions of the Nahlin River were 25 and 256 fish, respectively. Both counts were below the respective 1986 to 1989 averages, an indication that early run coho stocks may not have been as strong as the rest of the Taku River coho run.

Pink

Mark-recapture techniques were not used in 1990 to estimate the escapement of pink salmon to the Taku River because the magnitude of the even-year run is typically very small. Therefore, no estimate of system-wide escapement is available. Catches in the lower river ADF&G/DFO fish wheels totaled 13,358 fish, over twice the recent (1986 and 1988) even-year average of 5,628 fish; however, it is not known how accurately these catches reflect true abundance.

Chum

A system-wide escapement estimate for chum salmon is not available. Limited aerial survey observations of the principal known spawning areas revealed that below-average numbers of fish were present. If one assumes equal catchability of coho and chum salmon in the test fishery nets (unproven assumption), the relative magnitude of the chum salmon run was approximately 40% of the coho run.

Sockeye Run Reconstruction

The estimated total Taku sockeye salmon run was 224,313 fish (Table 4). This represents the largest run since total run statistics have been tabulated (1984) and is 42% above the 1985 to 1989 average of 158,279 fish. The total catch of Taku sockeye salmon in the U.S. District 111 and U.S. and Canadian inriver fisheries was 131,518 fish and the escapement was 92,795 fish. The escapement was above the upper level of the escapement goal range of 71,000 to 80,000 sockeye salmon. The U.S. District 111 harvest and inriver personal use harvest of 110,059 fish was 83.9% of the total harvest and the Canadian commercial and food fishery harvest of 21,174 fish was 16.1%. The Canadian test fishery catch of 285 sockeye salmon is not included in these calculations. Based on the escapement goal range, the TAC was 144,313 to 153,313 sockeye salmon. The U.S. harvested 71.8% to 76.3% of the TAC and Canada harvested 13.8% to 14.7% of the TAC. In addition, an estimated total of 18,385 Port Snettisham sockeye salmon were harvested in District 111, while at least 19,326 fish escaped into Crescent and Speel Lakes.

Table 4. Taku sockeye salmon run reconstruction, 1990. Run reconstructions is for Taku sockeye stocks that spawn above the border as they enter District 111 off the mouth of the Taku River.

	Taku		Snettisham
Escapement	92,795		19,326 a/
Canadian Harvest			
Commercial	21,100		
Food Fishery	74		
Total	21,174		
% Harvest	16.1%		
Test Fishery Catch	285		
Above Border Run	114,254		
U.S. Harvest			
District 111	108,499		18,385
Personal Use	1,560		
Total	110,059		
% Harvest	83.9%		
Test Fishery Catch	none		85
Total Run	224,313		37,796
Taku Harvest Plan	Minimum	Maximum	
Escapement Goal	71,000	80,000	
TAC	153,313	144,313	
Canadian Portion	0.138	0.147	
U.S. Portion	0.718	0.763	

a/ Count incomplete due to water over weir.

ALSEK RIVER

Alsek River salmon stocks contribute to the U.S. commercial gill net fisheries located in Dry Bay, at the mouth of the Alsek River (Figure 10). Some salmon of Alsek origin may also be taken in U.S. commercial gill net and troll fisheries in the Yakutat area. No commercial fishery exists in the Canadian portions of the Alsek River drainage, although Indian food and sport fisheries occur in the Tatshenshini River and some of its headwater tributaries (Figure 10).

Harvest Regulations

Although catch sharing of Alsek salmon stocks between Canada and the U.S. has not been specified, Annex IV does call for a cooperative attempt to rebuild depressed chinook and early-run sockeye stocks. Interim escapement goals for Alsek chinook, sockeye, and coho salmon have been set by the Transboundary Technical Committee at 7,200 to 12,500 chinook, 33,000 to 58,000 sockeye, and 5,400 to 25,000 coho salmon.

U.S. Fisheries

Catch and Effort

The U.S. Dry Bay set gill net fishery catch was 78 chinook, 17,013 sockeye, 1,437 coho, 0 pink, and 495 chum salmon (Appendix E.1). Catches of all species were below the 1980 to 1989 averages in this fishery (Figure 11, Appendix E.4).

The Dry Bay commercial gill net fishery opened for the season on June 18 and closed on September 20. Fishing effort was slightly above average through mid-July but fell below average through late August and returned to average levels late in the season. In 1990 the entire catch was made inriver; no catch was made in the surf fishery at the mouth of the Alsek River.

The preseason forecast indicated poor runs of chinook, early-run sockeye, and coho salmon in 1990, but an average run of late-run sockeye salmon. The fishing season opening in Dry Bay was delayed two weeks relative to historical patterns because of the expectations of poor early runs. The fishing season opened on June 18 with normal effort levels and was limited to a one-day opening in order to conserve chinook and early sockeye stocks. Fishing success was better than expected; consequently, the fishing periods for the next two weeks were increased to two days per week. Because above average CPUE levels and initial predictions generated by two ADF&G sockeye salmon management models indicated an above average run of sockeye salmon, weekly fishing periods were increased to three days per week for the remainder of the season. The total harvest of 17,013 sockeye salmon was slightly less than the 1980 to 1989 average (Figure 11), but better than in the last three years.

The U.S. Dry Bay gill net fishery typically catches few Alsek chinook salmon (Figure 13). With the delayed opening of the fishery in recent years, most of

the chinook run passes through the fishery prior to the opening date. In addition, a 6-inch maximum mesh size restriction through early July has been in effect since 1987, effectively eliminating the use of chinook gear. The total catch of 78 chinook salmon was the second lowest catch since 1964.

Fishing success for coho salmon in the fall was poor. As a result, the fishing season was terminated on September 20. The total coho catch of 1,437 fish was the second lowest catch since 1964.

A total of 495 chum salmon was taken in the fishery, 55% of the 1980 to 1989 average. No pink salmon were caught in 1990.

Sockeye Management Model

ADF&G managers have used a model for managing the sockeye harvest since 1984. This model worked well in predicting the total season catch and escapement during the years 1984 through 1988. It did not work well in 1989, but a postseason review indicated that the model had not been correctly updated. Two management models, an updated original harvest rate model and a multiple regression model, produced highly accurate predictions of the Alsek River sockeye salmon run in 1990 (Table 5) and proved valuable in managing the fishery.

Table 5. In-season U.S. forecasts of the total 1990 Alsek River catch, Klukshu River escapement, and total (Alsek River catch + Klukshu escapement) using two predictive models.

		Harvest Rate Model			Multiple Regression Model		
Stat. Week	Start Date	Total Catch	Klukshu Escapement	Total	Total Catch	Klukshu Escapement	Total
27	01-Jul	17,653	24,198	41,851	13,326	25,985	39,311
28	08-Jul	22,786	31,700	54,486	14,494	37,633	52,127
29	15-Jul	21,169	27,765	48,934	15,253	27,885	43,138
30	22-Jul	19,829	26,199	46,028	17,107	28,248	45,355
31	29-Jul	17,813	22,525	40,338	16,784	26,627	43,411
Actual		16,852	25,995	42,847	16,852	25,995	42,847

Canadian Fisheries

The center of Indian food fishing activity in the Alsek drainage occurs at the Champagne/Aishihik Indian village of Klukshu, on the Haines Road, approximately 60km south of Haines Junction, Yukon Territory. Fish are harvested by means of gaff and traditional fish traps as the fish migrate up the Klukshu River into Klukshu Lake. As in 1989, the Indian fish trap fishery remained closed until mid-July at which time, and until August 15, only trapping by elders was permitted for one day each week. A catch ceiling of 10% to 15% of the weir count was in effect during this period; however, it was not needed since effort was minimal. The early season restrictions were implemented to conserve chinook and

early run sockeye salmon. After August 15, fishing with traps was allowed four days per week. The gaff fishery was managed as follows:

Prior to August 15, only elders were allowed to fish with a gaff in the Klukshu River system. Other designated tributaries, such as Village Creek and the Blanchard River, were open for gaffing to other band members for three days each week.

After August 15, gaffing was permitted by all band members for four days per week in all systems.

After September 20 the fishery was opened for unlimited time.

The Indian food fishery catch was 173 chinook and 2,012 sockeye salmon. The food fishery catch data was summarized weekly from daily catch statistics gathered during the fishing periods.

The majority of the sport fishing effort on the drainage occurs on the Tatshenshini River, at and just downstream of the mouth of the Klukshu River in the vicinity of the abandoned settlement of Dalton Post. The retention of sockeye salmon in the recreational fishery was prohibited prior to August 15 to protect early runs. The daily salmon catch limit was two fish and only one could be a chinook salmon The possession limited was twice the daily unit. Sport fishing in the area where effort traditionally concentrates, i.e. Dalton Post, was open from 6:00 am Saturday to 12:00 noon Tuesday each week. After September 20, the sport fishery was open 7 days per week.

The sport fishery catch was approximately 555 chinook, 392 sockeye, and 75 coho salmon. These catches represent a 96% increase in the chinook catch and 15% and 27% decreases, respectively, in the sockeye and coho catches from the 1980 to 1989 averages. The increase in the chinook catch may be attributable to the above normal contribution of Takhanne bound chinook salmon to the fishery. The catch data was derived from a creel census program conducted in the Dalton Post area by the Klukshu weir personnel. Additional catch data was collected in other areas/tributaries by a DFO patrol officer.

Escapement

It is currently not possible to accurately assess whether Alsek escapement goals are being met because total drainage enumeration programs are not established. A large, but unknown and presumably variable proportion of the escapement of each species is enumerated at the weir on the Klukshu River. Current escapement monitoring programs including the Klukshu weir and aerial surveys do, however, allow annual comparisons of escapement indices. The most reliable comparative escapement index for Alsek drainage salmon stocks is the Klukshu River weir count.

Sockeye

A total of 25,995 sockeye salmon was counted through the Klukshu weir in 1990 (Figure 12), consisting of 1,316 early run (prior to August 16) and 24,679 late run sockeye salmon. The early run component was below the 1985 to 1989 average of 1,642 fish, while the late run component was well above the average of 15,730 fish. For the second consecutive year, an excellent run of sockeye salmon was recorded in Village Creek, where 7,500 fish passed through an electronic counter (Appendix E.8). Aerial surveys of tributaries on the U.S. side of the border (Appendix E.8) gave mixed results but the Tanis River count of 3,500 was more than twice the 1985 to 1989 average for this system.

Chinook

A total of 1,915 chinook salmon was counted through the Klukshu weir in 1990 (Figure 13). This count was close to the 1984 to 1989 average of 2,039 fish (Appendix E.7). The escapement through the upstream food fishery was 1,742 chinook salmon. Estimates of the escapement to the entire Alsek River drainage have been generated by expanding the Klukshu weir count by a factor of 1/0.64 (U.S.) and by a factor of 2.0 (Canada) and subtracting the upriver Canadian catches. These expansion factors represent professional judgement; their accuracy is poorly understood and they are currently under review by the Transboundary Technical Committee. For 1990, these expansions yield estimates of escapement to the entire drainage of 2,264 (U.S.) and 3,102 (Canada) fish. The escapement goal range is from 7,200 (U.S.) to 12,500 (Canada) fish. Aerial surveys were again conducted in 1990 for several other index streams. The count of 325 fish in the Takhanne River exceeded the 1984 to 1989 average of 220 fish, while the count of 32 chinook salmon in Goat Creek was less than the average count of 69 fish.

Coho

The coho run to the Alsek River was poor. A total of 315 coho salmon was counted through Klukshu River weir (Figure 14). The count was below the 1986 to 1989 average of 1,317 fish (Appendix E.7); however, this is not a total count since the weir is removed prior to the end of the coho migration. Results of aerial surveys conducted on U.S. coho index streams were above average.

Run Reconstruction

Expectations for the sockeye run in 1990 were for a poor early-run and average late-run. The run developed as expected with a total sockeye harvest near average but an excellent escapement of 25,995 fish through the Klukshu weir (Table 6). The early portion of the escapement through the Klukshu weir was below average.

Estimates of the Klukshu contribution to the total sockeye run to the Alsek drainage vary from 37%, as estimated from an ADF&G mark-recapture study in 1983, to 60%, based on Canadian fishery managers' professional judgement. Total

escapement to the Alsek River is estimated by dividing the Klukshu weir count by the estimated Klukshu percent contribution and then subtracting the sport and Indian food fishery catches. The estimated escapement added to the U.S. commercial and subsistence catches yields an estimate of the entire Alsek run. Using the 37% to 60% contribution range, the estimated sockeye escapement in the Alsek River was on the order of 41,000 to 68,000 fish and the estimated total Alsek sockeye run was on the order of 58,000 to 85,000 sockeye salmon. The interim escapement goal for the Alsek River is from 33,000 (U.S.) to 58,000 (Canada) fish.

Table 6. Catch and Klukshu index escapement data for Alsek sockeye, chinook, and coho salmon for 1990.

	Sockeye	Chinook	Coho
Escapement Index[a/]			
Klukshu Weir Count	25,995	1,915	315
Klukshu Escapement[b/]	24,607	1,742	
Harvest			
U.S. Commercial	17,013	78	1,437
U.S. Subsistence	144	85	12
Canadian Sport	392	555	75
Canadian Indian Food	2,012	173	0
Total	19,561	891	1,524

a/ Klukshu River salmon stocks represent an assumed large and variable portion of the total Alsek River salmon escapement.

b/ Some of the Canadian Indian food fishery occurs above Klukshu weir, so these catches are subtracted from weir counts to represent the spawning escapement.

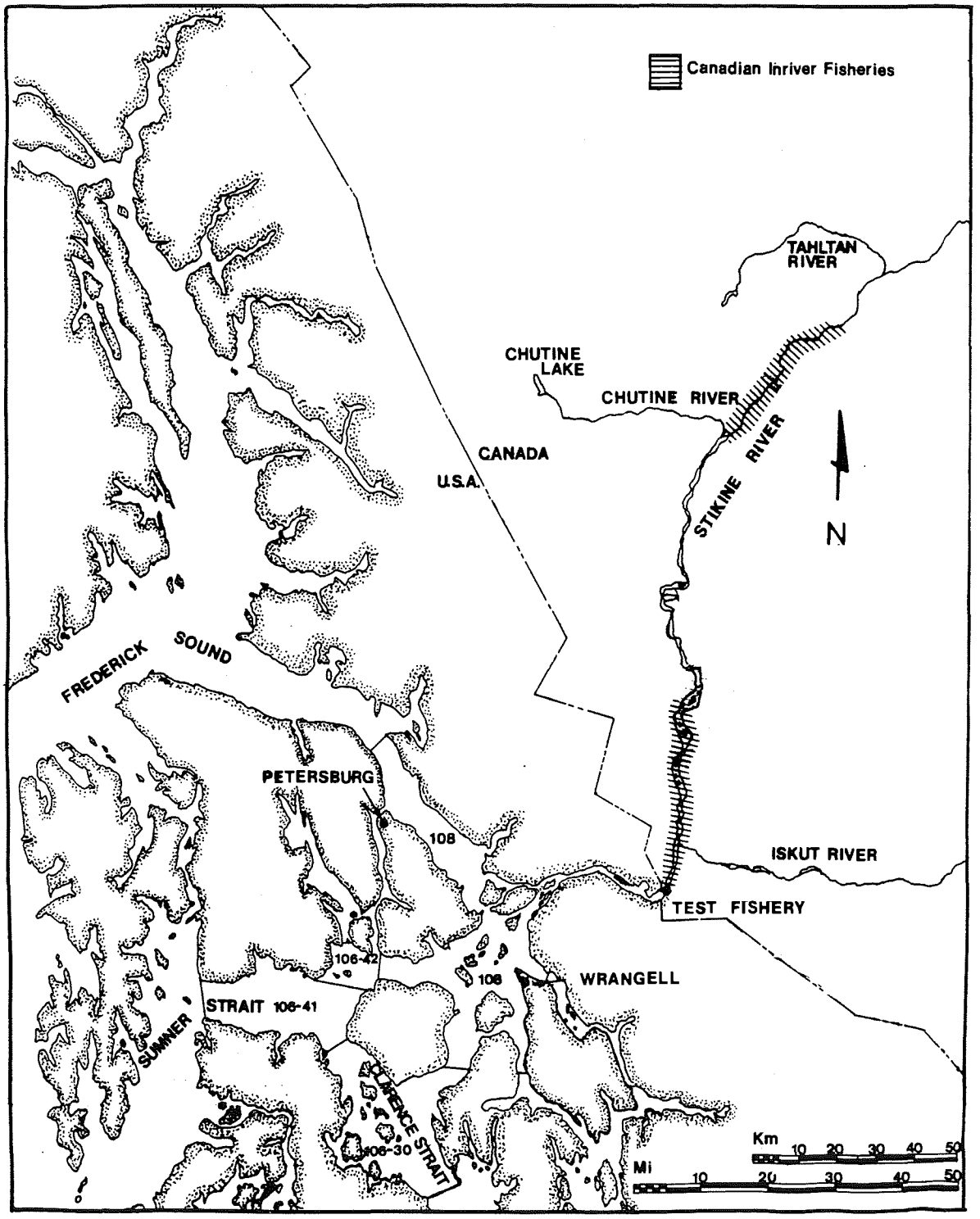

Figure 1. The Stikine River and principal U.S. and Canadian fishing areas.

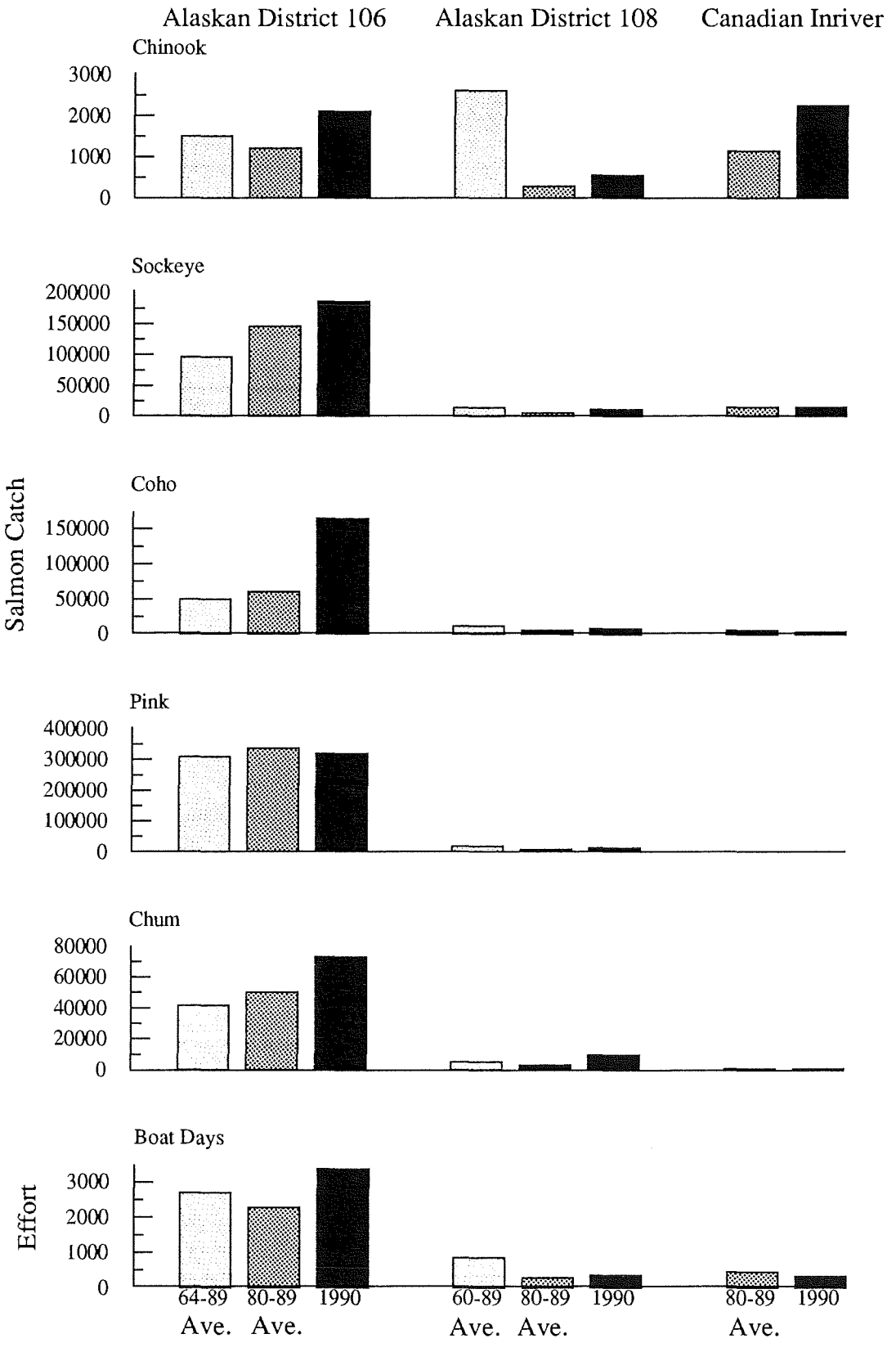

Figure 2. Average catches and fishing efforts compared with 1990 values for the Alaskan Districts 106 and 108 and for the Canadian commercial fisheries in the Stikine River.

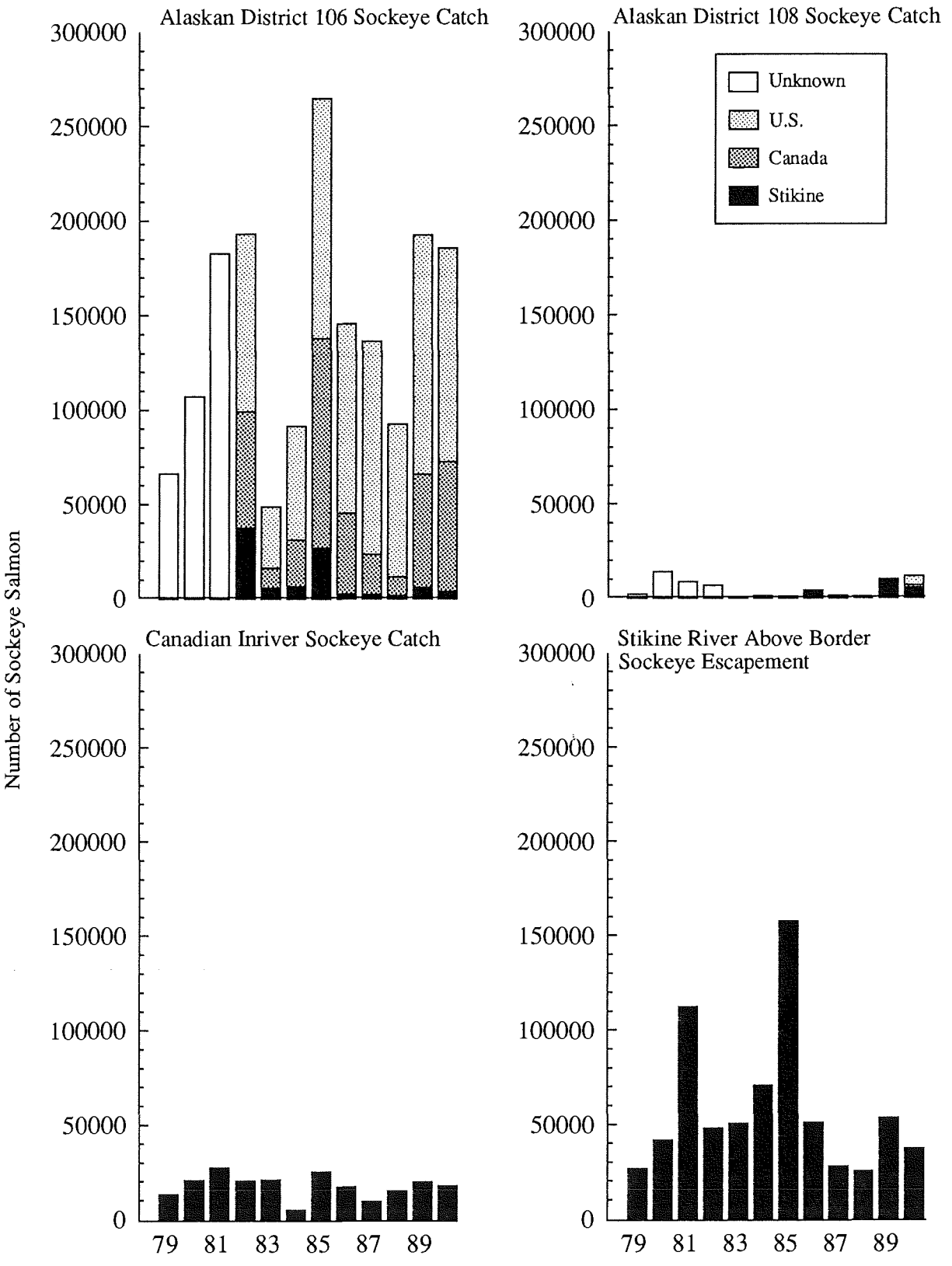

Figure 3. Sockeye catches for the Alaskan Districts 106 and 108 and the combined Canadian fisheries in the Stikine River and Stikine sockeye escapements, 1979-1990. Effort is for commercial fisheries only.

