PACIFIC SALMON COMMISSION JOINT
TRANSBOUNDARY TECHNICAL COMMITTEE

ESTIMATES OF TRANSBOUNDARY RIVER SALMON PRODUCTION, HARVEST AND ESCAPEMENT AND A REVIEW OF JOINT ENHANCEMENT ACTIVITIES IN 2003

REPORT TCTR (05)-1

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ACRONYMS

ADF&G	Alaska Department of Fish and Game
AF	Aboriginal Fishery
CAFN	Champagne Aishihik First Nation
CPUE	Catch per unit effort
CWT	Coded Wire Tag
DFO	Department of Fisheries and Oceans (Canada)
DIPAC	Douglas Island Pink and Chum (Private Hatchery)
ESSR	Excess Salmon to Spawning Requirement (surplus fishery license)
IHN	Infectious Hematopoietic Necrosis (a virus which infects sockeye salmon)
LCM	Latent Class Model
MEF	Mid-Eye-Fork (fish length measurement)
POH	Post-Obital-Hyperal (fish length measurement)
PSC	Pacific Salmon Commission
SMM	Stikine Management Model
SPA	Scale Pattern Analysis
TAC	Total Allowable Catch
TRTFN	Taku River Tlingit First Nation
TBR	Transboundary River
TTC	Transboundary Technical Committee
YSC	Yukon Salmon Committee

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EXECUTIVE SUMMARY

Estimates of catches and escapements of Pacific salmon returning to the transboundary Stikine, Taku, and Alsek Rivers for 2003 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. Results from transboundary river sockeye salmon *Oncorhynchus nerka* enhancement projects are also reviewed.

STIKINE

The 2003 Stikine River sockeye salmon run is estimated at 241,000 fish, of which approximately 120,000 fish were harvested in various fisheries including test fisheries. An estimated 121,000 Stikine River fish escaped to spawn, including 7,000 fish that migrated to the Tuya River block and were not harvested. The run was above the 1993-2002 averages, while the harvest was average. The Tahltan Lake weir count of 54,000 sockeye salmon was above the upper bound of the goal range (18,000 to 30,000 fish), the highest since 1992, and twice the 1993-2002 average. The estimated U.S. commercial catch of Stikine River sockeye salmon in Districts 106 and 108 was 47,000 fish and the Canadian inriver commercial, aboriginal, and excess salmon to spawning requirement (ESSR) fishery catch was 65,000 sockeye salmon. The inriver test fishery harvested 3,000 sockeye salmon and there was no marine test fishery in 2003. The Stikine Management Model (SMM) predicted a run greater than the preseason forecast after week 27. Weekly inseason model forecasts ranged from 150,000 to 283,000 sockeye salmon; the final inseason model prediction was 272,000 fish (both U.S. and Canada), with a total allowable catch (TAC) of 209,000 fish. Based on the postseason run estimates and TAC calculations of 90,000 Stikine River fish for each country, Canada harvested 68% and the U.S. harvested 54% of their respective TACs. The broodstock collection and otolith sampling removed 4,000 and 400 sockeye salmon respectively from the escapement to Tahltan Lake leaving a spawning escapement of 50,000 fish. The estimate of 58,000 mainstem spawners is above the upper goal range of 40,000 spawners, is near the record of 72,000 spawners in 1993, and 73% above the 1993-2002 average. The total sockeye salmon escapement calculated from mark–recapture study was 143,000 sockeye salmon, 8% above of the estimate generated from the test fishery catch per unit effort (CPUE).

The harvest of Chinook salmon *O.tshawytscha* in Canadian commercial and aboriginal fisheries in the Stikine River was 1,400 large fish and 1,100 jacks, 60% and 203% of the 1993-2002 respective averages. An additional 1,300 large and 800 jack Chinook salmon were taken in the Canadian inriver test fishery. The U.S. marine harvest of Chinook salmon (all stocks) in the District 106 and 108 mixed stock gillnet fisheries was 700 fish, 35% of the 1993-2002 average harvest. The Chinook salmon spawning escapement of 6,500 large adults through the Little Tahltan River weir in 2003 was above the recently revised joint U.S./Canada escapement goal range of 2,700 to 5,300 fish, but was close to the 1993-2002 average. The total Stikine River Chinook salmon escapement as estimated from a mark–recapture study is 40,200 fish.

As with Chinook salmon, the U.S. marine harvest of Stikine River coho salmon *O. kisutch* is unknown since there is no stock identification program for this species. Mixed stock coho salmon harvest in Districts 106 and 108 were 212,000 and 39,000 fish, respectively, and were 8% and 212% above the 1993-2002 respective averages. Alaskan hatchery fish comprised approximately 40% (101,000 fish) of the coho salmon harvest from the two districts. The Canadian inriver coho salmon catch of 190 fish was 15% of the 1993-2002 average. Based on the test fishing performance the estimated total inriver coho salmon run was 55,000 fish, well

above the interim escapement goal range of 30,000 to 50,000 fish. Aerial surveys of coho salmon spawning index sites were not conducted in 2003 due to extremely high water and inclement flying conditions.

TAKU RIVER

The estimated 2003 Taku River sockeye salmon run is 338,000 fish, including an estimated catch of 170,000 fish and an above-border spawning escapement of 168,000 sockeye salmon. The run size was 37% above the 1993-2002 average of 247,000 fish and the escapement was roughly 2.2 times the escapement goal range of 71,000 to 80,000 fish. An estimated 136,000 Taku River sockeye salmon were harvested in the District 111 commercial fishery, 36% above the 1993-2002 average, and an estimated 1,100 sockeye salmon were harvested in the U.S. inriver personal use fishery. Canadian inriver commercial and aboriginal fishery harvest included 33,000 and 300 sockeye salmon, respectively. The commercial harvest was 7% above the 1993-2002 average harvest of 31,000 fish. Using the center of the escapement goal range of 75,000 fish Canada harvested an estimated 13%, and the U.S. took 52% of the TAC.

The harvest of large Chinook salmon in the Canadian commercial fishery in the Taku River was 2,000 fish, 9% above the 1993-2002 average; in addition, 600 jack Chinook salmon were caught compared to an average of 200 fish. The Canadian aboriginal fishery in the Taku River harvested 300 large Chinook salmon. District 111 mixed stock gillnet fishery harvest of 1,500 Chinook salmon was 47% of the 1993-2002 average. Approximately 22% of the harvest was estimated to be of Alaska hatchery origin. The above-border mark–recapture estimate for Chinook salmon is 40,000 fish, within the escapement goal range of 30,000 to 55,000 fish.

The estimated above border run of Taku River coho salmon in 2003 is 187,000 fish, which is 2.3 times the 1993-2002 average. The Canadian inriver commercial harvest included 3,200 coho salmon, 56% of the 1993-2002 average of 5,800 fish. After upriver Canadian harvest are subtracted from the inriver run, the above-border-spawning escapement is estimated at 183,000 coho salmon, which exceeds the minimum escapement goal of 38,000 fish. The U.S. harvest of 24,000 coho salmon in the District 111 mixed stock fishery was 48% of the 1993-2002 average. Alaskan hatcheries contributed an estimated 6% of the District 111 harvest, or 1,500 fish.

