

**PACIFIC SALMON COMMISSION
JOINT TRANSBOUNDARY TECHNICAL COMMITTEE
TRANSBOUNDARY RIVER SALMON PRODUCTION,
HARVEST AND ESCAPEMENT ESTIMATES, 1994
TCTR (96)-2**

May, 1996

**PACIFIC SALMON COMMISSION
TRANSBOUNDARY TECHNICAL
COMMITTEE REPORT**

**TRANSBOUNDARY RIVER SALMON PRODUCTION,
HARVEST, AND ESCAPEMENT ESTIMATES, 1994**

By
The Transboundary Technical Committee

For
The Pacific Salmon Commission

May 1996

MEMORIAL

On September 22, 1994, Mr. Johnny Tashoots, Fisheries Technician for the Tahltan Tribal Council (Council), Iskut, B.C., and pilot Mr. Ron Janzen of Tel Air, Telegraph Creek, B.C. tragically died in a plane crash on the east side of the Speel River in Alaska, approximately 50 km southeast of Juneau. Messrs. Tashoots and Janzen were returning to Tahltan Lake in British Columbia near Telegraph Creek, after delivering sockeye eggs to the Port Snettisham Hatchery. This was one of numerous egg-take flights conducted as part of a joint Canada-U.S. transboundary sockeye enhancement program that was developed under the Pacific Salmon Treaty. In this program, eggs are taken in the fall from Stikine and Taku river sockeye spawning stocks in British Columbia and flown to the hatchery for incubation in Alaska during the winter. The resultant fry are transplanted back into Canadian waters the following spring/early summer. Adult sockeye produced from this program will enhance fisheries located in northern B.C. and Southeastern Alaska.

Johnny was an employee of the Tahltan Tribal Council's Fisheries Program, a program which provided technical and administrative services to Triton Environmental Consultants who were contracted to conduct the Tahltan egg take. Johnny had also previously worked for the Canadian Department of Fisheries and Oceans (DFO) as a contractor through the Council's Fisheries Program; more recently he had participated in fisheries projects through the Council-DFO Aboriginal Fisheries Strategy program. His work serves as inspiration for all to follow, in particular the youth of First Nations in northern Canada and Alaska.

Ron was an integral part of just about all of DFO's programs in the Stikine drainage and other projects in the Taku watershed. Despite working in an area that is prone to some of the most difficult flying conditions on the continent, he provided reliable logistical support willingly to fisheries management, research and enhancement programs, and to fishermen.

Because the joint enhancement program potentially will result in benefits to both countries, it has served as a model of the type of cooperation envisaged when the Pacific Salmon Treaty was conceived. Although Treaty negotiations have experienced times of great difficulty, it is efforts of individuals such as those of Johnny and Ron that have demonstrated the true spirit that the Treaty aspires to achieve.

Through their dedicated work, which was always conducted in a cheerful manner, Johnny and Ron made a significant and lasting contribution to the fisheries resource of the transboundary rivers, and to those that rely on that resource in both Canada and the United States. For that, we are truly very grateful.

To the family and friends of Mr. Johnny Tashoots and Mr. Ron Janzen, the members of the Transboundary Technical Committee and Enhancement Subcommittee extend our deepest sympathies.

ACRONYMS

ADF&G	Alaska Department of Fish and Game
CPUE	Catch per unit effort
DFO	Department of Fisheries and Oceans (Canadian)
DIPAC	Douglas Island Pink and Chum (Hatchery)
ESSR	Excess Salmon to Spawning Requirement (surplus fishery license)
SMM	Stikine Management Model
TAC	Total Allowable Catch
TTC	Transboundary Technical Committee
TRTFN	Tahltan River Tlingit First Nation

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EXECUTIVE SUMMARY

Estimates of catches and escapements of Pacific salmon returning to the transboundary Stikine, Taku, and Alsek rivers for 1994 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.

The 1994 Stikine sockeye run is estimated at 208,000 fish, of which an estimated 133,900 fish were harvested in various fisheries, 3,400 were used for brood stock, and 70,800 escaped to spawn. The catch was the second highest recorded since 1982 when stock identification techniques were first used for marine catches. The total run was the fourth highest, with the escapement slightly less than the 1984-1993 average of 77,000 sockeye. The estimated U.S. marine commercial catch of Stikine sockeye salmon was 80,500 fish; the Canadian inriver commercial, aboriginal, terminal, and test fishery catches were 40,900, 4,200, 6,900 and 1,400 fish, respectively. Enhanced sockeye salmon from outplants in Tahltan Lake contributed an estimated 18,300 and 6,400 fish to the U.S. and Canada catch, respectively. The preseason forecast of the run ranged from 312,000 (Canada) to 346,000 (U.S.) sockeye, quite a bit greater than the postseason estimate of 208,000 sockeye. In 1994 the Stikine Management Model correctly predicted a larger than average run for both the Tahltan and the total Stikine sockeye stocks. Weekly inseason model forecasts ranged from 141,100 to 382,400 sockeye salmon; the final inseason prediction was 249,300 to 356,200 fish, Canadian and U.S. estimates, respectively. Canadian commercial and aboriginal fisheries harvested 29% of the total allowable catch, which was below their 50% allowance, and the U.S. harvested 52% of the total allowable catch, which was slightly above their 50% allowance. The sockeye escapement to Tahltan Lake was 46,400 fish, 47% above the 1984-1993 average and above the spawning escapement goal of 24,000 fish. A brood-stock take and terminal fishery removed 3,400 and 6,900 sockeye salmon, respectively, from the escapement to the lake, leaving a spawning escapement of 36,100 fish. The estimated spawning escapement of 34,600 non-Tahltan Stikine sockeye salmon was within the escapement goal range (20,000-40,000 fish) for this stock group.

The chinook catch in Canadian commercial and aboriginal fisheries in the Stikine River was 2,100 fish, 93% of the 1984-1993 average; in 1994 approximately 58% was harvested in commercial fisheries and 42% in the aboriginal fishery. An additional 370 chinook salmon were taken in the Canadian inriver test fishery.

The U.S. marine catch of chinook salmon in the District 106 and 108 mixed stock gillnet fisheries was 2,800 fish, approximately 39% above the 1984-1993 average catch. The chinook spawning escapement of 6,400 large adults through the Little Tahltan River weir in 1994 was 15% above the 1985-1993 average and 20% above the joint U.S./Canada escapement goal of 5,300 fish. Surveys of two other Stikine tributaries showed below average escapements.

The U.S. marine harvest of Stikine River coho salmon is unknown since there is no stock identification program for this species; however, total mixed-stock coho catches of 267,800 and 44,900 fish in Districts 106 and 108, respectively, represented record catches and were more than 97% and 459%, respectively, above the 1984-1993 averages. Alaskan hatchery fish comprised approximately 13% (41,900 fish) of the coho harvest from the two districts. The Canadian inriver coho catch of 3,400 fish was less than the expired treaty entitlement of 4,000 fish. The coho escapement above border was estimated at 46,000 fish, within the escapement goal range of 30,000 to 50,000 coho. Coho survey counts were above average.

The 1994 total Taku River sockeye run estimate is 227,300 fish and included an estimated catch of 127,200

fish and an above-border escapement of 100,100 fish. The catch was 23% above the 1984-1993 average. The total run size was 3% above the 1984-1993 average of 203,300 fish. The escapement was about equal to the 1984-1993 average of 99,800 sockeye; however, it exceeded the upper level of the escapement goal range of 71,000 to 80,000 fish. An estimated 97,000 Taku sockeye were taken in the District 111 commercial fishery and 1,100 sockeye in the U.S. inriver personal use fisheries. Canadian inriver commercial and aboriginal fishery catches were 28,800, and 240 sockeye, respectively. The expired harvest agreement for wild Taku River sockeye salmon was 18% of the total allowable catch to Canada and 82% to the U.S. Since the escapement goal is expressed as a range, the resulting TAC is also expressed as a range. In 1994, Canada took an estimated 19% to 20% and the U.S. took 63% to 67% of the total allowable catch.

The catch of large chinook in the Canadian commercial fishery in the Taku River was 2,100 fish, 2.6 times the 1984-1993 average of 800 fish; in addition, 240 jack chinook were caught compared to an average of 160 fish. The chinook catch in the District 111 mixed stock gillnet fishery was 5,000 fish, almost twice the 1984-1993 average. The majority (68%) of chinook caught in District 111 were mature spawners; 58% of the catch was of Alaska hatchery origin. Above average escapements were observed in all but one of the six Taku River chinook index tributaries. The combined aerial survey count of the index tributaries was 9,900 fish, which was 11% above the 1984-1993 average of 8,900 fish, but 25% below the index escapement goal.

The Taku coho run was strong in 1994. The U.S. harvest of 188,500 coho salmon in the District 111 mixed stock fishery was the highest on record and exceeded the previous 10-year-average by 175%. Alaskan hatcheries contributed an estimated 14% of the District 111 harvest, or approximately 27,100 fish. The Canadian inriver commercial and food fishery catch was 14,700 coho salmon, well over the expired annex limit of 3,000 fish. The inriver run size is estimated at 111,000 coho. After upriver Canadian catches are subtracted from the inriver run, the above-border escapement is estimated at 96,300 coho salmon, which far exceeds the interim escapement goal range of 27,500 to 35,000 fish.

The catch of pink salmon in District 111 was 401,500 fish, the largest catch in history and 2.5 times the 1984-1993 even-year-average catch. The Canadian commercial inriver harvest of pink salmon was 168 fish. The escapement of pink salmon to the Taku River was very good as evidenced by the fish wheel catch of 27,100 pink salmon, a record even-year count, and well above the 1984-1992 even-year-average of 10,900 fish.

The catch of chum salmon in the District 111 fishery was 214,200 fish, composed of 198,000 summer run fish (prior to mid-August) and 16,200 fall run fish. The catch of summer chum salmon, primarily Alaskan hatchery stocks, was 27% above the previous record catch of 1993. The catch of fall chum salmon, composed of wild Taku River and Port Snettisham stocks, was 51% below the 1984-1993 average. The Canadian inriver catch of 18 chum salmon was below average. Escapement appeared to be poor; the fish wheel catch of 370 chum salmon was 50% below average.

For the Alsek River, the U.S. commercial catch of 19,600 Alsek sockeye was above the 1984-1993 average. Canadian catches of 1,745 sockeye in the aboriginal fishery and 261 in the sport fishery are 12% and 22% below average, respectively. The escapement to the Klukshu River weir of 15,000 fish was 17% below the 1984-1993 average. The early segment of the Alsek sockeye run was forecast to be strong and fishery performance also indicated this with good catches in the Dry Bay fishery; however, escapement counts at the weir were about average. The Klukshu weir counts of 3,200 early run (count through August 15) and 11,800 late run sockeye were 5% above and 21% below the respective 1984-1993 averages.

The chinook run to the Alsek River was above average. The U.S. Dry Bay catch of 800 fish was over three times the 1984-1993 average. The combined Canadian sport and aboriginal fishery catch of 500 fish was similar to the 1984-1993 average. The 3,700 chinook count through the Klukshu River weir was the second

highest recorded count since the weir was installed in 1976, and was 70% above the 1984-1993 average of 2,200 fish. The Klukshu River escapement goal is 4,700 chinook salmon. Aerial survey index counts of other spawning systems were average to above average.

The coho run to the Alsek River was believed to have been below average, but present stock assessment programs prevent an accurate comparison with historical runs. The U.S. Dry Bay catch of 4,200 coho was slightly above the 1984-1993 average, while the combined Canadian inriver aboriginal and sport fishery catch of 80 fish was 36% below the 1984-1993 average. Operation of the Klukshu weir does not provide a complete enumeration of coho into this system since it is removed before the run is over; the weir count of 1,200 coho salmon was 69% of the 1983-1994 average.

INTRODUCTION

This report presents estimates of 1994 catch and escapement data for Pacific salmon runs to the transboundary Stikine, Taku, and Alsek rivers and discusses management actions taken during the season. Catch and effort data are presented by management week (U.S. statistical week) for each river for both U.S. and Canadian fisheries. Spawning escapement data for most species are reported from weir counts or other escapement monitoring techniques. Sockeye runs to the three rivers are reconstructed using harvest data and spawning escapement estimates.

STIKINE RIVER

Stikine River salmon are harvested by U.S. gillnet fisheries in Alaskan Districts 106 and 108, by Canadian commercial gillnet fisheries located in the lower and upper Stikine River, by a Canadian aboriginal fishery in the upper portion of the river, and in years of excess escapement to Tahltan Lake by a special fishery at that location (Figure 1). In 1994, a U.S. personal use fishery was established in the lower Stikine River. Additional catches of unknown quantity are taken in U.S. commercial 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

Efforts to renegotiate harvest shares of Stikine salmon during the Pacific Salmon Commission and government-to-government negotiations in the spring and summer of 1994 were not successful. As a result, the Parties unilaterally developed the following management plans for the 1994 season:

1. Canada developed a fishing plan for the Stikine River which adopted the arrangements for chinook and sockeye (which had not expired) but excluded the catch ceiling for coho salmon which had expired in 1992 (4,000 pieces). The harvest sharing objective for the sockeye season was to share the total allowable catch (TAC) of Stikine River sockeye salmon 50% to Canada and 50% to the United States. In the event that there was a sockeye surplus to spawning requirements at Tahltan Lake, attempts would be made to harvest some of the surplus.
2. The United States management plan was to continue with the harvest sharing provisions that were in effect in 1993; namely to harvest 50% of the TAC of Stikine sockeye, to incidentally harvest chinook salmon, and to provide for a Canadian harvest of 4,000 coho salmon.

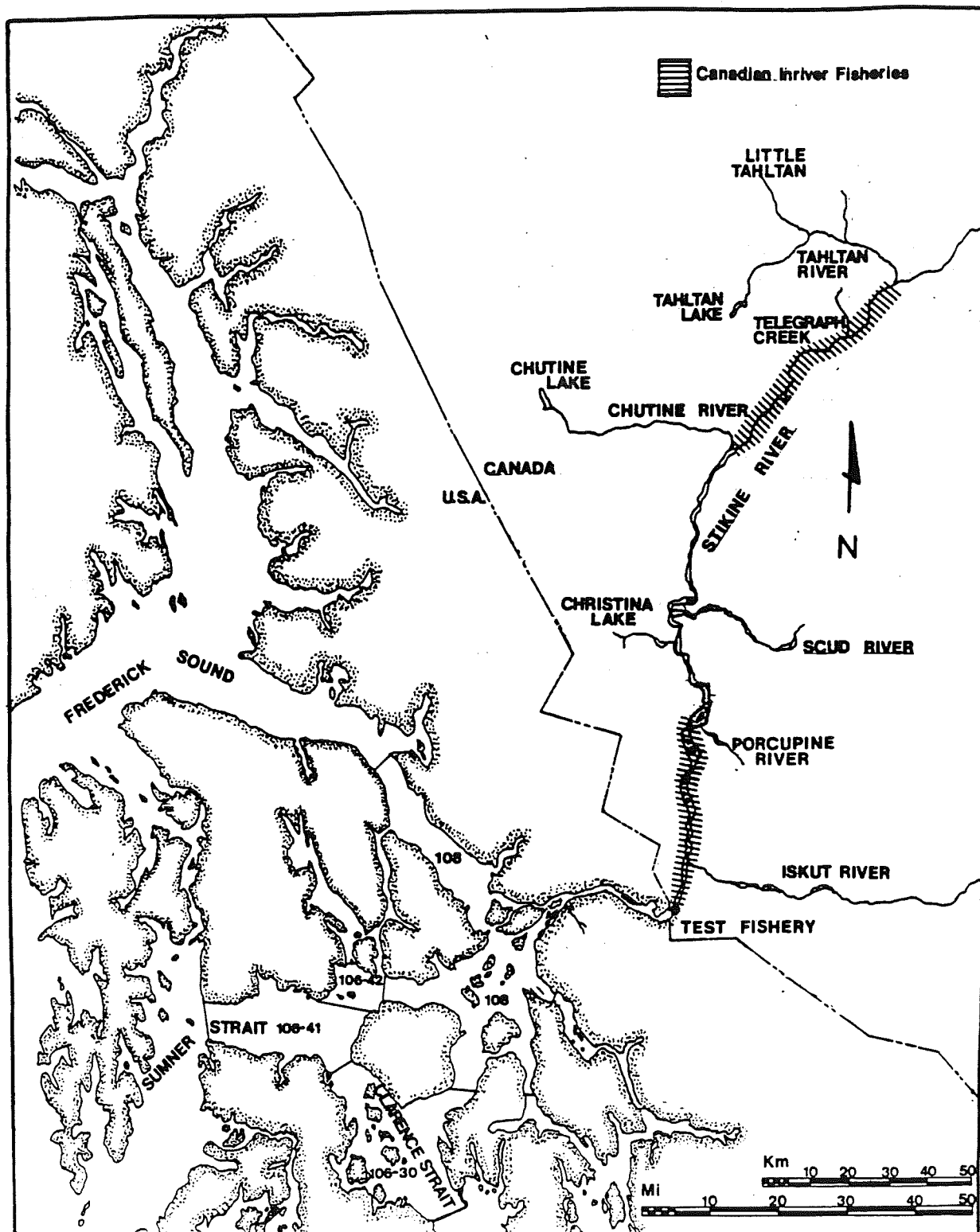


Figure 1. The Stikine River and principal U.S. and Canadian fishing areas.

In previous years, the Transboundary Technical Committee (TTC) met prior to the season to update joint management and enhancement plans and determine new parameters for input into the inseason run forecast model, referred to as the Stikine Management Model (SMM). However, due to uncertainty regarding Pacific Salmon Commission deliberations, a joint management plan was not published in 1994.

Preseason forecasts of Stikine sockeye abundance were made independently by the Parties and the SMM was updated with data inputs from both Parties. In other years, the forecast and SMM update were done jointly during the preseason management meeting.

In 1994, the preseason forecasts were used during statistical weeks 25 (June 12 to June 18) to 27 (June 26 to July 2). Beginning the first week of July, inseason forecasts of total run size and TAC, produced by the SMM 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 test and commercial fisheries; the upper river catch in the aboriginal fishery and upper river commercial fishery; the catch, effort, and assumed stock composition in Subdistrict 106-41; and, the catch and assumed stock composition in District 108 and Subdistrict 106-30. As in 1993, inseason scale pattern analyses were not conducted for District 106 and 108 sockeye catches in 1994. Historically, inseason results had proven to be unreliable. Initially, average stock proportions from the postseason Scale Pattern Analysis (SPA) in previous years were assumed for weekly catches; the averages used each week depended upon whether the run was judged to be below average, average, or above average. However, the Tahltan stock proportions were subsequently adjusted inseason based on the analysis of otolith samples taken in Districts 106 and 108. Inseason otolith sampling was conducted to estimate the contribution of enhanced Tahltan Lake sockeye to catches in these areas. The weekly results were expanded by the proportion of enhanced fish in the age-1+ smolt emigration for the primary brood years (brood years 1989 and 1990 or, 1991 and 1992 smolt counts) to give estimates of the combined wild and enhanced contribution of Tahltan Lake sockeye to the District 106 and 108 catches. Because different proportions of Tahltan fish were observed in the subdistricts of District 108, the overall contribution estimates for District 108 were weighted according to catches in the subdistricts.

The preseason forecasts of returning Stikine sockeye salmon ranged from 312,000 (Canada) to 346,000 (U.S.) fish; both predictions indicated a record run size substantially above the 1984-1993 average total run size of 128,626 (Appendix B.32). Inseason predictions of total run were well above average but were usually below the preseason estimate and ranged from 141,130 to 382,386 sockeye salmon; U.S. and Canadian weekly predictions varied depending upon which forecast each country chose to use. For example, Canada used forecasts based on inriver test fishery data through week 29, and thereafter used forecasts based on the inriver commercial CPUE. The United States, on the other hand, used the forecasts based on the CPUE in District 106. The differences in the forecasts used are summarized in the table below. Both countries chose to abandon the forecasts based on test fishery data because of the limited amount of fishing effort allowed in the test fishery after week 27. The forecasts based on inriver and District 106 CPUE differed widely throughout the season although both indicated an above average return of sockeye to the Stikine River. By the end of the fishing season, the SMM predicted a total run of 249,261 (based on inriver CPUE) to 356,217 sockeye (based on District 106 CPUE) with a TAC ranging from 195,261 to 302,217 fish, and a Canadian and U.S. allowable harvest of 97,631 to 151,109 sockeye salmon each.

The SMM also predicts the Tahltan portion of the run independently from the total run forecasts. Estimates of the Tahltan run ranged from 64,498 (week 29) to 215,103 (week 32) sockeye compared to the preseason forecasts of 211,000 (Canada) and 196,390 (U.S.). The final inseason model run estimate of Tahltan Lake escapement was 58,394 sockeye (inriver run forecast minus inriver catch) to 81,367 sockeye (total run based on District 106 CPUE minus total Canadian and U.S. catch) compared to the actual Tahltan Lake weir count of 46,363 fish.

Table 1. Weekly forecasts of run size and total allowable catch for Stikine River sockeye salmon as determined inseason by the Stikine Management Model, 1994.^{ab}

Week	Start Date	Forecasts		U.S. TAC	Canada TAC	Cumulative	
		Run Size	TAC			Catch U.S.	Canada
Model Runs Generated by the U.S.							
25	12-Jun	345,540	291,540	145,770	145,770	41	0
26	19-Jun	345,540	291,540	145,770	145,770	1,837	0
27	26-Jun	345,540	291,540	145,770	145,770	7,464	443
28	03-Jul	174,388	120,388	60,194	60,194	25,603	5,878
29	10-Jul	180,259	126,259	63,130	63,130	55,864	11,515
30	17-Jul	197,832	143,832	71,916	71,916	93,080	16,660
31	24-Jul	382,386	328,386	164,193	164,193	129,097	34,486
32	31-Jul	362,959	308,959	154,480	154,480	136,297	41,536
33	07-Aug	357,006	303,006	151,503	151,503	140,614	42,528
34	14-Aug	356,217	302,217	151,109	151,109	142,884	44,617
Model Runs Generated by Canada							
26	19-Jun	312,000	258,000	129,000	129,000	2,239	0
27	26-Jun	312,000	258,000	129,000	129,000	18,330	1,148
28	03-Jul	141,130	87,130	43,565	43,565	32,646	9,059
29	10-Jul	151,334	97,334	48,667	48,667	62,666	16,907
30	17-Jul	192,697	138,697	69,349	69,349	107,879	27,466
31	24-Jul	212,287	158,287	79,144	79,144	132,911	36,968
32	31-Jul	231,339	177,339	88,670	88,670	136,179	40,885
33	07-Aug	240,678	186,678	93,339	93,339	136,179	41,579
34	14-Aug	242,551	188,551	94,276	94,276	143,240	44,627
35	21-Aug	249,261	195,261	97,631	97,631	144,017	44,837
	Final	249,261	195,261	97,631	97,631	144,017	44,837

^a U.S. forecast were as follows: the preseason forecast was used for weeks 25, 26, and 27; and the forecast based on District 106 CPUE was used for the remainder of the sockeye season.

^b Canadian forecasts were as follows: the preseason forecast was used for weeks 25, 26, and 27; the forecast based on test fishery data was used in weeks 28 and 29; and the forecasts based on inriver commercial CPUE were used for the remainder of the sockeye season.

U.S. Fisheries

The 1994 harvest in the District 106 commercial gillnet fishery included 754 chinook, 211,048 sockeye, 267,831 coho, 179,994 pink, and 176,018 chum salmon (Appendix A.5). In the District 108 fishery, 1,996 chinook, 97,224 sockeye, 44,891 coho, 35,405 pink, and 27,658 chum salmon were harvested (Appendix A.7). District 106 catches of chinook and pink salmon were below the 1984-1993 averages while sockeye and coho catches were the second highest on record and the chum salmon catch was the highest on record (Figure 2). District 108 catches of all salmon species were above the 1984-1993 average and the sockeye, coho, and chum salmon catches were the highest on record (Figure 2). No test fishery was conducted in District 108; however, based on the large forecast, the season was opened on the second Monday in June, one week earlier than was allowed by regulation in prior years. Annual commercial and test fishery catches from 1964-1994 for these fisheries are provided in Appendices 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. Scales were collected from the various subdistricts and used for making postseason estimates of catch.

The estimate of the contribution of Stikine sockeye to Districts 106 and 108 was 80,506 or 26.1% of the sockeye catch (Appendices B.6 and B.8, Figure 3). The Sumner Strait fishery (Subdistricts 106-41 and -42) harvested 31,214 Stikine sockeye salmon (Appendix A.2), 20% of the total sockeye harvest in those subdistricts; the Clarence Strait fishery (Subdistrict 106-30) harvested 4,033 (Appendix A.4), 8% of the catch in that subdistrict; and the District 108 fishery, near the mouth of the Stikine, harvested 45,259 (Appendix A.8), 47% of the District 108 catch.

The 1994 fishing season in District 108 began on June 12 (statistical week 25) and the District 106 fishing season began on June 19 (statistical week 26); both fisheries continued through October 4. The District 108 fishery was open for one day during the initial opening (statistical week 25, June 12 to June 18). Area restrictions were used for the first two weeks around the mouth of the Stikine River to protect adult chinook returning to the Stikine River. Area restrictions were also used each week during the sockeye and pink fisheries in portions of Frederick Sound this season. During July and the first week of August the closure line for the Stikine River was moved into the Point Rothsay to Indian Point line to avoid areas recognized as having high chinook abundance. Both districts were open for two days on the first general opening (statistical week 26). The initial opening in District 106 is normally two days and any decision to extend fishing 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 expectation of a U.S. TAC of 145,770 Stikine River sockeye. For the general opening in week 26 and for statistical weeks 27 through 29, District 106 was restricted to a two-day per week fishery. District 108 was also open concurrently for two days each week with District 106 and, in addition, had a two-day mid-week opening in statistical weeks 26 and 27 (June 19 to July 2), a three-day mid-week opening in statistical week 28 (July 3 to July 9), and a 3.5-day mid-week opening in statistical weeks 29 (July 10 to July 16). For statistical weeks 30 through 32, District 106 had a three-day per week fishery; District 108 was open concurrently for the three-days per week, and had a 2.5-day mid-week opening in statistical week 30 (July 17 to July 23), and a one-day mid-week opening in statistical week 31 (July 24 to July 30). During this time period the SMM indicated a U.S. TAC of between 71,916 and 164,193 sockeye based on the sockeye CPUE in the District 106 fishery (Table 1). This management approach was used to limit the harvest of small local island sockeye stocks in District 106 while maximizing the harvest of Stikine sockeye in District 108. Effort was high and sockeye catches were not strong enough to warrant additional time in District 106 during the early weeks.

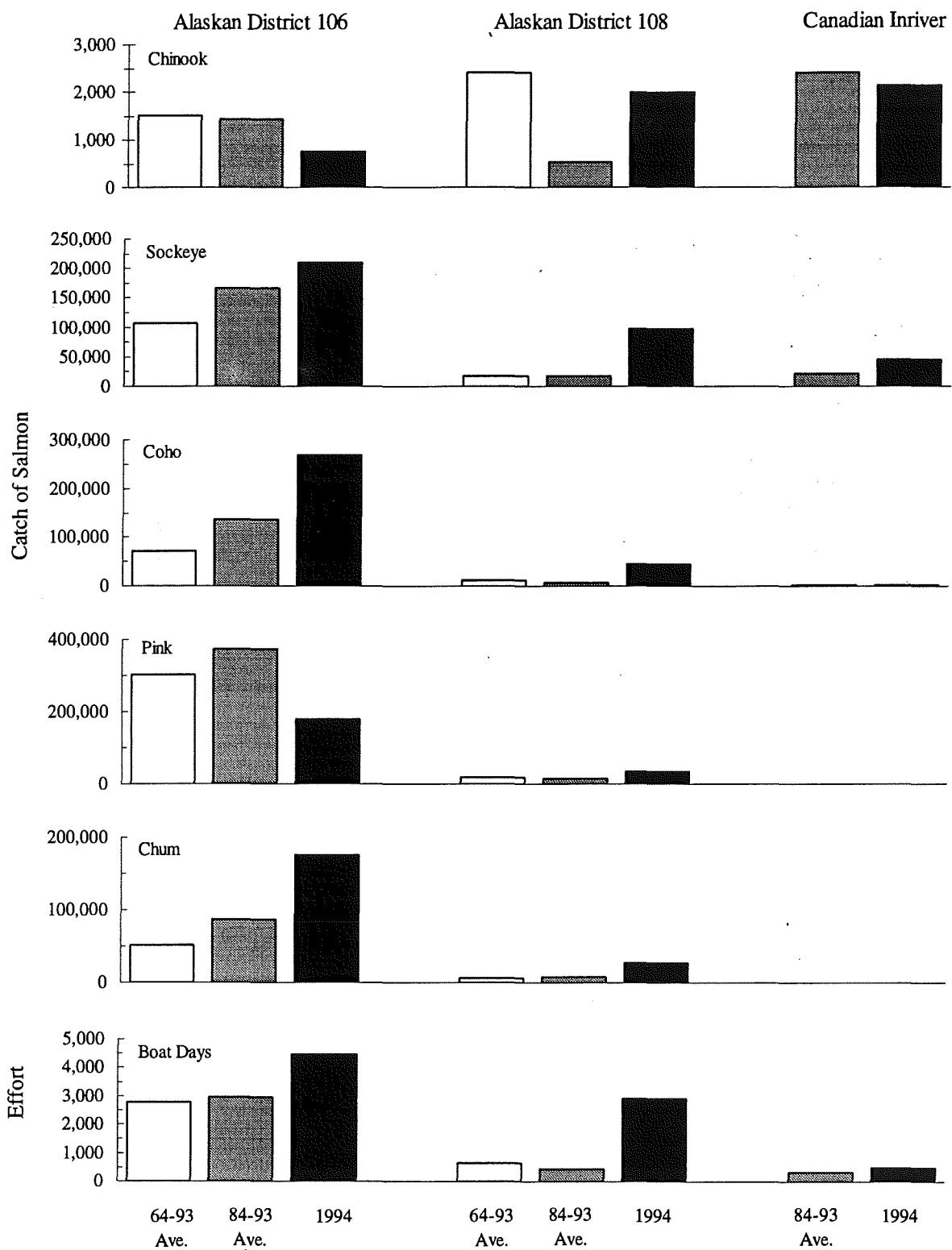


Figure 2. Average catches and fishing efforts compared with 1994 for the Alaskan Districts 106 and 108 and for the Canadian commercial fisheries in the Stikine River.

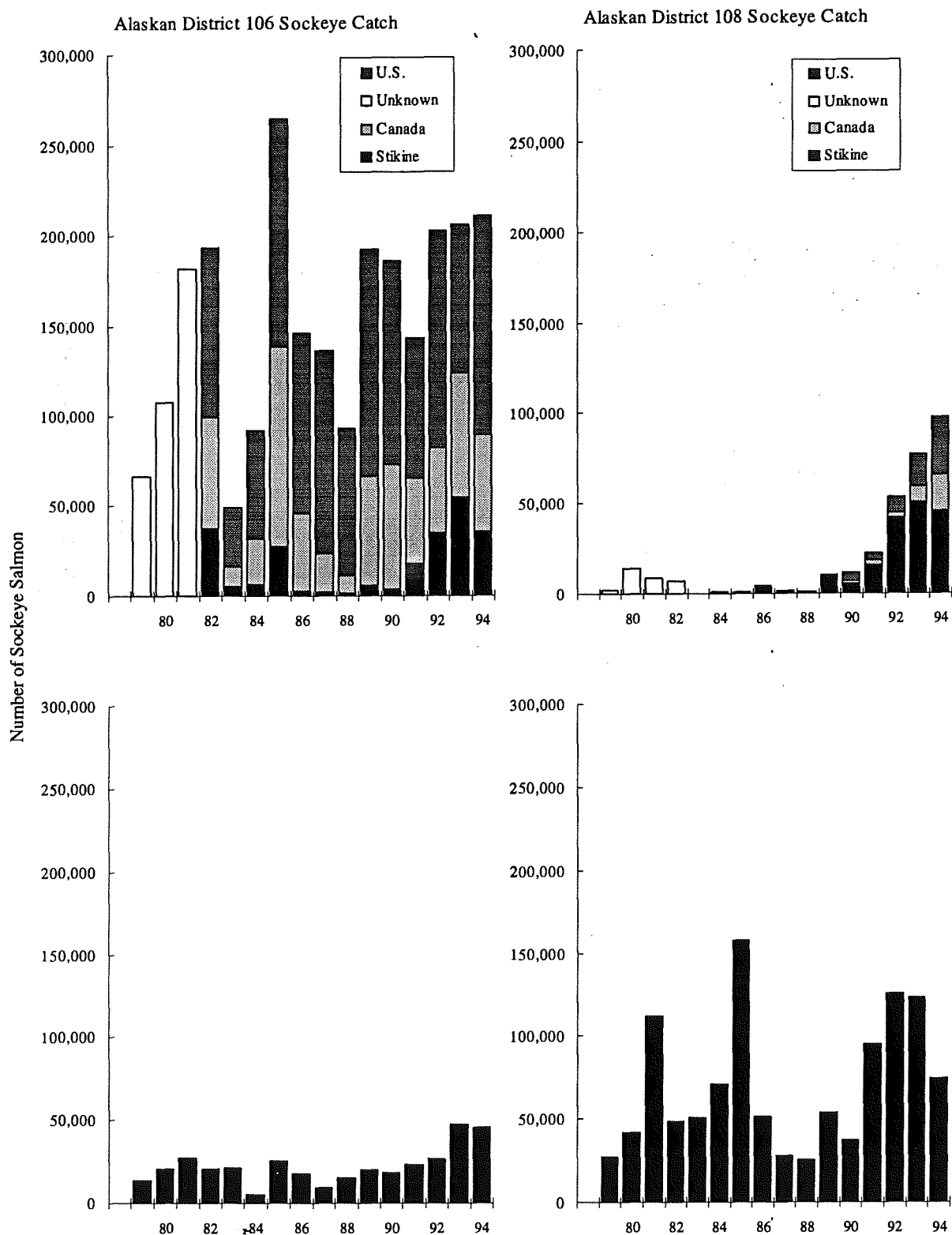


Figure 3. Sockeye catches for the Alaskan Districts 106 and 108 and the combined Canadian fisheries in the Stikine River and Stikine sockeye escapement, 1979-1994.

The management emphasis changed from sockeye to pink salmon during statistical week 33 (August 7 to 13). Totals of 179,994 and 35,405 pink salmon were harvested in Districts 106 and 108, respectively. The District 106 catch was below the 1984-1993 even-year-average of 226,930 pink salmon, while District 108 was above the corresponding average of 18,056 fish. Pink catches in both districts are not always a true reflection of pink salmon abundance in the area because the low pink salmon price, along with the high abundance of sockeye and coho salmon, affect fishing behavior. Two-day fishing periods were allowed during the two weeks (weeks 33 and 34; August 7 to August 20) of pink salmon management in both districts. Pink salmon escapements into both Districts 106 and 108 were above average this year.

Coho salmon management in both the District 106 and 108 gillnet fisheries usually commences during late August or early September. During statistical week 35 (August 21 to August 27) the management emphasis changed from pink to coho salmon. Early indicators were all above average and the inseason outside troll fishery likewise indicated a very large run. Prior to the change to coho management, the sockeye and pink salmon fisheries harvested approximately 45% of the total District 106 coho catch and about 32% of the total District 108 coho catch. During weeks 35 and 36 (August 21 to September 3) both districts were initially open for three days per week and were subsequently extended to allow a fourth day. During the following four weekly openings, week 37 through week 40 (September 4 to October 1), the fishery in both Districts 106 and 108 was open for three days each week. In week 41 (October 2 to 8), the final week of the season, both districts were open for two days. Weekly effort and coho catch were higher than average while the CPUE was generally about average each week. In prior years, the percentage of hatchery coho in the catch starts to increase in September and, by the end of season, hatchery fish make up a high percent of the weekly catch. This season, the hatchery contribution increased towards the end of the season but did not constitute as high a percent of the total catch as in previous years. The District 106 coho catch of 267,831 fish is the second highest on record and is about twice the recent 10-year-average of 135,931 coho. The District 108 coho catch of 44,891 fish is the highest on record and is about 5.6 times above the recent 10-year-average of 8,031 coho. Fishing effort in both districts was higher than normal. The contribution of Alaska hatchery coho salmon to the District 106 and 108 fisheries is estimated at 39,841 (15%) and 2,040 (5%), respectively.