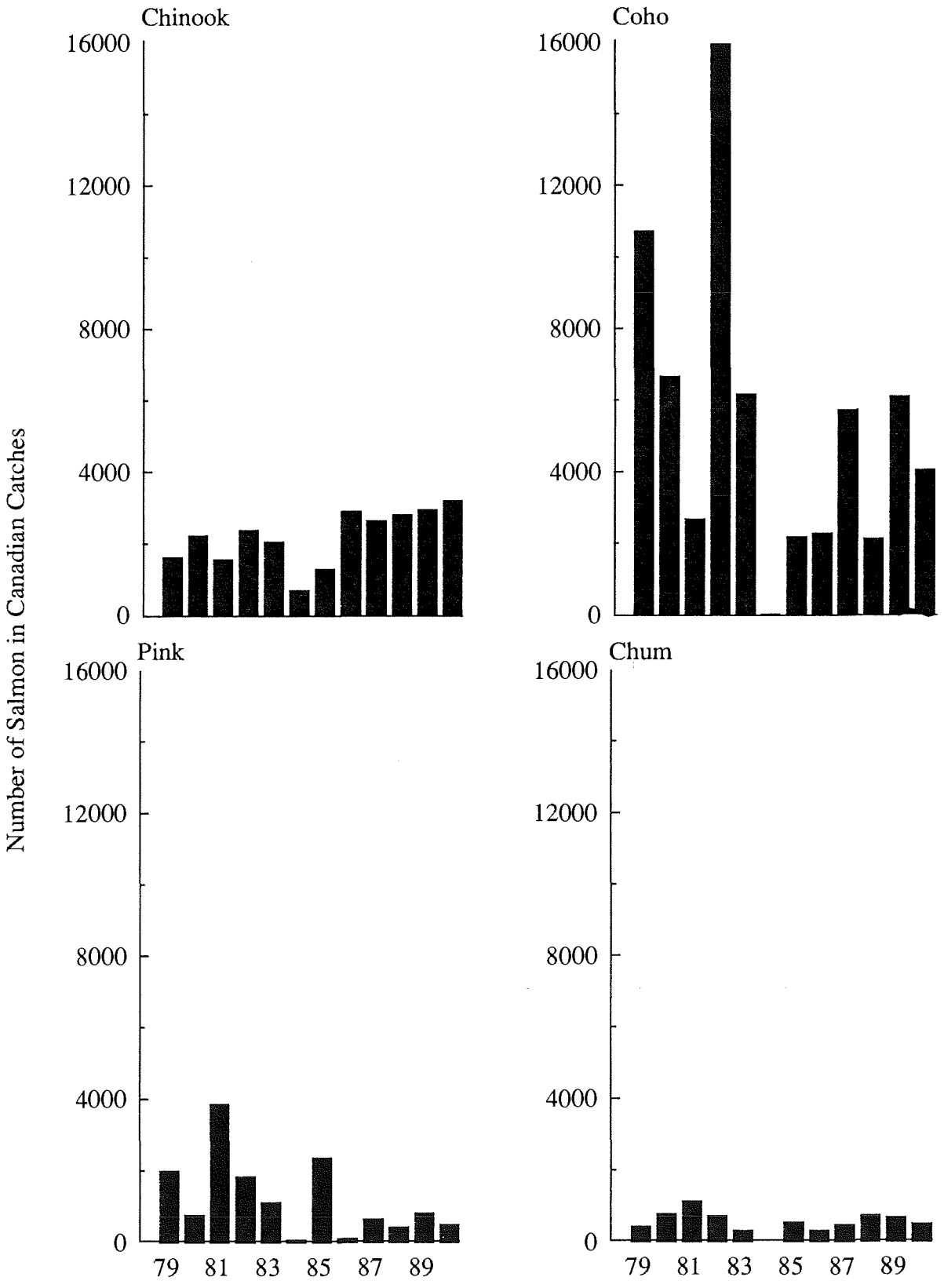

Figure 4. Catches of chinook, coho, pink, and chum salmon in the combined Canadian fisheries in the Stikine River, 1979-1990.

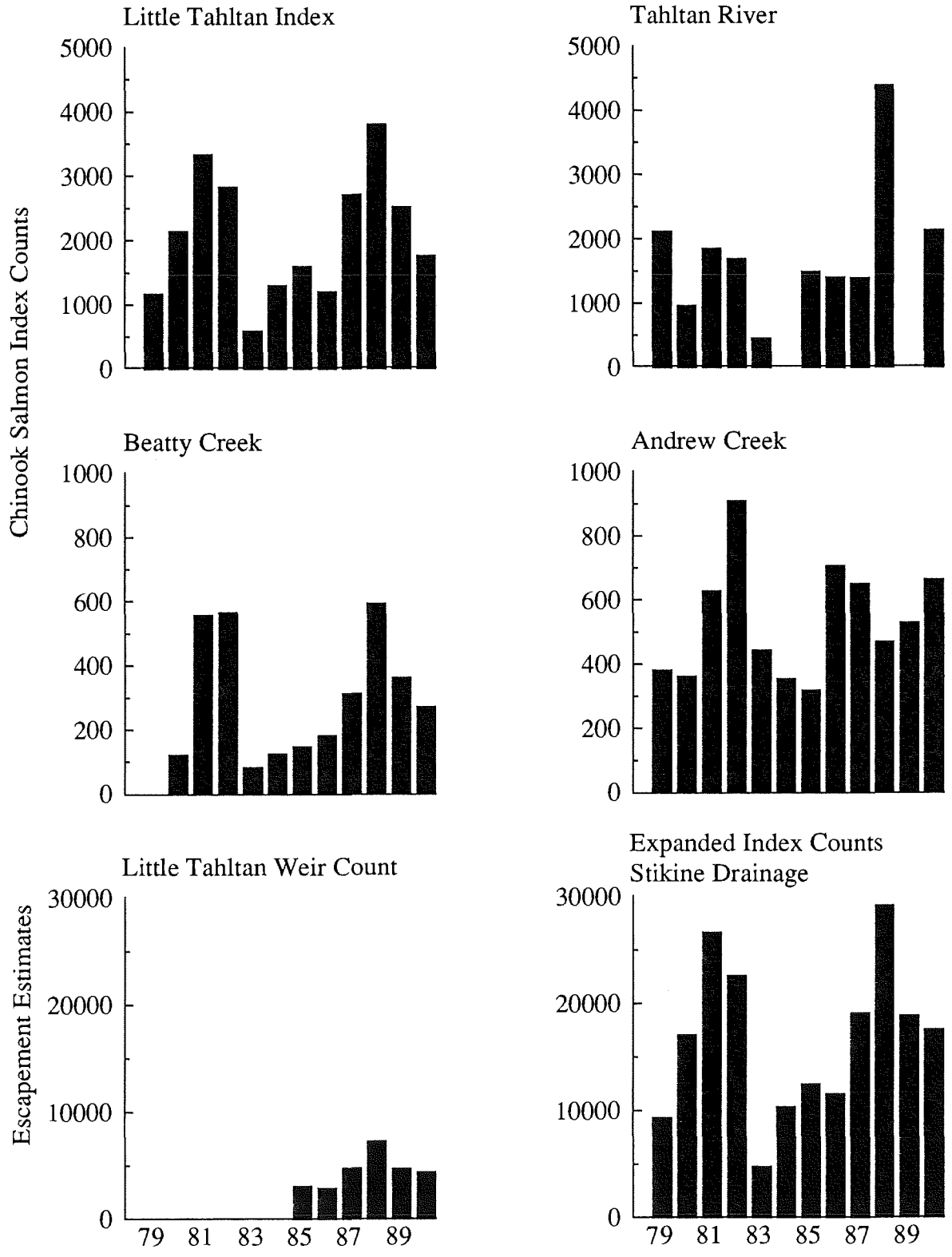

Figure 5. Chinook salmon weir counts and index escapement estimates for major spawning areas and for the entire Stikine River, 1979-1990.

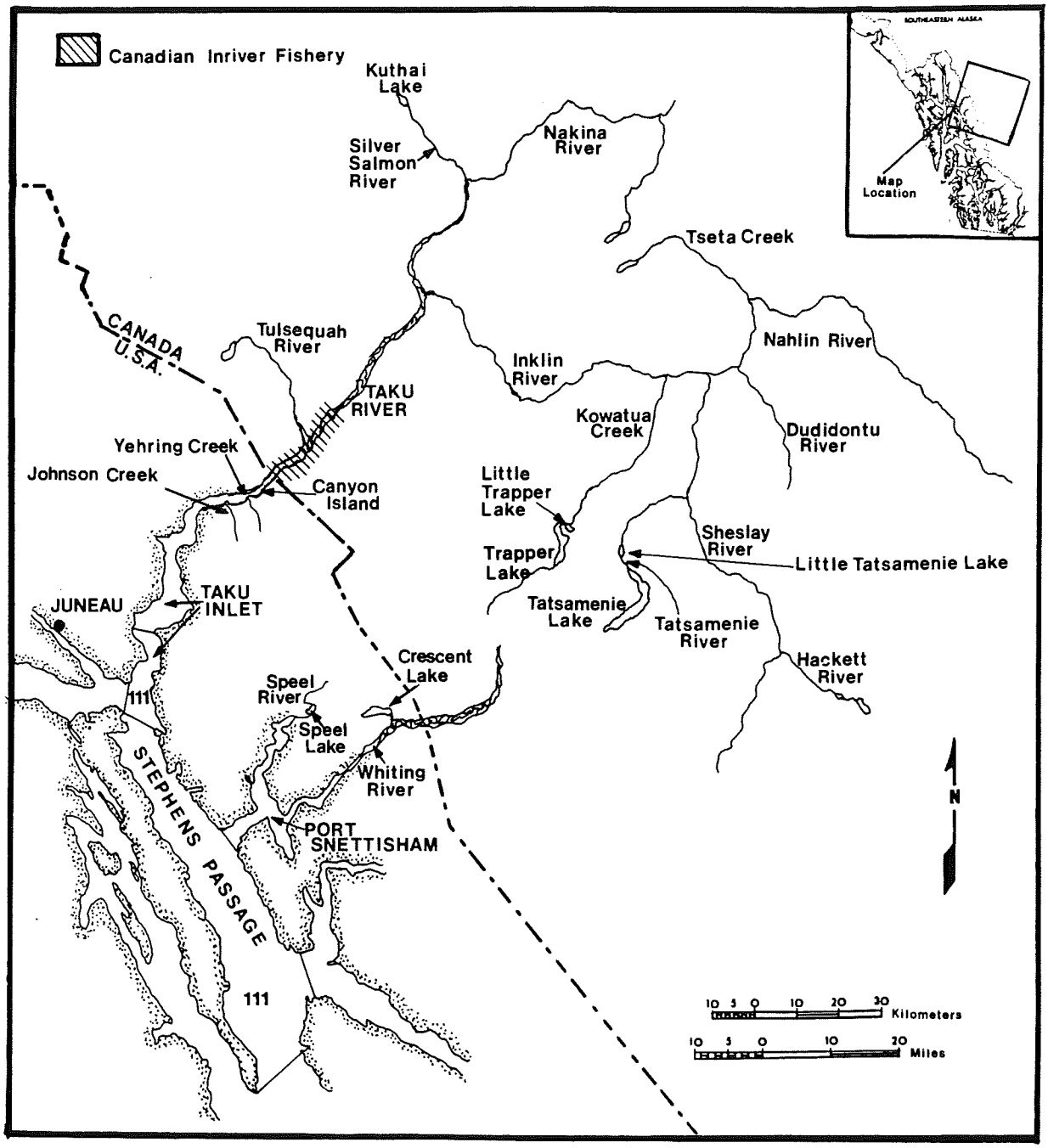

Figure 6. The Taku River and principal U.S. and Canadian fishing areas.

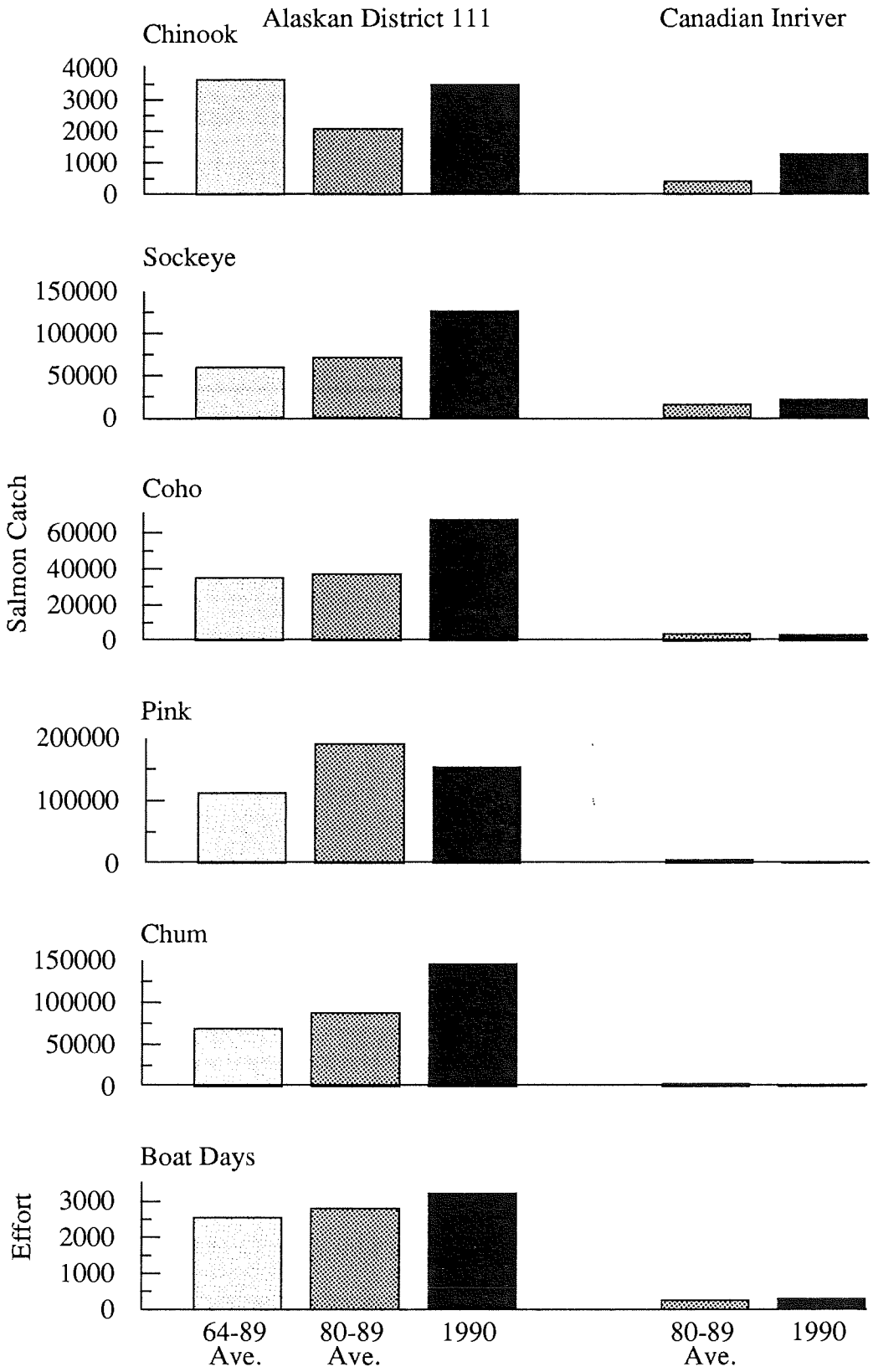

Figure 7. Average catches and fishing efforts compared with 1990 values for the Alaskan District 111 commercial fishery and the Canadian commercial fishery in the Taku River.

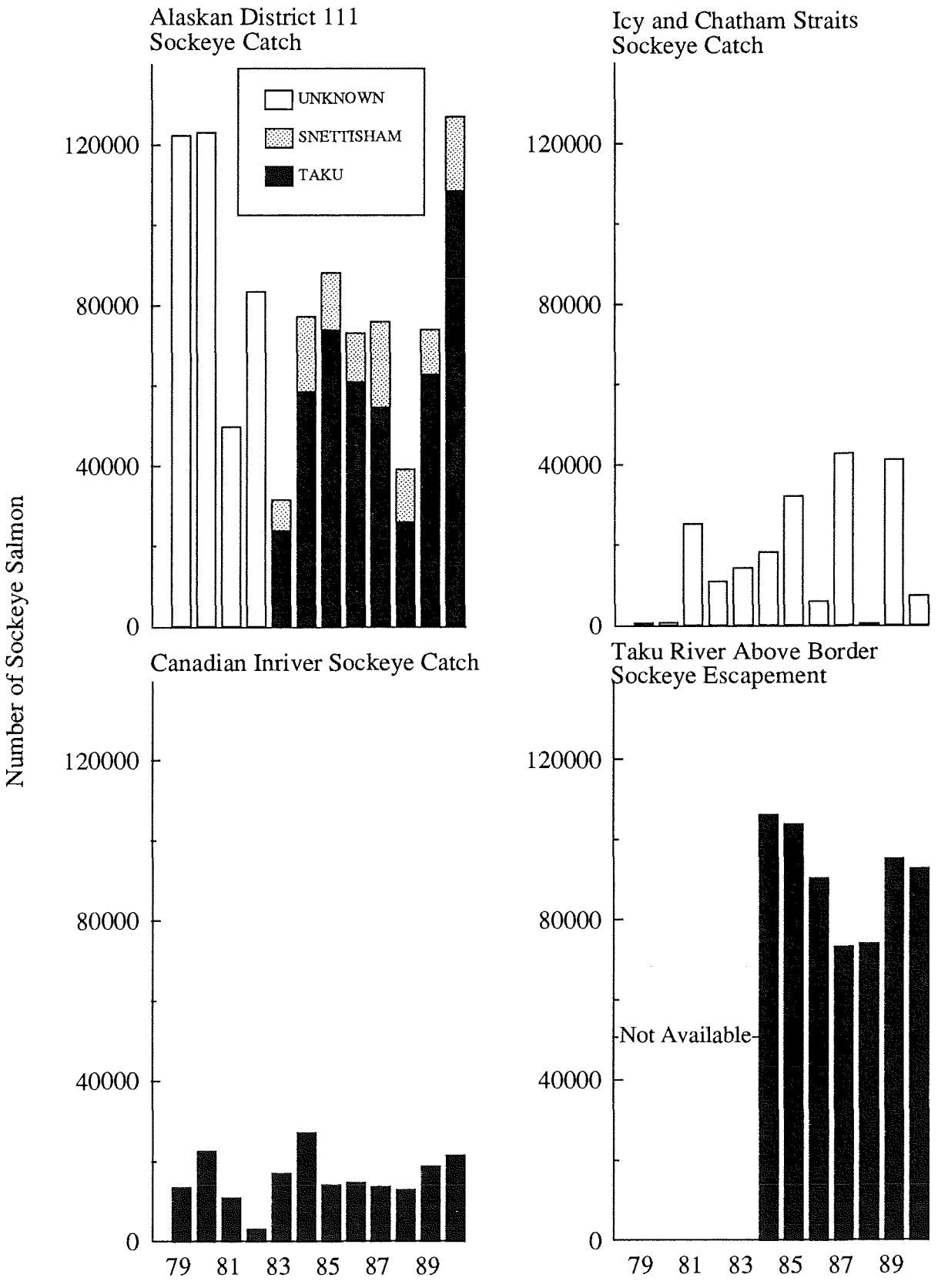

Figure 8. Sockeye catches for the Alaskan District 111, the Icy and Chatham Straits, and the combined Canadian fisheries in the Taku River and Taku sockeye escapements, 1979-1990.

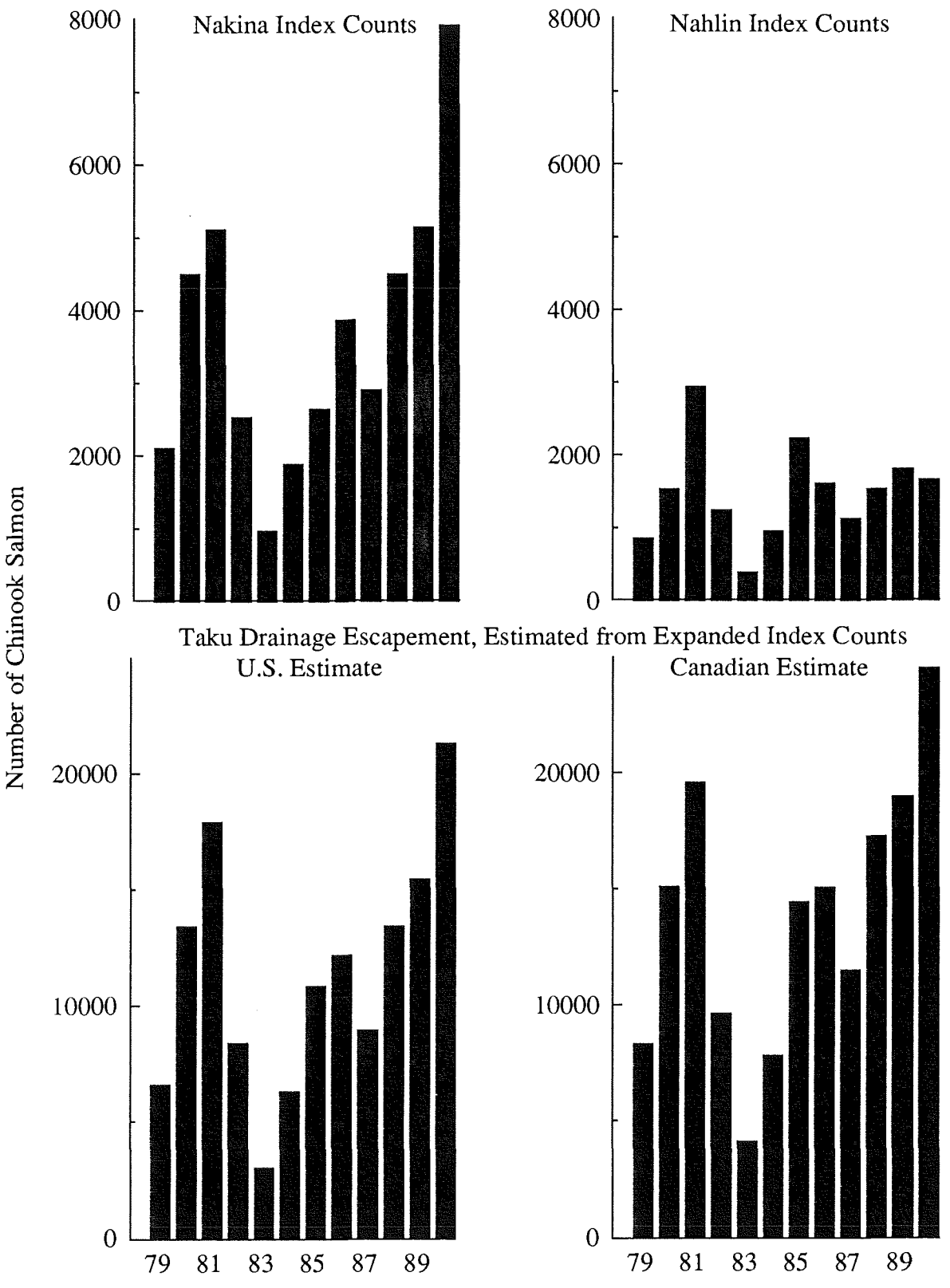

Figure 9. Chinook index escapement estimates for major spawning areas and for the entire Taku River, 1979-1990.

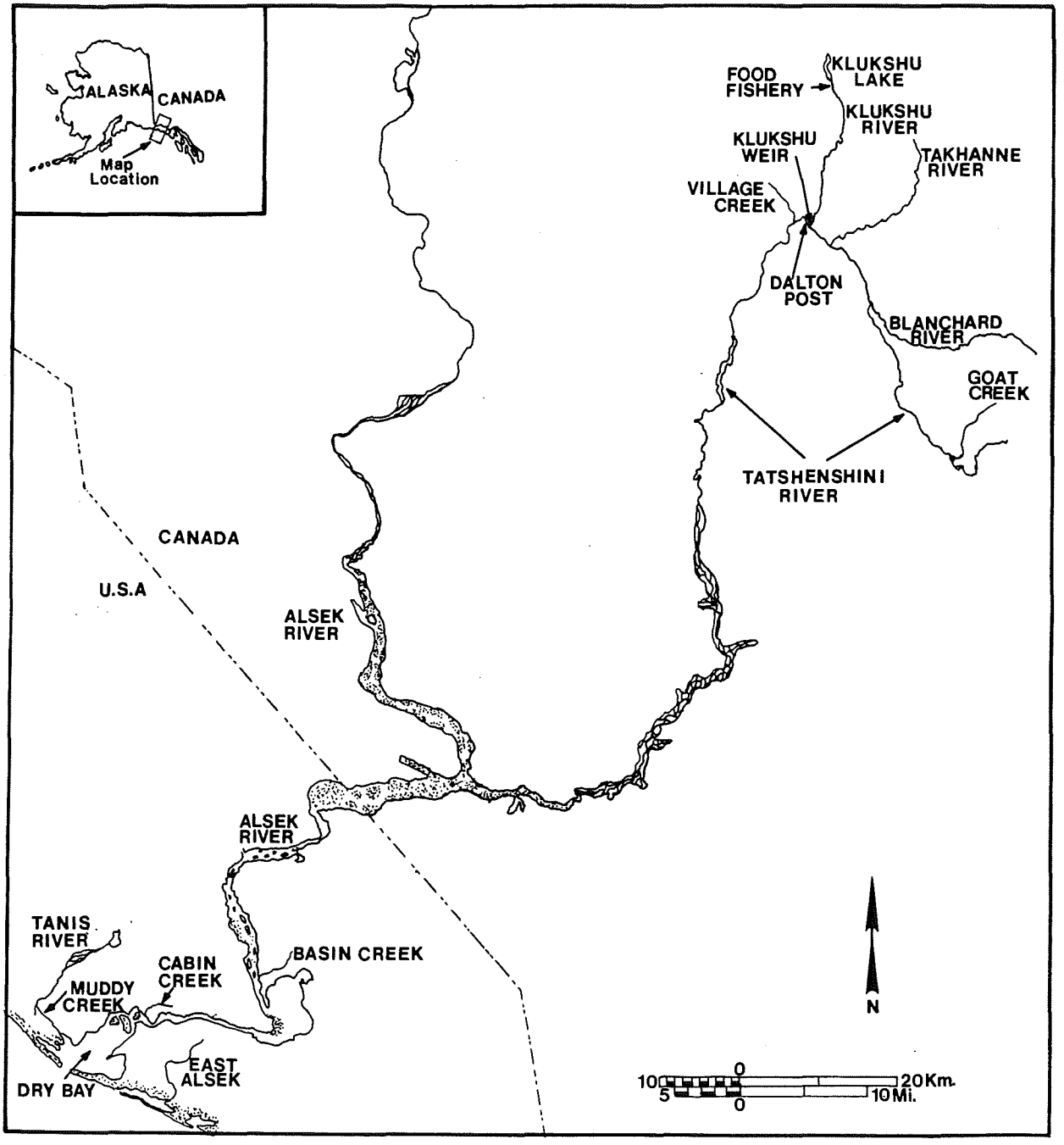

Figure 10. The Alsek River and principal U.S. and Canadian fishing areas.