The harvest of 112,000 pink salmon *O. gorbuscha* in District 111 was 12% above the 1993-2002 average catch. Pink salmon were not retained in the Canadian commercial inriver fishery in 2003. The escapement of pink salmon to the Taku River was likely above average as evidenced by the fish wheel catch and release of 15,500 pink salmon, 24% above the 1993-2002 average.

The catch of chum salmon *O. keta* in the District 111 fishery was 170,000 fish; composed of 169,000 summer run fish (prior to mid-August) and 1,000 fall run fish. The harvest of summer chum salmon, primarily Alaskan hatchery stocks, was 55% of the 1993-2002 average. The harvest of fall chum salmon, composed of wild Taku River and Port Snettisham stocks, was 20% of the 1993-2002 average. As with pink salmon, there was non-retention of chum salmon in the Canadian inriver fishery and the reported catch was 0 fish in 2003. Although spawning escapement is not known the Canyon Island fish wheel catch of 270 chum salmon was 89% of the 1993-2002 average.

ALSEK RIVER

The Alsek River sockeye salmon harvest of 40,000 fish in the U.S. commercial fishery was 2.2 times the 1993-2002 average harvest. The Canadian inriver harvest of 2,800 fish was twice the 1993-2002 average harvest. The Klukshu River weir count of 34,000 sockeye salmon was 2.6

times the 1993-2002 average and was above the goal-range of 7,500 to 15,000 fish. The count of 3,100 early run sockeye salmon (count through August 15) was close to the 1993-2002 average. The late run count of 31,000 fish was three times the average for the same period. The mark–recapture program indicated an Alsek River sockeye salmon run above Dry Bay of 90,000 fish with the Klukshu stocks representing 38% of the total Alsek River run.

The Chinook salmon run to the Alsek River seemed below average. The U.S. Dry Bay catch of 900 Chinook salmon was 55% above the 1993-2002 average of 600 fish. The combined Canadian sport and aboriginal fishery catch of 200 Chinook salmon was 41% of the 1993-2002 average. The 1,700 Chinook salmon counted through the Klukshu River weir was 61% of the 1993-2002 average. Of the total count, 1,660 Chinook salmon were estimated to have spawned, thus achieving the escapement goal range of 1,100 to 2,300 Chinook salmon. The mark-recapture estimate of the spawning escapement of large fish in the Alsek River is 4,300 fish compared to an average of 10,000 fish (1997-2002 years of operation of the project). An estimated 32% of these fish spawned in the Klukshu system.

Current stock assessment programs prevent an accurate comparison of the Alsek River coho salmon run with historical runs. The U.S. Dry Bay catch of 50 coho salmon was <1% of the 1993-2002 average, while the combined Canadian inriver aboriginal and sport fishery catch of 200 fish was 40% above the average. The operation of the Klukshu weir does not provide a complete enumeration of coho salmon into this system since it is removed before the run is over; however, it does provide an annual index. The count of 3,700 coho salmon was 26% above the 1993-2002 average.

ENHANCEMENT

Eggs and milt were collected from the year 2003 sockeye salmon escapements at Tahltan and Tatsamenie Lakes. For the seventh year in a row the 6.0 million egg-take goal was not achieved at Tahltan Lake, despite an above average escapement. A total of 5.4 million eggs was collected at Tahltan Lake. At Tatsamenie Lake, 2.5 million eggs were collected for the hatchery. Approximately 200,000 eggs were collected for an in-lake incubation project.

Outplants of 2002 brood-year sockeye salmon fry in May and June 2003 included, 2.6 million fry into Tahltan Lake, 1.1 million fry into Tuya Lake, and 1.4 million fry into Tatsamenie Lake. Green-egg to planted-fry survivals were 94%, 89%, and 59% for the Tahltan, Tuya and Tatsamenie outplants, respectively. Survival to emergence was above average for Tahltan and Tuya lakes and below average for Tatsamenie Lake. Three brood year 2002 incubators from the Tatsamenie Lake were lost to IHNV and approximately 442,000 fry held in a net pen at the lake were also lost due to the IHN virus; these losses represent the largest IHNV loss since the Tatsamenie program began. Losses from IHN have occurred in the past at Snettisham Hatchery and are expected in sockeye salmon culture.

Outmigrant smolt sampling was conducted at Tahltan and Tatsamenie Lakes in 2003. Total emigration from Tahltan Lake was an estimated at 1,960,000 smolts with approximately 50% (981,000 outmigrants) from past fry plants. Sampling at Tuya Lake was not conducted in 2003. The Tatsamenie Lake smolt mark–recapture program estimated that 539,500 smolts (SE 22,507) emigrated from the lake. An estimated 457,600 of this total were age 1+ wild smolts and 72,100 were age 1+ planted smolts. Estimates of survival of the brood year 2001 fry plants indicate that smolt from the fed outplanted fry had a 1.7 fold increase over the wild fry whereas, smolt from

the unfed outplanted fry had a 3.4 fold increase over the wild fry. The estimates of survival from fry to smolt were: early fed hatchery group, 1.9%; early unfed hatchery group, 3.8%; and 1.1% wild fish.

The egg incubation and thermal-marking program was continued at Snettisham Hatchery in 2003. Snettisham hatchery is operated by DIPAC (Douglas Island Pink and Chum, Inc.), a private aquaculture organization in Juneau. A co-operative agreement between ADF&G and DIPAC provides for Snettisham hatchery to serve the needs of the joint TBR enhancement projects.

Adult sockeye salmon otoliths were processed inseason by the ADF&G otolith lab to estimate the weekly contribution of fish from US/Canada TBR fry planting programs to the District 106, 108, and 111 gillnet fisheries and to Canadian commercial fisheries in the Stikine and Taku Rivers. The estimated contributions of planted fish to Alaskan harvest were 16,600 planted Stikine River fish to District 106 and 108, (10.4% of that catch) and 800 planted Taku River fish to District 111 (<1% of that harvest). Estimates of contributions to Canadian fisheries included 25,000 planted fish to Stikine River fisheries (38% of that catch) and 300 planted fish to the Taku River fisheries (<1% of that catch).

INTRODUCTION

This report documents estimates the 2003 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. Joint enhancement activities on the Stikine and Taku Rivers are also summarized.

The Transboundary Technical Committee (TTC) met prior to the season to update joint management, stock assessment and enhancement plans and determine preseason forecasts and outlooks for run strengths and initial total allowable catch TAC estimates for the various species and rivers. The results of this meeting are summarized in: **Pacific Salmon Commission Transboundary Technical Committee, 2003.** ***Salmon Management and Enhancement Plans for the Stikine, Taku and Alsek Rivers, 2002 (in prep).***

Run reconstruction analyses are conducted on the sockeye salmon runs to the three rivers for the purpose of evaluating the stocks and the fisheries managed for these stocks. No estimates of marine catch are made for Alaskan fisheries outside of District 106 and 108 for Stikine River stocks, District 111 for Taku River stocks and Sub-district 182-30 & 31 for Alsek River stocks.