During the 1994 season, the gillnet fishery in District 106 was open for a total of 43 days (Appendix A.5), and in District 108 for 58 days (Appendix A.7). The total days fished in 1994 was above the 1984-1993 average of 32.6 and 27.8 days in Districts 106 and 108, respectively. District 106 fishing effort in numbers of vessels was slightly below average the first four weeks of the season but was above average throughout the remainder of the season. During the last week of July and the first week of August, the fishing effort in District 106 was 40% and 60% above average, respectively. The District 106 weekly fishing pressure was about average during the regular openings but increased to three times the average during the mid-week extensions. After the mid-week extensions were suspended the effort remained near average. The greatest number of boat-days (552) occurred in week 35 (August 21 to 27), while the greatest number of boats fishing (178 permits) occurred during the peak of the sockeye fishery during week 32 (July 31 to August 6). Because of the extremely strong sockeye and coho runs, the effort of 4,468 boat-days in District 106 was 51% higher than the 1984-1993 average of 2,966 boat-days (Appendix B.5, Figure 2). District 108 effort was higher than average due to the extended fishing time allowed to harvest the large run of Stikine River sockeye salmon. The 1,923 boat-days fished in District 108 was more than four times the 1984-1993 average of 457 boat-days (Appendix B.7). Most of the boats fishing during the mid-week openings in District 108 did not fish the entire opening, so the effort in boat-days was adjusted to better reflect the time actually fished. For this reason the total season boat-days given in Appendix B.7 may be less than that obtained by multiplying the number of permits fishing by the number of days the fishery was open.

While there was some effort in the U.S. personal use fishery in the lower Stikine River, there was no reported catch.

Canadian Fisheries

Catches from the combined Canadian commercial and aboriginal gillnet fisheries in the Stikine River in 1994 included: 1,790 large chinook, 350 jack chinook, 45,095 sockeye, 3,381 coho, 90 pink, 173 chum salmon, and 84 steelhead (Appendices A.11 to A.14; Figure 4). The sockeye salmon catch was the second highest on record and was 2.2 times the 1984-1993 average of 20,743 fish; whereas, the catches of all other salmon species except coho salmon were below average. In addition to these catches, 6,852 sockeye salmon were taken in a terminal fishery at Tahltan Lake under an ESSR license (described below in section Lower Stikine Commercial Fishery).

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 for use in the postseason estimations of the inriver sockeye and coho run sizes. Test fishery catches included: 295 large chinook, 78 jack chinook, 1,433 sockeye, 71 coho, 6 pink, and 20 chum salmon, and 7 steelhead trout (Appendices A.15 and A.16).

Lower Stikine Commercial Fishery

Canadian commercial fishers in the lower Stikine harvested 1,016 large chinook, 158 jack chinook, 38,462 sockeye, 3,377 coho, 89 pink, 173 chum salmon, and 75 steelhead in 1994 (Appendix A.11). The sockeye catch was equal to the record catch of 38,464 sockeye in 1993, and was 120% above the 1984-1993 average of 17,464 sockeye (Appendix B.17). Catches of chinook and coho salmon were about average whereas pink, chum, and steelhead catches were below average. A very strong sockeye run combined with relatively low fishing effort resulted in the fishery being open continuously from July 17 through August 18.

The fishery commenced at noon on Monday, June 27 (statistical week 27), for a two-day opening. Increasing sockeye catches during the first 40 hours, combined with relatively low effort, i.e., six fishers, and a catch shortfall for the week, lead to a 48-hour extension. Run forecasts developed this week were highly variable ranging from approximately 80,000 sockeye from test fishery CPUE data to over 194,000 based on CPUE data from District 106.

In week 28, the fishery opened for four days commencing Sunday, July 3; the opening day was advanced to Sunday because of very strong catches of sockeye in the inriver test fishery just prior to the opening. Also, catches in Districts 106 and 108 had been well above average in the previous week indicating the likelihood of strong sockeye abundance in the lower river in week 28. The sockeye CPUE after three days was a record high for this week (189 sockeye/boat-day versus an average of 88 sockeye/boat-day) and preliminary¹ model forecasts increased to 183,000 sockeye (based on inriver CPUE), to 213,000 sockeye (based on District 106 CPUE data). As a result of the very strong showing of sockeye, both in the river and

¹ Tentative updates to the SMM run based on the first three days of fishing.

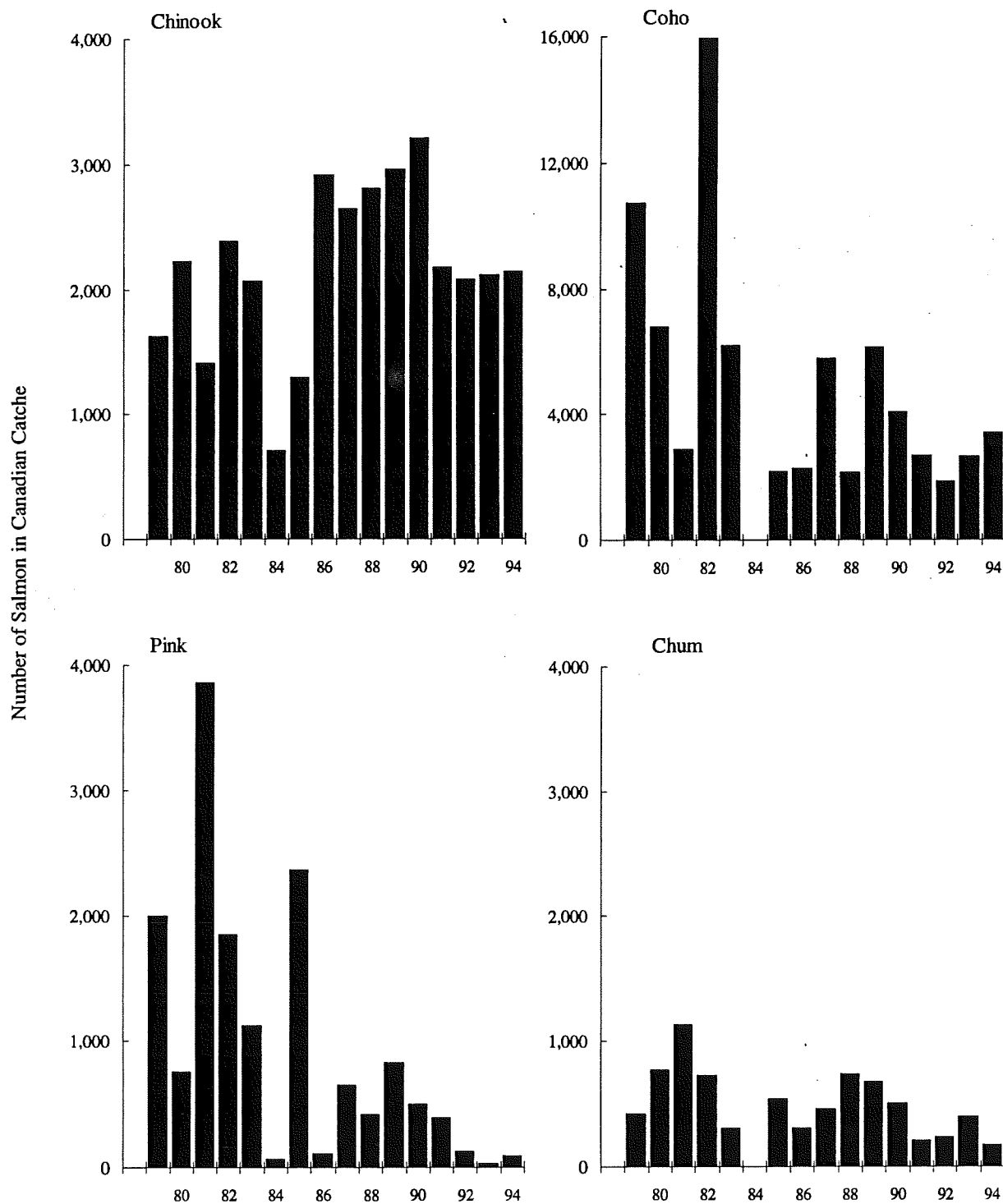


Figure 4. Catches of chinook, coho, pink, and chum salmon in the combined Canadian fisheries in the Stikine River, 1979-1994.

in the Alaskan fisheries adjacent to the river mouth, the fishery was extended by 48 hours. The peak sockeye CPUE of the season in the lower Stikine River was recorded in this week.

In each of the following two weeks, weeks 29 and 30, the fishery was initially opened for four and five days, respectively, but extended by 48 hours as the CPUE remained 26%-41% above average and the cumulative catch continued to fall below weekly guidelines. By week 30, sockeye run forecasts increased to the range of 193,000 fish (based on inriver CPUE) to 311,997 (based on District 106 CPUE).

The fishery remained open continuously from July 17 (week 30) through August 18. The weekly sockeye CPUE for weeks 31-34 ranged from 19% to 77% above average; the CPUE in week 31 established a new record for that week.

After week 33 (week ending August 13), management emphasis began to switch to coho salmon as sockeye abundance dropped off. The fishery was reduced to four days per week in each of weeks 34 and 35 in light of below average coho salmon CPUE. In week 35, the CPUE was 65% below the 1979-1993 average, causing fishing effort to decrease. The fishery again opened for an initial four-day period in week 36; however, the fishery was left open through September 16 when coho abundance increased and effort remained low (three fishers). The peak coho catch of the season occurred in week 36. Commencing September 18, the fishery was left open seven days a week through the end of October. Only one or two fishers remained in the fishery and because of this, the amount of gear permitted to be fished by each fisher was increased to four nets. Since there was so little effort, Appendix A.11 has been adjusted to reflect the actual permits and days fished.

The final inseason sockeye forecast indicated a Canadian TAC of 97,631 sockeye. Accounting for the combined aboriginal and commercial harvest in the upper river (6,633 sockeye), the final inseason estimate translated into a lower river target of 90,998 which was more than double the actual lower river commercial catch of 38,462 sockeye.

The sockeye run timing appeared to be about average with the peak CPUE occurring in week 28, the second week of the fishery. Tahltan Lake sockeye dominated the catch through the third week in July; thereafter, the mainstem sockeye stock component made up the majority of the sockeye catch. Of the total lower river sockeye catch, 23,678 sockeye were of Tahltan Lake origin (62% of the catch) and 14,784 (38% of the catch) originated from the non-Tahltan Stikine sockeye conglomerate (Appendix A.12). It was evident by mid-July that the number of sockeye reaching the Tahltan Lake weir would exceed escapement requirements. This prompted the issuance of an **"Excess Salmon To Spawning Requirements License" (ESSR)** which permitted the terminal harvest of sockeye at Tahltan Lake once the escapement goal had been achieved. A total of 6,852 sockeye salmon were harvested under the ESSR.

Nineteen licensed fishers participated in the lower river commercial fishery throughout the season with an average of only six fishers present each week, about 55% the usual number of fishers. The total effort in terms of boat-days was 430, 46% above the 1984-1993 average of 294 boat-days (Appendix B.17). The increased effort level in 1994 was due to the above average sockeye run strength which resulted in extended fishing periods throughout most of the season. For the first 48 hours of each week, each fisher was allowed the use of one gillnet with a maximum length of 135 meters. After this, two nets were permitted of which one could be a drift net. This was the first year that additional gear was permitted. A delayed opening to

June 27 and a maximum mesh size restriction of 146 mm through mid July was implemented to reduce the incidental catch of chinook salmon. As in past years, both drift and set netting techniques were utilized.

Upper Stikine Commercial Fishery

A small commercial fishery has existed near Telegraph Creek on the upper Stikine River since 1975. The catch recorded in 1994 included: 76 large and 1 jack chinook, (which was close to the 1984-1993 average of 97 chinook), 1 pink, and 2,466 sockeye salmon (which was the highest on record and three times above the previous ten-year-average of 776 sockeye) (Appendices A.13 and B.19). The fishing effort was above average with one to three fishers fishing up to seven days per week. The fishery was open a total of 50 days and the total effort was 68 boats-days. For comparison, the previous ten-year-average fishing time was 9 days with an average effort of 21 boat-days. The additional time fished during the season was the result of the excellent run of Tahltan Lake sockeye.

Aboriginal Fishery

The Stikine aboriginal fishery, centered around Telegraph Creek, harvested 698 large chinook, 191 jack chinook, 4,167 sockeye, 4 coho, and 9 steelhead. The catch of large chinook salmon was 24% below the 1984-1993 average of 913 large fish, and the sockeye harvest was 4% below the 1984-1993 average of 4,327 sockeye. As in past years, fishing times were not restricted in this fishery in 1994. Weekly catches in 1994 and annual catches since 1972 are listed in Appendices A.14 and B.20, respectively.

Escapement

Sockeye

A total of 46,363 sockeye were counted through the Tahltan Lake weir in 1994 which was 46% above the 1984-1993 average of 31,652 sockeye, and well above the escapement goal of 24,000 (Appendix B.26). This was the seventh highest count since 1959 when the weir program began. An estimated 23% (2,125) of the age-4 and 16% (5,804) of the age-5 escapement originated from the 1989 and 1990 enhancement program, (based on analysis of otolith samples collected in the ESSR fishery and from brood stock at Tahltan Lake in 1994). Of the total number of fish enumerated through the weir, 1,689 females and 1,689 males were taken for hatchery brood stock. In addition to the brood stock take, 6,852 sockeye were harvested under the ESSR license, leaving a spawning escapement of 36,133 fish. The final inseason SMM indication of Tahltan escapement was 58,394 sockeye salmon, 26% above the actual weir count.

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 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 postseason estimate of non-Tahltan escapement is 34,636 sockeye salmon based on the use of egg diameter data to estimate inriver stock composition of catches, and inriver test fishery CPUE data to give run timing. This estimate is 24% below the 1984-1993 average non-Tahltan escapement of 45,316 fish. The final estimate derived inseason from the SMM was 39,722 sockeye, 14% above the postseason estimate.

Aerial surveys of the non-Tahltan sockeye escapement index area indicated about average numbers of spawners in 1994 (Appendix B.27). The 1994 cumulative index count of 948 sockeye was 2% below the 1984-1992 average of 965 fish. The 1994 survey conditions were good. These surveys do not include all spawning populations; the index represents the combined counts from up to eight spawning areas.

Chinook

This was the tenth consecutive year of the operation of an adult chinook enumeration weir on the Little Tahltan River. The 1994 count of 6,387 large chinook was 15% above the 1985-1993 average of 5,530 large fish. The 1994 escapement was above the Little Tahltan escapement goal of 5,300 chinook (Appendix B.29). The count of jack chinook was 121, 40% of the 1985-1993 average of 300 fish. Daily counts from the 1994 program are presented in Appendix A.20.

Results from aerial surveys conducted on Stikine River tributaries indicated an average to below average chinook escapement in 1994. Counts for 1994 were: Little Tahltan River, 2,422 chinook versus the 1984-1993 average of 2,403 chinook; Beatty Creek, 184 chinook compared to the average of 331 chinook; and Andrew Creek, 572 chinook versus the average of 611 chinook (Appendix B.30 and Figure 5). Tahltan River was not surveyed due to poor visibility.

Coho

The lower Stikine River test fishery ended on statistical week 36 (week ending September 3) which precluded complete coverage of the coho run. From historical test fishery catch records, 1986-1990, assuming average run timing, approximately 75% of the coho run migrated through the lower river by the end of week 36. The cumulative coho test fishery CPUE was expanded accordingly ($4.51/0.7521$) and the calculated, cumulative coho CPUE was expressed as a percentage of the total cumulative sockeye CPUE of 16.37. The inriver coho run was estimated to be 36.6% of the inriver sockeye run size of 127,527 fish, or 46,677 coho salmon. Subtracting the combined inriver catch of 3,381 coho in the Canadian commercial and aboriginal fisheries, and 71 coho taken in the inriver test fishery, gives an estimated total coho escapement of 42,223 fish, which is within the interim escapement goal range of 30,000 to 50,000 coho.

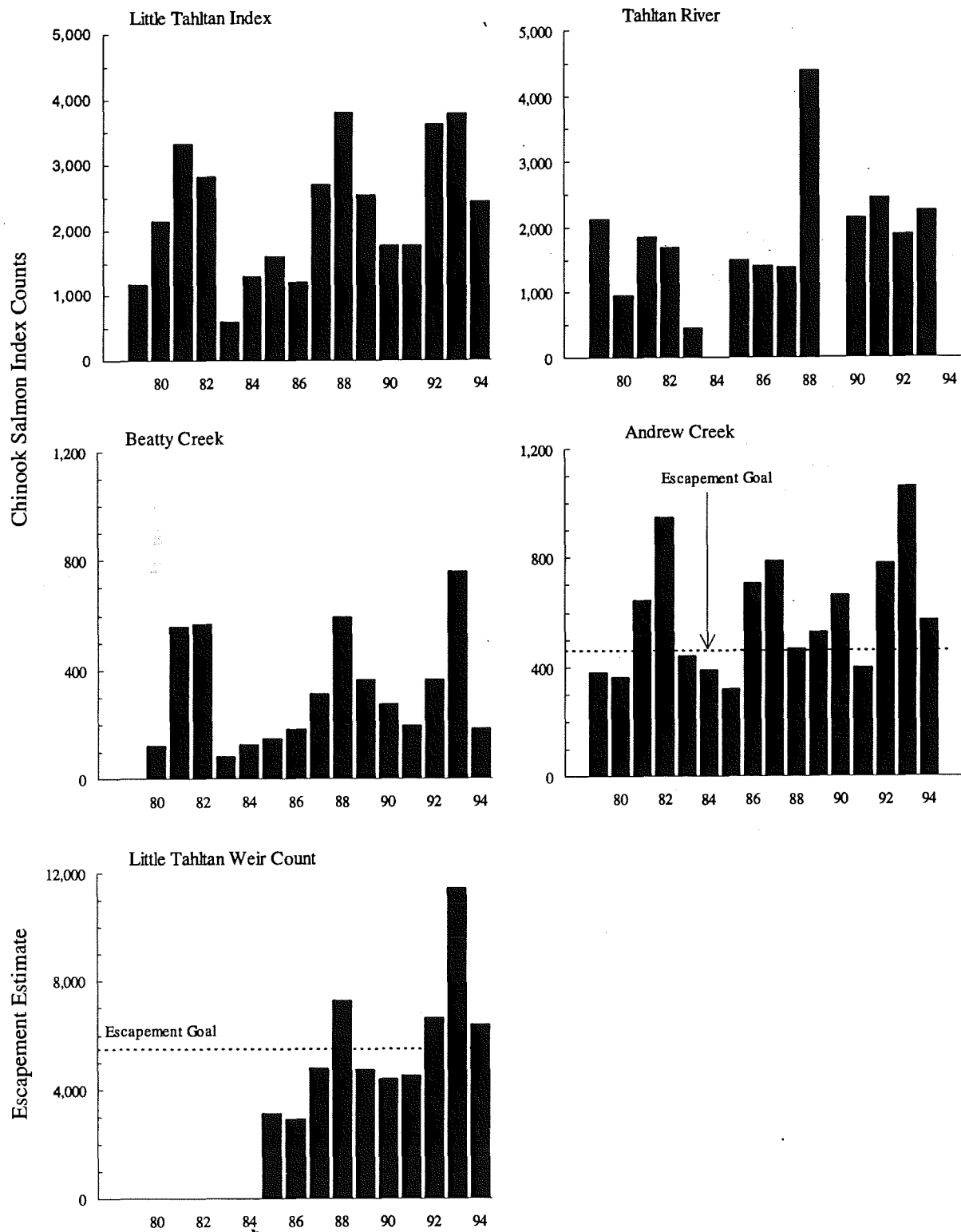


Figure 5. Chinook salmon weir counts and index escapement estimates for major spawning areas and for the entire Stikine River, 1979-1994.

Stikine Sockeye Run Reconstruction

The estimate of the total run² of Stikine sockeye salmon was 208,036 fish of which 142,340 were of Tahltan Lake origin and 65,696 were non-Tahltan fish (Table 2). These estimates are based on: scale pattern analysis of samples collected in U.S. District 106, District 108, and test fishery catches to estimate stock composition; inriver stock ID data based on analysis of egg diameters; Canadian commercial, aboriginal, terminal area, and test fishery catches; and escapement data. The Stikine run size was the fourth highest on record and 1.6 times the 1984-1993 average run size of 128,626 sockeye salmon. The 1984-1993 average run sizes of Tahltan and non-Tahltan fish were 57,060 and 71,566 sockeye respectively.

The postseason estimate of the total run size was below the preseason expectations for a total run of 312,000 to 345,500; based on the 312,000 forecast, expectations were for a Tahltan run of 210,000 sockeye and a non-Tahltan run of 102,000 sockeye. For the Tahltan run, the smolt-based forecast (210,000 sockeye) was 48% above the actual run size of 142,340; the sibling-based Tahltan run forecast was 362,500 sockeye. For the non-Tahltan sockeye component, the preseason sibling forecast of 101,700 sockeye was 54% above the postseason non-Tahltan run size of 65,696 fish. Based on weekly random sampling of otoliths collected in the District 106 and 108 commercial fisheries, the contribution from Stikine sockeye enhancement production consisted of approximately 18,315 fish or 28% of the total marine catch of Tahltan Lake sockeye. Five-year-old sockeye originating from the 1989 egg take accounted for 17,566 sockeye, while four-year-old fish from the release in 1990 accounted for 749 sockeye. No otolith sampling was conducted in the Canadian fisheries; however, if the proportion of enhanced fish observed in the Tahltan Lake brood stock and ESSR fishery (23% and 16% for brood years 1990 and 1989, respectively) is applied to catches in the Canadian commercial gillnet fisheries located in the lower and upper Stikine River and the aboriginal fishery in the upper portion of the river, the total contribution of enhanced fish is 5,097 sockeye. An additional 1,304 enhanced sockeye are estimated to have been caught in the ESSR fishery from samples collected from that fishery. Overall, the estimated contribution to both Canadian and U.S. fisheries was 24,716 fish. Excluding fish caught in the ESSR fishery, but including brood stock, an estimated 6,625 enhanced fish were in the Tahltan Lake escapement.

The SMM appeared to be successful in accurately forecasting the total run size this season. The final inseason forecast of the total run size derived from the SMM (249,261 sockeye, Canadian model run) was 20% above the postseason estimate of the total run (208,036 sockeye). The SMM will be reviewed and updated to include 1994 data in making predictions during the 1995 season.

The Tahltan Lake smolt count in 1994 totaled 915,119 fish, which originated primarily from the 1993 fry plant of 1.947 million fish and the 1992 spawning escapement of 56,213 sockeye (equals the 1992 Tahltan adult weir count of 59,907 sockeye minus the 3,694 fish taken for brood stock). Analysis of otoliths extracted from a random portion of smolts from the 1994 emigration indicate the hatchery and non-hatchery contributions to the 1994 smolt production are 294,310 and 620,809, respectively.

² Total run refers to the run through District 106 and 108 waters and inriver; it does not include any mortalities in fisheries or waters further offshore.

Table 2. Run reconstruction for Stikine sockeye salmon, 1994.

	Tahltan	Non-Tahltan	Total
Escapement	46,363	34,636	80,999
Brood Stock	3,378		3,378
ESSR	6,852		6,852
Spawning	36,133	34,636	70,769
Canadian Harvest			
Indian Food	3,750	417	4,167
Upper Commercial	2,219	247	2,466
Lower Commercial	23,678	14,784	38,462
Total	29,648	15,447	45,095
% Harvest	31.3%	50.1%	35.9%
Test Fishery Catch	1,228	205	1,433
Inriver Run	77,239	50,288	127,527
U.S. Harvest ^a			
106-41&42	26,164	5,050	31,214
106-30	3,712	321	4,033
108	35,222	10,037	45,259
Total	65,098	15,408	80,506
% Harvest	68.7%	49.9%	64.1%
Test Fishery Catch	3	0	3
Total Run	142,340	65,696	208,036
Escapement Goal	24,000	30,000	54,000
Total Allowable Catch	118,340	35,696	154,036
Canada Catch	29,648	15,447	45,095
% of TAC	25.1%	43.3%	29.3%
U.S. Catch	65,098	15,408	80,506
% of TAC	55.0%	43.2%	52.3%

^a Estimates of U.S. harvest differ from Joint Interception Committee estimates because the estimates here are made only for annex fishery catches.

TAKU RIVER

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

Harvest Regulations

As with Stikine River issues, efforts to renegotiate harvest shares of Taku River salmon during the Pacific Salmon Commission and government-to-government negotiations in the spring and summer of 1994 were not successful. As a result, the Parties unilaterally developed fishing plans for Taku River salmon stocks.

The Canadian management plan did not numerically constrain Canadian harvests of sockeye and coho salmon since treaty provisions to do so had expired in 1992. The basic objective of the management plan for each species was to manage according to the conservation requirements, i.e., escapement goals, for each species. In agreement with unexpired portions of Annex IV, the plan did not permit targeting on chinook salmon in the Taku River since both Parties had previously agreed to rebuild chinook by 1995.

The U.S. management plan reflected the provisions that were in effect for 1993, namely to provide for Canadian harvests of 18% of the TAC of Taku River sockeye and 3,000 coho. As with the Canadian management plan, targeting on chinook salmon was not permitted.

U.S. Fisheries

The District 111 commercial drift gillnet fishery was opened June 19 and closed on October 11, for a total of 66 fishing days (Appendix C.1). Sixty days were allowed in Taku Inlet (Subdistrict 111-32), 62 days in Stephens Passage (Subdistrict 111-31), 15 days in lower Stephens Passage (Subdistrict 111-20), and 29 days in Port Snettisham (Subdistricts 111-33 and 111-34). Fishing time in District 111 was 54% above the 1984-1993 average of 42.9 days. Fishing effort in the district totaled 5,082 boat-days and was 66% above the previous 10-year-average of 3,057 boat-days (Appendix D.1).

Excellent catches of all species were experienced in the District 111 drift gillnet fishery in 1994. The 1994 harvest included 5,047 chinook, 105,861 sockeye, 188,501 coho, 401,525 pink, and 214,171 chum salmon (Appendix C.1; Figure 7). Catches of coho, pink, and summer chum salmon were all-time records, and sockeye and chinook salmon catches were also above average. The harvest of fall chum salmon was below average. Enhanced stocks contributed significantly to all catches except fall chum salmon.

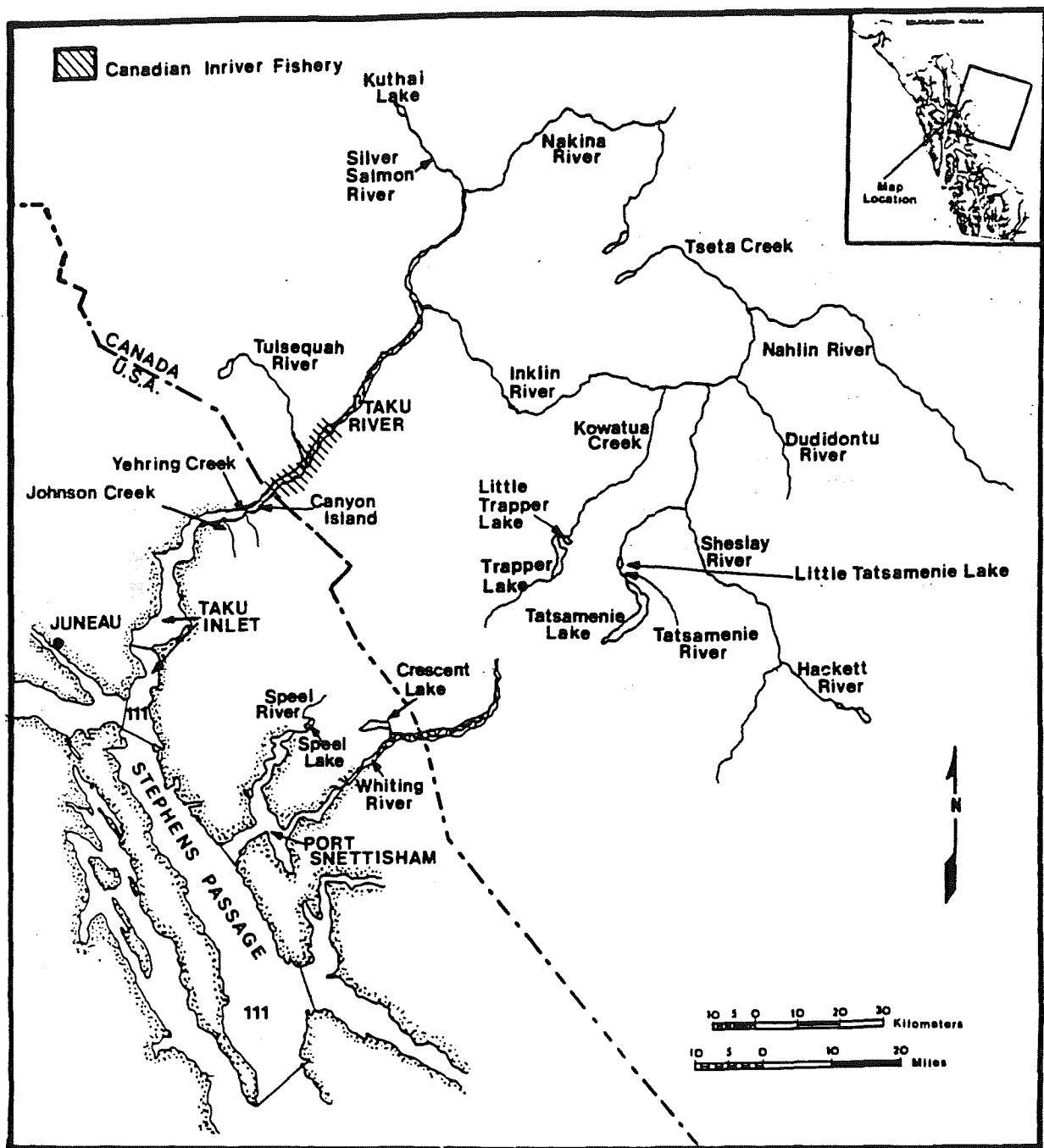


Figure 6. The Taku River and principal U.S. and Canadian fishing areas.

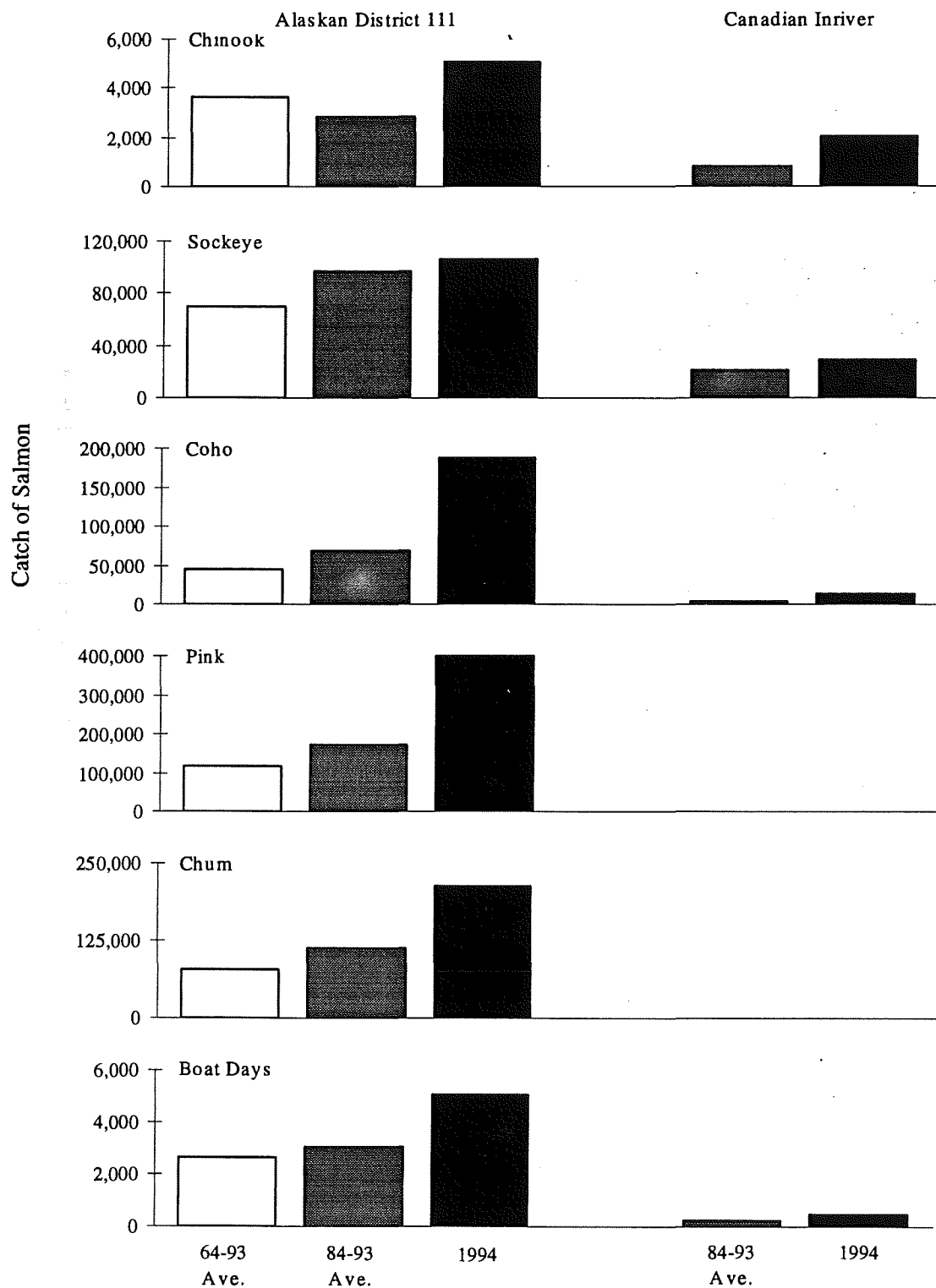


Figure 7. Average catches and fishing efforts compared with 1994 values for Alaskan District 111 Commercial fishery and the Canadian commercial fishery in the Taku River.

The chinook salmon harvest of 5,047 fish was 77% above the 1984-1993 average but less than the harvest of 6,748 taken in 1993. The harvest was comprised primarily of spawners (68%). The majority of the catch (58%; 2,906 fish) was of Alaska hatchery origin (coded wire tag estimate). Management actions for chinook conservation were implemented only during the first week of the season when Taku Inlet was closed north of the latitude of Jaw Point. Peak catches occurred during the first 3 weeks of the fishery. Three limited area openings were allowed in Speel Arm of Port Snettisham to harvest hatchery chinook returns; 2 days were allowed during each of the first 2 weeks of the fishery and one additional day during the last week of July. Several hundred chinook salmon were taken during these special openings.

The sockeye harvest of 105,861 fish was 9% above the 1984-1993 average of 97,025 (Figure 8). This represents the seventh largest catch on record but the lowest in the last 5 years. Sockeye salmon catches were distributed among Taku Inlet (88,625 fish), Stephens Passage (15,630 fish), lower Stephens Passage (1,471), and Port Snettisham (135 fish). Taku River and Port Snettisham sockeye stocks are taken in the Taku Inlet and Stephens Passage areas, with Port Snettisham stocks being more prevalent in Stephens Passage. As a result, management decisions regarding Taku River sockeye salmon are generally made by controlling area and time in Taku Inlet.