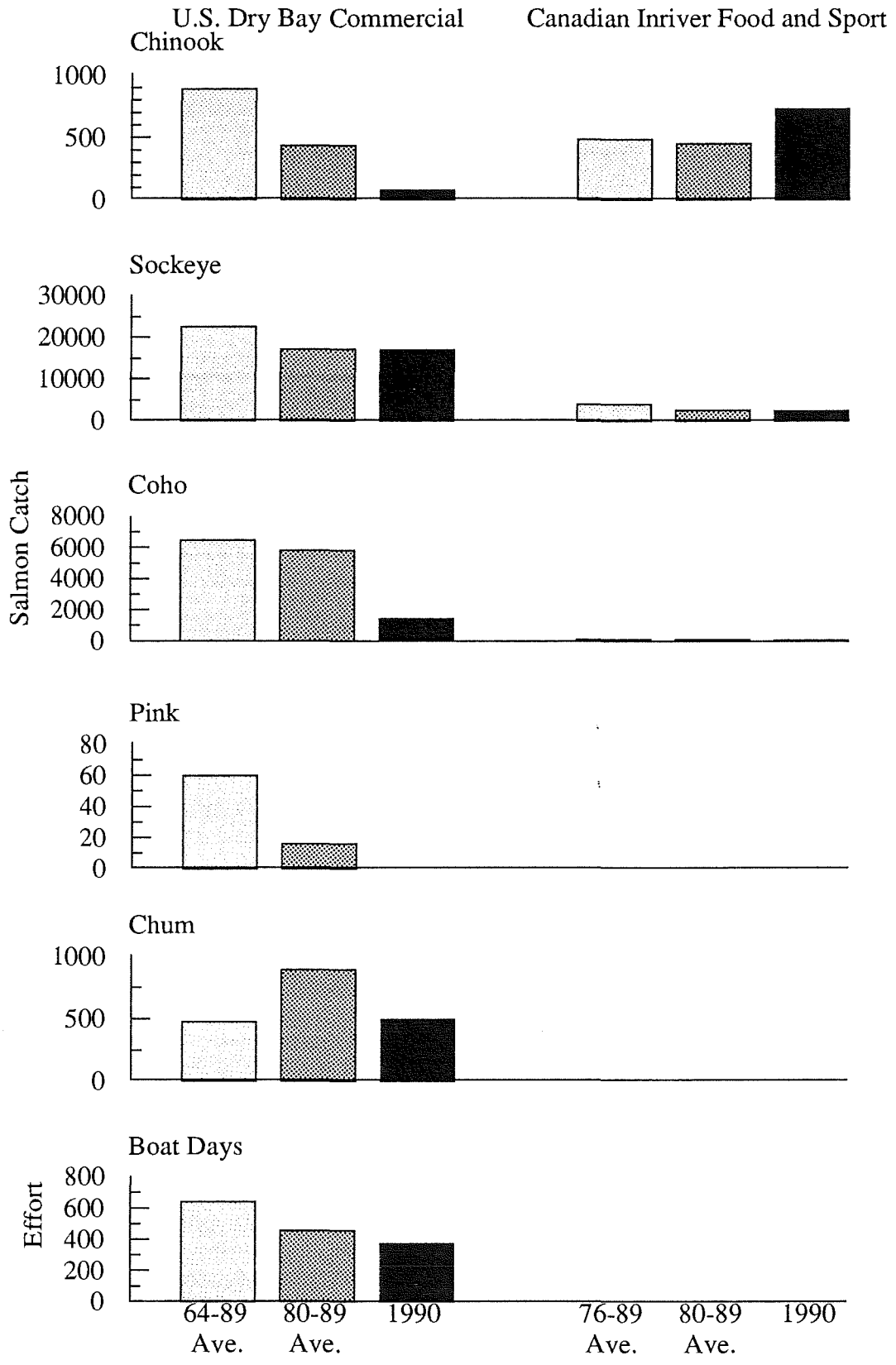

Figure 11. Average catches and fishing efforts compared with 1990 values for the Alaskan Dry Bay commercial fishery and the Canadian combined food and recreational fisheries in the Alsek River.

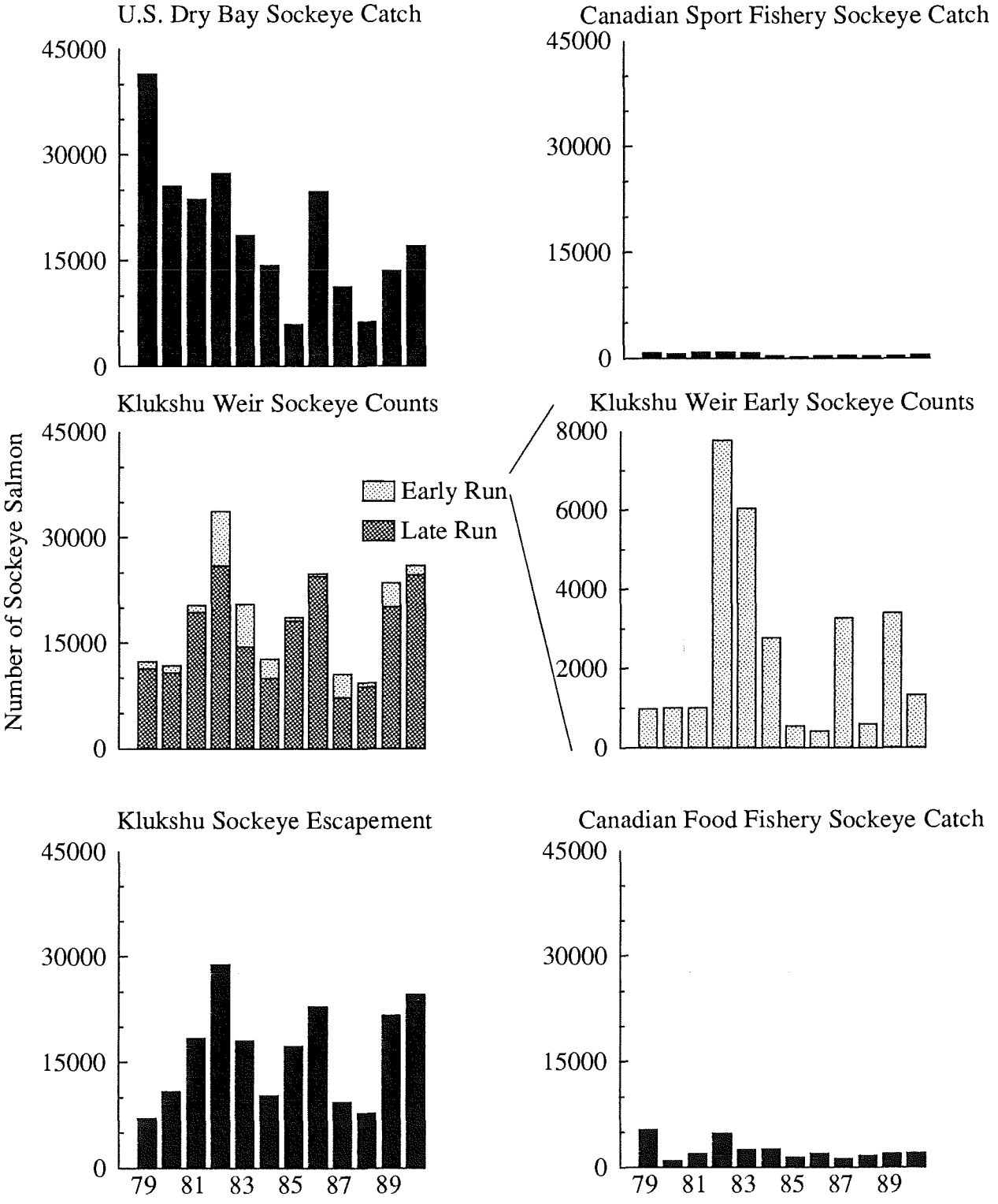

Figure 12. Alsek sockeye catches and weir counts, 1979-1990.

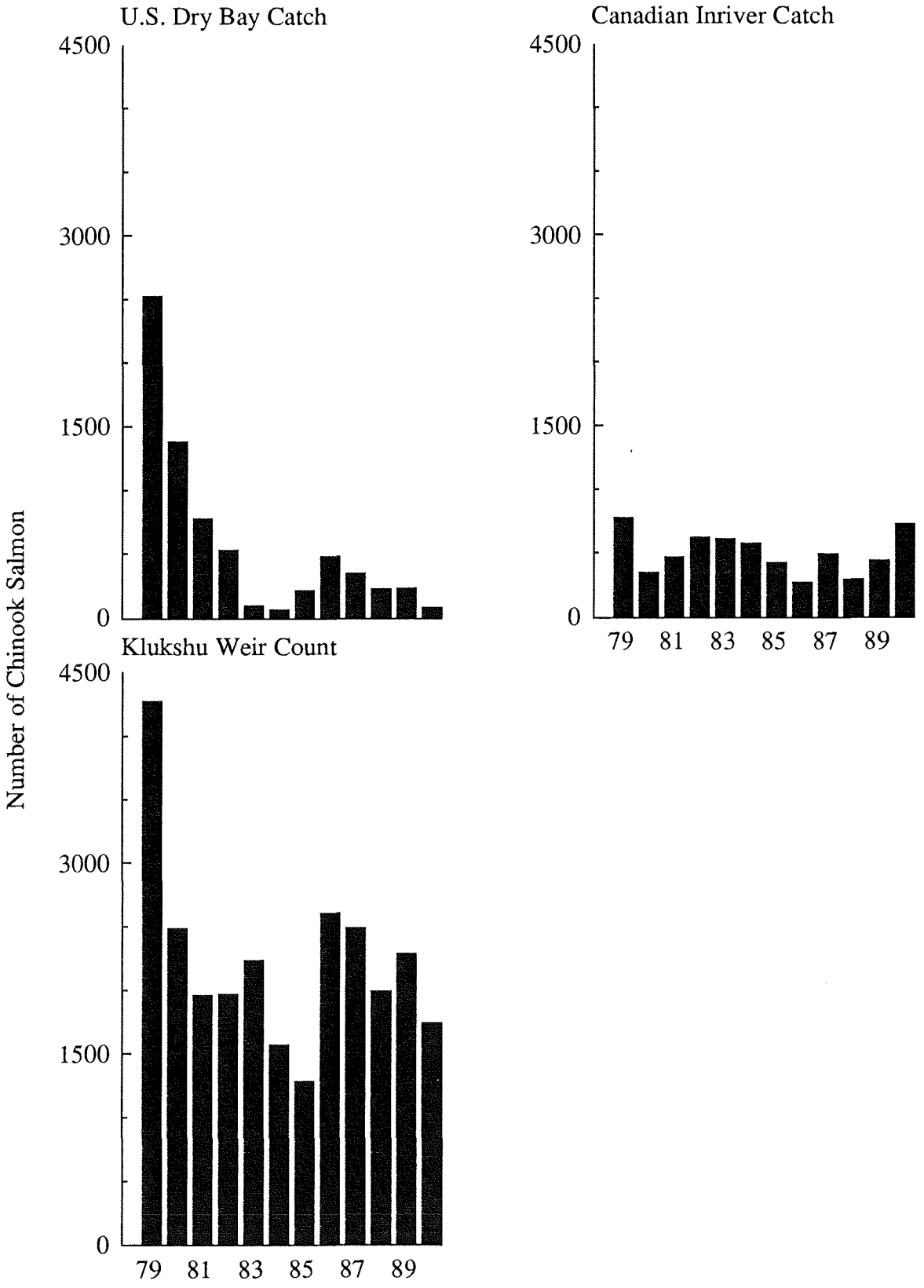

Figure 13. Alsek chinook catches and weir counts, 1979-1990.

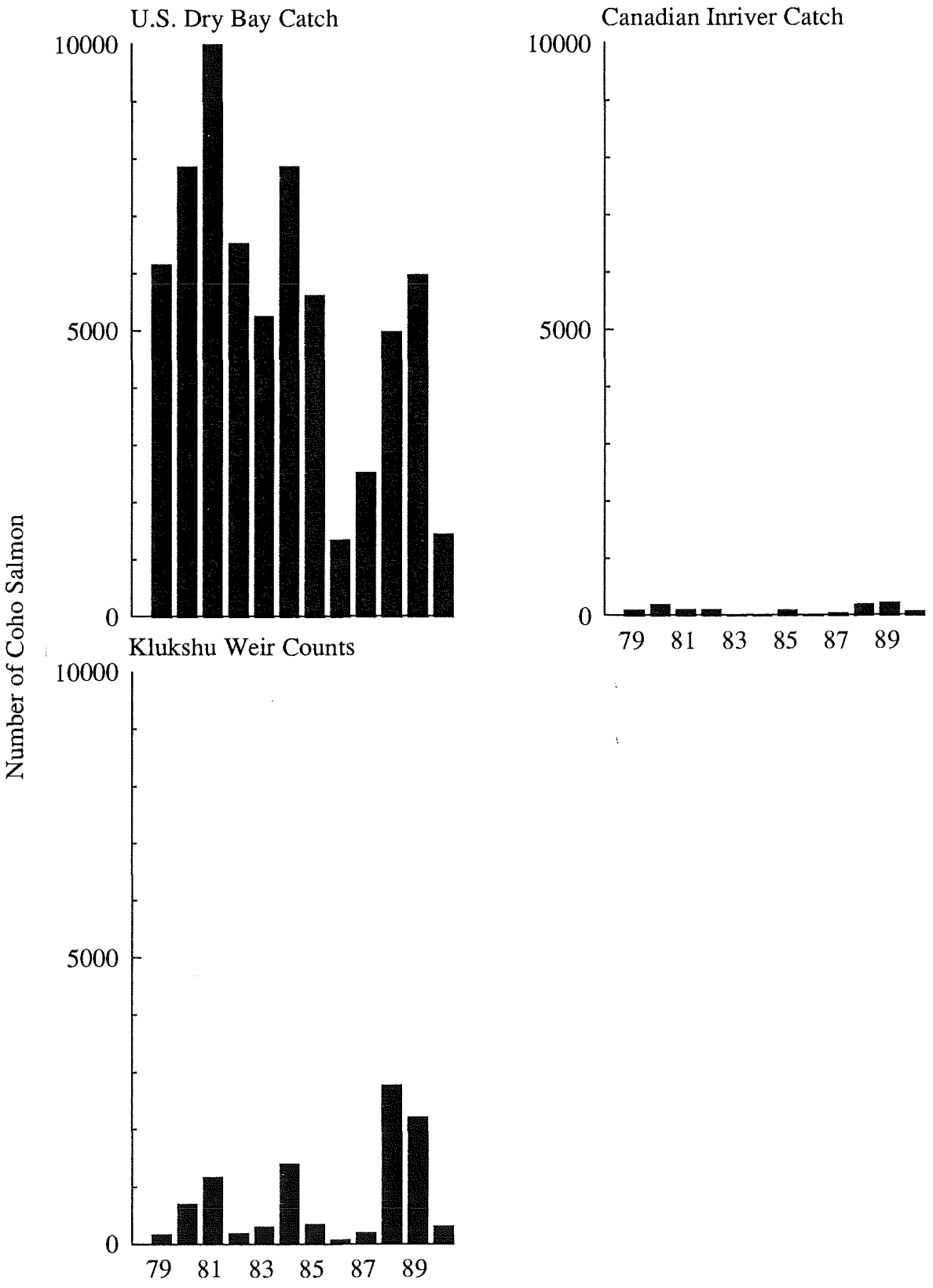

Figure 14. Alsek coho catches and weir counts, 1979-1990. The weir count for coho is incomplete since the weir is dismantled before the entire coho run has passed.

APPENDICES

Appendix A.1. Weekly salmon catch and effort in the Alaskan Subdistrict 106-41 and -42 (Sumner Strait) commercial drift gill net fishery, 1990.

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Permits	Days	Permit Days
25	17-Jun	215	3,151	559	317	563	54	2	108
26	24-Jun	122	4,567	1,550	260	1,194	68	2	136
27	01-Jul	92	9,691	2,134	647	4,600	62	2	124
28	08-Jul	80	19,262	2,906	2,147	7,732	76	3	228
29	15-Jul	30	18,113	3,491	3,022	5,504	78	2	156
30	22-Jul	51	30,256	4,913	6,865	6,858	57	3	171
31	29-Jul	26	10,197	6,580	7,251	2,837	65	2	130
32	05-Aug	14	4,240	6,232	9,946	1,656	47	2	94
33	12-Aug	17	2,573	5,218	20,434	1,754	42	2	84
34	19-Aug	22	2,072	18,342	25,975	3,101	55	3	165
35	26-Aug	30	696	20,002	6,392	4,424	55	3	165
36	02-Sep	38	99	13,745	1,243	1,359	50	3	150
37	09-Sep	22	5	6,592	43	605	26	2	52
38	16-Sep	0	0	1,870	1	244	29	2	58
39	23-Sep	0	0	368	0	43	6	1	6
Total		759	104,922	94,502	84,543	42,474	770	34	1,827

Appendix A.2. Weekly stock proportions of sockeye salmon harvested in the Alaskan Subdistrict 106-41 and -42 (Sumner Strait) commercial drift gill net fishery, 1990. Data based on scale pattern analysis (SPA).

Week	Alaska	Canada	Stikine		
			Tahltan	non-Tahltan	Total
25	0.516	0.411	0.018	0.055	0.073
26	0.409	0.544	0.026	0.022	0.048
27	0.444	0.511	0.025	0.020	0.045
28	0.536	0.430	0.012	0.022	0.034
29	0.653	0.334	0.008	0.005	0.013
30	0.608	0.383	0.001	0.008	0.009
31	0.625	0.336	0.000	0.039	0.039
32	0.642	0.308	0.000	0.049	0.049
33	0.658	0.338	0.000	0.004	0.004
34	0.581	0.403	0.000	0.016	0.016
35	0.581	0.403	0.000	0.016	0.016
36	0.581	0.403	0.000	0.016	0.016
37	0.581	0.403	0.000	0.016	0.016
Total	0.579	0.395	0.008	0.018	0.026

Appendix A.3. Weekly stock-specific catch of sockeye salmon in the Alaskan Subdistrict 106-41 and -42 (Sumner Strait) commercial drift gill net fishery, 1990. Data based on SPA.

Week	Alaska	Canada	Stikine		
			Tahltan	non-Tahltan	Total
25	1,625	1,296	58	172	230
26	1,866	2,484	117	100	217
27	4,303	4,951	239	198	437
28	10,318	8,288	225	431	656
29	11,824	6,055	142	92	234
30	18,403	11,581	20	252	272
31	6,371	3,426	0	400	400
32	2,724	1,307	0	209	209
33	1,692	870	0	11	11
34	1,204	835	0	33	33
35	404	280	0	11	11
36	58	40	0	2	2
37	3	2	0	0	0
Total	60,795	41,415	801	1,911	2,712

Appendix A.4. Weekly salmon catch and effort in the Alaskan Subdistrict 106-30 (Clarence Strait) commercial drift gill net fishery, 1990.

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Permits	Days	Permit Days
25	17-Jun	194	1,886	233	109	187	30	2	60
26	24-Jun	40	1,727	532	1,367	579	42	2	84
27	01-Jul	41	3,031	584	1,465	1,310	32	2	64
28	08-Jul	60	6,284	881	1,392	1,532	37	3	111
29	15-Jul	54	8,920	1,148	2,009	2,434	44	2	88
30	22-Jul	403	20,625	2,924	8,110	5,781	59	3	177
31	29-Jul	94	16,992	6,707	15,005	3,707	78	2	156
32	05-Aug	98	10,262	6,236	31,160	5,389	58	2	116
33	12-Aug	29	6,785	5,797	62,896	2,171	78	2	156
34	19-Aug	87	2,637	6,028	57,026	1,887	63	3	189
35	26-Aug	73	1,458	12,673	40,745	2,152	54	3	162
36	02-Sep	50	233	12,834	12,271	2,108	54	3	162
37	09-Sep	99	36	9,186	1,041	864	37	2	74
38	16-Sep	16	7	3,736	47	552	36	2	72
39	23-Sep	10	0	210	0	105	5	1	5
Total		1,348	80,883	69,709	234,643	30,758	707	34	1,676

Appendix A.5. Weekly stock proportions of sockeye salmon harvested in the Alaskan Subdistrict 106-30 (Clarence Strait) commercial drift gill net fishery, 1990. Data based on SPA.

Week	Alaska	Canada	Stikine		
			Tahltan	non-Tahltan	Total
25	0.698	0.286	0.015	0.000	0.015
26	0.642	0.280	0.008	0.071	0.079
27	0.435	0.539	0.000	0.026	0.026
28	0.434	0.544	0.007	0.015	0.022
29	0.583	0.414	0.003	0.000	0.003
30	0.666	0.334	0.000	0.000	0.000
31	0.667	0.308	0.000	0.025	0.025
32	0.724	0.254	0.000	0.022	0.022
33	0.767	0.231	0.000	0.002	0.002
34	0.640	0.334	0.000	0.025	0.025
35	0.640	0.334	0.000	0.025	0.025
36	0.640	0.334	0.000	0.025	0.025
37	0.640	0.334	0.000	0.025	0.025
38	0.640	0.334	0.000	0.025	0.025
Total	0.645	0.340	0.001	0.013	0.015

Appendix A.6. Weekly stock-specific catch of sockeye salmon in the Alaskan Subdistrict 106-30 (Clarence Strait) commercial drift gill net fishery, 1990. Data based on SPA.

Week	Alaska	Canada	Stikine		
			Tahltan	non-Tahltan	Total
25	1,317	540	29	0	29
26	1,108	483	14	122	136
27	1,318	1,635	0	78	78
28	2,726	3,419	45	94	139
29	5,203	3,691	26	0	26
30	13,743	6,882	0	0	0
31	11,335	5,226	0	431	431
32	7,434	2,602	0	226	226
33	5,205	1,566	0	14	14
34	1,689	882	0	66	66
35	934	488	0	37	37
36	149	78	0	6	6
37	23	12	0	1	1
38	4	2	0	0	0
Total	52,188	27,506	114	1,075	1,189

Appendix A.7. Weekly salmon catch in the Alaskan District 106 commercial drift gill net fisheries, 1990. Catches do not include Blind Slough terminal area harvests. Effort may be less than the sum of effort from 106-41 & -42 and 106-30 since some boats fished in more than one subdistrict.

		Catch					Effort		
Week	Start Date	Chinook	Sockeye	Coho	Pink	Chum	Permits	Days	Permit Days
25	17-Jun	409	5,037	792	426	750	84	2	168
26	24-Jun	162	6,294	2,082	1,627	1,773	110	2	220
27	01-Jul	133	12,722	2,718	2,112	5,910	94	2	188
28	08-Jul	140	25,546	3,787	3,539	9,264	113	3	339
29	15-Jul	84	27,033	4,639	5,031	7,938	122	2	244
30	22-Jul	454	50,881	7,837	14,975	12,639	116	3	348
31	29-Jul	120	27,189	13,287	22,256	6,544	143	2	286
32	05-Aug	112	14,502	12,468	41,106	7,045	105	2	210
33	12-Aug	46	9,358	11,015	83,330	3,925	120	2	240
34	19-Aug	109	4,709	24,370	83,001	4,988	118	3	354
35	26-Aug	103	2,154	32,675	47,137	6,576	109	3	327
36	02-Sep	88	332	26,579	13,514	3,467	104	3	312
37	09-Sep	121	41	15,778	1,084	1,469	63	2	126
38	16-Sep	16	7	5,606	48	796	65	1	65
39	23-Sep	10	0	578	0	148	11	1	11
Total		2,107	185,805	164,211	319,186	73,232	1,477	33	3,438

Appendix A.8. Weekly stock proportions of sockeye salmon harvested in the Alaskan District 106 commercial drift gill net fisheries, 1990. Data based on SPA.

			Stikine		
Week	Alaska	Canada	Tahltan	non-Tahltan	Total
25	0.584	0.365	0.017	0.034	0.051
26	0.473	0.471	0.021	0.035	0.056
27	0.442	0.518	0.019	0.022	0.040
28	0.511	0.458	0.011	0.021	0.031
29	0.630	0.361	0.006	0.003	0.010
30	0.632	0.363	0.000	0.005	0.005
31	0.651	0.318	0.000	0.031	0.031
32	0.700	0.270	0.000	0.030	0.030
33	0.737	0.260	0.000	0.003	0.003
34	0.614	0.365	0.000	0.021	0.021
35	0.621	0.357	0.000	0.022	0.022
36	0.623	0.355	0.000	0.022	0.022
37	0.633	0.343	0.000	0.024	0.024
38	0.640	0.334	0.000	0.025	0.025
Total	0.608	0.371	0.005	0.016	0.021

Appendix A.9. Weekly stock-specific catch of sockeye salmon in the Alaskan District 106 commercial drift gill net fisheries, 1990. Catches do not include Blind Slough terminal area harvests. Data based on SPA.