STIKINE RIVER

Stikine River salmon are harvested by U.S. commercial gillnet fisheries in Alaskan Districts 106 and 108, by Canadian commercial gillnet fisheries located in the lower and upper Stikine River, and by a Canadian aboriginal fishery in the upper portion of the river (Figure 1). In addition, Canadian terminal area fisheries are operated in the lower Tuya River and/or at Tahltan Lake when escapements are estimated to include excess salmon to spawning requirements (ESSR). A small sport fishery also exists in the Canadian sections of the Stikine River drainage. In 1995, a United States personal use fishery was established in the lower Stikine River; no catches were reported in this fishery in 1995 through 2000, approximately 30 sockeye salmon were harvested in 2001, and the personal use fishery on the Stikine River was not open in 2002 and 2003. Additional catches of unknown quantity are taken in U.S. troll and seine fisheries and in sport fisheries near Wrangell and Petersburg. In 1996, the spring experimental troll area in the District 110 portion of Frederick Sound was expanded to target hatchery Chinook salmon; four previous areas were combined into one large area that also included previously unopened waters. This area was the same in 2003. In 1993 the spring experimental troll fishery near Wrangell was expanded to include two new areas in portions of District 106 and 108 to target hatchery Chinook salmon. In 1998 an additional area was included in a portion of District 108. In 2002 this area was excluded and another small portion of District 108 was included in the experimental fishery. In 2003, the new area included in 2002 was excluded.

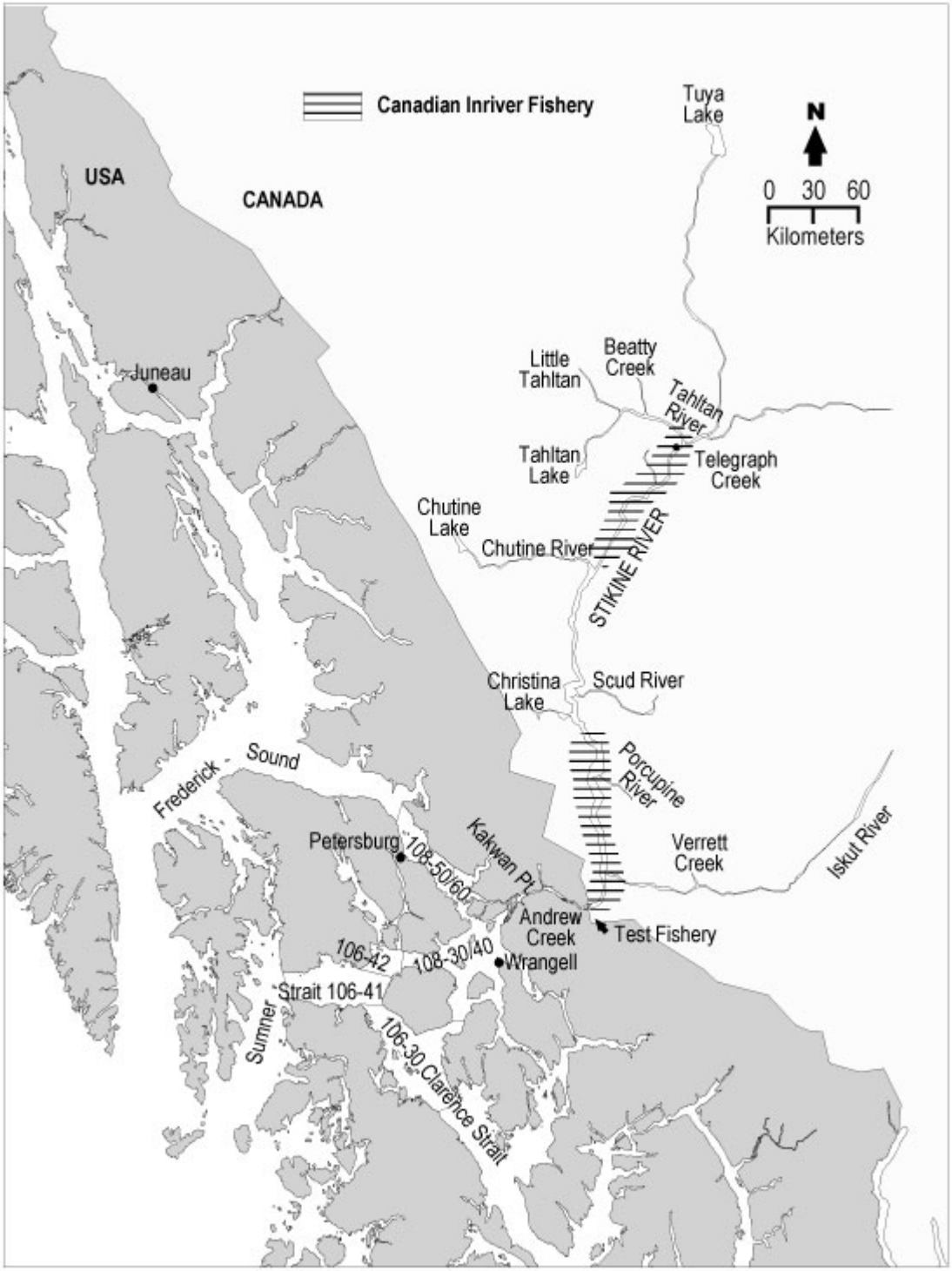

Figure 1. The Stikine River and principal U.S. and Canadian fishing areas.

HARVEST REGULATIONS AND THE JOINT MANAGEMENT MODEL

Negotiations between Canada and the United States to replace expired portions of Annex IV, Chapter 1 of the Pacific Salmon Treaty resulted in the following arrangements for Stikine River salmon which are expected to be in place for the 1999 to 2008 period:

1. General:

The Parties shall improve procedures for coordinated or cooperative management of the fisheries on transboundary river stocks. To this end, the Parties affirm their intent to develop and implement abundance-based management regimes for transboundary Chinook, sockeye and coho salmon no later than May 1, 2004.

2. Sockeye salmon:

(i) Assessment of the annual run of Stikine River sockeye salmon shall be made as follows:

a. a preseason forecast of the Stikine River sockeye salmon run will be made by the Committee prior to April 1 of each year. This forecast may be modified by the Committee prior to the opening of the fishing season;

b. inseason estimates of the Stikine River sockeye salmon run and the Total Allowable Catch (TAC) shall be made under the guidelines of an agreed Stikine Management Plan and using a forecast model developed by the Committee. Both U.S. and Canadian fishing patterns shall be based on current weekly estimates of the TAC. At the beginning of the season and up to an agreed date, the weekly estimates of the TAC shall be determined from the pre-season forecast of the run strength. After that date, the TAC shall be determined from the inseason forecast model;

c. modifications to the Stikine Management Plan and forecast model may be made prior to June 1 of each year by agreement of both Parties. Failure to reach agreement in modifications shall result in use of the model and parameters used in the previous year; and

d. estimates of the TAC may be adjusted inseason only by concurrence of both Parties' respective managers. Reasons for such adjustments must be provided to the Committee.

(ii) The Parties desire to maximize the harvest of planted Tahltan/Tuya sockeye salmon in their existing fisheries while considering the conservation needs of wild salmon runs. The Parties agree to manage the runs of Stikine River sockeye salmon to ensure that each country obtains 50% of the TAC in their existing fisheries. Canada will endeavor to harvest all fish surplus to escapement and broodstock needs returning to the Tuya and Tahltan Lake systems.