The contribution of wild Taku River sockeye salmon to the weekly commercial harvests were estimated by applying results of scale pattern analysis and the incidence of the brain parasite *Myxobolus arcticus* from the weekly sockeye catches. Approximately 97,046 (92%) of the total season's catch was estimated to have been of wild Taku River origin. Contribution of enhanced sockeye resulting from domestic and joint U.S./Canada transboundary river projects were estimated inseason and re-evaluated postseasonally by analysis of thermal otolith marks. U.S. enhancement projects produced an estimated 2,637 fish (2.5%) in the catch, predominantly 4- and 5-year-old returns from fry releases into Sweetheart Lake. Contribution of the initial 4-year-old returns from the joint Taku River projects were low as evidenced by the recovery of very small numbers of Tatsamenie origin and no Trapper Lake origin otolith-marked fish; an estimated 108 sockeye from the Tatsamenie plant in 1991 were harvested in the District 111 fishery.

The summer chum catch (i.e., the District 111 chum harvest through August 13, statistical week 33) of 198,002 fish was the largest on record, exceeding the 1984-1993 average of 80,380 by 146% and was higher than the previous record of 156,033 taken in 1993. Quantitative contribution estimates of enhanced chum salmon are not available, but chum salmon returning to the DIPAC Hatchery in Gastineau Channel and the Limestone Inlet remote release site (upper Stephens Passage) undoubtedly contributed a large portion of the catch. From July 10 through August 6 (statistical weeks 29 through 32), additional fishing time with a 6-inch minimum mesh size restriction was allowed south of Circle Point (Subdistrict 111-31) to target on Limestone Inlet enhanced chum returns while limiting harvest of Snettisham sockeye salmon.

In contrast to the summer chum run, the fall chum run was again poor in 1994. The total fall chum harvest (chum salmon caught from August 14, statistical week 34, through the end of the season) was 16,169 fish. This is 49% of the 1984-1993 average of 33,265, but the highest catch since 1990. Chum salmon taken in the fall in District 111 are almost exclusively wild chum stocks from the Taku and Whiting Rivers.

The District 111 pink salmon harvest of 401,525 is the largest catch in the history of the fishery, and 2.3 times the 1984-1993 even-year-average of 157,570 fish (Appendix D.1). The catch was comprised of wild stocks returning to Taku Inlet, Stephens Passage streams, and runs to the DIPAC Hatchery. Slightly over half the harvest (51%; 203,018 fish) was taken outside Taku Inlet. A total of 119,213 pink salmon were taken in lower Stephens Passage (Subdistrict 111-20) during 5-day fishing periods in each of statistical weeks 32 through 34. In addition to the District 111 commercial fishery harvest, approximately 2.5 million pink salmon were harvested in cost-recovery fisheries by the DIPAC Hatchery in a terminal Special

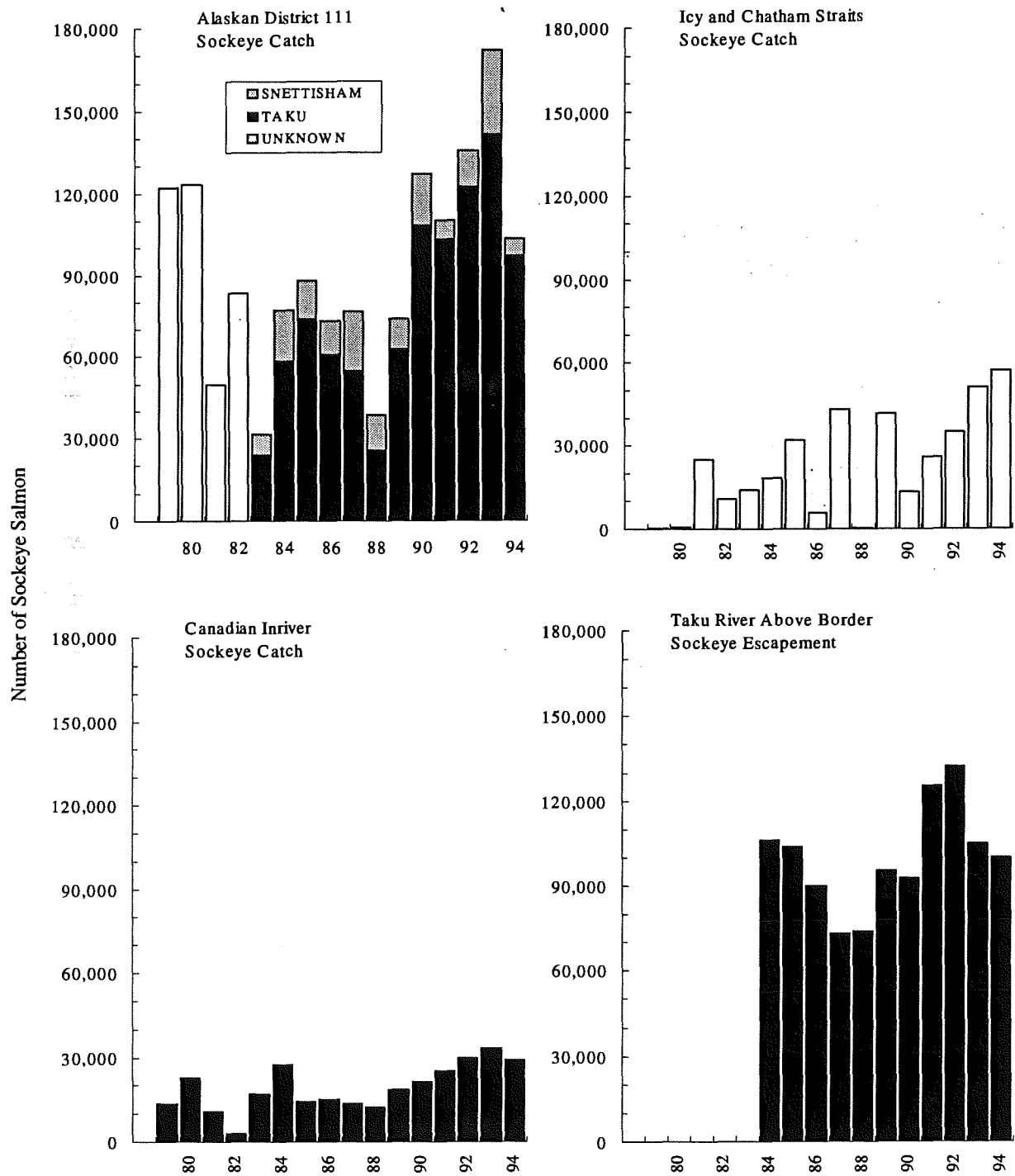


Figure 8. Sockeye catches for Alaskan District 111, the Icy and Chatham Straits, the combined Canadian commercial and food fisheries in the Taku River and Taku sockeye escapements, 1979-1994.

Harvest Area in Gastineau Channel.

The total coho salmon catch of 188,501 fish is the largest in the history of the fishery, and over 2.5 times the 1984-1993 average of 68,402 fish. This catch includes a combination of wild coho salmon runs to the Taku River and local Juneau area streams as well as Alaskan hatchery fish. The estimate of contribution of U.S. hatchery coho salmon to the District 111 gillnet fishery was 27,094 fish, or 14% of the total coho catch. Approximately 99% of the hatchery fish were from DIPAC Hatchery releases. The majority of the District 111 catch (83%; 156,314 fish) occurred in Taku Inlet, but substantial catches were also made in Stephens Passage (25,605 fish) and Port Snettisham (6,582 fish).

Weekly fishing time in Taku Inlet during the sockeye salmon season varied from 3 to 4 days. During the first two weeks of the season 3 days of fishing occurred in Taku Inlet. Fishing time was extended to 4 days during statistical weeks 28 and 29 (July 3 through July 16) because of good fishing in District 111 and improved estimates of inriver abundance provided by the joint U.S./Canada Taku River mark-recapture project. A fifth day of fishing in Stephens Passage (south of Circle Point) with a 6-inch minimum mesh restriction was allowed in week 29 to target on Limestone Inlet chum salmon returns while limiting the harvest of Port Snettisham sockeye salmon. Fishing success for sockeye salmon during statistical week 30 was below average and as a result no extension of fishing time was allowed in Taku Inlet above the initial 3 days. A one-day extension of fishing time with a 6-inch minimum mesh restriction was allowed only south of Circle Point. During statistical weeks 31 and 32 sockeye salmon catches and CPUE were above average and the estimated above-border escapement had exceeded the escapement goal range, so one-day fishing extensions were allowed north of Circle Point. During each of these weeks, a fourth day of fishing with a 6-inch minimum mesh restriction was also allowed south of Circle Point in Subdistrict 111-31. The sockeye catch and CPUE dropped dramatically during the 3-day statistical week 33 opening and fishing time was not extended in Taku Inlet.

Fall management was initiated on August 14 (statistical week 34) when the District 111 gillnet fishery was initially opened for three days. The fishery was extended for a fourth day during each of statistical weeks 34 and 35 because of high mark-recapture estimates of the inriver coho salmon run strength, and above average coho salmon catches and CPUE. The statistical week 35 opening date was delayed from Sunday to Monday, August 22, to prevent gear conflicts between the commercial fleet and sport anglers fishing the Juneau salmon derby. Fishing time was limited to three days during statistical weeks 36 and 37 (August 28 to September 10), when fall chum salmon CPUE values historically have peaked, to conserve Taku chum salmon despite evidence of an all-time record coho salmon run to northern Southeast Alaska and projections of Taku River coho salmon escapement far in excess of the above-border escapement goal range. The peak weekly coho catch in the fishery occurred during the week 37 opening when 33,214 coho salmon were taken. Port Snettisham was reopened to fishing in statistical week 36 after the Snettisham sockeye salmon run was over.

Four days of fishing were allowed during each of statistical weeks 38 through 41 (September 11 through October 6) and coho salmon catches continued far above average. Intense fall storms limited fishing activity late in the season, particularly during statistical weeks 39 through 41; CPUE values for these weeks are unrealistically low since few boats fished for the entire openings. The last week of the fishery was during the second week of October when 2 days of fishing were allowed.

Several other fisheries in the Juneau area harvested transboundary river stocks in 1994. Estimates of harvest in the U.S. personal use fishery in the lower Taku River are 20 chinook, 1,111 sockeye, 93 coho, 76 pink, and 3 chum salmon. The spring Juneau-area sport fishery harvested an estimated 3,643 chinook salmon, above the previous 10-year average of 2,853 fish but less than the previous 5-year average of 4,381 fish. An estimated 97% of the harvest was composed of mature spawners, and 27% of the harvest was of hatchery

origin (coded-wire-tag estimate). Unlike recent years, sport fishing CPUE in 1994 from the Taku Inlet area was less than that for areas north of Juneau. 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 major contributor of mature fish is believed to be the Taku River. The Hawk Inlet purse seine fishery in northern Chatham Strait was open north of Hanus Reef for 15 hours on July 15 and 8 hours on July 18, harvesting 60 chinook, 10,323 sockeye, 2,984 coho, 408,913 pink, and 42,912 chum salmon. The fishery is limited to a harvest of 15,000 sockeye salmon during the month of July.

Canadian Fisheries

Taku River commercial fishers harvested 28,762 sockeye, 14,531 coho, 2,065 large chinook, 235 jack chinook (fish less than 2.27 kg), 168 pink, 18 chum, and 232 steelhead salmon in 1994 (Appendix C.4). The sockeye catch was the third highest on record and was 37% above the 1984-1993 average of approximately 20,919 sockeye. The record coho catch was more than four times the previous ten-year-average of 3,424 coho salmon. The catch of large chinook was also a record, roughly 2.6 times the previous ten-year-average of 797 fish; the catch of jack chinook was 44% above the previous ten-year average of 163 jack chinook. With the exception of steelhead, catches of other species (pink and chum) were below average (Figure 7, Appendix D.5). The fishery was open for a total of 74 days, more than three times the previous ten-year-average of 24 days, and the seasonal fishing effort was 497 boat-days, 92% above the 1984-1993 average of 258 boat-days.

In addition to the commercial catches, the aboriginal fishery harvested 239 sockeye, 162 coho, 119 chinook, 4 pink, and 1 steelhead in 1994 (Appendix D.7). There was no Canadian test fishery in 1994.

The Taku River Tlingit First Nation, in cooperation with the Canadian Department of Fisheries and Oceans (DFO), conducted a creel census of the Nakina River in 1994. A total of 41 non-guided fishers returned completed questionnaires; an estimated 430 chinook salmon were landed of which 357 were released and 73 retained.

The Canadian preseason forecast was for an above average return of approximately 242,000 sockeye, 14% above the previous ten-year-average run size of approximately 212,000 sockeye (Canadian estimate).

The commercial fishery commenced at noon on Monday, June 20 (statistical week 26) for a scheduled opening of two days. However, flooding conditions in the fishery were encountered early in the opening and the fishery was extended for 24 hours to somewhat compensate for the poor fishing conditions.

The three-day opening in week 27 was also extended by 24 hours due to increasing sockeye catches in the Canyon Island fishwheels and in the commercial fishery. However, fishwheel catches and fishery performance were below average through week 29, therefore the openings in weeks 28 and 29 were limited to three days. Fishery performance in District 111 during this period was about average despite low effort levels.

Above average CPUE in the first 48 hours of fishing in week 30 prompted a 24-hour extension over the scheduled three-day opening. Catches dropped off in the fourth day, and the overall sockeye CPUE for the week decreased to about average.

The peak sockeye fishing week of the season occurred in week 31. The sockeye CPUE after the first 68 hours of a three day fishery was 56% above average and Canyon Island fishwheel catches were peaking. The fishery was extended an initial 24 hours, and then a second 24 hours after catches in both the fishery and the fishwheels continued to build. However, most of the fishing effort phased out on the fifth day due to a Tulsequah flood. The sockeye catch of 7,662 fish in week 31 was the second highest weekly catch on record and the CPUE was almost twice the average for this week.

Over the following two weeks, the sockeye CPUE dropped to below average levels and fishery openings were scheduled for three days. A 24-hour extension occurred in week 33 to compensate for poor fishing conditions caused by high water. After week 34, the sockeye CPUE remained above average, however fishing time was kept to three days through week 36 as sockeye abundance declined.

Fishing time increased to four days in week 37, and five days in weeks 38 and 39 as effort levels decreased and coho CPUE remained above average, as it had been throughout the season. Commencing September 25 (week 40), with only one fisher present, the fishery remained open seven days a week through the end of October. During this period, the individual gear allowance was increased from two to four nets.

Throughout the season, the inseason forecasts of the total sockeye run ranged from approximately 135,400 sockeye in week 29, to 269,900 sockeye in week 32 (Table 3). Forecasts of total spawning escapement were also made and ranged from approximately 82,300 in week 29 to 158,700 in week 32. The final inseason forecast indicated a total run of approximately 222,600 sockeye and a spawning escapement of approximately 95,900 fish. The postseason total run size was estimated to be 227,286 sockeye. The total Canadian catch of 29,001 represented approximately 18.6% to 19.7% of the TAC. (The TAC is calculated by subtracting the escapement goal of from 71,000 to 80,000 sockeye from the postseason run size estimate.)

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

Table 3. Canadian inseason forecasts of total run size, TAC, and spawning escapement of Taku sockeye salmon, 1994.

Statistical Week	Total Run Forecast	TAC	Spawning Escapement Forecast
preseason	242,000	167,000	75,000
26	242,000	167,000	75,000
27	242,000	167,000	75,000
28	242,000	167,000	75,000
29	135,400	60,400	82,300
30	149,200	74,200	86,100
31	190,800	115,800	92,300
32	269,900	194,900	158,700
33	211,100	136,100	97,500
34	212,100	137,100	89,900
35	222,600	147,600	95,900

Escapement

Sockeye

Total spawning escapement of sockeye salmon in the Canadian portion of the Taku drainage is estimated from the joint Canada/U.S. mark-recapture program. Counting weirs operated by DFO at Little Trapper and Little Tatsamenie lakes provide information on the distribution, abundance, and timing of discrete spawning stocks within the watershed. In 1994, additional sockeye enumeration programs were conducted at Kuthai Lake and the Nahlin River by the Taku River Tlingit First Nation (TRTFN).

The total Taku River sockeye spawning escapement of 100,128 (border escapement is 129,129; Appendix C.7) is slightly above the average of 99,769 sockeye recorded for the mark-recapture program, which has been operated continuously from 1984-1993, and was 25% above the upper end of the interim escapement goal range of 71,000 to 80,000 sockeye salmon (Figure 8 and Appendix D.9).

The escapement through the Little Trapper Lake weir was 13,438 (Appendix C.9), slightly higher than the 1983-1993 average of 13,239 fish. There were 747 fish collected for brood stock from the spawning stream at Little Trapper Lake. The escapement through the Little Tatsamenie Lake weir was 4,371³ (Appendix C.8) compared to the 1985-1993 average of 6,462 fish. The 1994 return to this system was however, an improvement over the principal cycle year, 1989, when only 3,039 fish were counted. The 1994 count was incomplete due to high water conditions on September 22 which destroyed part of the weir; however, approximately 95-99% of the run has usually migrated through the weir by that date. At Tatsamenie Lake, 793 fish were collected at the weir for brood stock purposes. The sockeye count through the Kuthai Lake weir was 5,427 (Appendix C.12), the second highest recorded. Previous counts at Kuthai Lake were 1,658, 2,299, and 1,457 sockeye in 1980, 1981, and 1992, respectively, and 6,312 in 1993 (Appendix D.9).

Chinook

The number of chinook sampled at the Nakina River carcass weir in 1994 was 2,244 fish. A total of 315 large chinook were counted at the Little Tatsamenie Lake weir, 47% of the 1988-1993 average of 664 fish.

Aerial surveys of the six escapement index areas were: Nakina, 4,792; Kowatua, 410; Tatsamenie, 1,106; Dudidontu, 573; Tseta, 614; Nahlin, 2,418. The total of 9,913 large chinook observed was below the record count of 13,204 in 1993 but above the ten-year average of 8,915 large chinook (Figure 9 and Appendix D.10).

³ The observed weir count of 3,559 was expanded to 4,371 based on the number/ratio of tags recovered at the Tatsamenie Lake brood stock collection weir that were not recorded at the Little Tatsamenie Lake weir.

Taku Drainage Index Counts

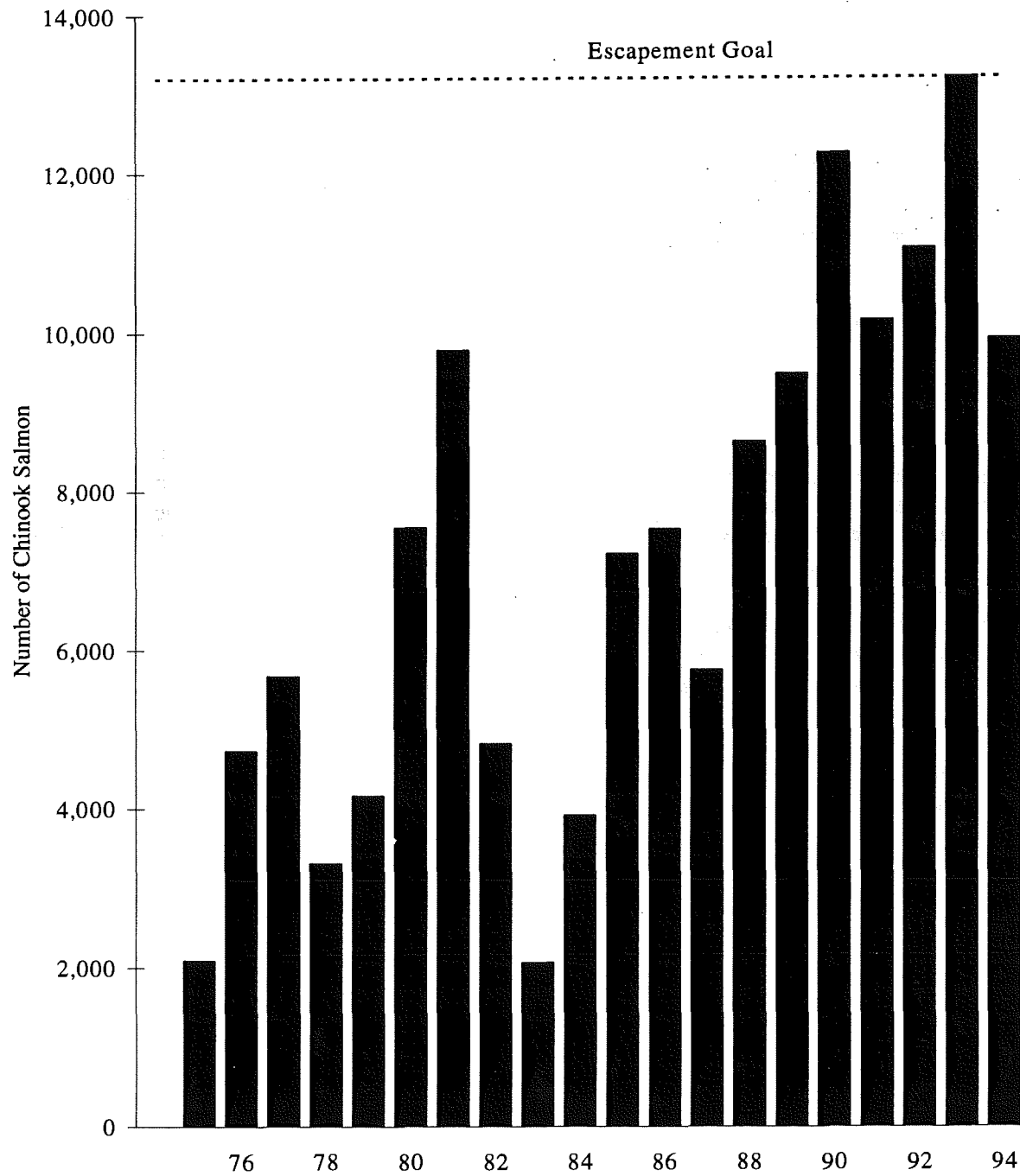


Figure 9. Taku River chinook index escapement counts, 1975-1994.

Coho

Developing a total estimate of the above border run size for the year was hampered because protracted flood conditions damaged the fish wheels and prevented a timely resumption of tag application. A mark-recapture estimate of border escapement through statistical week 39 (week ending September 24) was 98,643 coho. Based on CPUE information from the District 111 fishery, approximately 11.2% of the run migrated past the tagging site after the program was terminated. Using this proportion, the estimated above border run is 111,036, with an above border escapement of 96,343 coho salmon (Appendix C.7).

A total of 2,112 coho were counted at the Nahlin River weir which was operated by the TRTFN. This count is 2.4 times higher than the previous average (1988, 1992 & 1993) of 873 coho (Appendix D.12). The Lower Tatsamenie Lake weir was not operated long enough to achieve a meaningful coho estimate.

Pink

There was no program in place to estimate the escapement of pink salmon to the Taku River in 1994. Historically, even year cycle years have not been the peak cycle year for this species, however, there was an inexplicable and almost complete failure of the dominant odd year run of pink salmon in 1993.

A total of 27,100 pink salmon were counted at the Canyon Island fish wheels. This is the highest total recorded for even-year returns. The 1984-1992 average even-year fish wheel catch of pink salmon was 10,920 fish. A total of 9,433 pink salmon carcasses were counted at the Nakina River carcass weir. This total is substantially higher than the 1984-1990 even year average of 1,095 fish.

Escapements of pink salmon to many U.S. streams in District 111 (excluding the Taku River) were the highest ever recorded. Escapements in the vicinity of the District 111 fishery were outstanding with record peak survey counts of 151,000 in Limestone Creek, 102,000 in Admiralty Creek, 85,000 in Prospect Creek, 75,000 in Turner Creek (upper Taku Inlet), 66,000 in Slocum Creek, 44,000 in Sweetheart Creek, 33,000 in Gilbert Creek, and record counts in numerous other small Stephens Passage streams. Stream survey counts represent an unknown proportion of the escapement and are assumed to generally be less than 50% of the actual escapement.

Chum

There was no program in place to estimate the system wide escapement of chum salmon. Low catch and CPUE information from the Canyon Island fish wheels and inriver commercial fishery indicate that there was a below average chum salmon run in 1994. A total of 367 chum salmon were captured in the fish wheels, well below the 1984-1993 average catch of 738 chum salmon.

The Taku River fall chum salmon run has continually declined since 1989. It is unlikely that the spawning escapement goal of 50,000 to 80,000 chum salmon was achieved.

Sockeye Run Reconstruction

An estimated 97,046 Taku River sockeye were harvested in the District 111 fishery; an additional 1,111 sockeye salmon were taken in the U.S. inriver personal use fishery. Therefore, the estimated U.S. harvest of Taku River sockeye is 98,157 fish (Table 4).

The estimate of the magnitude of the above-border sockeye run in 1994, based on the joint Canada/U.S. mark-recapture program, was 129,129 fish. Subtracting the total Canadian inriver catch of 29,001 sockeye salmon in the commercial and aboriginal fisheries from the above border run estimate results in an above-border escapement estimate of 100,128 fish.

The total run⁴, determined by summing the estimated U.S. harvest (97,046 commercial and 1,111 personal use fish) and the above border run (129,129), was an estimated 227,286 sockeye salmon, which was 12% above the 1984-1993 average run size of 203,298 fish (Appendix D.13). Based on the escapement goal range of 71,000 to 80,000 fish, the TAC was 147,286 to 156,286 sockeye salmon of which the U.S. harvested 62.8% to 66.6% and Canada harvested 18.6% to 19.7% (Table 4). The overall exploitation rate was estimated to be 56% in 1994.

ALSEK RIVER

Alsek River salmon stocks contribute to the U.S. commercial gillnet fisheries located in Dry Bay, at the mouth of the Alsek River (Figure 10). An unknown quantity of Alsek origin fish are also taken in the 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 aboriginal and recreational 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 Transboundary Technical Committee 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 goal, expressed in terms of the Klukshu stock only, has been established at 4,700 chinook salmon. This revision, made in the fall of 1991, eliminated the uncertainty contained in expansion factors which had no scientific backing.

⁴ Total run refers to the run through the District 111 waters and inriver and does not include any mortalities in fisheries or waters further offshore.

Table 4. Taku sockeye salmon run reconstruction, 1994. Estimates do not include spawning escapements below the U.S./Canada border or Taku sockeye harvested in marine areas outside District 111.

	Taku Stocks	Snettisham Stocks
Escapement	100,128	Unknown
Canadian Harvest		
Commercial	28,762	
Food Fishery	239	
Total	29,001	
% Harvest	22.8%	
Test Fishery Catch	0	
Above Border Run	129,129	
U.S. Harvest ^a		
District 111	97,046	6,178 2,637 ^a
Personal Use	1,111	
Total	98,157	
% Harvest	77.2%	
Test Fishery Catch	0	0
Total Run	227,286	
Taku Harvest Plan	Minimum	Maximum
Escapement Goal	71,000	80,000
TAC	156,286	147,286
Canadian portion	18.6%	19.7%
U.S. Portion	62.8%	66.6%

^a Harvest of sockeye salmon from the Alaska Sweetheart Lake enhancement project.

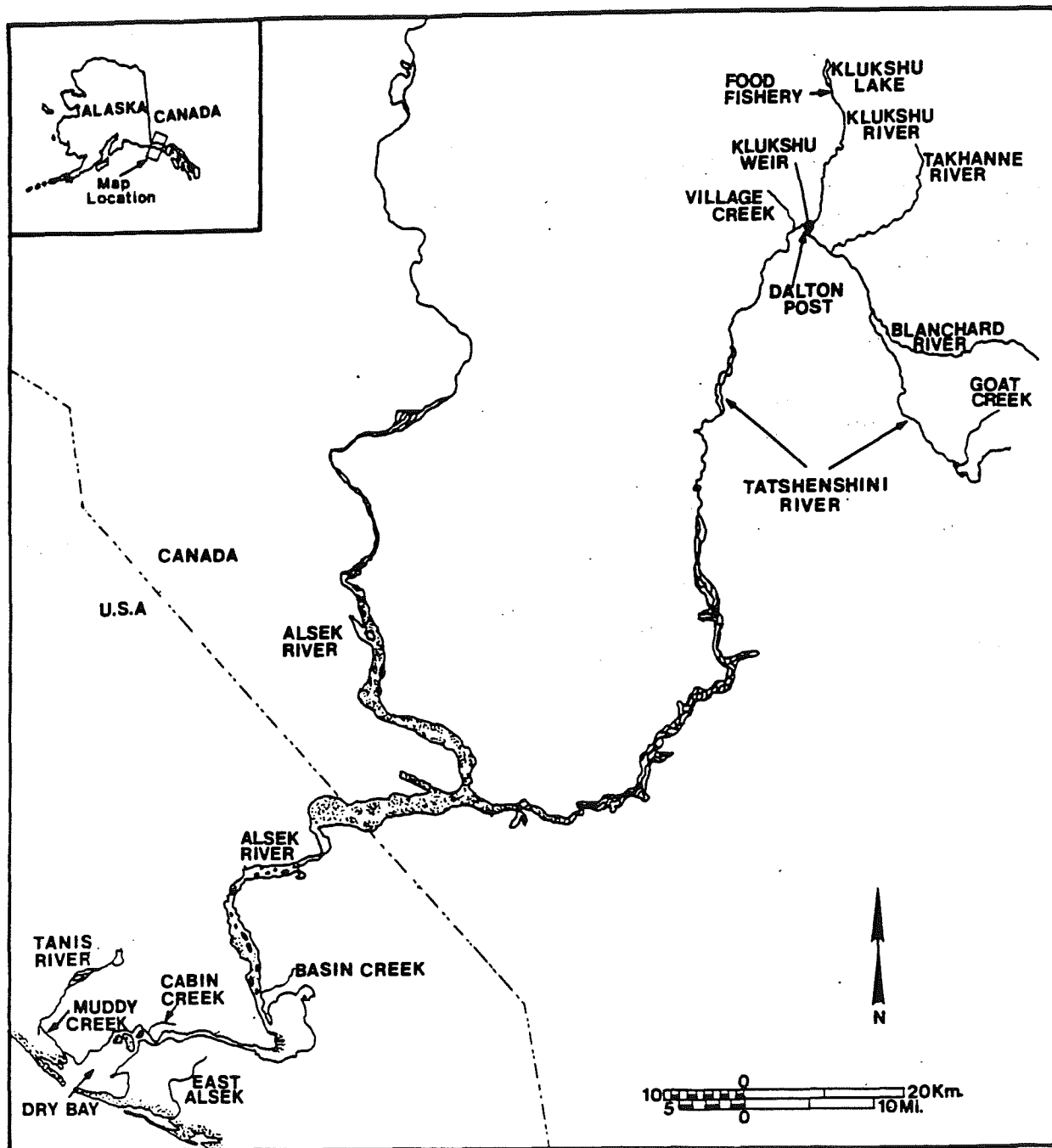


Figure 10. The Alsek River and principal U.S. and Canadian fishing areas.

U.S. Fisheries

The Dry Bay commercial set gillnet fishery harvested 805 chinook, 19,639 sockeye, 4,182 coho, and 32 chum salmon (Appendix E.1). The fishery was open for 61 days, 59% longer than the previous 10-year-average of 38 days (Appendix E.4). The majority of fishing time (43 days) occurred late in the season (August through early October) after the sockeye salmon run had largely passed by; effort was low during these weeks. As a result, the total effort expended in the fishery was 416 boat-days, which exceeded the previous 10-year-average of 400 boat-days by only 4% (Figure 11).

Preseason expectations were for an above average return of early run sockeye salmon, an average to below average return of late run sockeye, and an average run of chinook salmon. These expectations were based on parent-year escapements to the Klukshu River.

Based on the expected above average return of early run sockeye, the Alsek River was opened to commercial fishing on the first Monday in June. This marked the first time since 1987 that the Alsek was opened on the date allowed by regulation. The initial opening was limited to 12 hours in order to evaluate the effectiveness of chinook conservation measures. Fishery performance indicated that the early segment of the sockeye run was strong and that the chinook harvest was at expected levels. Fishing time was extended to 24 hours during the initial opening. CPUE was slightly below average during the second and third weeks of the season, and fishing time was maintained at one day during this time. As fishery performance improved, fishing time was increased to two days during statistical week 27 (June 26 to July 2), and to three days for the next three weeks of the season. Both the management model and the CPUE figures continued to indicate a strong run, but effort levels decreased as fishers left to fish on the East River sockeye return. In spite of this information, the decision not to extend fishing time beyond three days per week during this period was made because of the expectation that the large late run escapement in 1989 would not produce good returns. As a result of continued good fishery performance and model projections, coupled with reduced numbers of fishers, the Alsek fishery was extended to four days for the remainder of the sockeye season (statistical weeks 31 through 33; July 24 through August 13).

As a reflection of the area-wide strong coho run, fishing times were maintained at four days per week for the next three weeks. Fishery performance remained good and fishing time was increased to 5.5 days for the first and second full weeks of September (statistical weeks 37 and 38). Fishing performance was below average from that time on, and fishing time was curtailed to four days for the last three weeks of the season.

A survey on September 30 revealed below average escapement in local creeks, and the Alsek fishery was closed for the season on October 7. Although open, the river was not fished during the last week of the season (statistical week 41).

Catch and CPUE figures through the first full week of July were again affected by additional effort directed toward the Alsek stocks during closed periods on the East River. The Alsek River openings of two and three days coincided with one-day openings for the East River. During this time, many setnetters fished the first 24 hours on the East River before switching over to the Alsek fishery to take advantage of the extra fishing time. Indications of good catches and CPUE during the first 24 hours in the Alsek became attenuated as East River fishers moved into marginal or less productive sets on the Alsek River. Effort

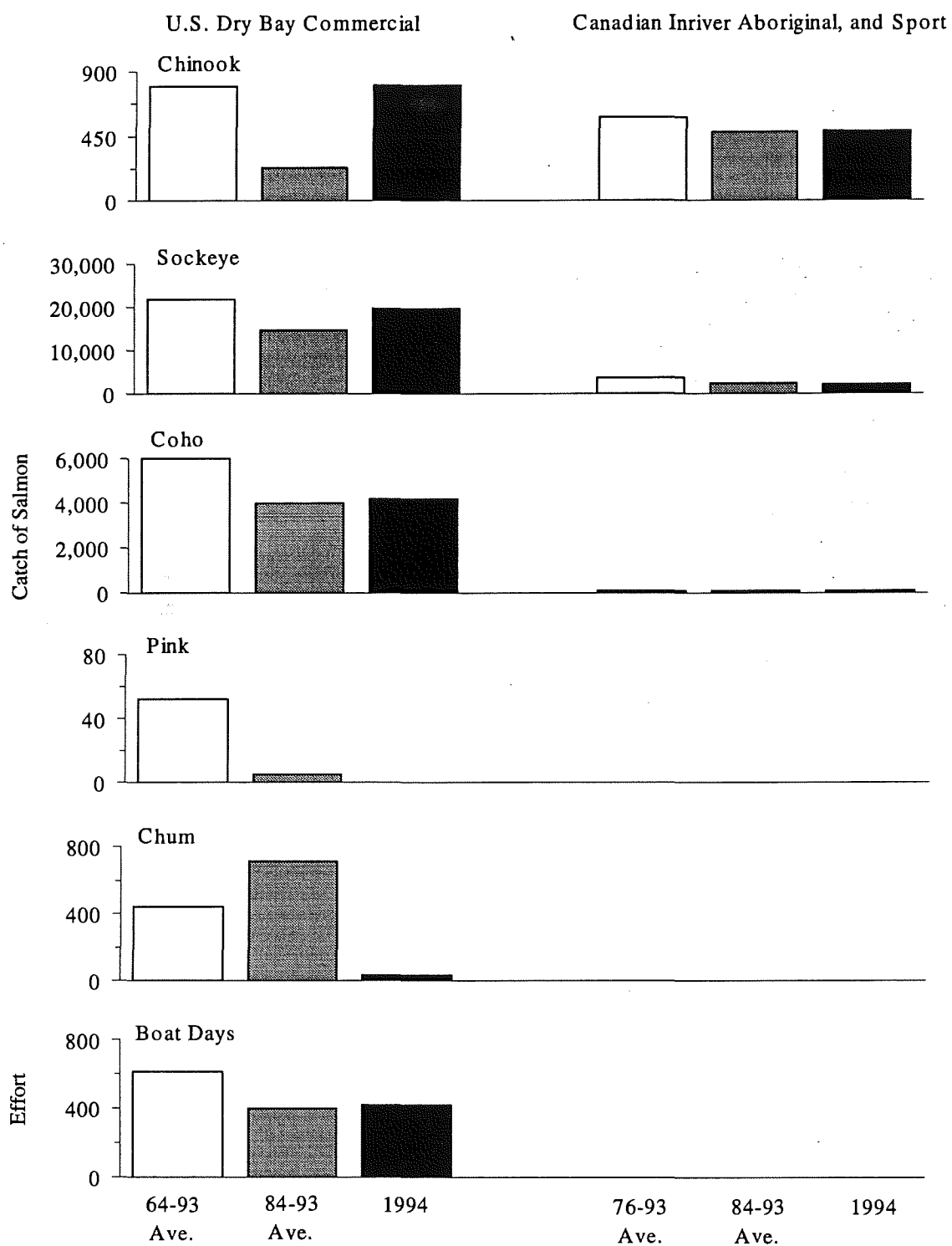


Figure 11. Average catches and fishing efforts compared with 1994 values for the Alaskan Dry Bay commercial fishery, and the Canadian combined aboriginal and sport fisheries in the Alsek River.

levels for the Alsek remained high through the early part of the season, with a peak effort of 27 setnetters recorded during the weeks of 25 and 27 (June 12 to 17, and June 26 to July 2). East River fishing time was increased during the second week of July, and effort levels for the Alsek remained low for the remainder of the season.

