PACIFIC SALMON COMMISSION TRANSBOUNDARY TECHNICAL COMMITTEE REPORT

TRANSBOUNDARY RIVER SALMON PRODUCTION, HARVEST AND ESCAPEMENT ESTIMATES, 1991.

REPORT TCTR (93)-1

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EXECUTIVE SUMMARY

Estimates of catches and escapements of Pacific salmon returning to the transboundary Stikine, Taku, and Alsek Rivers for 1991 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 inseason management models is discussed.

Beginning with this report, chinook salmon escapement data are presented using index counts only. In previous reports, through 1990, various expansion factors were applied to index counts to estimate escapements. The Transboundary Technical Committee (TTC) concluded that index counts were a more appropriate measure of escapement since there is little or no scientific basis for the expansion factors.

The 1991 Stikine sockeye run was estimated at 154,500 fish, of which 59,500 fish were harvested and 95,000 escaped to spawn. The estimated U.S. commercial and test fishery catches of Stikine stocks were 33,700 and 700 fish, respectively; the Canadian commercial, Indian food, and test fishery catches were 18,300, 4,400, and 2,400 fish, respectively. The preseason forecast of the sockeye run was 94,000 fish. The Stikine Management Model correctly predicted a larger than average portion of the run being from the Tahltan stock. Weekly inseason model forecasts ranged from 72,400 to 192,200 sockeye salmon; the final inseason prediction was 112,600 fish. The model predictions exceeded the total run size during the first two weeks of July, was close to the postseason run estimate during the third week in July, and decreased thereafter to a final estimate approximately 27% under the postseason estimate of 91,000 Tahltan and 63,500 non-Tahltan fish. Total allowable catch (TAC) estimates are derived from predictions of the Stikine sockeye run. During the directed sockeye fishery inseason, harvest estimates for both Canada and the U.S. were less than the inseason TAC allowed under the Pacific Salmon Treaty. Catches were well below the allowable harvest range estimated from the postseason analysis. The escapement of 50,100 fish to Tahltan Lake was 36% above the 1986 to 1990 average, and above the 20,000 to 40,000 goal established by the TTC. The estimated escapement of 44,900 non-Tahltan Stikine sockeye salmon was also above the 20,000 to 40,000 fish goal.

The chinook catch in Canadian fisheries in the Stikine River was 2,200 fish, 4% less than the 1981 to 1990 average, with 51% harvested in commercial fisheries and 49% harvested in the Indian food fishery. The U.S. marine catch of chinook salmon in the District 106 and 108 mixed stock gillnet fisheries was 3,600 fish, approximately 2.4 times the 1981 to 1990 average catch. The chinook spawning escapement through the Little Tahltan weir in 1991 was 4,500 large adults, close to the 1985 to 1990 average but below the interim escapement goal of 5,300 fish.

The U.S. marine harvest of Stikine River coho salmon is not known since there is no stock identification program in place; however, total mixed stock coho catches in District 106 and 108 were more than three and two times the 1981 to 1990 averages, respectively. An estimated 32.5% of District 106 and 21.8% of District 108 coho harvests were of Alaska hatchery origin. The Canadian inriver coho catch was 2,600, less than the Treaty entitlement of 4,000 fish. Coho aerial survey escapement counts were above average.

The Stikine River runs of pink and chum salmon are typically very small. In 1991, Canadian catches of these two species were approximately 400 and 200 fish, respectively. These were 34% and 39% of the 1981 to 1990 averages for pink and chum salmon, respectively. The steelhead catch was estimated to be 72 fish.

The 1991 total Taku sockeye run was estimated at 256,100 fish and included an estimated catch of 131,000 fish and an escapement of 125,100 fish. The U.S. harvest of Taku sockeye stocks, estimated by analysis of scale patterns, was 103,400 fish in the commercial fishery and 700 in the test fishery. An additional 1,500 Taku sockeye salmon were caught in the U.S. inriver personal use fishery. Canadian commercial, Indian food, and test fishery catches were 25,100, 100, and 200 fish, respectively. The Treaty defines harvest sharing of Canadian origin Taku River sockeye salmon as 18% of the TAC to Canada and 82% to the U.S. Since the escapement goal set by the TTC is expressed as a range, 71,000 to 80,000 fish, the resulting TAC is also expressed as a range. In 1991, Canada took 13% to 14% and the U.S. took 57% to 60% 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 1,600 fish, three times the 1981 to 1990 average. The chinook catch in the U.S. District 111 mixed stock fishery was 3,200 fish, 47% above the 1981 to 1990 average. Above average escapements were observed in most of the Taku River chinook index tributaries in 1991. The combined aerial survey count of six index tributaries was 10,200 fish, which is 20% above the 1985 to 1990 average of 8,500 fish, but below the revised index escapement goal of 13,200 chinook salmon.

The Taku coho run was strong in 1991. The U.S. harvest of 126,400 coho salmon in the District 111 mixed stock fishery was a record, over three times the 1981 to 1990 average, and almost double the previous record catch of 67,300 coho taken in 1990. An estimated 23% (28,700 fish) of the District 111 coho catch was of local hatchery origin. The Canadian commercial coho catch was 3,400 coho, close to the Treaty limit of 3,000 fish. An additional 2,000 coho were taken in the Canadian inriver test fishery. The mark-recapture estimate of the above border escapement was approximately 130,000 fish which was above the interim escapement goal range of 27,500 to 35,000 fish.

The catch of pink salmon in District 111 was 74,200 fish, approximately 68% below the 1981 to 1990 odd-year average catch. Low catches were assumed to be caused by depressed pink salmon prices and the extremely small size of the fish which reduced their catchability in gillnets. The Canadian commercial inriver catch of pink salmon was also below average at 300 fish. The escapement of pink salmon to the Taku River was an estimated 576,000 fish, above the interim escapement goal of 150,000 to 200,000 fish.

The catch of chum salmon in the District 111 fishery was 161,200 fish, composed of 147,400 summer run fish (prior to mid-August) and 13,800 fall run fish. The catch of summer chum salmon was composed of coastal Alaskan wild and hatchery stocks and was a record. The catch of fall chum salmon was composed of wild Taku River and Port Snettisham stocks and was 64% below the 1981 to 1990 average. The Canadian catch of chum salmon was below average at just two fish reported.

The sockeye run to the Alsek River was average. The U.S. Dry Bay catch was

17,500 sockeye salmon, 8% above the 1981 to 1990 average catch. The Canadian sport fishery catch of 300 sockeye salmon was approximately 31% below the 1981 to 1990 average while the Indian food fishery catch of 2,100 fish was 3% below average. The count of 19,000 sockeye salmon through the Klukshu weir was about equal to the 1986 to 1990 average, as were both the early (1,900 fish) and late (17,100) components of the run. The escapement past the Indian food fishery was estimated at 17,100 fish.

The chinook run to the Alsek River was about average. The U.S. Dry Bay catch of 100 fish was approximately one-third the 1981 to 1990 average. The combined Canadian sport and Indian food fishery catch of 900 fish was nearly twice the 1981 to 1990 average. The chinook count through the Klukshu River weir, 2,500 fish, was above the 1985 to 1990 average of 2,200 fish, but below the interim escapement goal of 4,700 chinook salmon.

The coho run to the Alsek River was above average. The U.S. Dry Bay catch of 6,000 fish was 15% above the 1981 to 1990 average and the combined Canadian Indian food and sport fishery catch of 500 fish was five times the 1981 to 1990 average. The Klukshu weir count of 8,500 coho salmon was three times the previous record count.

The U.S. Dry Bay pink and chum salmon catches of 0 and 100 fish, respectively, were near average for pink salmon but only 12% of the 1981 to 1990 average for chum salmon. There are no recorded Canadian catches of pink or chum salmon in the Alsek River.

INTRODUCTION

This report presents estimates of the 1991 catches and escapements of Pacific salmon runs to the transboundary Stikine, Taku, and Alsek Rivers and discusses management actions taken by the U.S. and Canada during the fishing 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. gillnet fisheries in Alaskan Districts 106 and 108, by Canadian commercial gillnet 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 and Appendices A.1-A.18). Additional catches of unknown quantity are taken in U.S. troll and seine fisheries and in 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 Allowable Sockeye Catch		Canadian Allowable Sockeye 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 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 of the Parties to undertake a cooperative sockeye enhancement program

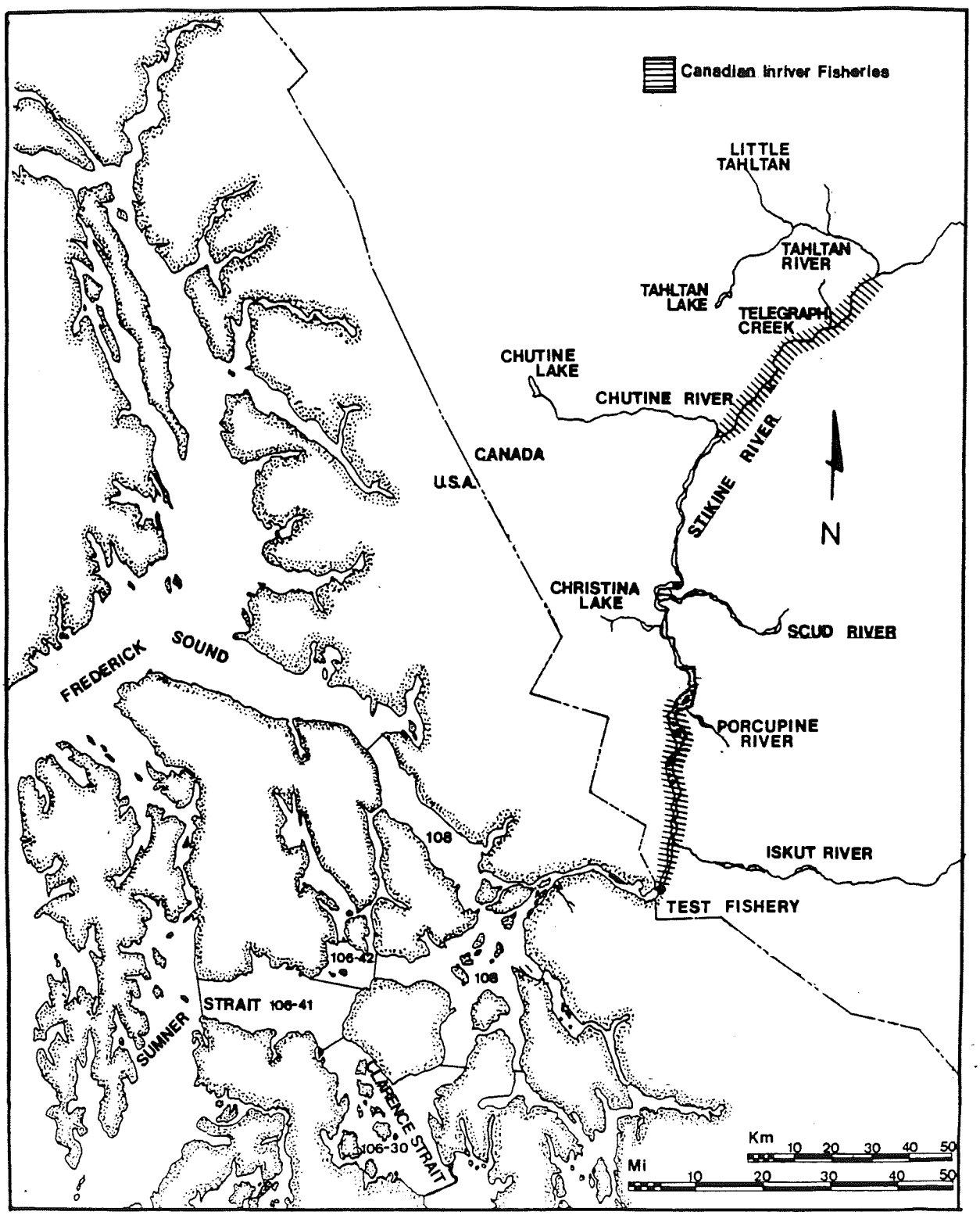

Figure 1. The Stikine River and principal U.S. and Canadian fishing areas.

commencing in 1989, an obligation which was met in 1989 and 1990, and continued through 1991.

Prior to the 1991 season, the TTC updated the management plan and determined new parameters for input into the inseason run forecast model, referred to as the Model. Details regarding these subjects appear in: ***Salmon Management Plan for the Stikine, Taku, and Alsek Rivers, 1991, Pacific Salmon Commission Transboundary Technical Committee Report TCTR (91)-3, June 1991***. 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. In 1991, the preseason forecast was used during statistical weeks 25 (June 16 to June 22) and 26 (June 23 to June 29). Beginning the first week of July, inseason forecasts of total run size and TAC, produced by the Model and based on catch-per-unit-effort (CPUE) data, were used to assist in determining weekly fishing plans (Table 1). The weekly inputs to the Model included: the catch, effort and stock composition (proportion Tahltan) in the Canadian lower river commercial fishery; the upper river catch in the Indian food fishery (IFF) and upper river commercial fishery; the catch, effort and stock composition in Sub-district 106-41; and, the catch and stock composition in District 108 and Sub-district 106-30. The U.S. fishing regime for District 108 as written in the annex is based on TAC and the cumulative catch in District 106.

Table 1. Weekly forecasts of run size and total allowable catch for Stikine River sockeye salmon as determined inseason by the Stikine Management Model, 1991.

Week	Start Date	Forecasts		U.S. Fishing Regime			Canada TAC	Cumulative Catch	
		Run Size	TAC	6	8	TAC		U.S.	Canada
Model Runs Generated by U.S.									
25	16-Jun	94,000	34,000	I	D	14,000	20,000	282	0
26	23-Jun	94,000	34,000	I	D	14,000	20,000	2,105	134
27	30-Jun	72,449	12,449	I	I	2,449	10,000	3,617	2,734
28	07-Jul	159,459	99,459	I	D	69,459	30,000	5,897	7,529
29	14-Jul	192,246	132,246	I	D	102,246	30,000	8,221	12,740
30	21-Jul	151,205	91,205	I	D	61,205	30,000	8,756	17,562
31	28-Jul	130,329	70,329	I	D	40,329	30,000	9,180	22,020
32	04-Aug	130,487	70,487	I	D	40,487	30,000	9,646	22,326
33	11-Aug	120,493	60,493	I	D	30,493	30,000	9,646	22,326
Model Runs Generated by Canada									
25	16-Jun	94,000	34,000	I	D	14,000	20,000	282	0
26	23-Jun	94,000	34,000	I	D	14,000	20,000	2,338	163
27	30-Jun	72,449	12,449	I	I	2,449	10,000	4,249	3,050
28	07-Jul	177,333	117,333	I	D	87,333	30,000	4,196[a/]	7,539
29	14-Jul	191,851	131,851	I	D	101,851	30,000	4,402	14,380
30	21-Jul	148,143	88,143	I	D	58,143	30,000	9,272	16,289
31	28-Jul	129,918	69,918	I	D	39,918	30,000	9,315	21,820
32	04-Aug	130,686	70,686	I	D	40,686	30,000	9,648	22,435
33	11-Aug	122,059	62,059	I	D	32,059	30,000	9,761	22,653
34	18-Aug	116,369	56,369	I	D	36,369	20,000	9,964	22,659
35	25-Aug	112,575	52,575	I	D	32,575	20,000	10,062	22,699

I = Indicates indirect fishery allowed;
D = Indicates directed fishery allowed.
[a/] Cumulative U.S. catch decreased due to updated catch information.

The preseason forecast of 94,000 returning Stikine sockeye salmon was near the 1981 to 1990 average run size of 97,747 sockeye salmon (Appendix B.31). Weekly inseason predictions of total run ranged from 72,449 to 192,246 sockeye salmon; U.S. and Canadian weekly predictions varied slightly because different catch figures and stock compositions were input into the model by each country (Table 1). The maximum forecast of 192,246 sockeye occurred during statistical week 29 (week beginning July 14) and was the result of a strong Tahltan sockeye component. The non-Tahltan run was weaker than the Tahltan run, and model forecasts decreased through the end of the season. By the end of the fishing season, the predicted total run was 112,575 Stikine sockeye salmon with a TAC of 52,575 fish, a Canadian allowable harvest of 20,000 sockeye salmon, and a U.S. allowable harvest of 32,575 sockeye salmon.

The Model is also used to predict the Tahltan portion of the run independently from the total run forecasts. Estimates of the Tahltan run ranged from 9,200 (week 27) to 67,200 sockeye (week 32) compared to the preseason forecast of 41,830 sockeye salmon.

In 1991 there were misclassification problems during the inseason scale pattern analysis which resulted in underestimation of the Stikine River components of the District 106 and 108 catches. Refer to the "U.S. Fisheries" section for further explanation and action taken inseason. While this affected the estimate of cumulative catches in the marine fisheries, it did not effect the model's predictions of run size since these are calculated from inriver CPUE. The TAC is based on predicted run size, a projected District 108 catch based on catch-to-date, and an assumed 10% exploitation rate in District 106. The District 108 catch represented only about 10% of the run.

U.S. Fisheries

The 1991 harvest in the District 106 commercial gillnet fishery included 2,068 chinook, 144,084 sockeye, 197,952 coho, 133,360 pink, and 124,580 chum salmon (Appendix A.7). In the District 108 fishery, 1,504 chinook, 22,275 sockeye, 15,864 coho, 10,935 pink, and 11,402 chum salmon were harvested (Appendix A.10). District 106 catches of pink salmon were below the 1981 to 1990 average, sockeye catches were average, chinook catches were above average and catches of coho and chum salmon were 3 and 2.5 times the average (Figure 2). A test fishery was conducted in District 108 to help managers to ascertain the run strength of various salmon species inseason. No test fisheries were conducted in District 106 due to inconclusive results from past years. Annual commercial and test fishery catches from 1964 to 1991 for these fisheries are provided in Appendix Tables B.1 through B.16. Catches of each species in Districts 106 and 108 consist of fish of mixed stock origin; the contribution of Stikine River stocks is estimated only for sockeye salmon.

Scale pattern analysis is used to estimate stock composition in the U.S. marine catches. An estimated 12.4% of the District 106 sockeye catch was of Stikine River origin (Figure 3). The Sumner Strait fishery (Subdistricts 106-41 & 42) harvested an estimated 14,585 Stikine sockeye salmon (Appendix A.3), 16.3% of the total sockeye harvest in that subdistrict; the Clarence Strait fishery (Subdistrict 106-30) took 3,277 (Appendix A.6), 6.0% of the catch in that

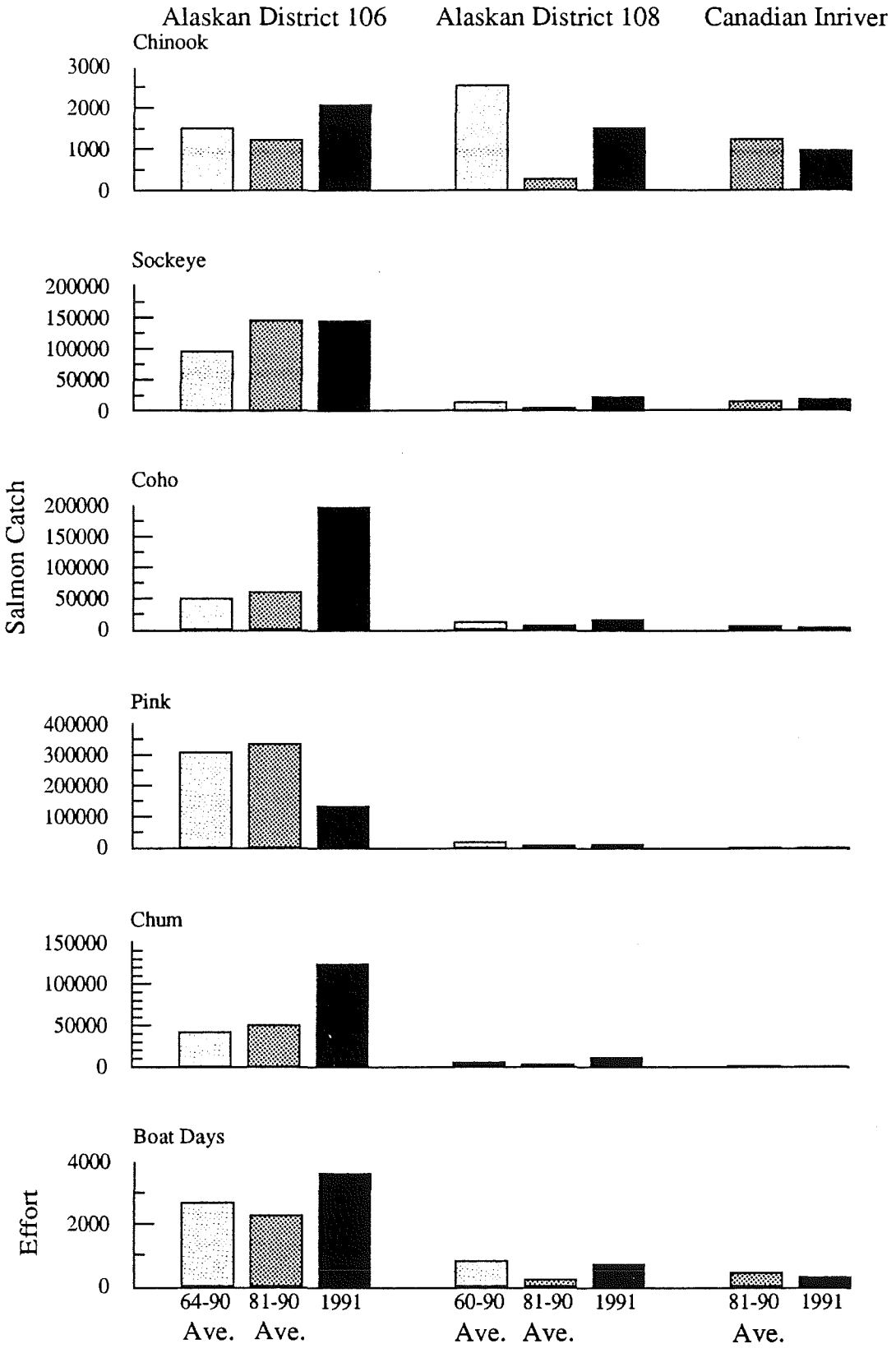

Figure 2. Average catches and fishing efforts compared with 1991 values for the Alaskan Districts 106 and 108 and for the Canadian commercial fisheries in the Stikine River.

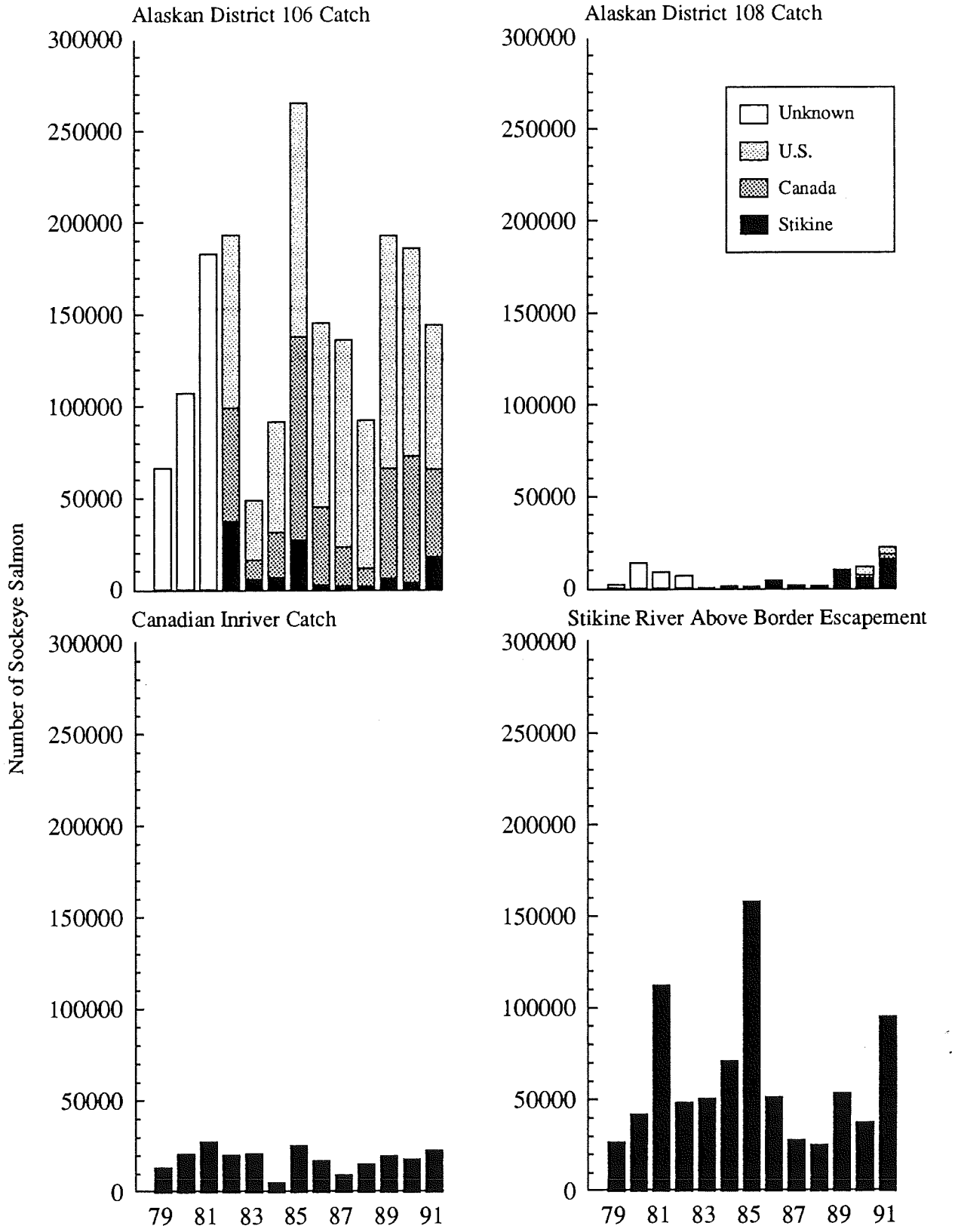

Figure 3. Sockeye catches for the Alaskan Districts 106 and 108 and the combined Canadian fisheries in the Stikine River and Stikine sockeye escapements, 1979-1991. Effort is for commercial fisheries only.

subdistrict; and the District 108 fishery, near the mouth of the Stikine River, harvested 15,794 (Appendix A.11), 70.9% of the District 108 catch. An estimated 33,656 Stikine sockeye salmon were taken in commercial gillnet fisheries from both districts.

An inseason adjustment was made during statistical week 27 to District 108 sockeye stock composition estimates. The contribution of Skeena River stocks to early season District 108 catches was judged to be unrealistically high. Historical experience indicates that scale patterns from Tahltan Lake fish most often misclassify as Skeena River fish, and that Skeena River fish are usually found in low abundance in District 108. In addition, historical migratory timing information indicates that Skeena stocks would be rare or absent from Districts 106 and 108 early in the season. Therefore, it was decided to omit the Skeena River stock from inseason SPA models used to classify catches in District 108 prior to week 30. Catches prior to statistical week 27 were reclassified using the new models and revised stock composition estimates were generated for these weeks; the inseason estimate of the contribution of Tahltan Lake fish to the District 108 catch increased as a result of this change in methodology. The adjusted estimates were closer to the postseason estimates than the initial estimates were, however, the inseason analysis still underestimated the contribution of Stikine River stocks.