(iii) The Parties agree to continue the existing joint enhancement programs designed to produce annually 100,000 returning sockeye salmon.

(2) Coho salmon:

(i) Consistent with paragraph 1 above, the Parties agree to develop and implement an abundance-based approach to managing coho salmon on the Stikine River. Assessment programs need to be further developed before a MSY escapement goal can be established.

(ii) In the interim, the United States' management intent is to ensure that sufficient coho salmon enter the Canadian section of the Stikine River to meet the agreed spawning objective, plus an annual Canadian catch of 4,000 coho salmon in a directed coho salmon fishery.

(3) Chinook salmon:

(i) Both Parties shall take the appropriate management action to ensure that the necessary escapement goals for Chinook salmon bound for the Canadian portions of the Stikine River are achieved.

(ii) The Parties agree that new fisheries on Stikine River Chinook salmon will not be developed without the consent of both Parties. Consistent with paragraph 2, management of new directed fisheries will be abundance-based through an approach to be developed by the Committee. The Parties agree to implement assessment programs in support of the development of an abundance-based management regime.

(iii) The Parties shall review an appropriate MSY escapement goal for Stikine River Chinook salmon by May 1999 and establish a new goal as soon as practicable thereafter.

As in most previous years, the Transboundary Technical Committee (TTC) met prior to the season to update joint management and enhancement plans, develop run forecasts and determine new parameters for input into the inseason run forecast model, referred to as the Stikine Management Model (SMM). The model was upgraded to provide inseason forecasts of the total Stikine River sockeye salmon run as well as the following components of the run: the Tahltan stock (wild and planted combined); the planted Tuya stock; and the mainstem stocks. The model for 2003 was based on catch per unit effort (CPUE) data from 1985 to 2002 from District 106 and the Canadian commercial fishery in the lower river and from 1986 to 2002 from the lower Stikine River test fishery. Linear regression was used to predict run size from cumulative CPUE for each week of the fisheries beginning in week 25 for District 106 and week 26 for the inriver fisheries. As in 1999-2002, the intercept was forced to be zero in order to correct for a tendency to overestimate the run size in the early weeks during years of low abundance. Each CPUE and run size data set is significantly correlated.

In 2003 the inriver test fishery CPUE was the primary forecast used inseason because it has the most consistent historical database of the three data sets. Calculations were also made for the lower Stikine River commercial CPUE, which excluded catch and effort data from the Flood Glacier area, i.e., the new area introduced in 1997 and fished through the 2000 season. In addition, the annual weekly CPUE values for 1994 through 2000 were decreased by a factor of 0.75 for the extra gear allowed in the commercial fishery during that period. This made the historical CPUE data for that period more comparable with the 2003 fishing season and the pre-1994 era.

In 2003, the preseason forecasts were used during statistical weeks 25 (June 15 – 21) through 27 (June 29 – July 05). After week 27, inseason forecasts of total run size and TAC, produced by the SMM and based on the test fishery 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/Tuya fish from egg diameters, proportion planted Tuya fish from thermal mark analyses of otoliths) in the Canadian lower river test and commercial fisheries; the upper river catch in the aboriginal fishery (AF) and upper river commercial fishery; the catch, effort and assumed stock composition in Sub-district 106-41 (Sumner Strait); and, the catch and assumed stock composition in District 108 and Sub-district 106-30 (Clarence Strait). Preliminary thermal mark analyses were available inseason for the marine and lower river fisheries to account for Tuya production in the model and reduce the risk of over-estimating the TAC of Tahltan sockeye salmon.

Table 1. Weekly forecasts of run size and total allowable catch for Stikine River sockeye salmon as estimated inseason by the Stikine Management Model, 2003.

Stat.	Start	Forecast	TAC			Cumulative Catches [a]	
Week	Date	Run Size	Total	U.S.	Canada	U.S.	Canada
Model runs generated by Canada							
26	22-Jun	183,600	122,900	61,450	61,450	4,597	832
27	29-Jun	183,600	122,900	61,450	61,450	9,167	8,145
28	06-July	191,194	127,341	63,670	63,670	23,561	22,001
29	13-Jul	222,657	160,543	80,271	80,271	30,339	28,516
30	20-Jul	214,002	151,419	75,710	75,710	41,139	45,260
31	27-Jul	283,822	220,618	110,309	110,309	49,368	50,720
32	03-Aug	276,600	213,577	106,788	106,788	50,406	57,740
33	10-Aug	272,118	209,107	104,554	104,554	54,505	59,478
Model runs generated by the U.S.							
25	15-Jun	184,000	123,108	61,554	61,554	461	0
26	23-Jun	184,000	123,108	61,554	61,554	4,597	832
27	30-Jun	184,000	123,108	61,554	61,554	8,972	8,145
28	06-July	149,977	86,579	43,289	43,289	23,561	21,674
29	13-Jul	214,024	151,517	75,759	75,759	30,339	28,516
30	20-Jul	214,002	151,154	75,577	75,577	41,139	45,260
31	27-Jul	283,822	220,328	110,164	110,164	49,368	55,294
32	03-Aug	276,600	213,294	106,647	106,647	54,505	54,700
33	10-Aug	272,118	208,825	104,413	104,413		
Postseason run estimate (Table 2) = 245,127							

[a] does not include test fishery catches

Initially, average stock proportions in District 106 and 108 catches, from historical postseason scale pattern analysis (SPA), 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. The Tuya and planted 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 planted Tahltan and Tuya Lake sockeye salmon to catches in these areas. The weekly estimate of Tuya fish in District 106-41 and 108 was added to the historical proportion of Tahltan fish in the SMM since this stock was not present in the historical database.

The preseason forecast for the Stikine River sockeye salmon run was approximately 184,000 fish (Table 1), which indicated a run size close to the 1993–2002 average run of 183,835 fish (Appendix B.28). The forecast included approximately 54,700 natural Tahltan sockeye salmon (30%), 40,900 planted Tahltan fish (22%), 19,600 planted Tuya sockeye salmon (11%), and 68,400 mainstem fish (37%). Canadian inseason predictions of total run ranged from 183,600 to 283,822 sockeye salmon; U.S. forecasts ranged from 184,000 to 283,822 sockeye salmon (Table 1). All forecasts indicated an above average run. Because run size generated from the inriver test fishery data proved more accurate than that generated from the commercial fishery data, only the forecasts derived from inriver test fishery data were used in 2003. Unlike the 2000-2002 fishing seasons where the preseason forecast was more accurate than inseason forecasts, this year the inseason estimates were closer to the final postseason estimate. Differences in U.S. and Canadian weekly predictions are due only to different catch data inputs being used for the updates.

The postseason estimates of run size and TAC were close to the predictions that were used inseason for management. For example, the final inseason forecast generated by the SMM indicated a run of approximately 272,000 sockeye salmon and a TAC of 209,000 fish (Table 1), while the postseason estimate of 240,977 fish had a TAC of 173,761 sockeye salmon. Run size and TAC projections from the SMM in general increased after statistical week 28 through to stat week 31 when the run size and TAC peaked at 284,000 and 220,000 respectively. The run forecasts for the last three weeks (weeks 31 through to 33) were above the postseason run estimate and indicated that a surplus TAC was available to harvest.