			Stikine		
Week	Alaska	Canada	Tahltan	non-Tahltan	Total
25	2,942	1,836	87	172	259
26	2,974	2,967	131	222	353
27	5,621	6,586	239	276	515
28	13,044	11,707	270	525	795
29	17,027	9,746	168	92	260
30	32,146	18,463	20	252	272
31	17,706	8,652	0	831	831
32	10,158	3,909	0	435	435
33	6,897	2,436	0	25	25
34	2,893	1,717	0	100	100
35	1,338	768	0	48	48
36	207	118	0	7	7
37	26	14	0	1	1
38	4	2	0	0	0
Total	112,983	68,921	915	2,986	3,901

Appendix A.10. Weekly salmon catch and effort in the Alaskan District 108 commercial drift gill net fishery, 1990. Catches do not include Ohmer Creek terminal area harvests.

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Permits	Days	Permit Days
25	17-Jun	373	369	4	1	26	14	2	28
26	24-Jun	38	467	4	0	106	7	2	14
27	01-Jul	34	1,573	49	25	619	20	2	40
28	08-Jul	31	2,823	220	387	1,440	20	3	60
29	15-Jul	15	2,068	41	687	2,353	14	2	28
30	22-Jul	20	2,816	73	6,115	2,915	12	3	36
31	29-Jul	6	906	216	2,029	741	6	2	12
32	05-Aug	21	306	593	2,117	533	7	2	14
33	12-Aug	0	172	293	1,402	116	a/	a/	a/
34	19-Aug	0	15	278	576	40	a/	a/	a/
35	26-Aug	7	39	1,692	374	109	8	3	24
36	02-Sep	3	18	2,576	67	164	11	3	33
37	09-Sep	6	2	1,258	36	74	10	2	20
38	16-Sep	1	0	579	6	63	12	2	24
39	23-Sep	2	0	342	0	83	8	1	8
Total		557	11,574	8,218	13,822	9,382	157	34	359

a/ Effort not recorded by week, effort for these weeks is included in the total.

Appendix A.11. Weekly stock proportions and stock-specific catch of sockeye salmon in the Alaskan District 108 commercial drift gill net fishery, 1990. Catches do not include Ohmer Creek terminal area harvests. Data based on SPA.

	Week	Alaska	Canada	Stikine		
				Tahltan	non-Tahltan	Total
Proportions						
	25	0.502	0.370	0.050	0.078	0.128
	26	0.502	0.370	0.050	0.078	0.128
	27	0.343	0.201	0.178	0.278	0.456
	28	0.540	0.121	0.085	0.254	0.339
	29	0.415	0.205	0.025	0.355	0.381
	30	0.272	0.007	0.004	0.717	0.721
	31	0.320	0.049	0.448	0.183	0.631
	32	0.320	0.049	0.448	0.183	0.631
	33	0.320	0.049	0.448	0.183	0.631
	34	0.320	0.049	0.448	0.183	0.631
	35	0.320	0.049	0.448	0.183	0.631
	36	0.320	0.049	0.448	0.183	0.631
	37	0.320	0.049	0.448	0.183	0.631
Total		0.395	0.128	0.111	0.366	0.477
Catch						
	25	185	136	19	29	47
	26	235	173	23	36	60
	27	540	316	280	437	717
	28	1,524	341	241	717	958
	29	858	423	52	735	787
	30	767	19	12	2,018	2,030
	31	290	44	406	166	572
	32	98	15	137	56	193
	33	55	8	77	31	109
	34	5	1	7	3	9
	35	12	2	17	7	25
	36	6	1	8	3	11
	37	1	0	1	0	1
Total		4,576	1,479	1,280	4,239	5,519

Appendix A.12. Weekly salmon catch and effort in the Alaskan Subdistrict 106-41 test fishery, 1990.

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Boats	Hours	Boat Days
25	17-Jun	5	285	54	3	54	1	1.00	1.00
26	24-Jun	3	268	66	3	89	1	1.00	1.00
27	01-Jul	1	420	40	16	101	1	1.00	1.00
28	08-Jul	3	210	37	25	80	1	1.00	1.00
29	15-Jul	1	609	45	84	67	1	1.00	1.00
30	22-Jul	0	249	105	100	87	1	1.00	1.00
31	29-Jul	0	215	85	141	74	1	1.00	1.00
Total		13	2256	432	372	552	7	7	7

Appendix A.13. Weekly salmon catch and effort in the Alaskan District 108 test fishery, 1990.

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Boats	Hours	Boat Days
25	17-Jun	7	52	0	2	5	1	1	0.04
26	24-Jun	8	124	0	3	56	1	1	0.04
27	01-Jul	3	159	0	9	26	1	1	0.04
28	08-Jul	0	153	0	53	163	1	1	0.04
29	15-Jul	1	167	2	274	238	1	1	0.04
30	22-Jul	0	147	5	446	108	1	1	0.04
31	29-Jul	0	64	38	155	47	1	1	0.04
Total		19	866	45	942	643	7	7.00	0.29

Appendix A.14. Stock compositions and stock-specific catch of sockeye salmon in the Alaskan District 106 and 108 test fisheries, 1990. Stock compositions from weekly commercial fishery catches were applied to weekly test fishery catches. Data based on SPA.

District	Alaska	Canada	Stikine		
			Tahltan	non-Tahltan	Total
Proportions					
Subdistrict 106-41	0.548	0.416	0.014	0.022	0.035
District 108	0.417	0.172	0.094	0.318	0.411
Catches					
Subdistrict 106-41	1,237	939	31	49	80
District 108	361	149	81	275	356
Total	1,598	1,088	112	324	436

Appendix A.15. Weekly salmon and steelhead trout catch and effort in the Canadian commercial fishery in the lower Stikine River, 1990.

		Catch							Effort		
		Chinook						Steel-			Boat
Week	Start Date	Jacks	Large	Sockeye	Coho	Pink	Chum	head	Licenses	Days	Days
26	24-Jun	400	715	285	0	0	1	1	11.00	2.0	22.0
27	01-Jul	150	477	1,338	0	0	9	0	13.50	2.0	27.0
28	08-Jul	76	193	2,357	2	0	18	0	15.00	2.0	30.0
29	15-Jul	45	139	4,863	1	17	120	8	14.70	3.0	44.1
30	22-Jul	4	22	1,221	1	16	28	1	15.00	1.0	15.0
31	29-Jul	2	12	870	1	50	43	3	14.00	1.0	14.0
32	05-Aug	3	10	2,501	36	278	140	26	15.33	3.0	46.0
33	12-Aug	0	0	323	40	30	21	1	10.00	2.0	20.0
34	19-Aug	0	1	260	283	36	19	10	10.50	2.0	21.0
35	26-Aug	0	0	328	706	42	65	51	12.50	2.0	25.0
36	02-Sep	0	0	139	1,536	24	27	45	12.00	3.0	36.0
37	09-Sep	0	0	43	1,053	3	8	33	5.00	4.0	20.0
38	16-Sep	0	0	2	361	0	0	9	4.00	2.0	8.0
Total		680	1,569	14,530	4,020	496	499	188		29	328.1

Appendix A.16. Weekly sockeye salmon stock proportions and catch by stock in the Canadian commercial fishery in the lower Stikine River, 1990. Data based on egg diameter analysis.

		Catch		CPUE		
	Proportion		non-		non-	
Week	Tahltan	Tahltan	Tahltan	Tahltan	Tahltan	Total
26	0.698	199	86	9.045	3.909	12.955
27	0.786	1,051	287	38.926	10.630	49.556
28	0.666	1,570	787	52.333	26.233	78.567
29	0.351	1,708	3,155	38.730	71.542	110.272
30	0.242	295	926	19.667	61.733	81.400
31	0.082	71	799	5.071	57.071	62.143
32	0.037	92	2,409	2.000	52.381	54.381
33	0.037	12	311	0.600	15.550	16.150
34	0.027	7	253	0.333	12.048	12.381
35	0.047	15	313	0.615	12.505	13.120
36	0.047	7	132	0.181	3.680	3.861
37	0.047	2	41	0.101	2.049	2.150
38	0.047	0	2	0.012	0.238	0.250
Total		5,029	9,501	167.615	329.570	497.185
Proportion		0.346	0.654			

Appendix A.17. Weekly salmon and steelhead trout catch and effort in the Canadian commercial fishery in the upper Stikine River, 1990. It is assumed that 90% of the sockeye catch is of Tahltan origin.

		Catch							Effort		
		Chinook						Steel-			Boat
Week	Start Date	Jacks	Large	Sockeye	Coho	Pink	Chum	head	Licneses	Days	Days
26	24-Jun	2	12	0	0	0	0	0	1.0	1.0	1.0
27	01-Jul	4	11	0	0	0	0	0	2.0	1.0	2.0
28	08-Jul	7	13	12	0	0	0	0	2.0	1.0	2.0
29	15-Jul	4	2	154	0	0	0	0	2.0	1.0	2.0
30	22-Jul	2	6	178	0	0	0	0	4.0	1.0	4.0
31	29-Jul	0	4	84	0	0	0	0	2.0	1.0	2.0
32	05-Aug	1	0	44	0	0	0	0	2.0	1.0	2.0
Total		20	48	472	0	0	0	0	15	7	15

Appendix A.18. Weekly salmon and steelhead trout catch and effort in the Canadian Indian food fishery located at Telegraph Creek, on the Stikine River, 1990. It is assumed that 90% of the sockeye catch is of Tahltan origin.

		Catch							Effort		
		Chinook						Steel-			Boat
Week	Start Date	Jacks	Large	Sockeye	Coho	Pink	Chum	head	Licenses	Days	Days
24	10-Jun	0	7	0	0	0	0	0	1.0	4	4.0
25	17-Jun	3	49	1	0	0	0	0	2.0	6	12.0
26	24-Jun	52	90	8	0	0	0	0	2.3	7	16.1
27	01-Jul	79	167	13	0	0	0	0	3.6	7	25.2
28	08-Jul	75	137	414	0	0	0	0	6.9	7	48.3
29	15-Jul	32	75	1,390	0	0	0	0	13.1	7	91.7
30	22-Jul	12	74	622	0	0	0	0	8.9	7	62.3
31	29-Jul	6	25	413	5	0	0	0	6.4	7	44.8
32	05-Aug	0	6	110	1	0	0	0	2.3	7	16.1
33	12-Aug	0	3	36	3	0	0	1	0.4	4	1.6
34	19-Aug	0	0	0	0	0	0	0	0.0	0	0
35	26-Aug	0	0	14	6	0	0	6	0.6	5	3.0
36	02-Sep	0	0	1	2	0	0	4	0.4	3	1.2
Total		259	633	3,022	17	0	0	11	47.9	71	326.3

Appendix A.19. Weekly salmon and steelhead trout catch and effort in the Canadian test fishery in the Stikine River, 1990.

Week	Start Date	Chinook	Sockeye	Coho	Pink	Chum	Steel- head	# Drifts/ Set Hours
Drift gill net								
25	17-Jun	49	2	0	0	0	0	60
26	24-Jun	61	19	0	0	4	0	50
27	01-Jul	39	64	0	0	0	0	50
28	08-Jul	16	109	0	0	2	0	50
29	15-Jul	1	68	1	0	2	0	40
30	22-Jul	1	106	0	0	4	0	60
31	29-Jul	0	54	1	0	0	1	60
32	05-Aug	0	16	0	0	2	0	23
33	12-Aug							0
34	19-Aug	0	9	19	3	12	1	50
35	26-Aug	0	0	34	1	3	1	50
36	02-Sep	0	0	36	1	0	1	40
37	09-Sep	0	0	17	0	0	0	20
38	16-Sep	0	0	18	0	0	1	50
39	23-Sep	0	0	8	0	0	1	70
Total		167	447	134	5	29	6	673
Set gill net								
25	17-Jun	23	14	0	0	0	0	168
26	24-Jun	28	184	0	0	1	0	120
27	01-Jul	8	260	0	0	1	0	120
28	08-Jul	5	264	0	0	8	1	120
29	15-Jul	0	163	0	0	2	0	96
30	22-Jul	0	308	0	1	9	0	144
31	29-Jul	0	218	6	0	4	2	144
32	05-Aug	0	43	3	4	4	0	36
33	12-Aug							0
34	19-Aug	0	32	112	29	8	10	120
35	26-Aug	0	7	132	3	11	5	120
36	02-Sep	0	0	18	5	0	0	24
Total		64	1,493	271	42	48	18	1,212

a/ The test fishery was not conducted during week 33.

Appendix A.20. Weekly sockeye salmon stock proportions in the Stikine River test fishery, 1990. Data based on egg diameter analysis.

Week	Sample Size	Tahltan	non-Tahltan
25	12	0.563	0.437
26	96	0.906	0.094
27	151	0.821	0.179
28	175	0.625	0.375
29	106	0.407	0.593
30	217	0.143	0.857
31	144	0.103	0.897
32	31	0.119	0.881
33a	0	0.080	0.920
34	27	0.024	0.976
35	1	0.000	1.000
	960		

a/ Data for week 33 is interpolated from weeks 32 and 34.

Appendix A.21. Weekly catch, CPUE, and migratory timing of Tahltan and non-Tahltan sockeye stocks in the Stikine River test fishery, 1990. Data based on egg diameter analysis. Data for week 33 interpolated from 32 and 34.

	Catch		CPUE			Migratory Timing	
Week	Tahltan	non-Tahltan	Tahltan	non-Tahltan	Total	Tahltan	non-Tahltan
Drift gill net							
25	1	1	0.019	0.015	0.033	0.002	0.002
26	17	2	0.344	0.036	0.380	0.037	0.004
27	53	11	1.051	0.229	1.280	0.112	0.024
28	68	41	1.363	0.818	2.180	0.145	0.087
29	28	40	0.692	1.008	1.700	0.073	0.107
30	15	91	0.253	1.514	1.767	0.027	0.161
31	6	48	0.093	0.807	0.900	0.010	0.086
32	2	14	0.083	0.613	0.696	0.009	0.065
33a	0	0	0.009	0.290	0.299	0.003	0.029
34	0	9	0.004	0.176	0.180	0.000	0.019
Total	190	257	3.910	5.505	9.415		
Proportion	0.424	0.576		Proportion of run		0.417	0.583
Set gill net							
25	8	6	0.047	0.036	0.083	0.003	0.003
26	167	17	1.389	0.144	1.533	0.101	0.011
27	213	47	1.779	0.388	2.167	0.130	0.028
28	165	99	1.375	0.825	2.200	0.100	0.060
29	66	97	0.691	1.007	1.698	0.050	0.073
30	44	264	0.306	1.833	2.139	0.022	0.134
31	22	196	0.156	1.358	1.514	0.011	0.099
32	5	38	0.142	1.052	1.194	0.010	0.077
33a/	0	0	0.025	0.823	0.849	0.005	0.057
34	1	31	0.006	0.260	0.267	0.000	0.019
35	0	7	0.000	0.058	0.058	0.000	0.004
Total	692	801	5.916	7.785	13.702	0.435	0.565
Proportion	0.463	0.537					

a/ CPUEs for week 33 were calculated from the regression of the commercial CPUE vs the drift or set test CPUE for weeks 26-32,34,35, stock composition is from the commercial catch.

Appendix A.22. Daily counts of adult sockeye salmon passing through Tahltan weir, 1990. The weir was installed on July 6, but no fish passed through prior to July 15.

Date	Count	Cumulative Count	Cumulative Percent	Date	Count	Cumulative Count	Cumulative Percent
15-Jul	1	1	0.0	09-Aug	114	14,373	96.3
16-Jul	0	1	0.0	10-Aug	14	14,387	96.4
17-Jul	0	1	0.0	11-Aug	24	14,411	96.5
18-Jul	0	1	0.0	12-Aug	2	14,413	96.6
19-Jul	0	1	0.0	13-Aug	51	14,464	96.9
20-Jul	1	2	0.0	14-Aug	34	14,498	97.1
21-Jul	27	29	0.2	15-Aug	2	14,500	97.1
22-Jul	829	858	5.7	16-Aug	41	14,541	97.4
23-Jul	3076	3,934	26.4	17-Aug	28	14,569	97.6
24-Jul	1723	5,657	37.9	18-Aug	7	14,576	97.6
25-Jul	1743	7,400	49.6	19-Aug	7	14,583	97.7
26-Jul	1673	9,073	60.8	20-Aug	5	14,588	97.7
27-Jul	792	9,865	66.1	21-Aug	1	14,589	97.7
28-Jul	1074	10,939	73.3	22-Aug	0	14,589	97.7
29-Jul	763	11,702	78.4	23-Aug	91	14,680	98.3
30-Jul	670	12,372	82.9	24-Aug	201	14,881	99.7
31-Jul	401	12,773	85.6	25-Aug	38	14,919	99.9
01-Aug	322	13,095	87.7	26-Aug	1	14,920	100.0
02-Aug	286	13,381	89.6	27-Aug	4	14,924	100.0
03-Aug	188	13,569	90.9	28-Aug	3	14,927	100.0
04-Aug	20	13,589	91.0	29-Aug	0	14,927	100.0
05-Aug	20	13,609	91.2	30-Aug	0	14,927	100.0
06-Aug	80	13,689	91.7	31-Aug	0	14,927	100.0
07-Aug	194	13,883	93.0	01-Sep	0	14,927	100.0
08-Aug	376	14,259	95.5				
Total Counted						14927	
Adjustments						-3302 a/	
Total Spawners						11625	

a/ A total of 1615 females and 1687 males were taken for broodstock.

Appendix A.23. Daily counts of sockeye salmon smolt migrating through Tahltan Lake smolt weir, 1990.

Date	Count	Cumulative Count	Cumulative Percent	Date	Count	Cumulative Count	Cumulative Percent
05-May	weir in			26-May	542	295,383	48.6
06-May	0	0	0.0	27-May	1,778	297,161	48.9
07-May	0	0	0.0	28-May	4,816	301,977	49.7
08-May	0	0	0.0	29-May	6,226	308,203	50.7
09-May	0	0	0.0	30-May	13,815	322,018	53.0
10-May	0	0	0.0	31-May	6,777	328,795	54.1
11-May	0	0	0.0	01-Jun	11529	340,324	56.0
12-May	0	0	0.0	02-Jun	196252	536,576	88.3
13-May	0	0	0.0	03-Jun	935	537,511	88.5
14-May	0	0	0.0	04-Jun	1,001	538,512	88.6
15-May	153	153	0.0	05-Jun	12,831	551,343	90.7
16-May	1,113	1,266	0.2	06-Jun	1,158	552,501	90.9
17-May	63,184	64,450	10.6	07-Jun	4,169	556,670	91.6
18-May	5,311	69,761	11.5	08-Jun	7,396	564,066	92.8
19-May	9,671	79,432	13.1	09-Jun	3,567	567,633	93.4
20-May	39,799	119,231	19.6	10-Jun	2,022	569,655	93.7
21-May	5,267	124,498	20.5	11-Jun	294	569,949	93.8
22-May	3,877	128,375	21.1	12-Jun	91	570,040	93.8
23-May	4,326	132,701	21.8	13-Jun	23,710	593,750	97.7
24-May	151,907	284,608	46.8	14-Jun	1,397	595,147	97.9
25-May	10,233	294,841	48.5	Total a/		607,645	100.0

a/ Based on historical migratory timing, 97.9% of the smolt outmigration has occured by June 14. The estimated total smolt run in 1990 was 607,645 fish.

Appendix A.24. Daily counts of adult chinook salmon passing through Little Tahltan weir, 1990.

	Large Chinook			Chinook Jacks		
		Cumulative			Cumulative	
Date	Count	Count	Percent	Count	Count	Percent
22-Jun	----------	----------	weir installed	----------	----------	----------
23-Jun	0	0	0.00	0	0	0.00
24-Jun	0	0	0.00	0	0	0.00
25-Jun	0	0	0.00	0	0	0.00
26-Jun	0	0	0.00	0	0	0.00
27-Jun	0	0	0.00	0	0	0.00
28-Jun	0	0	0.00	0	0	0.00
29-Jun	4	4	0.09	0	0	0.00
30-Jun	11	15	0.34	0	0	0.00
01-Jul	2	17	0.39	0	0	0.00
02-Jul	0	17	0.39	0	0	0.00
03-Jul	0	17	0.39	0	0	0.00
04-Jul	0	17	0.39	0	0	0.00
05-Jul	22	39	0.89	3	3	0.72
06-Jul	0	39	0.89	0	3	0.72
07-Jul	61	100	2.28	6	9	2.16
08-Jul	6	106	2.41	1	10	2.40
09-Jul	11	117	2.66	1	11	2.64
10-Jul	3	120	2.73	1	12	2.88
11-Jul	66	186	4.23	16	28	6.71
12-Jul	104	290	6.60	4	32	7.67
13-Jul	11	301	6.85	0	32	7.67
14-Jul	90	391	8.90	2	34	8.15
15-Jul	135	526	11.98	6	40	9.59
16-Jul	268	794	18.08	7	47	11.27
17-Jul	82	876	19.95	38	85	20.38
18-Jul	127	1,003	22.84	8	93	22.30
19-Jul	362	1,365	31.08	33	126	30.22
20-Jul	62	1,427	32.49	15	141	33.81
21-Jul	102	1,529	34.81	33	174	41.73
22-Jul	224	1,753	39.91	42	216	51.80
23-Jul	499	2,252	51.28	49	265	63.55
24-Jul	352	2,604	59.29	66	331	79.38
25-Jul	225	2,829	64.41	8	339	81.29
26-Jul	143	2,972	67.67	6	345	82.73
27-Jul	170	3,142	71.54	9	354	84.89
28-Jul	25	3,167	72.11	6	360	86.33
29-Jul	146	3,313	75.43	9	369	88.49
30-Jul	201	3,514	80.01	10	379	90.89
31-Jul	304	3,818	86.93	7	386	92.57
01-Aug	26	3,844	87.52	3	389	93.29
02-Aug	70	3,914	89.12	3	392	94.00
03-Aug	40	3,954	90.03	1	393	94.24
04-Aug	155	4,109	93.56	5	398	95.44
05-Aug	20	4,129	94.01	2	400	95.92
06-Aug	66	4,195	95.51	5	405	97.12
07-Aug	75	4,270	97.22	2	407	97.60
08-Aug	20	4,290	97.68	3	410	98.32
09-Aug	2	4,292	97.72	1	411	98.56
10-Aug	40	4,332	98.63	3	414	99.28
11-Aug	16	4,348	99.00	2	416	99.76
12-Aug	5	4,353	99.11	1	417	100.00
13-Aug	0	4,353	99.11	0	417	100.00
14-Aug	20	4,373	99.57	0	417	100.00
15-Aug	0	4,373	99.57	0	417	100.00
16-Aug	17	4,390	99.95	0	417	100.00
17-Aug	2	4,392	100.00	0	417	100.00
18-Aug	0	4,392	100.00	0	417	100.00
19-Aug	0	4,392	100.00	0	417	100.00

Appendix B.1. Salmon catch and effort in the Alaskan Subdistrict 106-41 and -42 (Sumner Strait) commercial drift gill net fishery, 1964-1990.

Year	Catch					Effort	
	Chinook	Sockeye	Coho	Pink	Chum	Permit Days	Days Open
1964	316	52,943	27,338	183,402	22,913	2,344	49
1965	679	58,736	30,570	162,271	15,763	1,658	51
1966	690	65,721	30,792	96,287	24,235	2,080	74
1967	668	60,148	10,573	52,284	19,626	1,463	27
1968	1,010	50,212	46,111	82,012	39,001	2,997	52
1969	747	46,282	6,557	92,102	6,395	1,147	31
1970	420	26,812	15,153	29,102	18,092	905	41
1971	671	33,991	24,727	283,739	19,329	1,619	50
1972	1,747	74,745	60,827	40,644	46,511	2,152	41
1973	1,540	55,254	24,921	160,297	62,486	2,253	26
1974	1,342	46,760	28,889	57,296	38,045	1,579	28
1975	467	19,319	4,650	29,340	7,762	515	17
1976	237	9,319	10,367	20,251	2,301	366	19
1977	202	47,408	1,819	51,038	4,240	447	17
1978	274	1,422	26,762	9,546	3,142	389	27
1979	458	34,807	12,087	176,395	16,816	952	25
1980	205	48,430	10,826	16,966	15,162	596	16
1981	598	132,359	13,158	218,359	25,994	1,732	25
1982	648	121,220	21,387	10,343	11,896	1,083	22
1983	268	28,153	41,196	74,347	13,001	875	32
1984	136	27,372	19,124	99,807	28,461	587	32
1985	549	172,088	50,655	319,379	45,566	1,726	38
1986	421	85,247	104,328	105,347	48,471	1,896	32
1987	441	79,165	17,776	117,059	25,877	978	20
1988	452	57,337	6,349	10,894	42,210	815	18
1989	581	107,886	55,671	418,044	40,156	1,716	34
Averages							
64-89	606	59,351	27,024	112,175	24,748	1,341	32
80-89	430	85,926	34,047	139,055	29,679	1,200	27
1990	759	104,922	94,502	84,543	42,474	1,827	34

Appendix B.2. Stock proportions and catches of sockeye salmon in the Alaskan Subdistrict 106-41 and -42 (Sumner Strait) commercial drift gill net fishery, 1985-1990. Data based on SPA.

Year	Alaska	Canada	Stikine		
			Tahltan	non-Tahltan	Total
Proportions					
1985	0.480	0.401	0.109	0.010	0.119
1986	0.662	0.308	0.024	0.006	0.030
1987	0.816	0.166	0.015	0.003	0.018
1988	0.868	0.112	0.019	0.001	0.020
1989	0.653	0.303	0.009	0.036	0.044
1990	0.579	0.395	0.008	0.018	0.026
Catches					
1985	82,563	68,962	18,801	1,762	20,563
1986	56,462	26,214	2,070	501	2,571
1987	64,582	13,170	1,155	258	1,413
1988	49,776	6,426	1,071	64	1,135
1989	70,436	32,663	957	3,830	4,787
1990	60,795	41,415	801	1,911	2,712

Appendix B.3. Salmon catch and effort in the Alaskan Subdistrict 106-30 (Clarence Strait) commercial drift gill net fishery, 1964-1990.