The 1991 fishing season in Districts 106 and 108 began on June 16 and continued until October 8. During the first two weeks (statistical weeks 25 and 26, June 16 to June 29) of the fishery, both District 106 and 108 were open for two days each week. The initial opening in District 106 is normally two days and any decision to extend fishing time is based on fishery catch rates estimated by management biologists on site in the fishery. The initial District 108 opening was based on the preseason Stikine River sockeye forecast of 94,000 fish. The openings in the third and fourth weeks (statistical weeks 27 and 28, June 30 to July 13) were set for two days in both districts. However, due to the Model showing a very large TAC after the initial fishing periods (Table 1), additional mid-week fishing periods of one and two days were allowed in District 108 during the third and fourth weeks, respectively. Two days were initially allowed in both districts during the fifth week (statistical week 29, July 14 to July 20). Due to the extremely large U.S. TAC of 102,246 fish shown by the Model, District 108 remained open until further notice to allow the harvest of Stikine sockeye while they were still available. A two-day opening was initially announced for both districts during the statistical week 30 (July 21 to July 27). An additional mid-week two-day opening was announced for District 108 during this week based on the updated Model which showed a U.S. TAC of 40,329, while the cumulative U.S. catch was estimated at 9,180 Stikine River sockeye salmon. During statistical weeks 31 and 32 (July 28 to August 10), the fisheries were limited to two days each week in both districts due to falling sockeye catches in District 106 and in the Canadian fishery.

The District 106 gillnet fishery normally changes from sockeye to pink salmon management by statistical week 33. However, the early indicators used to manage the pink fishery were not in agreement with each other. Both southern Southeast Alaska and District 106 were forecasted to have excellent pink runs, however, the gillnet pink salmon catches in District 106 had been extremely poor prior to statistical week 33 (August 11). The low harvest was probably due to the low price for pink salmon, reluctance of the fishers to use smaller mesh nets

designed for catching pink salmon, and the small size of pink salmon in 1991 which reduced their catchability in gillnets. The fisheries were opened initially for two days each week during statistical weeks 33 and 34 (August 11 to August 24); however, due to improving pink salmon escapements fishing time in both districts was extended for 24 hours during the latter week in order to harvest pink salmon in excess to escapement needs.

Coho salmon management in the District 106 gillnet fishery usually commences during late August or early September. Due to the lack of fishing effort on pink salmon during the previous two weeks and high coho CPUE, the District 106 management concentrated on coho beginning August 25. The openings for statistical weeks 35 through 38, August 25 through September 21, were set for three days each week due to the higher than average coho CPUE and high Alaska hatchery contribution. The openings for the next three weeks (statistical weeks 39 to 41, September 22 to October 12) were limited to two days each week due to concerns over wild stock coho escapements and the over harvesting of females late in the run. An estimated 32.5% of the District 106 and 21.8% of the District 108 coho harvests were from Alaskan hatcheries (coded-wire tag estimates).

During the 1991 season, the gillnet fishery in District 106 was open for a total of 39 days (Appendix A.7), and in District 108 for 48.5 days (Appendix A.10). These openings were above the 1981 to 1990 averages of 29 and 18 days, respectively. District 106 fishing effort (number of vessels) remained near average throughout the season. The highest effort occurred during the second and third weeks of July when 138 and 140 vessels fished the district, and again during the last week of August when 138 boats fished. Because of the strong coho and chum runs the fishing season was protracted, resulting in a total effort of 3,623 boat-days in District 106 which was 60.0% higher than the 1981 to 1990 average (Appendix B.5; Figure 2). District 108 effort was higher than average due to the extended fishing time to harvest the large run of Stikine sockeye and late run of mixed stock coho salmon. The number of boat-days fished in District 108, 696, was three and a half times greater than the 1981 to 1990 average of 197 boat-days (Appendix B.7; Figure 2). The highest effort in District 108 of 80 boats occurred in statistical week 27 (June 30 to July 6).

Canadian Fisheries

Catches from the combined Canadian commercial and Indian food gillnet fisheries in the Stikine River in 1991 included: 1,511 large chinook, 660 jack chinook, 22,763 sockeye, 2,648 coho, 394 pink, and 208 chum salmon, and 82 steelhead (Figures 3 and 4 and Appendix A.14 to A.18). Catches of chinook and sockeye salmon were above the 1981 to 1990 averages while catches coho, pink, and chum salmon were below average.

A test fishery was conducted again in the lower Stikine River, just upstream from the Canada/U.S. border, to determine migratory timing and stock composition of the sockeye run. Test fishery catches included: 183 chinook, 2,375 sockeye, 245 coho, 234 pink, and 78 chum salmon, and 4 steelhead (Appendix A.18).

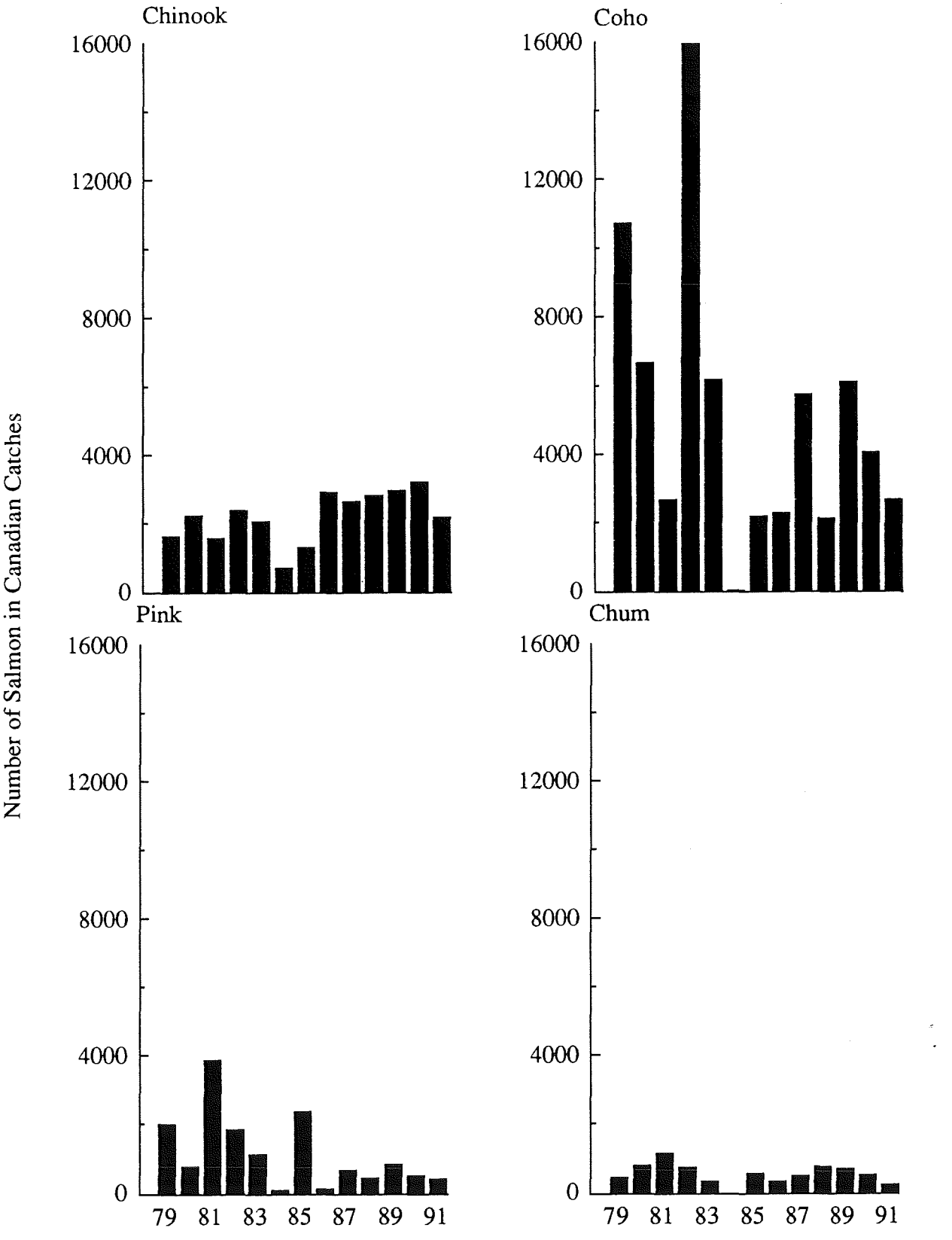

Figure 4. Catches of chinook, coho, pink, and chum salmon in the combined Canadian fisheries in the Stikine River, 1979-1991.

Lower Stikine Commercial Fishery

The Canadian fishery in the lower Stikine harvested 641 large chinook, 318 jack chinook, 17,563 sockeye, 2,638 coho, 394 pink, 208 chum salmon, and 71 steelhead in 1991 (Appendix A.14). The sockeye catch was 18.9% above the 1981 to 1990 average of 14,769 sockeye (Appendix B.17). Catches of all other species were below average.

The fishery commenced at noon on Tuesday, June 25 (statistical week 26), for a two-day opening. The sockeye catch and CPUE for the first week of the season were below average which resulted in a total run forecast of 72,449 sockeye and a Canadian catch quota of 10,000 fish. However, record high weekly CPUE values were recorded for each of the next two weeks, weeks 27 and 28, which indicated the presence of a strong Tahltan sockeye run. The Model forecasts increased to 177,333 and 191,851 fish for weeks 28 and 29 respectively, and the target Canadian catch jumped from 10,000 to 30,000 sockeye salmon.

Fishing time during week 28 (week commencing July 7) and week 29 was increased to three days in response to the above average CPUE and the increasing run forecasts. Additional time was not given in order to keep the cumulative catch consistent with weekly guideline harvests.

The run forecast for statistical week 30, commencing July 21, declined to 148,143 but was still well above average. However, the lower Stikine commercial fishery was reduced to two days in response to below average CPUE and the decline in the proportion of Tahltan Lake sockeye in the catch which had dropped from 75% in the previous week to 37%. There was concern for a weak mainstem run given the sudden drop in CPUE and the apparent poor showing of mainstem stocks in the District 106 and 108 catches. The below average CPUE resulted in the week 31 run forecast decreasing further to 129,918 sockeye salmon. The closure after the two days fished in week 30 left the cumulative catch about 1,100 behind schedule.

A total of five days was fished during statistical week 31 (July 28 to August 3) in response to above average CPUE and a reduction in the number of fishers from 14 in the previous week to seven permit holders. The Model forecast for statistical week 32 increased from 129,918 to 130,686 fish with inputs from the performance of the fishery during week 31. However, over the next four weeks the weekly CPUE was below average and the run forecast progressively declined to a final inseason estimate of 112,575 sockeye salmon. Fishing times during weeks 32, 33, and 34 were cut back to 3 days, 2 days and 1 day, respectively, in response to the relatively poor run of non-Tahltan (mainstem) fish.

With a final inseason sockeye run forecast of 112,575 fish, the total allowable catch for the Canadian fisheries was 20,000 sockeye salmon. In contrast, throughout most of the sockeye season, i.e., from week 28 through week 33 (July 7 through August 17), the Model had forecasted a Canadian allowable harvest of 30,000 sockeye salmon. By the time the model forecast dropped to a total run of less than 120,000 sockeye and a Canadian allowable harvest of 20,000 sockeye, the season was essentially finished. Allowing for the harvest of 5,200 sockeye in upper Stikine fisheries, the total allowable lower Stikine catch was 14,800 sockeye salmon. The actual catch exceeded this target by 2,763 sockeye salmon.

Management emphasis switched to coho towards the end of August. Weekly effort

was restricted to 1 to 3 day openings from week 34 to week 36 (August 18 to September 7) due to below average coho CPUE. Additional fishing time was permitted in week 37 (September 8 to September 14) as the run strength improved and the CPUE value exceeded the average values. During week 38 (September 15 to September 21), the fishery was open for seven days as a result of declining number of fishers and the above average CPUE in the previous week. After this week the fishery was closed due to the relatively poor catch and a decline in the coho CPUE. The season total coho catch was 2,648 fish, which included 2,638 fish in the lower Stikine commercial fishery and 10 fish in the Indian food fishery. The total harvest was 1,352 below the target of 4,000 Stikine coho salmon.

Twenty licensed fishers participated in the lower river commercial fishery throughout the season with an average of only seven permit holders present each week, about one half the usual effort. The total effort in boat-days was 282.5, 31.6% below the 1981 to 1990 average of 413.1 boat-days. Poor prices for sockeye and coho salmon contributed to the lower effort level in 1991. Each permit holder was allowed the use of one gillnet with a maximum length of 135 meters. A June 24 opening and a maximum mesh size restriction of 146 mm (to July 15) were 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 1991 was 149 chinook salmon, 47.5% above the 1981 to 1990 average and 761 sockeye salmon, 29.4% above average. The fishing effort was similar to that in previous years with one to three fishers fishing one day per week from late June through the first week of August.

Indian Food Fishery

The Indian food fishery, centered around Telegraph Creek, harvested 1,063 chinook including 753 large chinook and 310 jack chinook, 4,439 sockeye, and 10 coho salmon and 11 steelhead. The total chinook catch was near the 1981 to 1990 average of 1,043 fish and the sockeye harvest was 5.0% above average (Appendices A.17 and B.20).

Escapement

Sockeye

A total of 50,135 sockeye was counted through the Tahltan Lake weir in 1991 which was 4.7 times greater than the 1986 to 1990 average of 10,603 fish (Appendix B.25), and well above the escapement goal range of 20,000 to 40,000 fish. The final inseason Model indication of Tahltan escapement was 48,923 sockeye salmon, 2.4% below the actual weir count. The removal of 3,532 sockeye salmon for broodstock and 20 fish for disease sampling reduced the spawning escapement to 46,583 fish. Daily counts from the 1991 Tahltan weir program are presented in Appendix A.21.

The total spawning escapement for the non-Tahltan stock group is estimated indirectly by computing the ratio of Tahltan to non-Tahltan components in the total inriver sockeye run from stock identification data collected in the lower river commercial and test fisheries. The ratio is then applied to the estimated inriver Tahltan run size to develop an estimate of the total inriver non-Tahltan run size. The non-Tahltan escapement is estimated by subtracting the estimated catches of non-Tahltan sockeye in the Canadian fisheries. The 1991 non-Tahltan sockeye escapement estimate of 44,879 fish was based on egg diameter analysis of inriver stock compositions and inriver test fishery CPUE data estimates of run timing.

Aerial surveys of non-Tahltan sockeye escapement index areas indicated below average numbers of spawners in 1991 (Appendix B.26). These surveys do not include all spawning populations.

Chinook

In 1991, the TTC revised the Stikine River escapement goal for chinook salmon (***"Escapement goals for chinook salmon in the Alsek, Taku, and Stikine Rivers", Pacific Salmon Commission, Transboundary Technical Committee TCTR (91)-4)***. The revised goal for the Little Tahltan index system is 5,300 fish. This goal represents an average of previous U.S. and Canadian goals for the Little Tahltan index system. Factors used to expand the original goals to account for escapement to the entire Stikine River drainage were eliminated because of a lack of scientific basis.

This was the seventh consecutive year of the operation of a chinook enumeration weir on the Little Tahltan River (Figure 5, Appendix A.23). The 1991 count of 4,506 large chinook salmon was similar to the 1985 to 1990 average of 4,531 fish (Appendix B.28). The count of jack chinook salmon was 313, slightly under the 1985 to 1990 average of 366 fish.

Aerial survey counts of chinook salmon in 1991 were: Little Tahltan River, 1,768; Tahltan River, 2,445; Beatty Creek, 193; and Andrew Creek, 400 chinook salmon. The counts were above the 1985 to 1990 average for Tahltan River and below average for the other index systems (Appendix B.29).

Coho

The lower Stikine River test fishery ended on statistical week 36 (first week in September), which precluded complete coverage of the coho run. From historical test catch records, 1986-1990, approximately 75% of the coho run has migrated through the lower river by the end of week 36. The cumulative coho test fish CPUE, therefore, was expanded (3.13/0.75=4.17) and the calculated cumulative CPUE of 4.17 was expressed as a percentage of the total cumulative sockeye CPUE of 11.8. The coho run size was estimated to be 35% of the inriver sockeye run of 120,152 fish or 42,053 coho salmon. The coho escapement was 39,160 fish. The aerial surveys count of 2,956 coho salmon was also above the 1984 to 1990 average (Appendix B.30).

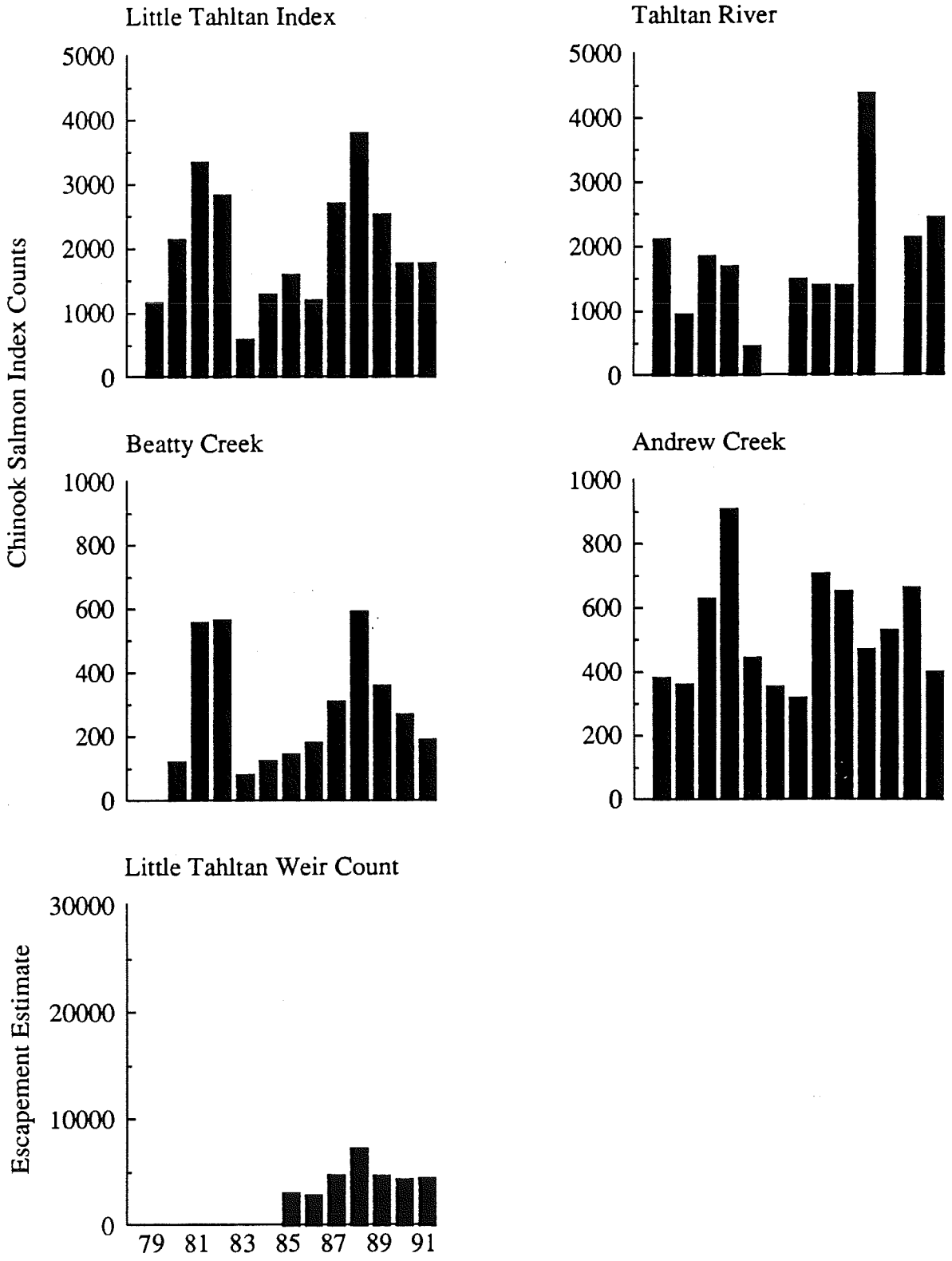

Figure 5. Chinook salmon weir counts and index escapement estimates for major spawning areas in the entire Stikine River, 1979-1991.

Sockeye Run Reconstruction

The estimate of the total Stikine sockeye run was 154,472 fish of which 91,003 were of Tahltan Lake origin and 63,469 were non-Tahltan fish (Table 2). The run was 58.0% above the 1981 to 1990 average of 97,747 sockeye salmon. Stock composition estimates are based on inriver egg diameter stock separation data, scale pattern analysis of catch samples collected in Districts 106 and 108, and catch and escapement data.

Table 2. Run reconstruction for Stikine sockeye salmon, 1991. Numbers may not sum due to rounding error.

	Tahltan	non-Tahltan	Total
Escapement	50,135	44,879	95,014
Canadian Harvest			
Indian Food	3,995	444	4,439
Upper Commercial	685	76	761
Lower Commercial	11,136	6,427	17,563
Total	15,816	6,947	22,763
% Harvest	40.6%	39.8%	40.3%
Test Fishery Catch	1,443	932	2,375
Inriver Run	67,394	52,758	120,152
U.S. Harvest			
106-41&42	11,538	3,047	14,585
106-30	2,823	453	3,277
108	8,807	6,987	15,794
Total	23,168	10,487	33,656
% Harvest	59.4%	60.2%	59.7%
Test Fishery Catch	441	224	665
Total Run	91,003	63,469	154,473
Escapement Goal			
Minimum	20,000	20,000	40,000
Maximum	40,000	40,000	80,000
Total Allowable Catch			
Minimum	51,003	23,469	74,473
Maximum	71,003	43,469	114,473
Actual Catch	40,868	18,590	59,458

The Model successfully forecast a larger than average run, but underestimated the magnitude in most weeks (Table 1). The final inseason run forecast derived from the Model, 112,575 fish, was 72.9% of the postseason run estimate. The Model predictions are based on inriver CPUE while the postseason estimate is based on stock composition estimates of actual catches in all the fisheries plus the Tahltan escapement estimate. The Model is reviewed and updated annually to include current year data for making predictions during the following season.

Although the primary brood year (1986) escapement of 20,280 fish to Tahltan Lake was below the 1981 to 1990 average of 25,342 sockeye salmon, the above average Tahltan run this year was not wholly unexpected given that the record number of 1,170,136 smolts that emigrated from Tahltan Lake in 1988 would return as adults primarily in 1991 (Appendix B.27). The estimate of the total Tahltan sockeye stock size in 1991 indicated a smolt to adult survival of about 7.2% compared to an average of approximately 4.2%.

The smolt count in 1991 totalled 1,487,265 fish. These smolts originated primarily from the 1989 spawning escapement of 6,106 sockeye, i.e. the 1989 Tahltan weir count of 8,316 sockeye minus the 2,210 fish taken for brood stock. The contribution of smolts from the 1990 release of approximately 1,041,744 fry that had been incubated at the Snettisham Hatchery to the 1991 smolt emigration was estimated at 266,868 fish, or 17.9% of the total outmigration. Otoliths extracted from a random sample of smolts from the 1991 emigration were analyzed to provide the break down between hatchery and natural contributions to the smolt production.

TAKU RIVER

Taku River salmon are harvested in the U.S. gillnet fishery in the District 111 northern Southeast Alaska seine and troll fisheries, the Juneau area sport fishery and a Taku inriver personal use fishery (Figure 6). Canadian fisheries for Taku River salmon include a commercial gillnet 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 sockeye salmon originating in Canadian portions of the Taku River, 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 and continued in 1991.

Prior to the 1991 fishing season, the TTC met to exchange management plans for the Taku River. The results from this exchange are documented in: ***Salmon Management Plan for the Stikine, Taku, and Alsek Rivers, 1991, Pacific Salmon Commission Transboundary Technical Committee Report TCTR (91)-3, June 1991.***

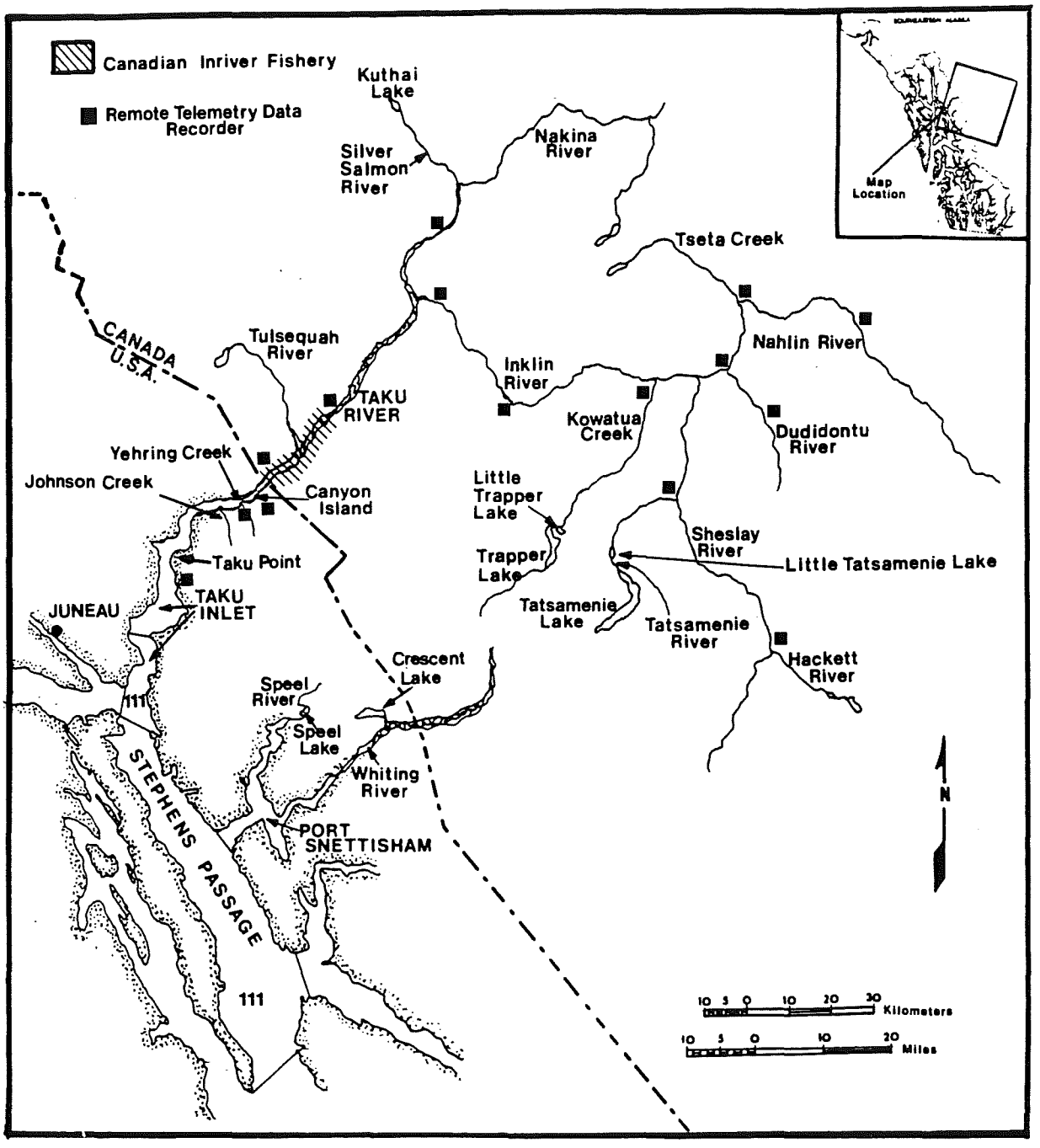

Figure 6. The Taku River and principal U.S. and Canadian fishing areas.

U.S. Fisheries

The District 111 drift gillnet fishery was opened June 16 and closed on October 10, for a total of 57 fishing days (Appendix C.1). Openings included 49 fishing days to harvest wild stocks bound for Port Snettisham and the Taku River, 14 days with mesh restrictions to harvest summer chum salmon hatchery returns, and 13 days in Section 11-C to harvest the above average pink salmon runs; some openings were concurrent. Fishing time was 44.8% above the 1981 to 1990 average, primarily a result of fishing time extensions during the fall coho fishery. Fishing effort (boat-days) in District 111 for 1991 was 69.6% above the 1981 to 1990 average (Appendix D.1).