U.S. FISHERIES

The 2003 gillnet harvest in District 106 included 422 Chinook; 116,904 sockeye; 212,057 coho; 470,697 pink, and 300,253 chum salmon (Appendix A.1 and B.1). The harvests of Chinook and sockeye salmon were below the 1993–2002 averages, while the coho, pink and chum salmon harvests were above average (Figure 2 Appendix B.1). The sockeye salmon harvest was 72% of the 1993-2002 average of 163,246 fish. The postseason estimate of the contribution of Stikine River sockeye salmon to the District 106 total sockeye salmon harvest was 18,920 fish or 16% of the harvest (Appendix A.2 and B.2). First year runs of sockeye salmon to Neck Lake contributed an estimated 431 (0.4%) to the District 106 fishery. The Chinook salmon harvest was 52% of the 1993-2002 average of 818 fish. An estimated 192 Chinook salmon in the District 106 harvest (45%) were of Alaska hatchery origin (Appendix A.1). The coho salmon harvest was 8% above the 1993-2003 average of 195,834 fish and was the 7th highest on record (Appendices A.1 and

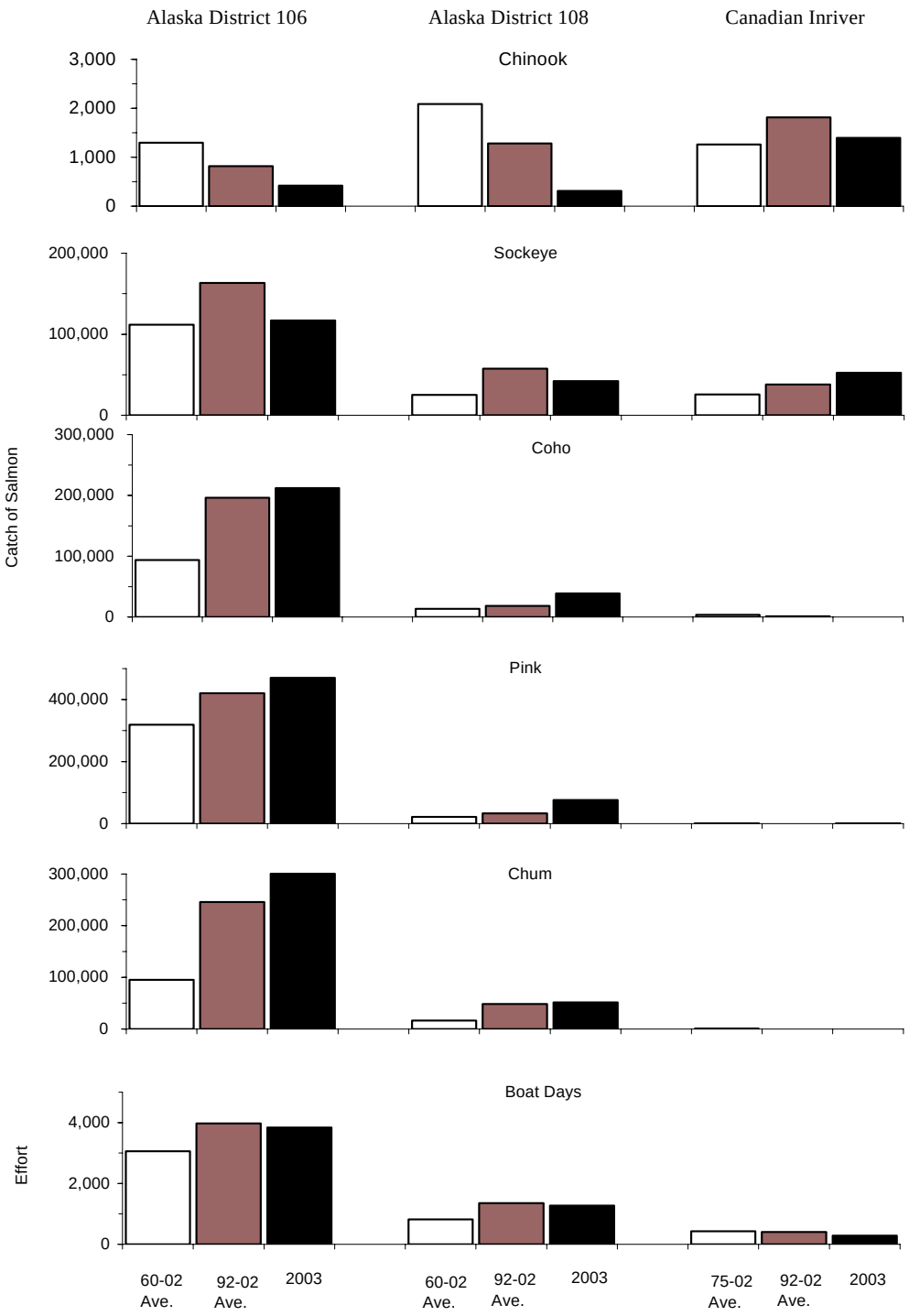

Figure 2. Average catches and fishing efforts compared with 2003 for the Alaska Districts 106 and 108 and for the Canadian inriver fisheries in the Stikine River.

B.1). An estimated 93,454 coho salmon were of Alaska hatchery origin, 44% of the total coho salmon harvest. The chum salmon harvest was 22% above the 1993-2002 average of 245,613 fish and Was the third highest on record. The pink salmon harvest was 12% above the 1993-2002 average of 420,147 fish.

The District 106 drift gillnet fishery was open for 59 days from June 15 through October 14 (Appendix A.1 and B.1). This was 40% above the 1993–2002 average fishing time of 42 days. Sections 6-A, 6-B, and 6-C were open simultaneously each week throughout the season. Fishing effort in number of vessels fishing in District 106 was below average for the most of the season (Appendix B.1). The greatest effort in vessels fishing, 92 boats, and total effort, 368 boat days both occurred in week 35 (Appendix A.1). The total season effort was 3,837 boat days, 97% of the 1993-2002 average of 3,972 boat days (Appendix B.1).

The Sumner Strait fishery (Sub-districts 106-41 & 42) harvested an estimated 18,112 Stikine River sockeye salmon (Appendix A.4 and B.4), 20% of the total sockeye salmon harvest in that sub-district. The Clarence Strait fishery (Sub-district 106-30) harvested and estimated 808 Stikine River sockeye salmon (Appendix A.6 and B.6), 3% of the total sockeye salmon harvest in that sub-district.

In District 108, 312 Chinook, 42,158 sockeye, 38,795 coho, 76,113 pink, and 51,701 chum salmon were harvested for the season (Appendix A.7 and B.7). The District 108 sockeye salmon harvest was 74% of the 1993-2002 average of 57,327 fish. The estimated 27,632 Stikine River sockeye salmon (Appendix A.8 and B.8) comprised 65% of the District 108 sockeye salmon harvest (Figure 3). The Chinook harvest was 24% of the 1993-2002 average of 1,282 fish and included an estimated 209 fish (67% of the harvest) Alaska hatchery Chinook salmon. The coho salmon catch was 2.1 times the average of 18,339 fish and included 7,260 Alaska hatchery salmon, 19% of the harvest. The chum harvest was 6% above the 1993-2002 average of 48,500 fish and the pink salmon harvest was 2.3 times the 1993-2002 average of 32,913 fish.