	Catch					Effort	
Year	Chinook	Sockeye	Coho	Pink	Chum	Permit Days	Days Open
1964	1,766	23,598	37,316	259,684	21,305	3,039	49.00
1965	1,123	29,013	45,158	463,577	11,895	2,849	50.75
1966	975	24,126	32,031	304,645	16,521	2,898	74.25
1967	650	26,237	7,097	39,325	6,744	1,048	27.00
1968	306	14,459	21,040	87,095	22,365	1,968	52.00
1969	289	24,061	4,191	104,998	4,511	1,026	31.00
1970	365	15,966	20,317	65,790	14,139	1,025	41.00
1971	665	19,211	23,358	244,236	18,351	1,517	50.00
1972	826	26,593	32,600	48,823	25,871	1,276	41.00
1973	391	16,741	13,526	143,324	25,243	1,303	26.00
1974	696	10,482	16,825	47,041	12,258	712	28.00
1975	2,120	12,732	26,312	173,675	16,206	1,159	8.50
1976	147	6,162	8,759	119,188	4,567	527	21.00
1977	469	19,615	6,582	368,069	9,060	940	21.00
1978	2,408	40,152	28,816	215,169	13,403	1,148	16.00
1979	2,262	31,566	15,996	471,817	18,691	1,848	25.00
1980	375	58,988	5,754	28,594	11,107	749	25.00
1981	967	50,546	9,453	216,909	8,577	1,321	26.00
1982	1,000	72,140	10,284	15,141	6,719	647	21.00
1983	299	20,789	21,234	133,820	7,143	589	37.00
1984	756	64,281	22,235	243,448	41,797	1,236	24.00
1985	1,141	92,899	40,565	265,567	24,095	1,372	36.00
1986	1,283	60,462	90,584	203,137	33,818	1,664	31.00
1987	395	57,262	16,758	126,423	16,148	799	20.00
1988	652	35,192	6,754	58,605	27,410	682	19.00
1989	963	84,848	36,715	683,150	27,195	1,583	34.00
Averages							
64-89	896	36,082	23,087	197,356	17,121	1,343	32.10
80-89	783	59,741	26,034	197,479	20,401	1,064	27.30
1990	1,348	80,883	69,709	234,643	30,758	1,676	34.00

Appendix B.4. Stock proportions and catches of sockeye salmon in the Alaskan Subdistrict 106-30 (Clarence Strait) commercial drift gill net fishery, 1985-1990. Data based on SPA. Data for 1990 is preliminary.

			Stikine		
Year	Alaska	Canada	Tahltan	non-Tahltan	Total
Proportions					
1985	0.477	0.453	0.056	0.013	0.070
1986	0.726	0.272	0.000	0.002	0.002
1987	0.844	0.140	0.004	0.012	0.016
1988	0.883	0.095	0.021	0.000	0.021
1989	0.662	0.322	0.002	0.015	0.016
1990	0.645	0.340	0.001	0.013	0.015
Catch					
1985	44,351	42,053	5,244	1,251	6,495
1986	43,875	16,471	11	105	116
1987	48,311	8,020	221	710	931
1988	31,092	3,358	742	0	742
1989	56,167	27,296	154	1,231	1,385
1990	52,188	27,506	114	1,075	1,189

Appendix B.5. Salmon catch and effort in the Alaskan District 106 commercial drift gill net fisheries, 1964-1990. Catches do not include Blind Slough terminal area harvests.

Year	Catch					Effort	
	Chinook	Sockeye	Coho	Pink	Chum	Permit Days	Days Open
1964	2,082	76,541	64,654	443,086	44,218	5,383	49.00
1965	1,802	87,749	75,728	625,848	27,658	4,507	50.75
1966	1,665	89,847	62,823	400,932	40,756	4,978	74.25
1967	1,318	86,385	17,670	91,609	26,370	2,511	27.00
1968	1,316	64,671	67,151	169,107	61,366	4,965	52.00
1969	1,036	70,343	10,748	197,100	10,906	2,173	31.00
1970	785	42,778	35,470	94,892	32,231	1,930	41.00
1971	1,336	53,202	48,085	527,975	37,680	3,136	50.00
1972	2,573	101,338	93,427	89,467	72,382	3,428	41.00
1973	1,931	71,995	38,447	303,621	87,729	3,556	26.00
1974	2,038	57,242	45,714	104,337	50,303	2,291	28.00
1975	2,587	32,051	30,962	203,015	23,968	1,674	17.00
1976	384	15,481	19,126	139,439	6,868	893	21.00
1977	671	67,023	8,401	419,107	13,300	1,387	21.00
1978	2,682	41,574	55,578	224,715	16,545	1,537	26.50
1979	2,720	66,373	28,083	648,212	35,507	2,800	25.00
1980	580	107,418	16,580	45,560	26,269	1,345	25.00
1981	1,565	182,905	22,611	435,268	34,571	3,053	26.00
1982	1,648	193,360	31,671	25,484	18,615	1,730	22.00
1983	567	48,942	62,430	208,167	20,144	1,464	37.00
1984	892	91,653	41,359	343,255	70,258	1,823	32.00
1985	1,690	264,987	91,220	584,946	69,661	3,098	38.00
1986	1,704	145,709	194,912	308,484	82,289	3,560	32.00
1987	836	136,427	34,534	243,482	42,025	1,777	20.00
1988	1,104	92,529	13,103	69,499	69,620	1,497	19.00
1989	1,544	192,734	92,386	1101194	67,351	3,299	34.00
Averages							
64-89	1,502	95,433	50,111	309,531	41,869	2,684	33.29
80-89	1,213	145,666	60,081	336,534	50,080	2,265	28.50
1990	2,107	185,805	164,211	319,186	73,232	3,503	34.00

Appendix B.6. Stock proportions and catches of sockeye salmon in the Alaskan District 106 commercial drift gill net fisheries, 1982-1990. Catches do not include Blind Slough terminal area harvests. Data based on SPA.

Year	Alaska	Canada	Stikine		
			Tahltan	non-Tahltan	Total
Proportions					
1982	0.486	0.319			0.194
1983	0.668	0.217	0.103	0.013	0.116
1984	0.658	0.269	0.029	0.044	0.074
1985	0.479	0.419	0.091	0.011	0.102
1986	0.689	0.293	0.014	0.004	0.018
1987	0.827	0.155	0.010	0.007	0.017
1988	0.874	0.106	0.020	0.001	0.020
1989	0.657	0.311	0.006	0.026	0.032
Averages					
1983-1989	0.693	0.253	0.039	0.015	0.054
1990	0.608	0.371	0.005	0.016	0.021
Catches					
1982	94,061	61,714			37,585
1983	32,670	10,611	5,030	632	5,662
1984	60,278	24,624	2,673	4,078	6,751
1985	126,914	111,015	24,045	3,013	27,058
1986	100,337	42,685	2,081	606	2,687
1987	112,893	21,190	1,376	968	2,344
1988	80,868	9,784	1,813	64	1,877
1989	126,603	59,959	1,111	5,061	6,172
Averages					
1983-1989	91,509	39,981	5,447	2,060	7,507
1990	112,983	68,921	915	2,986	3,901

Appendix B.7. Salmon catch and effort in the Alaskan District 108 commercial drift gill net fishery, 1964-1990. Catches do not include Ohmer Creek terminal area harvests.

Year	Catch					Effort	
	Chinook	Sockeye	Coho	Pink	Chum	Permit Days	Days Open
1964	2,911	20,299	29,388	114,555	10,771	3,416	62
1965	3,106	21,419	8,301	4,729	2,480	960	48
1966	4,516	36,710	16,493	61,908	17,730	1,841	62
1967	6,372	29,226	6,747	4,713	5,955	1,193	40
1968	4,604	14,594	36,407	91,028	14,537	3,114	61
1969	5,023	19,210	5,823	11,884	2,312	858	37
1970	3,207	15,120	18,403	20,523	12,305	1,180	41
1971	3,717	18,143	14,876	21,806	4,665	892	42
1972	9,332	51,734	38,520	17,153	17,363	1,922	49
1973	9,254	21,387	5,837	6,585	6,680	1,042	21
1974	8,199	2,428	16,021	4,188	2,107	550	16
1975	1,534	0	0	0	1		8
1976	1,123	18	6,056	722	124	130	10
1977	1,443	48,374	14,405	16,253	4,233	740	19
1978	531	56	32,650	1,157	1,001	608	12
1979	91	2,158	234	13,478	1,064	100	5
1980	631	14,053	2,946	7,224	6,910	327	22
1981	283	8,833	1,403	1,466	3,594	177	9
1982	1,033	6,886	19,971	16,988	741	508	21
1983	47	178	15,484	4,171	675	266	17
1984	14	1,290	5,141	4,960	1,892	34	5
1985	20	1,060	1,926	5,325	1,892	50	14
1986	102	4,185	7,439	4,901	5,928	216	25
1987	149	1,620	1,015	3,331	949	81	13
1988	206	1,246	12	144	3,109	60	8
1989	310	10,083	4,261	27,640	3,375	223	29
Averages							
64-89	2,606	13,473	11,914	17,955	5,092	820	27
80-89	280	4,943	5,960	7,615	2,907	194	16
1990	557	11,574	8,218	13,822	9,382	359	34

Appendix B.8. Stock proportions and catches of sockeye salmon in the Alaskan District 108 commercial drift gill net fishery, 1985-1990. Catches do not include Ohmer Creek terminal area harvests. Data based on SPA.

Year	Alaska	Canada	Stikine		
			Tahltan	non-Tahltan	Total
Proportions					
1985	0.064	0.000	0.292	0.644	0.936
1986	0.206	0.017	0.094	0.683	0.777
1987a	0.125	0.000	0.438	0.437	0.875
1988	0.213	0.039	0.178	0.571	0.749
1989	0.117	0.054	0.034	0.795	0.829
Averages					
1985-1989	0.145	0.022	0.207	0.626	0.833
1990	0.395	0.128	0.111	0.366	0.477
Catch					
1985	68	0	310	683	992
1986	862	71	393	2,858	3,252
1987	203	0	710	708	1,418
1988	265	48	222	711	933
1989	1,180	545	341	8,017	8,358
Averages					
1985-1989	515	133	395	2,595	2,990
1990	4,576	1,479	1,280	4,239	5,519

a/ There was no data available to determine the ratio of Tahltan to non-Tahltan Stikine stocks; a 1:1 ratio was assumed.

Appendix B.9. Salmon catch in the Alaskan Subdistrict 106-41 (Sumner Strait) test fishery, 1984-1990.

Year	Catch					Boat Hours
	Chinook	Sockeye	Coho	Pink	Chum	
1984	13	1,370	101	975	793	142.51
1985	16	4,345	301	3,230	746	156.31
1986	23	982	177	60	248	99.45
1987	24	2,659	799	4,117	741	508.10
1988	11	1,020	89	137	772	121.00
1989	11	2,043	275	6,069	856	60.20
1990	13	2,256	432	372	552	7.00

Appendix B.10. Stock proportions and catches of sockeye salmon in the Alaskan Subdistrict 106-41 and -42 (Sumner Strait) test fishery, 1984-1990. Data based on SPA.

Year	Alaska	Canada	Stikine		Total
			Tahltan	non-Tahltan	
Proportions					
1984	0.658	0.269	0.029	0.044	0.074
1985	0.480	0.401	0.109	0.010	0.119
1986	0.834	0.149	0.008	0.009	0.017
1987	0.816	0.166	0.015	0.003	0.018
1988	0.868	0.098	0.034	0.000	0.034
1989	0.561	0.430	0.000	0.008	0.008
1990	0.548	0.416	0.014	0.022	0.035
Catch					
1984	901	368	40	61	101
1985	2,085	1,741	475	44	519
1986	819	146	8	9	17
1987	2,169	442	39	9	47
1988	886	100	35	0	35
1989	1,147	879	0	17	17
1990	1,237	939	31	49	80

Appendix B.11. Salmon catch and effort in the Alaskan Subdistrict 106-30 (Clarence Strait) test fishery, 1986-1990.

Year	Catch					Boat Hours
	Chinook	Sockeye	Coho	Pink	Chum	
1986	24	363	95	80	58	23.25
1987	1	899	589	1,705	467	384.00
1988	10	16	412	112	598	119.70
1989	4	37	464	431	329	
1990	No Test Fishery					

Appendix B.12. Stock proportions and catches of sockeye salmon in the Alaskan Subdistrict 106-30 (Clarence Strait) test fishery, 1986-1990. Data based on SPA.

Year	Alaska	Canada	Stikine		
			Tahltan	non-Tahltan	Total
Proportions					
1986	0.726	0.272	0.000	0.002	0.002
1987	0.844	0.140	0.004	0.012	0.016
1988	0.746	0.254	0.000	0.000	0.000
1989	0.514	0.486	0.000	0.000	0.000
1990	No Test Fishery				
Catches					
1986	263	99	0	1	1
1987	758	126	3	11	15
1988	12	4	0	0	0
1989	19	18	0	0	0
1990	No Test Fishery				

Appendix B.13. Salmon catch and effort in the Alaskan District 106 test fisheries 1984-1990.

Year	Catch					Boat Hours
	Chinook	Sockeye	Coho	Pink	Chum	
1984	13	1,370	101	975	793	142.51
1985	16	4,345	301	3,230	746	156.31
1986	47	1,345	272	140	306	122.70
1987	25	3,558	1,388	5,822	1,208	892.10
1988	21	1,036	501	249	1,370	240.70
1989	15	2,080	739	6,500	1,185	60.20
1990	13	2,256	432	372	552	7.00

Appendix B.14. Stock proportions and catches of sockeye salmon in the Alaskan District 106 test fisheries, 1984-1990. Data based on SPA.

Year	Alaska	Canada	Stikine		
			Tahltan	non-Tahltan	Total
Proportions					
1984	0.658	0.269	0.029	0.044	0.074
1985	0.480	0.401	0.109	0.010	0.119
1986	0.805	0.182	0.006	0.007	0.013
1987	0.823	0.160	0.012	0.006	0.017
1988	0.867	0.100	0.033	0.000	0.033
1989	0.561	0.431	0.000	0.008	0.008
1990	0.548	0.416	0.014	0.022	0.035
Catch					
1984	901	368	40	61	101
1985	2,085	1,741	475	44	519
1986	1,082	245	8	9	17
1987	2,928	568	42	20	62
1988	898	104	35	0	35
1989	1,166	897	0	17	17
1990	1,237	939	31	49	80

Appendix B.15. Salmon catch and effort in the Alaskan District 108 test fishery 1984-1990.

Year	Catch					Boat Hours
	Chinook	Sockeye	Coho	Pink	Chum	
1984	37	641	11	822	813	
1985	33	1,258	11	465	381	71.67
1986	79	564	3	36	315	72.15
1987	30	290	13	1,957	488	76.87
1988	65	451	9	1,091	1,009	126.83
1989	15	1,038	45	2,459	283	63.47
1990	19	866	45	942	643	7.00

Appendix B.16. Stock proportions and catches of sockeye salmon in the Alaskan District 108 test fishery, 1985-1990. Data based on SPA.

Year	Alaska	Canada	Stikine		
			Tahltan	non-Tahltan	Total
Proportions					
1985	0.064	0.000	0.292	0.644	0.936
1986	0.134	0.044	0.486	0.336	0.822
1987	0.125	0.000	0.438	0.437	0.875
1988	0.205	0.049	0.132	0.614	0.746
1989	0.136	0.105	0.100	0.659	0.759
1990	0.417	0.172	0.094	0.318	0.411
Catch					
1985	81	0	367	810	1,177
1986	76	25	274	190	464
1987	36	0	127	127	254
1988	93	22	59	277	336
1989	141	109	104	684	788
1990	361	149	81	275	356

Appendix B.17. Salmon and steelhead trout catch and effort in the Canadian commercial fishery in the lower Stikine River, 1979-1990.

Year	Catch							Effort	
	Chinook		Sockeye	Coho	Pink	Chum	Steelhead	Boat Days	Days
	Jacks	Large							
1979a/	63	712	10,534	10,720	1,994	424	264	b/	42.0
1980		1,488	18,119	6,629	736	771	362	701.0	41.0
1981		664	21,551	2,667	3,713	1,128	280	522.0	32.0
1982		1,693	15,397	15,904	1,782	722	828	1,093.0	71.0
1983	430	492	15,857	6,170	1,043	274	667	458.0	54.0
1984c/									
1985	91	256	17,093	2,172	2,321	532	231	145.5	22.5
1986	365	806	12,411	2,278	107	295	192	239.0	13.5
1987	242	909	6,138	5,728	646	432	217	287.0	20.0
1988	201	1,007	12,766	2,112	418	730	258	320.0	26.5
1989	157	1,537	17,179	6,092	825	674	127	325.0	23.0
Averages d/									
80-89		1,149	15,168	5,528	1,288	618	351	454.5	33.7
1990	680	1,569	14,530	4,020	496	499	188	328.1	29.0

a/ The lower river commercial catch in 1979 includes the upper river commercial catch.
b/ Effort data not available
c/ There was no commercial fishery in 1984.
d/ Chinook average is for jacks and large fish combined.

Appendix B.18. Sockeye salmon stock proportions and catch by stock in the Canadian commercial fishery in the lower Stikine River, 1979–1990. Stock compositions based on: scale circuli counts 1979–1983, SPA in 1985; average of SPA and GPA 1986; SPA in 1987 and 1988; and egg diameter in 1989 and 1990.

	Proportions		Catch	
Year	Tahltan	non-Tahltan	Tahltan	non-Tahltan
1979	0.433	0.567	4,561	5,973
1980	0.309	0.691	5,599	12,520
1981	0.476	0.524	10,258	11,293
1982	0.624	0.376	9,608	5,789
1983	0.422	0.578	6,692	9,165
1984a/				
1985	0.623	0.377	10,649	6,444
1986	0.489	0.511	6,069	6,342
1987	0.225	0.775	1,380	4,758
1988	0.161	0.839	2,062	10,704
1989	0.164	0.836	2,813	14,366
Averages 80–89	0.388	0.612	6,125	9,042
1990	0.346	0.654	5,029	9,501

a/ There was no commercial fishery in 1984.

Appendix B.19. Salmon and steelhead trout catch and effort in the Canadian commercial fishery in the upper Stikine River, 1975–1990.

	Catch							Effort	
	Chinook							Boat	
Year	Jacks	Large	Sockeye	Coho	Pink	Chum	Steelhead	Days	Days
1975		178	270	45	0	0	0		
1976		236	733	13	0	0	0		
1977		62	1,975	0	0	0	0		
1978		100	1,500	0	0	0	0		
1979 a/									
1980		156	700	40	20	0	0		
1981		154	769	0	0	0	0	11	5.0
1982		76	195	0	0	0	0	8	4.0
1983		75	614	0	0	4	1	10	8.0
1984 b/									
1985		62	1,084	0	0	0	0	14	6.0
1986	41	104	815	0	0	0	0	19	7.0
1987	19	109	498	0	0	19	0	20	7.0
1988	46	185	348	0	0	0	0	4	6.5
1989	17	54	493	0	0	0	0	14	7.0
Averages c/									
75–89		120	769	8	2	2	0		
80–89		110	613	4	2	3	0	13	6.3
1990	20	48	472	0	0	0	0	15	7.0

a/ Catches in 1979 were included in the lower river commercial catches.
b/ There was no commercial fishery in 1984.
c/ Chinook averages are for jacks and large fish combined.

Appendix B.20. Salmon and steelhead trout catch in the Canadian Indian food fishery located at Telegraph Creek, on the Stikine River, 1972-1990.

	Catch						
	Chinook						
Year	Jacks	Large	Sockeye	Coho	Pink	Chum	Steelhead
1972		0	230	0	0	0	0
1973		200	3,670	0	0	0	0
1974		0	3,500	0	0	0	0
1975		1,024	1,982	5	0	0	0
1976		924	2,911	0	0	0	0
1977		100	4,335	0	0	0	0
1978		400	3,500	0	0	0	0
1979		850	3,000	0	0	0	0
1980		587	2,100	0	0	0	0
1981		740	5,304	8	144	0	4
1982		618	4,948	40	60	0	0
1983		1,066	4,649	3	77	26	46
1984		702	5,327	1	62	0	2
1985	94	793	7,287	3	35	4	9
1986	569	1,026	4,208	2	0	12	2
1987	183	1,183	2,979	3	0	8	2
1988	197	1,178	2,177	5	0	3	3
1989	115	1,078	2,360	6	0	0	0
Averages a/							
72-89		757	3,582	4	21	3	4
80-89		1,013	4,134	7	38	5	7
1990	259	633	3,022	17	0	0	11

a/ Chinook averages are for jacks and large fish combined.

Appendix B.21. Salmon and steelhead trout catch in the combined Canadian net fisheries in the Stikine River, 1972-1990.

	Chinook						Steel-
Year	Jacks	Large	Sockeye	Coho	Pink	Chum	head
1972	0	0	230	0	0	0	0
1973	0	200	3,670	0	0	0	0
1974	0	0	3,500	0	0	0	0
1975	0	1,202	2,252	50	0	0	0
1976	0	1,160	3,644	13	0	0	0
1977	0	162	6,310	0	0	0	0
1978	0	500	5,000	0	0	0	0
1979	63	1,562	13,534	10,720	1,994	424	264
1980	0	2,231	20,919	6,669	756	771	362
1981	0	1,558	27,624	2,675	3,857	1,128	284
1982	0	2,387	20,540	15,944	1,842	722	828
1983	430	1,633	21,120	6,173	1,120	304	714
1984a/	0	702	5,327	1	62	0	2
1985	185	1,111	25,464	2,175	2,356	536	240
1986	975	1,936	17,434	2,280	107	307	194
1987	444	2,201	9,615	5,731	646	459	219
1988	444	2,370	15,291	2,117	418	733	261
1989	289	2,669	20,032	6,098	825	674	127
Averages b/							
72-89		1,467	12,306	3,369	777	337	194
80-89		2,157	18,337	4,986	1,199	563	323
1990	959	2,250	18,024	4,037	496	499	199

a/ There was no commercial fishery in 1984.
b/ Chinook averages are for jacks and large fish combined.

Appendix B.22. Salmon and steelhead trout catches and effort in Canadian test fisheries in the Stikine River, 1985-1990.

Year	Fishery	Catch Chinook	Sockeye	Coho	Pink	Chum	Steelhead	Effort Drift=# Set=hr.
1985	C. Set		1,340					
1986	C. Drift	27	412	226	8	25		405
1987	J. Drift	128	385	162	111	61		845
	J. Set	61	1,283	620	587	193		109
1988	J. Drift	168	325	75	9	33	7	720
	J. Set	101	922	130	23	65	14	702
1989	C. Drift	116	364	242	41	46	5	870
	C. Set	101	1,243	502	249	103	17	1,392
1990	C. Drift	167	447	134	5	29	6	673
	C. Set	64	1,493	271	42	48	18	1,212

Appendix B.23. Sockeye salmon stock proportions and catch by stock in the test fishery in the lower Stikine River, 1985-1990. Stock compositions based on: SPA 1985; average of SPA and GPA 1986-1988; Egg diameter 1989 and 1990.

Year	Catch Tahltan U.S.	Canada	Proportion Tahltan U.S.	Canada	Average Proportion a/ Tahltan	non-Tahltan
1985	560	439	0.418	0.328	0.372	0.628
1986	164	127	0.398	0.308	0.352	0.648
1987	513	397	0.308	0.238	0.273	0.727
1988	408	295	0.327	0.237	0.282	0.718
1989		414		0.258	0.258	0.742
1990		822		0.454	0.454	0.546

a/ Average proportions are from averages of weekly estimates.

Appendix B.24. Estimated proportion of inriver run comprised of Tahltan and non-Tahltan sockeye stocks, 1979-1990. Stock compositions based on: scale circuli counts 1979-1983, SPA in 1985; average of SPA and GPA 1986-1988; and egg diameter analysis in 1989 and 1990.

Year	Tahltan U.S.	Canada	Average a/ Tahltan	non-Tahltan
1979	0.433		0.433	0.567
1980	0.305		0.305	0.695
1981	0.475		0.475	0.525
1982	0.618		0.618	0.382
1983	0.489	0.423	0.456	0.544
1984	0.635	0.394	0.493	0.507
1985	0.621	0.363	0.466	0.534
1986	0.398	0.500	0.449	0.551
1987	0.338	0.257	0.304	0.696
1988	0.209	0.122	0.172	0.828
1989		0.188	0.188	0.812
1990		0.417	0.417	0.583

a/ Average proportions are from averages of weekly stock composition and migratory timing (from drift test fishery) estimates.

Appendix B.25. Counts of adult sockeye salmon migrating through Tahltan Lake weir, 1959-1990.