Catches in the District 111 drift gillnet fishery were among the largest in the history of the fishery, with records being exceeded for summer chum and coho salmon harvests (Figure 7, Appendix D.1). The total harvest included 3,217 chinook, 109,877 sockeye, 126,436 coho, 74,183 pink, and 161,175 chum salmon (Appendix C.1). Catches of sockeye, pink, and fall chum salmon were comprised primarily of mixed wild stocks from the Taku River, Port Snettisham, and drainages in lower Stephens Passage. Catches of chinook, summer chum, and coho salmon were comprised of both wild stocks and local hatchery stocks. In addition to the commercial fishery, a gillnet mesh selectivity study was conducted by the ADF&G in Taku Inlet from July 4 to August 2. Catches during this five-week test fishery totalled 9 chinook, 917 sockeye, 86 coho, 162 pink, and 1,859 chum salmon (Appendix C.2).

The chinook salmon harvest of 3,217 fish was 47.1% above the 1981 to 1990 average and was comprised primarily of small immature chinook salmon. Approximately 64% of this year's chinook harvest was caught during the initial two weeks of the fishery (statistical weeks 25 and 26), when the CPUE was over two and a half times above the 1981 to 1990 average. In the past, chinook salmon caught during these weeks have been comprised mainly of large spawners bound for the Taku River. It is unknown why there was such a large early abundance of immature fish present in 1991.

The sockeye harvest of 109,877 fish was the fourth largest sockeye catch on record, 53.1% above the 1981 to 1990 average, and 13.4% below the record catch in 1990.

Scale pattern analysis (SPA) has been used inseason and postseasonally to provide stock composition estimates of District 111 sockeye catches since the early 1980's. Inseason estimates for 1991 did not follow historical trends and were not corroborated by analysis of the incidence of brain parasites or by age composition of samples from the sockeye catch. The inseason SPA estimates were therefore judged unreliable due to inter-annual changes in basic growth patterns in the scales within stocks. Postseason analysis of scale data, based on spawning ground samples from 1991, eliminated this problem and provided stock composition estimates. Of the 109,877 sockeye salmon harvested in District 111 in 1991, an estimated 94.1% were of Taku River origin and 5.9% were of Port Snettisham origin. The mainstem stock group dominated the catch with 40,957 fish followed by the Little Trapper (32,685), Tatsamenie (25,475), Crescent (6,465), and Kuthai (4,295) stocks. Speel Lake fish were not detectable in the catch.

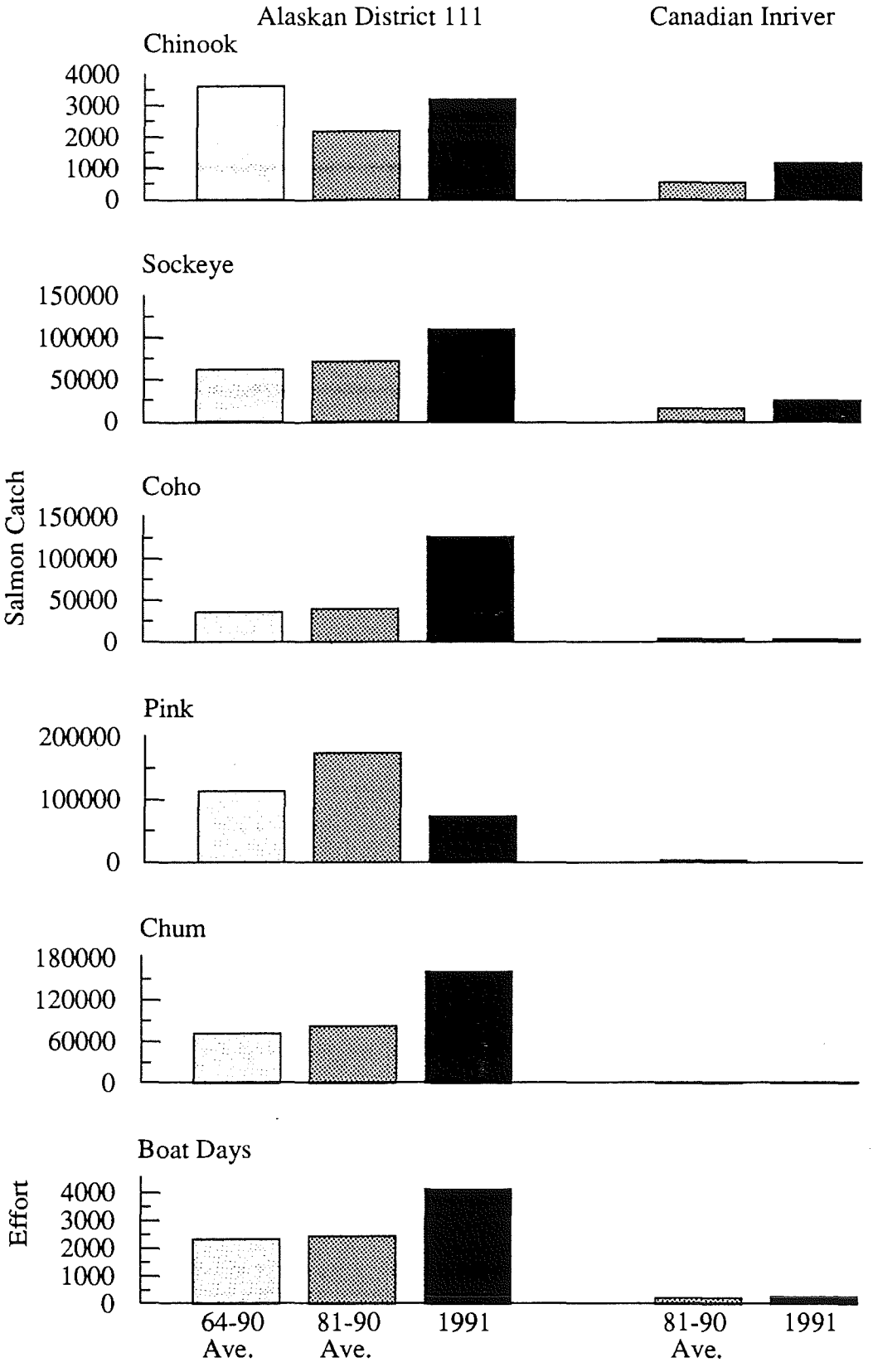

Figure 7. Average catches and fishing efforts compared with 1991 values for the Alaskan District 111 commercial fishery and the Canadian commercial fishery in the Taku River.

The summer chum run was exceptional this year and was primarily comprised of five year old fish (approximately 80%). The total summer chum salmon catch of 147,404, i.e. the District 111 chum harvest prior to August 18, statistical week 34, was 330% above the 1981 to 1990 average, and was the largest District 111 summer chum harvest on record. An unknown, but believed large portion of the catch was comprised of fish from Juneau area hatcheries.

In contrast to the summer chum salmon, the fall chum salmon run was poor in 1991. The total fall chum salmon harvest, i.e. chum salmon caught after August 18, statistical week 34, was 13,771 fish. This is 64% below the 1981 to 1990 average and is the third smallest fall chum salmon harvest on record. Chum salmon that are taken in the fall in District 111 are exclusively wild chum salmon stocks from the Taku River and Port Snettisham.

The District 111 pink salmon harvest of 74,183 fish was 31.7% of the 1981 to 1990 odd-year average of 233,739 fish, but does not accurately represent the strength of the run. A combination of factors were responsible for low catches. Pink salmon were smaller than average this year, with average weights of less than three pounds, thereby reducing their susceptibility to harvest in the traditional sockeye gillnet mesh. In addition, pink salmon prices were depressed and consequently, many fishers did not switch to smaller mesh sized gear to target this species.

The total coho catch of 126,436 fish was the largest on record, over three times larger than the 1981 to 1990 average, and almost double the previous record catch of 67,310 coho salmon taken in 1990. Coho catches were highest during statistical weeks 37 through 40 (September 8 to October 5), when weekly catches were 3, 5, 22, and 150 times the respective 1981 to 1990 weekly averages. Historically, maximum catches occur between statistical weeks 35 to 37, indicating the 1991 coho salmon run was several weeks later than normal. The exceptional harvest resulted from large wild coho runs to the Taku River and hatchery fish to the DIPAC facility near Juneau. The DIPAC contribution to the District 111 gillnet catch was estimated at 28,690 fish or 22.7% of the coho catch.

Except for the two-day openings in statistical weeks 27 and 28 (June 30 to July 13), Taku Inlet was opened for three days a week for the entire summer season (prior to August 18). Extensions were considered during statistical weeks 29 and 30 (July 14 to 27) because of the large sockeye catches and high fish wheel CPUE, but were not made in order to assure sufficient escapement into Tatsamenie Lake. An additional 24 hours of fishing time was provided each week in Stephens Passage, south of Circle Point, from June 30 to July 27 (statistical weeks 27-30), in an effort to harvest excess Port Snettisham hatchery chum salmon returning to Port Snettisham and Limestone Inlet. This area was restricted to a minimum mesh size of six inches during this period in order to target chum salmon and minimize interception of the depressed Port Snettisham sockeye salmon stocks. However, the greatest chum catches were found north of this line, due to the large DIPAC hatchery chum contribution, but extensions to fishing times were not granted in order to provide brood stock for DIPAC hatchery.

Section 11-C was opened during statistical weeks 31 through 33 (July 28 to August 16) for a total of 13 days in an effort to harvest the strong pink runs in lower Stephens Passage. The area did not draw much effort (eight boats) and only 6,100

pink salmon were harvested.

Fall management was initiated on August 18 (statistical week 34), when the District 111 gillnet fishery was opened for three days. At this time the coho catches were average while the chum catches were below average. Consequently, fishing time was restricted to two days beginning August 25 (statistical week 35) to conserve chum salmon. Fishing time remained at two days during the next five weeks (statistical weeks 35 to 39) due to the poor chum run, despite increasing coho CPUE. The coho harvest jumped to a record weekly catch of 19,326 during statistical week 37 and continued at an exceptionally strong level for the remainder of the season. The coho salmon CPUE at the Canyon Island fish wheels and the preliminary inriver run projections were the highest observed since the coho mark-recapture program began in 1987. By September 29 (statistical week 40) the Taku River chum salmon runs had passed through the fishing area and the fishery was opened "until further notice" to harvest the exceptionally strong coho salmon run. Coho salmon catches were steady and remained high throughout the entire week. Consequently, fishing was allowed to continue into statistical week 41 for an additional four days, by which time the effort had dropped to only 14 boats. Although catches were above average, it appeared the wild stocks had passed and the fleet was catching primarily hatchery fish. During the 11 day extended opening, approximately 36,388 coho salmon were harvested. The District 111 gillnet fishery was closed for the season on October 10, 1991, the latest closure date on record.

Several other fisheries in District 111 harvested transboundary river stocks. The U.S. personal use fishery located in U.S. portions of the Taku River harvested approximately 47 chinook, 1,475 sockeye, 120 coho, 188 pink, and 4 chum salmon. The marine spring sport fishery near the mouth of the Taku River, open from mid-April to mid-June, harvested an estimated 883 wild mature chinook salmon. A number of stocks are thought to contribute to the fishery, including those from the Taku, Chilkat, King Salmon and Unuk Rivers, and local hatchery stocks; however, the majority of the mature fish are believed to be of Taku River origin. The purse seine fishery in Chatham Strait was not opened north of Point Marsden during the month of July because pink salmon test fishery catches were low and the escapement to the Taku River appeared weak until late July.

Canadian Fisheries

The Taku River commercial fishery harvested 1,177 large chinook, 432 jack chinook (fish less than 2.27 kg), 25,067 sockeye, 3,415 coho, 296 pink, and 2 chum salmon, and 5 steelhead in 1991 (Appendix C.5). The sockeye catch was 64.3% above the 1981 to 1990 average of 15,256 sockeye (Appendix D.5). The total chinook catch of 1,609 fish was three times the 1981 to 1990 average of 538 fish. The coho catch was near the Treaty limit of 3,000 fish. Catches of pink and chum salmon, and steelhead were below average (Figure 7, Appendix D.5). The fishery was open for a total of 25 days, less than the 1981 to 1990 average of 26.6 days. The seasonal fishing effort was 284 boat-days compared to the average of 231.7 boat-days.

In addition to the commercial catches, the Indian food fishery harvested 150 sockeye and 20 coho salmon in 1991.

The commercial fishery commenced at noon on Monday, June 17, (statistical week 25) one week earlier than in 1990. The earlier opening was scheduled in 1991 to harvest early sockeye salmon. In each of the previous two fishing seasons, which had opened in statistical week 26, sockeye had been present in the river in significant numbers prior to the opening. The fishery was open for two days each week for the first three weeks of the season. Weekly CPUE values were below average and were depressed somewhat by the high water conditions which prevailed during this time. The fishery during week 26 was interrupted after one day by flood conditions, and the second day for this week was fished later in the week. Sockeye fishing improved during weeks 28 and 29 (weeks beginning July 07 and July 14) and the sockeye CPUE was well above average. The sockeye CPUE during week 29 was a record for the week (172 sockeye per boat-day) and was more than twice the 1979 to 1990 average for this week. Above average CPUE values persisted through week 32 (week beginning August 04). With the exception of week 30, fishing times during weeks 28 through 32 were extended by one to two days in response to the above average run strength and guideline weekly harvests. Flooding conditions precipitated a sharp decline in the sockeye CPUE in week 33. Although the sockeye run strength was above average during the next week, the fishery was closed after one day to keep the cumulative coho harvest close to the Treaty allocation of 3,000 coho salmon.

Forecasts of the total sockeye run were made sporadically throughout the season using data collected from the Canada/U.S. tagging program and catch statistics reported from U.S. District 111 and the Canadian inriver gillnet fisheries (Table 3). The forecasts were used in conjunction with historical timing information to develop both seasonal and weekly cumulative catch guidelines for the Canadian fishery; weekly fishing times were adjusted according to these guidelines. The preseason forecast was for a total run of 171,000 sockeye salmon. The first inseason projection of total run based on tagging data was made after week 28 at which time a total run of 185,600 was forecast. This forecast was updated weekly reaching a peak of 318,900 in week 32 and declining to a final inseason estimate of 257,200 sockeye salmon.

Table 3. Canadian inseason forecasts of total run size, TAC, and Canadian TAC of Taku sockeye salmon, 1991.

Week	Total Run	TAC	Canadian TAC	Cumulative Catch
preseason	171,000	96,000	17,280	
29	185,589	110,589	19,906	12,296
30	227,916	152,916	27,525	15,261
31	280,441	205,441	36,979	20,809
32	318,943	243,943	43,910	24,014
33	266,701	191,701	34,506	24,725
34	257,175	182,200	32,792	25,067

Based on the final Canadian inseason total run projection, the TAC was estimated to be 182,200 sockeye of which Canadian fishers were entitled to harvest 32,800 sockeye, i.e., 18% of the TAC, assuming an escapement goal of 75,000 fish. The postseason estimate of total TAC was 176,113 to 185,113 fish (given an escapement goal range of 71,000 to 80,000), of which Canada harvested 13.6% to 14.5%.

The combined commercial and Indian food fishery catch of coho salmon totalled 3,435 fish, above the Annex provision of 3,000 fish.

As in recent years, both set and drift gillnetting techniques were utilized with the majority of the catch taken in drift gillnets. Mesh sizes were restricted to less than 146 mm through mid-July to minimize the incidental catch of chinook salmon. In addition to nets, one fish wheel was used by a commercial fisher.

An inriver test fishery was again conducted in 1991. The objective of the test fishery was to recover coho salmon tagged at the Canyon Island fishwheels so the above-border coho run size could be estimated using mark-recapture methodology. The test fishery harvest totaled 163 sockeye, 2,004 coho, 3 pink, and 295 chum salmon, and 41 steelhead (Appendix C.8).

Escapement

Sockeye

Total spawning escapement of sockeye salmon in the Canadian portion of the Taku drainage is estimated from the joint U.S./Canada mark-recapture program. Counting weirs at Little Trapper and Little Tatsamenie Lakes and, to some extent, the Nakina River carcass weir provide information on the distribution and timing of discrete spawning stocks within the watershed. The escapement estimate of 125,127 fish (Appendix C.10) was the highest recorded since the estimation program began in 1984; this exceeded the 1986 to 1990 average of 85,180 by 46.9%, and was 56.4% above the upper limit of interim escapement goal range of 71,000 to 80,000 sockeye salmon (Figure 8 and Appendix D.8).

The escapement through the Little Trapper Lake weir was 22,942 fish (Appendix C.12), a record high, over twice the 1986-1990 average of 11,103 (Appendix D.8) and well over the previous record of 14,889 sockeye (1985). The escapement through the Little Tatsamenie Lake weir was 8,381 fish (Appendix C.11), the third highest count recorded at this weir since it was installed in 1985, and 68% higher than the 1986-1990 average of 5,016 fish (Appendix D.8). Escapement counts for Little Trapper and Little Tatsamenie weirs include fish taken for broodstock.

The weir counts in systems draining into Port Snettisham were poor. The Speel Lake escapement of 299 fish (Appendix C.14) was a record low, representing only 3.2% of the 1986-1990 average of 9,288 fish (Appendix D.8). The Crescent Lake weir count of 1,871 sockeye salmon (Appendix C.15) was less than the previous five-year average of 2,965 fish (Appendix D.8). However, the Crescent Lake weir was underwater on several occasions following freshets and bears damaged the weir almost daily. These problems resulted in fish passing the weir site uncounted. Problems have been encountered in prior years with keeping the Crescent Lake weir fish-tight so a mark-recapture study was implemented to assess the magnitude of the uncounted escapement in 1991. Virtually all the fish counted through the weir were marked, but only one in five fish examined on the spawning grounds was marked. The mark-recapture estimate for the Crescent Lake escapement was 9,208 fish.

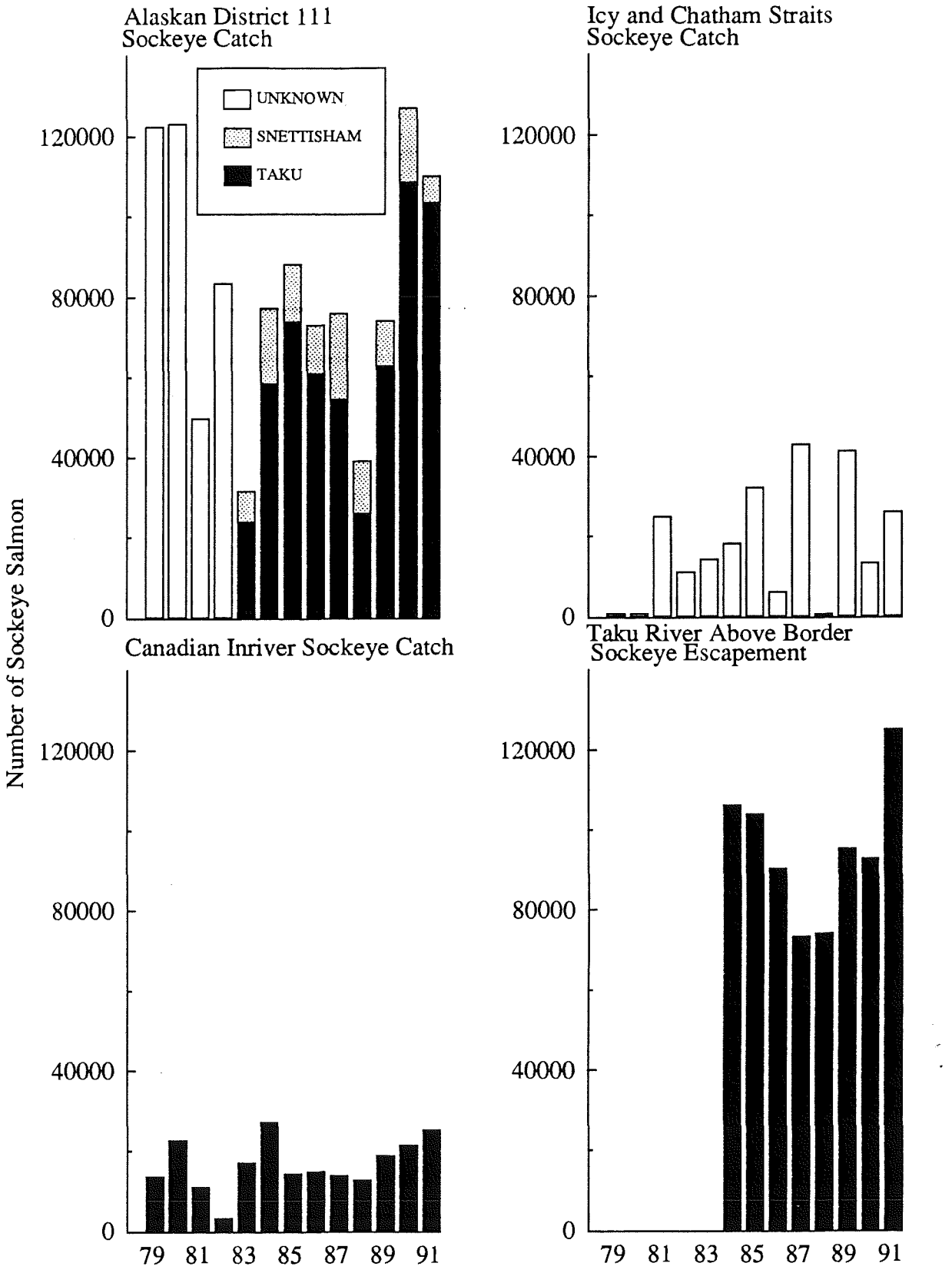

Figure 8. Sockeye catches for the Alaskan District 111, the Icy and Chatham Straits, and the combined Canadian fisheries in the Taku River and Taku sockeye escapements, 1979-1991.

Chinook

In 1991, the TTC revised the Taku River escapement goal for chinook salmon ***"Escapement goals for chinook salmon in the Alsek, Taku, and Stikine Rivers", Pacific Salmon Commission, Transboundary Technical Committee TCTR (91)-4)***. Prior to 1991 the U.S. expanded aerial survey counts from the Nakina and Nahlin River index areas to estimate the escapement to the entire Taku River drainage, while Canada expanded counts from six index tributaries. The TTC agreed to a revised escapement goal based on the combined aerial escapement counts to the six tributaries, but omitting all expansion factors. The revised goal of 13,200 represents the sum of the peak survey counts for each tributary between 1965 and 1981. Factors used to expand aerial survey counts to the entire drainage were eliminated due to problems with variable survey conditions and variability in the proportion of chinook salmon returning to index areas as demonstrated by telemetry studies conducted by NMFS during 1989 and 1990.

Above average chinook escapements were observed in most of the Taku River tributaries surveyed in 1991. The total chinook escapement aerial index count was 10,153 large fish (3-ocean age and older), which is 19.9% above the 1985 to 1990 average of 8,471 fish, but below the interim index escapement goal of 13,200 chinook salmon (Figure 9). The 1991 combined count was the second highest recorded since the aerial survey indices were standardized in 1974. The index includes peak aerial counts from six systems including the Nahlin, Nakina, Kowatua, Tatsatua and Dudidontu Rivers and Tseta Creek (Appendix D.9).

Coho

The escapement of coho salmon to the Taku River in 1991 was extraordinary. A total-season estimate of the above-border escapement was 129,510 fish, far above the upper limit of the interim escapement goal range of 27,500 to 35,000. The duration of the mark-recapture program was extended approximately three weeks later in the season than in prior years by modifying a fish wheel to fish at lower water levels and by extending the duration of the inriver test fishery.

A weir at Little Tatsamenie Lake was operated through the coho salmon run; the total count of 1,101 coho salmon was the highest recorded since the weir was first installed in 1985, and was twice the 1987 to 1990 average count of 554 fish (Appendix D.11). Aerial surveys were conducted on a number of other index systems; these counts represent an unknown and inter-annually variable proportion of the escapement to each area and are listed in Appendix D.11.

Pink

The escapement of pink salmon to the Taku River, estimated using mark-recapture methods, was 576,000 fish. The escapement far exceeded the interim escapement goal range of 150,000 to 200,000 fish. The migration timing of the pink salmon run past the tagging site in the lower river was approximately 10 days later than in recent odd-year runs.

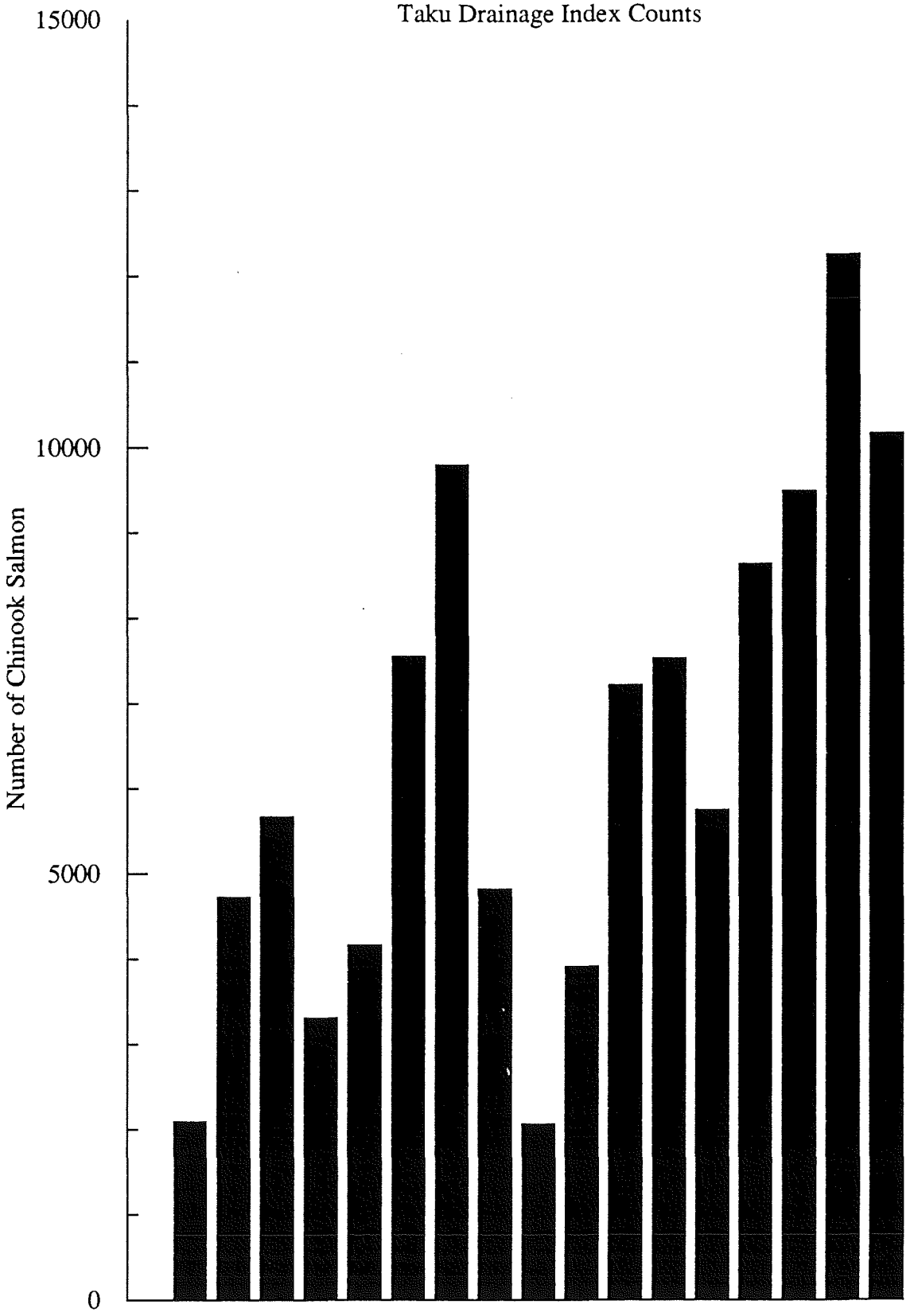

Figure 9. Taku River chinook index escapement counts, 1975-1991.

Chum

A system-wide escapement estimate for chum salmon is not available. Limited aerial survey observations of the principal known spawning areas revealed below average numbers of fish. Low catch and CPUE data from the inriver test fishery also suggested a below average chum salmon run.