The District 108 fishery started on July 6 and ran through October 14. The 56 days the district was open is 22% above the 1993–2002 average of 46.0 days (Appendix A.7 and B.7). District 108 was not opened until week 28 due to the potential for a weak Tahltan sockeye salmon run. Once it became apparent that the Stikine River was as strong as forecasted, extended fishing time occurred in District 108. As a result of the delayed opening of the fishery, comparisons of 2003 harvest to averages are of limited value. The fishing effort in number of vessels fishing in District 108 was below average most openings except during weeks 37 (early September) through 41 (early October). The season effort of 1,705 boat-days in District 108 was 20.7% above the 1993–2002 average of 1,413 boat-days (Appendix B.7).

The District 108 test fishery did not take place in 2003 (Appendix A.9). Annual harvests and stock compositions from 1960 to 2000 for District 6 and 8 test fisheries are provided in Appendices B.9-B.11.

Harvests in Districts 106 and 108 consist of species of mixed stock origin; the contribution of Stikine River stocks is estimated only for sockeye salmon. The proportions of Stikine River sockeye salmon in the District 106 and 108 harvests were estimated inseason using both the

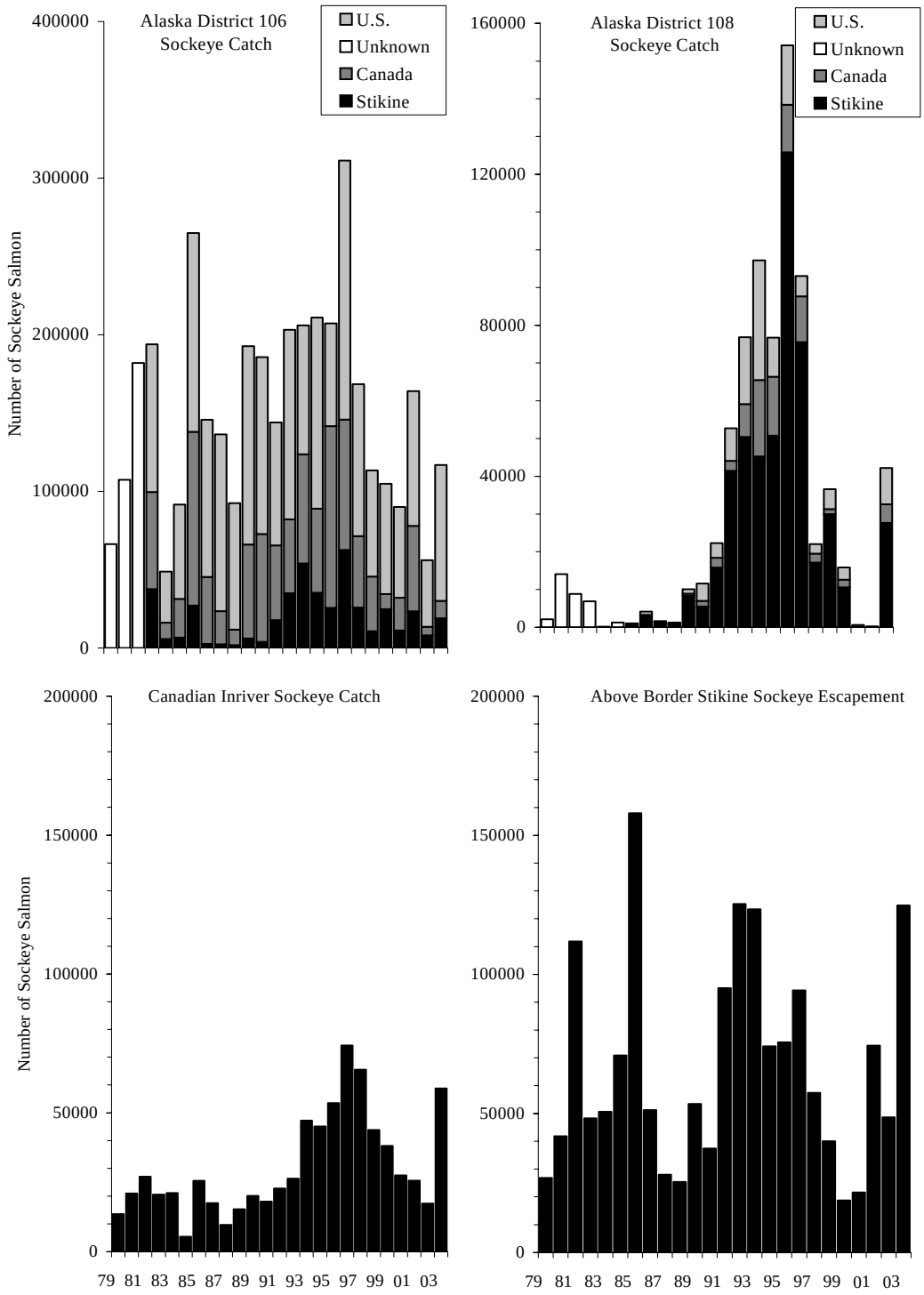

Figure 3. Sockeye salmon catches for the Alaska District 106 and 108 and the combined Canadian fisheries in the Stikine River and Stikine River sockeye salmon escapements, 1979-2003.

historical proportions of each stock and the inseason proportions of thermally marked fish from fry plants to Tahltan and Tuya Lakes.

The District 106 gillnet season began 12:00 noon on Sunday, June 15 (statistical week 25) for a 48 hour period. This opening is normally two days and any decision to extend fishing is based on fishery harvest rates estimated by management biologists on site in the fishery. District 108 was closed for this opening to limit harvest of the Tahltan sockeye salmon stock. Due to the high potential for a weak Tahltan run potentially resulting in an escapement below the desired goal of

24,000 fish to that system, no openings were expected in District 108 and no fishery extensions were expected in District 106 for the first 3–4 weeks of the fishing season. The estimated sockeye salmon CPUE in District 106 for statistical week 25 was below the 1993-2002 average for this week. However, the fishery was open in week 25 in only five years during the 1993-2002 period. There were 27 boats fishing in Sumner Strait (106-41) and 4 boats were fishing in Clarence Strait (106-30) during this opening (Appendices A.3 and A.5). The inseason otolith readings for District 106 for week 25 indicated that the harvest in Sumner Strait had similar proportions of marked Tahltan bound fish (10.6%) and of Tuya fish (9.6%). The preseason SMM forecasted a total Stikine River TAC of 175,214 fish and a Tahltan TAC of 71,700 (Table 1). This would allow the U.S. fisheries to harvest a total of 87,607 Stikine River fish, including 35,850 Tahltan fish. The pre-season forecast was used for weeks 25-27 and the inriver test fishery CPUE data was used for the remainder of the sockeye salmon season.

During statistical week 26 (June 22-June 28) there were 36 boats fishing in Sumner Strait and 9 boats fishing in Clarence Strait. The sockeye salmon CPUE in District 106 was above the 1993-2002 average for this week however there was no fishery extension in District 106 and District 108 remained closed.