Year	Weir Installed	Date of Arrival First	50%	90%	Total Count	No. Taken for Broodstock	Natural Spawners
1959	30-Jun	02-Aug	12-Aug	16-Aug	4,311		
1960	15-Jul	02-Aug	24-Aug	27-Aug	6,387		
1961	20-Jul	09-Aug	11-Aug	15-Aug	16,619		
1962a/	01-Aug	02-Aug	05-Aug	08-Aug	14,508		
1963b/	03-Aug				1,780		
1964	23-Jul	26-Jul	14-Aug	25-Aug	18,353		
1965c/	19-Jul	18-Jul	02-Sep	07-Sep	1,471		
1966	12-Jul	03-Aug	13-Aug	21-Aug	21,580		
1967	11-Jul	14-Jul	21-Jul	28-Jul	38,801		
1968	11-Jul	21-Jul	25-Jul	08-Aug	19,726		
1969	07-Jul	11-Jul	18-Jul	31-Jul	11,805		
1970	05-Jul	25-Jul	01-Aug	11-Aug	8,419		
1971	12-Jul	19-Jul	28-Jul	12-Aug	18,523		
1972	13-Jul	13-Jul	19-Jul	31-Aug	52,545		
1973	10-Jul	24-Jul	30-Jul	07-Aug	2,877		
1974	03-Jul	28-Jul	03-Aug	17-Aug	8,101		
1975	10-Jul	25-Jul	08-Aug	17-Aug	8,159		
1976	16-Jul	29-Jul	01-Aug	06-Aug	24,111		
1977	06-Jul	11-Jul	16-Jul	10-Aug	42,960		
1978	10-Jul	10-Jul	20-Jul	29-Jul	22,788		
1979	09-Jul	23-Jul	01-Aug	11-Aug	10,211		
1980	04-Jul	15-Jul	22-Jul	12-Aug	11,018		
1981	30-Jun	16-Jul	26-Jul	03-Aug	50,790		
1982	02-Jul	10-Jul	19-Jul	29-Jul	28,257		
1983	27-Jun	05-Jul	22-Jul	05-Aug	21,256		
1984	20-Jun	19-Jul	24-Jul	03-Aug	32,777		
1985	28-Jun	18-Jul	31-Jul	06-Aug	67,326		
1986	10-Jul	26-Jul	04-Aug	11-Aug	20,280		
1987	14-Jul	21-Jul	04-Aug	13-Aug	6,958		
1988	16-Jul	16-Jul	06-Aug	14-Aug	2,536		
1989	07-Jul	09-Jul	01-Aug	14-Aug	8,316	2,210	6,106
Averages							
59-89	10-Jul	20-Jul	31-Jul	11-Aug	19,469		
85-89	09-Jul	18-Jul	03-Aug	11-Aug	21,083		
1990	06-Jul	15-Jul	26-Jul	03-Aug	14,927	3,302	11,625

a/ Question as to date weir installed.
b/ Daily counts unavailable.
c/ A slide occurred blocking the entrance for a while.

Appendix B.26. Aerial survey counts of non-Tahltan sockeye stocks in the Stikine River drainage, 1984-1990. The index represents the combined counts from eight spawning areas.

Year	Escapement Index
1984	2,329
1985	1,136
1986	571
1987	691
1988	376
1989	809
Averages	
84-89	986
85-89	718
1990	743

Appendix B.27. Count of sockeye salmon smolt migrating through Tahltan Lake smolt weir, 1984-1990.

Year	Weir Installed	Date of Arrival First	50%	90%	Total Count
1984	10-May	11-May	23-May	06-Jun	219,702
1985	25-Apr	23-May	31-May	28-May	613,531
1986	08-May	10-May	31-May	07-Jun	244,330
1987	07-May	15-May	23-May	24-May	810,432
1988	01-May	08-May	20-May	06-Jun	1,170,136
1989	05-May	08-May	22-May	06-Jun	580,574
Averages					
84-89	04-May	12-May	25-May	02-Jun	606,451
85-89	03-May	12-May	25-May	01-Jun	683,801
1990a	05-May	15-May	29-May	05-Jun	607,645 a/

a/ Actual count of 595,147 on June 14 expanded by average % of outmigration by date (97.9%) from historical data.

Appendix B.28. Weir counts of chinook salmon at Little Tahltan River, 1985-1990. Jacks are fish of less than 600 mm postorbital-hypural length.

Year	Weir Installed	Large Chinook First Arrival	50% Arrival	90% Arrival	Total Count	Jacks First Arrival	50% Arrival	90% Arrival	Total Count	Total All Chinook
1985	03-Jul	04-Jul	30-Jul	06-Aug	3,114	04-Jul	31-Jul	10-Aug	413	3,527
1986	28-Jun	29-Jun	21-Jul	05-Aug	2,891	03-Jul	25-Jul	06-Aug	572	3,463
1987	28-Jun	04-Jul	24-Jul	02-Aug	4,783	03-Jul	26-Jul	06-Aug	365	5,148
1988	26-Jun	27-Jun	18-Jul	03-Aug	7,292	27-Jun	17-Jul	02-Aug	327	7,619
1989	25-Jun	26-Jun	23-Jul	02-Aug	4,715	26-Jun	23-Jun	02-Aug	199	4,914
Averages										
85-89	28-Jun	30-Jun	23-Jul	03-Aug	4,559	30-Jun	18-Jul	05-Aug	375	4,934
1990	22-Jun	29-Jun	23-Jul	04-Aug	4,392	05-Jul	22-Jun	30-Jul	417	4,809

Appendix B.29. Index counts of Stikine chinook escapements, 1979-1990. Counts do not include jacks. Total Stikine escapment estimated by Little Tahltan aerial counts * 8 (1979-1984), since 1985 by Little Tahltan weir * 4.

Year	Little Tahltan Weir	Little Tahltan (Aerial)	Tahltan (Aerial)	Beatty (Aerial)	a/ Andrew (Foot)	Total Stikine
1979		1,166	2,118		382	9,328
1980		2,137	960	122	362	17,096
1981		3,334	1,852	558	629	26,672
1982		2,830	1,690	567	910	22,640
1983		594	453	83	444	4,752
1984		1,294		126	355	10,352
1985	3,114	1,598	1,490	147	319	12,456
1986	2,891	1,201	1,400	183	707	11,564
1987	4,783	2,706	1,390	312	651	19,132
1988	7,292	3,796	4,384	593	470	29,168
1989	4,715	2,515	b/	362	530	18,860
Averages						
80-89		2,201	1,513	305	538	17,269
85-89	4,559	2,363	1,733	319	535	18,236
1990	4,392	1,755	2,134	271	664	17,568

a/ Andrew Creek counts in 1983 and 1984 are from a weir.
b/ Not surveyed due to poor visability.

Appendix B.30. Index counts of Stikine coho salmon escapements, 1984, 1985, 1988, 1989, and 1990.

Index Area	Year and Survey Date 1990 10/30	1989 10/27	1988 10/28	1985 10/25	1984 10/30
Katete (south)	94	336	32	590	460
Katete (north)	548	896	227	1,217	
Craig	810	992	a/	735	0
Jekill	NS	a/	a/		0
Verret	494	848	175	39	15
Bronson Slough	NS	120		0	42
Scud Slough	664	707	97		
Porcupine	430	90	53		
Christina	NS	55	0		
Total	3,040	4,044	584	2,581	517

a/ Poor observation conditions
b/ Surveys not completed for 1990.

Appendix B.31. Stikine River sockeye salmon run size, 1979-1990. Catches include test fishery catches.

Year	Inriver run size estimates Canada	U.S.	Averagea	Inriver Catch	Escapement	Marine Catch	Total Run
1979		40,353	40,353	13,534	26,819	8,299	48,652
1980		62,743	62,743	20,919	41,824	23,206	85,949
1981		140,029	140,029	27,624	112,405	27,538	167,567
1982		68,761	68,761	20,540	48,221	43,329	112,090
1983	77,260	66,838	71,683	21,120	50,563	5,810	77,493
1984	95,454	59,168	76,211	5,327	70,884	7,928	84,139
1985	237,261	138,498	184,747	26,804	157,943	29,747	214,494
1986			69,036	17,846	51,190	6,420	75,456
1987			39,264	11,283	27,981	4,077	43,342
1988			41,915	16,538	25,377	3,181	45,096
1989			75,054	21,639	53,415	15,335	90,389
Averages							
79-89			79,072	18,470	60,602	15,897	94,970
80-89			82,944	18,964	63,980	16,657	99,602
1990			57,386	19,964	37,422	9,856	67,242
Tahltan sockeye run size							
1979			17,472	7,261	10,211	5,076	22,548
1980			19,137	8,119	11,018	11,239	30,376
1981			66,514	15,724	50,790	16,189	82,703
1982			42,493	14,236	28,257	24,785	67,278
1983			32,684	11,428	21,256	5,104	37,788
1984			37,571	4,794	32,777	3,251	40,822
1985			86,008	18,682	67,326	25,197	111,205
1986			31,015	10,735	20,280	2,757	33,771
1987			11,923	4,965	6,958	2,255	14,178
1988			7,222	4,686	2,536	2,129	9,351
1989			14,110	5,794	8,316	1,556	15,666
Averages							
79-89			33,286	9,675	23,611	9,049	42,335
80-89			34,868	9,916	24,951	9,446	44,314
1990			23,923	8,996	14,927	2,307	26,230

a/ The average is an average of weekly run timing estimates as well as stock composition estimates and is not a simple average of total estimates for the season.

Appendix C.1. Weekly salmon catch and effort in the Alaskan District 111 commercial drift gill net fishery, 1990.

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Boats	Days Opena/	Boat Days
25	17-Jun	487	3,287	3	7	311	56	3.0	168
26	24-Jun	547	8,370	18	456	3,850	77	3.0	231
27	01-Jul	1,361	11,100	36	2,171	17,565	71	3.0	213
28	08-Jul	348	18,704	483	6,968	29,991	94	2.7	254
29	15-Jul	113	25,381	645	9,515	27,761	113	2.7	305
30	22-Jul	195	26,245	1,205	26,842	17,716	99	4.0	396
31	29-Jul	91	6,724	1,350	27,680	6,560	52	3.0	156
32	05-Aug	52	12,585	3,000	31,915	4,209	87	3.0	261
33	12-Aug	165	9,234	7,090	29,054	4,297	78	3.0	234
34	19-Aug	35	3,976	9,863	17,429	8,853	162	3.0	486
35	26-Aug	15	704	10,629	797	8,292	57	2.0	114
36	02-Sep	33	390	14,226	196	8,447	78	2.0	156
37	09-Sep	16	136	9,886	6	6,079	64	2.0	128
38	16-Sep	15	47	7,673	0	1,526	68	1.0	68
39	23-Sep	7	1	1,203	0	73	23	2.0	46
Total		3,480	126,884	67,310	153,036	145,530	1,179	39.4	3,216

a/ Night closures to minimize chinook catch were in effect during weeks 28 and 29.

Appendix C.2. Weekly salmon catch and effort in the Alaskan District 111 test gill net fishery, 1990. The test fishery was operated in Port Snettisham.

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Boats	Days Open	Boat Days
27	01-Jul	6	3	0	1	28	1	0.362	0.36
28	08-Jul	5	9	0	2	52	1	0.130	0.13
29	15-Jul	5	17	0	11	104	1	0.336	0.34
30	22-Jul	2	10	0	10	20	1	0.518	0.52
31	29-Jul	3	18	0	14	13	1	0.197	0.20
Total a/		21	57	0	38	217	5	1.543	1.543

a/ Not all fish caught were sold, therefore, fish ticket catch totals are incorrect.

Appendix C.3. Weekly stock proportions of sockeye salmon harvested in the Alaskan District 111 commercial drift gill net fishery, 1990. Data based on scale pattern analysis (SPA).

Week	Kuthai	Little Trapper	Mainstem	Little Tatsamenie	Total Taku	Crescent	Speel	Total Snettisham
25	0.360	0.112	0.316	0.086	0.874	0.126	0.000	0.126
26	0.148	0.295	0.290	0.203	0.935	0.065	0.000	0.065
27	0.047	0.306	0.541	0.011	0.904	0.089	0.006	0.096
28	0.050	0.285	0.215	0.223	0.773	0.218	0.009	0.227
29	0.011	0.297	0.101	0.374	0.782	0.206	0.012	0.218
30	0.013	0.163	0.226	0.462	0.863	0.101	0.036	0.137
31	0.002	0.133	0.473	0.335	0.943	0.011	0.046	0.057
32	0.001	0.049	0.687	0.202	0.939	0.006	0.055	0.061
33	0.000	0.004	0.612	0.263	0.878	0.000	0.122	0.122
34	0.000	0.011	0.615	0.236	0.862	0.037	0.102	0.138
35	0.000	0.011	0.615	0.236	0.862	0.037	0.102	0.138
36	0.000	0.011	0.615	0.236	0.862	0.037	0.102	0.138
37	0.000	0.011	0.615	0.236	0.862	0.037	0.102	0.138
38	0.000	0.011	0.615	0.236	0.862	0.037	0.102	0.138
39	0.000	0.011	0.615	0.236	0.862	0.037	0.102	0.138
Total	0.036	0.197	0.336	0.286	0.855	0.112	0.033	0.145

Appendix C.4. Weekly stock-specific catch of Taku sockeye salmon harvested in the Alaskan District 111 commercial drift gill net fishery, 1990. Data based on SPA.

Week	Kuthai	Little Trapper	Mainstem	Little Tatsamenie	Total Taku	Crescent	Total Speel	Snettisham
25	1,183	367	1,039	283	2,872	415	0	415
26	1,236	2,465	2,425	1,697	7,823	547	0	547
27	527	3,392	6,002	117	10,038	990	72	1,062
28	940	5,327	4,022	4,173	14,462	4,070	172	4,242
29	290	7,530	2,554	9,480	19,854	5,235	292	5,527
30	338	4,269	5,926	12,123	22,656	2,644	945	3,589
31	11	894	3,182	2,255	6,342	76	306	382
32	14	613	8,648	2,541	11,816	72	697	769
33	0	37	5,648	2,424	8,109	0	1,125	1,125
34	0	44	2,444	938	3,426	146	404	550
35	0	8	433	166	607	26	72	97
36	0	4	240	92	336	14	40	54
37	0	1	84	32	117	5	14	19
38	0	1	29	11	40	2	5	7
39	0	0	1	0	1	0	0	0
Total	4,539	24,952	42,676	36,332	108,499	14,242	4,143	18,385

Appendix C.5. Weekly salmon and steelhead trout catch and effort in the Canadian commercial fishery in the Taku River, 1990.

		Catch							Effort		
		Chinook									
Week	Start Date	Jacks	Large	Sockeye	Coho	Pink	Chum	Steel-head	Average Licneses	Days Open	Boat Days
26	24-Jun	69	735	2,217	0	1	0	1	11.0	2.3	25.3
27	01-Jul	29	230	1,508	2	4	0	2	10.0	2.0	20.0
28	08-Jul	24	153	3,709	10	95	1	0	13.0	4.0	52.0
29	15-Jul	4	86	2,922	57	89	1	0	11.0	3.0	33.0
30	22-Jul	1	39	4,394	361	125	2	1	13.0	4.0	52.0
31	29-Jul	1	14	3,478	913	39	5	5	11.9	4.0	47.6
32	05-Aug	0	1	1,453	512	25	3	2	10.7	3.0	32.1
33	12-Aug	0	0	474	202	0	0	0	5.0	2.0	10.0
34	19-Aug	0	0	945	1,150	0	0	11	5.8	4.0	23.2
Total		128	1,258	21,100	3,207	378	12	22	91.4	28.3	295.2

Appendix C.6. Weekly stock proportions of sockeye salmon harvested the Canadian commercial fishery in the Taku River, 1990. Data based on SPA.

Week	Kuthai	Little Trapper	Mainstem	Little Tatsamenie
26	0.459	0.278	0.188	0.074
27	0.197	0.666	0.052	0.085
28	0.135	0.478	0.387	0.000
29	0.054	0.466	0.429	0.052
30	0.059	0.519	0.165	0.257
31	0.034	0.244	0.376	0.347
32	0.003	0.106	0.653	0.238
33	0.002	0.063	0.738	0.196
34	0.002	0.123	0.652	0.223
35	0.002	0.123	0.652	0.223
36	0.002	0.123	0.652	0.223
37	0.002	0.123	0.652	0.223
38	0.002	0.123	0.652	0.223
Total	0.112	0.388	0.338	0.163

Appendix C.7. Weekly stock-specific catch of sockeye salmon in the Canadian commercial fishery in the Taku River, 1990. Data based on SPA.

Week	Kuthai	Little Trapper	Mainstem	Little Tatsamenie
26	1,018	617	417	165
27	297	1,004	79	128
28	499	1,772	1,437	1
29	157	1,361	1,253	151
30	258	2,282	724	1,130
31	119	847	1,306	1,206
32	4	154	949	346
33	1	30	350	93
34	2	116	616	211
Total	2,355	8,183	7,131	3,431

Appendix C.8. Weekly salmon and steelhead trout catch in the Canadian test fishery in the Taku River, 1990.

Week	Start Date	Chinook	Sockeye	Coho	Pink	Chum	Steelhead
25	17-Jun	19	16	0	0	0	0
26	24-Jun	22	51	0	0	0	0
27	01-Jul	6	53	1	0	0	0
28	08-Jul	1	25	0	0	0	0
29	15-Jul	0	17	0	0	0	0
30	22-Jul	0	21	4	0	0	0
31	29-Jul	0	9	2	0	0	0
32	05-Aug	0	13	6	0	0	0
33	12-Aug	0	6	6	0	0	0
34	19-Aug	0	7	23	0	0	0
35	26-Aug	0	40	131	0	0	1
36	02-Sep	0	23	132	0	0	3
37	09-Sep	0	4	93	0	0	12
38	16-Sep	0	0	71	0	0	4
39	23-Sep	0	0	3	0	0	0
Total		48	285	472	0	0	20

Appendix C.9. Weekly stock specific-catch of sockeye salmon in the Canadian test fishery in the Taku River, 1990. Data based on SPA, weekly stock proportions assumed the same as the commercial catch.

Week	Kuthai	Little Trapper	Mainstem	Little Tatsamenie
25	7	4	3	1
26	23	14	10	4
27	10	35	3	4
28	3	12	10	0
29	1	8	7	1
30	1	11	3	5
31	0	2	3	3
32	0	1	8	3
33	0	0	4	1
34	0	1	5	2
35	0	5	26	9
36	0	3	15	5
37	0	0	3	1
Total	47	98	100	40

Appendix C.10. Mark-recapture estimate of above border run of sockeye and coho salmon in the Taku River, 1990.

Recovery Week	Start Date	Above Border Run	Canadian Harvests			Above Border b/ Escapement
			Commercial	Test	Fooda/	
Sockeye						
25	17-Jun	283		16		267
26	24-Jun	19,643	2,217	51		17,375
27	01-Jul	14,756	1,508	53		13,195
28	08-Jul	18,857	3,709	25		15,123
29	15-Jul	16,223	2,922	17		13,284
30	22-Jul	16,907	4,394	21		12,492
31	29-Jul	9,163	3,478	9		5,676
32	05-Aug	3,182	1,453	13		1,716
33	12-Aug	5,402	474	6		4,922
34	19-Aug	7,324	945	7		6,372
35	26-Aug	1,353	0	40		1,313
36	02-Sep	1,161	0	23		1,138
Total c/		114,254	21,100	285	74	92795
Coho						
27-28	01-Jul	52	12	1		39
29	15-Jul	314	57	0		257
30	22-Jul	852	361	4		487
31	29-Jul	2,429	913	2		1,514
32	05-Aug	1,685	512	6		1,167
33	12-Aug	1,070	202	6		862
34	19-Aug	16,053	1,150	23		14,880
35	26-Aug	9,768	0	131		9,637
36	02-Sep	18,760	0	132		18,628
37-39	09-Sep	24,054	0	167		23,887
Total		75,037	3,207	472	74	71,284 d/

a/ Food fishery catch by week not available.
b/ Total above border escapement equals the sum of the period escapements minus the food fishery catch and test fishery catch after week 36.
c/ Test fishery total includes fish caught after week 36.
d/ A second method of estimating the above-border run size by expanding the test fishery CPUE indicated an above-border run of 85,053 coho salmon.

Appendix C.11. Daily counts of salmon passing through Nahlin River weir, 1990.

Date	Jack a/ Chinook Count	Large Chinook			Sockeye		
		Count	Cum.	Percent	Count	Cum.	Percent
18-Jun							
19-Jun	0	1	1	0.1	0	0	0.0
20-Jun	0	0	1	0.1	0	0	0.0
21-Jun	0	1	2	0.1	0	0	0.0
22-Jun	0	0	2	0.1	0	0	0.0
23-Jun	0	1	3	0.2	0	0	0.0
24-Jun	0	2	5	0.3	0	0	0.0
25-Jun	0	4	9	0.5	0	0	0.0
26-Jun	0	1	10	0.5	0	0	0.0
27-Jun	0	0	10	0.5	0	0	0.0
28-Jun	0	1	11	0.6	0	0	0.0
29-Jun	2	7	18	0.9	3	3	0.1
30-Jun	3	6	24	1.3	2	5	0.2
01-Jul	3	42	66	3.5	23	28	1.1
02-Jul	0	14	80	4.2	92	120	4.8
03-Jul	0	0	80	4.2	200	320	12.7
04-Jul	6	14	94	4.9	417	737	29.3
05-Jul	6	27	121	6.3	207	944	37.5
06-Jul	11	29	150	7.8	139	1,083	43.1
07-Jul	14	31	181	9.5	90	1,173	46.6
08-Jul	11	30	211	11.0	74	1,247	49.6
09-Jul	8	17	228	11.9	61	1,308	52.0
10-Jul	14	29	257	13.4	84	1,392	55.3
11-Jul	12	32	289	15.1	27	1,419	56.4
12-Jul	6	32	321	16.8	20	1,439	57.2
13-Jul	2	25	346	18.1	21	1,460	58.1
14-Jul	8	14	360	18.8	15	1,475	58.6
15-Jul	14	141	501	26.2	20	1,495	59.4
16-Jul	23	105	606	31.7	19	1,514	60.2
17-Jul	18	119	725	37.9	37	1,551	61.7
18-Jul	22	145	870	45.5	44	1,595	63.4
19-Jul	22	193	1,063	55.6	30	1,625	64.6
20-Jul	13	83	1,146	60.0	57	1,682	66.9
21-Jul	17	57	1,203	63.0	63	1,745	69.4
22-Jul	18	88	1,291	67.6	82	1,827	72.6
23-Jul	8	31	1,322	69.2	133	1,960	77.9
24-Jul	10	80	1,402	73.4	141	2,101	83.5
25-Jul	11	77	1,479	77.4	89	2,190	87.1
26-Jul	2	6	1,485	77.7	78	2,268	90.2
27-Jul	1	75	1,560	81.6	66	2,334	92.8
28-Jul	5	130	1,690	88.4	56	2,390	95.0
29-Jul	7	83	1,773	92.8	44	2,434	96.8
30-Jul	3	45	1,818	95.1	33	2,467	98.1
31-Jul	6	34	1,852	96.9	29	2,496	99.2
01-Aug	2	17	1,869	97.8	8	2,504	99.6
02-Aug	0	10	1,879	98.3	10	2,514	100.0
03-Aug	5	21	1,900	99.4	1	2,515	100.0
04-Aug	0	11	1,911	100.0	0	2,515	100.0
	313	1,911			2,515		

a/ Jack chinook are defined as fish of less than 660 MEF length.

Appendix C.12. Daily counts of salmon passing through Little Tatsamenie weir, 1990.