Historically, a set gillnet fishery targeting on chinook salmon was conducted during May and early June. Due to depressed runs, the directed fishery has been closed since 1962 and chinook salmon are now harvested only incidentally during the sockeye fishery in early June. In 1994, the early June periods were limited in time in order to reduce the impact on chinook salmon. Commercial fishers were encouraged to reduce the harvest of chinook by staying on their gear and releasing live fish. This voluntary program has been used with some success in the past on the Situk River under similar circumstances. As in recent years, gillnet mesh size was restricted to a maximum of six inches through July 1.

The chinook salmon harvest of 805 fish was over three times the 1984-1993 average of 232, but equal to the 1964-1993 average. Of all the chinook salmon harvested, 510 fish, or 63%, were caught during the first two weeks of the season. The entire catch from these two weeks was examined by Alaska Department of Fish and Game (ADF&G) staff; of the 510 chinook salmon sold, 90 were large spawners (>711 mm) and 420 were primarily two-ocean jacks (<711 mm), with a few one-ocean fish. Interviews with fishers, conducted while the fishery was in progress, indicated that large spawners could be released without harm to the fish, while the jacks, being comparable to sockeye in size, were generally gilled and subsequently died in the nets.

The Alsek River sockeye harvest of 19,639 fish was 32% above the 1984-1993 average of 14,843, and was the third highest catch in the past ten years (Figure 12). The majority of the harvest (92%; 17,998 sockeye salmon) was taken in the river, with the remainder of the catch coming from the surf area. Adjustments to the weekly fishing periods during the sockeye salmon season relied heavily on fishery performance data, and the decision of whether or not to extend any given period was generally based on catch and CPUE figures gathered inseason during that particular period. Parent-year escapement information and the Alsek management model projections were also factors in determining the weekly fishing periods. The management model uses multiple regression analysis of fishery catch and effort data to generate weekly projections of the U.S. Alsek River catch, the Klukshu River escapement, and total index run size (U.S. catch + Klukshu weir count). Model results tend to get more accurate as the season progresses; early season projections are of limited use for management purposes. In 1994, model projections of the total catch were quite accurate but projections of the Klukshu River escapement and total index run size were consistently overestimated (Table 5). Various factors affect the accuracy of the model, including the relative strengths of early and late runs to Klukshu, the abundance of stocks not represented in the model (e.g., Village Creek stock), and the accuracy of manager's projections of effort levels.

The coho salmon harvest of 4,182 was close to the previous 10-year average of 4,009 fish.

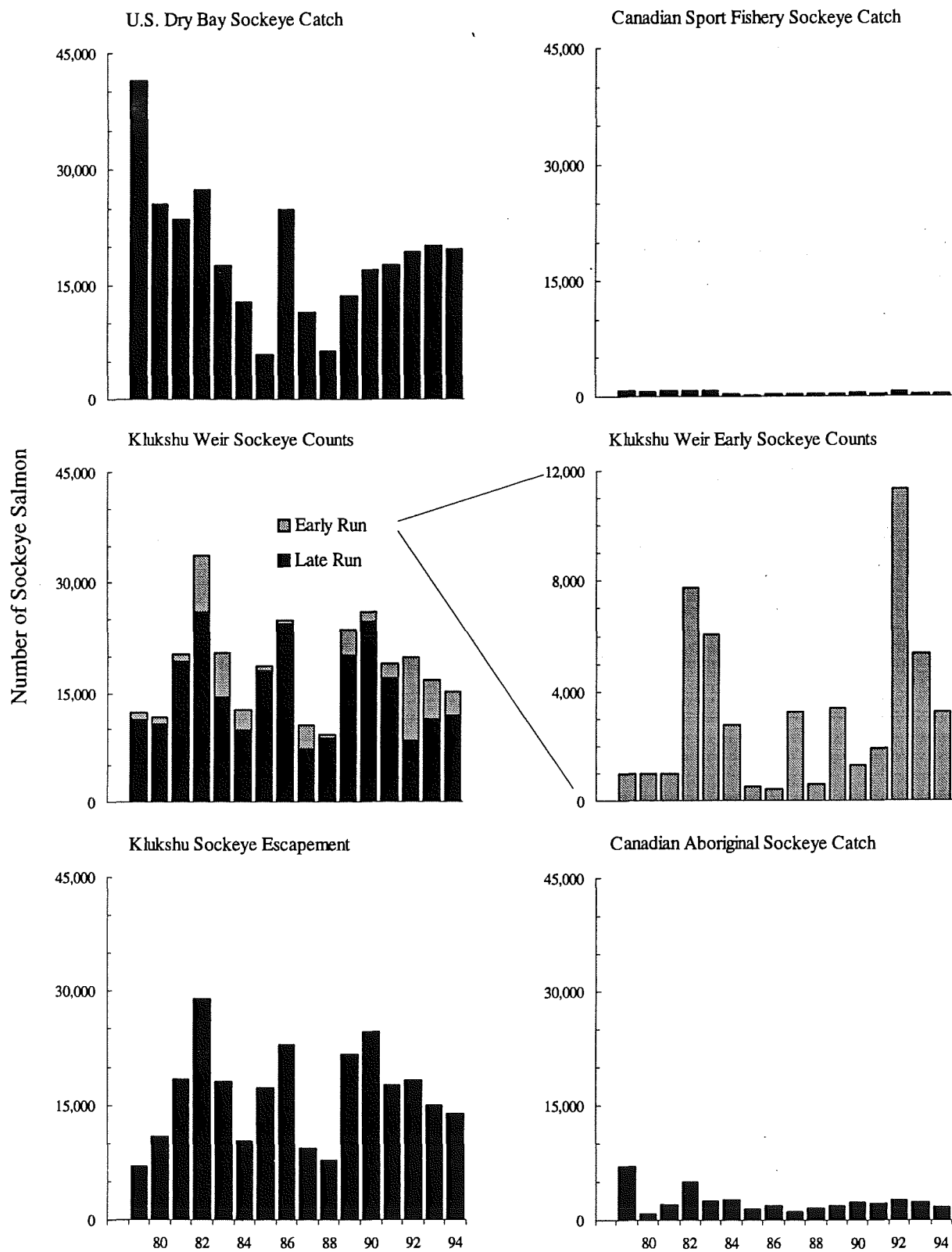


Figure 12. Alsek sockeye catches and weir counts, 1979-1994.

Table 5. Inseason U.S. forecasts of the total 1994 Alsek River sockeye salmon catch, Klukshu River weir count, and total index run size (catch + Klukshu weir count).

Statistical Week	Start Date	Total Catch	Klukshu Weir Count	Index Run Size
26	June 20	13,547	17,621	31,168
27	June 27	16,335	36,733	53,068
28	July 04	20,003	27,460	46,463
29	July 11	18,351	23,148	41,499
30	July 18	18,240	24,027	42,266
31	July 25	17,523	22,646	40,169
Actual		19,639	15,038	34,667

Canadian Fisheries

The center of aboriginal 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. Salmon 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, Goat Creek, and the Blanchard River.

As in recent years, management actions were taken to conserve chinook and early run sockeye stocks. The fishing plan for the aboriginal fishery for the period prior to August 15 allowed only elders to fish by means of fish traps for 1.25 days per week. After August 15, fishing by traps was allowed 3.25 days per week.

The gaff fishery was open seven days per week in all areas to September 5; however, gaffing for sockeye salmon in the Klukshu River was prohibited prior to August 15, except by elders. Gaffing for chinook salmon was prohibited in the waters of Village Creek, Goat Creek, Stanley Creek, and the Parton River; commencing September 5, the gaff fishery was not restricted.

The aboriginal food fishery harvested an estimated 289 chinook, 1,745 sockeye, and 8 coho salmon. The catch of chinook was approximately 62% above the 1984-1993 average of 179 fish. The sockeye catch was 12% below the 1984-1993 average of 1,987 fish (Appendix E.6). The food fishery catch data was summarized weekly from daily catch statistics gathered inseason. Weekly catches and annual comparisons appear in Appendices E.2 and E.6.

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. Retention of sockeye salmon in the recreational fishery was prohibited prior to August 15 to protect the early run of sockeye. The chinook daily catch and possession limits were one and two, respectively; the

overall daily catch and possession limits for salmon were two and four, respectively (only two of which can be chinook). Sport fishing in the Dalton Post area was open from 6:00 am Saturday to 12:00 noon Tuesday each week. After September 31, the fishery was open seven days per week and extended to include the Klukshu River. The headwater areas within the drainage, upstream of the British Columbia-Yukon border, were closed for the season to protect spawning chinook and sockeye salmon.

The recreational fishery harvested an estimated 197 chinook, 261 sockeye, and 69 coho salmon. Compared to 1984-1993 average sport catches, the chinook catch was 34% below average, the sockeye catch was 22% below average, and the coho catch was 40% below average. The catch data were derived from a creel census program conducted in the Dalton Post area by the Klukshu weir personnel. Additional catch data were collected in other areas/tributaries by a DFO guardian. Weekly estimates and annual comparisons are listed in Appendices E.2 and E.6.

Escapement

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

Sockeye

A total of 15,038 sockeye salmon were counted through the Klukshu weir in 1994 and consisted of a below average (1984-1993) early run count of 3,247 (count through August 15), and a below average late run of 11,791 fish. The early run count was 5% above the 1984-1993 average of 3,093 fish. The late run count, was 21% below the 1984-1993 average of 15,013. The estimated Village Creek sockeye escapement was 4,007, 22% below the 1985-1993 average of 5,145 fish (Appendix E.8).

Comparative counts for other Alsek index tributaries appear in Appendix E.8. A count of 250 sockeye salmon for Basin Creek was well below the 1985-1993 average count of 1,243 fish; the Basin Creek survey was flown after an extended period of flooding and is likely not representative of escapement levels. The peak count for the Tanis River was 600 sockeye salmon, 60% below the 1985-1993 average of 1,498 fish.

Chinook

The most reliable comparative escapement index for Alsek drainage is the Klukshu weir count. The chinook weir count in 1994 of 3,735 fish was 70% above the 1984-1993 average of 2,202 fish (Appendix E.7; Figure 13). Although the 1994 count was the second highest count recorded (since 1976), the escapement goal of 4,700 Klukshu chinook was not met.

Aerial surveys were again conducted in 1994 for several other index streams. The count of 342 fish in the Takhanne River exceeded the 1984-1993 average of 216 by 58%. Aerial counts of 349 chinook at the Blanchard River and 67 chinook at Goat Creek was close to the 1984-1993 averages of 336 and 56 fish, respectively (Appendix E.9). The aerial survey count of 1,558 Klukshu chinook salmon was approximately 42% of the weir count of 3,735 fish.

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 1994 count of 1,232 fish was 31% below the 1984-1993 average of 1,781 fish (Figure 14). Escapement counts for coho salmon on the U.S. side of the border were below average. Peak coho salmon survey counts on the Tanis River and Cabin Creek were 615 and 360 fish, respectively.

Run Reconstruction

Expectations for the sockeye run in 1994 were for an above average overall run composed of both an above average early and late run component. The sockeye run did not develop as predicted with a slightly above average early run and a below average late run. The combined U.S. and Canadian total sockeye harvest was slightly below average (Table 6).

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 judgment. The Klukshu weir count divided by the estimated percent Klukshu fish minus the recreational and aboriginal 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 23,000 to 40,000 fish and the estimated total Alsek sockeye run was on the order of 43,000 to 58,000 sockeye salmon. The interim escapement goal for the Alsek River is from 33,000 (U.S.) to 58,000 (Canada) fish.

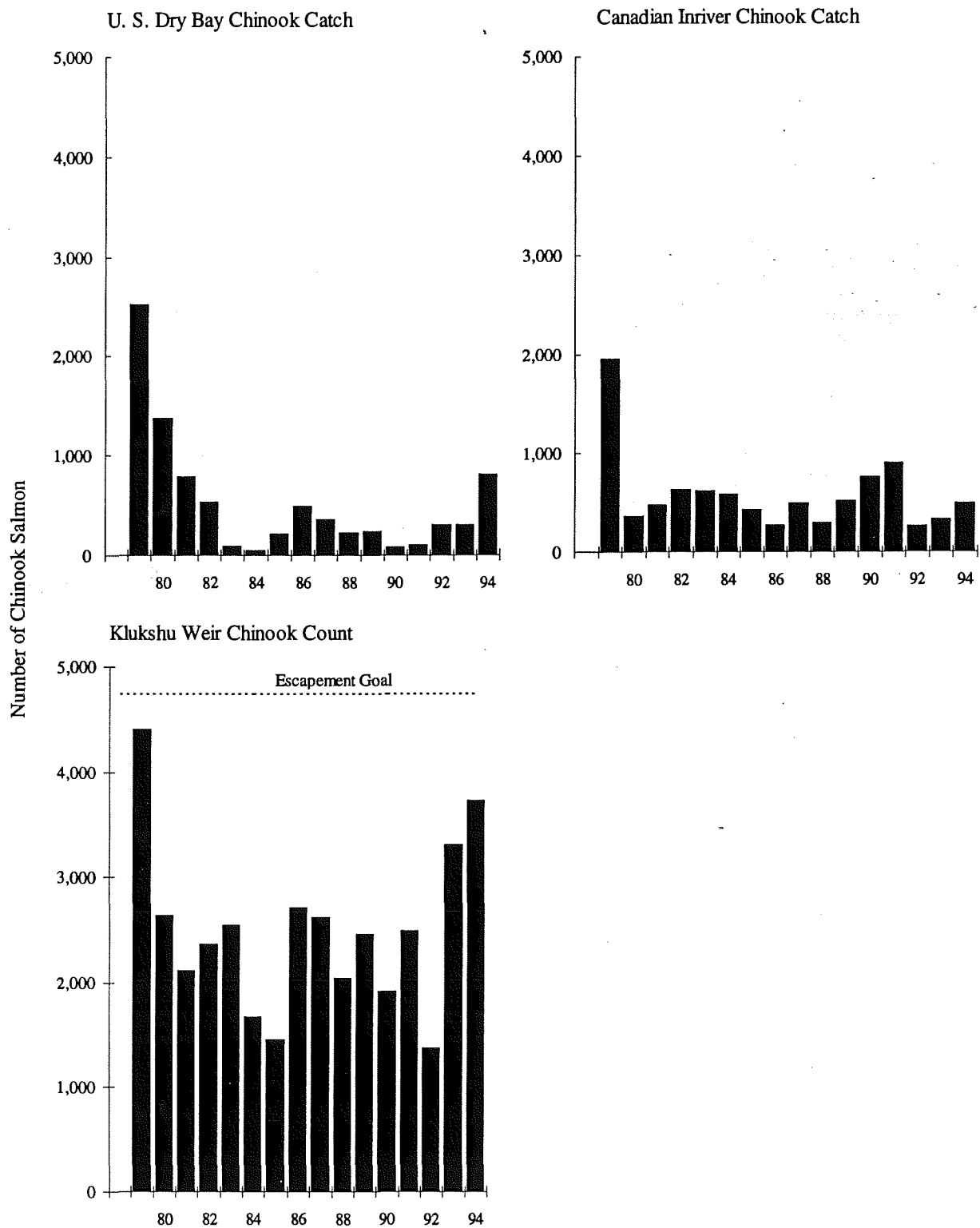


Figure 13. Alsek chinook catches and weir counts, 1979-1994.

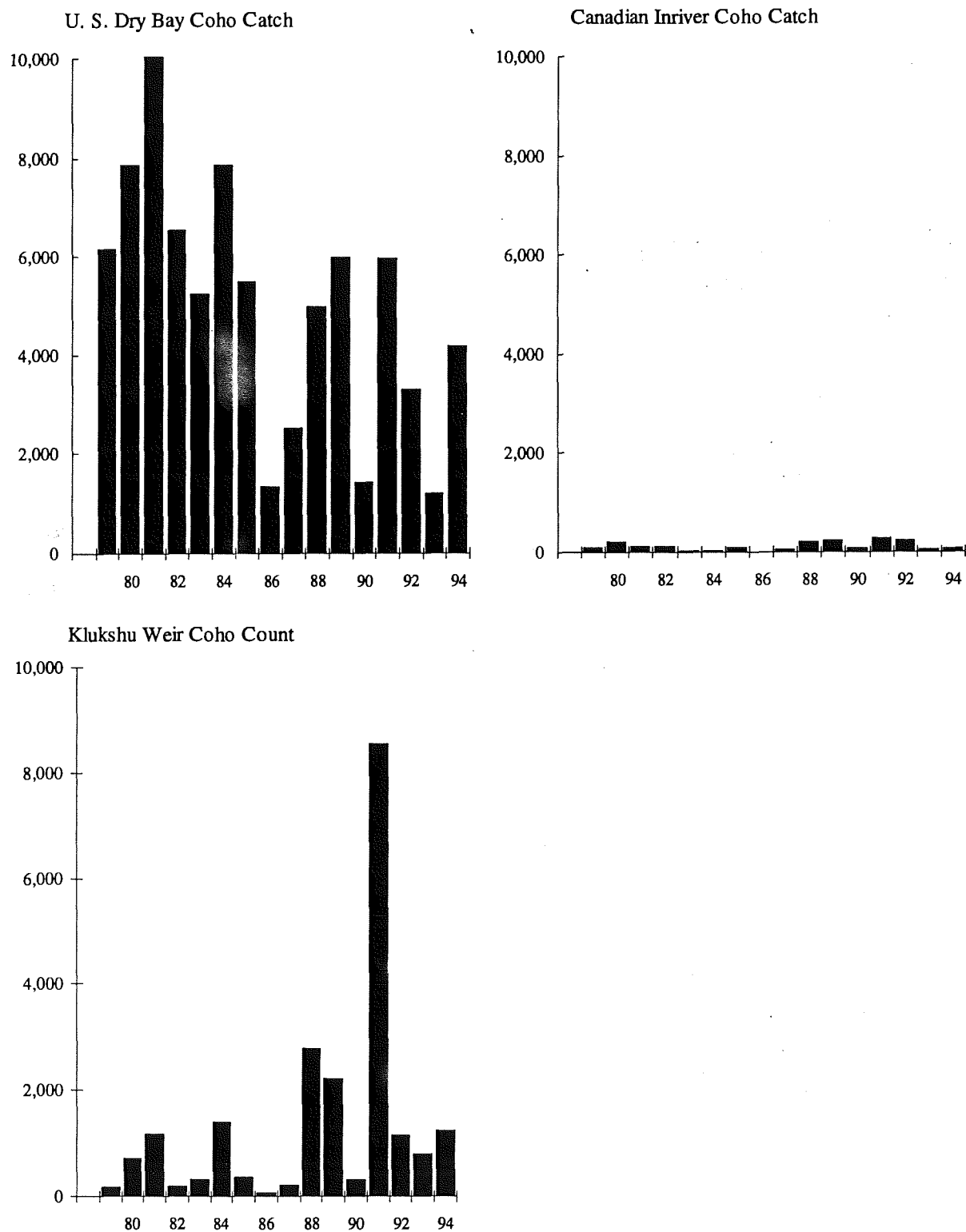


Figure 14. Alsek coho catches and weir counts, 1979-1994. The weir counts are incomplete because the weir was dismantled before the entire run had passed.

Table 6. Catch and Klukshu index escapement data for Alsek sockeye, chinook, and coho salmon for 1994.

	Sockeye	Chinook	Coho
Escapement Index ^a			
Klukshu Weir Count	15,038	3,735	1,232
Klukshu Escapement	13,892	3,628	
Harvest ^b			
U.S. Commercial	19,639	805	4,182
U.S. Subsistence	47	60	20
Canadian Sport	261	197	69
Canadian Aboriginal ^c	1,745	289	8
Total	21,692	1,351	4,279

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

^b Estimates of U.S. harvest differ from Joint Interception Committee estimates because the estimates given here include only the Dry Bay/Alsek River fishery catches.

^c Sockeye catch is a projection.

APPENDICES

Appendix A.1. Weekly salmon catch and effort in the Alaskan Subdistrict 106-41 and -42 (Sumner Strait) commercial drift gillnet fishery, 1994.

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Permits	Days	Permit Days
26	19-Jun	111	3,794	556	71	3,539	31	2	62
27	26-Jun	82	12,192	2,510	893	17,100	63	2	126
28	3-Jul	83	19,150	4,249	1,082	9,515	73	2	146
29	10-Jul	34	26,745	4,675	1,044	11,772	81	2	162
30	17-Jul	34	30,800	13,353	1,428	22,123	98	3	294
31	24-Jul	34	29,747	13,115	4,502	13,895	104	3	312
32	31-Jul	16	13,755	17,871	9,839	9,800	97	3	291
33	7-Aug	5	11,230	14,537	12,955	4,541	86	2	172
34	14-Aug	4	5,129	16,182	17,263	5,577	70	2	140
35	21-Aug	22	3,514	30,581	12,781	9,138	90	4	360
36	28-Aug	16	1,082	37,207	4,103	7,608	95	4	380
37	4-Sep	2	265	18,102	230	3,186	86	3	258
38	11-Sep	1	85	8,062	30	4,036	30	3	90
39	18-Sep	6	30	7,487	4	2,848	43	3	129
40	25-Sep	6	6	2,901	0	1,068	20	3	60
41	2-Oct	0	2	276	0	72	3	2	6
Total		456	157,526	191,664	66,225	125,818	1,070	43	2,988

Appendix A.2. Weekly stock proportions and catches of sockeye salmon harvested in the Alaskan Subdistrict 106-41 and -42 (Sumner Strait) commercial drift gillnet fishery, 1994. Data based on scale pattern analysis.

Week	Alaska	Canada	Stikine			Thermal Marked	CPUE of Stikine Fish		
			All ^a	non-	Total		Tahltan	Non-	All
			Tahltan	Tahltan		Tahltan	Tahltan	Tahltan	Stikine
Proportions									
26	0.301	0.215	0.466	0.018	0.484	0.060	0.158	0.047	0.145
27	0.400	0.084	0.501	0.015	0.516	0.085	0.269	0.063	0.245
28	0.405	0.199	0.380	0.017	0.397	0.081	0.276	0.096	0.256
29	0.544	0.229	0.179	0.048	0.227	0.067	0.164	0.342	0.184
30	0.653	0.177	0.113	0.056	0.169	0.030	0.066	0.251	0.087
31	0.498	0.436	0.019	0.047	0.066	0.015	0.010	0.190	0.031
32	0.732	0.208	0.060	0.000	0.060	0.010	0.016	0.000	0.014
33	0.533	0.418	0.049	0.000	0.049	0.005	0.018	0.000	0.016
34	0.427	0.485	0.083	0.005	0.088	0.005	0.017	0.008	0.016
35	0.440	0.478	0.077	0.005	0.082	0.005	0.004	0.002	0.004
36	0.440	0.478	0.077	0.005	0.082	0.005	0.001	0.001	0.001
37	0.440	0.478	0.077	0.005	0.082	0.005	0.000	0.000	0.000
38	0.440	0.478	0.077	0.005	0.082	0.005	0.000	0.000	0.000
39	0.440	0.478	0.077	0.005	0.082	0.005	0.000	0.000	0.000
40	0.440	0.478	0.077	0.005	0.082	0.005	0.000	0.000	0.000
41	0.440	0.478	0.077	0.005	0.082	0.005	0.000	0.000	0.000
Total	0.531	0.271	0.166	0.032	0.198	0.040			
Catches									
26	1,143	816	1,767	68	1,835	228	28.5	1.1	29.6
27	4,871	1,029	6,106	186	6,292	1,036	48.5	1.5	49.9
28	7,749	3,802	7,272	327	7,599	1,547	49.8	2.2	52.0
29	14,548	6,120	4,781	1,296	6,077	1,789	29.5	8.0	37.5
30	20,120	5,463	3,487	1,730	5,217	933	11.9	5.9	17.7
31	14,824	12,963	568	1,392	1,960	453	1.8	4.5	6.3
32	10,071	2,859	825	0	825	138	2.8	0.0	2.8
33	5,984	4,695	551	0	551	56	3.2	0.0	3.2
34	2,188	2,490	424	27	451	26	3.0	0.2	3.2
35	1,547	1,680	270	17	287	18	0.8	0.0	0.8
36	476	517	83	5	88	5	0.2	0.0	0.2
37	117	127	20	1	22	1	0.1	0.0	0.1
38	37	41	7	0	7	0	0.1	0.0	0.1
39	13	14	2	0	2	0	0.0	0.0	0.0
40	3	3	0	0	0	0	0.0	0.0	0.0
41	1	1	0	0	0	0	0.0	0.0	0.0
Total	83,692	42,620	25,164	5,050	31,214	6,230	180.2	23.4	203.6

^a All Tahltan includes thermally marked fish.

Appendix A.3. Weekly salmon catch and effort in the Alaskan Subdistrict 106-30 (Clarence Strait) commercial drift gillnet fishery, 1994.

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Permits	Days	Permit Days
26	19-Jun	85	1,331	253	95	1,342	14	2	28
27	26-Jun	47	2,157	801	339	2,694	22	2	44
28	3-Jul	57	3,990	1,883	1,225	4,283	23	2	46
29	10-Jul	27	6,031	2,187	643	4,193	32	2	64
30	17-Jul	7	6,934	2,417	950	5,098	24	3	72
31	24-Jul	34	14,704	6,865	6,647	6,609	77	3	231
32	31-Jul	20	9,724	10,582	16,392	7,647	85	3	255
33	7-Aug	3	3,381	4,992	8,720	1,260	52	2	104
34	14-Aug	3	2,227	4,665	18,900	1,388	32	2	64
35	21-Aug	7	2,327	11,410	41,590	3,359	58	4	232
36	28-Aug	2	419	8,366	16,857	1,784	45	4	180
37	4-Sep	6	144	11,047	1,262	5,467	37	3	111
38	11-Sep	0	41	3,203	132	1,876	13	3	39
39	18-Sep	0	110	4,787	17	2,289	25	3	75
40	25-Sep	0	2	1,727	0	780	15	3	45
41	2-Oct	0	0	982	0	131	8	2	16
Total		298	53,522	76,167	113,769	50,200	562	43	1,606

Appendix A.4. Weekly stock proportions and catches of sockeye salmon harvested in the Alaskan Subdistrict 106-30 (Clarence Strait) commercial drift gillnet fishery, 1994. Data based on scale pattern analysis.

	Week	Alaska	Canada	Stikine		Total	Thermal	CPUE of Stikine Fish		
				All *	non-Tahltan		Marked Tahltan	Tahltan	Non-Tahltan	All Stikine
Proportions										
	26	0.640	0.165	0.195	0.000	0.195	0.065	0.157	0.000	0.146
	27	0.626	0.147	0.196	0.031	0.227	0.045	0.163	0.356	0.176
	28	0.684	0.065	0.234	0.017	0.250	0.020	0.344	0.340	0.343
	29	0.828	0.090	0.079	0.003	0.082	0.000	0.126	0.073	0.122
	30	0.817	0.124	0.059	0.000	0.059	0.040	0.096	0.000	0.089
	31	0.668	0.260	0.063	0.008	0.071	0.015	0.068	0.118	0.072
	32	0.782	0.218	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	33	0.637	0.345	0.003	0.015	0.018	0.000	0.002	0.112	0.009
	34	0.616	0.332	0.052	0.000	0.052	0.005	0.031	0.000	0.029
	35	0.616	0.332	0.052	0.000	0.052	0.005	0.009	0.000	0.008
	36	0.616	0.332	0.052	0.000	0.052	0.005	0.002	0.000	0.002
	37	0.616	0.332	0.052	0.000	0.052	0.005	0.001	0.000	0.001
	38	0.616	0.332	0.052	0.000	0.052	0.005	0.001	0.000	0.001
	39	0.616	0.332	0.052	0.000	0.052	0.005	0.001	0.000	0.001
	40	0.616	0.332	0.052	0.000	0.052	0.005	0.000	0.000	0.000
	Total	0.718	0.207	0.069	0.006	0.075	0.015			
Catches										
	26	852	220	259	0	259	87	9.3	0.0	9.3
	27	1,350	318	422	67	489	97	9.6	1.5	11.1
	28	2,731	260	932	67	999	80	20.3	1.5	21.7
	29	4,993	543	475	20	495	0	7.4	0.3	7.7
	30	5,668	859	407	0	407	279	5.7	0.0	5.7
	31	9,829	3,826	932	117	1,049	221	4.0	0.5	4.5
	32	7,605	2,119	0	0	0	0	0.0	0.0	0.0
	33	2,153	1,168	10	50	60	0	0.1	0.5	0.6
	34	1,371	740	116	0	116	11	1.8	0.0	1.8
	35	1,433	773	121	0	121	12	0.5	0.0	0.5
	36	258	139	22	0	22	2	0.1	0.0	0.1
	37	89	48	8	0	8	1	0.1	0.0	0.1
	38	25	14	2	0	2	0	0.1	0.0	0.1
	39	68	37	6	0	6	1	0.1	0.0	0.1
	40	1	1	0	0	0	0	0.0	0.0	0.0
	Total	38,426	11,063	3,712	321	4,033	789	59.0	4.3	63.2

* All Tahltan includes thermally marked fish.

Appendix A.5. Weekly salmon catch in the Alaskan District 106 commercial drift gillnet fisheries, 1994. Catches do not include blind Slough terminal area harvests. Effort may be less than the sum of effort from 106-41 and -42 and 106-30 because some boats fished in more than one subdistrict

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Permits	Days	Permit Days
26	19-Jun	196	5,125	809	166	4,881	44	2	88
27	26-Jun	129	14,349	3,311	1,232	19,794	84	2	168
28	3-Jul	140	23,140	6,132	2,307	13,798	94	2	188
29	10-Jul	61	32,776	6,862	1,687	15,965	113	2	226
30	17-Jul	41	37,734	15,770	2,378	27,221	121	3	363
31	24-Jul	68	44,451	19,980	11,149	20,504	176	3	528
32	31-Jul	36	23,479	28,453	26,231	17,447	178	3	534
33	7-Aug	8	14,611	19,529	21,675	5,801	136	2	272
34	14-Aug	7	7,356	20,847	36,163	6,965	102	2	204
35	21-Aug	29	5,841	41,991	54,371	12,497	138	4	552
36	28-Aug	18	1,501	45,573	20,960	9,392	135	4	540
37	4-Sep	8	409	29,149	1,492	8,653	119	3	357
38	11-Sep	1	126	11,265	162	5,912	42	3	126
39	18-Sep	6	140	12,274	21	5,137	67	3	201
40	25-Sep	6	8	4,628	0	1,848	33	3	99
41	2-Oct	0	2	1,258	0	203	11	2	22
Total		754	211,048	267,831	179,994	176,018	1,593	43	4,468
Alaska Hatchery Contribution									
26	19-Jun	166	10	120		4,835			
27	26-Jun	41	386	560		9,571			
28	3-Jul	72	393	674		9,067			
29	10-Jul	3	346	607		4,688			
30	17-Jul	51	296	354		18,406			
31	24-Jul	0	103	984		10,572			
32	31-Jul	60	124	1,046		5,591			
33	7-Aug	2	9	765		2,393			
34	14-Aug	4	0	1,253		0			
35	21-Aug	0	0	9,783		0			
36	28-Aug	3	0	8,196		0			
37	4-Sep	0	0	7,959		1,991			
38	11-Sep	12	0	2,871		0			
39	18-Sep	0	0	2,871		0			
40	25-Sep	0	0	1,689		0			
41	2-Oct	0	0	109		0			
Total		414	1,667	39,841		67,114			
Catches not including Alaska hatchery contributions									
26	19-Jun	30	5,115	689	166	46	44	2	88
27	26-Jun	88	13,963	2,751	1,232	10,223	84	2	168
28	3-Jul	68	22,747	5,458	2,307	4,731	94	2	188
29	10-Jul	58	32,430	6,255	1,687	11,277	113	2	226
30	17-Jul	-10	37,438	15,416	2,378	8,815	121	3	363
31	24-Jul	68	44,348	18,996	11,149	9,932	176	3	528
32	31-Jul	-24	23,355	27,407	26,231	11,856	178	3	534
33	7-Aug	6	14,602	18,764	21,675	3,408	136	2	272
34	14-Aug	3	7,356	19,594	36,163	6,965	102	2	204
35	21-Aug	29	5,841	32,208	54,371	12,497	138	4	552
36	28-Aug	15	1,501	37,377	20,960	9,392	135	4	540
37	4-Sep	8	409	21,190	1,492	6,662	119	3	357
38	11-Sep	-11	126	8,394	162	5,912	42	3	126
39	18-Sep	6	140	9,403	21	5,137	67	3	201
40	25-Sep	6	8	2,939	0	1,848	33	3	99
41	2-Oct	0	2	1,149	0	203	11	2	22
Total		340	209,381	227,990	179,994	108,904	1,593	43	4,468

Appendix A.6. Weekly stock proportions of sockeye salmon harvested in the Alaskan District 106 commercial drift gillnet fisheries, 1994. Data based on SPA.