During statistical week 27 (June 29-July 5), there were 56 boats fishing in Sumner Strait and 10 boats fishing in Clarence Strait. The District 106 sockeye salmon harvest and CPUE were below the respective 1993-2002 averages. District 108 remained closed and no extension was given in District 106 for this opening. This week the SMM switched from the preseason forecast to a forecast based on the Canadian inriver test fishery CPUE for the week 28 projections (Table 1). The inseason otolith readings for sub-district 106-41 for week 27 indicated that 19.4% and 18.9% of the catch was comprised of thermally marked Tuya and Tahltan fish, respectively. The estimated U.S. harvest by the end of this week was 5,937 Tahltan sockeye salmon, while the SMM projected a U.S. TAC of 23,350 Tahltan sockeye salmon.

During statistical week 28 (July 6-July 12) District 108 was opened for an initial two days based on very good Canadian test fish and lower river commercial CPUE as well as very good catches as the Rock Island tagging site. District 108 was open with restrictions in area outside of northern entrance to Wrangell Narrows and a line that prevented fishing in and near the river mouth (old Stikine closure line). There were 49 boats fishing in District 106 (13 in Clarence Strait and 36 in Sumner Strait) and 37 boats fishing in District 108. Surveys on the fishing grounds showed that the CPUE for the two-day opening in District 106 was above the 1993-2002 average and well above average in District 108. A one-day fishery extension occurred in both districts. On average, the peak Tahltan abundance occurs in District 106 in week 27; however, the 2003 statistical weeks were earlier than average, therefore week 28 was similar to the statistical week 29 historical averages when the majority of the Tahltan run has passed through

the District 106 fishery. The estimated U.S. harvest of Tahltan sockeye salmon in District 108 was 4,383 fish making a total U.S. harvest of Tahltan sockeye salmon of 14,687 fish through week 28 and the TAC from the SMM was 42,710 Tahltan sockeye salmon.

During statistical week 29 (July 13-July 19), 66 boats fished in District 106 and 65 fished in District 108. Indices of inriver run strength continued to be good with high catch rates in both the Canadian test fishery and the lower river commercial fishery. Both districts were open for an initial 3 days of fishing time. Fishing ground surveys showed that sockeye salmon CPUE for the three-day opening was average in District 106 and above average in District 108. A one-day midweek opening occurred in District 108. The inseason otolith readings for week 29 indicated that the marked Tahltan and Tuya fish contributed 11.5% of the District 106 catch and 34.8% of the District 108 catch. The SMM run prediction continued to increase. The estimated U.S. Tahltan harvest by the end of this week was 17,740 sockeye salmon and the TAC was 40,449 fish. An enlarged closure around Salmon Bay was implemented to increase sockeye salmon escapement into that lake system.

During statistical week 30 (July 20-July 26), there were 84 boats fishing in District 106 and 77 boats fishing in District 108. Both districts were open for an initial 3 days. The CPUE in District 106 was below the 1993-2002 average while in District 108 CPUE was above average. A two-day midweek opening occurred in District 108. The U.S. catch of Tahltan sockeye salmon was estimated at 22,366 fish with a TAC from the SMM of 44,412 fish. Based on historical migratory timing information and the relatively low abundance of thermally marked Tahltan and Tuya fish in the prior week it was assumed that these stocks were mostly through the fisheries. This was the final week of directed sockeye salmon fishing in Districts 106 and 108. The final model run in week 32 indicated a total U.S. harvest of Stikine sockeye salmon to be 54,505 with a total U.S. TAC of 106,647 (Table 1). The U.S. Tahltan harvest was estimated to be 22,799 fish with a U.S. TAC of 41,380 fish.

During statistical week 31 (July 27-August 2) through statistical week 35 (August 24-30), both Districts 106 and 108 were managed for pink salmon. Typically this switch from sockeye salmon to pink salmon management occurs during statistical week 33, however, this year's statistical weeks were shifted almost a week earlier than most years and a large early run of pink salmon was present. Both districts were open for four days per week during this time. Section D of District 106 was closed from week 32 through statistical week 37. Pink salmon harvests in both districts are not always a true reflection of abundance because low prices for pink salmon and catches of other more valuable species may affect the fishing patterns and methods. During the 2003 season, the fishing effort was substantially less than the 1993-2002 average in most weeks. High salmon catches in other districts, as well as high abundance of Dungeness crab, resulted in reduced effort in Districts 106 and 108. Despite the above mentioned, the total pink salmon harvest was well above the 1993-2002 average (Appendices B.1 and B.7).

Coho salmon management typically commences in late August or early September in both the District 106 and 108 gillnet fisheries. During statistical week 36 (August 31 – September 6) the management emphasis changed from pink to coho salmon. Prior to the change to coho salmon management the District 106 fishery harvested 106,456 coho salmon, approximately 50% of the total District 106 coho salmon catch. The Alaska hatchery coho salmon contribution to the District 106 fishery was above average in most weeks. Weekly catches of wild coho salmon in District 108 were generally well above average. Both districts were open three or four days per week for weeks 36 through week 41 (August 31 – October 8) due to the projections of extremely

high coho salmon escapements throughout the region. The highest harvest of coho salmon occurred during week 38 (Appendix A.1). The season ended with a final two-day opening during week 42 (October 7-13).

CANADIAN FISHERIES

Catches from the combined Canadian commercial and aboriginal gillnet fisheries in the Stikine River in 2003 included: 1,396 large Chinook, 1,057 jack Chinook, 58,784 sockeye, 190 coho, 850 pink, and 112 chum salmon (Figure 4, Appendices A.10, A.12 and A.13). In addition to these catches, 7,031 sockeye salmon were taken in an ESSR harvest in the Tuya River (Table 2 and Appendix B.18). Catches of jack Chinook, sockeye, and pink salmon were above average. The catch of jack Chinook salmon was double the 1993-2002 average of 522 fish (Appendix B.17) while the catch of large fish was 60% of the average of 2,321 fish. The sockeye salmon catch (not including ESSR) was 34% above the 1993-2002 average of 43,782 fish, while the pink salmon catch was ten times the average of 81 fish. Of the total catch, including ESSR, an estimated 25,225 sockeye salmon originated from the Canada/U.S. fry-planting program, 38% of the catch (Table 2). The coho and chum salmon catches of 190 and 112 fish respectively were 15% and 73% of the 1993-2002 respective averages. (Appendix B.17).

Three test fisheries (Chinook, sockeye and coho salmon) were conducted for stock assessment purposes in the lower Stikine River in 2003. The test fisheries were located immediately upstream from the Canada/U.S. border. Combined test fishery catches included: 1,303 large Chinook, 770 jack Chinook, 3,356 sockeye, 1,699 coho, 297 pink, and 168 chum salmon (Appendix A.15). Test fishery catches of steelhead trout totaled 136 fish that were released. The objectives of the Chinook, sockeye, and coho salmon test fisheries were to obtain data for respective mark–recapture programs and to collect run timing information. Additional objectives of the sockeye salmon test fishery were similar to those in previous years: to provide inseason catch, stock ID and effort data for input into the SMM to forecast the inriver run size; and, to determine migratory timing and stock composition of the sockeye salmon run for use in the postseason estimations of the inriver sockeye and coho salmon run sizes.