Sockeye Run Reconstruction

The estimated total Taku sockeye salmon run was 256,113 fish (Table 4). This represents the largest run since total run statistics have been tabulated (1984) and is 55.7% above the 1986-1990 average of 164,544 fish. The total Taku sockeye catch in the U.S. District 111 and U.S. and Canadian inriver fisheries was

Table 4. Taku sockeye salmon run reconstruction, 1991. Estimates do not include spawning escapements below the U.S./Canada border.

	Taku	Snettisham
Escapement	125,127	9,507[a/]
Canadian Harvest		
Commercial	25,067	
Food Fishery	150	
Total	25,217	
% Harvest	19.4%	
Test Fishery Catch	163	
Above Border Run	150,507	
U.S. Harvest		
District 111	103,412	6,465
Personal Use	1,475	
Total	104,887	
% Harvest	80.6%	
Test Fishery Catch	719	198
Total Run	256,113	
Taku Harvest Plan	Minimum	Maximum
Escapement Goal	71,000	80,000
TAC	185,113	176,113
Canadian portion	0.136	0.143
U.S. Portion	0.567	0.596

a/ Weir count from Speel Lake and mark-recapture estimate from Crescent Lake.

130,986 fish and the escapement was 125,127 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 104,887 fish was 80.6% of the harvest and the Canadian commercial and food fishery harvest of 25,217 fish was 19.4% of the harvest. The U.S. and Canadian test fishery catches of 719 and 163 sockeye salmon are not included in these calculations. Based on the escapement goal range, the TAC was 176,113 to 185,113 sockeye salmon. The U.S. harvested 56.7% to 59.6% of the TAC and Canada harvested 13.6% to 14.3% of the TAC. In addition, an estimated 6,465 Port Snettisham sockeye salmon were harvested in District 111, while an estimated 9,507 fish escaped into Crescent and Speel Lakes.

ALSEK RIVER

Alsek River salmon stocks contribute to the U.S. commercial and subsistence/personal use gillnet 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 gillnet and troll fisheries in the Yakutat area. No commercial fishery exists in the Canadian portions of the Alsek River drainage, although recreational and Indian food 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 goal ranges for Alsek sockeye and coho salmon have been set by the TTC at 33,000 to 58,000 sockeye and 5,400 to 25,000 coho salmon. Instead of a system-wide chinook escapement goal, a revised escapement goal of 4,700 Klukshu River chinook salmon has been established. This revision, which was made in the fall of 1991, was made to eliminate the uncertainty over expansion factors which had no scientific backing.

U.S. Fisheries

Catch and Effort

The U.S. Dry Bay commercial set gillnet fishery harvested 103 chinook, 16,262 sockeye, 5,956 coho, 0 pink, and 103 chum salmon (Appendix E.1). Catches of sockeye and coho salmon were above the 1981-1990 averages of 16,267 sockeye and 5,163 coho salmon, while chinook, pink, and chum salmon catches were below average (Figure 11 and Appendix E.4).

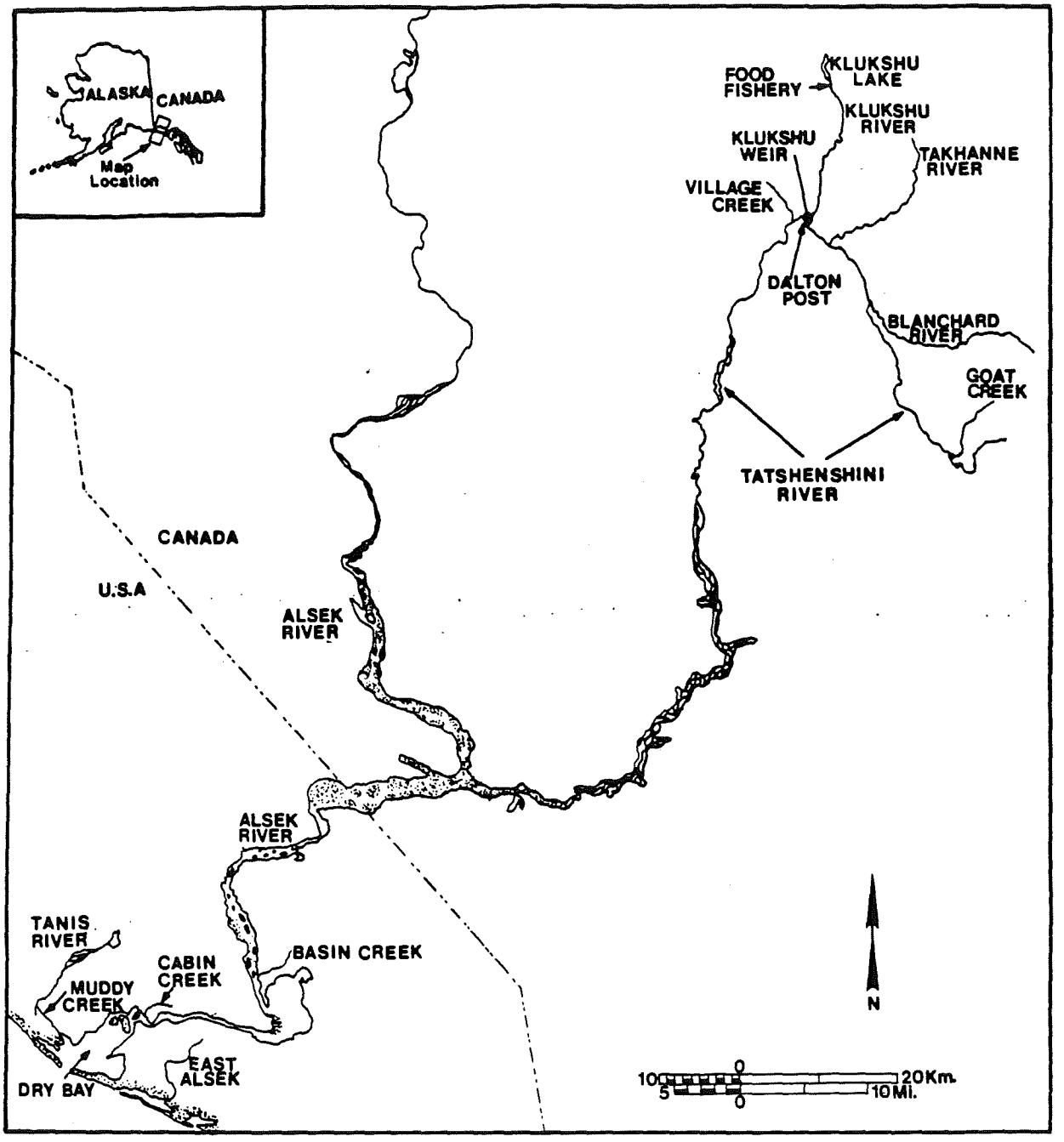

Figure 10. The Alsek River and principal U.S. and Canadian fishing areas.

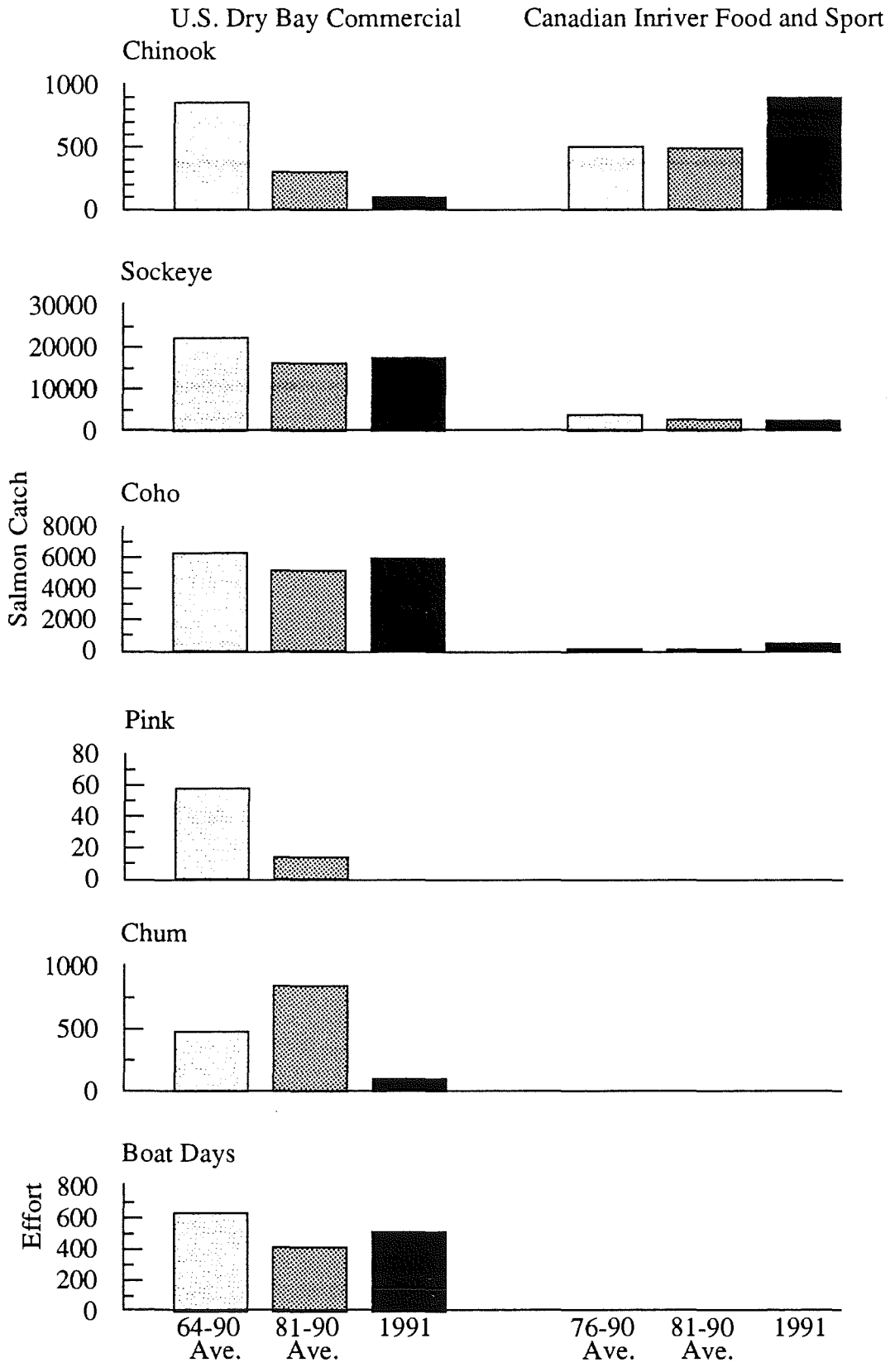

Figure 11. Average catches and fishing efforts compared with 1991 values for the Alaskan Dry Bay commercial fishery and the Canadian combined food and recreational fisheries in the Alsek River.

The initial Dry Bay fishery opening for the season was delayed from the first to the third Monday of June because of poor forecasts for chinook and early run sockeye stocks. Catches and CPUE were carefully monitored inseason to assess run strength for possible extensions of fishing time. Fishing time was not extended beyond the initial 24-hour opening. Catch and CPUE improved as the season progressed and fishing time was extended to 48 hours during the second through fourth week of the season, and to 72 hours during the fifth week of the season (the third week of July). Fishing time was extended to 96 hours during the last two weeks of July before returning to, and remaining at, 72 hours through early September. Few fishers were present during September and coho salmon CPUE was relatively high so 96 hours of fishing were allowed during each of the remaining weeks of the month.

Due to the relatively weak sockeye run to the East River, additional effort was directed toward the Alsek River during closed periods on the East River. Openings on the Alsek River were typically 24 to 48 hours longer than on the East River. Many permit holders fished the short East River openings and then switched over to the Alsek River to take advantage of the extra fishing time. Movement of effort from the East River to the Alsek River affected inseason Alsek CPUE figures. The CPUE appeared to be relatively high during the first 24 hours on the Alsek River, but later declined as East River fishers moved into marginal or less productive sets on the Alsek River.

The U.S. Dry Bay fishery typically catches few Alsek chinook salmon. With the delayed opening of the fishery in recent years, most of the chinook run passes through Dry Bay prior to the initial opening. In addition, a 6-inch maximum mesh restriction through early July has been in effect since 1987, effectively eliminating the use of chinook gear. The total catch of 103 chinook salmon was the fourth lowest catch since 1964 and represented only 34.0% of the 1981 to 1990 average of 303 fish.

Sockeye Management Model

Two abundance models were used by ADF&G to assist in managing the Alsek River sockeye harvest. The models predict the total season catch and index run size (catch and Klukshu escapement); predictions of escapement are obtained by subtraction. A model utilizing simple linear regression methods and historical migratory timing data (Harvest Rate Model) has been used by ADF&G since 1984. A second model based on multiple regression methods (Multiple Regression Model) was developed in 1990 in the hopes of simplifying and improving predictions. Both models were used in 1990 and 1991 for comparative purposes. The two models provided extremely accurate predictions in 1990. In 1991 the models predicted the total catch fairly well throughout the season, with the final inseason estimates exceeding the actual catch by 6.9% to 13.3%. Index run size predictions were slightly less accurate, with the final inseason estimates exceeding the actual run size by 15.5% to 18.4%.

Table 5. Inseason U.S. forecasts of the total 1991 Alsek River catch, Klukshu River weir count, and total index run size (catch + Klukshu weir count) using two predictive models.

		Harvest Rate Model			Multiple Regression Model		
Stat. Week	Start Date	Total Catch	Klukshu Weir Count	Index Run	Total Catch	Klukshu Weir Count	Index Run
27	01-Jul	10,525	14,389	24,914	16,727	25,441	42,168
28	08-Jul	10,405	14,264	24,669	18,224	28,141	46,365
29	15-Jul	13,698	17,392	31,090	22,591	26,542	49,133
30	22-Jul	19,432	24,538	43,970	22,203	28,755	50,958
31	29-Jul	18,751	23,421	42,172	19,941	23,287	43,228
Actual		17,542	18,977	36,519	17,542	18,977	36,519

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, about 60 km south of Haines Junction. Fish are harvested by means of gaff and traditional fish traps as the fish migrate up the Klukshu River into Klukshu Lake. Gaff fisheries also exist on Village Creek and Blanchard River. As in 1990, restrictions were imposed on the Indian food fishery to conserve chinook and early run sockeye salmon. Prior to August 17, fishing by means of traps was limited to 1.25 days per week by elders only. Thereafter, the fish traps were allowed to be fished for 3.25 days per week. The gaff fishery was open six days per week in all areas; however, gaffing for sockeye in the Klukshu River was prohibited prior to August 17, except by elders who were allowed to fish for sockeye 1.25 days each week during this period.

The Indian food fishery harvested an estimated 509 chinook, 2,099 sockeye, and 214 coho salmon (Appendix E.2). The chinook and coho catches were above the 1981 to 1990 averages of 174 chinook and 5 coho salmon, whereas, the sockeye catch was below the average of 2,163 fish (Appendix E.6). The food fishery catch data was summarized weekly from daily catch statistics gathered inseason and expanded for the entire season.

The majority of the sport fishing effort on this 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 chinook daily catch and possession limits were one and two, respectively. Sport fishing in the Dalton Post area was open from 6:00 am Saturday to 12:00 noon Tuesday each week. After September 30, the fishery was open seven days per week.

The recreational fishery harvested approximately 388 chinook, 303 sockeye, and 260 coho salmon (Appendix E.2). Compared to 1981 to 1990 average sport catches, the chinook catch was 22.0% above, the sockeye catch was 68.7% of, and the coho

catch was 2.9 times the average (Appendix E.6). 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 patrolman.

Escapement

It is currently not possible to accurately assess whether Alsek escapement goals for any species are being met because total drainage enumeration programs are not established. A large, but unknown and presumably variable proportion of the total river escapement of each species is enumerated at a 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 (Appendix E.3).

Sockeye

A total of 18,977 sockeye was counted through the Klukshu weir in 1991, consisting of 1,924 early run (count through August 15), and 17,053 late run sockeye (Figure 12). Both run components were similar to the 1986 to 1990 averages (Appendix E.7). The estimated Village Creek sockeye escapement was 5,670 fish. Aerial surveys of tributaries on the U.S. side of the border were very limited in 1991. A total of 800 sockeye was seen in the Tanis River, which is less than the 1986 to 1990 average of 1,846 fish (Appendix E.8). No other streams were surveyed.

Chinook

In 1991, the committee revised the chinook escapement goal for the Alsek River drainage ***"Escapement goals for chinook salmon in the Alsek, Taku, and Stikine Rivers", Pacific Salmon Commission, Transboundary Technical Committee TCTR (91)-4)***. The revised goal for the Klukshu River index system is 4,700 chinook salmon.

This goal represents an average of the original U.S. goal of 4,400 fish, which was the peak Klukshu weir count during the base years 1976 to 1980, and the original Canadian goal of 5,000. Factors previously used to expand the weir count to represent escapement in the entire drainage were eliminated because of a lack of scientific basis.

The Klukshu weir chinook count in 1991 of 2,489 fish (Appendix E.3) was above the 1985 to 1990 average of 2,199 fish but well below the escapement goal of 4,700 chinook (Figure 13 and Appendix E.7).

Aerial surveys were again conducted in 1991 for several other index streams; the count of 86 fish in the Takhanne River was below the 1985 to 1990 average of 248 fish, while the count of 63 chinook salmon in Goat Creek was less than the average of 69 fish. The count of 121 in the Blanchard River was the lowest since 1984 (Appendix E.9).

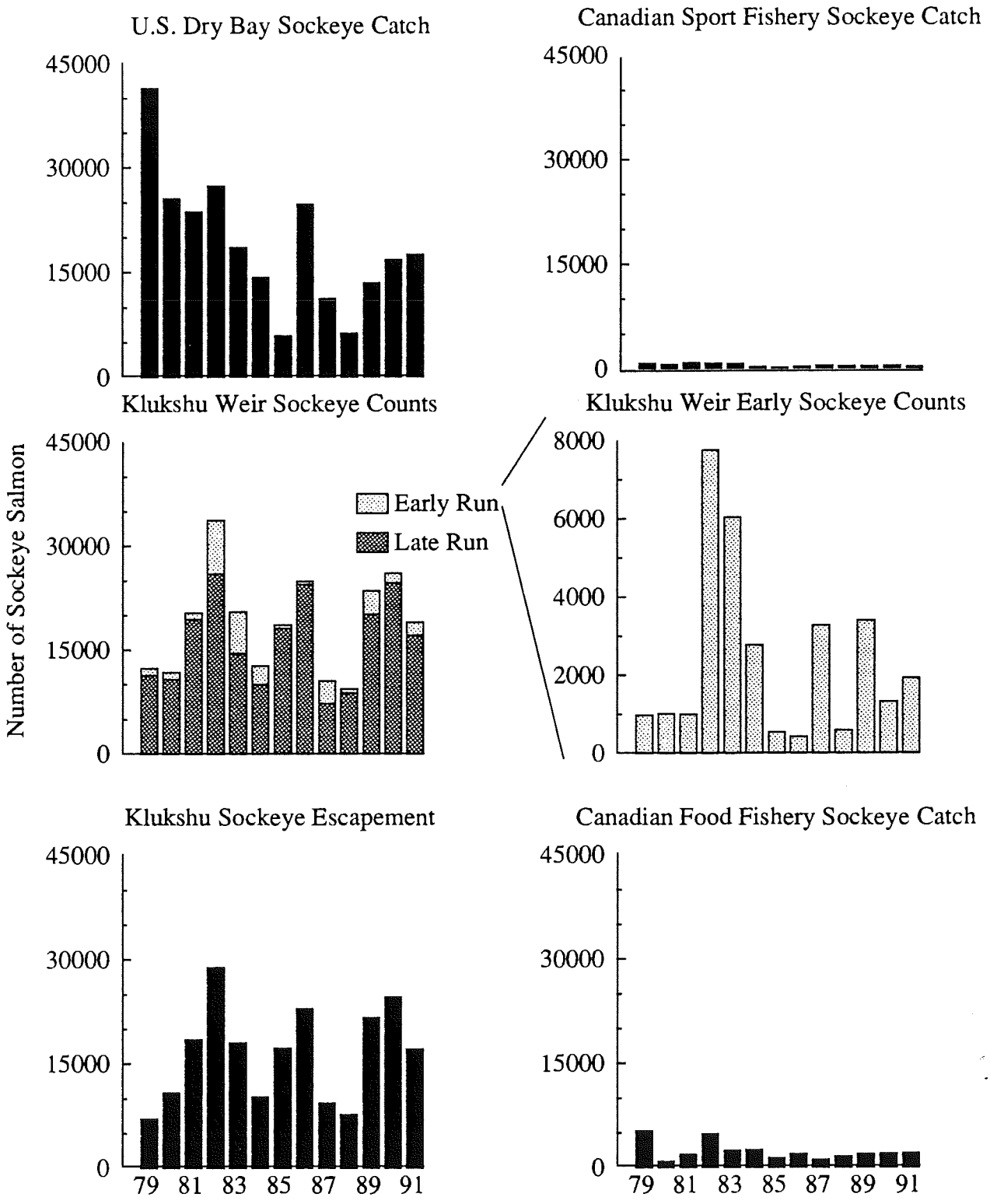

Figure 12. Alsek sockeye catches and weir counts, 1979-1991.

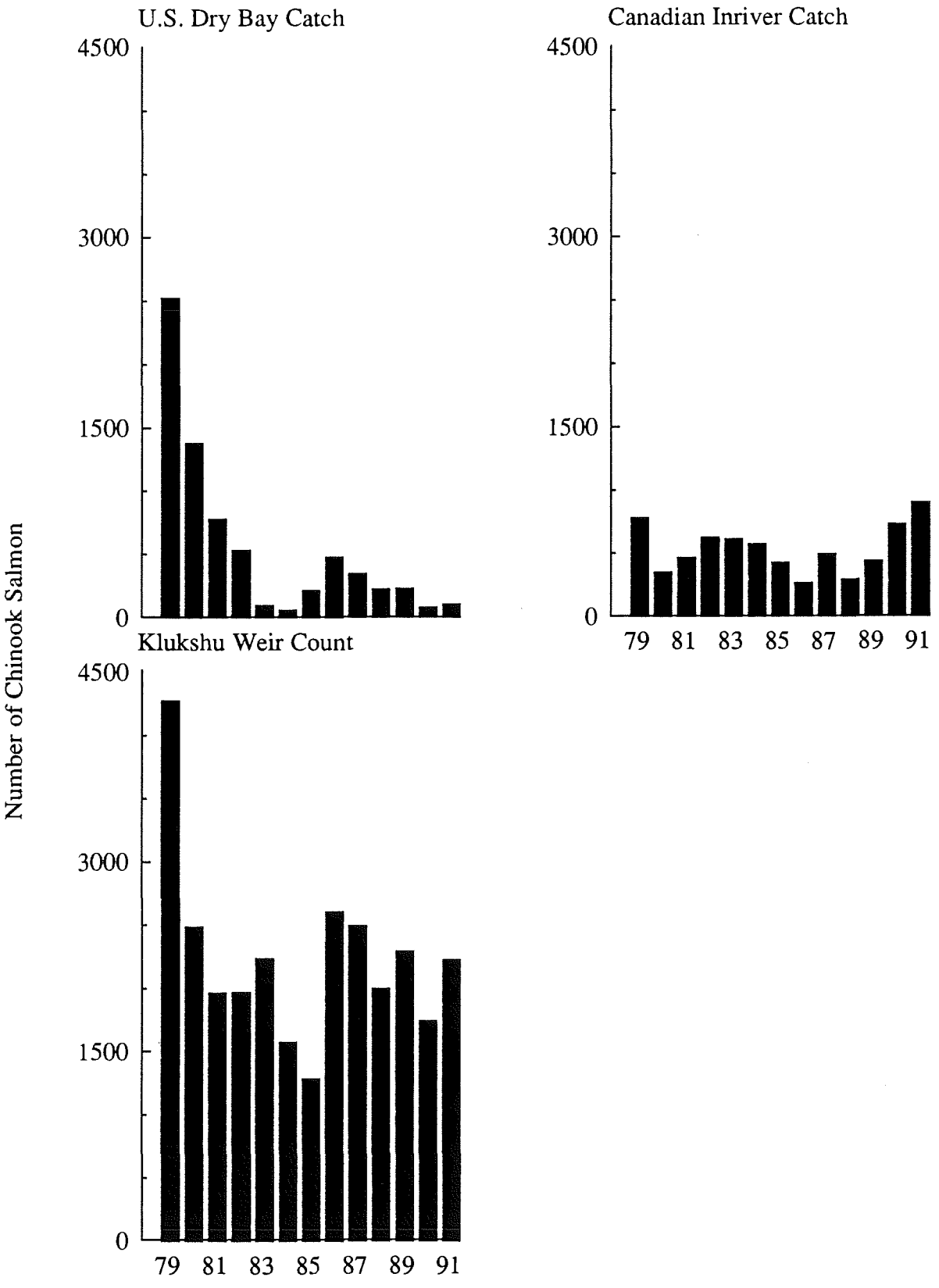

Figure 13. Alsek chinook catches and weir counts, 1979-1991.

Coho

Although it is presumed that the Klukshu weir count of coho salmon is incomplete and does not include fish that migrate after mid-October, the 1991 count of 8,540 fish (Appendix E.3) is an approximate six fold increase from the 1987 to 1990 average of 1,378 coho and represents a record run three times the previous record of 2,774 fish (Figure 14 and Appendix E.7). Aerial surveys for coho salmon in U.S. tributaries to the Alsek River were very limited in 1991; a total of 500 fish was seen in U.S. tributaries (Appendix E.10). Comparisons of 1991 data with prior years' data has limited value.

Run Reconstruction

Expectations for the sockeye run in 1991 were for a poor early run and average late run. The run developed about as expected with a total sockeye harvest near average and an average count of 18,977 fish through the Klukshu weir (Table 6).

Table 6. Catch and Klukshu index escapement data for Alsek sockeye, chinook, and coho salmon for 1991.

	Sockeye	Chinook	Coho
Escapement Index[a/]			
Klukshu Weir Count	18,977	2,489	8,540
Klukshu Escapement[b/]	17,063	2,223	
Harvest			
U.S. Commercial	17,542	103	5,956
U.S. Subsistence	191	65	50
Canadian Sport	303	388	260
Canadian Indian Food	2,099	509	214
Total	20,135	1,065	6,480

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

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

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. The Klukshu weir count divided by the estimated percent Klukshu fish minus the recreational and Indian food fishery catches yields an escapement estimate for the Alsek River. 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 30,300 to 50,000 fish and the estimated total Alsek sockeye run was on the order of 49,400 to 69,100 sockeye salmon. The interim escapement goal for the Alsek River is from 33,000 (U.S.) to 58,000 (Canada) fish.