	Week	Alaska	Canada	Stikine		Total	Thermal	CPUE of Stikine Fish		
				All *	non- Tahltan		Marked Tahltan	Tahltan	Non- Tahltan	All Stikine
Proportions										
	26	0.389	0.202	0.395	0.013	0.409	0.061	0.154	0.042	0.142
	27	0.434	0.094	0.455	0.018	0.473	0.079	0.260	0.083	0.240
	28	0.453	0.176	0.355	0.017	0.372	0.070	0.292	0.115	0.272
	29	0.596	0.203	0.160	0.040	0.201	0.055	0.155	0.320	0.173
	30	0.683	0.168	0.103	0.046	0.149	0.032	0.072	0.262	0.092
	31	0.555	0.378	0.034	0.034	0.068	0.015	0.019	0.157	0.034
	32	0.753	0.212	0.035	0.000	0.035	0.006	0.010	0.000	0.009
	33	0.557	0.401	0.038	0.003	0.042	0.004	0.014	0.010	0.013
	34	0.484	0.439	0.073	0.004	0.077	0.005	0.018	0.007	0.017
	35	0.510	0.420	0.067	0.003	0.070	0.005	0.005	0.002	0.004
	36	0.489	0.437	0.070	0.003	0.073	0.005	0.001	0.001	0.001
	37	0.502	0.427	0.068	0.003	0.071	0.005	0.001	0.000	0.000
	38	0.497	0.431	0.069	0.003	0.072	0.005	0.000	0.000	0.000
	39	0.578	0.363	0.057	0.001	0.058	0.005	0.000	0.000	0.000
	40	0.484	0.442	0.071	0.004	0.074	0.005	0.000	0.000	0.000
	41	0.440	0.478	0.077	0.005	0.082	0.005	0.000	0.000	0.000
	Total	0.579	0.254	0.142	0.025	0.167	0.033			
Catches										
	26	1,995	1,036	2,026	68	2,094	314	23.0	0.8	23.8
	27	6,221	1,347	6,528	253	6,781	1,133	38.9	1.5	40.4
	28	10,480	4,062	8,204	394	8,598	1,627	43.6	2.1	45.7
	29	19,541	6,663	5,256	1,316	6,572	1,789	23.3	5.8	29.1
	30	25,788	6,322	3,894	1,730	5,624	1,212	10.7	4.8	15.5
	31	24,653	16,789	1,500	1,509	3,009	674	2.8	2.9	5.7
	32	17,676	4,978	825	0	825	138	1.5	0.0	1.5
	33	8,137	5,863	561	50	611	56	2.1	0.2	2.2
	34	3,559	3,230	540	27	567	37	2.6	0.1	2.8
	35	2,980	2,453	391	17	408	29	0.7	0.0	0.7
	36	734	656	105	5	110	8	0.2	0.0	0.2
	37	205	175	28	1	29	2	0.1	0.0	0.1
	38	63	54	9	0	9	1	0.1	0.0	0.1
	39	81	51	8	0	8	1	0.0	0.0	0.0
	40	4	4	1	0	1	0	0.0	0.0	0.0
	41	1	1	0	0	0	0	0.0	0.0	0.0
	Total	122,118	53,683	29,876	5,371	35,247	7,019	149.7	18.2	167.9

Numbers may not sum due to rounding error.

* All Tahltan includes thermally marked fish.

Appendix A.7. Weekly salmon catch and effort in the Alaskan District 108 commercial drift gillnet fishery, 1994. Catches do not include Ohmer Creek terminal area harvests. The total permit days are adjusted for boats which did not fish the entire opening and are less than the sum of the permits times the days open, weekly permit days are overestimates.

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Permits	Days	Permit Days
25	12-Jun	73	89	21	2	9	27	1.0	27
26	19-Jun	203	2,022	68	9	112	26	4.0	104
27	26-Jun	368	12,193	270	42	473	66	4.0	264
28	3-Jul	641	26,276	1,672	570	4,311	100	5.0	500
29	10-Jul	350	25,854	1,377	1,186	5,000	110	5.5	550
30	17-Jul	125	17,971	2,479	5,049	7,495	97	5.5	485
31	24-Jul	49	7,327	1,491	8,961	3,144	59	4.0	236
32	31-Jul	34	2,746	1,896	5,985	2,818	22	3.0	66
33	7-Aug	4	1,343	1,844	3,760	775	16	2.0	32
34	14-Aug	2	527	3,505	3,710	745	24	2.0	48
35	21-Aug	41	565	7,431	4,752	690	37	4.0	148
36	28-Aug	91	231	10,397	1,240	499	40	4.0	160
37	4-Sep	12	43	6,261	135	576	35	3.0	105
38	11-Sep	1	26	2,906	3	575	18	3.0	54
39	18-Sep	1	9	2,126	1	404	21	3.0	63
40	25-Sep	1	2	926	0	25	20	3.0	60
41	2-Oct	0	0	221	0	7	3	2.0	6
Total		1,996	97,224	44,891	35,405	27,658	721	58.0	1,923
Alaska Hatchery Contribution									
25	12-Jun	19	0	0		0			
26	19-Jun	0	0	7		0			
27	26-Jun	128	4	5		0			
28	3-Jul	28	0	142		0			
29	10-Jul	125	0	0		0			
30	17-Jul	256	0	0		1,013			
31	24-Jul	6	0	143		840			
32	31-Jul	6	0	178		306			
33	7-Aug	0	0	117		0			
34	14-Aug	0	0	259		0			
35	21-Aug	3	0	610		0			
36	28-Aug	0	0	353		0			
37	4-Sep	0	0	226		0			
38	11-Sep	0	0	0		0			
39	18-Sep	0	0	0		0			
40	25-Sep	0	0	0		0			
41	2-Oct	0	0	0		0			
Total		571	4	2,040		2,159			
Catches not including Alaska hatchery contributions									
25	12-Jun	54	89	21	2	9	27	1.0	27
26	19-Jun	203	2,022	61	9	112	26	4.0	104
27	26-Jun	240	12,189	265	42	473	66	4.0	264
28	3-Jul	613	26,276	1,530	570	4,311	100	5.0	500
29	10-Jul	225	25,854	1,377	1,186	5,000	110	5.5	550
30	17-Jul	-131	17,971	2,479	5,049	6,482	97	5.5	485
31	24-Jul	43	7,327	1,348	8,961	2,304	59	4.0	236
32	31-Jul	28	2,746	1,718	5,985	2,512	22	3.0	66
33	7-Aug	4	1,343	1,727	3,760	775	16	2.0	32
34	14-Aug	2	527	3,246	3,710	745	24	2.0	48
35	21-Aug	38	565	6,821	4,752	690	37	4.0	148
36	28-Aug	91	231	10,044	1,240	499	40	4.0	160
37	4-Sep	12	43	6,035	135	576	35	3.0	105
38	11-Sep	1	26	2,906	3	575	18	3.0	54
39	18-Sep	1	9	2,126	1	404	21	3.0	63
40	25-Sep	1	2	926	0	25	20	3.0	60
41	2-Oct	0	0	221	0	7	3	2.0	6
Total		1,425	97,220	42,851	35,405	25,499	721	58.0	1,923

Appendix A.8. Weekly stock proportions and stock-specific catch of sockeye salmon in the Alaskan District 108 commercial drift gillnet fishery, 1994. Catches do not include Ohmer Creek terminal area harvests. Data based on SPA. The CPUE is underestimated due to boats not fishing the entire weekly opening.

Week	Alaska	Canada	Stikine			Thermal Marked Tahltan	CPUE of Stikine Fish		
			All ^a Tahltan	non- Tahltan	Total		Tahltan	Non- Tahltan	All Stikine
Proportions									
25	0.461	0.225	0.247	0.067	0.315	0.058	0.009	0.005	0.007
26	0.230	0.150	0.487	0.133	0.620	0.089	0.103	0.053	0.086
27	0.228	0.227	0.477	0.068	0.545	0.123	0.239	0.065	0.179
28	0.249	0.135	0.590	0.026	0.616	0.161	0.336	0.028	0.230
29	0.281	0.341	0.307	0.071	0.378	0.159	0.146	0.064	0.117
30	0.441	0.174	0.235	0.150	0.385	0.062	0.088	0.106	0.094
31	0.509	0.081	0.072	0.338	0.410	0.013	0.024	0.216	0.090
32	0.527	0.144	0.055	0.274	0.329	0.009	0.025	0.234	0.097
33	0.558	0.245	0.016	0.180	0.197	0.007	0.007	0.155	0.059
34	0.544	0.254	0.031	0.172	0.202	0.007	0.004	0.039	0.016
35	0.544	0.254	0.031	0.172	0.202	0.007	0.001	0.013	0.005
36	0.544	0.254	0.031	0.172	0.202	0.007	0.000	0.005	0.002
37	0.544	0.254	0.031	0.172	0.202	0.007	0.000	0.001	0.001
38	0.544	0.254	0.031	0.172	0.202	0.007	0.000	0.002	0.001
39	0.544	0.254	0.031	0.172	0.202	0.007	0.000	0.001	0.000
40	0.544	0.254	0.031	0.172	0.202	0.007	0.000	0.000	0.000
Total	0.326	0.208	0.362	0.103	0.466	0.116			
Catch									
25	41	20	22	6	28	5	0.8	0.2	1.0
26	466	303	985	268	1,253	180	9.5	2.6	12.0
27	2,779	2,771	5,811	832	6,643	1,495	22.0	3.2	25.2
28	6,551	3,545	15,503	677	16,180	4,243	31.0	1.4	32.4
29	7,265	8,812	7,932	1,845	9,777	4,122	13.1	3.0	16.2
30	7,927	3,122	4,228	2,694	6,922	1,113	7.9	5.0	13.0
31	3,727	596	524	2,480	3,004	94	2.2	10.5	12.7
32	1,446	396	152	752	904	24	2.3	11.4	13.7
33	750	329	22	242	264	10	0.7	7.6	8.3
34	287	134	16	91	107	4	0.3	1.9	2.2
35	307	143	17	97	114	4	0.1	0.7	0.8
36	126	59	7	40	47	2	0.0	0.2	0.3
37	23	11	1	7	9	0	0.0	0.1	0.1
38	14	7	1	4	5	0	0.0	0.1	0.1
39	5	2	0	2	2	0	0.0	0.0	0.0
40	1	1	0	0	0	0	0.0	0.0	0.0
Total	31,715	20,250	35,222	10,037	45,259	11,296	90.1	47.8	137.9

^a All Tahltan includes thermally marked fish.

Appendix A.9. Weekly salmon catch and effort in the Alaskan District 106-41 test fishery, 1994.

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Boats	Hours	Boat Days
25	12-Jun	0	12	1	0	16	1	11.25	0.47
Total		0	12	1	0	16	1	11.25	0.47

Appendix A. 10. Stock compositions and stock-specific catch of sockeye salmon in the Alaskan District 106-41 test fishery, 1994. Stock compositions from weekly commercial fishery catches were applied to weekly test fishery catches. Data based on SPA.

Week	Alaska	Canada	Stikine		Total	Thermal Marked Tahltan
			All *	non- Tahltan		
Proportions						
Week 25	0.500	0.250	0.250	0.000	0.250	0.083
Catch						
Week 25	6	3	3	0	3	1

* All Tahltan includes thermally marked fish.

Appendix A.11. Weekly salmon and steelhead trout catch and effort in the Canadian commercial fishery in the lower Stikine River, 1994.

Week	Start Date	Catch						Effort			
		Chinook		Sockeye	Coho	Pink	Chum	Steel-	Permits	Days	Permit
		Jacks	Large					head			Days
27	26-Jun	73	417	1,122	0	0	5	0	6.21	4.0	24.8
28	3-Jul	51	352	7,902	2	0	4	0	8.00	6.0	48.0
29	10-Jul	7	146	7,860	1	0	2	0	8.88	6.0	53.3
30	17-Jul	22	69	9,314	2	20	44	4	9.14	7.0	64.0
31	24-Jul	5	26	5,441	6	14	22	6	7.00	7.0	49.0
32	31-Jul	0	4	3,683	25	9	8	10	6.43	7.0	45.0
33	7-Aug	0	2	1,908	136	6	24	10	6.43	7.0	45.0
34	14-Aug	0	0	779	194	4	23	4	6.00	4.0	24.0
35	21-Aug	0	0	206	208	9	8	1	5.00	4.0	20.0
36	28-Aug	0	0	211	1,503	27	31	19	3.71	7.0	26.0
37	4-Sep	0	0	31	779	0	1	16	2.14	7.0	15.0
38	11-Sep	0	0	2	370	0	1	3	2.20	5.0	11.0
39	18-Sep	0	0	0	138	0	0	1	2.00	2.0	4.0
40	25-Sep								0.00	0.0	0.0
41	2-Oct								0.00	0.0	0.0
42	9-Oct								0.00	0.0	0.0
43	16-Oct	0	0	3	13	0	0	1	1.00	1.0	1.0
Total		158	1,016	38,462	3,377	89	173	75		74.0	430.1

Appendix A.12. Weekly sockeye salmon stock proportions and catch by stock in the Canadian commercial fishery in the lower Stikine River, 1994. Sex specific age compositions were calculated and the stock composition of the females sampled for egg diameters was expanded to the catch by age. Weekly thermal mark information not available.

Week	Prop.	Catch		CPUE		
		Tahltan	non-Tahltan	Tahltan	non-Tahltan	Total
27	0.944	1,059	63	42.640	2.529	45.169
28	0.881	6,962	940	145.035	19.590	164.625
29	0.793	6,233	1,627	116.985	30.537	147.523
30	0.631	5,877	3,437	91.859	53.718	145.577
31	0.426	2,318	3,123	47.303	63.737	111.041
32	0.253	932	2,751	20.702	61.124	81.826
33	0.126	240	1,668	5.341	37.049	42.391
34	0.063	49	730	2.045	30.413	32.458
35	0.024	5	201	0.247	10.053	10.300
36	0.012	3	208	0.097	8.027	8.125
37	0.012	0	31	0.025	2.045	2.069
38	0.012	0	2	0.002	0.180	0.182
39	0.012	0	0	0.000	0.000	0.000
40						
41						
42						
43	0.012	0	3	0.036	2.964	3.000
Total		23,678	14,784	472.318	321.968	794.285
Proportion		0.616	0.384	0.595	0.405	

Note: The proportions used for the final estimate include interpolations for week 25.

Appendix A.13. Weekly salmon and steelhead trout catch and effort in the Canadian commercial fishery in the upper Stikine River, 1994. It is assumed that 90% of the sockeye catch is of Tahltan Lake origin. Weekly thermal mark information not available.

Week	Start Date	Catch						Effort			
		Chinook		Sockeye	Coho	Pink	Chum	Steel-head	Permits	Days	Permit Days
		Jacks	Large								
27	26-Jun	0	30	2	0	0	0	0	1.0	2.0	2.0
28	3-Jul	0	41	62	0	0	0	0	2.0	4.0	8.0
29	10-Jul	1	5	215	0	0	0	0	3.0	6.0	18.0
30	17-Jul	0	0	1,313	0	0	0	0	2.0	6.0	12.0
31	24-Jul	0	0	765	0	0	0	0	1.0	7.0	7.0
32	31-Jul	0	0	0	0	0	0	0	0.0	7.0	0.0
33	7-Aug	0	0	36	0	1	0	0	2.0	7.0	14.0
34	14-Aug	0	0	73	0	0	0	0	1.0	7.0	7.0
35	21-Aug	0	0	0	0	0	0	0	0.0	4.0	0.0
Total		1	76	2,466	0	1	0	0	12.0	50.0	68.0

Appendix A.14. Weekly salmon and steelhead trout catch and effort in the Canadian aboriginal fishery located at Telegraph Creek, on the Stikine River, 1994. 90% of the sockeye catch is assumed to be of Tahltan Lake origin. Weekly thermal mark information not available.

Week	Start Date	Chinook		Catch					Effort			Permit Days
		Jacks	Large	Sockeye	Coho	Pink	Chum	Steel-head	Permits	Days		
22	22-May	0	10	0	0	0	0	0	1.3	4	5.2	
23	29-May	0	12	0	0	0	0	0	1.0	3	3.0	
24	5-Jun	6	82	3	0	0	0	0	2.3	7	16.1	
25	12-Jun	0	32	0	0	0	0	0	2.0	5	10.0	
26	19-Jun	1	21	1	0	0	0	0	1.6	5	8.0	
27	26-Jun	53	147	19	0	0	0	0	4.9	7	34.3	
28	3-Jul	58	145	148	0	0	0	0	5.9	7	41.3	
29	10-Jul	34	129	766	0	0	0	0	8.0	7	56.0	
30	17-Jul	35	95	1,953	0	0	0	0	13.0	7	91.0	
31	24-Jul	3	11	846	1	0	0	0	5.7	7	39.9	
32	31-Jul	0	8	234	0	0	0	0	2.6	7	18.2	
33	7-Aug	1	6	172	1	0	0	0	2.6	7	18.2	
34	14-Aug	0	0	9	0	0	0	0	0.0	1	0.0	
35	21-Aug	0	0	4	0	0	0	0	1.0	1	1.0	
36	28-Aug	0	0	0	0	0	0	0	0.0	0	0.0	
37	4-Sep	0	0	12	2	0	0	9	1.0	3	3.0	
Total		191	698	4,167	4	0	0	9	52.9	78	345.2	

Appendix A.15. Weekly salmon and steelhead trout catch and effort in the Canadian test fishery in the Stikine River, 1994.

		Catch							Steel-head	# Drifts/ Set Hours
Week	Start Date	Chinook Jacks	Adults	Sockeye	Coho	Pink	Chum			
Drift gillnet										
26	19-Jun	2	35	11	0	0	0	0	0	60
27	26-Jun	2	8	44	0	0	0	0	0	30
28	3-Jul	0	0	24	0	0	0	0	0	10
29	10-Jul	0	0	18	0	0	0	0	0	10
30	17-Jul	0	0	0	0	0	0	0	0	5
31	24-Jul									0
32	31-Jul									0
33	7-Aug									0
34	14-Aug	0	0	41	21	2	11	1	1	25
35	21-Aug	0	0	39	38	4	8	5	5	30
36	28-Aug	0	0	2	12	0	1	1	1	5
Total		4	43	179	71	6	20	7	7	175
Set gillnet										
26	19-Jun	25	42	146	0	0	0	0	0	264
27	26-Jun	7	30	171	0	0	0	0	0	120
28	3-Jul	1	2	47	0	0	0	0	0	24
29	10-Jul	0	0	28	0	0	0	0	0	24
30	17-Jul	1	0	22	0	0	0	0	0	24
31	24-Jul									0
32	31-Jul									0
33	7-Aug									0
34	14-Aug									0
35	21-Aug									0
36	28-Aug									0
Total		34	74	414	0	0	0	0	0	456
Additional Drifts										
26	20-Jun	23	120	58	0	0	0	0	0	81
27	27-Jun	14	52	502	0	0	0	0	0	39
28	4-Jul	3	6	194	0	0	0	0	0	2
29	11-Jul									0
30	18-Jul	0	0	86	0	0	0	0	0	9
31	25-Jul									0
32	1-Aug									0
33	8-Aug									0
34	15-Aug									0
35	22-Aug									0
36	29-Aug									0
Total		40	178	840	0	0	0	0	0	131
Total Test Fishery Catch										
26	19-Jun	50	197	215	0	0	0	0	0	
27	26-Jun	23	90	717	0	0	0	0	0	
28	3-Jul	4	8	265	0	0	0	0	0	
29	10-Jul	0	0	46	0	0	0	0	0	
30	17-Jul	1	0	108	0	0	0	0	0	
31	24-Jul									
32	31-Jul									
33	7-Aug									
34	14-Aug	0	0	41	21	2	11	1	1	
35	21-Aug	0	0	39	38	4	8	5	5	
36	28-Aug	0	0	2	12	0	1	1	1	
Total Test Catch		78	295	1,433	71	6	20	7	7	

Appendix A.16. Weekly catch, CPUE, and migratory timing of Tahltan and non-Tahltan sockeye stocks in the Stikine River test fishery, 1994. Sex specific age composition were calculated and the smoothed stock compositions of the females sampled for egg diameters was expanded to the catch by age. Weekly thermal mark data not yet available.

Week	Proportions		Catch		CPUE		Migratory Timing		
	Tahltan	non-Tahltan	Tahltan	non-Tahltan	Tahltan	non-Tahltan	Total	Tahltan	non-Tahltan
Drift gillnet									
26	0.916	0.084	10	1	0.168	0.015	0.183	0.019	0.002
27	0.912	0.088	40	4	1.338	0.129	1.467	0.152	0.015
28	0.928	0.072	22	2	2.228	0.172	2.400	0.253	0.020
29	0.870	0.130	16	2	1.565	0.235	1.800	0.178	0.027
30									
31									
32									
33									
34	0.000	1.000	0	41	0.000	1.640	1.640	0.000	0.187
35	0.051	0.949	2	37	0.067	1.233	1.300	0.008	0.140
36	0.000	1.000	0	2	0.000	0.400	0.400	0.000	0.044
Total			90	89	5.366	3.824	9.190		
Proportion			0.504	0.496		Proportion of run		0.584	0.416
Set gillnet									
25									
26	0.916	0.084	134	12	0.507	0.046	0.553	0.084	0.008
27	0.912	0.088	156	15	1.300	0.125	1.425	0.216	0.021
28	0.928	0.072	44	3	1.818	0.140	1.958	0.302	0.023
29	0.870	0.130	24	4	1.014	0.152	1.167	0.169	0.025
30	0.824	0.176	18	4	0.755	0.161	0.917	0.125	0.027
31									
32									
33									
34									
35									
36									
Total			376	38	5.394	0.625	6.020	0.896	0.104
Proportion			0.908	0.092					
Additional Drifts *									
25									
26	0.916	0.084	53	5	0.656	0.060	0.716	0.005	0.000
27	0.912	0.088	458	44	11.741	1.131	12.872	0.098	0.009
28	0.928	0.072	180	14	90.045	6.955	97.000	0.749	0.058
29									
30	0.824	0.176	71	15	7.874	1.681	9.556	0.066	0.014
31									
32									
33									
34									
35									
36									
Total			762	78	110.317	9.827	120.143	0.918	0.082
Proportion			0.907	0.093					

* Catch was apportioned based on samples from standard drift catch.

Appendix A.17. Daily counts of adult sockeye salmon passing through Tahltan Lake weir, 1994.

Date	Count	Cumulative		Date	Count	Cumulative	
		Count	Percent			Count	Percent
10-Jul	0	0	0.0	9-Aug	687	41,840	90.2
11-Jul	0	0	0.0	10-Aug	501	42,341	91.3
12-Jul	0	0	0.0	11-Aug	496	42,837	92.4
13-Jul	0	0	0.0	12-Aug	406	43,243	93.3
14-Jul	2	2	0.0	13-Aug	18	43,261	93.3
15-Jul	0	2	0.0	14-Aug	7	43,268	93.3
16-Jul	4	6	0.0	15-Aug	250	43,518	93.9
17-Jul	3	9	0.0	16-Aug	205	43,723	94.3
18-Jul	1	10	0.0	17-Aug	536	44,259	95.5
19-Jul	2	12	0.0	18-Aug	123	44,382	95.7
20-Jul	4	16	0.0	19-Aug	269	44,651	96.3
21-Jul	1	17	0.0	20-Aug	155	44,806	96.6
22-Jul	4	21	0.0	21-Aug	173	44,979	97.0
23-Jul	11	32	0.1	22-Aug	102	45,081	97.2
24-Jul	516	548	1.2	23-Aug	40	45,121	97.3
25-Jul	3,628	4,176	9.0	24-Aug	152	45,273	97.6
26-Jul	5,152	9,328	20.1	25-Aug	171	45,444	98.0
27-Jul	5,944	15,272	32.9	26-Aug	249	45,693	98.6
28-Jul	4,168	19,440	41.9	27-Aug	56	45,749	98.7
29-Jul	3,659	23,099	49.8	28-Aug	22	45,771	98.7
30-Jul	2,779	25,878	55.8	29-Aug	2	45,773	98.7
31-Jul	2,421	28,299	61.0	30-Aug	0	45,773	98.7
1-Aug	2,565	30,864	66.6	31-Aug	184	45,957	99.1
2-Aug	2,268	33,132	71.5	1-Sep	63	46,020	99.3
3-Aug	1,957	35,089	75.7	2-Sep	237	46,257	99.8
4-Aug	1,852	36,941	79.7	3-Sep	83	46,340	100.0
5-Aug	1,738	38,679	83.4	4-Sep	17	46,357	100.0
6-Aug	1,184	39,863	86.0	5-Sep	3	46,360	100.0
7-Aug	615	40,478	87.3	6-Sep	1	46,361	100.0
8-Aug	675	41,153	88.8	7-Sep	2	46,363	100.0
Total Counted					46,363		
Fish removed for broodstock					-3,378	^a	
Fish removed for ESSR					-6,852	^b	
Total Spawners					36,133		
Wild Spawners					29,961		
Spawners from fry plants					6,172		

^a A total of 1,689 females and 1,689 males were taken for broodstock.

^b Fish were harvested with an Excess to Salmon Spawning Requirements (ESSR) license.

Appendix A.18. Daily counts of sockeye salmon smolt migrating through Tahltan Lake smolt weir, 1994.

Date	Count	Cumulative		Date	Count	Cumulative	
		Count	Percent			Count	Percent
8-May	41	41	0.0	19-Jun	15,772	875,203	95.6
9-May	84	125	0.0	20-Jun	4,029	879,232	96.1
10-May	1,154	1,279	0.1	21-Jun	545	879,777	96.1
11-May	4,287	5,566	0.6	22-Jun	286	880,063	96.2
12-May	39,944	45,510	5.0	23-Jun	6,222	886,285	96.8
13-May	19,639	65,149	7.1	24-Jun	1,378	887,663	97.0
14-May	160,855	226,004	24.7	25-Jun	427	888,090	97.0
15-May	166,792	392,796	42.9	26-Jun	181	888,271	97.1
16-May	104,583	497,379	54.4	27-Jun	186	888,457	97.1
17-May	57,249	554,628	60.6	28-Jun	124	888,581	97.1
18-May	27,286	581,914	63.6	29-Jun	35	888,616	97.1
19-May	6,356	588,270	64.3	30-Jun	47	888,663	97.1
20-May	32,248	620,518	67.8	1-Jul	13	888,676	97.1
21-May	10,292	630,810	68.9	2-Jul	11	888,687	97.1
22-May	69,563	700,373	76.5	3-Jul	3,860	892,547	97.5
23-May	11,071	711,444	77.7	4-Jul	5,327	897,874	98.1
24-May	5,319	716,763	78.3	5-Jul	2,991	900,865	98.4
25-May	3,286	720,049	78.7	6-Jul	9,821	910,686	99.5
26-May	4,647	724,696	79.2	7-Jul	1,964	912,650	99.7
27-May	4,459	729,155	79.7	8-Jul	475	913,125	99.8
28-May	2,846	732,001	80.0	9-Jul	557	913,682	99.8
29-May	1,942	733,943	80.2	10-Jul	752	914,434	99.9
30-May	1,710	735,653	80.4	11-Jul	232	914,666	100.0
31-May	2,349	738,002	80.6	12-Jul	319	914,985	100.0
1-Jun	767	738,769	80.7	13-Jul	122	915,107	100.0
2-Jun	3,047	741,816	81.1	14-Jul	3	915,110	100.0
3-Jun	13,154	754,970	82.5	15-Jul	1	915,111	100.0
4-Jun	1,190	756,160	82.6	16-Jul	1	915,112	100.0
5-Jun	18,546	774,706	84.7	17-Jul	3	915,115	100.0
6-Jun	1,683	776,389	84.8	18-Jul	2	915,117	100.0
7-Jun	1,142	777,531	85.0	19-Jul	0	915,117	100.0
8-Jun	14,690	792,221	86.6	20-Jul	0	915,117	100.0
9-Jun	3,322	795,543	86.9	21-Jul	0	915,117	100.0
10-Jun	1,839	797,382	87.1	22-Jul	0	915,117	100.0
11-Jun	605	797,987	87.2	23-Jul	0	915,117	100.0
12-Jun	38,766	836,753	91.4	24-Jul	1	915,118	100.0
13-Jun	1,712	838,465	91.6	25-Jul	1	915,119	100.0
14-Jun	1,306	839,771	91.8				
15-Jun	527	840,298	91.8				
16-Jun	358	840,656	91.9				
17-Jun	5,070	845,726	92.4				
18-Jun	13,705	859,431	93.9				
					Wild	620,809	
					Hatchery	294,310	

Appendix A.19. Daily counts of adult chinook salmon passing through Little Tahltan weir, 1994.

Date	Large Chinook			Chinook Jacks		
	Count	Cumulative Count	Percent	Count	Cumulative Count	Percent
18-Jun			-----weir installed-----			
19-Jun	0	0	0.0	0	0	0.0
20-Jun	0	0	0.0	0	0	0.0
21-Jun	0	0	0.0	0	0	0.0
22-Jun	0	0	0.0	0	0	0.0
23-Jun	0	0	0.0	0	0	0.0
24-Jun	0	0	0.0	0	0	0.0
25-Jun	0	0	0.0	0	0	0.0
26-Jun	0	0	0.0	0	0	0.0
27-Jun	0	0	0.0	0	0	0.0
28-Jun	69	69	1.1	0	0	0.0
29-Jun	27	96	1.5	0	0	0.0
30-Jun	39	135	2.1	0	0	0.0
1-Jul	15	150	2.3	0	0	0.0
2-Jul	90	240	3.8	1	1	0.8
3-Jul	82	322	5.0	0	1	0.8
4-Jul	332	654	10.2	0	1	0.8
5-Jul	213	867	13.6	2	3	2.5
6-Jul	83	950	14.9	1	4	3.3
7-Jul	64	1,014	15.9	0	4	3.3
8-Jul	0	1,014	15.9	0	4	3.3
9-Jul	271	1,285	20.1	2	6	5.0
10-Jul	241	1,526	23.9	3	9	7.4
11-Jul	225	1,751	27.4	3	12	9.9
12-Jul	246	1,997	31.3	6	18	14.9
13-Jul	410	2,407	37.7	10	28	23.1
14-Jul	269	2,676	41.9	10	38	31.4
15-Jul	0	2,676	41.9	0	38	31.4
16-Jul	47	2,723	42.6	5	43	35.5
17-Jul	87	2,810	44.0	0	43	35.5
18-Jul	52	2,862	44.8	2	45	37.2
19-Jul	128	2,990	46.8	2	47	38.8
20-Jul	49	3,039	47.6	0	47	38.8
21-Jul	73	3,112	48.7	10	57	47.1
22-Jul	361	3,473	54.4	6	63	52.1
23-Jul	249	3,722	58.3	3	66	54.5
24-Jul	55	3,777	59.1	1	67	55.4
25-Jul	354	4,131	64.7	5	72	59.5
26-Jul	294	4,425	69.3	6	78	64.5
27-Jul	446	4,871	76.3	6	84	69.4
28-Jul	153	5,024	78.7	2	86	71.1
29-Jul	186	5,210	81.6	2	88	72.7
30-Jul	285	5,495	86.0	4	92	76.0
31-Jul	73	5,568	87.2	0	92	76.0
1-Aug	176	5,744	89.9	3	95	78.5
2-Aug	128	5,872	91.9	3	98	81.0
3-Aug	91	5,963	93.4	7	105	86.8
4-Aug	120	6,083	95.2	1	106	87.6
5-Aug	81	6,164	96.5	5	111	91.7
6-Aug	109	6,273	98.2	8	119	98.3
7-Aug	31	6,304	98.7	0	119	98.3
8-Aug	0	6,304	98.7	0	119	98.3
9-Aug	9	6,313	98.8	0	119	98.3
10-Aug	36	6,349	99.4	2	121	100.0
11-Aug	0	6,349	99.4	0	121	100.0
12-Aug	23	6,372	99.8	0	121	100.0
13-Aug	8	6,380	99.9	0	121	100.0
14-Aug	0	6,380	99.9	0	121	100.0
15-Aug	0	6,380	99.9	0	121	100.0
16-Aug	7	6,387	100.0	0	121	100.0
Total Counted		6,387			121	
Adjustments		-25				
Total Spawners		6,362			121	

Appendix B.1. Salmon catch and effort in the Alaskan Subdistrict 106-41 and -42 (Sumner Strait) commercial drift gillnet fishery, 1964-1994.

Year	Catch					Effort	
	Chinook	Sockeye	Coho	Pink	Chum	Permit Days	Days Open
1964	316	52,943	27,338	183,402	22,913	2,344	49.00
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	607	46,258	6,094	92,075	6,393	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	48,434	10,894	17,072	15,162	596	16.00
1981	598	132,293	13,161	220,194	25,682	1,732	25.00
1982	648	121,556	21,376	10,338	11,911	1,083	22.00
1983	268	28,153	41,208	74,347	13,001	875	32.00
1984	136	27,372	19,124	99,807	28,461	587	32.00
1985	548	172,088	50,577	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
1991	857	88,723	136,798	64,182	84,970	2,118	39.00
1992	743	146,608	190,885	38,483	100,666	2,630	40.00
1993	458	129,859	134,902	296,980	96,995	2,728	38.00
Averages							
64-93	615	67,117	41,974	113,422	32,275	1,472	33.15
84-93	540	99,921	81,091	155,472	55,585	1,702	32.50
1994	456	157,526	191,664	66,225	125,818	2,988	43.00

Appendix B.2. Stock proportions and catches of sockeye salmon in the Alaskan Subdistrict 106-41 and -42(Sumner Strait) commercial drift gillnet fishery, 1985-1994. Data based on SPA.

	Year	Alaska	Canada	Stikine		Total	Thermal	Wild
				All *	non-Tahltan		Marked	
				Tahltan	Tahltan		Tahltan	Tahltan
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		
	1991	0.460	0.377	0.129	0.034	0.163		
	1992	0.582	0.241	0.088	0.089	0.177		
	1993	0.369	0.327	0.134	0.169	0.304		
Averages								
	85-93	0.608	0.292	0.059	0.041	0.100		
	1994	0.531	0.271	0.166	0.032	0.198	0.040	0.127
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		
	1991	40,832	33,406	11,459	3,026	14,485		
	1992	85,364	35,277	12,961	13,005	25,967		
	1993	47,970	42,450	17,446	21,992	39,438		
Averages								
	85-93	62,087	33,331	7,413	5,150	12,563		
	1994	83,692	42,620	26,164	5,050	31,214	6,230	24,052

* All Tahltan includes thermally marked fish.

Appendix B.3. Salmon catch and effort in the Alaskan Subdistrict 106-30 (Clarence Strait) commercial drift gillnet fishery, 1964-1994.

Year	Catch					Effort	
	Chinook	Sockeye	Coho	Pink	Chum	Permit Days	Days Open
1964	1,766	23,598	37,316	259,684	21,305	3,039	49.00
1965	1,123	29,013	45,158	463,577	11,895	2,849	50.75
1966	975	24,126	32,031	304,645	16,521	2,898	74.25
1967	650	26,237	7,097	39,325	6,744	1,048	27.00
1968	306	14,459	21,040	87,095	22,365	1,968	52.00
1969	270	24,060	4,186	104,998	4,510	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	584	10,586	16,762	47,107	12,264	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	5,772	28,594	11,115	749	25.00
1981	967	49,708	9,453	217,379	8,614	1,321	26.00
1982	1,000	72,140	10,288	15,141	6,719	647	21.00
1983	299	20,689	21,234	133,943	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
1991	1,209	54,389	61,005	68,557	38,760	1,505	39.00
1992	612	56,546	107,940	55,744	39,571	1,603	40.00
1993	534	76,096	96,136	240,974	37,606	1,646	38.00
Averages							
64-93	895	40,173	31,167	191,061	19,729	1,379	32.85
84-93	889	66,286	54,840	218,025	31,716	1,377	31.50
1994	298	53,522	76,167	113,769	50,200	1,606	43.00

Appendix B.4. Stock proportions and catches of sockeye salmon in the Alaskan Subdistrict 106-30 (Clarence Strait) commercial drift gillnet fishery, 1985-1994. Data based on SPA.

	Year	Alaska	Canada	Stikine		Total	Thermal Marked Tahltan	Wild Tahltan
				All ^a Tahltan	non- Tahltan			
	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		
	1991	0.683	0.257	0.052	0.008	0.060		
	1992	0.630	0.211	0.022	0.138	0.159		
	1993	0.451	0.357	0.036	0.156	0.192		
	Average							
	85-93	0.667	0.272	0.022	0.040	0.061		
	1994	0.718	0.207	0.069	0.006	0.075	0.015	0.055
	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		
	1991	37,164	13,971	2,804	450	3,255		
	1992	35,612	11,930	1,226	7,778	9,004		
	1993	34,330	27,167	2,758	11,841	14,599		
	Average							
	85-93	42,566	19,752	1,475	2,716	4,191		
	1994	38,426	11,063	3,712	321	4,033	789	2,923

^a All Tahltan includes thermally marked fish.

Appendix B.5. Salmon catch and effort in the Alaskan District 106 commercial drift gillnet fisheries, 1964-1994. 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.