Date	Jack Chinook Count	Large Chinook			Sockeye			Coho		
		Count	Cum.	Percent	Count	Cum.	Percent	Count	Cum.	Percent
29-Jul										
30-Jul	1	0	0	0.0	1	1	0.0	0	0	0.0
31-Jul	14	12	12	2.8	1	2	0.0	0	0	0.0
01-Aug	5	13	25	5.8	1	3	0.1	0	0	0.0
02-Aug	4	6	31	7.1	4	7	0.1	0	0	0.0
03-Aug	3	0	31	7.1	0	7	0.1	0	0	0.0
04-Aug	0	6	37	8.5	0	7	0.1	0	0	0.0
05-Aug	8	3	40	9.2	3	10	0.2	0	0	0.0
06-Aug	6	6	46	10.6	4	14	0.2	0	0	0.0
07-Aug	5	19	65	15.0	5	19	0.3	0	0	0.0
08-Aug	7	13	78	18.0	4	23	0.4	0	0	0.0
09-Aug	4	5	83	19.1	6	29	0.5	0	0	0.0
10-Aug	0	4	87	20.0	3	32	0.6	0	0	0.0
11-Aug	1	3	90	20.7	2	34	0.6	0	0	0.0
12-Aug	26	22	112	25.8	47	81	1.4	0	0	0.0
13-Aug	30	38	150	34.6	31	112	2.0	0	0	0.0
14-Aug	18	49	199	45.9	33	145	2.5	0	0	0.0
15-Aug	8	22	221	50.9	15	160	2.8	0	0	0.0
16-Aug	3	21	242	55.8	6	166	2.9	0	0	0.0
17-Aug	0	21	263	60.6	7	173	3.0	0	0	0.0
18-Aug	0	4	267	61.5	4	177	3.1	0	0	0.0
19-Aug	1	25	292	67.3	6	183	3.2	0	0	0.0
20-Aug	1	14	306	70.5	3	186	3.3	0	0	0.0
21-Aug	4	14	320	73.7	16	202	3.5	0	0	0.0
22-Aug	5	11	331	76.3	35	237	4.2	0	0	0.0
23-Aug	3	5	336	77.4	30	267	4.7	0	0	0.0
24-Aug	5	22	358	82.5	44	311	5.5	0	0	0.0
25-Aug	0	24	382	88.0	32	343	6.0	0	0	0.0
26-Aug	7	6	388	89.4	94	437	7.7	0	0	0.0
27-Aug	2	11	399	91.9	172	609	10.7	0	0	0.0
28-Aug	1	10	409	94.2	198	807	14.1	0	0	0.0
29-Aug	2	6	415	95.6	249	1,056	18.5	0	0	0.0
30-Aug	2	7	422	97.2	275	1,331	23.3	0	0	0.0
31-Aug	3	5	427	98.4	172	1,503	26.3	2	2	0.4
01-Sep	0	1	428	98.6	135	1,638	28.7	0	2	0.4
02-Sep	1	1	429	98.8	191	1,829	32.1	1	3	0.6
03-Sep	1	2	431	99.3	357	2,186	38.3	1	4	0.8
04-Sep	0	1	432	99.5	517	2,703	47.4	1	5	0.9
05-Sep	0	1	433	99.8	307	3,010	52.8	1	6	1.1
06-Sep	0	0	433	99.8	520	3,530	61.9	3	9	1.7
07-Sep	0	1	434	100.0	267	3,797	66.5	1	10	1.9
08-Sep	0	0	434	100.0	61	3,858	67.6	0	10	1.9
09-Sep	0	0	434	100.0	75	3,933	68.9	3	13	2.5
10-Sep	0	0	434	100.0	141	4,074	71.4	1	14	2.6
11-Sep	0	0	434	100.0	50	4,124	72.3	0	14	2.6
12-Sep	0	0	434	100.0	191	4,315	75.6	2	16	3.0
13-Sep	0	0	434	100.0	203	4,518	79.2	8	24	4.5
14-Sep	0	0	434	100.0	109	4,627	81.1	4	28	5.3
15-Sep	0	0	434	100.0	132	4,759	83.4	5	33	6.2
16-Sep	0	0	434	100.0	122	4,881	85.5	7	40	7.6
17-Sep	0	0	434	100.0	97	4,978	87.2	0	40	7.6
18-Sep	0	0	434	100.0	116	5,094	89.3	1	41	7.8
19-Sep	0	0	434	100.0	107	5,201	91.1	8	49	9.3
20-Sep	0	0	434	100.0	40	5,241	91.9	3	52	9.8
21-Sep	0	0	434	100.0	72	5,313	93.1	8	60	11.3
22-Sep	0	0	434	100.0	95	5,408	94.8	16	76	14.4
23-Sep	0	0	434	100.0	52	5,460	95.7	16	92	17.4
24-Sep	0	0	434	100.0	50	5,510	96.6	12	104	19.7
25-Sep	0	0	434	100.0	29	5,539	97.1	5	109	20.6
26-Sep	0	0	434	100.0	31	5,570	97.6	24	133	25.1
27-Sep	0	0	434	100.0	8	5,578	97.8	8	141	26.7
28-Sep	0	0	434	100.0	9	5,587	97.9	15	156	29.5
29-Sep	0	0	434	100.0	3	5,590	98.0	9	165	31.2
30-Sep	0	0	434	100.0	3	5,593	98.0	11	176	33.3
01-Oct	0	0	434	100.0	5	5,598	98.1	13	189	35.7
02-Oct	0	0	434	100.0	6	5,604	98.2	18	207	39.1
03-Oct	0	0	434	100.0	1	5,605	98.2	2	209	39.5
04-Oct	0	0	434	100.0	9	5,614	98.4	32	241	45.6
05-Oct	0	0	434	100.0	0	5,614	98.4	0	241	45.6
06-Oct	0	0	434	100.0	8	5,622	98.5	14	255	48.2
07-Oct	0	0	434	100.0	4	5,626	98.6	12	267	50.5
08-Oct	0	0	434	100.0	8	5,634	98.7	18	285	53.9
09-Oct	0	0	434	100.0	5	5,639	98.8	17	302	57.1
10-Oct	0	0	434	100.0	11	5,650	99.0	25	327	61.8
11-Oct	0	0	434	100.0	3	5,653	99.1	5	332	62.8
12-Oct	0	0	434	100.0	4	5,657	99.1	5	337	63.7
13-Oct	0	0	434	100.0	2	5,659	99.2	7	344	65.0
14-Oct	0	0	434	100.0	2	5,661	99.2	11	355	67.1
15-Oct					4	5,665	99.3	5	360	68.1
16-Oct					4	5,669	99.4	5	365	69.0
17-Oct					2	5,671	99.4	1	366	69.2
18-Oct					3	5,674	99.4	8	374	70.7
19-Oct					2	5,676	99.5	3	377	71.3

--Continued--

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Date	Jack Chinook Count	Large Chinook Count	Large Chinook Cum.	Large Chinook Percent	Sockeye Count	Sockeye Cum.	Sockeye Percent	Coho Count	Coho Cum.	Coho Percent
20-Oct					3	5,679	99.5	9	386	73.0
21-Oct					4	5,683	99.6	8	394	74.5
22-Oct					6	5,689	99.7	11	405	76.6
23-Oct					3	5,692	99.8	41	446	84.3
24-Oct					11	5,703	99.9	4	450	85.1
25-Oct					0	5,703	99.9	21	471	89.0
26-Oct					0	5,703	99.9	23	494	93.4
27-Oct					2	5,705	100.0	9	503	95.1
28-Oct					1	5,706	100.0	13	516	97.5
29-Oct					0	5,706	100.0	10	526	99.4
30-Oct	--- Weir Removed ---							3	529	100.0
Counts	181	434			5,706			529		
Adjustments					30 a/			140 a/		
					-807 b/					
Spawners	181	434			4,929			669		

a/ Totals of 30 sockeye and 140 coho salmon were holding below the weir when it was dismantled.
b/ The adjustment for broodstock (-807 fish) includes 280 female and 280 male sockeye salmon spawned and 182 female and 65 male sockeye holding mortalities.

Appendix C.13. Daily counts of salmon passing through Little Trapper Lake weir, 1990.

Date	Sockeye Count	Cum.	Percent
21-Jul	--- Weir Installed ---		
22-Jul	0	0	0.0
23-Jul	0	0	0.0
24-Jul	0	0	0.0
25-Jul	69	69	0.7
26-Jul	450	519	5.5
27-Jul	557	1,076	11.4
28-Jul	375	1,451	15.4
29-Jul	530	1,981	21.0
30-Jul	586	2,567	27.2
31-Jul	389	2,956	31.3
01-Aug	178	3,134	33.2
02-Aug	295	3,429	36.3
03-Aug	198	3,627	38.4
04-Aug	581	4,208	44.6
05-Aug	324	4,532	48.0
06-Aug	312	4,844	51.3
07-Aug	336	5,180	54.9
08-Aug	294	5,474	58.0
09-Aug	530	6,004	63.6
10-Aug	706	6,710	71.1
11-Aug	565	7,275	77.0
12-Aug	561	7,836	83.0
13-Aug	293	8,129	86.1
14-Aug	208	8,337	88.3
15-Aug	206	8,543	90.5
16-Aug	60	8,603	91.1
17-Aug	52	8,655	91.7
18-Aug	91	8,746	92.6
19-Aug	93	8,839	93.6
20-Aug	48	8,887	94.1
21-Aug	15	8,902	94.3
22-Aug	41	8,943	94.7
23-Aug	46	8,989	95.2
24-Aug	56	9,045	95.8
25-Aug	33	9,078	96.1
26-Aug	20	9,098	96.3
27-Aug	22	9,120	96.6
28-Aug	9	9,129	96.7
29-Aug	22	9,151	96.9
30-Aug	34	9,185	97.3
31-Aug	29	9,214	97.6
01-Sep	11	9,225	97.7
02-Sep	20	9,245	97.9
03-Sep	11	9,256	98.0
04-Sep	21	9,277	98.2
05-Sep	7	9,284	98.3
06-Sep	7	9,291	98.4
07-Sep	12	9,303	98.5
08-Sep	47	9,350	99.0
09-Sep	11	9,361	99.1
10-Sep	13	9,374	99.3
11-Sep	14	9,388	99.4
12-Sep	13	9,401	99.6
13-Sep	34	9,435	99.9
14-Sep	8	9,443	100.0
15-Sep	0	9,443	100.0
16-Sep	Weir Dismantled		
Counted	9,443		
Adjust.a/	-1,666		
Spawners	7,777		

a/ The adjustment for broodstock includes 761 female and 761 male sockeye salmon which were spawned and 65 female and 79 male sockeye holding mortalities.

Appendix C.14. Daily counts of salmon passing through Nakina River weir, 1990. These counts represent only a portion of the run above the Nakina River weir because the weir is installed after an unknown portion of the escapement has already passed.

Date	Jack a/ Chinook Count	Large Chinook			Sockeye			Pink		
		Count	Cum.	Percent	Count	Cum.	Percent	Count	Cum.	Percent
28-Jul		58	58	6.0	0	0	0.0	3	3	2.8
29-Jul		72	130	13.4	0	0	0.0	3	6	5.6
30-Jul		49	179	18.5	0	0	0.0	6	12	11.1
31-Jul		95	274	28.3	0	0	0.0	7	19	17.6
01-Aug		6	280	28.9	0	0	0.0	2	21	19.4
02-Aug		81	361	37.3	0	0	0.0	8	29	26.9
03-Aug		86	447	46.2	2	2	0.3	0	29	26.9
04-Aug		126	573	59.2	2	4	0.5	4	33	30.6
05-Aug		78	651	67.3	1	5	0.6	20	53	49.1
06-Aug		48	699	72.2	9	14	1.8	6	59	54.6
07-Aug		63	762	78.7	1	15	1.9	10	69	63.9
08-Aug		62	824	85.1	8	23	3.0	5	74	68.5
09-Aug		38	862	89.0	8	31	4.0	5	79	73.1
10-Aug		34	896	92.6	8	39	5.0	5	84	77.8
11-Aug		21	917	94.7	13	52	6.7	7	91	84.3
12-Aug		29	946	97.7	59	111	14.3	7	98	90.7
13-Aug		12	958	99.0	86	197	25.3	6	104	96.3
14-Aug		0	958	99.0	83	280	36.0	1	105	97.2
15-Aug		0	958	99.0	43	323	41.5	0	105	97.2
16-Aug		5	963	99.5	63	386	49.6	2	107	99.1
17-Aug		1	964	99.6	53	439	56.4	1	108	100.0
18-Aug		4	968	100.0	62	501	64.4	0	108	100.0
19-Aug		0	968	100.0	93	594	76.3	0	108	100.0
20-Aug		0	968	100.0	75	669	86.0	0	108	100.0
21-Aug		0	968	100.0	69	738	94.9	0	108	100.0
22-Aug		0	968	100.0	0	738	94.9	0	108	100.0
23-Aug		0	968	100.0	27	765	98.3	0	108	100.0
24-Aug		0	968	100.0	0	765	98.3	0	108	100.0
25-Aug		0	968	100.0	13	778	100.0	0	108	100.0
26-Aug		0	968	100.0	0	778	100.0	0	108	100.0
Totals		968			778			108		

a/ Jack chinook are defined as fish of less than 650 MEF length.

Appendix C.15. Daily counts of salmon passing through Speel Lake weir, 1990.

	Sockeye		
Date	Count	Cum.	Percent
12-Jul	Weir Installed		
13-Jul	0	0	0.00
14-Jul	0	0	0.00
15-Jul	3	3	0.02
16-Jul	10	13	0.07
17-Jul	9	22	0.12
18-Jul	24	46	0.25
19-Jul	40	86	0.48
20-Jul	19	105	0.58
21-Jul	15	120	0.66
22-Jul	21	141	0.78
23-Jul	36	177	0.98
24-Jul	46	223	1.23
25-Jul	55	278	1.54
26-Jul	39	317	1.75
27-Jul	580	897	4.97
28-Jul	140	1,037	5.74
29-Jul	524	1,561	8.64
30-Jul	3,331	4,892	27.08
31-Jul	94	4,986	27.60
01-Aug	93	5,079	28.12
02-Aug	123	5,202	28.80
03-Aug	101	5,303	29.36
04-Aug	2,912	8,215	45.48
05-Aug	37	8,252	45.68
06-Aug	65	8,317	46.04
07-Aug	53	8,370	46.34
08-Aug	56	8,426	46.65
09-Aug	2,239	10,665	59.04
10-Aug	23	10,688	59.17
11-Aug	522	11,210	62.06
12-Aug	305	11,515	63.75
13-Aug	56	11,571	64.06
14-Aug	1,042	12,613	69.82
15-Aug	415	13,028	72.12
16-Aug	825	13,853	76.69
17-Aug	176	14,029	77.66
18-Aug	208	14,237	78.81
19-Aug	818	15,055	83.34
20-Aug	677	15,732	87.09
21-Aug	93	15,825	87.61
22-Aug	170	15,995	88.55
23-Aug	476	16,471	91.18
24-Aug	488	16,959	93.88
25-Aug	162	17,121	94.78
26-Aug	139	17,260	95.55
27-Aug	91	17,351	96.05
28-Aug	713	18,064	100.00
Total a/	18,064		

a/ The total is not a complete count since an unknown but assumed small number of fish passed uncounted.

Appendix C.16. Daily counts of salmon passing through Crescent Lake weir, 1990. The actual escapements are unknown because a number of fish passed uncounted during high water.

	Sockeye			Coho			Chum		
Date	Count	Cum.	Percent	Count	Cum.	Percent	Count	Cum.	Percent
11-Jul	Weir Installed								
12-Jul	0	0	0.0	0	0	0.0	0	0	0.0
13-Jul	0	0	0.0	0	0	0.0	0	0	0.0
14-Jul	0	0	0.0	0	0	0.0	0	0	0.0
15-Jul	2	2	0.2	0	0	0.0	0	0	0.0
16-Jul	0	2	0.2	0	0	0.0	0	0	0.0
17-Jul	0	2	0.2	0	0	0.0	0	0	0.0
18-Jul	0	2	0.2	0	0	0.0	0	0	0.0
19-Jul	0	2	0.2	0	0	0.0	0	0	0.0
20-Jul	23	25	2.0	0	0	0.0	2	2	0.3
21-Jul	143	168	13.3	0	0	0.0	0	2	0.3
22-Jul	64	232	18.4	0	0	0.0	1	3	0.4
23-Jul	85	317	25.1	0	0	0.0	3	6	0.9
24-Jul	45	362	28.7	0	0	0.0	3	9	1.3
25-Jul	52	414	32.8	0	0	0.0	8	17	2.5
26-Jul	49	463	36.7	0	0	0.0	2	19	2.8
27-Jul	17	480	38.0	0	0	0.0	13	32	4.7
28-Jul	8	488	38.7	0	0	0.0	3	35	5.1
29-Jul	32	520	41.2	0	0	0.0	5	40	5.9
30-Jul	97	617	48.9	0	0	0.0	1	41	6.0
31-Jul	11	628	49.8	0	0	0.0	6	47	6.9
01-Aug	14	642	50.9	0	0	0.0	0	47	6.9
02-Aug	5	647	51.3	0	0	0.0	8	55	8.1
03-Aug	9	656	52.0	0	0	0.0	2	57	8.4
04-Aug	144	800	63.4	0	0	0.0	9	66	9.7
05-Aug	56	856	67.8	0	0	0.0	8	74	10.9
06-Aug	15	871	69.0	0	0	0.0	0	74	10.9
07-Aug	7	878	69.6	0	0	0.0	0	74	10.9
08-Aug	38	916	72.6	0	0	0.0	0	74	10.9
09-Aug	48	964	76.4	0	0	0.0	0	74	10.9
10-Aug	0	964	76.4	0	0	0.0	0	74	10.9
11-Aug	0	964	76.4	0	0	0.0	0	74	10.9
12-Aug	0	964	76.4	0	0	0.0	0	74	10.9
13-Aug	0	964	76.4	0	0	0.0	0	74	10.9
14-Aug	0	964	76.4	0	0	0.0	0	74	10.9
15-Aug	2	966	76.5	0	0	0.0	1	75	11.0
16-Aug	15	981	77.7	0	0	0.0	9	84	12.4
17-Aug	36	1,017	80.6	0	0	0.0	44	128	18.8
18-Aug	68	1,085	86.0	1	1	4.3	39	167	24.6
19-Aug	7	1,092	86.5	0	1	4.3	8	175	25.7
20-Aug	0	1,092	86.5	3	4	17.4	0	175	25.7
21-Aug	0	1,092	86.5	0	4	17.4	0	175	25.7
22-Aug	3	1,095	86.8	0	4	17.4	0	175	25.7
23-Aug	36	1,131	89.6	4	8	34.8	70	245	36.0
24-Aug	37	1,168	92.6	2	10	43.5	100	345	50.7
25-Aug	39	1,207	95.6	2	12	52.2	76	421	61.9
26-Aug	27	1,234	97.8	3	15	65.2	109	530	77.9
27-Aug	19	1,253	99.3	8	23	100.0	107	637	93.7
28-Aug	9	1,262	100.0		23	100.0	43	680	100.0
Totals	1,262			23			680		

a/ The weir was not fishing during August 10 through August 14 and August 21 and 22 due to high water.

Appendix D.1. Salmon catches and effort in the Alaskan District 111 commercial drift gill net fishery, 1964-1990.

Year	Catch					Effort	
	Chinook	Sockeye	Coho	Pink	Chum	Boat Days	Days Open
1964	2,509	34,140	29,315	26,593	12,853	1,752	56.00
1965	4,170	27,569	32,667	2,768	11,533	1,461	63.00
1966	4,829	33,925	26,065	23,833	35,133	1,708	64.00
1967	5,417	17,735	40,391	12,372	22,834	1,792	53.00
1968	4,904	19,501	39,103	67,365	21,890	2,686	60.00
1969	6,986	41,169	10,802	73,927	15,049	1,552	41.50
1970	3,357	50,922	44,960	197,017	110,390	3,214	53.00
1971	6,958	66,181	41,830	31,484	91,145	3,004	55.00
1972	10,955	80,404	49,780	144,339	147,957	3,831	50.00
1973	9,799	85,317	35,453	58,186	109,245	3,532	38.00
1974	2,905	38,676	38,661	57,732	86,687	2,710	27.50
1975	2,182	32,513	1,185	9,567	2,678	1,240	15.50
1976	1,757	61,749	41,729	14,962	81,803	2,152	25.00
1977	1,068	70,097	54,917	88,578	61,102	2,603	27.00
1978	1,926	55,398	31,944	51,385	36,254	2,406	24.00
1979	3,702	122,376	16,192	152,410	61,200	2,493	28.83
1980	2,422	123,117	41,515	295,553	192,750	4,451	30.92
1981	1,720	49,765	26,803	255,029	76,092	2,862	30.00
1982	3,057	83,479	29,072	109,385	37,310	2,639	35.50
1983	888	31,627	21,443	66,080	15,188	1,411	34.00
1984	1,773	77,233	33,836	145,949	86,741	3,139	66.50
1985	2,651	88,192	55,597	311,248	106,720	3,888	48.00
1986	2,606	73,061	30,512	16,568	58,792	2,164	32.50
1987	2,105	74,457	35,173	355,725	121,862	3,009	35.75
1988	1,778	39,168	45,179	157,424	139,704	2,322	31.00
1989	1,811	74,019	51,812	180,597	36,977	2,121	36.00
Averages							
64-89	3,624	59,684	34,844	111,772	68,457	2,544	40.83
80-89	2,081	71,412	37,094	189,356	87,214	2,801	38.02
1990	3,480	126,884	67,310	153,036	145,530	3,216	39.40

Appendix D.2. Stock proportions and catches of sockeye salmon in the Alaskan District 111 commercial drift gill net fishery, 1983-1990. Data based on SPA.

Year	Kuthai	Little Trapper	Mainstem	Little Tatsamenie	Total Taku	Crescent	Speel	Total Snettisham
Proportions								
1983					0.755			0.245
1984					0.758			0.242
1985					0.838			0.162
1986	0.061	0.266	0.303	0.204	0.834	0.090	0.076	0.166
1987	0.078	0.234	0.376	0.031	0.720	0.157	0.123	0.280
1988	0.118	0.158	0.305	0.082	0.663	0.266	0.071	0.337
1989	0.077	0.616	0.000	0.156	0.848	0.051	0.100	0.152
Averages	0.084	0.318	0.246	0.118	0.774	0.141	0.092	0.234
1990	0.036	0.197	0.336	0.286	0.855	0.112	0.033	0.145
Catches								
1983					23,878			7,749
1984					58,543			18,690
1985					73,905			14,287
1986	4,489	19,441	22,104	14,900	60,934	6,610	5,516	12,127
1987	5,834	17,418	28,002	2,328	53,581	11,695	9,181	20,876
1988	4,627	6,192	11,940	3,214	25,973	10,430	2,765	13,195
1989	5,696	45,573 a/		11,536	62,805	3,789	7,425	11,214
Averages b/	4,983	14,350	20,682	6,814	49,469	9,579	5,821	15,399
1990	4,539	24,952	42,676	36,332	108,499	14,242	4,143	18,385

a/ The Trapper and Mainstem groups were combined in the 1989 analysis.
b/ Averages do not include 1989.

Appendix D.3. Proportion of Taku River sockeye salmon in the Alaskan District 111 commercial drift gill net catch, 1983-1990. Data based on SPA.

Week	1983	1984	1985	1986	1987	1988	1989	1990
25		0.970	0.999	0.938			0.943	0.874
26	0.996	0.956	0.986	0.953	0.982	0.964	0.989	0.935
27	0.842	0.843	0.928	0.873	0.901	0.886	0.979	0.904
28	0.819	0.670	0.974	0.880	0.884	0.889	0.852	0.773
29	0.663	0.588	0.868	0.852	0.948	0.510	0.835	0.782
30	0.527	0.712	0.706	0.777	0.414	0.643	0.641	0.863
31	0.836	0.728	0.737	0.851	0.619	0.677	0.681	0.943
32	0.534	0.809	0.826	0.757	0.689	0.528	0.919	0.939
33	0.719	0.726	0.801	0.893	0.841	0.478	0.676	0.878
34	0.759			0.739	0.731	0.346		0.862
Total	0.755	0.758	0.838	0.834	0.718	0.663	0.848	0.855

Appendix D.4. Salmon catch in the U.S. subsistence and personal use fisheries in the Taku River (1967- 1990). The subsistence fishery was open 1967 to 1976 and 1985 and the personal use fishery was open 1989 and 1990. Data for 1990 is expanded from a 50% return rate for permits.

	Catch				
Year	Chinook	Sockeye	Coho	Pink	Chum
1967	0	103	221	9	25
1968	3	41	196	19	10
1969	0	122	8	11	0
1970	0	304	0	20	8
1971	0	512	0	42	0
1972	0	554	0	103	7
1973	0	1,227	0	64	14
1974	0	1,431	0	118	5
1975	0	170	0	3	0
1976	0	351	4	22	0
1985	0	924	35	19	1
1989	33	749	73	765	25
1990	52	1,560	206	130	92

Appendix D.5. Salmon and steelhead trout catch and effort in the Canadian commercial fishery in the Taku River, 1979-1990.

	Catch						Effort	
	Chinook							
Year	Jacks	Large	Sockeye	Coho	Pink	Chum	Steelhead	Boat Days	Days Open
1979		97	13,578	6,006	13,661	15,474	254	599.0	50.00
1980		225	22,602	6,405	26,821	18,516	457	479.0	39.00
1981		159	10,922	3,607	10,771	5,591	108	243.0	31.25
1982		54	3,144	51	202	3	1	38.0	13.00
1983	400	156	17,056	8,390	1,874	1,760	213	390.0	64.00
1984	221	294	27,242	5,357	6,964	2,492	367	288.0	30.00
1985	24	326	14,244	1,770	3,373	136	32	178.0	16.00
1986	77	275	14,739	1,783	58	110	48	148.0	17.00
1987	106	127	13,554	5,599	6,250	2,270	223	281.0	26.00
1988	186	555	12,014	3,123	1,030	733	86	185.4	14.70
1989	139	895	18,545	2,876	695	42	24	270.6	25.30
Averages a/									
79-89		392	15,240	4,088	6,518	4,284	165	281.8	29.66
80-89		422	15,406	3,896	5,804	3,165	156	250.1	27.63
1990	128	1,258	21,100	3,207	378	12	22	295.2	28.30

a/ Chinook averages are for large fish and jacks combined.

Appendix D.6. Sockeye salmon stock proportions and catch by stock in the Canadian commercial fishery on the Taku River, 1986-1990. Data based on SPA.

Year	Kuthai	Little Trapper	Mainstem	Little Tatsamenie
Proportions				
1986	0.111	0.397	0.350	0.143
1987	0.062	0.201	0.649	0.088
1988	0.143	0.417	0.343	0.098
1989 a/	0.053	0.744		0.203
Averages				
86-88 b/	0.092	0.440	0.335	0.133
1990	0.112	0.388	0.338	0.163
Catch				
1986	1,629	5,855	5,152	2,103
1987	834	2,728	8,793	1,199
1988	1,715	5,005	4,122	1,172
1989 a/	990	13,792		3,763
Averages				
86-88 b/	1,292	6,845	4,517	2,059
1990	2,355	8,183	7,131	3,431

a/ The Trapper and Mainstem groups were combined in the 1989 analysis.
b/ Averages do not include 1989.

Appendix D.7. Salmon and steelhead trout catch in the Canadian test fishery in the Taku River, 1987-1990.

	Catch					
Year	Chinook	Sockeye	Coho	Pink	Chum	Steelhead
1987		237	807			
1988	72	708	422	52	222	14
1989	31	207	1,011	0	13	26
1990	48	285	472	0	0	20

Appendix D.8. Sockeye salmon escapement counts of Taku River and Port Snettisham stocks, 1983-1990.

	Taku Above Border a/		Little Trapper	Little Tatsamenie	Hackett	Crescent	Speel
	Run	Escapement	Weir	Weir	Weir	Weir	Weir
1983			7,402 b/			19,422	10,484
1984	133,414	106,172	13,084			6,707	9,764
1985	118,160	103,916	14,889 b/	13,015	2,308	7,249	7,073
1986	105,109	90,370	13,820	11,368	1,004	3,414	5,857
1987	87,130	73,339	12,007 b/	2,794	910	7,839	9,319
1988	87,028	74,061	10,629	2,063	516	1,199	969
1989	114,068	95,263	9,556	3,039		1,109	c/12,229
Averages							
83-89	107,485	90,520	11,627	6,456	1,185	6,706	7,956
85-89	102,299	87,390	12,180	6,456		4,162	7,089
1990	114,254	92,795	9,443 d/	5,706 d/		1,262	c/18,064 c/

a/ Tag-recovery estimates.
b/ Weir count plus spawning ground survey.
c/ Count may be low due to fish passage over weir during high water.
d/ Totals of 761 male and 761 female sockeye salmon from Little Trapper Lake and 280 female and 280 male sockeye salmon from Little Tatsamenie Lake were taken for broodstock. Holding mortality at Little Tatsamenie Lake included 182 female and 65 male sockeye salmon. A total of 30 sockeye salmon was holding below Little Tatsamenie weir when the weir was removed.

Appendix D.9. Aerial survey index escapement counts of large (3-ocean and older) Taku River chinook salmon and estimated escapements of large chinook salmon to the entire Taku drainage, 1977-1990.