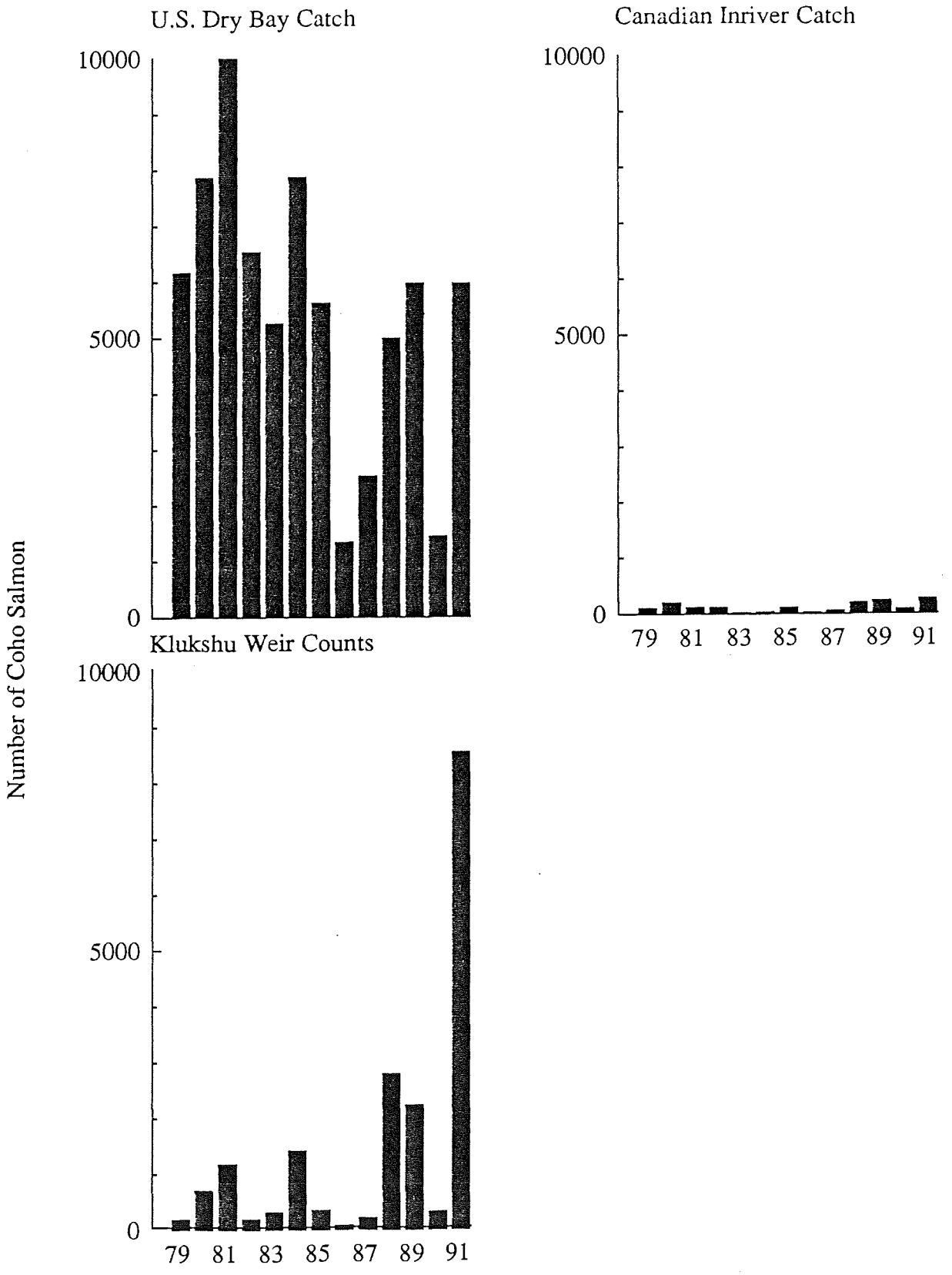

Figure 14. Alsek coho catches and weir counts, 1979–1991. The weir count for coho is incomplete since the weir is dismantled before the entire coho run has passed.

APPENDICES

Appendix A.1. Weekly salmon catch and effort in the Alaskan Subdistrict 106-41 and -42 (Sumner Strait) commercial drift gillnet fishery, 1991.

		Catch					Effort		
Week	Start Date	Chinook	Sockeye	Coho	Pink	Chum	Permits	Days	Permit Days
25	16-Jun	186	4,424	465	82	1,279	43	2	86
26	23-Jun	244	13,281	978	3,592	4,964	57	2	114
27	30-Jun	99	7,832	1,931	11,050	10,982	74	2	148
28	07-Jul	109	15,143	2,128	5,541	8,660	76	2	152
29	14-Jul	66	11,905	2,875	7,196	14,661	81	2	162
30	21-Jul	22	12,984	2,468	3,627	10,467	68	2	136
31	28-Jul	17	10,071	2,969	4,983	10,136	68	2	136
32	04-Aug	10	4,004	2,819	4,881	5,722	50	2	100
33	11-Aug	12	4,969	7,287	8,292	3,358	38	2	76
34	18-Aug	12	3,327	20,605	8,223	6,771	67	3	201
35	25-Aug	19	1,132	25,395	5,007	2,396	86	3	258
36	01-Sep	7	126	15,649	1,010	1,535	45	3	135
37	08-Sep	14	97	25,713	817	2,936	52	3	156
38	15-Sep	11	31	17,440	33	1,127	58	3	174
39	22-Sep	26	9	6,775	0	351	30	2	60
40	29-Sep	2	0	962	0	30	8	2	16
41	06-Oct	1	0	431	0	10	4	2	8
Total		857	89,335	136,890	64,334	85,385	905	39	2,118

Appendix A.2. Weekly stock proportions of sockeye salmon harvested in the Alaskan Subdistrict 106-41 and -42 (Sumner Strait) commercial drift gillnet fishery, 1991. Data based on scale pattern analysis (SPA).

			Stikine		
Week	Alaska	Canada	Tahltan	non-Tahltan	Total
25	0.284	0.391	0.231	0.094	0.325
26	0.192	0.394	0.396	0.018	0.414
27	0.287	0.429	0.256	0.028	0.283
28	0.446	0.443	0.099	0.012	0.111
29	0.488	0.416	0.012	0.085	0.097
30	0.653	0.217	0.100	0.031	0.130
31	0.640	0.306	0.000	0.054	0.054
32	0.706	0.268	0.016	0.010	0.026
33	0.515	0.433	0.052	0.000	0.052
34	0.462	0.538	0.000	0.000	0.000
35	0.462	0.538	0.000	0.000	0.000
36	0.462	0.538	0.000	0.000	0.000
37	0.462	0.538	0.000	0.000	0.000
38	0.462	0.538	0.000	0.000	0.000
39	0.462	0.538	0.000	0.000	0.000
Total	0.460	0.377	0.129	0.034	0.163

Appendix A.3. Weekly stock-specific catch of sockeye salmon in the Alaskan Subdistrict 106-41 and -42 (Sumner Strait) commercial drift gillnet fishery, 1991. Data based on SPA.

			Stikine		
Week	Alaska	Canada	Tahltan	non-Tahltan	Total
25	1,258	1,728	1,024	414	1,438
26	2,554	5,229	5,261	237	5,498
27	2,250	3,362	2,002	218	2,220
28	6,758	6,710	1,493	182	1,676
29	5,805	4,947	139	1,014	1,153
30	8,475	2,818	1,294	397	1,691
31	6,448	3,079	0	544	544
32	2,827	1,072	64	41	105
33	2,558	2,151	260	0	260
34	1,537	1,790	0	0	0
35	523	609	0	0	0
36	58	68	0	0	0
37	45	52	0	0	0
38	14	17	0	0	0
39	4	5	0	0	0
Total	41,114	33,636	11,538	3,047	14,585

Appendix A.4. Weekly salmon catch and effort in the Alaskan Subdistrict 106-30 (Clarence Strait) commercial drift gillnet fishery, 1991.

		Catch					Effort		
Week	Start Date	Chinook	Sockeye	Coho	Pink	Chum	Permits	Days	Permit Days
25	16-Jun	236	2,273	262	18	231	33	2	66
26	23-Jun	101	2,948	400	1,386	361	29	2	58
27	30-Jun	107	2,455	706	1,559	564	38	2	76
28	07-Jul	228	7,266	1,059	8,269	3,168	62	2	124
29	14-Jul	114	8,715	2,055	10,188	7,588	59	2	118
30	21-Jul	116	7,381	993	3,655	5,117	61	2	122
31	28-Jul	44	8,932	1,482	6,374	6,085	54	2	108
32	04-Aug	23	5,859	1,489	7,639	3,730	41	2	82
33	11-Aug	37	5,228	2,504	9,492	2,437	39	2	78
34	18-Aug	104	2,731	6,672	10,780	2,822	41	3	123
35	25-Aug	35	705	10,244	5,464	2,541	52	3	156
36	01-Sep	6	171	6,421	2,532	1,486	38	3	114
37	08-Sep	19	71	11,578	1,569	1,781	36	3	108
38	15-Sep	5	13	10,778	101	994	38	3	114
39	22-Sep	10	0	1,924	0	173	16	2	32
40	29-Sep	25	0	2,045	0	100	9	2	18
41	06-Oct	1	1	450	0	17	4	2	8
Total		1,211	54,749	61,062	69,026	39,195	650	39	1,505

Appendix A.5. Weekly stock proportions of sockeye salmon harvested in the Alaskan Subdistrict 106-30 (Clarence Strait) commercial drift gillnet fishery, 1991. Data based on SPA.

			Stikine		
Week	Alaska	Canada	Tahltan	non-Tahltan	Total
25	0.571	0.309	0.106	0.013	0.120
26	0.558	0.342	0.086	0.015	0.100
27	0.523	0.312	0.121	0.044	0.165
28	0.588	0.304	0.089	0.018	0.107
29	0.723	0.195	0.073	0.010	0.082
30	0.813	0.155	0.024	0.008	0.032
31	0.741	0.233	0.026	0.000	0.026
32	0.792	0.186	0.022	0.000	0.022
33	0.657	0.304	0.039	0.000	0.039
34	0.519	0.481	0.000	0.000	0.000
35	0.519	0.481	0.000	0.000	0.000
36	0.519	0.481	0.000	0.000	0.000
37	0.519	0.481	0.000	0.000	0.000
38	0.519	0.481	0.000	0.000	0.000
39	0.519	0.481	0.000	0.000	0.000
40	0.519	0.481	0.000	0.000	0.000
41	0.519	0.481	0.000	0.000	0.000
Total	0.683	0.257	0.052	0.008	0.060

Appendix A.6. Weekly stock-specific catch of sockeye salmon in the Alaskan Subdistrict 106-30 (Clarence Strait) commercial drift gillnet fishery, 1991. Data based on SPA.

			Stikine		
Week	Alaska	Canada	Tahltan	non-Tahltan	Total
25	1,298	703	242	30	272
26	1,644	1,008	253	43	296
27	1,285	765	298	107	405
28	4,274	2,211	649	132	781
29	6,300	1,697	634	83	718
30	5,998	1,146	179	58	237
31	6,620	2,077	235	0	235
32	4,641	1,089	129	0	129
33	3,434	1,590	204	0	204
34	1,417	1,314	0	0	0
35	366	339	0	0	0
36	89	82	0	0	0
37	37	34	0	0	0
38	7	6	0	0	0
39	0	0	0	0	0
40	0	0	0	0	0
41	1	0	0	0	0
Total	37,410	14,063	2,823	453	3,277

Appendix A.7. Weekly salmon catch in the Alaskan District 106 commercial drift gillnet fisheries, 1991. 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	16-Jun	422	6,697	727	100	1,510	76	2	152
26	23-Jun	345	16,229	1,378	4,978	5,325	86	2	172
27	30-Jun	206	10,287	2,637	12,609	11,546	112	2	224
28	07-Jul	337	22,409	3,187	13,810	11,828	138	2	276
29	14-Jul	180	20,620	4,930	17,384	22,249	140	2	280
30	21-Jul	138	20,365	3,461	7,282	15,584	129	2	258
31	28-Jul	61	19,003	4,451	11,357	16,221	122	2	244
32	04-Aug	33	9,863	4,308	12,520	9,452	91	2	182
33	11-Aug	49	10,197	9,791	17,784	5,795	77	2	154
34	18-Aug	116	6,058	27,277	19,003	9,593	108	3	324
35	25-Aug	54	1,837	35,639	10,471	4,937	138	3	414
36	01-Sep	13	297	22,070	3,542	3,021	83	3	249
37	08-Sep	33	168	37,291	2,386	4,717	88	3	264
38	15-Sep	16	44	28,218	134	2,121	96	3	288
39	22-Sep	36	9	8,699	0	524	46	2	92
40	29-Sep	27	0	3,007	0	130	17	2	34
41	06-Oct	2	1	881	0	27	8	2	16
Total		2,068	144,084	197,952	133,360	124,580	1,555	39	3,623

Appendix A.8. Weekly stock proportions of sockeye salmon harvested in the Alaskan District 106 commercial drift gillnet fisheries, 1991. Data based on SPA.

			Stikine		
Week	Alaska	Canada	Tahltan	non-Tahltan	Total
25	0.382	0.363	0.189	0.066	0.255
26	0.259	0.384	0.340	0.017	0.357
27	0.344	0.401	0.224	0.032	0.255
28	0.492	0.398	0.096	0.014	0.110
29	0.587	0.322	0.037	0.053	0.091
30	0.711	0.195	0.072	0.022	0.095
31	0.688	0.271	0.012	0.029	0.041
32	0.757	0.219	0.020	0.004	0.024
33	0.588	0.367	0.046	0.000	0.046
34	0.488	0.512	0.000	0.000	0.000
35	0.484	0.516	0.000	0.000	0.000
36	0.495	0.505	0.000	0.000	0.000
37	0.486	0.514	0.000	0.000	0.000
38	0.479	0.521	0.000	0.000	0.000
39	0.462	0.538	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.000
41	0.519	0.481	0.000	0.000	0.000
Total	0.545	0.331	0.100	0.024	0.124

Appendix A.9. Weekly stock-specific catch of sockeye salmon in the Alaskan District 106 commercial drift gillnet fisheries, 1991. Catches do not include Blind Slough terminal area harvests. Data based on SPA.

			Stikine		
Week	Alaska	Canada	Tahltan	non-Tahltan	Total
25	2,556	2,431	1,266	444	1,710
26	4,198	6,237	5,514	280	5,794
27	3,535	4,127	2,300	325	2,625
28	11,032	8,921	2,142	314	2,457
29	12,105	6,644	773	1,097	1,871
30	14,473	3,964	1,473	455	1,928
31	13,068	5,156	235	544	779
32	7,468	2,161	193	41	234
33	5,992	3,741	464	0	464
34	2,954	3,104	0	0	0
35	889	948	0	0	0
36	147	150	0	0	0
37	82	86	0	0	0
38	21	23	0	0	0
39	4	5	0	0	0
40	0	0	0	0	0
41	1	0	0	0	0
Total	78,524	47,699	14,361	3,501	17,862

Numbers may not sum due to rounding error.

Appendix A.10. Weekly salmon catch and effort in the Alaskan District 108 commercial drift gillnet fishery, 1991. Catches do not include Ohmer Creek terminal area harvests.

		Catch					Effort		
Week	Start Date	Chinook	Sockeye	Coho	Pink	Chum	Permits	Days	Permit Days
25	16-Jun	103	359	3	0	15	7	2.0	14
26	23-Jun	121	1,459	31	26	49	10	2.0	20
27	30-Jun	1,022	7,074	134	343	929	80	3.0	172
28	07-Jul	72	3,486	65	343	536	23	4.0	62
29	14-Jul	70	5,233	333	4,553	4,770	41	6.5	108
30	21-Jul	66	4,063	541	4,467	4,038	49	4.0	58
31	28-Jul	3	108	8	518	103	4	2.0	8
32	04-Aug	0	365	184	476	383	7	2.0	14
33	11-Aug	0	8	116	56	55	[a/]	2.0	[a/]
34	18-Aug	0	45	219	90	38	3	3.0	9
35	25-Aug	2	54	1,102	48	133	11	3.0	33
36	01-Sep	1	1	219	0	0	[a/]	3.0	[a/]
37	08-Sep	8	15	4,100	15	135	21	3.0	63
38	15-Sep	5	2	4,301	0	111	15	3.0	45
39	22-Sep	9	3	3,005	0	86	28	2.0	56
40	29-Sep	22	0	1,337	0	21	9	2.0	18
41	06-Oct	0	0	166	0	0	[a/]	2.0	[a/]
Total		1,504	22,275	15,864	10,935	11,402	315	48.5	696

[a/] Weekly effort is confidential; effort for these weeks is included in the total.
[b/] Permit days may not equal permits * days since some permits fished only a portion of the fishing period.

Appendix A.11. Weekly stock proportions and stock-specific catch of sockeye salmon in the Alaskan District 108 commercial drift gillnet fishery, 1991. Catches do not include Ohmer Creek terminal area harvests. Data based on SPA.

			Stikine		
Week	Alaska	Canada	Tahltan	non-Tahltan	Total
Proportions					
25	0.047	0.217	0.696	0.039	0.735
26	0.053	0.163	0.644	0.139	0.783
27	0.249	0.126	0.574	0.050	0.624
28	0.192	0.054	0.538	0.216	0.754
29	0.158	0.132	0.276	0.434	0.710
30	0.108	0.114	0.051	0.727	0.778
31	0.108	0.114	0.051	0.727	0.778
32	0.108	0.114	0.051	0.727	0.778
33	0.108	0.114	0.051	0.727	0.778
34	0.108	0.114	0.051	0.727	0.778
35	0.108	0.114	0.051	0.727	0.778
36	0.108	0.114	0.051	0.727	0.778
37	0.108	0.114	0.051	0.727	0.778
38	0.108	0.114	0.051	0.727	0.778
39	0.108	0.114	0.051	0.727	0.778
Total	0.173	0.118	0.395	0.314	0.709
Catch					
25	17	78	250	14	264
26	78	238	940	203	1,143
27	1,764	894	4,059	357	4,416
28	671	187	1,874	754	2,628
29	826	692	1,445	2,270	3,715
30	438	464	208	2,952	3,160
31	12	12	6	78	84
32	39	42	19	265	284
33	1	1	0	6	6
34	5	5	2	33	35
35	6	6	3	39	42
36	0	0	0	1	1
37	2	2	1	11	12
38	0	0	0	1	2
39	0	0	0	2	2
Total	3,859	2,622	8,807	6,987	15,794

Appendix A.12. Weekly salmon catch and effort in the Alaskan District 108 test fishery, 1991.

		Catch					Effort		
Week	Start Date	Chinook	Sockeye	Coho	Pink	Chum	Boats	Hours	Boat Days
25	16-Jun	10	93	0	0	2	2	21.41	1.78
26	23-Jun	2	257	0	0	4	2	21.00	1.75
27	30-Jun	3	109	0	1	58	2	21.92	1.83
28	07-Jul	4	213	0	4	38	2	21.75	1.81
29	14-Jul	2	95	0	97	85	2	20.33	1.69
30	21-Jul	0	68	12	129	172	2	22.50	1.88
31	28-Jul	0	58	6	159	96	2	26.08	2.17
Total		21	893	18	390	455	14	154.99	12.92

Appendix A.13. Stock compositions and stock-specific catch of sockeye salmon in the Alaskan District 108 test fishery, 1991. Stock compositions from weekly commercial fishery catches were applied to weekly test fishery catches. Data based on SPA.

			Stikine		
	Alaska	Canada	Tahltan	non-Tahltan	Total
Proportions	0.128	0.128	0.494	0.251	0.745
Catches	114	114	441	224	665

Appendix A.14. Weekly salmon and steelhead trout catch and effort in the Canadian commercial fishery in the lower Stikine River, 1991.

		Catch							Effort		
Week	Start Date	Chinook Jacks	Chinook Large	Sockeye	Coho	Pink	Chum	Steel-head	Permits	Days	Permit Days
26	23-Jun	73	121	163	0	0	0	0	5.50	2.0	11.00
27	30-Jun	122	229	2,887	0	0	1	0	12.00	2.0	24.00
28	07-Jul	64	198	4,961	0	1	1	0	13.67	3.0	41.01
29	14-Jul	48	64	4,530	0	52	28	0	13.20	3.0	39.60
30	21-Jul	10	17	1,478	0	36	27	1	13.75	2.0	27.50
31	28-Jul	1	9	2,765	18	240	67	9	6.60	5.0	33.00
32	04-Aug	0	3	537	9	45	23	1	5.67	3.0	17.01
33	11-Aug	0	0	130	7	6	13	0	4.15	2.0	8.30
34	18-Aug	0	0	3	23	5	10	0	3.07	1.0	3.07
35	25-Aug	0	0	46	307	9	32	13	3.67	3.0	11.01
36	01-Sep	0	0	23	342	0	2	10	4.00	2.0	8.00
37	08-Sep	0	0	33	1,107	0	2	21	5.50	4.0	22.00
38	15-Sep	0	0	7	825	0	2	16	5.28	7.0	36.96
Total		318	641	17,563	2,638	394	208	71		39.0	282.46

Appendix A.15. Weekly sockeye salmon stock proportions and catch by stock in the Canadian commercial fishery in the lower Stikine River, 1991. Sex specific age compositions were calculated and the stock composition of the females sampled for egg diameters was expanded to the catch by age.

		Catch		CPUE		
Week	Proportion Tahltan	Tahltan	non-Tahltan	Tahltan	non-Tahltan	Total
26	0.712	116	47	10.545	4.273	14.818
27	0.850	2,453	434	102.208	18.083	120.292
28	0.845	4,191	770	102.195	18.776	120.970
29	0.734	3,323	1,207	83.914	30.480	114.394
30	0.451	666	812	24.218	29.527	53.745
31	0.120	332	2,433	10.061	73.727	83.788
32	0.102	55	482	3.233	28.336	31.570
33	0.000	0	130	0.000	15.663	15.663
34	0.000	0	3	0.000	0.977	0.977
35	0.000	0	46	0.000	4.178	4.178
36	0.000	0	23	0.000	2.875	2.875
37	0.000	0	33	0.000	1.500	1.500
38	0.000	0	7	0.000	0.189	0.189
Total		11,136	6,427	336.375	228.585	564.960
Proportion		0.634	0.366			

Appendix A.16. Weekly salmon and steelhead trout catch and effort in the Canadian commercial fishery in the upper Stikine River, 1991. It is assumed that 90% of the sockeye catch is of Tahltan origin.

		Catch							Effort		
Week	Start Date	Chinook Jacks	Chinook Large	Sockeye	Coho	Pink	Chum	Steel-head	Permits	Days	Permit Days
27	30-Jun	2	38	126	0	0	0	0	2.0	1.0	2.0
28	07-Jul	26	77	399	0	0	0	0	3.0	1.0	3.0
29	14-Jul	4	2	156	0	0	0	0	3.0	1.0	3.0
30	21-Jul	0	0	50	0	0	0	0	3.0	1.0	3.0
31	28-Jul	0	0	30	0	0	0	0	1.0	1.0	1.0
32	04-Aug	0	0	0	0	0	0	0	1.0	1.0	1.0
Total		32	117	761	0	0	0	0	13.0	6.0	13.0

Appendix A.17. Weekly salmon and steelhead trout catch and effort in the Canadian Indian food fishery located at Telegraph Creek, on the Stikine River, 1991. It is assumed that 90% of the sockeye catch is of Tahltan origin.

		Catch							Effort		
		Chinook						Steel-			Permit
Week	Start Date	Jacks	Large	Sockeye	Coho	Pink	Chum	head	Permits	Days	Days
24	09-Jun	10	34	0	0	0	0	0	1.8	6	10.8
25	16-Jun	24	58	0	0	0	0	0	2.7	4	10.8
26	23-Jun	0	66	0	0	0	0	0	2.0	6	12.0
27	30-Jun	8	67	43	0	0	0	0	2.5	4	10.0
28	07-Jul	95	300	1,286	0	0	0	0	6.9	7	48.3
29	14-Jul	101	116	1,812	0	0	0	0	9.7	7	67.9
30	21-Jul	52	64	1,037	0	0	0	0	12.7	7	88.9
31	28-Jul	13	29	149	1	0	0	0	10.6	7	74.2
32	04-Aug	7	12	100	5	0	0	0	2.4	7	16.8
33	11-Aug	0	6	11	2	0	0	1	2.0	7	14.0
34	18-Aug	0	1	0	0	0	0	0	1.0	3	3.0
35	25-Aug	0	0	0	0	0	0	6	0.0	0	0.0
36	01-Sep	0	0	1	2	0	0	4	1.0	1	1.0
Total		310	753	4,439	10	0	0	11	55.3	66	357.7

Appendix A.18. Weekly salmon and steelhead trout catch and effort in the Canadian test fishery in the Stikine River, 1991.

		Start	[a/]				Steel-	# Drifts/
	Week	Date	Chinook	Sockeye	Coho	Pink	Chum	head	Set Hours
Drift gillnet									
	25	16-Jun	37	2	0	0	0	0	55
	26	23-Jun	21	25	0	0	0	0	50
	27	30-Jun	20	146	0	0	0	0	50
	28	07-Jul	8	83	0	1	1	0	40
	29	14-Jul	3	61	0	8	1	0	39
	30	21-Jul	2	74	1	5	4	0	50
	31	28-Jul	0	25	0	7	1	0	20
	32	04-Aug	0	23	2	6	2	0	40
	33	11-Aug	0	25	20	3	7	1	50
	34	18-Aug	0	29	42	7	9	0	60
	35	25-Aug	0	9	37	0	4	0	40
	36	01-Sep	0	1	16	0	1	2	15
	Total		91	503	118	37	30	3	509
Set gillnet									
	25	16-Jun	40	36	0	0	0	0	228
	26	23-Jun	10	46	0	0	0	0	168
	27	30-Jun	23	487	0	0	0	0	216
	28	07-Jul	9	365	0	2	0	0	168
	29	14-Jul	4	410	1	29	5	0	168
	30	21-Jul	1	272	0	49	13	0	180
	31	28-Jul	2	47	0	36	3	0	72
	32	04-Aug	3	73	4	13	8	0	132
	33	11-Aug	0	102	54	52	9	1	168
	34	18-Aug	0	34	68	16	10	0	168
	Total		92	1,872	127	197	48	1	1,668

[a/] Count includes 1 jack chinook salmon in drift and 15 in setnet catches.

Appendix A.19. Weekly sockeye salmon stock proportions in the Stikine River test fishery, 1991. Sex specific age compositions were calculated and the smoothed stock composition of the females sampled for egg diameters was expanded to the catch by age.

Week	Sample Size	Tahltan	non-Tahltan
25	21	0.763	0.237
26	32	0.958	0.042
27	323	0.885	0.115
28	235	0.775	0.225
29	222	0.584	0.416
30	187	0.384	0.616
31	32	0.236	0.764
32	28	0.073	0.927
33	66	0.050	0.950
34	29	0.016	0.984
35	6	0.000	1.000
36	1	0.000	1.000
	1,182		

Appendix A.20. Weekly catch, CPUE, and migratory timing of Tahltan and non-Tahltan sockeye stocks in the Stikine River test fishery, 1991. Sex specific age compositions were calculated and the smoothed stock composition of the females sampled for egg diameters was expanded to the catch by age.

	Catch		CPUE			Migratory Timing	
Week	Tahltan	non-Tahltan	Tahltan	non-Tahltan	Total	Tahltan	non-Tahltan
Drift gillnet							
25	2	0	0.028	0.009	0.036	0.002	0.001
26	24	1	0.479	0.021	0.500	0.041	0.002
27	129	17	2.583	0.337	2.920	0.221	0.029
28	64	19	1.607	0.468	2.075	0.138	0.040
29	36	25	0.913	0.651	1.564	0.078	0.056
30	28	46	0.569	0.911	1.480	0.049	0.078
31	6	19	0.295	0.955	1.250	0.025	0.082
32	2	21	0.042	0.533	0.575	0.004	0.046
33	1	24	0.025	0.475	0.500	0.002	0.041
34	0	29	0.008	0.476	0.483	0.001	0.041
35	0	9	0.000	0.225	0.225	0.000	0.019
36	0	1	0.000	0.067	0.067	0.000	0.006
Total	292	211	6.549	5.127	11.675		
Proportion	0.581	0.419		Proportion of run		0.561	0.439
Set gillnet							
25	27	9	0.120	0.037	0.158	0.011	0.003
26	44	2	0.262	0.012	0.274	0.024	0.001
27	431	56	1.995	0.260	2.255	0.184	0.024
28	283	82	1.683	0.490	2.173	0.155	0.045
29	239	171	1.425	1.016	2.440	0.132	0.094
30	105	167	0.581	0.930	1.511	0.054	0.086
31	11	36	0.154	0.499	0.653	0.014	0.046
32	5	68	0.040	0.513	0.553	0.004	0.047
33	5	97	0.030	0.577	0.607	0.003	0.053
34	1	33	0.003	0.199	0.202	0.000	0.018
Total	1151	721	6.294	4.532	10.826	0.581	0.419
Proportion	0.615	0.385					

Appendix A.21. Daily counts of adult sockeye salmon passing through Tahltan weir, 1991. The weir was installed on July 6, but no fish passed through prior to July 15.