Year	Catch					Effort	
	Chinook	Sockeye	Coho	Pink	Chum	Permit Days	Days Open
1964	2,082	76,541	64,654	443,086	44,218	5,383	49.00
1965	1,802	87,749	75,728	625,848	27,658	4,507	50.75
1966	1,665	89,847	62,823	400,932	40,756	4,978	74.25
1967	1,318	86,385	17,670	91,609	26,370	2,511	27.00
1968	1,316	64,671	67,151	169,107	61,366	4,965	52.00
1969	877	70,318	10,280	197,073	10,903	2,112	31.00
1970	785	42,778	35,470	94,892	32,231	1,863	41.00
1971	1,336	53,202	48,085	527,975	37,680	2,774	50.00
1972	2,573	101,338	93,427	89,467	72,382	3,311	41.00
1973	1,931	71,995	38,447	303,621	87,729	3,300	26.00
1974	1,926	57,346	45,651	104,403	50,309	2,177	28.00
1975	2,587	32,051	30,962	203,015	23,968	1,781	17.00
1976	384	15,481	19,126	139,439	6,868	922	21.00
1977	671	67,023	8,401	419,107	13,300	1,381	21.00
1978	2,682	41,574	55,578	224,715	16,545	1,567	26.50
1979	2,720	66,373	28,083	648,212	35,507	2,784	25.00
1980	580	107,422	16,666	45,666	26,277	1,329	25.00
1981	1,565	182,001	22,614	437,573	34,296	2,928	26.00
1982	1,648	193,696	31,664	25,479	18,630	1,659	22.00
1983	567	48,842	62,442	208,290	20,144	1,422	37.00
1984	892	91,653	41,359	343,255	70,258	1,783	32.00
1985	1,689	264,987	91,142	584,946	69,661	2,625	38.00
1986	1,704	145,709	194,912	308,484	82,289	3,446	32.00
1987	836	136,427	34,534	243,482	42,025	1,726	20.00
1988	1,104	92,529	13,103	69,499	69,620	1,460	19.00
1989	1,544	192,734	92,386	1,101,194	67,351	3,080	34.00
1990	2,107	185,805	164,211	319,186	73,232	3,440	34.00
1991	2,066	143,112	197,803	132,739	123,730	3,642	39.00
1992	1,355	203,154	298,825	94,227	140,237	4,227	40.00
1993	992	205,955	231,038	537,954	134,601	4,227	38.00
Averages							
64-93	1,510	107,290	73,141	304,483	52,005	2,777	33.88
84-93	1,429	166,207	135,931	373,497	87,300	2,966	32.60
1994	754	211,048	267,831	179,994	176,018	4,468	43.00
Alaska Hatchery Contribution							
1989			5,081				
1990			42,859				
1991			64,088				
1992			84,568				
1993			77,860				
Averages							
89-93			54,891				
1994	414	1,667	39,841		67,114		
Catches not including Alaska hatchery contributions							
1989	1,544	192,734	87,305	1,101,194	67,351	3,080	34.00
1990	2,107	185,805	121,352	319,186	73,232	3,440	34.00
1991	2,066	143,112	133,715	132,739	123,730	3,642	39.00
1992	1,355	203,154	214,257	94,227	140,237	4,227	40.00
1993	992	205,955	153,178	537,954	134,601	4,227	38.00
Averages							
89-93	1,613	186,152	141,961	437,060	107,830	3,723	37.00
1994	340	209,381	227,990	179,994	108,904	4,468	43.00

Appendix B.6. Stock proportions and catches of sockeye salmon in the Alaskan District 106 commercial drift gillnet fisheries, 1982-1994. Catches do not include Blind Slough terminal area harvest. Data based on SPA.

Year	Alaska	Canada	Stikine		Total	Thermal	Wild Tahltan
			All *	non- Tahltan		Marked Tahltan	
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		
1991	0.545	0.331	0.100	0.024	0.124		
1992	0.595	0.232	0.070	0.102	0.172		
1993	0.400	0.338	0.098	0.164	0.262		
Averages							
84-93	0.633	0.283	0.044	0.040	0.084		
1994	0.579	0.254	0.142	0.025	0.167	0.033	0.108
Catches							
1982	94,225	61,821			37,650		
1983	32,603	10,589	5,020	631	5,650		
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		
1991	77,996	47,376	14,263	3,476	17,740		
1992	120,976	47,207	14,187	20,783	34,971		
1993	82,300	69,617	20,204	33,833	54,037		
Averages							
84-93	100,215	50,238	8,267	7,487	15,754		
1994	122,118	53,683	29,876	5,371	35,247	7,019	22,857

* All Tahltan includes thermally marked fish.

Appendix B.7. Salmon catch and effort in the Alaskan District 108 commercial drift gillnet fishery, 1964-1994. Catches do not include Ohmer Creek terminal area harvests. Permit days are adjusted for boats which did not fish the entire opening and may total less than the sum of the permits times days open.

Year	Catch					Effort Permit	Days
	Chinook	Sockeye	Coho	Pink	Chum	Days	Open
1964	2,911	20,299	29,388	114,555	10,771		62.0
1965	3,106	21,419	8,301	4,729	2,480		48.0
1966	4,516	36,710	16,493	61,908	17,730		62.0
1967	6,372	29,226	6,747	4,713	5,955		40.0
1968	4,604	14,594	36,407	91,028	14,537		61.0
1969	5,021	19,209	5,790	11,877	2,312	967	46.0
1970	3,207	15,120	18,403	20,523	12,305	1,222	51.0
1971	3,717	18,143	14,876	21,806	4,665	1,070	57.0
1972	9,332	51,734	38,520	17,153	17,363	2,095	64.0
1973	9,254	21,387	5,837	6,585	6,680	1,519	39.0
1974	8,199	2,428	16,021	4,188	2,107	1,178	28.5
1975	1,534	0	0	0	1	258	8.0
1976	1,123	18	6,056	722	124	372	19.0
1977	1,443	48,374	14,405	16,253	4,233	742	23.0
1978	531	56	32,650	1,157	1,001	565	12.0
1979	91	2,158	234	13,478	1,064	94	5.0
1980	631	14,053	2,946	7,224	6,910	327	22.0
1981	283	8,833	1,403	1,466	3,594	177	9.0
1982	1,033	6,911	19,971	16,988	741	494	21.0
1983	47	178	15,369	4,171	675	263	17.0
1984	14	1,290	5,141	4,960	1,892	56	8.6
1985	20	1,060	1,926	5,325	1,892	70	14.0
1986	102	4,185	7,439	4,901	5,928	246	25.0
1987	149	1,620	1,015	3,331	949	81	13.0
1988	206	1,246	12	144	3,109	66	8.0
1989	310	10,083	4,261	27,640	3,375	216	28.0
1990	557	11,574	8,218	13,822	9,382	359	34.0
1991	1,504	22,275	15,864	10,935	11,402	1,114	48.5
1992	967	52,717	22,127	66,451	15,451	1,029	51.0
1993	1,628	76,874	14,307	39,661	22,504	1,333	48.0
Averages							
64-93	2,414	17,126	12,338	19,923	6,371	636	32.4
84-93	546	13,292	8,031	17,717	7,588	457	27.8
1994	1,996	97,224	44,891	35,405	27,658	1,923	58.0
Alaska Hatchery Contribution							
1989			55				
1990			2,539				
1991			3,458				
1992			7,036				
1993			887				
Averages							
89-93			2,795				
1994	571	4	2,040		2,159		
Catches not including Alaska hatchery contributions							
1989	310	10,083	4,206	27,640	3,375	216	28.0
1990	557	11,574	5,679	13,822	9,382	359	34.0
1991	1,504	22,275	12,406	10,935	11,402	1,114	48.5
1992	967	52,717	15,091	66,451	15,451	1,029	51.0
1993	1,628	76,874	13,420	39,661	22,504	1,333	48.0
Averages							
89-93	993	34,705	10,160	31,702	12,423	810	41.9
1994	1,425	97,220	42,851	35,405	25,499	1,923	58.0

Appendix B.8. Stock proportions and catches of sockeye salmon in the Alaskan District 108 commercial drift gillnet fishery, 1985-1994. Catches do not include Ohmer Creek terminal area harvests. Data based on SPA.

Year	Alaska	Canada	Stikine		Total	Thermal Marked Tahltan	Wild Tahltan
			All *	non- Tahltan			
1984							
1985	0.064	0.000	0.292	0.644	0.936		
1986	0.206	0.017	0.094	0.683	0.777		
1987a	0.125	0.000	0.438	0.437	0.875		
1988	0.213	0.039	0.178	0.571	0.749		
1989	0.117	0.054	0.034	0.795	0.829		
1990	0.395	0.128	0.111	0.366	0.477		
1991	0.173	0.118	0.395	0.314	0.709		
1992	0.163	0.051	0.258	0.528	0.786		
1993	0.231	0.114	0.256	0.399	0.655		
Averages							
85-93	0.188	0.058	0.228	0.526	0.755		
1994	0.326	0.208	0.362	0.103	0.116	0.116	0.246
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		
1991	3,859	2,622	8,807	6,987	15,794		
1992	8,604	2,696	13,599	27,818	41,417		
1993	17,758	8,742	19,688	30,686	50,374		
Averages							
85-93	4,153	1,800	5,039	9,190	14,228		
1994	31,715	20,250	35,222	10,037	45,259	11,296	23,936

* 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, 1984-1994.

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					
1992	There was no test fishery in 1992					
1993	There was no test fishery in 1993					
1994	0	12	1	0	16	11.00

Appendix B.10. Stock proportions and catches of sockeye salmon in the Alaskan Subdistrict 106-41 and -42(Sumner Strait) test fishery, 1984-1994. Data based on SPA.

Year	Alaska	Canada	Stikine		Total	Thermal	Wild
			All *	non-		Marked	
			Tahltan	Tahltan		Tahltan	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						
1992	There was no test fishery in 1992						
1993	There was no test fishery in 1993						
1994	0.500	0.250	0.250	0.000	0.250	0.083	0.167
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						
1992	There was no test fishery in 1992						
1993	There was no test fishery in 1993						
1994	6	3	3	0	3	1	2

* All Tahltan includes thermally marked fish.

Appendix B.11. Salmon catch in the Alaskan Subdistrict 106-30 (Clarence Strait) test fishery, 1986-1994.

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					
1992	There was no test fishery in 1992					
1993	There was no test fishery in 1993					
1994	There was no test fishery in 1994					

Appendix B.12. Stock proportions and catches of sockeye salmon in the Alaskan Subdistrict 106-30 (Clarence Strait) test fishery, 1986-1994. Data based on SPA.

			Stikine			
				non-		
Year	Alaska	Canada	Tahltan	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					
1992	There was no test fishery in 1992					
1993	There was no test fishery in 1993					
1994	There was no test fishery in 1994					
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					
1992	There was no test fishery in 1992					
1993	There was no test fishery in 1993					
1994	There was no test fishery in 1994					

Appendix B.13. Salmon catch and effort in the Alaskan District 106 test fisheries 1984-1994.

Year	Catch					Boat Hours
	Chinook	Sockeye	Coho	Pink	Chum	
1984	13	1,370	101	975	793	142.51
1985	16	4,345	301	3,230	746	156.31
1986	47	1,345	272	140	306	122.70
1987	25	3,558	1,388	5,822	1,208	892.10
1988	21	1,036	501	249	1,370	240.70
1989	15	2,080	739	6,500	1,185	60.20
1990	13	2,256	432	372	552	7.00
1991	There were no test fisheries in 1991					
1992	There were no test fisheries in 1992					
1993	There were no test fisheries in 1993					
1994	0	12	1	0	16	11.00

Appendix B.14. Stock proportions and catches of sockeye salmon in the Alaskan District 106 test fisheries, 1984-1994. Data based on SPA.

Year	Alaska	Canada	Stikine		Total	Thermal	Wild
			All *	non-		Marked	
			Tahltan	Tahltan		Tahltan	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	0.805	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						
1992	There were no test fisheries in 1992						
1993	There were no test fisheries in 1993						
1994	0.500	0.250	0.250	0.000	0.250	0.083	0.167
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						
1992	There were no test fisheries in 1992						
1993	There were no test fisheries in 1993						
1994	6	3	3	0	3	1	2

* All Tahltan includes thermally marked fish.

Appendix B.15. Salmon catch and effort in the Alaskan District 108 test fishery, 1984-1994.

Year	Catch					Boat
	Chinook	Sockeye	Coho	Pink	Chum	Hours
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
1991	21	893	18	390	455	154.99
1992	26	1,299	23	855	252	79.00
1993	30	303	0	18	31	45.00
Averages						
84-93	36	760	18	904	467	77.44
1994	There was no test fishery in 1994.					

Appendix B.16. Stock proportions and catches of sockeye salmon in the Alaskan District 108 test fishery, 1985-1994. Data based on SPA.

Year	Alaska	Canada	Stikine		Total
			Tahltan	non-Tahltan	
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
1991	0.128	0.128	0.494	0.251	0.745
1992	0.149	0.076	0.333	0.442	0.774
1993	0.168	0.109	0.475	0.248	0.719
Averages					
85-93	0.169	0.074	0.313	0.445	0.757
1994	There was no test fishery in 1994.				
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
1991	114	114	441	224	665
1992	194	99	432	574	1,006
1993	51	33	144	75	219
Averages					
85-93	127	59	222	366	588
1994	There was no test fishery in 1994.				

Numbers may not sum due to rounding.

Appendix B.17. Salmon and steelhead trout catch and effort in the Canadian commercial fishery in the lower Stikine River, 1979-1994.

Year	Catch							Effort	
	Chinook		Sockeye	Coho	Pink	Chum	Steelhead	Permit	Days
	Jacks	Large						Days	
1979 ^a	63	712	10,534	10,720	1,994	424	264	756.0	42.0
1980		1,488	18,119	6,629	736	771	362	668.0	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	1,063.0	71.0
1983	430	492	15,857	6,170	1,043	274	667	434.0	54.0
1984 ^b									
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	328.0	29.0
1991	318	641	17,563	2,638	394	208	71	282.4	39.0
1992	89	873	21,031	1,850	122	231	129	235.5	55.0
1993	164	830	38,464	2,616	29	395	63	483.8	58.0
Averages ^c									
79-93		1,163	17,045	5,114	1,045	523	277	434.9	37.6
84-93		1,193	17,464	3,278	595	444	164	294.0	31.8
1994	158	1,016	38,462	3,377	89	173	75	430.1	74.0

^a The lower river commercial catch in 1979 includes the upper river commercial catch.

^b There was no commercial fishery in 1984.

^c 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, 1979-1994. Stock compositions based on: scale circuli counts 1970-1983; SPA in 1985; average of SPA and GPA 1986; SPA in 1987 and 1988; and egg diameter in 1989-1994. Thermal mark data estimated from samples collected at Tahltan Lake.

Year	Proportions		Catch		Thermal Marked	
	Tahltan	non-Tahltan	Tahltan	non-Tahltan	Tahltan	
					Prop.	Catch
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		
1991	0.634	0.366	11,136	6,427		
1992	0.482	0.518	10,134	10,897		
1993	0.537	0.463	20,662	17,802		
Averages						
79-93	0.423	0.577	7,618	9,427		
84-93	0.407	0.593	7,770	9,693		
1994	0.616	0.384	23,678	14,784	0.101	3,887

^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, 1975-1994. Thermal mark data estimated from samples collected at Tahltan Lake.

Year	Catch							Effort		Thermal Marked Tahltan
	Chinook		Sockeye	Coho	Pink	Chum	Steelhead	Permit	Days	
	Jacks	Large						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	11.0	5.0	
1982		76	195	0	0	0	0	8.0	4.0	
1983		75	614	0	0	4	1	10.0	8.0	
1984 ^b										
1985		62	1,084	0	0	0	0	14.0	6.0	
1986	41	104	815	0	0	0	0	19.0	7.0	
1987	19	109	498	0	0	19	0	20.0	7.0	
1988	46	175	348	0	0	0	0	21.5	6.5	
1989	17	54	493	0	0	0	0	14.0	7.0	
1990	20	48	472	0	0	0	0	15.0	7.0	
1991	32	117	761	0	0	0	0	13.0	6.0	
1992	19	56	822	0	0	0	0	28.0	13.0	
1993	2	44	1,692	0	0	0	2	48.0	22.0	
Averages ^c										
75-93		111	808	6	1	1	0			
84-93		97	776	0	0	2	0	21.4	9.1	
1994	1	76	2,466	0	1	0	0	68.0	50.0	379

^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 aboriginal fishery located at Telegraph Creek, on the Stikine River, 1972-1994. Thermal mark data from samples collected at Tahltan Lake.

Year	Catch							Thermal Marked Tahltan
	Chinook		Sockeye	Coho	Pink	Chum	Steelhead	
	Jacks	Large						
1972			4,373	0	0	0	0	
1973		200	3,670	0	0	0	0	
1974		100	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	100	0	0	0	
1981		586	4,697	200	144	0	4	
1982		618	4,948	40	60	0	0	
1983	215	851	4,649	3	77	26	46	
1984	59	643	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	
1991	310	753	4,439	10	0	0	0	
1992	131	911	4,431	5	0	0	3	
1993	142	929	7,041	0	0	0	2	
Averages *								
72-93		802	3,952	18	17	2	4	
84-93	206	913	4,327	5	10	3	3	
1994	191	698	4,167	4	0	0	9	641

* 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, 1972-1994. ESSR catches not included.

Year	Catch							Thermal Marked Tahltan
	Chinook		Sockeye	Coho	Pink	Chum	Steelhead	
Jacks	Large							
1972	0	0	4,373	0	0	0	0	
1973	0	200	3,670	0	0	0	0	
1974	0	100	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	6,769	756	771	362	
1981	0	1,404	27,017	2,867	3,857	1,128	284	
1982	0	2,387	20,540	15,944	1,842	722	828	
1983	645	1,418	21,120	6,173	1,120	304	714	
1984 ^a	59	643	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	2,360	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	
1991	660	1,511	22,763	2,648	394	208	71	
1992	239	1,840	26,284	1,855	122	231	132	
1993	308	1,803	47,197	2,616	29	395	67	
Averages ^b								
72-93		1,633	15,423	3,277	683	336	180	
84-93	456	1,832	20,743	2,956	546	404	151	
1994	350	1,790	45,095	3,381	90	173	84	4,907

^a There was no commercial fishery in 1984.

^b Chinook averages are for jacks and large fish combined.

Appendix B.22. Salmon catches in the Stikine River harvested under Canadian ESSR licenses, 1992-1994.

Year	Sockeye	Thermal Marked
1992		
1993	1,752	
1994	6,852	1,304

Appendix B.23. Salmon and steelhead trout catches and effort in Canadian test fisheries in the Stikine River, 1985-1994.

Year	Catches							Effort
	Chinook						Drift=#	Set=hr.
	Jacks	Large	Sockeye	Coho	Pink	Chum	Steelhead	
Drift Test Fishery Catches								
1985								
1986	12	27	412	226	8	25	0	405
1987*		128	385	162	111	61	0	845
1988	14	168	325	75	9	33	7	720
1989	4	116	364	242	41	46	5	870
1990	6	167	447	134	5	29	6	673
1991	1	90	503	118	37	30	3	509
1992	27	135	393	75	13	23	7	312
1993	11	94	440	37	6	18	7	304
Averages								
85-93	11	116	409	134	29	33	4	580
1994	4	43	179	71	6	20	7	175
Set Test Fishery Catches								
1985			1,340					
1986								
1987*		61	1,283	620	587	193	0	1,456
1988	15	101	922	130	23	65	14	1,380
1989	20	101	1,243	502	249	103	17	1,392
1990	12	64	1,493	271	42	48	18	1,212
1991	15	77	1,872	127	197	48	1	1,668
1992	21	62	1,971	193	56	43	19	1,249
1993	11	85	1,384	136	6	63	6	1,224
Averages								
85-93	16	79	1,439	283	166	80	11	1,369
1994	34	74	414	0	0	0	0	456
Additional Test Fishery Catches								
1985								
1986								
1987								
1988								
1989								
1990								
1991								
1992	134	417	594	0	0	0	0	85
1993	65	389	1,925	2	1	3	2	266
Averages								
85-93	100	403	1,260	1	1	2	1	176
1994	40	178	840	0	0	0	0	131
Total Test Fishery Catches								
1985	0	0	1,340	0	0	0	0	
1986	12	27	412	226	8	25	0	
1987	30	189	1,668	782	698	254	0	
1988	29	269	1,247	205	32	98	21	
1989	24	217	1,607	744	290	149	22	
1990	18	231	1,940	405	47	77	24	
1991	16	167	2,375	245	234	78	4	
1992	182	614	2,958	268	69	66	26	
1993	87	568	3,749	175	13	84	15	
Averages								
85-93	44	254	1,922	339	155	92	12	
1994	78	295	1,433	71	6	20	7	

* 1987 jack chinook catch is for both set and drift nets.

Appendix B.24. Sockeye salmon stock proportions and catch by stock in the test fishery in the lower Stikine River, 1985-1994. Stock composition based on: SPA 1985; average of SPA and GPA 1986-1988; egg diameter 1989-1994. Thermal mark data from samples collected at Tahltan Lake.

Year	Catch Tahltan		Proportion Tahltan		Average Proportion		Thermal Marked Tahltan	
	U.S.	Canada	U.S.	Canada	Tahltan	non-Tahltan	Catch	Prop.
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		1,443		0.608	0.608	0.392		
1992		1,912		0.646	0.646	0.354		
1993		2,184		0.583	0.583	0.417		
Averages 85-93					0.425	0.575		
1994		1,228		0.857	0.857	0.143	190	0.133

* Average proportions are from averages of weekly estimates.

Appendix B.25. Estimated proportion of inriver run comprised of Tahltan Lake and non-Tahltan sockeye stocks, 1979-1994. Stock compositions based on: scale circuli counts 1979-1983; SPA in 1985; average of SPA and GPA 1986-1988; and egg diameter analysis in 1989-1994. 1994 data from commercial catch and CPUE.

Year	Tahltan		Average*	
	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
1991		0.561	0.561	0.439
1992		0.496	0.496	0.504
1993		0.477	0.477	0.523
Averages 79-93			0.421	0.579
84-93			0.402	0.598
1994		0.606	0.606	0.394

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

Appendix B.26. Counts of adult sockeye salmon migrating through Tahltan Lake weir, 1959-1994.

Year	Weir Installed	Date of Arrival			Total Count	Brood- stock	ESSR	Total Spawners	Natural Spawners	Hatchery Spawners
		First	50%	90%						
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		
1991	15-Jul	17-Jul	25-Jul	07-Aug	50,135	3,552		46,583		
1992	10-Jul	18-Jul	25-Jul	03-Aug	59,907	3,694		56,213		
1993	10-Jul	10-Jul	28-Jul	10-Aug	53,362	4,506	1,752	47,104	46,074	1,030
Averages										
59-93	10-Jul	20-Jul	31-Jul	11-Aug	22,339					
84-93	07-Jul	16-Jul	29-Jul	08-Aug	31,652					
1994	10-Jul	14-Jul	30-Jul	09-Aug	46,363	3,378	6,852	36,133	29,961	6,172

^a Question as to date weir installed.

^b Daily counts unavailable.

^c A slide occurred blocking the entrance for a while.

Appendix B.27. Aerial survey counts of non-Tahltan sockeye stocks in the Stikine River drainage, 1984-1994. The index represents the combined counts from eight spawning areas.

Year	Chutine River	Scud River	Porcupine Slough	Christina Creek	Craig River	Bronson Slough	Verrett Creek	Verrett Slough	Escapement Index
1984	526	769	69	130	102		640		2,236
1985	253	282	69	67	27		383		1,081
1986	139	151	8	0	0		270		568
1987	0	490	62	6	30		103		691
1988	14	219	22	7	0		114		376
1989	29	269	133	10	60	60	180	68	809
1990	24	301	31	4	0	0	301	82	743
1991	0	100	61		7	32	179	8	387
1992	164	1,242	90	50	17	138	163	22	1,886
1993	57	321	141	28	2	79	107	142	877
Averages									
84-93	121	414	69	34	25	62	244	64	965
1994	267	292	66			62	147	114	948

Appendix B.28. Estimates of sockeye salmon smolt migrating through Tahltan Lake smolt weir, 1984-1994.

Year	Weir Installed	Date of Arrival				Total Estimate	Natural Smolt	Hatchery Smolt
		First	50%	90%				
1984	10-May	11-May	23-May	06-Jun	218,702			
1985	25-Apr	23-May	31-May	28-May	613,531			
1986	08-May	10-May	31-May	07-Jun	244,330			
1987 ^a	07-May	15-May	23-May	24-May	810,432			
1988	01-May	08-May	20-May	06-Jun	1,170,136			
1989	05-May	08-May	22-May	06-Jun	580,574			
1990 ^b	05-May	15-May	29-May	05-Jun	610,407			
1991 ^c	05-May	14-May	21-May	30-May	1,487,265	1,220,397		266,868
1992 ^d	07-May	13-May	21-May	27-May	1,555,026	750,702		804,324
1993	07-May	11-May	17-May	22-May	3,255,045	2,855,562		399,483
Averages								
84-93	05-May	12-May	23-May	31-May	1,054,545	1,608,887		490,225
1994	08-May	08-May	16-May	12-Jun	915,119	620,809		294,310

^a Estimate includes approximately 30,000 mortalities from overcrowding on 5/22, 1987.

^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.

^d Estimate of 1,516,150 on June 14 expanded by average % of outmigration by date (97.5%) from historical data.

Appendix B.29. Weir counts of chinook salmon at Little Tahltan River, 1985-1994.

Year	Weir Installed	First Arrival	50% Arrival	90% Arrival	Total Count	Brood- stock and Other	Natural Spawners	Total Natural Spawners
Large Chinook								
1985	03-Jul	04-Jul	30-Jul	06-Aug	3,114		3,114	
1986	28-Jun	29-Jun	21-Jul	05-Aug	2,891		2,891	
1987	28-Jun	04-Jul	24-Jul	02-Aug	4,783		4,783	
1988	26-Jun	27-Jun	18-Jul	03-Aug	7,292		7,292	
1989	25-Jun	26-Jun	23-Jul	02-Aug	4,715		4,715	
1990	22-Jun	29-Jun	23-Jul	04-Aug	4,392		4,392	
1991	23-Jun	25-Jun	20-Jul	03-Aug	4,506		4,506	
1992	24-Jun	04-Jul	21-Jul	30-Jul	6,627	-12	6,615	
1993	20-Jun	21-Jun	16-Jul	28-Jul	11,449	-24	11,425	
Averages								
85-93	25-Jun	28-Jun	21-Jul	02-Aug	5,530		5,526	
1994	18-Jun	28-Jun	22-Jul	02-Aug	6,387	-25	6,362	
Jack Chinook (fish <600 mm poh length)								
1985	03-Jul	04-Jul	31-Jul	10-Aug	316			3,430
1986	28-Jun	03-Jul	25-Jul	06-Aug	572			3,463
1987	28-Jun	03-Jul	26-Jul	06-Aug	365			5,148
1988	26-Jun	27-Jun	17-Jul	02-Aug	327			7,619
1989	25-Jun	26-Jun	23-Jul	02-Aug	199			4,914
1990	22-Jun	05-Jul	22-Jul	30-Jul	417			4,809
1991	23-Jun	03-Jul	24-Jul	07-Aug	313			4,819
1992	24-Jun	12-Jul	22-Jul	30-Jul	131			6,746
1993	20-Jun	30-Jun	14-Jul	01-Aug	60			11,485
Averages								
85-93	25-Jun	02-Jul	22-Jul	03-Aug	300			5,826
1994	18-Jun	02-Jul	22-Jul	05-Aug	121			6,483

Appendix B.30. Index counts of Stikine chinook escapements, 1979-1994. Counts do not include jacks (fish less than 600mm mef length).

Year	Little Tahltan Weir	Little Tahltan Aerial	Tahltan Aerial	Beatty Aerial	Andrew Foot
1979		1,166	2,118		382 ^{ab}
1980		2,137	960	122	363 ^{ab}
1981		3,334	1,852	558	644 ^{ab}
1982		2,830	1,690	567	947 ^{ab}
1983		594	453	83	444 ^{ab}
1984		1,294		126	389 ^{ab}
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	788 ^c
1988	7,292	3,796	4,384	593	470
1989	4,715	2,527 ^d		362	530
1990	4,392	1,765	2,134	271	664
1991	4,506	1,768	2,445	193	400 ^e
1992	6,627	3,607 ^b	1,891	362	778 ^c
1993	11,425	3,770	2,249	757	1,060
Averages					
79-93		2,273	1,881	331	592
84-93	5,527	2,403	2,173	331	611
1994	6,360	2,422		184	572

^a Numbers are weir counts.

^b Count includes fish later removed for broodstock. LT 92.

^c Helicopter survey.

^d Not surveyed due to poor visibility. Tahltan 89.

^e Fixed wing survey.

^f Too murky to survey.

Appendix B.31. Index counts of Stikine coho salmon escapements, 1984-1994.

Year and Date	Katete South	Katete North	Craig	Jekill	Verret	Bronson Slough	Scud Slough	Porcupine	Christina	Total
1984 10/30	147	313	0	0	15	42				517
1985 10/25	590	1,217	735		39	0	924	365		3,870
1988 10/28	32	227			175		97	53	0	584
1989 10/29	336	896	992		848	120	707	90	55	4,044
1990 10/30	94	548	810		494		664	430		3,040
1991	302	878	985		218		221	352		2,956
1992	295	1,346	949		320		462	316		3,688
1993							206	324		
Average										
84-93	257	775	745	0	301	54	469	276	28	2,671
1994	28	652	1,026		466	448	1,105			3,030

^a Poor observation conditions.

Appendix B.32. Stikine River sockeye salmon run size, 1979-1994. Catches include test fishery catches.

Year	Inriver Run Size Estimates			Inriver ^b		Marine	Total
	Canada	U.S.	Average ^a	Catch	Escapement	Catch	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		138,879	138,879	27,017	111,862	27,538	166,417
1982		68,761	68,761	20,540	48,221	37,650	106,411
1983	77,260	66,838	71,683	21,120	50,563	5,650	77,333
1984	95,454	59,168	76,211	5,327	70,884	6,852	83,063
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
1991			120,152	25,138	95,014	34,199	154,351
1992			154,542	29,242	125,300	77,394	231,936
1993			176,100	52,698	123,402	104,630	280,730
Averages							
79-93			91,789	21,974	69,815	26,279	118,068
84-93			99,441	22,648	76,793	29,185	128,626
1994			127,527	53,380	74,147	80,509	208,036
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			65,968	15,178	50,790	16,189	82,157
1982			42,493	14,236	28,257	24,785	67,278
1983			32,684	11,428	21,256	5,020	37,704
1984			37,571	4,794	32,777	2,713	40,284
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
1991			67,394	17,259	50,135	23,511	90,905
1992			76,681	16,774	59,907	28,218	104,899
1993			84,068	32,458	51,610	40,036	124,104
Averages							
79-93			41,178	12,091	29,087	12,866	54,044
84-93			43,991	12,514	31,477	13,068	57,060
1994			77,239	37,728	39,511	65,101	142,340
Non-Tahltan sockeye run size							
1979			22,880	6,273	16,608	3,223	26,103
1980			43,606	12,800	30,806	11,967	55,573
1981			72,911	11,839	61,072	11,349	84,260
1982			26,267	6,304	19,964	12,865	39,132
1983			38,999	9,692	29,307	631	39,630
1984			38,640	533	38,107	4,139	42,779
1985			98,739	8,122	90,617	4,550	103,289
1986			38,022	7,111	30,910	3,663	41,685
1987			27,342	6,318	21,023	1,822	29,164
1988			34,693	11,852	22,841	1,052	35,745
1989			60,944	15,845	45,099	13,931	74,875
1990			33,464	10,968	22,495	7,549	41,013
1991			52,758	7,879	44,879	10,687	63,446
1992			77,861	12,468	65,393	49,175	127,037
1993			92,033	20,240	71,792	64,594	156,627
Averages							
79-93			50,611	9,883	40,728	13,413	64,024
84-93			55,450	10,134	45,316	16,116	71,566
1994			50,287	15,652	34,636	15,408	65,696

^a The averages for 1983-1985 are averages of weekly run timing estimates as well as stock composition estimates and are not simple averages of total estimates for the season.

^b Escapement includes fish later captured for broodstock.

Appendix C.1. Weekly salmon catch and effort in the Alaskan District 111 and Subdistrict 111-32 (Taku Inlet) commercial drift gillnet fishery, 1994.

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Boats	Days Open	Boat Days
District 111 Catches									
26	19-Jun	1,119	3,828	30	147	1,190	59	3.0	177.0
27	26-Jun	893	6,691	71	1,582	5,174	55	3.0	165.0
28	3-Jul	943	8,253	1,197	4,027	22,559	63	4.0	252.0
29	10-Jul	707	26,552	3,180	8,594	60,281	87	5.0	435.0
30	17-Jul	548	10,978	3,896	18,019	50,068	96	4.0	384.0
31	24-Jul	444	17,848	6,264	40,061	32,202	83	4.0	332.0
32	31-Jul	164	16,737	7,885	121,687	18,482	94	5.0	470.0
33	7-Aug	69	7,191	11,841	130,126	8,046	100	5.0	500.0
34	14-Aug	64	3,255	18,016	66,892	3,022	98	5.0	490.0
35	21-Aug	22	2,292	23,803	8,803	2,272	82	4.0	328.0
36	28-Aug	20	1,214	22,791	1,452	2,318	83	3.0	249.0
37	4-Sep	15	650	33,214	124	2,265	88	3.0	264.0
38	11-Sep	7	235	23,134	11	2,787	71	4.0	284.0
39	18-Sep	10	92	11,392	0	1,868	83	4.0	332.0
40	25-Sep	19	37	15,337	0	1,464	56	4.0	224.0
41	2-Oct	2	8	6,383	0	169	47	4.0	188.0
42	9-Oct	1	0	67	0	4	4	2.0	8.0
Total		5,047	105,861	188,501	401,525	214,171		66	5,082
Alaskan hatchery contribution for chinook, sockeye, and coho:									
26	19-Jun	389	0	0					
27	26-Jun	478	0	0					
28	3-Jul	604	0	0					
29	10-Jul	566	58	0					
30	17-Jul	237	287	0					
31	24-Jul	382	1,013	67					
32	31-Jul	185	391	76					
33	7-Aug	0	576	195					
34	14-Aug	8	130	1,095					
35	21-Aug	38	92	2,437					
36	28-Aug	0	49	3,663					
37	4-Sep	19	26	2,962					
38	11-Sep	0	9	6,536					
39	18-Sep	0	4	819					
40	25-Sep	0	1	7,134					
41	2-Oct	0	0	2,110					
42	9-Oct	0	0	0					
Total		2,906	2,637	27,094					
Catches not including Alaskan hatchery contribution:									
26	19-Jun	730	3,828	30			59	3	177
27	26-Jun	415	6,691	71			55	3	165
28	3-Jul	339	8,253	1,197			63	4	252
29	10-Jul	141	26,494	3,180			87	5	435
30	17-Jul	311	10,691	3,896			96	4	384
31	24-Jul	62	16,835	6,197			83	4	332
32	31-Jul	-21	16,346	7,809			94	5	470
33	7-Aug	69	6,615	11,646			100	5	500
34	14-Aug	56	3,125	16,921			98	5	490
35	21-Aug	-16	2,200	21,366			82	4	328
36	28-Aug	20	1,165	19,128			83	3	249
37	4-Sep	-4	624	30,252			88	3	264
38	11-Sep	7	226	16,598			71	4	284
39	18-Sep	10	88	10,573			83	4	332
40	25-Sep	19	36	8,203			56	4	224
41	2-Oct	2	8	4,273			47	4	188
42	9-Oct	1	0	67			4	2	8
Total		2,141	103,224	161,407				66	5,082

-Continued-

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

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Boats	Days	Boat
								Open	Days
Catches in District 111-32 (Taku Inlet) only:									
26	19-Jun	879	3,476	20	57	887	54	3	162
27	26-Jun	585	5,603	18	136	2,932	44	3	132
28	3-Jul	436	7,276	417	2,023	12,107	53	4	212
29	10-Jul	482	20,369	2,042	5,916	37,326	79	4	316
30	17-Jul	292	9,739	2,887	14,905	41,026	87	3	261
31	24-Jul	151	15,184	5,230	30,871	21,836	76	4	304
32	31-Jul	93	14,746	5,177	72,124	10,232	78	4	312
33	7-Aug	27	5,548	7,440	37,170	3,004	72	3	216
34	14-Aug	33	2,646	13,474	28,471	1,376	80	4	320
35	21-Aug	20	2,066	22,229	5,907	1,765	77	4	308
36	28-Aug	10	1,064	19,717	909	1,737	78	3	234
37	4-Sep	11	583	29,813	15	1,843	81	3	243
38	11-Sep	6	212	19,289	3	2,395	67	4	268
39	18-Sep	10	73	9,198	0	1,599	71	4	284
40	25-Sep	13	32	13,584	0	1,402	52	4	208
41	2-Oct	2	8	5,712	0	159	43	4	172
42	9-Oct	1	0	67	0	4	4	2	8
Total		3,051	88,625	156,314	198,507	141,630		60	3,960

Appendix C.2. Weekly stock proportions of sockeye salmon harvested in the Alaskan District 111 commercial Drift gillnet fishery, 1994.