Year	Kowatua	Tatsamenie	Dudidontu	Tseta	Nakina	Nahlin	Taku Drainage U.S. a/	Taku Drainage Canada b/
1975	NS	NS	15	NS	1,800	274	4,609	4,178
1976	341	620	40	NS	3000	725	8,278	9,452
1977	580	573	18	NS	3,850	650	10,000	11,342
1978	490	550	0	21	1,620	624	4,987	6,610
1979	430	750	9	NS	2,110	857	6,593	8,312
1980	450	905	158	NS	4,500	1,531	13,402	15,088
1981	560	839	74	258	5,110	2,945	17,900	19,572
1982	289	387	130	228	2,533	1,246	8,398	9,626
1983	171	236	117	179	968	391	3,020	4,124
1984	279	616	NS	176 c/	1,887	951 d/	6,307	7,818
1985	699	848	475	303	2,647	2,236	10,851	14,416
1986	548	886	413	193	3,868	1,612	12,178	15,040
1987	570	678	287	180	2,906	1,122	8,951	11,486
1988	1,010	1,272	243	66	4,500	1,535	13,411	17,252
1989	601	1,228	204	494	5,141	1,812	15,451	18,960
Averages 77-89					3,096	1,234	9,622	11,552
84-89	618	921	270	235	3,492	1,545	11,191	14,162
1990	614	1,068	820	172	7,917	1,658	21,278	24,498

a/ U.S. estimate: combined Nakina and Nahlin aerial escapement counts, expanded by 1/.45.
b/ Canadian estimate: combined survey counts of Nakina, Nahlin, Kowatua, Tatsamenie, Tseta, and Dudidontu Rivers, expanded by 2.0.
c/ Partial survey
d/ Extrapolated results.

Appendix D.10. Taku River (above border) coho salmon salmon run size, 1987-1990.

Year	Canadian Catch Commercial	Food	Test	Above Border Escapement	Run
1987	5,599		807	55,570	61,976 a/
1988	3,123	98	422	39,450	43,093 b/
1989	2,876	146	1,011	56,808	60,841 c/
Averages 87-89	3,866	122	747	50,609	55,303
1990	3,207	74	472	71,284	75,037 d/

a/ Mark-recapture estimate through 9/20 was 43,570, run through 10/05 estimated using inriver test fish CPUE.
b/ Mark-recapture estimate through 9/18.
c/ Mark-recapture estimate through 10/01.
d/ A second method of estimating the above border run by expanding test fishery CPUE yielded an estimate of 85,053 coho salmon.

Appendix D.11. Escapement counts of Taku River coho salmon, 1984-1990. Counts are for age-.1 fish and do not include jacks.

Year	Yehring Creek Weir	Flannigan Slough (Aerial)	Tatsamenie River Weir a/	Hackett River Weir	Dudidontu River (Aerial)	Upper Nahlin River (Aerial)
1984		1,480				
1985		2,320	201b/	1,031		
1986	2,116a/	1,095	344b/	2,723	108	318
1987	1,627a/	2,100	173b/	1,715	276	165
1988	1,423	1,241c/	663a/	1,260	367	694d/
1989	1,570e/	1,464	712a/	e/	115	322
Averages						
84-89	1,804	1,617	419	1,346	217	375
86-89	1,804	1,475	473	1,425	217	375
1990	2,522e/	414c/	669a/	f/	25	256

a/ Weir count combined with spawning ground count.
b/ Incomplete count.
c/ Count is an average of surveys by different observers. Flan 88,90
d/ Weir count of 1,322. Nah 88
e/ Includes markrecapture estimate.
f/ Weir discontinued in 1988.

Appendix D.12. Taku River sockeye salmon run size, 1984-1990. Run estimate does not include spawning escapements below the U.S./Canada border.

Year	Canadian Catch: Commercial	Food	Test	Escapement	Above Border Run	U.S. Catcha/	Total Run
1984	27,242			106,172	133,414	58,543	191,957
1985	14,244			103,916	118,160	74,829	192,989
1986	14,739			90,370	105,109	60,934	166,043
1987	13,554		237	73,339	87,130	54,611	141,741
1988	12,014	245	708	74,061	87,028	25,973	113,001
1989	18,545	53	207	95,263	114,068	63,554	177,622
Averages							
84-89	16,723			90,520	107,485	56,407	163,892
85-89	14,619			87,390	102,299	55,980	158,279
1990	21,100	74	285	92,795	114,254	110,059	224,313

a/ Includes subsistence and personel use catches in District 111 but does include catches of Taku River fish which may occur in other districts.
b/ Includes test fishery catch of 1,030 Taku sockeye salmon in 1987.

Appendix E.1. Weekly salmon catch and effort in the U.S. commercial fishery in the Alsek River, 1990. There was no effort in the surf fishery in 1990.

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Boats	Days Open	Boat Days
25	17-Jun	43	571	0	0	0	23	1	23
26	24-Jun	26	1,339	0	0	0	21	2	42
27	01-Jul	6	3,075	0	0	0	21	2	42
28	08-Jul	3	4,663	0	0	0	24	3	72
29	15-Jul	0	2,717	1	0	2	16	3	48
30	22-Jul	0	2,160	0	0	0	7	3	21
31	29-Jul	0	1,178	0	0	0	8	3	24
32	05-Aug	0	971	0	0	2	4	3	12
33	12-Aug	0	189	2	0	0	a/	3	a/
34	19-Aug	0	61	6	0	0	a/	3	a/
35	26-Aug	0	50	115	0	78	a/	3	a/
36	02-Sep	0	33	211	0	115	8	3	24
37	09-Sep	0	3	458	0	129	6	3	18
38	16-Sep	0	3	644	0	169	9	3	27
Total		78	17,013	1,437	0	495	154	38.0	374

a/ Effort not reported by week; effort for these weeks is included in the total.

Appendix E.2. Weekly salmon catch and effort in the Canadian food and sport fisheries in the Alsek River, 1990.

Week	Date	Chinook				Sockeye				Coho			
		Sport	Release	Food	Totala	Sport	Release	Food	Totala	Sport	Release	Food	Totala/
25	17-Jun	4	0	0	4	0	0	0	0	0	0	0	0
26	24-Jun	17	6	0	17	0	1	0	0	0	0	0	0
27	01-Jul	76	40	1	77	0	6	4	4	0	0	0	0
28	08-Jul	188	91	25	213	0	9	1	1	0	0	0	0
29	15-Jul	251	80	111	362	0	11	12	12	0	0	0	0
30	22-Jul	16	9	20	36	0	12		0	0	0	0	0
31	29-Jul	3	1	11	14	0	3	23	23	0	0	0	0
32	05-Aug	0	0	2	2	0	0	175	175	0	0	0	0
33	12-Aug	0	0	2	2	0	0	175	175	0	0	0	0
34	19-Aug	0	0	0	0	5	1	65	70	0	0	0	0
35	26-Aug	0	0	0	0	11	2	120	131	0	0	0	0
36	02-Sep	0	0	1	1	53	11	305	358	0	0	0	0
37	09-Sep	0	0	0	0	50	38	539	589	0	0	0	0
38	16-Sep	0	0	0	0	57	26	320	377	0	0	0	0
39	23-Sep	0	0	0	0	23	24	182	205	0	2	0	0
40	30-Sep	0	0	0	0	91	67	91	182	10	3	0	10
41	07-Oct	0	0	0	0	52	112	0	52	25	41	0	25
42	14-Oct	0	0	0	0	20	28	0	20	20	30	0	20
43	21-Oct	0	0	0	0	30	15	0	30	20	10	0	20
Totals		555	227	173	728	392	366	2,012	2,404	75	86	0	75

a/ Does not include released fish.

Appendix E.3. Daily counts of salmon passing through Klukshu River weir, 1990.

Date	Chinook a/			Sockeye			Coho		
		Cumulative			Cumulative			Cumulative	
	Daily	Daily	Prop.	Daily	Daily	Prop.	Daily	Daily	Prop.
05-Jun	1	1	0.001	0	0	0.000	0	0	0.000
06-Jun	0	1	0.001	0	0	0.000	0	0	0.000
07-Jun	0	1	0.001	0	0	0.000	0	0	0.000
08-Jun	0	1	0.001	0	0	0.000	0	0	0.000
09-Jun	0	1	0.001	0	0	0.000	0	0	0.000
10-Jun	0	1	0.001	0	0	0.000	0	0	0.000
11-Jun	0	1	0.001	0	0	0.000	0	0	0.000
12-Jun	0	1	0.001	0	0	0.000	0	0	0.000
13-Jun	0	1	0.001	0	0	0.000	0	0	0.000
14-Jun	0	1	0.001	0	0	0.000	0	0	0.000
15-Jun	0	1	0.001	0	0	0.000	0	0	0.000
16-Jun	0	1	0.001	0	0	0.000	0	0	0.000
17-Jun	0	1	0.001	0	0	0.000	0	0	0.000
18-Jun	0	1	0.001	0	0	0.000	0	0	0.000
19-Jun	0	1	0.001	0	0	0.000	0	0	0.000
20-Jun	0	1	0.001	0	0	0.000	0	0	0.000
21-Jun	0	1	0.001	0	0	0.000	0	0	0.000
22-Jun	0	1	0.001	0	0	0.000	0	0	0.000
23-Jun	0	1	0.001	0	0	0.000	0	0	0.000
24-Jun	0	1	0.001	1	1	0.000	0	0	0.000
25-Jun	0	1	0.001	0	1	0.000	0	0	0.000
26-Jun	2	3	0.002	0	1	0.000	0	0	0.000
27-Jun	4	7	0.004	0	1	0.000	0	0	0.000
28-Jun	1	8	0.004	0	1	0.000	0	0	0.000
29-Jun	6	14	0.007	4	5	0.000	0	0	0.000
30-Jun	6	20	0.010	1	6	0.000	0	0	0.000
01-Jul	7	27	0.014	1	7	0.000	0	0	0.000
02-Jul	11	38	0.020	2	9	0.000	0	0	0.000
03-Jul	15	53	0.028	3	12	0.000	0	0	0.000
04-Jul	10	63	0.033	11	23	0.001	0	0	0.000
05-Jul	19	82	0.043	0	23	0.001	0	0	0.000
06-Jul	265	347	0.181	26	49	0.002	0	0	0.000
07-Jul	14	361	0.189	19	68	0.003	0	0	0.000
08-Jul	43	404	0.211	1	69	0.003	0	0	0.000
09-Jul	195	599	0.313	5	74	0.003	0	0	0.000
10-Jul	51	650	0.339	5	79	0.003	0	0	0.000
11-Jul	38	688	0.359	0	79	0.003	0	0	0.000
12-Jul	68	756	0.395	7	86	0.003	0	0	0.000
13-Jul	50	806	0.421	15	101	0.004	0	0	0.000
14-Jul	740	1,546	0.807	71	172	0.007	0	0	0.000
15-Jul	17	1,563	0.816	0	172	0.007	0	0	0.000
16-Jul	125	1,688	0.881	4	176	0.007	0	0	0.000
17-Jul	20	1,708	0.892	2	178	0.007	0	0	0.000
18-Jul	20	1,728	0.902	1	179	0.007	0	0	0.000
19-Jul	12	1,740	0.909	0	179	0.007	0	0	0.000
20-Jul	8	1,748	0.913	1	180	0.007	0	0	0.000
21-Jul	1	1,749	0.913	1	181	0.007	0	0	0.000
22-Jul	3	1,752	0.915	1	182	0.007	0	0	0.000
23-Jul	9	1,761	0.920	2	184	0.007	0	0	0.000
24-Jul	6	1,767	0.923	2	186	0.007	0	0	0.000
25-Jul	4	1,771	0.925	5	191	0.007	0	0	0.000
26-Jul	4	1,775	0.927	0	191	0.007	0	0	0.000
27-Jul	1	1,776	0.927	0	191	0.007	0	0	0.000
28-Jul	1	1,777	0.928	0	191	0.007	0	0	0.000
29-Jul	1	1,778	0.928	0	191	0.007	0	0	0.000
30-Jul	3	1,781	0.930	1	192	0.007	0	0	0.000
31-Jul	25	1,806	0.943	43	235	0.009	0	0	0.000
01-Aug	6	1,812	0.946	0	235	0.009	0	0	0.000
02-Aug	9	1,821	0.951	1	236	0.009	0	0	0.000
03-Aug	4	1,825	0.953	1	237	0.009	0	0	0.000
04-Aug	7	1,832	0.957	41	278	0.011	0	0	0.000
05-Aug	4	1,836	0.959	1	279	0.011	0	0	0.000
06-Aug	9	1,845	0.963	8	287	0.011	0	0	0.000
07-Aug	5	1,850	0.966	6	293	0.011	0	0	0.000
08-Aug	2	1,852	0.967	20	313	0.012	0	0	0.000
09-Aug	4	1,856	0.969	17	330	0.013	0	0	0.000
10-Aug	18	1,874	0.979	637	967	0.037	0	0	0.000
11-Aug	4	1,878	0.981	19	986	0.038	0	0	0.000
12-Aug	4	1,882	0.983	9	995	0.038	0	0	0.000
13-Aug	5	1,887	0.985	110	1,105	0.043	0	0	0.000
14-Aug	7	1,894	0.989	205	1,310	0.050	0	0	0.000
15-Aug	2	1,896	0.990	6	1,316	0.051	0	0	0.000
16-Aug	4	1,900	0.992	211	1,527	0.059	0	0	0.000
17-Aug	3	1,903	0.994	0	1,527	0.059	0	0	0.000
18-Aug	1	1,904	0.994	51	1,578	0.061	0	0	0.000
19-Aug	0	1,904	0.994	9	1,587	0.061	0	0	0.000
20-Aug	0	1,904	0.994	115	1,702	0.065	0	0	0.000
21-Aug	2	1,906	0.995	4	1,706	0.066	0	0	0.000
22-Aug	0	1,906	0.995	8	1,714	0.066	0	0	0.000
23-Aug	1	1,907	0.996	19	1,733	0.067	0	0	0.000
24-Aug	3	1,910	0.997	15	1,748	0.067	0	0	0.000
25-Aug	3	1,913	0.999	215	1,963	0.076	0	0	0.000
26-Aug	1	1,914	0.999	11	1,974	0.076	0	0	0.000

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Appendix E.3. (Page 2 of 2.)

Date	Chinook a/			Sockeye			Coho		
		Cumulative			Cumulative			Cumulative	
	Daily	Daily	Prop.	Daily	Daily	Prop.	Daily	Daily	Prop.
27-Aug	0	1,914	0.999	14	1,988	0.076	0	0	0.000
28-Aug	0	1,914	0.999	26	2,014	0.077	0	0	0.000
29-Aug	0	1,914	0.999	19	2,033	0.078	0	0	0.000
30-Aug	0	1,914	0.999	4	2,037	0.078	0	0	0.000
31-Aug	1	1,915	1.000	134	2,171	0.084	0	0	0.000
01-Sep	0	1,915	1.000	15	2,186	0.084	0	0	0.000
02-Sep	0	1,915	1.000	72	2,258	0.087	0	0	0.000
03-Sep	0	1,915	1.000	203	2,461	0.095	0	0	0.000
04-Sep	0	1,915	1.000	3,292	5,753	0.221	0	0	0.000
05-Sep	0	1,915	1.000	936	6,689	0.257	0	0	0.000
06-Sep	0	1,915	1.000	1,763	8,452	0.325	0	0	0.000
07-Sep	0	1,915	1.000	601	9,053	0.348	0	0	0.000
08-Sep	0	1,915	1.000	56	9,109	0.350	0	0	0.000
09-Sep	0	1,915	1.000	894	10,003	0.385	0	0	0.000
10-Sep	0	1,915	1.000	187	10,190	0.392	0	0	0.000
11-Sep	0	1,915	1.000	1,578	11,768	0.453	0	0	0.000
12-Sep	0	1,915	1.000	3,221	14,989	0.577	0	0	0.000
13-Sep	0	1,915	1.000	1,645	16,634	0.640	0	0	0.000
14-Sep	0	1,915	1.000	873	17,507	0.673	0	0	0.000
15-Sep	0	1,915	1.000	479	17,986	0.692	1	1	0.003
16-Sep	0	1,915	1.000	366	18,352	0.706	0	1	0.003
17-Sep	0	1,915	1.000	653	19,005	0.731	0	1	0.003
18-Sep	0	1,915	1.000	1,432	20,437	0.786	0	1	0.003
19-Sep	0	1,915	1.000	780	21,217	0.816	2	3	0.010
20-Sep	0	1,915	1.000	1,585	22,802	0.877	1	4	0.013
21-Sep	0	1,915	1.000	1,754	24,556	0.945	1	5	0.016
22-Sep	0	1,915	1.000	201	24,757	0.952	1	6	0.019
23-Sep	0	1,915	1.000	277	25,034	0.963	0	6	0.019
24-Sep	0	1,915	1.000	16	25,050	0.964	0	6	0.019
25-Sep	0	1,915	1.000	9	25,059	0.964	0	6	0.019
26-Sep	0	1,915	1.000	14	25,073	0.965	1	7	0.022
27-Sep	0	1,915	1.000	31	25,104	0.966	2	9	0.029
28-Sep	0	1,915	1.000	28	25,132	0.967	3	12	0.038
29-Sep	0	1,915	1.000	11	25,143	0.967	1	13	0.041
30-Sep	0	1,915	1.000	24	25,167	0.968	4	17	0.054
01-Oct	0	1,915	1.000	13	25,180	0.969	3	20	0.063
02-Oct	0	1,915	1.000	45	25,225	0.970	14	34	0.108
03-Oct	0	1,915	1.000	41	25,266	0.972	8	42	0.133
04-Oct	0	1,915	1.000	58	25,324	0.974	4	46	0.146
05-Oct	0	1,915	1.000	73	25,397	0.977	5	51	0.162
06-Oct	0	1,915	1.000	144	25,541	0.983	8	59	0.187
07-Oct	0	1,915	1.000	15	25,556	0.983	8	67	0.213
08-Oct	0	1,915	1.000	45	25,601	0.985	22	89	0.283
09-Oct	0	1,915	1.000	135	25,736	0.990	53	142	0.451
10-Oct	0	1,915	1.000	47	25,783	0.992	39	181	0.575
11-Oct	0	1,915	1.000	81	25,864	0.995	9	190	0.603
12-Oct	0	1,915	1.000	41	25,905	0.997	12	202	0.641
13-Oct	0	1,915	1.000	16	25,921	0.997	9	211	0.670
14-Oct	0	1,915	1.000	12	25,933	0.998	47	258	0.819
15-Oct	0	1,915	1.000	5	25,938	0.998	38	296	0.940
16-Oct	0	1,915	1.000	6	25,944	0.998	13	309	0.981
17-Oct	0	1,915	1.000	11	25,955	0.998	6	315	1.000
18-Oct	0	1,915	1.000	40	25,995	1.000	0	315	1.000
Totals	1,915			25,995			315		

a/ Jack chinook included in the counts.

Appendix E.4. Salmon catch and effort in the U.S. commercial fishery in the Alsek River, 1964-1990.

Year	Catch					Effort	
	Chinook	Sockeye	Coho	Pink	Chum	Boat Days	Days Open
1964	591	14,127	9,760	144	367	592	72.00
1965	719	28,487	9,638	10	72	1,016	72.00
1966	934	29,091	2,688	22	240	500	68.00
1967	225	11,108	10,090	107	30	600	68.00
1968	215	26,918	10,586	82	240	664	68.00
1969	685	29,259	2,493	38	61	807	61.00
1970	1,128	22,654	2,188	6	26	670	52.25
1971	1,222	25,314	4,730	3	120	764	60.50
1972	1,827	18,717	7,296	37	280	640	65.00
1973	1,757	26,523	4,395	26	283	894	52.00
1974	1,162	16,747	7,046	13	107	699	46.00
1975	1,379	13,842	2,230	16	261	738	58.00
1976	512	19,741	4,883	0	368	550	58.50
1977	1,402	40,780	11,817	689	483	893	57.00
1978	2,441	50,580	13,913	59	233	948	57.00
1979	2,525	41,449	6,158	142	263	1,146	51.00
1980	1,382	25,589	7,863	21	1,005	794	42.00
1981	779	23,697	10,096	65	816	500	41.00
1982	532	27,389	6,534	6	358	497	36.00
1983	94	18,546	5,253	20	432	466	38.00
1984	60	14,326	7,868	24	1,610	455	33.00
1985	213	5,940	5,622	3	427	271	33.00
1986	478	24,791	1,344	13	462	517	34.00
1987	347	11,281	2,517	0	1,924	388	40.50
1988	223	6,286	4,986	7	907	324	34.00
1989	228	13,513	5,972	2	1,031	355	35.50
Averages							
64-89	887	22,565	6,460	60	477	642	51.28
80-89	434	17,136	5,806	16	897	457	36.70
1990	78	17,013	1,437	0	495	374	38.00

Appendix E.5. Salmon catch in the U.S. subsistence fishery in the Alsek River, 1976-1990.

Year	Catch		
	Chinook	Sockeye	Coho
1976	13	51	5
1977	18	113	0
1978			
1979	80	35	70
1980	57	41	62
1981	32	50	74
1982	87	75	50
1983	31	25	50
1984			
1985	16	95	0
1986	22	241	45
1987	27	173	31
1988	13	148	9
1989	10	97	54
Averages			
76-89	34	95	38
80-89	33	105	42
1990	85	144	12

Appendix E.6. Salmon catches in the Canadian Indian food and sport fisheries in the Alsek River, 1976-1990.

	Chinook			Sockeye			Coho		
Year	Food	Sport	Total	Food	Sport	Total	Food	Sport	Total
1976	125	200	325	3,750	600	4,350	0	100	100
1977	250	300	550	11,350	500	11,850	0	200	200
1978	300	300	600	7,850	500	8,350	0	200	200
1979	130	650	780	5,260	750	6,010	0	100	100
1980	150	200	350	900	600	1,500	0	200	200
1981	150	315	465	1,900	808	2,708	0	109	109
1982	400	224	624	4,800	755	5,555	0	109	109
1983	300	312	612	2,475	732	3,207	0	16	16
1984	100	475	575	2,500	289	2,789	0	20	20
1985	175	250	425	1,361	100	1,461	50	100	150
1986	102	165	267	1,914	307	2,221	0	9	9
1987	125	367	492	1,158	383	1,541	0	49	49
1988	43	249	292	1,604	322	1,926	0	192	192
1989	167	272	439	1,906	319	2,225	0	227	227
Averages									
76-89	180	306	485	3,481	498	3,978	4	117	120
80-89	171	283	454	2,052	462	2,513	5	103	108
1990	173	555	728	2,012	392	2,404	0	75	75

Appendix E.7. Klukshu River weir counts of chinook, sockeye, and coho salmon, 1976-1990. The escapement count equals the weir count minus the Indian food fishery catch that occurred above the weir.

	Chinook a/		Sockeye				Coho
Year	Count	Escape.	Early b/	Late	Total	Escape.	Count c/
1976	1,278	1,153	181	11,510	11,691	7,941	1,572
1977	3,144	2,894	8,931	17,860	26,791	15,441	2,758
1978	2,976	2,676	2,508	24,359	26,867	19,017	30
1979	4,404	4,274	977	11,334	12,311	7,051	175
1980	2,637	2,487	1,008	10,742	11,750	10,850	704
1981	2,113	1,963	997	19,351	20,348	18,448	1,170
1982	2,369	1,969	7,758	25,941	33,699	28,899	189
1983	2,537	2,237	6,047	14,445	20,492	18,017	303
1984	1,672	1,572	2,769	9,958	12,727	10,227	1,402
1985	1,458	1,283	539	18,081	18,620	17,259	350
1986	2,709	2,607	416	24,434	24,850	22,936	71
1987	2,616	2,491	3,269	7,235	10,504	9,346	202
1988	2,037	1,994	585	8,756	9,341	7,737	2,774
1989	2,456	2,289	3,400	20,142	23,542	21,636	2,219
Averages d/							
76-89	2,458	2,278	2,813	16,011	18,824	15,343	994
84-89	2,158	2,039					
85-89			1,642	15,730	17,371	15,783	
86-89							1,317
1990	1,915	1,742	1,316	24,679	25,995	24,607 e/	315

a/ Counts include jack chinook salmon.
b/ Includes sockeye counts up to and including August 15.
c/ Weir was removed prior to the end of the coho run.
d/ Six-year averages are given for chinook five-year for sockeye, and four-year for coho salmon to best represent the life span of each species.
e/ The sockeye escapement into Klukshu Lake is calculated from the weir count - 1,388 fish which were harvested above the weir site. The remainder of the food fishery harvest occured below the weir and at Village Creek.

Appendix E.8. Alsek River sockeye counts from U.S. and Canadian aerial surveys and from the electronic counter at Village Creek, 1985-1990.

	U.S. Aerial Surveys a/				Canadian Aerial Surveys b/		
Year	Basin Creek	Cabin Creek	Muddy Creek	Tanis River	Tatshenshini River	Neskataheen Lake	Village Creek Counter
1985	2,600			2,200			
1986	100		300	2,700	536	750	1,490
1987	350	220		1,600			1,875
1988	500			750	433	456	433 c/
1989	320			680	1,689	1,700	9,569
1990	275	300		3,500			7,500

a/ Surveys not made every year at each tributary.
b/ Included several streams from Lo-Fog to Goat Creek.
c/ Incomplete count due to machine malfunction.

Appendix E.9. Aerial survey index counts of Alsek chinook salmon escapements, 1984-1990.

Year	Blanchard River	Takhanne River	Goat Creek
1984	304	158	28
1985	232	184	
1986	556	358	142
1987	624	295	85
1988	437	169	54
1989	a/	158	34
1990	a/	325	32

a/ Not surveyed due to poor visiblilty.

Appendix E.10. Aerial survey counts of coho salmon from U.S. lower Alsek River tributaries, 1984-1990.

Year	Combined U.S. Tributary Counts
1985	450
1986	1,100
1987	100
1988	1,900
1989	1,990
1990	1,600