		Cumulative				Cumulative	
Date	Count	Count	Percent	Date	Count	Count	Percent
15-Jul	0	0	0.0	12-Aug	112	47,455	94.7
16-Jul	0	0	0.0	13-Aug	181	47,636	95.0
17-Jul	1	1	0.0	14-Aug	334	47,970	95.7
18-Jul	3,623	3,624	7.2	15-Aug	282	48,252	96.2
19-Jul	4,996	8,620	17.2	16-Aug	55	48,307	96.4
20-Jul	3,749	12,369	24.7	17-Aug	85	48,392	96.5
21-Jul	2,891	15,260	30.4	18-Aug	144	48,536	96.8
22-Jul	2,665	17,925	35.8	19-Aug	159	48,695	97.1
23-Jul	1,854	19,779	39.5	20-Aug	257	48,952	97.6
24-Jul	5,166	24,945	49.8	21-Aug	149	49,101	97.9
25-Jul	3,859	28,804	57.5	22-Aug	57	49,158	98.1
26-Jul	1,909	30,713	61.3	23-Aug	50	49,208	98.2
27-Jul	1,888	32,601	65.0	24-Aug	127	49,335	98.4
28-Jul	2,225	34,826	69.5	25-Aug	182	49,517	98.8
29-Jul	2,156	36,982	73.8	26-Aug	118	49,635	99.0
30-Jul	2,400	39,382	78.6	27-Aug	53	49,688	99.1
31-Jul	983	40,365	80.5	28-Aug	61	49,749	99.2
01-Aug	1,116	41,481	82.7	29-Aug	71	49,820	99.4
02-Aug	364	41,845	83.5	30-Aug	102	49,922	99.6
03-Aug	486	42,331	84.4	31-Aug	38	49,960	99.7
04-Aug	735	43,066	85.9	01-Sep	23	49,983	99.7
05-Aug	785	43,851	87.5	02-Sep	63	50,046	99.8
06-Aug	712	44,563	88.9	03-Sep	19	50,065	99.9
07-Aug	810	45,373	90.5	04-Sep	34	50,099	99.9
08-Aug	848	46,221	92.2	05-Sep	36	50,135	100.0
09-Aug	787	47,008	93.8				
10-Aug	177	47,185	94.1				
11-Aug	158	47,343	94.4				
Total Counted						50135	
Adjustments						-3552[a/]	
Total Spawners						46583	

[a/] A total of 1766 females and 1766 males were taken for broodstock. Twenty additional females were taken for disease tests.

Appendix A.22. Daily counts of sockeye salmon smolt migrating through Tahltan Lake smolt weir, 1991.

Date	Count	Cumulative Count	Cumulative Percent	Date	Count	Cumulative Count	Cumulative Percent
05-May	0			27-May	2,670	1,166,367	78.4
06-May	0	0	0.0	28-May	92,106	1,258,473	84.6
07-May	0	0	0.0	29-May	38,860	1,297,333	87.2
08-May	0	0	0.0	30-May	41,094	1,338,427	90.0
09-May	0	0	0.0	31-May	34,166	1,372,593	92.3
10-May	0	0	0.0	01-Jun	3338	1,375,931	92.5
11-May	0	0	0.0	02-Jun	10642	1,386,573	93.2
12-May	0	0	0.0	03-Jun	16,620	1,403,193	94.3
13-May	0	0	0.0	04-Jun	1,246	1,404,439	94.4
14-May	6	6	0.0	05-Jun	844	1,405,283	94.5
15-May	84	90	0.0	06-Jun	9,166	1,414,449	95.1
16-May	500	590	0.0	07-Jun	382	1,414,831	95.1
17-May	160,082	160,672	10.8	08-Jun	214	1,415,045	95.1
18-May	3,914	164,586	11.1	09-Jun	476	1,415,521	95.2
19-May	65,464	230,050	15.5	10-Jun	3,174	1,418,695	95.4
20-May	311,716	541,766	36.4	11-Jun	3,800	1,422,495	95.6
21-May	482,794	1,024,560	68.9	12-Jun	8,824	1,431,319	96.2
22-May	23,280	1,047,840	70.5	13-Jun	8,354	1,439,673	96.8
23-May	10,895	1,058,735	71.2				
24-May	68,642	1,127,377	75.8	Total[a/]		1,487,265	100.0
25-May	2,440	1,129,817	76.0	Enhanced		266,868	17.9
26-May	33,880	1,163,697	78.2	Natural		1,220,397	82.1

a/ Based on historical migratory timing, 96.8% of the smolt outmigration has occured by June 14. The estimated total smolt run in 1991 was 1,487,265 fish.

Appendix A.23. Daily counts of adult chinook salmon passing through Little Tahltan weir, 1991.

	Large Chinook			Chinook Jacks		
		Cumulative			Cumulative	
Date	Count	Count	Percent	Count	Count	Percent
23-Jun	weir installed					
24-Jun	0	0	0.00	0	0	0.00
25-Jun	2	2	0.04	0	0	0.00
26-Jun	18	20	0.44	0	0	0.00
27-Jun	90	110	2.44	0	0	0.00
28-Jun	14	124	2.75	0	0	0.00
29-Jun	8	132	2.93	0	0	0.00
30-Jun	8	140	3.11	0	0	0.00
01-Jul	25	165	3.66	0	0	0.00
02-Jul	0	165	3.66	0	0	0.00
03-Jul	47	212	4.70	1	1	0.32
04-Jul	0	212	4.70	0	1	0.32
05-Jul	15	227	5.04	1	2	0.64
06-Jul	110	337	7.48	6	8	2.56
07-Jul	8	345	7.66	0	8	2.56
08-Jul	223	568	12.61	5	13	4.15
09-Jul	84	652	14.47	3	16	5.11
10-Jul	233	885	19.64	9	25	7.99
11-Jul	84	969	21.50	4	29	9.27
12-Jul	331	1,300	28.85	25	54	17.25
13-Jul	314	1,614	35.82	13	67	21.41
14-Jul	29	1,643	36.46	3	70	22.36
15-Jul	98	1,741	38.64	2	72	23.00
16-Jul	138	1,879	41.70	9	81	25.88
17-Jul	81	1,960	43.50	8	89	28.43
18-Jul	0	1,960	43.50	0	89	28.43
19-Jul	77	2,037	45.21	5	94	30.03
20-Jul	221	2,258	50.11	16	110	35.14
21-Jul	172	2,430	53.93	11	121	38.66
22-Jul	276	2,706	60.05	21	142	45.37
23-Jul	257	2,963	65.76	14	156	49.84
24-Jul	303	3,266	72.48	43	199	63.58
25-Jul	184	3,450	76.56	8	207	66.13
26-Jul	144	3,594	79.76	10	217	69.33
27-Jul	37	3,631	80.58	0	217	69.33
28-Jul	0	3,631	80.58	0	217	69.33
29-Jul	18	3,649	80.98	3	220	70.29
30-Jul	145	3,794	84.20	11	231	73.80
31-Jul	83	3,877	86.04	6	237	75.72
01-Aug	51	3,928	87.17	7	244	77.96
02-Aug	30	3,958	87.84	4	248	79.23
03-Aug	118	4,076	90.46	5	253	80.83
04-Aug	43	4,119	91.41	7	260	83.07
05-Aug	22	4,141	91.90	1	261	83.39
06-Aug	93	4,234	93.96	18	279	89.14
07-Aug	69	4,303	95.49	11	290	92.65
08-Aug	20	4,323	95.94	2	292	93.29
09-Aug	88	4,411	97.89	9	301	96.17
10-Aug	25	4,436	98.45	0	301	96.17
11-Aug	17	4,453	98.82	5	306	97.76
12-Aug	17	4,470	99.20	2	308	98.40
13-Aug	16	4,486	99.56	2	310	99.04
14-Aug	9	4,495	99.76	3	313	100.00
15-Aug	0	4,495	99.76	0	313	100.00
16-Aug	4	4,499	99.84	0	313	100.00
17-Aug	0	4,499	99.84	0	313	100.00
18-Aug	3	4,502	99.91	0	313	100.00
19-Aug	4	4,506	100.00	0	313	100.00
20-Aug	0	4,506	100.00	0	313	100.00

Appendix B.1. Salmon catch and effort in the Alaskan Subdistrict 106-41 and -42 (Sumner Strait) commercial drift gillnet fishery, 1964-1991.

	Catch					Effort	
						Permit	Days
Year	Chinook	Sockeye	Coho	Pink	Chum	Days	Open
1964	316	52,943	27,338	183,402	22,913	2,344	49.00
1965	679	58,736	30,570	162,271	15,763	1,658	50.75
1966	690	65,721	30,792	96,287	24,235	2,080	74.25
1967	668	60,148	10,573	52,284	19,626	1,463	27.00
1968	1,010	50,212	46,111	82,012	39,001	2,997	52.00
1969	747	46,282	6,557	92,102	6,395	1,147	31.00
1970	420	26,812	15,153	29,102	18,092	905	41.00
1971	671	33,991	24,727	283,739	19,329	1,619	50.00
1972	1,747	74,745	60,827	40,644	46,511	2,152	41.00
1973	1,540	55,254	24,921	160,297	62,486	2,253	26.00
1974	1,342	46,760	28,889	57,296	38,045	1,579	28.00
1975	467	19,319	4,650	29,340	7,762	515	17.00
1976	237	9,319	10,367	20,251	2,301	366	19.00
1977	202	47,408	1,819	51,038	4,240	447	17.00
1978	274	1,422	26,762	9,546	3,142	389	26.50
1979	458	34,807	12,087	176,395	16,816	952	25.00
1980	205	48,430	10,826	16,966	15,162	596	16.00
1981	598	132,359	13,158	218,359	25,994	1,732	25.00
1982	648	121,220	21,387	10,343	11,896	1,083	22.00
1983	268	28,153	41,196	74,347	13,001	875	32.00
1984	136	27,372	19,124	99,807	28,461	587	32.00
1985	549	172,088	50,655	319,379	45,566	1,726	38.00
1986	421	85,247	104,328	105,347	48,471	1,896	32.00
1987	441	79,165	17,776	117,059	25,877	978	20.00
1988	452	57,337	6,349	10,894	42,210	815	18.00
1989	581	107,886	55,671	418,044	40,156	1,716	34.00
1990	759	104,922	94,502	84,543	42,474	1,827	34.00
Averages							
64-90	612	61,039	29,523	111,152	25,405	1,359	32.50
81-90	485	91,575	42,415	145,812	32,411	1,324	28.70
1991	857	89,335	136,890	64,334	85,385	2,118	39.00

Appendix B.2. Stock proportions and catches of sockeye salmon in the Alaskan Subdistrict 106-41 and -42 (Sumner Strait) commercial drift gillnet fishery, 1985-1991. Data based on SPA.

			Stikine		
				non-	
Year	Alaska	Canada	Tahltan	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
Averages					
85-90	0.676	0.281	0.031	0.012	0.043
1991	0.460	0.377	0.129	0.034	0.163
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
Averages					
85-90	64,102	31,475	4,143	1,388	5,530
1991	41,114	33,636	11,538	3,047	14,585

Appendix B.3. Salmon catch and effort in the Alaskan Subdistrict 106-30 (Clarence Strait) commercial drift gillnet fishery, 1964-1991.

	Catch					Effort	
						Permit	Days
Year	Chinook	Sockeye	Coho	Pink	Chum	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
1990	1,348	80,883	69,709	234,643	30,758	1,676	34.00
Averages							
64-90	912	37,741	24,814	198,737	17,626	1,356	32.17
81-90	880	61,930	32,429	218,084	22,366	1,157	28.20
1991	1,211	54749.00	61,062	69,026	39,195	1,505	39.00

Appendix B.4. Stock proportions and catches of sockeye salmon in the Alaskan Subdistrict 106-30 (Clarence Strait) commercial drift gillnet fishery, 1985-1991. Data based on SPA.

			Stikine		
				non-	
Year	Alaska	Canada	Tahltan	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
Average					
85-90	0.706	0.270	0.014	0.009	0.023
1991	0.683	0.257	0.052	0.008	0.060
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
Average					
85-90	45,997	20,784	1,081	729	1,810
1991	37,410	14,063	2,823	453	3,277

Appendix B.5. Salmon catch and effort in the Alaskan District 106 commercial drift gillnet fisheries, 1964-1991. Catches do not include Blind Slough terminal area harvests.

	Catch					Effort	
Year	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
1990	2,107	185,805	164,211	319,186	73,232	3,503	34.00
Averages							
64-90	1,502	95,433	50,111	309,531	41,869	2,684	33.29
81-90	1,213	145,666	60,081	336,534	50,080	2,265	28.50
1991	2,068	144,084	197,952	133,360	124,580	3,623	39.00

Appendix B.6. Stock proportions and catches of sockeye salmon in the Alaskan District 106 commercial drift gillnet fisheries, 1982-1991. Catches do not include Blind Slough terminal area harvests. Data based on SPA.

			Stikine		
Year	Alaska	Canada	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
1990	0.608	0.371	0.005	0.016	0.021
Averages					
1983-1990	0.682	0.268	0.035	0.015	0.050
1991	0.545	0.331	0.100	0.024	0.124
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
1990	112,983	68,921	915	2,986	3,901
Averages					
1983-1990	94,193	43,599	4,881	2,176	7,057
1991	78,524	47,699	14,361	3,500	17,861

Appendix B.7. Salmon catch and effort in the Alaskan District 108 commercial drift gillnet fishery, 1964-1991. Catches do not include Ohmer Creek terminal area harvests.

	Catch					Effort	
Year	Chinook	Sockeye	Coho	Pink	Chum	Permit Days	Days Open
1964	2,911	20,299	29,388	114,555	10,771	3,416	62.00
1965	3,106	21,419	8,301	4,729	2,480	960	48.00
1966	4,516	36,710	16,493	61,908	17,730	1,841	62.00
1967	6,372	29,226	6,747	4,713	5,955	1,193	40.00
1968	4,604	14,594	36,407	91,028	14,537	3,114	61.00
1969	5,023	19,210	5,823	11,884	2,312	858	37.00
1970	3,207	15,120	18,403	20,523	12,305	1,180	41.00
1971	3,717	18,143	14,876	21,806	4,665	892	42.00
1972	9,332	51,734	38,520	17,153	17,363	1,922	49.00
1973	9,254	21,387	5,837	6,585	6,680	1,042	21.00
1974	8,199	2,428	16,021	4,188	2,107	550	16.00
1975	1,534	0	0	0	1		8.00
1976	1,123	18	6,056	722	124	130	10.00
1977	1,443	48,374	14,405	16,253	4,233	740	19.00
1978	531	56	32,650	1,157	1,001	608	12.00
1979	91	2,158	234	13,478	1,064	100	5.00
1980	631	14,053	2,946	7,224	6,910	327	22.00
1981	283	8,833	1,403	1,466	3,594	177	9.00
1982	1,033	6,886	19,971	16,988	741	508	21.00
1983	47	178	15,484	4,171	675	266	17.00
1984	14	1,290	5,141	4,960	1,892	34	5.00
1985	20	1,060	1,926	5,325	1,892	50	14.00
1986	102	4,185	7,439	4,901	5,928	216	25.00
1987	149	1,620	1,015	3,331	949	81	13.00
1988	206	1,246	12	144	3,109	60	8.00
1989	310	10,083	4,261	27,640	3,375	223	29.00
1990	557	11,574	8,218	13,822	9,382	359	34.00
Averages							
64-90	2,530	13,403	11,777	17,802	5,251	802	27.04
81-90	272	4,696	6,487	8,275	3,154	197	17.50
1991	1,504	22,275	15,864	10,935	11,402	696	49.00

Appendix B.8. Stock proportions and catches of sockeye salmon in the Alaskan District 108 commercial drift gillnet fishery, 1985-1991. Catches do not include Ohmer Creek terminal area harvests. Data based on SPA.

			Stikine		
Year	Alaska	Canada	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
1987[a/]	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
1990	0.395	0.128	0.111	0.366	0.477
Averages					
1985-1990	0.187	0.040	0.191	0.583	0.774
1991	0.173	0.118	0.395	0.314	0.709
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
1990	4,576	1,479	1,280	4,239	5,519
Averages					
1985-1990	1,192	357	543	2,869	3,412
1991	3,859	2,622	8,807	6,987	15,794

[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, 1984-1991.

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
1991	There was no test fishery in 1991					

Appendix B.10. Stock proportions and catches of sockeye salmon in the Alaskan Subdistrict 106-41 and -42 (Sumner Strait) test fishery, 1984-1991. 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	0.624	0.304	0.017	0.056	0.072
1990	0.548	0.416	0.014	0.022	0.035
1991	There was no test fishery in 1991				
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	1,274	621	34	114	148
1990	1,237	939	31	49	80
1991	There was no test fishery in 1991				

Appendix B.11. Salmon catch and effort in the Alaskan Subdistrict 106-30 (Clarence Strait) test fishery, 1986-1991.

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	There was no test fishery in 1990					
1991	There was no test fishery in 1991					

Appendix B.12. Stock proportions and catches of sockeye salmon in the Alaskan Subdistrict 106-30 (Clarence Strait) test fishery, 1986-1991. Data based on SPA.

			Stikine		
Year	Alaska	Canada	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	There was no test fishery in 1990				
1991	There was no test fishery in 1991				
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	There was no test fishery in 1990				
1991	There was no test fishery in 1991				

Appendix B.13. Salmon catch and effort in the Alaskan District 106 test fisheries 1984-1991.

	Catch					Boat
Year	Chinook	Sockeye	Coho	Pink	Chum	Hours
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
1991	There were no test fisheries in 1991					

Appendix B.14. Stock proportions and catches of sockeye salmon in the Alaskan District 106 test fisheries, 1984-1991. Data based on SPA.

			Stikine		
Year	Alaska	Canada	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	0.622	0.307	0.016	0.055	0.071
1990	0.548	0.416	0.014	0.022	0.035
1991	There were no test fisheries in 1991				
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	1,293	639	34	114	148
1990	1,237	939	31	49	80
1991	There were no test fisheries in 1991				

Appendix B.15. Salmon catch and effort in the Alaskan District 108 test fishery 1984-1991.

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
Averages						
84-90	40	730	20	1,110	562	69.67
1991	21	893	18	390	455	154.99

Appendix B.16. Stock proportions and catches of sockeye salmon in the Alaskan District 108 test fishery, 1985-1991. 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	0.132	0.084	0.072	0.712	0.784
1990	0.417	0.172	0.094	0.318	0.411
Averages					
85-90	0.180	0.058	0.252	0.510	0.762
1991	0.128	0.128	0.494	0.251	0.745
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	137	87	75	739	814
1990	361	149	81	275	356
Averages					
85-90	130	47	164	403	567
1991	114	114	441	224	665

Appendix B.17. Salmon and steelhead trout catch and effort in the Canadian commercial fishery in the lower Stikine River, 1979-1991.

	Catch							Effort	
	Chinook							Permit	
Year	Jacks	Large	Sockeye	Coho	Pink	Chum	Steelhead	Days	Days
1979[a]	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
1984[c]									
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
1990	680	1,569	14,530	4,020	496	499	188	328.1	29.0
Averages[d]									
81-90		1,233	14,769	5,238	1,261	587	332	413.1	32.4
1991	318	641	17,563	2,638	394	208	71	282.5	39.0

[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, 1979-1991. 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 1989-1991.

	Proportions		Catch	
		non-		non-
Year	Tahltan	Tahltan	Tahltan	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
1984[a]				
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
1990	0.346	0.654	5,029	9,501
Averages				
81-90	0.392	0.608	6,062	8,707
1991	0.634	0.366	11,136	6,427

[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, 1975-1991.

	Catch							Effort	
	Chinook							Permit	
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
1990	20	48	472	0	0	0	0	15	7.0
Averages[c/]									
75-90		116	748	7	1	2	0		
81-90		101	588	0	0	3	0	13	6.4
1991	32	117	761	0	0	0	0	13	6.0

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, 1972-1991.

	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
1990	259	633	3,022	17	0	0	11
Averages[a/]							
72-90		764	3,552	5	20	3	4
81-90		1,043	4,226	9	38	5	8
1991	310	753	4,439	10	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, 1972-1991.

Year	Chinook Jacks	Chinook Large	Sockeye	Coho	Pink	Chum	Steel-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
1984[a/]	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
1990	959	2,250	18,024	4,037	496	499	199
Averages[b/]							
72-90		1,559	12,607	3,404	762	345	194
81-90		2,254	18,047	4,723	1,173	536	307
1991	660	1,511	22,763	2,648	394	208	82

[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, 1985-1991.

Year	Fishery	Chinook Jacks	Chinook Large	Sockeye	Coho	Pink	Chum	Steelhead	Effort Drift=# Set=hr.
1985	C. Set			1,340					
1986	C. Drift	12	27	412	226	8	25		405
1987	J. Drift	[a/]	128	385	162	111	61		845
	J. Set	19	61	1,283	620	587	193		1,456
1988	J. Drift	14	168	325	75	9	33	7	720
	J. Set	15	101	922	130	23	65	14	1,380
1989	C. Drift	4	116	364	242	41	46	5	870
	C. Set	20	101	1,243	502	249	103	17	1,392
1990	C. Drift	6	167	447	134	5	29	6	673
	C. Set	12	64	1,493	271	42	48	18	1,212
1991	C. Drift	1	90	503	118	37	30	3	509
	C. Set	15	77	1872	127	197	48	1	1668

[a/] 1987 jack chinook catch is for both set and drift nets.

Appendix B.23. Sockeye salmon stock proportions and catch by stock in the test fishery in the lower Stikine River, 1985-1991. Stock compositions based on: SPA 1985; average of SPA and GPA 1986-1988; Egg diameter 1989-1991.

	Catch Tahltan		Proportion Tahltan		Average Proportion[a/]	
Year	U.S.	Canada	U.S.	Canada	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
1991		1443		0.608	0.608	0.392

[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 1989-1991.

	Tahltan		Average[a/]	
Year	U.S.	Canada	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
Averages				
79-90			0.398	0.602
81-90			0.404	0.596
1991		0.561	0.561	0.439

[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, 1959-1991.

Year	Weir Installed	Date of Arrival First	50%	90%	Total Count	No. Taken Broodstock and Other	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		
1962[a/]	01-Aug	02-Aug	05-Aug	08-Aug	14,508		
1963[b/]	03-Aug				1,780		
1964	23-Jul	26-Jul	14-Aug	25-Aug	18,353		
1965[c/]	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
1990	06-Jul	15-Jul	26-Jul	03-Aug	14,927	3,302	11,625
Averages							
59-90	10-Jul	20-Jul	31-Jul	11-Aug	19,327		
86-90	10-Jul	17-Jul	02-Aug	11-Aug	10,603		
1991	15-Jul	17-Jul	25-Jul	07-Aug	50,135	3,552	46,583

[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, 1984-1991. 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
1990	743
Averages	
84-90	951
86-90	638
1991	387

Appendix B.27. Estimates of sockeye salmon smolt migrating through Tahltan Lake smolt weir, 1984-1991.

Year	Weir Installed	Date of Arrival First	50%	90%	Estimated Outmigration Total	Enhanced	Natural
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[a/]		
1988	01-May	08-May	20-May	06-Jun	1,170,136		
1989	05-May	08-May	22-May	06-Jun	580,574		
1990	05-May	15-May	29-May	05-Jun	610,407[b/]		
Averages							
84-90	04-May	12-May	25-May	02-Jun	607,016		
86-90	05-May	11-May	25-May	03-Jun	683,176		
1991	05-May	14-May	21-May	30-May	1,487,265[c/]	266,868	1220397

a/ Estimate includes approximately 30,000 mortalities from overcrowding on 5/22.
b/ Estimate of 595,147 on June 14 expanded by average % of outmigration by date (97.5%) from historical data.
c/ Estimate of 1,439,673 on June 13 expanded by average % of outmigration by date (96.8%) from historical data.

Appendix B.28. Weir counts of chinook salmon at Little Tahltan River, 1985-1991.

Year	Weir Installed	Large Chinook First Arrival	50% Arrival	90% Arrival	Total Count	Jacks (chinook <600 mm poh length) 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	316	3,430
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-Jul	02-Aug	199	4,914
1990	22-Jun	29-Jun	23-Jul	04-Aug	4,392	05-Jul	22-Jul	30-Jul	417	4,809
Averages										
85-90	27-Jun	29-Jun	23-Jul	03-Aug	4,531	01-Jul	24-Jul	04-Aug	366	4,897
1991	23-Jun	25-Jun	20-Jul	03-Aug	4,506	03-Jul	24-Jul	07-Aug	313	4,819

Appendix B.29. Index counts of Stikine chinook escapements, 1979-1991. Counts do not include jacks (fish less than 600mm mef length).

Year	Little Tahltan Weir	Little Tahltan (Aerial)	Tahltan (Aerial)	Beatty (Aerial)	Andrew[a/] (Foot)
1979		1,166	2,118		382
1980		2,137	960	122	362
1981		3,334	1,852	558	629
1982		2,830	1,690	567	910
1983		594	453	83	444
1984		1,294		126	355
1985	3,114	1,598	1,490	147	319
1986	2,891	1,201	1,400	183	707
1987	4,783	2,706	1,390	312	651
1988	7,292	3,796	4,384	593	470
1989	4,715	2,527	[b/]	362	530
1990	4,392	1,765	2,134	271	664
Averages					
80-90		2,162	1,575	302	549
85-90	4,531	2,266	1,800	311	557
1991	4,506	1,768	2,445	193	400[c/]

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

Appendix B.30. Index counts of Stikine coho salmon escapements, 1984-1991.

Index Area	Year and Survey Date 1991	1990 10/30	1989 10/27	1988 10/28	1985 10/25	1984 10/30	Average
Katete (south)	302	94	336	32	590	460	302
Katete (north)	878	548	896	227	1,217		753
Craig	985	810	992	[a/]	735	0	587
Jekill			[a/]	[a/]		0	
Verret	218	494	848	175	39	15	298
Bronson Slough			120		0	42	54
Scud Slough	221	664	707	97			422
Porcupine	352	430	90	53			231
Christina			55	0			28
Total	2,956	3,040	4,044	584	2,581	517	2,287

[a/] Poor observation conditions

Appendix B.31. Stikine River sockeye salmon run size, 1979-1991. Catches include test fishery catches.

Year	Inriver run size estimates: Canada	U.S.	Average[a/]	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	15,492	90,546
1990			57,386	19,964	37,422	9,856	67,242
Averages							
79-90			77,265	18,595	58,670	15,407	92,672
81-90			82,409	18,869	63,540	15,338	97,747
1991			120,152	25,138	95,014	34,320	154,472
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	1,561	15,671
1990			23,923	8,996	14,927	2,307	26,230
Averages							
79-90			32,506	9,618	22,888	8,487	40,993
81-90			35,346	10,004	25,342	8,553	43,900
1991			67,394	17,259	50,135	23,609	91,003

[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 gillnet fishery, 1991.

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Boats	Days Open	Boat Days
25	16-Jun	1,108	2,952	6	0	800	73	3.0	219.0
26	23-Jun	953	5,720	14	17	2,090	71	3.0	213.0
27	30-Jun	269	9,173	12	286	2,115	68	3.0	204.0
28	07-Jul	266	12,717	87	1,743	16,160	92	3.0	276.0
29	14-Jul	229	26,879	785	22,008	74,759	118	4.0	472.0
30	21-Jul	193	24,758	2,540	13,070	30,256	133	4.0	532.0
31	28-Jul	46	10,022	2,750	17,545	11,005	97	3.0	291.0
32	04-Aug	34	11,202	3,330	12,097	5,080	60	5.0	300.0
33	11-Aug	58	4,350	4,952	6,595	5,139	67	5.0	335.0
34	18-Aug	17	1,100	3,149	800	2,322	63	3.0	189.0
35	25-Aug	3	417	5,393	20	1,311	41	2.0	82.0
36	01-Sep	10	336	4,683	0	1,893	49	2.0	98.0
37	08-Sep	6	182	19,326	0	4,853	49	2.0	98.0
38	15-Sep	6	41	16,868	2	2,007	52	2.0	104.0
39	22-Sep	7	15	26,153	0	948	67	2.0	134.0
40	29-Sep	9	13	29,140	0	329	70	6.5	455.0
41	06-Oct	3	0	7,248	0	108	32	4.5	144.0
Total		3,217	109,877	126,436	74,183	161,175	1,202	57.0	4,146.0

Appendix C.2. Weekly salmon catch and effort in the Alaskan District 111 test fishery, 1991. Not all fish caught are sold, therefore, fishticket totals are incorrect.