Week	Kuthai	Little Trapper	Mainstem	Little Tatsamenie	Total Taku	Sweetheart	Crescent	Speel	Wild Snettisham
26	0.516	0.252	0.177	0.055	1.000	0.000	0.000	0.000	0.000
27	0.448	0.288	0.211	0.033	0.981	0.000	0.000	0.019	0.019
28	0.175	0.474	0.287	0.036	0.973	0.000	0.027	0.000	0.027
29	0.076	0.449	0.357	0.085	0.967	0.002	0.018	0.013	0.031
30	0.041	0.422	0.364	0.042	0.870	0.026	0.074	0.030	0.104
31	0.056	0.388	0.290	0.101	0.835	0.057	0.079	0.029	0.108
32	0.073	0.352	0.410	0.103	0.938	0.023	0.034	0.004	0.038
33	0.023	0.110	0.513	0.158	0.804	0.080	0.020	0.096	0.116
34	0.045	0.086	0.583	0.187	0.901	0.040	0.026	0.032	0.059
35	0.045	0.086	0.583	0.187	0.901	0.040	0.026	0.032	0.059
36	0.045	0.086	0.583	0.187	0.901	0.040	0.026	0.032	0.059
37	0.045	0.086	0.583	0.187	0.901	0.040	0.026	0.032	0.059
38	0.045	0.086	0.583	0.187	0.901	0.040	0.026	0.032	0.059
39	0.045	0.086	0.583	0.187	0.901	0.040	0.026	0.032	0.059
40	0.045	0.086	0.583	0.187	0.901	0.040	0.026	0.032	0.059
41	0.045	0.086	0.583	0.187	0.901	0.040	0.026	0.032	0.059
Total	0.110	0.356	0.361	0.091	0.917	0.025	0.036	0.022	0.058

Appendix C.3. Weekly stock-specific catch of Taku sockeye salmon harvested in the Alaskan District 111 commercial drift gillnet fishery, 1994.

Week	Kuthai	Little Trapper	Mainstem	Little Tatsamenie	Total Taku	Sweetheart	Crescent	Speel	Wild Snettisham
26	1,975	966	676	211	3,828	0	0	0	0
27	2,998	1,930	1,414	219	6,561	0	0	130	130
28	1,446	3,912	2,370	301	8,029	0	224	0	224
29	2,025	11,931	9,468	2,257	25,681	58	479	334	813
30	450	4,637	3,997	462	9,546	287	817	328	1,145
31	1,000	6,917	5,173	1,810	14,900	1,013	1,414	521	1,935
32	1,229	5,888	6,855	1,731	15,703	391	577	66	643
33	166	792	3,689	1,136	5,783	576	142	690	832
34	146	281	1,897	610	2,934	130	86	105	191
35	103	198	1,336	429	2,066	92	61	74	134
36	54	105	708	227	1,094	49	32	39	71
37	29	56	379	122	586	26	17	21	38
38	11	20	137	44	212	9	6	8	14
39	4	8	54	17	83	4	2	3	5
40	2	3	22	7	33	1	1	1	2
41	0	1	5	1	7	0	0	0	0
Total	11,638	37,644	38,179	9,585	97,046	2,637	3,859	2,319	6,178

Appendix C.4. Weekly salmon and steelhead trout catch and effort in the Canadian commercial fishery in the Taku River, 1994.

Week	Start Date	Catch							Effort		
		Chinook Jacks	Large	Sockeye	Coho	Pink	Chum	Steelhead	Average Permits	Days Open	Permit Days
26	171	42	431	828	0	0	0	0	10	3	29
27	178	118	1,005	2,189	1	0	0	0	10	4	41
28	185	43	325	3,178	64	7	0	0	12	3	36
29	192	22	154	2,831	70	54	0	0	13	3	39
30	199	7	97	4,331	486	28	1	1	12	4	49
31	206	2	38	7,662	1,396	79	0	0	11	5	54
32	213	1	11	2,108	1,275	0	2	1	10	3	31
33	220	0	2	2,090	1,574	0	0	4	13	4	52
34	227	0	0	1,561	1,741	0	0	6	11	3	34
35	234	0	2	770	2,523	0	3	9	9	3	26
36	241	0	0	513	1,790	0	1	24	8	3	23
37	248	0	0	486	1,461	0	0	66	6	4	24
38	255	0	0	192	1,225	0	0	64	5	5	27
39	262	0	0	11	261	0	0	21	2	5	10
40	269	0	0	6	196	0	0	6	1	5	5
41	276	0	0	6	176	0	8	14	1	4	4
42	283	0	0	0	217	0	3	6	1	5	5
43	290	0	0	0	73	0	0	10	1	6	6
44	297	0	0	0	2	0	0	0	1	2	2
Total		235	2,065	28,762	14,531	168	18	232		74	497

Appendix C.5. Weekly stock proportions of sockeye salmon harvested in the Canadian commercial fishery in the Taku River, 1994.

Week	Little Kuthai		Little Mainstem		Little Tatsamenie	
	Trapper					
26	0.748	0.220	0.000	0.033		
27	0.521	0.319	0.113	0.047		
28	0.334	0.497	0.170	0.000		
29	0.243	0.557	0.200	0.000		
30	0.176	0.449	0.320	0.055		
31	0.000	0.670	0.286	0.043		
32	0.024	0.373	0.444	0.158		
33	0.056	0.399	0.489	0.056		
34	0.069	0.395	0.417	0.120		
35	0.000	0.254	0.575	0.171		
36	0.000	0.254	0.575	0.171		
37	0.000	0.254	0.575	0.171		
38	0.000	0.254	0.575	0.171		
39	0.000	0.254	0.575	0.171		
40	0.000	0.254	0.575	0.171		
41	0.000	0.254	0.575	0.171		
Total	0.158	0.482	0.302	0.058		

Appendix C.6. Weekly stock-specific catch of sockeye salmon in the Canadian commercial fishery in the Taku River, 1994.

Week	Little		Little	
	Kuthai	Trapper	Mainstem	Tatsamenie
26	619	182	0	27
27	1,141	698	248	102
28	1,060	1,578	540	0
29	687	1,577	567	0
30	761	1,945	1,387	238
31	0	5,137	2,192	333
32	51	787	937	333
33	118	834	1,022	116
34	107	616	651	187
35	0	196	442	132
36	0	130	295	88
37	0	123	279	83
38	0	49	110	33
39	0	3	6	2
40	0	2	3	1
41	0	2	3	1
Total	4,544	13,858	8,684	1,676

Appendix C.7. Mark-recapture estimate of above border run of sockeye and coho salmon in the Taku River, 1994.

Tagging Week	Start Date	Above Border	Canadian Harvests			Above Border
		Run	Commercial	Test	Aboriginal ^a	Escapement
Sockeye						
24-25	34,490	2,780	828	0		1,952
26	34,504	7,889	2,189	0		5,700
27	34,511	36,142	3,178	0		32,964
28-29	34,518	17,661	7,162	0		10,499
30-31	34,532	38,567	9,770	0		28,797
32-33	34,546	14,864	3,651	0		11,213
34-38	34,560	11,226	1,972	0		9,254
Additional Weeks ^b			12			-12
Total Number		129,129	28,762	0	239	100,128
95% C.I.		120,815	137,443			
Coho						
27-29	34,511	3,348	621			2,727
30	34,518	5,026	1,396			3,630
31	34,525	3,988	1,275			2,713
32	34,532	4,308	1,574			2,734
33	34,539	9,827	1,741			8,086
34	34,546	15,029	2,523			12,506
35	34,553	7,904	1,790			6,114
36-39	34,560	49,213	3,143			46,070
Additional Weeks			468			
Through Week 39		98,643	14,531	0	162	83,950
95% C.I.		87,276	110,010			
Total Number ^c		111,036				96,343

^a Aboriginal catch by week is not available.

^b Additional sockeye were harvested beyond the population period; they were subtracted from the estimated escapement for the tagging period.

^c The coho estimate covered approximately 88.84% of the run (based on District 111-32 gillnet catch CPUE excluding hatchery contribution).

Appendix C.8. Daily counts of salmon passing through Little Tatsamenie weir, 1994.

Date	Jack	Large Chinook				Sockeye			Coho ^a		
	Chinook	Male	Female	Cumulative		Count	Cumulative		Count	Cumulative	
	Count			Count	Percent		Count	Percent		Count	Percent
26-Jul	-----Weir Operational-----										
27-Jul	0	1	0	1	0.3	0	0	0.0	0	0	0.0
28-Jul	0	2	1	4	1.3	0	0	0.0	0	0	0.0
29-Jul	3	2	4	10	3.2	0	0	0.0	0	0	0.0
30-Jul	1	3	0	13	4.1	0	0	0.0	0	0	0.0
31-Jul	1	1	2	16	5.1	0	0	0.0	0	0	0.0
1-Aug	1	7	11	34	10.8	1	1	0.0	0	0	0.0
2-Aug	2	1	2	37	11.7	0	1	0.0	0	0	0.0
3-Aug	6	1	3	41	13.0	0	1	0.0	0	0	0.0
4-Aug	10	4	4	49	15.6	0	1	0.0	0	0	0.0
5-Aug	4	1	1	51	16.2	2	3	0.1	0	0	0.0
6-Aug	6	1	1	53	16.8	3	6	0.2	0	0	0.0
7-Aug	6	5	1	59	18.7	1	7	0.2	0	0	0.0
8-Aug	3	9	4	72	22.9	1	8	0.2	0	0	0.0
9-Aug	6	4	3	79	25.1	1	9	0.3	0	0	0.0
10-Aug	1	6	2	87	27.6	3	12	0.3	0	0	0.0
11-Aug	5	2	5	94	29.8	2	14	0.4	0	0	0.0
12-Aug	7	2	1	97	30.8	1	15	0.4	0	0	0.0
13-Aug	1	3	2	102	32.4	1	16	0.4	0	0	0.0
14-Aug	8	8	7	117	37.1	5	21	0.6	0	0	0.0
15-Aug	12	14	13	144	45.7	0	21	0.6	0	0	0.0
16-Aug	5	5	5	154	48.9	3	24	0.7	0	0	0.0
17-Aug	6	8	7	169	53.7	6	30	0.8	0	0	0.0
18-Aug	2	4	1	174	55.2	3	33	0.9	0	0	0.0
19-Aug	0	7	9	190	60.3	0	33	0.9	0	0	0.0
20-Aug	2	3	0	193	61.3	3	36	1.0	1	1	0.6
21-Aug	0	7	5	205	65.1	11	47	1.3	0	1	0.6
22-Aug	2	6	1	212	67.3	21	68	1.9	1	2	1.2
23-Aug	4	2	7	221	70.2	14	82	2.3	0	2	1.2
24-Aug	1	3	4	228	72.4	23	105	3.0	0	2	1.2
25-Aug	2	8	8	244	77.5	20	125	3.5	1	3	1.8
26-Aug	1	1	4	249	79.0	18	143	4.0	1	4	2.4
27-Aug	3	2	16	267	84.8	63	206	5.8	0	4	2.4
28-Aug	0	4	2	273	86.7	81	287	8.1	0	4	2.4
29-Aug	0	2	2	277	87.9	72	359	10.1	0	4	2.4
30-Aug	0	4	12	293	93.0	74	433	12.2	0	4	2.4
31-Aug	0	0	1	294	93.3	126	559	15.7	1	5	3.0
1-Sep	0	1	0	295	93.7	216	775	21.8	0	5	3.0
2-Sep	0	0	5	300	95.2	262	1,037	29.1	0	5	3.0
3-Sep	0	1	4	305	96.8	237	1,274	35.8	2	7	4.2
4-Sep	0	0	0	305	96.8	268	1,542	43.3	4	11	6.5
5-Sep	0	1	1	307	97.5	249	1,791	50.3	5	16	9.5
6-Sep	0	0	1	308	97.8	218	2,009	56.4	5	21	12.5
7-Sep	0	0	4	312	99.0	208	2,217	62.3	4	25	14.9
8-Sep	0	0	0	312	99.0	162	2,379	66.8	3	28	16.7
9-Sep	0	1	0	313	99.4	194	2,573	72.3	5	33	19.6
10-Sep	0	0	0	313	99.4	117	2,690	75.6	5	38	22.6
11-Sep	0	0	0	313	99.4	71	2,761	77.6	2	40	23.8
12-Sep	0	0	0	313	99.4	55	2,816	79.1	2	42	25.0
13-Sep	0	0	1	314	99.7	113	2,929	82.3	5	47	28.0
14-Sep	0	0	0	314	99.7	62	2,991	84.0	6	53	31.5
15-Sep	0	0	0	314	99.7	158	3,149	88.5	5	58	34.5
16-Sep	0	0	0	314	99.7	76	3,225	90.6	11	69	41.1
17-Sep	0	0	0	314	99.7	105	3,330	93.6	36	105	62.5
18-Sep	0	0	1	315	100.0	98	3,428	96.3	17	122	72.6
19-Sep	0	0	0	315	100.0	47	3,475	97.6	7	129	76.8
20-Sep	0	0	0	315	100.0	28	3,503	98.4	0	129	76.8
21-Sep	0	0	0	315	100.0	28	3,531	99.2	8	137	81.5
22-Sep	0	0	0	315	100.0	28	3,559	100.0	31	168	100.0
Counts	111	147	168	315		3,559			168		
Adjustments											
Estimated undercount ^b						812					
Estimated escapement ^c						4,371					
Broodstock ^d						-793					
Spawners	111	147	168	315		3,578			168		

^a Operation of weir did not cover entire run.

^b Estimated number of fish which passed through the weir uncounted.

^c The weir was heavily damaged by flood water on September 22; an undetermined number of sockeye and coho may have migrated through the weirs after this date.

^d Broodstock included 381 females and 332 males spawned and 51 female and 29 male mortalities.

Appendix C.9. Daily counts of salmon passing through Little Trapper Lake weir, 1994.

Date	Daily	Cumulative	
	Count	Count	Percent
31-Jul	Weir Installed		
1-Aug	5	5	0.0
2-Aug	202	207	1.5
3-Aug	378	585	4.4
4-Aug	1,109	1,694	12.6
5-Aug	1,123	2,817	21.0
6-Aug	969	3,786	28.2
7-Aug	475	4,261	31.7
8-Aug	798	5,059	37.6
9-Aug	746	5,805	43.2
10-Aug	524	6,329	47.1
11-Aug	463	6,792	50.5
12-Aug	354	7,146	53.2
13-Aug	561	7,707	57.4
14-Aug	467	8,174	60.8
15-Aug	255	8,429	62.7
16-Aug	207	8,636	64.3
17-Aug	444	9,080	67.6
18-Aug	241	9,321	69.4
19-Aug	259	9,580	71.3
20-Aug	155	9,735	72.4
21-Aug	81	9,816	73.0
22-Aug	191	10,007	74.5
23-Aug	168	10,175	75.7
24-Aug	359	10,534	78.4
25-Aug	239	10,773	80.2
26-Aug	420	11,193	83.3
27-Aug	250	11,443	85.2
28-Aug	305	11,748	87.4
29-Aug	318	12,066	89.8
30-Aug	233	12,299	91.5
31-Aug	292	12,591	93.7
1-Sep	253	12,844	95.6
2-Sep	52	12,896	96.0
3-Sep	135	13,031	97.0
4-Sep	74	13,105	97.5
5-Sep	105	13,210	98.3
6-Sep	0	13,210	98.3
7-Sep	32	13,242	98.5
8-Sep	88	13,330	99.2
9-Sep	99	13,429	99.9
10-Sep	9	13,438	100.0
Count		13,438	
Broodstock *		-747	
Spawners		12,691	

* Broodstock included 350 males and 350 females spawned and 20 male and 25 female mortalities.

Appendix C.10. Daily counts of salmon passing through Nakina River weir, 1994. 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. Additionally, in 1994 bears continually made holes in the weir allowing additional fish to pass uncounted.

Date	Jack	Chinook *			Sockeye			Pink		
	Chinook	Cumulative			Cumulative			Cumulative		
	Count	Count	Count	Percent	Count	Count	Percent	Count	Count	Percent
30-Jul		Weir Installed								
31-Jul		0	0	0.0	0	0	0.0	0	0	0.0
1-Aug		0	0	0.0	0	0	0.0	0	0	0.0
2-Aug		0	0	0.0	0	0	0.0	0	0	0.0
3-Aug		0	0	0.0	0	0	0.0	0	0	0.0
4-Aug		0	0	0.0	0	0	0.0	0	0	0.0
5-Aug		114	114	68.7	41	41	33.9	150	150	18.2
6-Aug		8	122	73.5	6	47	38.8	185	335	40.7
7-Aug		0	122	73.5	0	47	38.8	0	335	40.7
8-Aug		29	151	91.0	7	54	44.6	210	545	66.2
9-Aug		10	161	97.0	4	58	47.9	265	810	98.4
10-Aug		0	161	97.0	0	58	47.9	0	810	98.4
11-Aug		0	161	97.0	0	58	47.9	0	810	98.4
12-Aug		0	161	97.0	0	58	47.9	0	810	98.4
13-Aug		0	161	97.0	0	58	47.9	0	810	98.4
14-Aug		0	161	97.0	0	58	47.9	0	810	98.4
15-Aug		0	161	97.0	0	58	47.9	0	810	98.4
16-Aug		0	161	97.0	0	58	47.9	0	810	98.4
17-Aug		3	164	98.8	20	78	64.5	5	815	99.0
18-Aug		0	164	98.8	0	78	64.5	0	815	99.0
19-Aug		2	166	100.0	39	117	96.7	7	822	99.9
20-Aug		0	166	100.0	4	121	100.0	1	823	100.0
21-Aug		0	166	100.0	0	121	100.0	0	823	100.0
22-Aug		0	166	100.0	0	121	100.0	0	823	100.0
23-Aug		0	166	100.0	0	121	100.0	0	823	100.0
24-Aug		0	166	100.0	0	121	100.0	0	823	100.0
25-Aug		0	166	100.0	0	121	100.0	0	823	100.0
26-Aug		0	166	100.0	0	121	100.0	0	823	100.0
Totals		166			121			823		

* Large chinook are defined as fish of > 600 POH length.

Appendix C.11. Daily counts of salmon passing through the Nahlin River weir, 1994. These counts represent an unknown portion of the run above the weir because the weir was not operated throughout the run.

Date	Jack	Chinook			Sockeye			Coho		
	Chinook	Cumulative			Cumulative			Cumulative		
	Count	Count	Count	Percent	Count	Count	Percent	Count	Count	Percent
19-Jun	0	1	1		Weir Installed					
20-Jun	0	5	6	0.2	0	0	0.0	0	0	0.0
21-Jun	0	0	6	0.2	0	0	0.0	0	0	0.0
22-Jun	0	1	7	0.3	0	0	0.0	0	0	0.0
23-Jun	0	4	11	0.4	0	0	0.0	0	0	0.0
24-Jun	0	6	17	0.7	0	0	0.0	0	0	0.0
25-Jun	0	56	73	3.0	0	0	0.0	0	0	0.0
26-Jun	0	40	113	4.6	0	0	0.0	0	0	0.0
27-Jun	0	2	115	4.7	0	0	0.0	0	0	0.0
28-Jun	0	0	115	4.7	0	0	0.0	0	0	0.0
29-Jun	0	6	121	4.9	0	0	0.0	0	0	0.0
30-Jun	0	29	150	6.1	0	0	0.0	0	0	0.0
1-Jul	1	53	203	8.3	0	0	0.0	0	0	0.0
2-Jul	1	33	236	9.6	0	0	0.0	0	0	0.0
3-Jul	0	25	261	10.7	0	0	0.0	0	0	0.0
4-Jul	0	48	309	12.6	0	0	0.0	0	0	0.0
5-Jul	3	51	360	14.7	0	0	0.0	0	0	0.0
6-Jul	1	60	420	17.2	0	0	0.0	0	0	0.0
7-Jul	1	11	431	17.6	0	0	0.0	0	0	0.0
8-Jul	0	23	454	18.6	0	0	0.0	0	0	0.0
9-Jul	4	66	520	21.3	1	1	0.1	0	0	0.0
10-Jul	1	147	667	27.3	0	1	0.1	0	0	0.0
11-Jul	4	72	739	30.2	2	3	0.3	0	0	0.0
12-Jul	5	43	782	32.0	1	4	0.4	0	0	0.0
13-Jul	1	81	863	35.3	0	4	0.4	0	0	0.0
14-Jul	6	123	986	40.3	3	7	0.7	0	0	0.0
15-Jul	8	89	1,075	43.9	15	22	2.3	0	0	0.0
16-Jul	7	62	1,137	46.5	9	31	3.2	0	0	0.0
17-Jul	1	8	1,145	46.8	3	34	3.5	0	0	0.0
18-Jul	3	16	1,161	47.4	11	45	4.7	0	0	0.0
19-Jul	0	20	1,181	48.3	3	48	5.0	0	0	0.0
20-Jul	3	29	1,210	49.4	5	53	5.5	0	0	0.0
21-Jul	0	13	1,223	50.0	16	69	7.2	0	0	0.0
22-Jul	1	12	1,235	50.5	26	95	9.9	0	0	0.0
23-Jul	19	377	1,612	65.9	139	234	24.4	0	0	0.0
24-Jul	16	513	2,125	86.8	28	262	27.3	0	0	0.0
25-Jul	0	22	2,147	87.7	4	266	27.7	0	0	0.0
26-Jul	4	17	2,164	88.4	19	285	29.7	0	0	0.0
27-Jul	1	7	2,171	88.7	2	287	29.9	0	0	0.0
28-Jul	1	13	2,184	89.3	20	307	32.0	1	1	0.0
29-Jul	1	13	2,197	89.8	24	331	34.5	0	1	0.0
30-Jul	2	57	2,254	92.1	47	378	39.4	0	1	0.0
31-Jul	1	58	2,312	94.5	26	404	42.1	0	1	0.0
1-Aug	0	14	2,326	95.1	33	437	45.5	0	1	0.0
2-Aug	0	18	2,344	95.8	22	459	47.8	0	1	0.0
3-Aug	0	23	2,367	96.7	52	511	53.2	0	1	0.0
4-Aug	2	38	2,405	98.3	8	519	54.1	0	1	0.0
5-Aug	0	16	2,421	98.9	31	550	57.3	2	3	0.1
6-Aug	2	19	2,440	99.7	66	616	64.2	1	4	0.2
7-Aug	0	7	2,447	100.0	43	659	68.6	1	5	0.2
8-Aug	0	0	2,447	100.0	22	681	70.9	2	7	0.3
9-Aug	0	0	2,447	100.0	22	703	73.2	4	11	0.5
10-Aug	0	0	2,447	100.0	42	745	77.6	2	13	0.6
11-Aug	0	0	2,447	100.0	27	772	80.4	1	14	0.7
12-Aug	0	0	2,447	100.0	17	789	82.2	0	14	0.7
13-Aug	0	0	2,447	100.0	13	802	83.5	1	15	0.7

-Continued-

Appendix C.11. (page 2 of 2.)

Date	Jack	Chinook			Sockeye			Coho		
	Chinook	Cumulative			Cumulative			Cumulative		
	Count	Count	Count	Percent	Count	Count	Percent	Count	Count	Percent
14-Aug	0	0	2,447	100.0	15	817	85.1	10	25	1.2
15-Aug	0	0	2,447	100.0	55	872	90.8	4	29	1.4
16-Aug	0	0	2,447	100.0	37	909	94.7	10	39	1.8
17-Aug	0	0	2,447	100.0	14	923	96.1	11	50	2.4
18-Aug	0	0	2,447	100.0	3	926	96.5	9	59	2.8
19-Aug	0	0	2,447	100.0	0	926	96.5	10	69	3.3
20-Aug	0	0	2,447	100.0	1	927	96.6	8	77	3.6
21-Aug	0	0	2,447	100.0	1	928	96.7	5	82	3.9
22-Aug	0	0	2,447	100.0	2	930	96.9	9	91	4.3
23-Aug	0	0	2,447	100.0	2	932	97.1	1	92	4.4
24-Aug	0	0	2,447	100.0	2	934	97.3	9	101	4.8
25-Aug	0	0	2,447	100.0	3	937	97.6	6	107	5.1
26-Aug	0	0	2,447	100.0	1	938	97.7	2	109	5.2
27-Aug	0	0	2,447	100.0	2	940	97.9	14	123	5.8
28-Aug	0	0	2,447	100.0	2	942	98.1	30	153	7.2
29-Aug	0	0	2,447	100.0	0	942	98.1	3	156	7.4
30-Aug	0	0	2,447	100.0	5	947	98.6	37	193	9.1
31-Aug	0	0	2,447	100.0	5	952	99.2	59	252	11.9
1-Sep	0	0	2,447	100.0	2	954	99.4	49	301	14.3
2-Sep	0	0	2,447	100.0	5	959	99.9	104	405	19.2
3-Sep	0	0	2,447	100.0	0	959	99.9	42	447	21.2
4-Sep	0	0	2,447	100.0	1	960	100.0	49	496	23.5
5-Sep	0	0	2,447	100.0	0	960	100.0	53	549	26.0
6-Sep	0	0	2,447	100.0	0	960	100.0	36	585	27.7
7-Sep	0	0	2,447	100.0	0	960	100.0	79	664	31.4
8-Sep	0	0	2,447	100.0	0	960	100.0	148	812	38.4
9-Sep	0	0	2,447	100.0	0	960	100.0	75	887	42.0
10-Sep	0	0	2,447	100.0	0	960	100.0	103	990	46.9
11-Sep	0	0	2,447	100.0	0	960	100.0	8	998	47.3
12-Sep	0	0	2,447	100.0	0	960	100.0	4	1,002	47.4
13-Sep	0	0	2,447	100.0	0	960	100.0	173	1,175	55.6
14-Sep	0	0	2,447	100.0	0	960	100.0	221	1,396	66.1
15-Sep	0	0	2,447	100.0	0	960	100.0	132	1,528	72.3
16-Sep	0	0	2,447	100.0	0	960	100.0	147	1,675	79.3
17-Sep	0	0	2,447	100.0	0	960	100.0	121	1,796	85.0
18-Sep	0	0	2,447	100.0	0	960	100.0	105	1,901	90.0
19-Sep	0	0	2,447	100.0	0	960	100.0	69	1,970	93.3
20-Sep	0	0	2,447	100.0	0	960	100.0	12	1,982	93.8
21-Sep	0	0	2,447	100.0	0	960	100.0	18	2,000	94.7
22-Sep	0	0	2,447	100.0	0	960	100.0	112	2,112	100.0
23-Sep	-----Weir Dismantled-----									
Counts	100	2,447			960			2,112		

Appendix C.12. Daily counts of sockeye salmon passing through the Kuthai Lake weir, 1994.

Date	Count	Cumulative	
		Count	Percent
17-Jul	Weir installed		
18-Jul	6	6	0.1
19-Jul	631	637	11.7
20-Jul	43	680	12.5
21-Jul	159	839	15.5
22-Jul	164	1,003	18.5
23-Jul	182	1,185	21.8
24-Jul	211	1,396	25.7
25-Jul	250	1,646	30.3
26-Jul	551	2,197	40.5
27-Jul	300	2,497	46.0
28-Jul	87	2,584	47.6
29-Jul	498	3,082	56.8
30-Jul	256	3,338	61.5
31-Jul	174	3,512	64.7
1-Aug	173	3,685	67.9
2-Aug	115	3,800	70.0
3-Aug	86	3,886	71.6
4-Aug	252	4,138	76.2
5-Aug	148	4,286	79.0
6-Aug	74	4,360	80.3
7-Aug	21	4,381	80.7
8-Aug	75	4,456	82.1
9-Aug	44	4,500	82.9
10-Aug	44	4,544	83.7
11-Aug	200	4,744	87.4
12-Aug	39	4,783	88.1
13-Aug	34	4,817	88.8
14-Aug	37	4,854	89.4
15-Aug	15	4,869	89.7
16-Aug	44	4,913	90.5
17-Aug	8	4,921	90.7
18-Aug	5	4,926	90.8
19-Aug	33	4,959	91.4
20-Aug	54	5,013	92.4
21-Aug	0	5,013	92.4
22-Aug	11	5,024	92.6
23-Aug	4	5,028	92.6
24-Aug	6	5,034	92.8
25-Aug	9	5,043	92.9
26-Aug	132	5,175	95.4
27-Aug	13	5,188	95.6
28-Aug	9	5,197	95.8
29-Aug	28	5,225	96.3
30-Aug	5	5,230	96.4
31-Aug	55	5,285	97.4
1-Sep	74	5,359	98.7
2-Sep	5	5,364	98.8
3-Sep	4	5,368	98.9
4-Sep	2	5,370	98.9
5-Sep	8	5,378	99.1
6-Sep	3	5,381	99.2
7-Sep	13	5,394	99.4
8-Sep	16	5,410	99.7
9-Sep	6	5,416	99.8
10-Sep	0	5,416	99.8
11-Sep	0	5,416	99.8
12-Sep	0	5,416	99.8
13-Sep	11	5,427	100.0
Total	5,427		

Appendix D.1. Salmon catches and effort in the Alaskan District 111 and Subdistrict 111-32 (Taku Inlet) commercial drift gillnet fishery, 1964-1994. Days open are for the entire district and include openings to harvest spawner chinook salmon, 1964-1975.

Year	Chinook	Sockeye	Catch		S. Chum	F. Chum	Effort	
			Coho	Pink			Boat Days	Days Open
District 111 Catches								
1964	2,509	34,140	29,315	26,593	4,970	7,883		56.00
1965	4,170	27,569	32,667	2,768	3,842	7,691		63.00
1966	4,829	33,925	26,065	23,833	5,015	30,118		64.00
1967	5,417	17,735	40,391	12,372	2,183	20,651		53.00
1968	4,904	19,501	39,103	67,365	5,747	16,143		60.00
1969	6,986	41,169	10,802	73,927	4,851	10,198	1,461	41.50
1970	3,357	50,922	44,960	197,017	19,593	90,797	2,688	53.00
1971	6,958	66,181	41,830	31,484	31,813	59,332	2,914	55.00
1972	10,955	80,404	49,780	144,339	67,126	80,831	3,100	51.00
1973	9,799	85,317	35,453	58,186	33,296	75,949	3,316	41.00
1974	2,908	38,670	38,667	57,731	11,263	75,423	2,237	29.50
1975	2,182	32,513	1,185	9,567	2,091	587	1,089	15.50
1976	1,757	61,749	41,729	14,962	6,027	75,776	1,939	25.00
1977	1,068	70,097	54,917	88,578	8,995	52,107	2,284	27.00
1978	1,926	55,398	31,944	51,385	9,076	27,178	2,176	26.00
1979	3,701	122,148	16,194	152,836	5,936	55,261	2,235	28.83
1980	2,251	123,451	41,677	296,572	33,627	159,020	4,080	30.92
1981	1,721	49,942	26,711	254,856	22,546	53,892	2,660	30.00
1982	3,057	83,625	29,072	109,297	14,867	22,741	2,437	35.50
1983	888	31,821	21,455	66,239	6,160	9,104	1,274	33.00
1984	1,773	77,233	33,836	145,971	45,811	40,930	2,690	52.50
1985	2,636	88,077	55,597	311,248	58,972	47,748	3,102	48.00
1986	2,584	73,061	30,512	16,568	29,909	28,883	2,102	32.83
1987	2,076	75,212	35,219	363,439	57,280	64,380	2,514	34.75
1988	1,779	38,923	44,881	157,831	80,307	59,271	2,146	32.00
1989	1,811	74,019	51,812	180,597	18,022	18,955	2,333	41.00
1990	3,480	126,884	67,530	153,036	112,336	33,463	3,202	38.33
1991	3,217	109,877	126,436	74,183	147,404	13,771	4,103	57.00
1992	2,341	135,411	172,662	314,445	97,725	14,802	4,550	50.00
1993	6,748	171,556	65,536	17,081	156,033	10,447	3,827	43.00
Averages								
64-93	3,660	69,884	44,598	115,810	36,761	42,111	2,658	41.61
84-93	2,845	97,025	68,402	173,440	80,380	33,265	3,057	42.94
1994	5,047	105,861	188,501	401,525	198,002	16,169	5,082	66.00

-Continued-

Appendix D.1. (page 2 of 2.)

Year	Chinook	Sockeye	Catch Coho	Pink	S. Chum	F. Chum	Effort	
							Boat Days	Days Open
Catches in District 111-32 (Taku Inlet) only:								
1964	2,482	28,873	28,603	22,177	3,919	7,822	1,491	56.00
1965	4,146	23,828	32,382	2,641	3,604	7,691	1,332	60.00
1966	4,817	28,301	24,153	22,490	4,350	27,327	1,535	58.00
1967	5,351	14,537	39,983	11,619	1,569	20,463	1,663	50.00
1968	4,862	16,952	37,570	55,527	4,646	15,597	2,420	60.00
1969	6,874	38,260	10,131	66,991	4,233	9,926	1,413	42.00
1970	3,073	41,476	37,587	143,886	14,208	76,795	2,425	53.00
1971	6,753	62,459	38,571	30,765	31,110	54,696	2,849	55.00
1972	9,633	62,877	38,568	78,673	45,955	60,097	2,797	51.00
1973	9,525	80,063	29,770	55,234	30,817	61,025	3,135	41.00
1974	2,280	26,256	27,670	32,684	6,469	51,063	1,741	30.00
1975	1,998	28,201	429	8,084	1,639	31	986	15.00
1976	1,693	51,674	31,641	11,868	3,766	42,674	1,582	23.00
1977	754	47,512	48,403	67,072	5,436	43,595	1,879	27.00
1978	1,642	43,795	21,620	41,624	7,142	18,101	1,738	24.00
1979	3,016	103,043	12,741	114,324	4,317	46,142	2,011	29.00
1980	1,986	108,577	35,814	241,085	25,779	131,126	3,634	31.00
1981	1,325	39,963	20,936	98,524	10,407	40,212	1,740	22.00
1982	2,841	75,012	24,761	77,942	11,558	18,363	2,130	36.00
1983	689	25,957	17,665	40,996	3,171	7,813	1,065	31.00
1984	1,414	59,229	25,951	83,028	28,214	27,967	2,120	39.00
1985	2,152	70,160	45,106	176,710	35,897	40,530	2,116	37.00
1986	1,877	60,106	26,474	9,772	14,646	24,790	1,413	30.00
1987	1,534	54,436	23,342	200,203	31,992	28,891	1,517	30.00
1988	949	23,752	33,159	41,625	25,969	27,010	1,213	29.00
1989	1,606	68,104	44,034	141,385	15,254	15,491	1,909	36.00
1990	2,432	110,006	60,078	101,168	88,350	29,099	2,879	38.00
1991	2,614	96,006	118,902	44,347	97,577	12,279	3,324	52.00
1992	1,672	103,238	152,598	180,340	57,153	11,649	3,407	43.00
1993	4,413	144,982	58,062	8,801	101,356	7,760	3,372	43.00
Averages								
64-93	3,213	57,921	38,223	73,720	24,017	32,201	2,095	39.03
84-93	2,066	79,002	58,771	98,738	49,641	22,547	2,327	37.70
1994	3,051	88,625	156,314	198,507	129,350	12,280	3,960	60.00

Appendix D.2. Stock proportions and catches of sockeye salmon in the Alaska District 111 commercial drift gillnet fishery, 1983-1994. Data based on analysis of scale patterns and incidence of brain parasites.