Week	Start Date	Catch				
		Chinook	Sockeye	Coho	Pink	Chum
27	30-Jun	1	194	0	5	357
28	07-Jul	5	115	1	31	786
29	14-Jul	2	289	20	88	431
30	21-Jul	1	179	25	23	166
31	28-Jul	0	140	40	15	119
Total		9	917	86	162	1,859

Appendix C.3. Weekly stock proportions of sockeye salmon harvested in the Alaskan District 111 commercial drift gillnet fishery, 1991. Data based on scale pattern analysis (SPA).

Week	Kuthai	Little Trapper	Mainstem	Little Tatsamenie	Total Taku	Crescent	Speel	Total Snettisham
25	0.347	0.234	0.288	0.120	0.988	0.012	0.000	0.012
26	0.207	0.442	0.213	0.117	0.979	0.021	0.000	0.021
27	0.050	0.642	0.143	0.118	0.953	0.047	0.000	0.047
28	0.096	0.447	0.241	0.196	0.979	0.021	0.000	0.021
29	0.010	0.430	0.285	0.225	0.951	0.049	0.000	0.049
30	0.004	0.127	0.564	0.238	0.933	0.067	0.000	0.067
31	0.001	0.194	0.447	0.294	0.936	0.064	0.000	0.064
32	0.001	0.038	0.458	0.392	0.890	0.110	0.000	0.110
33	0.000	0.147	0.499	0.238	0.885	0.115	0.000	0.115
34	0.000	0.083	0.520	0.272	0.875	0.125	0.000	0.125
35	0.000	0.083	0.520	0.272	0.875	0.125	0.000	0.125
36	0.000	0.083	0.520	0.272	0.875	0.125	0.000	0.125
37	0.000	0.083	0.520	0.272	0.875	0.125	0.000	0.125
38	0.000	0.083	0.520	0.272	0.875	0.125	0.000	0.125
39	0.000	0.083	0.520	0.272	0.875	0.125	0.000	0.125
40	0.000	0.083	0.520	0.272	0.875	0.125	0.000	0.125
Total	0.039	0.297	0.373	0.232	0.941	0.059	0.000	0.059

Appendix C.4. Weekly stock-specific catch of Taku sockeye salmon harvested in the Alaskan District 111 commercial drift gillnet fishery, 1991. Data based on SPA.

Week	Kuthai	Little Trapper	Mainstem	Little Tatsamenie	Total Taku	Crescent	Speel	Total Snettisham
25	1,023	691	850	354	2,918	34	0	34
26	1,186	2,528	1,221	667	5,602	118	0	118
27	460	5,893	1,311	1,082	8,746	427	0	427
28	1,218	5,679	3,062	2,495	12,454	263	0	263
29	281	11,561	7,672	6,048	25,562	1,317	0	1,317
30	106	3,139	13,961	5,884	23,090	1,668	0	1,668
31	10	1,947	4,482	2,943	9,382	640	0	640
32	11	431	5,133	4,393	9,968	1,234	0	1,234
33	0	641	2,171	1,037	3,849	501	0	501
34	0	91	572	299	963	138	0	138
35	0	35	217	113	365	52	0	52
36	0	28	175	91	294	42	0	42
37	0	15	95	49	159	23	0	23
38	0	3	21	11	36	5	0	5
39	0	1	8	4	13	2	0	2
40	0	1	7	4	11	2	0	2
Total	4,295	32,685	40,957	25,475	103,412	6,465	0	6,465

Appendix C.5. Weekly salmon and steelhead trout catch and effort in the Canadian commercial fishery in the Taku River, 1991.

		Catch							Effort		
		Chinook						Steel-	Average	Days	Permit
Week	Start Date	Jacks	Large	Sockeye	Coho	Pink	Chum	head	Permits	Open	Days
25	16-Jun	126	437	217	0	0	0	3	12.5	2.0	25.0
26	23-Jun	101	217	353	0	0	0	0	8.5	2.0	17.0
27	30-Jun	99	263	1,261	0	6	0	0	13.0	2.0	26.0
28	07-Jul	78	198	3,758	5	120	0	0	11.7	3.0	35.0
29	14-Jul	18	41	6,707	49	86	0	0	13.0	3.0	39.0
30	21-Jul	6	14	2,965	418	31	0	0	14.0	2.0	28.0
31	28-Jul	4	3	5,548	979	52	0	0	11.3	4.0	45.0
32	04-Aug	0	4	3,205	825	1	0	0	11.7	3.0	35.0
33	11-Aug	0	0	711	550	0	2	2	9.0	3.0	27.0
34	18-Aug	0	0	342	589	0	0	0	7	1.0	7.0
Total		432	1,177	25,067	3,415	296	2	5	111.6	25.0	284.0

Appendix C.6. Weekly stock proportions of sockeye salmon harvested the Canadian commercial fishery in the Taku River, 1991. Data based on SPA.

Week	Kuthai	Little Trapper	Mainstem	Little Tatsamenie
25	0.532	0.104	0.356	0.009
26	0.532	0.104	0.356	0.009
27	0.174	0.447	0.319	0.060
28	0.174	0.446	0.319	0.060
29	0.048	0.460	0.371	0.121
30	0.024	0.262	0.550	0.164
31	0.003	0.211	0.517	0.268
32	0.003	0.112	0.578	0.306
33	0.003	0.023	0.650	0.325
34	0.003	0.029	0.632	0.336
Total	0.064	0.308	0.452	0.176

Appendix C.7. Weekly stock-specific catch of sockeye salmon in the Canadian commercial fishery in the Taku River, 1991. Data based on SPA.

Week	Kuthai	Little Trapper	Mainstem	Little Tatsamenie
25	115	22	77	2
26	188	37	126	3
27	219	564	402	76
28	655	1,677	1,199	227
29	321	3,085	2,491	810
30	71	778	1,630	486
31	18	1,172	2,870	1,488
32	11	360	1,854	980
33	2	16	462	231
34	1	10	216	115
Total	1,601	7,721	11,327	4,418

Appendix C.8. Weekly salmon and steelhead trout catch and effort in the Canadian test fishery in the Taku River, 1991. The fishery began during statistical week 34.

Week	Start Date	Chinook	Sockeye	Coho	Pink	Chum	Steelhead
34	18-Aug	0	18	26	0	3	0
35	25-Aug	0	79	180	2	29	0
36	01-Sep	0	46	264	0	64	3
37	08-Sep	0	8	466	1	91	4
38	15-Sep	0	0	126	0	8	1
39	22-Sep	0	2	173	0	35	3
40	29-Sep	0	5	479	0	58	11
41	06-Oct	0	3	165	0	5	6
42	13-Oct	0	0	64	0	0	1
43	20-Oct	0	2	61	0	2	12
Total		0	163	2,004	3	295	41

Appendix C.9. Weekly stock specific-catch of sockeye salmon in the Canadian test fishery in the Taku River, 1991. Data based on SPA, weekly stock proportions assumed the same as the commercial catch.

Week	Kuthai	Little Trapper	Mainstem	Little Tatsamenie
34	0	0	12	6
35	0	2	50	27
36	0	1	29	15
37	0	0	5	3
38	0	0	0	0
39	0	0	1	1
40	0	0	3	2
41	0	0	2	1
42	0	0	0	0
43	0	0	1	1
Total	0	5	103	55

Appendix C.10. Mark-recapture estimate of above border run of sockeye and coho salmon in the Taku River, 1991.

Recovery Week	Start Date	Above Border Run	Canadian Harvests: Commercial	Test	Food[a/]	Above Border[b/] Escapement
Sockeye						
25	16-Jun	1,052	217	0		835
26	23-Jun	2,522	353	0		2,169
27	30-Jun	13,678	1,261	0		12,417
28	07-Jul	21,670	3,758	0		17,912
29	14-Jul	30,928	6,707	0		24,221
30	21-Jul	28,490	2,965	0		25,525
31	28-Jul	20,469	5,548	0		14,921
32	04-Aug	8,647	3,205	0		5,442
33	11-Aug	8,093	711	0		7,382
34	18-Aug	4,966	342	18		4,606
35	25-Aug	7,043	0	79		6,964
36	01-Sep	2,949	0	66		2,883
Total		150,507	25,067	163	150	125,127
Coho						
28-29	07-Jul	2,596	472	0		2,124
30	21-Jul	2,209	979	0		1,230
31	28-Jul	4,157	825	0		3,332
32	04-Aug	4,865	550	0		4,315
33	11-Aug	1,749	589	26		1,134
34	18-Aug	27,267	0	180		27,087
35	25-Aug	5,964	0	264		5,700
36-37	01-Sep	21,892	0	592		21,300
38	15-Sep	11,255	0	173		11,082
39-42	22-Sep	52,994	0	769		52,225
Total		134,949	3,415	2,004	20	129,510

a/ Food fishery catch by week not available.
b/ Total above border escapement equals the above border run minus the food fishery catch and test fishery catch and may not equal the sum of the period escapement estimates.

Appendix C.11. Daily counts of salmon passing through Little Tatsamenie weir, 1991.

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
30-Jul	0	0	0	0.0	0	0	0.0	0	0	0.0
31-Jul	0	0	0	0.0	0	0	0.0	0	0	0.0
01-Aug	0	1	1	0.2	0	0	0.0	0	0	0.0
02-Aug	2	1	2	0.5	1	1	0.0	0	0	0.0
03-Aug	0	1	3	0.7	5	6	0.1	0	0	0.0
04-Aug	2	1	4	1.0	6	12	0.1	0	0	0.0
05-Aug	2	1	5	1.2	6	18	0.2	0	0	0.0
06-Aug	3	2	7	1.7	3	21	0.3	0	0	0.0
07-Aug	2	2	9	2.2	15	36	0.4	0	0	0.0
08-Aug	4	39	48	11.7	73	109	1.3	0	0	0.0
09-Aug	2	1	49	12.0	18	127	1.5	0	0	0.0
10-Aug	11	61	110	26.8	284	411	4.9	0	0	0.0
11-Aug	8	23	133	32.4	327	738	8.8	0	0	0.0
12-Aug[a/]	0	3	136	33.2	221	959	11.4	0	0	0.0
13-Aug	4	23	159	38.8	169	1,128	13.5	0	0	0.0
14-Aug	7	48	207	50.5	131	1,259	15.0	0	0	0.0
15-Aug	1	38	245	59.8	201	1,460	17.4	0	0	0.0
16-Aug	1	17	262	63.9	174	1,634	19.5	0	0	0.0
17-Aug	0	3	265	64.6	52	1,686	20.1	0	0	0.0
18-Aug	3	39	304	74.1	74	1,760	21.0	0	0	0.0
19-Aug	1	31	335	81.7	69	1,829	21.8	0	0	0.0
20-Aug	1	21	356	86.8	6	1,835	21.9	0	0	0.0
21-Aug	0	3	359	87.6	0	1,835	21.9	0	0	0.0
22-Aug	0	2	361	88.0	1	1,836	21.9	0	0	0.0
23-Aug	1	14	375	91.5	7	1,843	22.0	0	0	0.0
24-Aug	1	21	396	96.6	25	1,868	22.3	4	4	0.5
25-Aug	1	2	398	97.1	120	1,988	23.7	1	5	0.7
26-Aug	0	2	400	97.6	129	2,117	25.3	0	5	0.7
27-Aug	2	4	404	98.5	316	2,433	29.0	0	5	0.7
28-Aug	0	0	404	98.5	363	2,796	33.4	0	5	0.7
29-Aug	0	0	404	98.5	319	3,115	37.2	1	6	0.8
30-Aug	0	0	404	98.5	384	3,499	41.7	3	9	1.2
31-Aug	0	0	404	98.5	552	4,051	48.3	0	9	1.2
01-Sep	1	1	405	98.8	574	4,625	55.2	0	9	1.2
02-Sep	0	3	408	99.5	510	5,135	61.3	1	10	1.3
03-Sep	0	0	408	99.5	451	5,586	66.7	0	10	1.3
04-Sep	0	0	408	99.5	432	6,018	71.8	0	10	1.3
05-Sep	0	0	408	99.5	406	6,424	76.6	2	12	1.6
06-Sep	0	2	410	100.0	254	6,678	79.7	4	16	2.1
07-Sep	0	0	410	100.0	233	6,911	82.5	5	21	2.8
08-Sep	0	0	410	100.0	182	7,093	84.6	4	25	3.3
09-Sep	0	0	410	100.0	110	7,203	85.9	0	25	3.3
10-Sep	0	0	410	100.0	88	7,291	87.0	5	30	3.9
11-Sep	0	0	410	100.0	59	7,350	87.7	1	31	4.1
12-Sep	0	0	410	100.0	65	7,415	88.5	2	33	4.3
13-Sep	0	0	410	100.0	138	7,553	90.1	6	39	5.1
14-Sep	0	0	410	100.0	49	7,602	90.7	1	40	5.3
15-Sep	0	0	410	100.0	78	7,680	91.6	2	42	5.5
16-Sep	0	0	410	100.0	31	7,711	92.0	2	44	5.8
17-Sep	0	0	410	100.0	89	7,800	93.1	0	44	5.8
18-Sep	0	0	410	100.0	87	7,887	94.1	4	48	6.3
19-Sep	0	0	410	100.0	97	7,984	95.3	10	58	7.6
20-Sep	0	0	410	100.0	127	8,111	96.8	14	72	9.5
21-Sep	0	0	410	100.0	18	8,129	97.0	0	72	9.5
22-Sep	0	0	410	100.0	39	8,168	97.5	2	74	9.7
23-Sep	0	0	410	100.0	24	8,192	97.7	6	80	10.5
24-Sep	0	0	410	100.0	25	8,217	98.0	5	85	11.2
25-Sep	0	0	410	100.0	12	8,229	98.2	22	107	14.1
26-Sep	0	0	410	100.0	3	8,232	98.2	9	116	15.2
27-Sep	0	0	410	100.0	3	8,235	98.3	23	139	18.3
28-Sep	0	0	410	100.0	5	8,240	98.3	5	144	18.9
29-Sep	0	0	410	100.0	6	8,246	98.4	4	148	19.4
30-Sep	0	0	410	100.0	9	8,255	98.5	6	154	20.2
01-Oct	0	0	410	100.0	5	8,260	98.6	11	165	21.7
02-Oct	0	0	410	100.0	3	8,263	98.6	9	174	22.9
03-Oct	0	0	410	100.0	8	8,271	98.7	7	181	23.8
04-Oct	0	0	410	100.0	9	8,280	98.8	5	186	24.4
05-Oct	0	0	410	100.0	4	8,284	98.8	2	188	24.7
06-Oct	0	0	410	100.0	10	8,294	99.0	17	205	26.9
07-Oct	0	0	410	100.0	8	8,302	99.1	10	215	28.3
08-Oct	0	0	410	100.0	9	8,311	99.2	1	216	28.4
09-Oct	0	0	410	100.0	12	8,323	99.3	61	277	36.4
10-Oct	0	0	410	100.0	16	8,339	99.5	141	418	54.9
11-Oct	0	0	410	100.0	9	8,348	99.6	40	458	60.2
12-Oct	0	0	410	100.0	7	8,355	99.7	88	546	71.7
13-Oct	0	0	410	100.0	9	8,364	99.8	18	564	74.1
14-Oct	0	0	410	100.0	5	8,369	99.9	45	609	80.0
15-Oct	0	0	410	100.0	3	8,372	99.9	29	638	83.8
16-Oct	0	0	410	100.0	7	8,379	100.0	6	644	84.6
17-Oct	0	0	410	100.0	1	8,380	100.0	23	667	87.6
18-Oct	0	0	410	100.0	1	8,381	100.0	25	692	90.9
19-Oct	0	0	410	100.0	0	8,381	100.0	63	755	99.2
20-Oct	0	0	410	100.0	0	8,381	100.0	6	761	100.0
Counts	60	410			8,381			761		
Adjustments		24[b/]			-796[c/]			340[d/]		
Spawners	60	434			7,585			1,101		

a/ The sockeye count on August 12 includes an estimated 150 fish which escaped uncounted.
b/ Adjustments include 24 fish which were unsexed and may have been jacks.
c/ Adjustments include 357 females and 357 males retained for brood stock and 44 female and 38 male holding mortalities.
d/ An estimated 75 coho escaped uncounted through the weir on 13-15 October, and 265 coho were holding below the weir when it was dismantled.

Appendix C.12. Daily counts of salmon passing through Little Trapper Lake weir, 1991.

	Sockeye		
Date	Count	Cum.	Percent
18-Jul	--- Weir Installed ---		
19-Jul	0	0	0.0
20-Jul	0	0	0.0
21-Jul	0	0	0.0
22-Jul	0	0	0.0
23-Jul	0	0	0.0
24-Jul	0	0	0.0
25-Jul	0	0	0.0
26-Jul	0	0	0.0
27-Jul	32	32	0.1
28-Jul	141	173	0.8
29-Jul	164	337	1.5
30-Jul	164	501	2.2
31-Jul	487	988	4.3
01-Aug	852	1,840	8.0
02-Aug	1216	3,056	13.3
03-Aug	1451	4,507	19.6
04-Aug	2264	6,771	29.5
05-Aug	1287	8,058	35.1
06-Aug	1230	9,288	40.5
07-Aug	1667	10,955	47.8
08-Aug	856	11,811	51.5
09-Aug	1660	13,471	58.7
10-Aug	1325	14,796	64.5
11-Aug	1441	16,237	70.8
12-Aug	1343	17,580	76.6
13-Aug	1157	18,737	81.7
14-Aug	820	19,557	85.2
15-Aug	346	19,903	86.8
16-Aug	388	20,291	88.4
17-Aug	301	20,592	89.8
18-Aug	154	20,746	90.4
19-Aug	28	20,774	90.6
20-Aug	147	20,921	91.2
21-Aug	123	21,044	91.7
22-Aug	131	21,175	92.3
23-Aug	169	21,344	93.0
24-Aug	162	21,506	93.7
25-Aug	86	21,592	94.1
26-Aug	58	21,650	94.4
27-Aug	76	21,726	94.7
28-Aug	73	21,799	95.0
29-Aug	60	21,859	95.3
30-Aug	86	21,945	95.7
31-Aug	48	21,993	95.9
01-Sep	74	22,067	96.2
02-Sep	119	22,186	96.7
03-Sep	206	22,392	97.6
04-Sep	188	22,580	98.4
05-Sep	178	22,758	99.2
06-Sep	33	22,791	99.3
07-Sep	63	22,854	99.6
08-Sep	21	22,875	99.7
09-Sep	30	22,905	99.8
10-Sep	19	22,924	99.9
11-Sep	10	22,934	100.0
12-Sep	4	22,938	100.0
13-Sep	4	22,942	100.0
14-Sep	Weir Dismantled		
Counted	22,942		
Adjust.[a/]	-1,941		
Spawners	21,001		

[a/] Adjustments include 954 females and 954 males retained for broodstock and 23 female and 10 male holding mortalities.

Appendix C.13. Daily counts of salmon passing through Nakina River weir, 1991. 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 Chinook Count	Large Chinook[a/]			Sockeye			Pink		
		Count	Cum.	Percent	Count	Cum.	Percent	Count	Cum.	Percent
03-Aug		21	21	13.5	3	3	0.6	56	56	7.3
04-Aug		14	35	22.4	0	3	0.6	5	61	8.0
05-Aug		27	62	39.7	0	3	0.6	12	73	9.6
06-Aug		7	69	44.2	0	3	0.6	11	84	11.0
07-Aug		1	70	44.9	0	3	0.6	1	85	11.1
08-Aug		47	117	75.0	7	10	1.9	328	413	54.1
09-Aug		0	117	75.0	0	10	1.9	0	413	54.1
10-Aug		9	126	80.8	3	13	2.5	82	495	64.8
11-Aug		0	126	80.8	0	13	2.5	0	495	64.8
12-Aug		1	127	81.4	3	16	3.1	31	526	68.8
13-Aug		0	127	81.4	0	16	3.1	0	526	68.8
14-Aug		15	142	91.0	25	41	7.9	57	583	76.3
15-Aug		4	146	93.6	26	67	12.9	62	645	84.4
16-Aug		3	149	95.5	12	79	15.2	27	672	88.0
17-Aug		3	152	97.4	28	107	20.6	44	716	93.7
18-Aug		1	153	98.1	20	127	24.4	22	738	96.6
19-Aug		1	154	98.7	10	137	26.3	14	752	98.4
20-Aug		1	155	99.4	59	196	37.7	12	764	100.0
21-Aug		1	156	100.0	8	204	39.2	0	764	100.0
22-Aug		0	156	100.0	81	285	54.8	0	764	100.0
23-Aug		0	156	100.0	57	342	65.8	0	764	100.0
24-Aug		0	156	100.0	107	449	86.3	0	764	100.0
25-Aug		0	156	100.0	47	496	95.4	0	764	100.0
26-Aug		0	156	100.0	24	520	100.0	0	764	100.0
Totals		156			520			764		

[a/] Large chinook are defined as fish of > 600 POH length.

Appendix C.14. Daily counts of salmon passing through Speel Lake weir, 1991.

	Sockeye		
Date	Count	Cum.	Percent
12-Jul	Weir Installed		
13-Jul	0	0	0.00
14-Jul	0	0	0.00
15-Jul	1	1	0.37
16-Jul	7	8	2.97
17-Jul	1	9	3.35
18-Jul	0	9	3.35
19-Jul	6	15	5.58
20-Jul	4	19	7.06
21-Jul	2	21	7.81
22-Jul	1	22	8.18
23-Jul	0	22	8.18
24-Jul	0	22	8.18
25-Jul	0	22	8.18
26-Jul	2	24	8.92
27-Jul	1	25	9.29
28-Jul	0	25	9.29
29-Jul	5	30	11.15
30-Jul	3	33	12.27
31-Jul	2	35	13.01
01-Aug	2	37	13.75
02-Aug	2	39	14.50
03-Aug	12	51	18.96
04-Aug	3	54	20.07
05-Aug	0	54	20.07
06-Aug	0	54	20.07
07-Aug	0	54	20.07
08-Aug	0	54	20.07
09-Aug	0	54	20.07
10-Aug	0	54	20.07
11-Aug	0	54	20.07
12-Aug	0	54	20.07
13-Aug	0	54	20.07
14-Aug	12	66	24.54
15-Aug	20	86	31.97
16-Aug	5	91	33.83
17-Aug	0	91	33.83
18-Aug	21	112	41.64
19-Aug	30	142	52.79
20-Aug	7	149	55.39
21-Aug	5	154	57.25
22-Aug	33	187	69.52
23-Aug	17	204	75.84
24-Aug	21	225	83.64
25-Aug	0	225	83.64
26-Aug	0	225	83.64
27-Aug	36	261	97.03
28-Aug	8	269	100.00
Count	269		
Fish holding below weir	30		
Total	299		

Appendix C.15. Daily counts of salmon passing through Crescent Lake weir, 1991. The actual escapements are higher due to fish passage during times water was over the top of the weir. The sockeye escapement was estimated by a mark-recapture study.

	Sockeye			Coho			Chum			Pink		
Date	Count	Cum.	Percent	Count	Cum.	Percent	Count	Cum.	Percent	Count	Cum.	Percent
09-Jul	Weir Installed											
10-Jul	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0
11-Jul	2	2	0.1	0	0	0.0	0	0	0.0	1	1	0.0
12-Jul	3	5	0.3	0	0	0.0	0	0	0.0	0	1	0.0
13-Jul	2	7	0.4	0	0	0.0	0	0	0.0	0	1	0.0
14-Jul	4	11	0.6	0	0	0.0	0	0	0.0	0	1	0.0
15-Jul	14	25	1.3	0	0	0.0	0	0	0.0	0	1	0.0
16-Jul	22	47	2.5	0	0	0.0	0	0	0.0	0	1	0.0
17-Jul	27	74	4.0	0	0	0.0	0	0	0.0	0	1	0.0
18-Jul	17	91	4.9	0	0	0.0	0	0	0.0	0	1	0.0
19-Jul	42	133	7.1	0	0	0.0	1	1	0.3	0	1	0.0
20-Jul	90	223	11.9	0	0	0.0	2	3	0.9	4	5	0.2
21-Jul	49	272	14.5	0	0	0.0	1	4	1.3	1	6	0.2
22-Jul	58	330	17.6	0	0	0.0	1	5	1.6	2	8	0.3
23-Jul	28	358	19.1	0	0	0.0	1	6	1.9	3	11	0.4
24-Jul	18	376	20.1	0	0	0.0	0	6	1.9	5	16	0.6
25-Jul	123	499	26.7	0	0	0.0	1	7	2.2	7	23	0.8
26-Jul	146	645	34.5	0	0	0.0	2	9	2.8	11	34	1.2
27-Jul	74	719	38.4	0	0	0.0	5	14	4.4	8	42	1.5
28-Jul	42	761	40.7	0	0	0.0	5	19	6.0	3	45	1.6
29-Jul	41	802	42.9	0	0	0.0	3	22	6.9	16	61	2.1
30-Jul	30	832	44.5	0	0	0.0	3	25	7.8	9	70	2.4
31-Jul	37	869	46.4	0	0	0.0	2	27	8.5	18	88	3.1
01-Aug	18	887	47.4	0	0	0.0	3	30	9.4	9	97	3.4
02-Aug	92	979	52.3	0	0	0.0	6	36	11.3	22	119	4.2
03-Aug	37	1,016	54.3	0	0	0.0	2	38	11.9	7	126	4.4
04-Aug	14	1,030	55.1	0	0	0.0	3	41	12.9	7	133	4.6
05-Aug	61	1,091	58.3	0	0	0.0	4	45	14.1	23	156	5.4
06-Aug	36	1,127	60.2	0	0	0.0	0	45	14.1	11	167	5.8
07-Aug	30	1,157	61.8	0	0	0.0	1	46	14.4	22	189	6.6
08-Aug	74	1,231	65.8	1	1	3.6	3	49	15.4	48	237	8.3
09-Aug	94	1,325	70.8	0	1	3.6	3	52	16.3	61	298	10.4
10-Aug	107	1,432	76.5	1	2	7.1	4	56	17.6	24	322	11.2
11-Aug	43	1,475	78.8	0	2	7.1	2	58	18.2	29	351	12.3
12-Aug	100	1,575	84.2	0	2	7.1	7	65	20.4	65	416	14.5
13-Aug	53	1,628	87.0	0	2	7.1	7	72	22.6	96	512	17.9
14-Aug	27	1,655	88.5	0	2	7.1	8	80	25.1	142	654	22.8
15-Aug	10	1,665	89.0	0	2	7.1	4	84	26.3	105	759	26.5
16-Aug	24	1,689	90.3	2	4	14.3	12	96	30.1	173	932	32.5
17-Aug	18	1,707	91.2	0	4	14.3	17	113	35.4	225	1,157	40.4
18-Aug	2	1,709	91.3	0	4	14.3	17	130	40.8	144	1,301	45.4
19-Aug	0	1,709	91.3	0	4	14.3	7	137	42.9	49	1,350	47.1
20-Aug	0	1,709	91.3	0	4	14.3	0	137	42.9	0	1,350	47.1
21-Aug	0	1,709	91.3	1	5	17.9	7	144	45.1	77	1,427	49.8
22-Aug	22	1,731	92.5	3	8	28.6	16	160	50.2	330	1,757	61.3
23-Aug	36	1,767	94.4	7	15	53.6	20	180	56.4	381	2,138	74.7
24-Aug	36	1,803	96.4	2	17	60.7	41	221	69.3	204	2,342	81.8
25-Aug	22	1,825	97.5	2	19	67.9	32	253	79.3	274	2,616	91.3
26-Aug	46	1,871	100.0	9	28	100.0	66	319	100.0	248	2,864	100.0
Counts	1,871			28			319			2,864		

Mark-recapture estimate
9,208

Appendix D.1. Salmon catches and effort in the Alaskan District 111 commercial drift gillnet fishery, 1964-1991. Days open are for the entire district and include openings to harvest spawner chinook salmon 1964-1975.