Week	Kuthai	Little Trapper	Mainstem	Little Tatsamenie	Total Taku	Sweetheart	Crescent	Speel	Snettisham	Wild
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
1991	0.039	0.297	0.373	0.232	0.941		0.059	0.000		0.059
1992	0.048	0.220	0.445	0.191	0.904		0.036	0.060		0.096
1993	0.062	0.328	0.308	0.123	0.822		0.069	0.109		0.178
Averages ^b	0.063	0.243	0.349	0.164	0.813		0.113	0.067		0.187
1994	0.110	0.356	0.361	0.091	0.917	0.025	0.036	0.022		0.058
Catches										
1983					24,025					7,796
1984					58,543					18,690
1985					73,809					14,268
1986	4,489	19,441	22,104	14,900	60,934		6,610	5,516		12,127
1987	5,893	17,594	28,286	2,352	54,124		11,814	9,274		21,088
1988	4,598	6,153	11,865	3,194	25,811		10,365	2,748		13,112
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
1991	4,295	32,685	40,957	25,475	103,412		6,465	0		6,465
1992	6,543	29,818	60,224	25,853	122,438		4,912	8,060		12,972
1993	10,673	56,350	52,876	21,139	141,038		11,877	18,641		30,518
Averages ^b	5,861	26,713	36,998	18,464	75,949		9,469	6,912		15,149
1994	11,638	37,644	38,179	9,585	97,046	2,637	3,859	2,319		6,178

^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 gillnet catch by week, 1983-1994. Data based on scale patterns and incidence of brain parasites.

Year	Week										Total
	25	26	27	28	29	30	31	32	33	34	
1983		0.996	0.842	0.819	0.663	0.527	0.836	0.534	0.719	0.759	0.755
1984	0.970	0.956	0.843	0.670	0.588	0.712	0.728	0.809	0.726		0.758
1985	0.999	0.986	0.928	0.974	0.868	0.706	0.737	0.826	0.801		0.838
1986	0.938	0.953	0.873	0.880	0.852	0.777	0.851	0.757	0.893	0.739	0.834
1987		0.982	0.901	0.884	0.948	0.414	0.619	0.689	0.841	0.731	0.720
1988		0.964	0.886	0.889	0.510	0.643	0.677	0.528	0.478	0.346	0.663
1989	0.943	0.989	0.979	0.852	0.835	0.641	0.681	0.919	0.676		0.848
1990	0.874	0.935	0.904	0.773	0.782	0.863	0.943	0.939	0.878	0.862	0.855
1991	0.988	0.979	0.953	0.979	0.951	0.933	0.936	0.890	0.885	0.875	0.941
1992		0.978	0.985	0.956	0.916	0.943	0.893	0.858	0.766	0.766	0.904
1993		0.961	0.901	0.837	0.856	0.781	0.790	0.829	0.738	0.706	0.822
Average											
83-93	0.952	0.971	0.909	0.865	0.797	0.722	0.790	0.780	0.764	0.723	0.813
1994		1.000	0.981	0.973	0.967	0.870	0.835	0.938	0.804	0.901	0.917

Appendix D.4. Salmon catch in the U.S. subsistence and personal use fisheries in the Taku River, 1967-1994. The subsistence fishery was open 1967 to 1976 and 1985 and the personal use fishery was open 1989-1994.

Year	Catch				
	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
1991	47	1,475	120	188	4
1992	37	2,031	147	170	0
1993	21	2,854	59	221	7
Averages					
All	12	901	67	119	12
85-93	32	1,599	107	249	22
1994	20	1,111	93	76	3

Appendix D.5. Salmon and steelhead trout catch and effort in the Canadian commercial fishery in the Taku River, 1979-1994.

Year	Catch							Effort	
	Chinook		Sockeye	Coho	Pink	Chum	Steelhead	Boat	Days
	Jack	Large						Days	Open
1979		97	13,578	6,006	13,661	15,474	254	599	50
1980		225	22,602	6,405	26,821	18,516	457	476	39
1981		159	10,922	3,607	10,771	5,591	108	243	31
1982		54	3,144	51	202	3	1	38	13
1983	400	156	17,056	8,390	1,874	1,760	213	390	64
1984	221	294	27,242	5,357	6,964	2,492	367	288	30
1985	24	326	14,244	1,770	3,373	136	32	178	16
1986	77	275	14,739	1,783	58	110	48	148	17
1987	106	127	13,554	5,599	6,250	2,270	223	280	26
1988	186	555	12,014	3,123	1,030	733	86	185	15
1989	139	895	18,545	2,876	695	42	24	271	25
1990	128	1,258	21,100	3,207	378	12	22	295	28
1991	432	1,177	25,067	3,415	296	2	5	284	25
1992	147	1,445	29,472	4,077	0	7	15	291	27
1993	171	1,619	33,217	3,033	16	15	11	363	34
Averages									
79-93 *		713	18,433	3,913	4,826	3,144	124	289	29
84-93	163	797	20,919	3,424	1,906	582	83	258	24
1994	235	2,065	28,762	14,531	168	18	232	497	74

* Chinook average is 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, 1986-1994. Data based on scale pattern analysis.

Year	Little		Little	
	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
1991	0.064	0.308	0.452	0.176
1992	0.092	0.240	0.569	0.099
1993	0.126	0.392	0.432	0.049
Averages ^b				
84-93	0.101	0.335	0.447	0.117
1994	0.158	0.482	0.302	0.058
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
1991	1,601	7,721	11,327	4,418
1992	2,699	7,085	16,764	2,924
1993	4,192	13,036	14,347	1,641
Averages ^b				
86-93	2,146	7,088	9,662	2,413
1994	4,544	13,858	8,684	1,676

^a The Trapper and Mainstem groups were combined in the 1989 analysis.

^b Averages do not include 1989.

Appendix D.7. Salmon catches in the Canadian aboriginal fishery on the Taku River, 1980-1994.

Year	Chinook		Sockeye	Coho	Pink	Chum	Steelhead
	Jack	Large					
1980		85	150	0	0	15	0
1981							
1982							
1983		9	0	0	0	0	0
1984		0	50	15	0	0	0
1985		4	167	22	0	0	0
1986		10	200	50	0	0	0
1987		0	96	113	0	0	0
1988		27	245	98	0	0	0
1989		6	53	146	0	0	0
1990		0	89	6	0	0	0
1991		0	150	20	0	0	0
1992		121	352	187	0	0	16
1993		25	140	8	0	0	0
Averages							
80-93		24	141	55	0	1	1
84-93		19	154	67	0	0	2
1994		119	239	162	4	0	1

Appendix D.8. Salmon and steelhead trout catch in the Canadian test fishery in the Taku River, 1987-1994.

Year	Catch					
	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
1991	0	163	2,004	3	295	41
1992	0	38	1,277	0	76	88
1993 ^a	0	166	1,593	0	50	13
Averages						
87-93	25	258	1,084	9	109	34
1994	There was no Canadian test fishery in 1994.					

^a Incomplete harvest data.

Appendix D.9. Sockeye salmon escapement estimates of Taku River and Port Snettisham sockeye stocks, 1979-1994. Spawners equals escapement to the weir minus fish collected for brood stock.

	Taku Above Border ^a		Little Trapper		Little Tatsamenie		Hackett Weir	Kuthai Lake Weir	Nahlin River Weir	Crescent		Speel	
	Run	Escape.	Escape.	Spawners	Escape.	Spawners				Escape.	Spawners	Escape.	Spawners
1980								1,658					
1981								2,299					
1982													
1983			7,402 ^b	7,402						19,422	19,422	10,484	10,484
1984	133,414	106,122	13,084	13,084						6,707	6,707	9,764	9,764
1985	118,160	103,749	14,889 ^b	14,889	13,093	13,093	2,309			7,249	7,249	7,073	7,006
1986	105,109	90,170	13,820	13,820	11,446	11,446	1,004			3,414	3,414	5,857	5,457
1987	87,130	73,243	12,007 ^b	12,007	2,794	2,794	910			7,839	7,839	9,319	9,319
1988	87,028	74,061	10,637	10,637	2,063	2,063	516		138 ^c	1,199 ^d	1,199	969	710
1989	114,068	95,263	9,606	9,606	3,039	3,039				1,109 ^d	775	12,229	10,114
1990	114,254	92,780	9,443	7,777	5,736	4,929			2,515	1,262 ^d	757	18,064 ^d	16,867
1991	150,507	125,127	22,942	21,001	8,381	7,585				9,208 ^a	8,666 ^a	299	299
1992	162,003	132,243	14,372	12,732	6,576	5,681		1,457 ^c	297 ^c	22,674 ^a	21,849 ^a	9,439	8,136
1993	138,554	105,031	17,432	16,685	5,028	4,230		6,312 ^d	2,463				
Averages													
83-93	121,023	99,779	13,239	12,695	6,462	6,096	1,185	2,932	1,353	8,008	7,788	8,350	7,816
1994	129,129	100,128	13,438	12,691	4,371	3,578		5,427	960				

^a Mark-recapture estimates.

^b Weir count plus spawning ground survey.

^c Weir counts are incomplete.

^d Counts may be low due to uncounted fish passage past weir.

Appendix D.10. 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, 1975-1994.

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
1991	570	1,164	804	224	5,610	1,781	10,153
1992	782	1,624	768	313	5,750	1,821	11,058
1993	1,584	1,491	1,020	491	6,490	2,128	13,204
Averages							
75-93	587	874	311	236	3,800	1,363	7,016
84-93	726	1,088	559	261	4,672	1,666	8,915
1994	410	1,106	573	614	4,792	2,418	9,913

^a Partial survey.

^b Extrapolated results.

Appendix D.11. Taku River (above border) coho salmon run size, 1987-1994.

Year	Canadian Catch			Above Border	
	Commercial	Food	Test	Escapement	Run
1987	5,599	113	807	55,457	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	6	472	72,196	75,881 ^d
1991	3,415	20	2,004	127,484	132,923
1992	4,077	187	1,277	84,624-108,145	90,165-113,686 ^e
1993	3,033	8	1,593	109,457	114,091 ^f
Averages					
87-93	3,619	83	1,084	76,809 ^g	81,468 ^g
1994	14,531	162	0	96,343 ^h	111,036 ^h

^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.

^e Mark-recapture estimate of inriver run size through 9/05 was 50,249. District 111 CPUE was used to extrapolate total season above-border run size and escapement. These are presented as ranges depending on the lag time assumed between District 111 and the tagging site.

^f Inriver estimate through week 37 expanded by dividing by proportion of District 111 CPUE of wild coho (.54409) through week 37.

^g Escapement and run averages do not include 1992.

^h Inriver estimate through week 39 expanded by dividing by proportion of District 111 CPUE of wild coho (0.8884) through week 39.

Appendix D.12. Escapement counts of Taku River coho salmon, 1984-1994. Counts are for age-.1 fish and do not include jacks.

Year	Yehring Creek Weir	Yehring Creek Ar/Foot	Sockeye Creek Ar/Foot	Johnson Creek Ar/Foot	Fish Creek Ar/Foot	Flannigan Slough Aerial	Tatsamenie River Weir	Hackett River Weir	Dudidontu River Aerial	Upper Nahlin R.	
										Aerial	Weir
1984		2,900	275	235	700	1,480					
1985		560	740	150	1,000	2,320	201	1,031			
1986	2,116	1,200	174	70	53	1,095	344	2,723	108	318	
1987	1,627	565	980	150	250	2,100	173	1,715	276	165	
1988	1,423	658	585	500	1,215	1,308	663	1,260	367	694	1,322
1989	1,570	600	400	400	235	1,670	712		115	322	
1990	2,522	220	193		425	414	669		25	256	
1991		475	399	120	1,378	1,348	1,101		458	176	
1992		1,267	594	654	478	1,288	730				970
1993		250	130	90	380	70	88				326
Averages											
84-93	1,852	870	447	263	611	1,309	520	1,682	225	322	873
1994		500	60	450	200	50	168				2,112

Notes:

Weir count combined with spawning ground count: Tats 88-90, Yeh 86-87, Nahlin 92.

Incomplete weir count: Tats 85-87, 93 and Nahlin 92.

Count is an average of surveys by different observers: Flan 86, 87, 88, 90, 91; Sockeye 86, 87, 88, 90, 91; Fish 86, 88, 90, 91; Yehring 87, 88, 91, 92.

Includes mark-recapture estimate: Yeh 89, 90.

Poor survey conditions: Nahlin 91.

Foot survey: Yehring 92, Sockeye 92.

Surveys conducted before peak abundance on spawning grounds: Flan 93, 94.

Appendix D.13. Taku River sockeye salmon run size, 1984-1994. Run estimate does not include spawning escapements below the U.S./Canada border.

Year	Canadian Catch			Escapement	Above Border Run	U.S. Catch *	Total Run
	Commercial	Food	Test				
1984	27,242	50		106,122	133,414	58,543	191,957
1985	14,244	167		103,749	118,160	74,733	192,893
1986	14,739	200		90,170	105,109	60,934	166,043
1987	13,554	96	237	73,243	87,130	55,154	142,284
1988	12,014	245	708	74,061	87,028	25,811	112,839
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
1991	25,067	150	163	125,127	150,507	105,606	256,113
1992	29,472	352	38	132,141	162,003	124,470	286,473
1993	33,217	140	166	105,031	138,554	143,892	282,446
Averages							
84-93	20,919	154	258	99,769	121,023	82,276	203,298
1994	28,762	239	0	100,128	129,129	98,157	227,286

* Includes subsistence, personal use, and test fishery catches.

Appendix D.14. Canyon Island fish wheel salmon counts and periods of operation on the Taku River, 1983-1994.

Year	Period of Operation	Count				
		Chinook	Sockeye	Coho	Pink	Chum
1984	6/15-9/18	138	2,334	889	20,751	316
1985	6/16-9/21	184	3,601	1,207	27,670	1,376
1986	6/14-8/25	571	5,808	758	7,256	80
1987	6/15-9/20	285	4,307	2,240	42,786	1,533
1988	5/11-9/19	1,436	3,292	2,168	3,982	1,089
1989	5/05-10/01	1,811	5,650	2,243	31,189	645
1990	5/03-9/23	1,972	6,091	1,860	13,358	748
1991	6/08-10/15	680	5,102	4,922	23,553	1,063
1992	6/20-9/24	212	6,279	2,103	9,252	189
1993	6/12-9/29	562	8,975	2,552	1,625	345
Averages						
84-93		785	5,144	2,094	18,142	738
odd-year		704	5,527	2,633	25,365	992
even-year		866	4,761	1,556	10,920	484
1994	6/10-9/21	906	6,485	4,792	27,100	367

Appendix E.1. Weekly salmon catch and effort in the U.S. commercial fishery in the Alsek River, 1994.

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Boats	Days Open	Boat Days
24	5-Jun	316	1,034	0	0	0	23	1.0	23.0
25	12-Jun	194	1,073	0	0	0	27	1.0	27.0
26	19-Jun	62	886	0	0	0	26	1.0	26.0
27	26-Jun	76	3,138	0	0	1	25	2.0	50.0
28	3-Jul	12	4,655	0	0	0	24	3.0	72.0
29	10-Jul	45	1,833	1	0	0	10	3.0	30.0
30	17-Jul	1	2,377	0	0	1	7	3.0	21.0
31	24-Jul	21	1,171	1	0	4	6	4.0	24.0
32	31-Jul	0	1,208	5	0	3	a	4.0	*
33	7-Aug	0	1,273	4	0	0	a	4.0	*
34	14-Aug	77	711	52	0	4	a	4.0	*
35	21-Aug	0	161	135	0	5	4	4.0	16.0
36	28-Aug	0	50	142	0	0	a	4.0	*
37	4-Sep	0	51	914	0	4	5	5.5	27.5
38	11-Sep	1	13	1,268	0	1	5	5.5	27.5
39	18-Sep	0	5	1,312	0	9	7	4.0	28.0
40	25-Sep	0	0	348	0	0	3	4.0	12.0
41	2-Oct	0	0	0	0	0	0	4.0	0.0
Total		805	19,639	4,182	0	32	172	61.0	416.0

* Effort is not listed by week, but is included in the season total.

Appendix E.2. Weekly salmon catch and effort in the Canadian aboriginal and sport fisheries in the Alsek River, 1994. Total catches do not include released fish.

Week	Date	Chinook				Sockeye				Coho			
		Sport	Release	Aboriginal	Total	Sport	Release	Aboriginal	Total	Sport	Release	Aboriginal	Total
24	5-Jun	0	0	0	0	0	0	0	0	0			0
25	12-Jun	0	0	0	0	0	0	0	0	0	0	0	0
26	19-Jun	4	2	0	4	0	0	0	0	0	0	0	0
27	26-Jun	28	0	0	28	0	4	0	0	0	0	0	0
28	3-Jul	59	25	7	66	0	5	0	0	0	0	0	0
29	10-Jul	49	53	23	72	0	18	1	1	0	0	0	0
30	17-Jul	44	8	101	145	0	9	0	0	0	0	0	0
31	24-Jul	12	14	112	124	0	6	94	94	0	0	0	0
32	31-Jul	1	1	45	46	0	0	61	61	0	0	0	0
33	7-Aug	0	1	1	1	0	0	78	78	0	0	0	0
34	14-Aug	0	1	0	0	4	0	30	34	0	0	0	0
35	21-Aug	0	1	0	0	0	1	25	25	0	0	0	0
36	28-Aug	0	0	0	0	0	0	71	71	0	0	0	0
37	4-Sep	0	0	0	0	66	16	592	658	0	0	0	0
38	11-Sep	0	0	0	0	62	29	460	522	0	0	0	0
39	18-Sep	0	0	0	0	46	22	321	367	4	0	8	12
40	25-Sep	0	0	0	0	37	23	12	49	19	12	0	19
41	2-Oct	0	0	0	0	38	17	0	38	27	20	0	27
42	9-Oct	0	0	0	0	8	13	0	8	19	22	0	19
Total ^a		197	106	289	486	261	163	1,745	2,006	69	54	8	77

^a The total food fish catch above the Klukshu Weir was 99 chinook and 1,146 sockeye salmon. Village Creek food fish catch was 119 sockeye and 65 chinook salmon.

Appendix E.3. Daily counts of salmon passing through Klukshu River weir, 1994.

Date	Chinook *			Sockeye			Coho		
	Daily	Cumulative		Daily	Cumulative		Daily	Cumulative	
		Daily	Prop.		Daily	Prop.		Daily	Prop.
12-Jun	0	0	0.000	0	0	0.000	0	0	0.000
13-Jun	0	0	0.000	0	0	0.000	0	0	0.000
14-Jun	0	0	0.000	0	0	0.000	0	0	0.000
15-Jun	0	0	0.000	0	0	0.000	0	0	0.000
16-Jun	0	0	0.000	0	0	0.000	0	0	0.000
17-Jun	0	0	0.000	0	0	0.000	0	0	0.000
18-Jun	1	1	0.000	0	0	0.000	0	0	0.000
19-Jun	1	2	0.001	0	0	0.000	0	0	0.000
20-Jun	1	3	0.001	0	0	0.000	0	0	0.000
21-Jun	2	5	0.001	0	0	0.000	0	0	0.000
22-Jun	2	7	0.002	0	0	0.000	0	0	0.000
23-Jun	2	9	0.002	0	0	0.000	0	0	0.000
24-Jun	2	11	0.003	2	2	0.000	0	0	0.000
25-Jun	2	13	0.003	0	2	0.000	0	0	0.000
26-Jun	2	15	0.004	0	2	0.000	0	0	0.000
27-Jun	3	18	0.005	2	4	0.000	0	0	0.000
28-Jun	3	21	0.006	1	5	0.000	0	0	0.000
29-Jun	1	22	0.006	1	6	0.000	0	0	0.000
30-Jun	8	30	0.008	0	6	0.000	0	0	0.000
1-Jul	9	39	0.010	4	10	0.001	0	0	0.000
2-Jul	8	47	0.013	1	11	0.001	0	0	0.000
3-Jul	5	52	0.014	3	14	0.001	0	0	0.000
4-Jul	10	62	0.017	2	16	0.001	0	0	0.000
5-Jul	11	73	0.020	3	19	0.001	0	0	0.000
6-Jul	18	91	0.024	4	23	0.002	0	0	0.000
7-Jul	34	125	0.033	8	31	0.002	0	0	0.000
8-Jul	331	456	0.122	130	161	0.011	0	0	0.000
9-Jul	83	539	0.144	18	179	0.012	0	0	0.000
10-Jul	33	572	0.153	22	201	0.013	0	0	0.000
11-Jul	245	817	0.219	126	327	0.022	0	0	0.000
12-Jul	111	928	0.248	49	376	0.025	0	0	0.000
13-Jul	187	1,115	0.299	81	457	0.030	0	0	0.000
14-Jul	122	1,237	0.331	64	521	0.035	0	0	0.000
15-Jul	118	1,355	0.363	37	558	0.037	0	0	0.000
16-Jul	287	1,642	0.440	38	596	0.040	0	0	0.000
17-Jul	80	1,722	0.461	9	605	0.040	0	0	0.000
18-Jul	60	1,782	0.477	28	633	0.042	0	0	0.000
19-Jul	311	2,093	0.560	131	764	0.051	0	0	0.000
20-Jul	296	2,389	0.640	423	1,187	0.079	0	0	0.000
21-Jul	91	2,480	0.664	76	1,263	0.084	0	0	0.000
22-Jul	80	2,560	0.685	215	1,478	0.098	0	0	0.000
23-Jul	31	2,591	0.694	71	1,549	0.103	0	0	0.000
24-Jul	37	2,628	0.704	26	1,575	0.105	0	0	0.000
25-Jul	21	2,649	0.709	38	1,613	0.107	0	0	0.000
26-Jul	206	2,855	0.764	101	1,714	0.114	0	0	0.000
27-Jul	201	3,056	0.818	196	1,910	0.127	0	0	0.000
28-Jul	70	3,126	0.837	52	1,962	0.130	0	0	0.000
29-Jul	21	3,147	0.843	68	2,030	0.135	0	0	0.000
30-Jul	108	3,255	0.871	128	2,158	0.144	0	0	0.000
31-Jul	11	3,266	0.874	6	2,164	0.144	0	0	0.000
1-Aug	65	3,331	0.892	307	2,471	0.164	0	0	0.000
2-Aug	24	3,355	0.898	29	2,500	0.166	0	0	0.000
3-Aug	115	3,470	0.929	312	2,812	0.187	0	0	0.000
4-Aug	10	3,480	0.932	3	2,815	0.187	0	0	0.000
5-Aug	47	3,527	0.944	41	2,856	0.190	0	0	0.000
6-Aug	62	3,589	0.961	108	2,964	0.197	0	0	0.000
7-Aug	29	3,618	0.969	58	3,022	0.201	0	0	0.000
8-Aug	36	3,654	0.978	29	3,051	0.203	0	0	0.000
9-Aug	2	3,656	0.979	23	3,074	0.204	0	0	0.000

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Date	Chinook *			Sockeye			Coho		
	Daily	Cumulative		Daily	Cumulative		Daily	Cumulative	
		Daily	Prop.		Daily	Prop.		Daily	Prop.
10-Aug	13	3,669	0.982	96	3,170	0.211	0	0	0.000
11-Aug	9	3,678	0.985	14	3,184	0.212	0	0	0.000
12-Aug	4	3,682	0.986	40	3,224	0.214	0	0	0.000
13-Aug	4	3,686	0.987	8	3,232	0.215	0	0	0.000
14-Aug	3	3,689	0.988	0	3,232	0.215	0	0	0.000
15-Aug	3	3,692	0.988	15	3,247	0.216	0	0	0.000
16-Aug	0	3,692	0.988	18	3,265	0.217	0	0	0.000
17-Aug	2	3,694	0.989	88	3,353	0.223	0	0	0.000
18-Aug	21	3,715	0.995	31	3,384	0.225	0	0	0.000
19-Aug	7	3,722	0.997	13	3,397	0.226	0	0	0.000
20-Aug	0	3,722	0.997	5	3,402	0.226	0	0	0.000
21-Aug	1	3,723	0.997	8	3,410	0.227	0	0	0.000
22-Aug	2	3,725	0.997	7	3,417	0.227	0	0	0.000
23-Aug	1	3,726	0.998	0	3,417	0.227	0	0	0.000
24-Aug	0	3,726	0.998	0	3,417	0.227	0	0	0.000
25-Aug	0	3,726	0.998	3	3,420	0.227	0	0	0.000
26-Aug	1	3,727	0.998	12	3,432	0.228	0	0	0.000
27-Aug	1	3,728	0.998	5	3,437	0.229	0	0	0.000
28-Aug	3	3,731	0.999	18	3,455	0.230	0	0	0.000
29-Aug	0	3,731	0.999	249	3,704	0.246	0	0	0.000
30-Aug	0	3,731	0.999	11	3,715	0.247	0	0	0.000
31-Aug	0	3,731	0.999	56	3,771	0.251	0	0	0.000
1-Sep	0	3,731	0.999	14	3,785	0.252	0	0	0.000
2-Sep	0	3,731	0.999	5	3,790	0.252	0	0	0.000
3-Sep	0	3,731	0.999	20	3,810	0.253	0	0	0.000
4-Sep	0	3,731	0.999	30	3,840	0.255	0	0	0.000
5-Sep	1	3,732	0.999	99	3,939	0.262	0	0	0.000
6-Sep	3	3,735	1.000	932	4,871	0.324	0	0	0.000
7-Sep	0	3,735	1.000	766	5,637	0.375	0	0	0.000
8-Sep	0	3,735	1.000	31	5,668	0.377	0	0	0.000
9-Sep	0	3,735	1.000	1,250	6,918	0.460	0	0	0.000
10-Sep	0	3,735	1.000	151	7,069	0.470	0	0	0.000
11-Sep	0	3,735	1.000	11	7,080	0.471	0	0	0.000
12-Sep	0	3,735	1.000	146	7,226	0.481	0	0	0.000
13-Sep	0	3,735	1.000	4,387	11,613	0.772	0	0	0.000
14-Sep	0	3,735	1.000	920	12,533	0.833	0	0	0.000
15-Sep	0	3,735	1.000	16	12,549	0.834	0	0	0.000
16-Sep	0	3,735	1.000	38	12,587	0.837	0	0	0.000
17-Sep	0	3,735	1.000	0	12,587	0.837	0	0	0.000
18-Sep	0	3,735	1.000	0	12,587	0.837	0	0	0.000
19-Sep	0	3,735	1.000	12	12,599	0.838	0	0	0.000
20-Sep	0	3,735	1.000	11	12,610	0.839	0	0	0.000
21-Sep	0	3,735	1.000	103	12,713	0.845	0	0	0.000
22-Sep	0	3,735	1.000	1,598	14,311	0.952	107	107	0.087
23-Sep	0	3,735	1.000	77	14,388	0.957	21	128	0.104
24-Sep	0	3,735	1.000	52	14,440	0.960	8	136	0.110
25-Sep	0	3,735	1.000	16	14,456	0.961	3	139	0.113
26-Sep	0	3,735	1.000	1	14,457	0.961	0	139	0.113
27-Sep	0	3,735	1.000	0	14,457	0.961	0	139	0.113
28-Sep	0	3,735	1.000	0	14,457	0.961	0	139	0.113
29-Sep	0	3,735	1.000	0	14,457	0.961	0	139	0.113
30-Sep	0	3,735	1.000	4	14,461	0.962	0	139	0.113
1-Oct	0	3,735	1.000	0	14,461	0.962	0	139	0.113
2-Oct	0	3,735	1.000	0	14,461	0.962	0	139	0.113
3-Oct	0	3,735	1.000	304	14,765	0.982	350	489	0.397
4-Oct	0	3,735	1.000	43	14,808	0.985	59	548	0.445
5-Oct	0	3,735	1.000	13	14,821	0.986	9	557	0.452

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Date	Chinook *			Sockeye			Coho		
	Daily	Cumulative		Daily	Cumulative		Daily	Cumulative	
		Daily	Prop.		Daily	Prop.		Daily	Prop.
6-Oct	0	3,735	1.000	45	14,866	0.989	105	662	0.537
7-Oct	0	3,735	1.000	1	14,867	0.989	37	699	0.567
8-Oct	0	3,735	1.000	9	14,876	0.989	57	756	0.614
9-Oct	0	3,735	1.000	3	14,879	0.989	18	774	0.628
10-Oct	0	3,735	1.000	4	14,883	0.990	12	786	0.638
11-Oct	0	3,735	1.000	13	14,896	0.991	24	810	0.657
12-Oct	0	3,735	1.000	41	14,937	0.993	254	1,064	0.864
13-Oct	0	3,735	1.000	3	14,940	0.993	16	1,080	0.877
14-Oct ^b	0	3,735	1.000	98	15,038	1.000	152	1,232	1.000
Totals		3,735			15,038			1,232	
Adjustments									
Broodstock		8			0				
Catch		99			1,146				
Total Escapement		3,628			13,892			1,232	

* Jack chinook included in the counts.

^b Estimate of fish holding below weir during removal.

Appendix E.4. Salmon catch and effort in the U.S. commercial fishery in the Alsek River, 1964-1994.

Year	Catch					Effort	
	Chinook	Sockeye	Coho	Pink	Chum	Boat	Days
						Days	Open
1964	591	14,127	9,760	144	367	592	68.00
1965	719	28,487	9,638	10	72	1,016	72.00
1966	934	29,091	2,688	22	240	500	64.00
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	794	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	882	57.00
1978	2,441	50,580	13,913	59	233	929	57.00
1979	2,525	41,449	6,158	142	263	1,110	51.00
1980	1,382	25,522	7,863	21	1,005	792	42.00
1981	779	23,641	10,232	65	816	585	40.00
1982	532	27,423	6,534	6	358	555	33.00
1983	93	17,637	5,253	20	432	479	38.00
1984	46	12,751	7,867	23	1,608	429	33.00
1985	213	5,792	5,490	3	427	279	33.00
1986	481	24,791	1,344	13	462	517	34.00
1987	347	11,393	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	364	35.50
1990	78	17,013	1,437	0	495	374	38.00
1991	103	17,542	5,956	0	103	530	49.00
1992	301	19,310	3,310	1	136	404	46.00
1993	300	20,043	1,215	0	49	390	40.00
Averages							
64-93	794	21,933	5,996	52	440	617	49.81
84-93	232	14,843	4,009	5	714	400	38.30
1994	805	19,639	4,182	0	32	416	61.00

Appendix E.5. Salmon catch in the U.S. subsistence and personal use fisheries in the Alsek River, 1976-1994.^a

Year	Catch		
	Chinook	Sockeye	Coho
1976	13	51	5
1977	18	113	0
1978			
1979	80	35	70
1980	57	41	62
1981	32	50	74
1982	87	75	50
1983	31	25	50
1984			
1985	16	95	0
1986	22	241	45
1987	27	173	31
1988	13	148	9
1989	20	131	34
1990	85	144	12
1991	38	104	0
1992	15	37	44
1993	37	80	30
Averages			
76-93	37	96	32
84-93	30	128	23
1994	60	47	20

^a Reported catches on returned fishing permits.

Appendix E.6. Salmon catches in the Canadian aboriginal and sport fisheries in the Alsek River, 1976-1994.

Year	Chinook			Sockeye			Coho ^c		
	Aboriginal	Sport	Total	Aboriginal	Sport	Total	Aboriginal	Sport	Total
1976	150	200	350	4,000	600	4,600	0	100	100
1977	350	300	650	10,000	500	10,500	0	200	200
1978	350	300	650	8,000	500	8,500	0	200	200
1979	1,300	650	1,950	7,000	750	7,750	0	100	100
1980	150	200	350	800	600	1,400	0	200	200
1981	150	315	465	2,000	808	2,808	0	109	109
1982	400	224	624	5,000	755	5,755	0	109	109
1983	300	312	612	2,550	732	3,282	0	16	16
1984	100	475	575	2,600	289	2,889	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	234	272	506	1,851	319	2,170	0	227	227
1990	202	555	757	2,314	392	2,706	0	75	75
1991	509	388	897	2,111	303	2,414	0	227	227
1992	148	103	251	2,592	582	3,174	0	213	213
1993	152	171	323	2,361	329	2,690	0	37	37
Averages									
76-93	274	305	580	3,290	476	3,766	3	121	124
84-93	179	300	479	1,987	333	2,319	5	115	120
1994	289	197	486	1,745	261	2,006	8	69	77

Appendix E.7. Klukshu River weir counts of chinook, sockeye, and coho salmon, 1976-1993. The escapement count equals the weir count minus the aboriginal fishery catch and brook stock taken.

Year	Chinook ^a		Sockeye			Coho ^c		
	Count	Escape. ^d	Early ^b	Late	Total	Escape. ^d	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	2,454	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	
1991	2,489	2,248	1,924	17,053	18,977	17,645	8,540	8,478
1992	1,367	1,242	11,339	8,420	19,767	18,269	1,145	1,145
1993	3,302	3,220	5,369	11,371	16,740	14,921	788	788
Averages								
76-93	2,416	2,140	3,296	15,871	19,167	16,125	1,373	
84-93	2,202	2,069	3,093	15,013	18,106	16,458	1,781	
1994	3,735	3,628	3,247	11,791	15,038	13,892	1,232	1,232

^a Counts include jack chinook salmon.

^b Includes sockeye counts up to and including August 15.

^c Weir was removed prior to the end of the coho run.

^d The chinook and sockeye escapements into Klukshu Lake are calculated from the weir count minus fish harvested above the weir site minus brood stock taken. The remainder of the food fishery harvest occurred below the weir, at Village Creek, and Blanchard and Takhanne rivers.

Appendix E.8. Alek River sockeye counts from U.S. and Canadian aerial surveys and from the electronic counter at Village Creek, 1985-1994.

Year	U.S. Aerial Surveys ^a				Canadian Aerial Surveys ^b		Village Creek Counter
	Basin Creek	Cabin Creek	Muddy Creek	Tanin River	Tatshenshini River	Neskataheen Lake	
1985	2,600			2,200			
1986	100		300	2,700	536	750	1,490
1987	350	220		1,600			1,875
1988	500			750	433	456	433 ^c
1989	320			680	1,689	1,700	9,569
1990	275	300		3,500			7,500 ^d
1991				800			5,670 ^e
1992	1,000	10		350			11,485 ^f
1993	4,800			900			3,135 ^g
Averages							
85-93	1,243	177	300	1,498	886	969	5,145
1994	250			600			4,007 ^h

^a Surveys not made every year at each tributary.

^b Includes several streams from Lo-Fog to Goat Creek.

^c Incomplete count due to machine malfunction.

^d Estimated count based on absolute electronic records (5,313) and the total number of non-operational days.

^e Estimated count based on absolute electronic records (3,981) and the total number of non-operational days.

^f Counts were estimated during the non-operational days by averaging the counts recorded three days before and after and three days after the malfunction.

^g Estimated count based on absolute electronic records (2,101) and the total number of non-operational days.

^h Estimated count based on absolute electronic records (3,921) and the total number of non-operational days.

Appendix E.9. Aerial survey index counts of Alek chinook salmon escapements, 1984-1994.

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	*	158	34
1990	*	325	32
1991	121	86	63
1992	86	77	16
1993	326	351	50
Averages			
84-93	336	216	56
1994	349	342	67

* Not surveyed due to poor visibility.

Appendix E.10. Aerial survey counts of coho salmon from U.S. lower Alek River tributaries, 1984-1994.

Year	Combined U.S. Tributary Counts
1985	450
1986	1,100
1987	100
1988	1,900
1989	1,990
1990	1,600
1991	500 ^a
1992	1,010 ^a
1993	800 ^a
Averages	
85-93	1,050
1994	975 ^a

^a Few systems surveyed.