	Catch					Effort	
Year	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	2,578	53.00
1971	6,958	66,181	41,830	31,484	91,145	2,736	55.00
1972	10,955	80,404	49,780	144,339	147,957	2,925	50.00
1973	9,799	85,317	35,453	58,186	109,245	3,051	38.00
1974	2,905	38,676	38,661	57,732	86,687	2,227	27.50
1975	2,182	32,513	1,185	9,567	2,678	1,106	15.50
1976	1,757	61,749	41,729	14,962	81,803	1,939	25.00
1977	1,068	70,097	54,917	88,578	61,102	2,284	27.00
1978	1,926	55,398	31,944	51,385	36,254	2,178	24.00
1979	3,702	122,376	16,192	152,410	61,200	2,324	28.83
1980	2,422	123,117	41,515	295,553	192,750	4,113	30.92
1981	1,720	49,765	26,803	255,029	76,092	2,660	30.00
1982	3,057	83,479	29,072	109,385	37,310	2,478	35.50
1983	888	31,627	21,443	66,080	15,188	1,274	34.00
1984	1,773	77,233	33,836	145,949	86,741	2,725	66.50
1985	2,651	88,192	55,597	311,248	106,720	3,102	48.00
1986	2,606	73,061	30,512	16,568	58,792	2,035	32.50
1987	2,105	74,457	35,173	355,725	121,862	2,588	35.75
1988	1,778	39,168	45,179	157,424	139,704	2,003	31.00
1989	1,811	74,019	51,812	180,597	36,977	2,333	41.00
1990	3,480	126,884	67,310	153,036	145,530	3,255	39.40
Averages							
64-90	3,619	62,173	36,046	113,300	71,312	2,328	40.96
81-90	2,187	71,789	39,674	175,104	82,492	2,445	39.37
1991	3,217	109,877	126,436	74,183	161,175	4,146	57.00

Appendix D.2. Stock proportions and catches of sockeye salmon in the Alaskan District 111 commercial drift gillnet fishery, 1983-1991. 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[a/]	0.077	0.616		0.156	0.848	0.051	0.100	0.152
1990	0.036	0.197	0.336	0.286	0.855	0.112	0.033	0.145
Averages[b/]	0.073	0.214	0.330	0.151	0.784	0.157	0.076	0.216
1991	0.039	0.297	0.373	0.232	0.941	0.059	0.000	0.059
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[a/]	5,696	45,573		11,536	62,805	3,789	7,425	11,214
1990	4,539	24,952	42,676	36,332	108,499	14,242	4,143	18,385
Averages[b/]	4,872	17,001	26,180	14,194	58,515	10,744	5,401	14,565
1991	4,295	32,685	40,957	25,475	103,412	6,465	0	6,465

[a/] The Trapper and Mainstem groups were combined in the 1989 analysis.
[b/] Averages for individual stocks do not include 1989.

Appendix D.3. Proportion of Taku River sockeye salmon in the Alaskan District 111 commercial drift gill net catch, 1983-1991. Data based on SPA.

Week	1983	1984	1985	1986	1987	1988	1989	1990	1991
25		0.970	0.999	0.938			0.943	0.874	0.988
26	0.996	0.956	0.986	0.953	0.982	0.964	0.989	0.935	0.979
27	0.842	0.843	0.928	0.873	0.901	0.886	0.979	0.904	0.953
28	0.819	0.670	0.974	0.880	0.884	0.889	0.852	0.773	0.979
29	0.663	0.588	0.868	0.852	0.948	0.510	0.835	0.782	0.951
30	0.527	0.712	0.706	0.777	0.414	0.643	0.641	0.863	0.933
31	0.836	0.728	0.737	0.851	0.619	0.677	0.681	0.943	0.936
32	0.534	0.809	0.826	0.757	0.689	0.528	0.919	0.939	0.890
33	0.719	0.726	0.801	0.893	0.841	0.478	0.676	0.878	0.885
34	0.759			0.739	0.731	0.346		0.862	0.875
Total	0.755	0.758	0.838	0.834	0.718	0.663	0.848	0.855	0.941

Appendix D.4. Salmon catch in the U.S. subsistence and personal use fisheries in the Taku River (1967-1991). The subsistence fishery was open 1967 to 1976 and 1985 and the personal use fishery was open 1989 to 1991.

	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
Averages					
All	7	619	57	102	14
85-90	28	1,078	105	305	39
1991	47	1,475	120	188	4

Appendix D.5. Salmon and steelhead trout catch and effort in the Canadian commercial fishery in the Taku River, 1979-1991.

	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
1990	128	1,258	21,100	3,207	378	12	22	295.2	28.30
Averages[a/]									
79-90		475	15,728	4,015	6,006	3,928	153	282.9	29.55
81-90		538	15,256	3,576	3,160	1,315	112	231.7	26.56
1991	432	1,177	25,067	3,415	296	2	5	284.0	25.00

[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, 1986-1991. Data based on SPA.

		Little		Little
Year	Kuthai	Trapper	Mainstem	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
1990	0.112	0.388	0.338	0.163
Averages				
86-90[b/]	0.107	0.351	0.420	0.123
1991	0.064	0.308	0.452	0.176
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
1990	2,355	8,183	7,131	3,431
Averages				
86-90[b/]	1,633	5,443	6,299	1,976
1991	1,601	7,721	11,327	4,418

[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, 1987–1991.

	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
Averages						
87–90	50	359	678	17	78	20
1991[a/]	0	163	2,004	3	295	41

a/ Test fishery was run only during weeks 34 through 43.

Appendix D.8. Sockeye salmon escapement estimates of Taku River and Port Snettisham stocks, 1983–1991.

	Taku Above Border[a/]		Little Trapper		Little Tatsamenie		Hackett	Crescent		Speel	
	Run	Escapement	Escape.	Spawners	Escape.	Spawners	Weir	Escape.	Spawners	Escape.	Spawners
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/]		13,093		2,309	7,249		7,073	
1986	105,109	90,370	13,820		11,446		1,004	3,414		5,857	5,449
1987	87,130	73,339	12,007[b/]		2,794		910	7,839		9,319	9,319
1988	87,028	74,061	10,637		2,063		516	1,199[c/]		969	710
1989	114,068	95,263	9,606		3,039			1,109[c/]	775	12,229	10,114
1990	114,254	92,869	9,443		5,736			1,262[c/]	757	18,064[c/]	16,867
Averages											
83–90	108,452	90,856	11,361		6,362		1,185	6,025		9,220	
86–90	101,518	85,180	11,103		5,016			2,965		9,288	
1991	150,507	125,127	22,942	21,001	8,381	7,585		9,208[d/]	8,666	299	299

a/ Mark-recapture estimates.
b/ Weir count plus spawning ground survey.
c/ Count may be low due to uncounted fish passage past weir.
d/ Mark-recapture estimate, weir count was 1,871 sockeye salmon.

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, 1975–1991.

Year	Kowatua	Tatsatua	Dudidontu	Tseta	Nakina	Nahlin	Total Index Count
1975			15		1,800	274	2,089
1976	341	620	40		3,000	725	4,726
1977	580	573	18		3,850	650	5,671
1978	490	550	0	21	1,620	624	3,305
1979	430	750	9		2,110	857	4,156
1980	450	905	158		4,500	1,531	7,544
1981	560	839	74	258	5,110	2,945	9,786
1982	289	387	130	228	2,533	1,246	4,813
1983	171	236	117	179	968	391	2,062
1984	279	616		176[a/]	1,887	951[b/]	3,909
1985	699	848	475	303	2,647	2,236	7,208
1986	548	886	413	193	3,868	1,612	7,520
1987	570	678	287	180	2,906	1,122	5,743
1988	1,010	1,272	243	66	4,500	1,535	8,626
1989	601	1,228	204	494	5,141	1,812	9,480
1990	614	1,068	820	172	7,917	1,658	12,249
Averages							
75–90	509	764	200	206	3,397	1,261	6,180
85–90	674	997	407	235	4,497	1,663	8,471
1991	570	1,164	804	224	5,610	1,781	10,153

a/ Partial survey.
b/ Extrapolated results.

Appendix D.10. Taku River (above border) coho salmon run size, 1987-1991.

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/]
1990	3,207	74	472	71,284	75,037[d/]
Averages					
87-90	3,701	106	678	55,778	60,237
1991	3,415	20	2,004	129,510	134,949

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, 1984-1991. Counts are for age-.1 fish and do not include jacks.

Year	Yehring Creek Weir	Yehring Creek (Aerial)	Sockeye Creek (Aerial)	Johnson Creek (Ar/Foot)	Fish Creek (Aerial)	Flannigan Slough (Aerial)	Tatsamenie River Weir	Hackett River Weir	Dudidontu River (Aerial)	Upper Nahlin River (Aerial)
1984		2,900	275	235	700	1,480				
1985		560	740	150	1,000	2,320	201[b/]	1,031		
1986	2,116	1,200[a/]	183	70	65	1,095	344[b/]	2,723	108	318
1987	1,627	590[a/]	1,040	150	250	2,100	173[b/]	1,715	276	165
1988	1,423	685	660	500	1,280	1,241[c/]	663[a/]	1,260	367	694[d/]
1989	1,570	600[e/]	400	400	760	1,464	712[a/]	[f/]	115	322
1990	2,522	220[e/]	230	0	250	414[c/]	669[a/]		25	256
Averages										
84-90	1,852	965	504	215	615	1,445	460		178	351
87-90	1,786	524	583	263	635	1,305	554		196	359
1991		500	360	120	460	1,370	1,101		458	176[g/]

a/ Weir count combined with spawning ground count.
b/ Incomplete count.
c/ Count is an average of surveys by different observers.
d/ Weir count of 1,322.
e/ Includes mark-recapture estimate.
f/ Weir discontinued in 1988.
g/ Poor survey conditions.

Appendix D.12. Taku River sockeye salmon run size, 1984-1991. Run estimate does not include spawning escapements below the U.S./Canada border.

Year	Canadian Catch: Commercial	Food	Test	Above Border: Escapement	Run	U.S. Catch[a/]	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[b/]
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
1990	21,100	89	285	92,780	114,254	110,059	224,313
Averages							
84-90	17,348			90,843	108,452	64,072	172,524
86-90	15,990			85,163	101,518	63,026	164,544
1991	25,067	150	163	125,127	150,507	105,606	256,113[c/]

a/ Includes subsistence and personal use catches.
b/ Includes test fishery catch of 1,030 Taku sockeye salmon in 1987.
c/ Includes test fishery catch of 719 Taku sockeye salmon in 1991.

Appendix E.1. Weekly salmon catch and effort in the U.S. commercial fishery in the Alsek River, 1991. There was no effort in the surf fishery in 1991.

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Boats	Days Open	Boat Days
24	09-Jun								
25	16-Jun	68	875	0	0	0	21	1	21
26	23-Jun	20	757	0	0	0	10	2	20
27	30-Jun	10	1,336	0	0	0	20	2	40
28	07-Jul	3	1,475	0	0	1	21	2	42
29	14-Jul	0	3,533	0	0	0	21	3	63
30	21-Jul	1	6,277	0	0	2	19	4	76
31	28-Jul	1	2,200	3	0	2	20	4	80
32	04-Aug	0	956	6	0	1	14	3	42
33	11-Aug	0	13	3	0	1	[a]	3	[a]
34	18-Aug	0	10	13	0	0	[a]	3	[a]
35	25-Aug	0	65	673	0	19	11	3	33
36	01-Sep	0	30	271	0	14	4	3	12
37	08-Sep	0	10	928	0	30	7	4	28
38	15-Sep	0	4	1,790	0	18	8	4	32
39	22-Sep	0	1	1,936	0	15	7	4	28
40	29-Sep	0	0	333	0	0	[a]	4	[a]
Total		103	17,542	5,956	0	103	187	49.0	534

[a] Weekly effort is confidential; 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, 1991.

Week	Date	Chinook				Sockeye				Coho			
		Sport	Release	Food	Total[a]	Sport	Release	Food	Total[a]	Sport	Release	Food	Total[a]
24	09-Jun	0	0	0	0	0	1	0	0	0	0	0	0
25	16-Jun	0	0	0	0	0	0	0	0	0	0	0	0
26	23-Jun	0	0	0	0	0	0	0	0	0	0	0	0
27	30-Jun	9	3	0	9	0	0	0	0	0	0	0	0
28	07-Jul	111	82	48	159	0	17	0	0	0	0	0	0
29	14-Jul	153	74	186	339	0	14	3	3	0	0	0	0
30	21-Jul	111	35	48	159	0	8	2	2	0	0	0	0
31	28-Jul	4	0	34	38	0	0	46	46	0	0	0	0
32	04-Aug	0	0	15	15	0	0	7	7	0	0	0	0
33	11-Aug	0	0	2	2	0	0	101	101	0	0	0	0
34	18-Aug	0	0	1	1	2	0	9	11	0	0	0	0
35	25-Aug	0	0	0	0	25	3	382	407	0	0	0	0
36	01-Sep	0	0	2	2	106	64	148	254	0	0	0	0
37	08-Sep	0	0	0	0	26	1	476	502	0	1	0	0
38	15-Sep	0	0	0	0	53	12	201	254	2	0	0	2
39	22-Sep	0	0	0	0	56	32	101	157	4	1	0	4
40	29-Sep	0	0	0	0	18	49	0	18	39	42	0	39
41	06-Oct	0	0	0	0	14	62	0	14	165	336	0	165
42	13-Oct	0	0	0	0	3	9	0	3	50	132	0	50
Totals[b]		388	194	336	724	303	272	1,476	1,779	260	512	0	260
Adjusted estimates for entire season		388	194	509	897	303	272	2099	2402	260	512	214	474

[a] Does not include released fish.
[b] The total food fish catch above the Klukshu Weir was 241 chinook and 1,906 sockeye salmon.

Appendix E.3. Daily counts of salmon passing through Klukshu River weir, 1991.

	Chinook[a/]			Sockeye			Coho		
		Cumulative			Cumulative			Cumulative	
Date	Daily	Daily	Prop.	Daily	Daily	Prop.	Daily	Daily	Prop.
12-Jun	3	3	0.001	0	0	0.000	0	0	0.000
13-Jun	1	4	0.002	0	0	0.000	0	0	0.000
14-Jun	0	4	0.002	0	0	0.000	0	0	0.000
15-Jun	0	4	0.002	0	0	0.000	0	0	0.000
16-Jun	1	5	0.002	0	0	0.000	0	0	0.000
17-Jun	0	5	0.002	0	0	0.000	0	0	0.000
18-Jun	0	5	0.002	0	0	0.000	0	0	0.000
19-Jun	0	5	0.002	0	0	0.000	0	0	0.000
20-Jun	2	7	0.003	1	1	0.000	0	0	0.000
21-Jun	2	9	0.004	1	2	0.000	0	0	0.000
22-Jun	1	10	0.004	0	2	0.000	0	0	0.000
23-Jun	3	13	0.005	0	2	0.000	0	0	0.000
24-Jun	5	18	0.007	0	2	0.000	0	0	0.000
25-Jun	4	22	0.009	1	3	0.000	0	0	0.000
26-Jun	5	27	0.011	0	3	0.000	0	0	0.000
27-Jun	7	34	0.014	0	3	0.000	0	0	0.000
28-Jun	2	36	0.014	1	4	0.000	0	0	0.000
29-Jun	4	40	0.016	1	5	0.000	0	0	0.000
30-Jun	4	44	0.018	2	7	0.000	0	0	0.000
01-Jul	5	49	0.020	2	9	0.000	0	0	0.000
02-Jul	9	58	0.023	1	10	0.001	0	0	0.000
03-Jul	8	66	0.027	0	10	0.001	0	0	0.000
04-Jul	13	79	0.032	0	10	0.001	0	0	0.000
05-Jul	7	86	0.035	2	12	0.001	0	0	0.000
06-Jul	8	94	0.038	1	13	0.001	0	0	0.000
07-Jul	8	102	0.041	0	13	0.001	0	0	0.000
08-Jul	9	111	0.045	1	14	0.001	0	0	0.000
09-Jul	21	132	0.053	4	18	0.001	0	0	0.000
10-Jul	111	243	0.098	5	23	0.001	0	0	0.000
11-Jul	111	354	0.142	3	26	0.001	0	0	0.000
12-Jul	241	595	0.239	64	90	0.005	0	0	0.000
13-Jul	95	690	0.277	11	101	0.005	0	0	0.000
14-Jul	436	1,126	0.452	37	138	0.007	0	0	0.000
15-Jul	148	1,274	0.512	14	152	0.008	0	0	0.000
16-Jul	82	1,356	0.545	17	169	0.009	0	0	0.000
17-Jul	371	1,727	0.694	22	191	0.010	0	0	0.000
18-Jul	34	1,761	0.708	14	205	0.011	0	0	0.000
19-Jul	12	1,773	0.712	0	205	0.011	0	0	0.000
20-Jul	10	1,783	0.716	1	206	0.011	0	0	0.000
21-Jul	17	1,800	0.723	0	206	0.011	0	0	0.000
22-Jul	35	1,835	0.737	3	209	0.011	0	0	0.000
23-Jul	32	1,867	0.750	0	209	0.011	0	0	0.000
24-Jul	57	1,924	0.773	2	211	0.011	0	0	0.000
25-Jul	176	2,100	0.844	5	216	0.011	0	0	0.000
26-Jul	28	2,128	0.855	0	216	0.011	0	0	0.000
27-Jul	7	2,135	0.858	0	216	0.011	0	0	0.000
28-Jul	6	2,141	0.860	7	223	0.012	0	0	0.000
29-Jul	41	2,182	0.877	12	235	0.012	0	0	0.000
30-Jul	30	2,212	0.889	4	239	0.013	0	0	0.000
31-Jul	17	2,229	0.896	2	241	0.013	0	0	0.000
01-Aug	20	2,249	0.904	3	244	0.013	0	0	0.000
02-Aug	19	2,268	0.911	1	245	0.013	0	0	0.000
03-Aug	67	2,335	0.938	5	250	0.013	0	0	0.000
04-Aug	8	2,343	0.941	1	251	0.013	0	0	0.000
05-Aug	11	2,354	0.946	0	251	0.013	0	0	0.000
06-Aug	11	2,365	0.950	1	252	0.013	0	0	0.000
07-Aug	7	2,372	0.953	2	254	0.013	0	0	0.000
08-Aug	12	2,384	0.958	3	257	0.014	0	0	0.000
09-Aug	33	2,417	0.971	85	342	0.018	0	0	0.000
10-Aug	4	2,421	0.973	1	343	0.018	0	0	0.000
11-Aug	2	2,423	0.973	4	347	0.018	0	0	0.000
12-Aug	15	2,438	0.980	333	680	0.036	0	0	0.000
13-Aug	7	2,445	0.982	296	976	0.051	0	0	0.000
14-Aug	5	2,450	0.984	601	1,577	0.083	0	0	0.000
15-Aug	4	2,454	0.986	347	1,924	0.101	0	0	0.000
16-Aug	3	2,457	0.987	448	2,372	0.125	0	0	0.000
17-Aug	4	2,461	0.989	92	2,464	0.130	0	0	0.000
18-Aug	1	2,462	0.989	150	2,614	0.138	0	0	0.000
19-Aug	0	2,462	0.989	83	2,697	0.142	0	0	0.000
20-Aug	10	2,472	0.993	1059	3,756	0.198	0	0	0.000
21-Aug	1	2,473	0.994	22	3,778	0.199	0	0	0.000
22-Aug	1	2,474	0.994	237	4,015	0.212	0	0	0.000
23-Aug	4	2,478	0.996	6	4,021	0.212	0	0	0.000
24-Aug	1	2,479	0.996	150	4,171	0.220	0	0	0.000
25-Aug	0	2,479	0.996	7	4,178	0.220	0	0	0.000
26-Aug	4	2,483	0.998	279	4,457	0.235	0	0	0.000
27-Aug	1	2,484	0.998	69	4,526	0.238	0	0	0.000
28-Aug	1	2,485	0.998	9	4,535	0.239	0	0	0.000
29-Aug	2	2,487	0.999	26	4,561	0.240	0	0	0.000
30-Aug	0	2,487	0.999	37	4,598	0.242	0	0	0.000
31-Aug	1	2,488	1.000	93	4,691	0.247	0	0	0.000
01-Sep	0	2,488	1.000	106	4,797	0.253	0	0	0.000
02-Sep	1	2,489	1.000	1117	5,914	0.312	0	0	0.000
03-Sep	0	2,489	1.000	2418	8,332	0.439	0	0	0.000
04-Sep	0	2,489	1.000	1201	9,533	0.502	0	0	0.000
05-Sep	0	2,489	1.000	592	10,125	0.534	0	0	0.000
06-Sep	0	2,489	1.000	412	10,537	0.555	0	0	0.000
07-Sep	0	2,489	1.000	636	11,173	0.589	0	0	0.000
08-Sep	0	2,489	1.000	838	12,011	0.633	0	0	0.000
09-Sep	0	2,489	1.000	2141	14,152	0.746	0	0	0.000
10-Sep	0	2,489	1.000	1140	15,292	0.806	1	1	0.000
11-Sep	0	2,489	1.000	315	15,607	0.822	0	1	0.000
12-Sep	0	2,489	1.000	152	15,759	0.830	0	1	0.000
13-Sep	0	2,489	1.000	516	16,275	0.858	1	2	0.000
14-Sep	0	2,489	1.000	133	16,408	0.865	1	3	0.000
15-Sep	0	2,489	1.000	16	16,424	0.865	2	5	0.001
16-Sep	0	2,489	1.000	126	16,550	0.872	0	5	0.001
17-Sep	0	2,489	1.000	1027	17,577	0.926	2	7	0.001

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Date	Chinook[a/] Daily	Chinook[a/] Cumulative Daily	Chinook[a/] Cumulative Prop.	Sockeye Daily	Sockeye Cumulative Daily	Sockeye Cumulative Prop.	Coho Daily	Coho Cumulative Daily	Coho Cumulative Prop.
18-Sep	0	2,489	1.000	143	17,720	0.934	2	9	0.001
19-Sep	0	2,489	1.000	17	17,737	0.935	0	9	0.001
20-Sep	0	2,489	1.000	0	17,737	0.935	0	9	0.001
21-Sep	0	2,489	1.000	3	17,740	0.935	0	9	0.001
22-Sep	0	2,489	1.000	3	17,743	0.935	3	12	0.001
23-Sep	0	2,489	1.000	28	17,771	0.936	3	15	0.002
24-Sep	0	2,489	1.000	1	17,772	0.937	4	19	0.002
25-Sep	0	2,489	1.000	2	17,774	0.937	3	22	0.003
26-Sep	0	2,489	1.000	3	17,777	0.937	7	29	0.003
27-Sep	0	2,489	1.000	369	18,146	0.956	307	336	0.039
28-Sep	0	2,489	1.000	0	18,146	0.956	23	359	0.042
29-Sep	0	2,489	1.000	0	18,146	0.956	23	382	0.045
30-Sep	0	2,489	1.000	47	18,193	0.959	164	546	0.064
01-Oct	0	2,489	1.000	1	18,194	0.959	15	561	0.066
02-Oct	0	2,489	1.000	9	18,203	0.959	17	578	0.068
03-Oct	0	2,489	1.000	2	18,205	0.959	23	601	0.070
04-Oct	0	2,489	1.000	17	18,222	0.960	648	1,249	0.146
05-Oct	0	2,489	1.000	37	18,259	0.962	879	2,128	0.249
06-Oct	0	2,489	1.000	50	18,309	0.965	1091	3,219	0.377
07-Oct	0	2,489	1.000	1	18,310	0.965	136	3,355	0.393
08-Oct	0	2,489	1.000	15	18,325	0.966	468	3,823	0.448
09-Oct	0	2,489	1.000	87	18,412	0.970	836	4,659	0.546
10-Oct	0	2,489	1.000	233	18,645	0.983	1082	5,741	0.672
11-Oct	0	2,489	1.000	169	18,814	0.991	871	6,612	0.774
12-Oct	0	2,489	1.000	14	18,828	0.992	186	6,798	0.796
13-Oct	0	2,489	1.000	27	18,855	0.994	447	7,245	0.848
14-Oct	0	2,489	1.000	112	18,967	0.999	665	7,910	0.926
15-Oct	0	2,489	1.000	8	18,975	1.000	381	8,291	0.971
16-Oct	0	2,489	1.000	2	18,977	1.000	249	8,540	1.000
Totals		2,489			18,977			8,540	
Adjustments									
Egg Take		25			8			2	
Disease Samples								60	
Catch		241			1,906				
Total Escapement		2,223			17,063			8,478	

[a/] Jack chinook included in the counts.

Appendix E.4. Salmon catch and effort in the U.S. commercial fishery in the Alsek River, 1964-1991.

	Catch					Effort	
Year	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	357	38.80
1990	78	16,852	1,437	0	495	376	38.00
Averages							
64-90	857	22,354	6,274	58	478	632	50.91
81-90	303	16,262	5,163	14	846	415	36.63
1991	103	17,542	5,956	0	103	513	49.00

Appendix E.5. Salmon catch in the U.S. subsistence fishery in the Alsek River, 1976-1991.

	Catch		
Year	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
1990	85	144	12
Averages			
76-90	38	99	36
81-90	36	116	36
1991	65	191	50

Appendix E.6. Salmon catches in the Canadian food and sport fisheries in the Alsek River, 1976-1991.

	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
1990	173	555	728	2,012	392	2,404	0	75	75
Averages									
76-90	179	322	502	3,383	490	3,873	3	114	117
81-90	174	318	492	2,163	441	2,604	5	91	96
1991	509	388	897	2,099	303	2,402	214	260	474

Appendix E.7. Klukshu River weir counts of chinook, sockeye, and coho salmon, 1976-1991. The escapements into Klukshu Lake are calculated from the weir count - fish harvested above the weir site. The remainder of the food fishery harvest occured below the weir, at Village Creek, and Blanchard and Takhanne Rivers.

	Chinook[a/]		Sockeye				Coho[c/]	
Year	Count	Escape.	Early[b/]	Late	Total	Escape.	Count	Escape.
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	
1990	1,915	1,742	1,316	24,679	25,995	24,607	315	
Averages								
76-90	2,421	2,242	2,713	16,588	19,302	15,961	949	
85-90	2,199	2,068						
86-90			1,797	17,049	18,846	17,252		
87-90							1,378	
1991	2,489	2,223	1,924	17,053	18,977	17,063	8,540	8,478

[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.

Appendix E.8. Alsek River sockeye counts from U.S. and Canadian aerial surveys and from the electronic counter at Village Creek, 1985-1991.

	U.S. Aerial Surveys[a]				Canadian Aerial Surveys[b]		Village
Year	Basin Creek	Cabin Creek	Muddy Creek	Tanis River	Tatshenshini River	Neskataheen Lake	Creek Counter[c]
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[d]
1989	320			680	1,689	1,700	9,569
1990	275	300		3,500			7,500
Averages 86-90	309	260	300	1,846	886	969	4,173
1991				800			5,670

[a] Surveys not made every year at each tributary.
[b] Included several streams from Lo-Fog to Goat Creek.
[c] Counts include estimates made during sporadic periods when the counter malfunctioned.
[d] Incomplete count due to machine malfunction.

Appendix E.9. Aerial survey index counts of Alsek chinook salmon escapements, 1984-1991.

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
Averages 85-90	462	248	69
1991	121	86	63

[a] Not surveyed due to poor visablilty.

Appendix E.10. Aerial survey counts of coho salmon from U.S. lower Alsek River tributaries, 1984-1991.

Year	Combined U.S. Tributary Counts
1985	450
1986	1,100
1987	100
1988	1,900
1989	1,990
1990	1,600
Averages 87-90	1,398
1991	500[a]

[a] Few systems surveyed.