Lower Stikine River Commercial Fishery

Canadian commercial fishers in the lower Stikine River harvested 695 large Chinook, 672 jack Chinook, 51,735 sockeye, 190 coho, 850 pink, and 112 chum salmon in 2003 (Appendix A.10). The sockeye salmon catch was 41% above the 1993-2002 average of 36,644 fish (Appendix B.12). The catch of large Chinook salmon was 47% of the average 1993-2002 average of 1,487 fish, whereas the catch of jack Chinook salmon was 2.3 times the 1993-2002 average of 295 fish. Below average catches were recorded for coho (15% of the average of 1,273) and chum salmon (73% of the average of 153 fish). Pink salmon catches were ten times the 1993-2002 average of

Table 2. Terminal run reconstruction for Stikine River sockeye salmon, 2003.

					Tahltan		Total	All	All
	Tahltan	Mainstem	Total	Tuya	Wild	Hatchery	Stikine	Planted	Wild
Escapement[a]	53,933	57,972	111,905	20,380	30,338	23,595	132,285	43,975	88,310
ESSR Catch[b]				7,031			7,031	7,031	0
Biological Samples	400		400		225	175	400	175	225
Broodstock	3,946		3,946		2,220	1,726	3,946	1,726	2,220
Natural Spawning	49,587	57,972	107,559		27,893	21,694	107,559	21,694	85,865
Excess[c]				13,349			13,349	13,349	
Canadian Harvest									
Indian Food	3,987	1,037	5,024	1,571	2,659	1,328	6,595	2,899	3,696
Upper Commercial	316	38	354	100	219	97	454	197	257
Lower Commercial	22,067	21,333	43,400	8,335	15,304	6,763	51,735	15,098	36,637
Total	26,370	22,408	48,778	10,006	18,182	8,188	58,784	18,194	40,590
% Harvest	61.8%	51.0%	56.3%	53.3%					
Test Fishery Catch	1,505	1,423	2,928	428	1,131	374	3,356	802	2,554
Inriver Run	81,808	81,803	163,611	30,814	49,651	32,157	194,425	62,971	131,454
U.S. Harvest[a]									
106-41&42	8,595	3,501	12,096	6,016	4,434	4,161	18,112	10,177	7,935
106-30	141	538	679	129	116	25	808	154	654
108	7,562	17,455	25,017	2,615	3,896	3,666	27,632	6,281	21,351
Total	16,298	21,494	37,792	8,760	8,446	7,852	46,552	16,612	29,940
% Harvest	38.2%	49.0%	43.7%	46.7%					
Test Fishery Catch	0	0	0	0	0	0	0	0	0
Total Run	98,106	103,297	201,403	39,574	58,097	40,009	240,977	79,583	161,394
Escapement Goal	24,000	30,000	54,000	0					
Terminal Excess[d]				10,288					
Total TAC	72,601	71,874	144,475	29,286			173,761		
Total Harvest[e]	44,173	45,325	89,498	26,225			115,723	42,639	73,084
Canada TAC	36,301	35,937	72,238	14,643			86,880		
Actual Catch[fg]	26,370	22,408	48,778	10,006			58,784	18,194	40,590
% of total TAC	72.6%	62.4%	67.5%				67.7%		
U.S. TAC	36,301	35,937	72,238	14,643			86,880		
Actual Catch [fg]	16,298	21,494	37,792	8,760			46,552	16,612	29,940
% of total TAC	44.9%	59.8%	52.3%				53.6%		

[a] Escapement into terminal and spawning areas from traditional fisheries.
[b] Catch allowed in terminal areas under the Excess Salmon to Spawning Requirement license.
[c] Fish returning to the Tuya system are not able to access the lake where they originated due to velocity barriers.
[d] The number of Tuya fish that should be passed through traditional fisheries in order to harvest the Tuya stock at the same rate as the Tahltan stock to ensure adequate spawning escapement for Tahltan fish.
[e] Includes traditional, ESSR, and test fishery catches.
[f] Does not include ESSR or test fishery catches.
[g] U.S. harvest estimate differs from Joint Interception Committee estimate because no estimates are made for catches other than in the listed fisheries.

80 fish. All steelhead trout caught in the commercial fishery were released as required under regulations. The stock composition of the lower river sockeye salmon catch was as follows:

6,763 planted Tahltan fish, 13% of the catch; 15,304 wild Tahltan fish, 30% of the catch; 21,333 mainstem fish, 41% of the catch; and 8,335 planted Tuya fish, 16% of the catch (Table 2, Appendix B.13).

Weekly guideline harvests, based on SMM forecasts of the total allowable catch (TAC) apportioned by average run timing and domestic and international allocation agreements, were developed each week to guide management decisions during the sockeye salmon season. Particular attention was directed at the inriver run and escapement forecasts of the various stock groupings. Management through statistical week 31 was focused primarily on the Tahltan Lake

sockeye salmon stock after which it switched to mainstem sockeye salmon stocks through the end of August. Coho salmon management focus commenced at the end of August.

The fishery commenced at noon on Sunday, June 22 (statistical week 26) for a scheduled opening of one day. Fishing time was kept to 24 hours due to only average CPUE (sockeye/fisher/day(s/f/d)) of Tahltan Lake sockeye salmon taken under ideal fishing conditions.

The fishery was posted for a two-day opening in week 27 (June 29-July 05). CPUE in day one of the fishery was well above average with Tahltan Lake stock accounting for the majority of the fish. This observation, in concert with exceptional test fish catches late in week 26, and a SMM week 27 weekly guideline catch of approximately 10,000 Tahltan Lake fish, prompted a two day extension. By days three and four of the opening the CPUE for the Tahltan Lake stock decreased slightly to approximately 102 s/f/d, but remained above the 1993-02 average of 94 s/f/d. Because of uncertainty of the early season performance of the SMM, and concerns that the model could potentially over-project run size as occurred in 2002, the fishery remained closed after a four day opening. The cumulative catch of Tahltan Lake sockeye salmon for week 27 was approximately 4,200 fish, well below the guideline catch of 10,000 pieces. CPUE of Tuya Lake sockeye salmon was above average, but it was not the predominant stock in the catch. The CPUE of mainstem sockeye salmon was more than double the 10-year average.

In statistical week 28 (July 06-July 12), the fishery was posted for a two-day initial opening with expectation of an extension. Based on the exceptional test fish catches reported Friday through Sunday previous to the opening, it was immediately decided to extend one day. The CPUE of Tahltan Lake sockeye salmon in day one of the fishery was well above average (225 s/f/d vs. 112 s/f/d), which prompted another one-day extension. Although the fishery cumulative catch of 13,500 Tahltan Lake sockeye salmon taken through to the end of statistical week 28 (estimated day four catch) was approximately 2,500 below the guideline catch as generated by the SMM, it was decided to close the fishery after four days. The above average run of mainstem fish continued to hold over from week 27. The CPUE of Tuya Lake sockeye salmon was also above average.

The fishery was posted for three days for statistical week 29 (July 13-July 19) based on a SMM projection of Tahltan Lake sockeye salmon of 107,000 fish with a cumulative guideline harvest

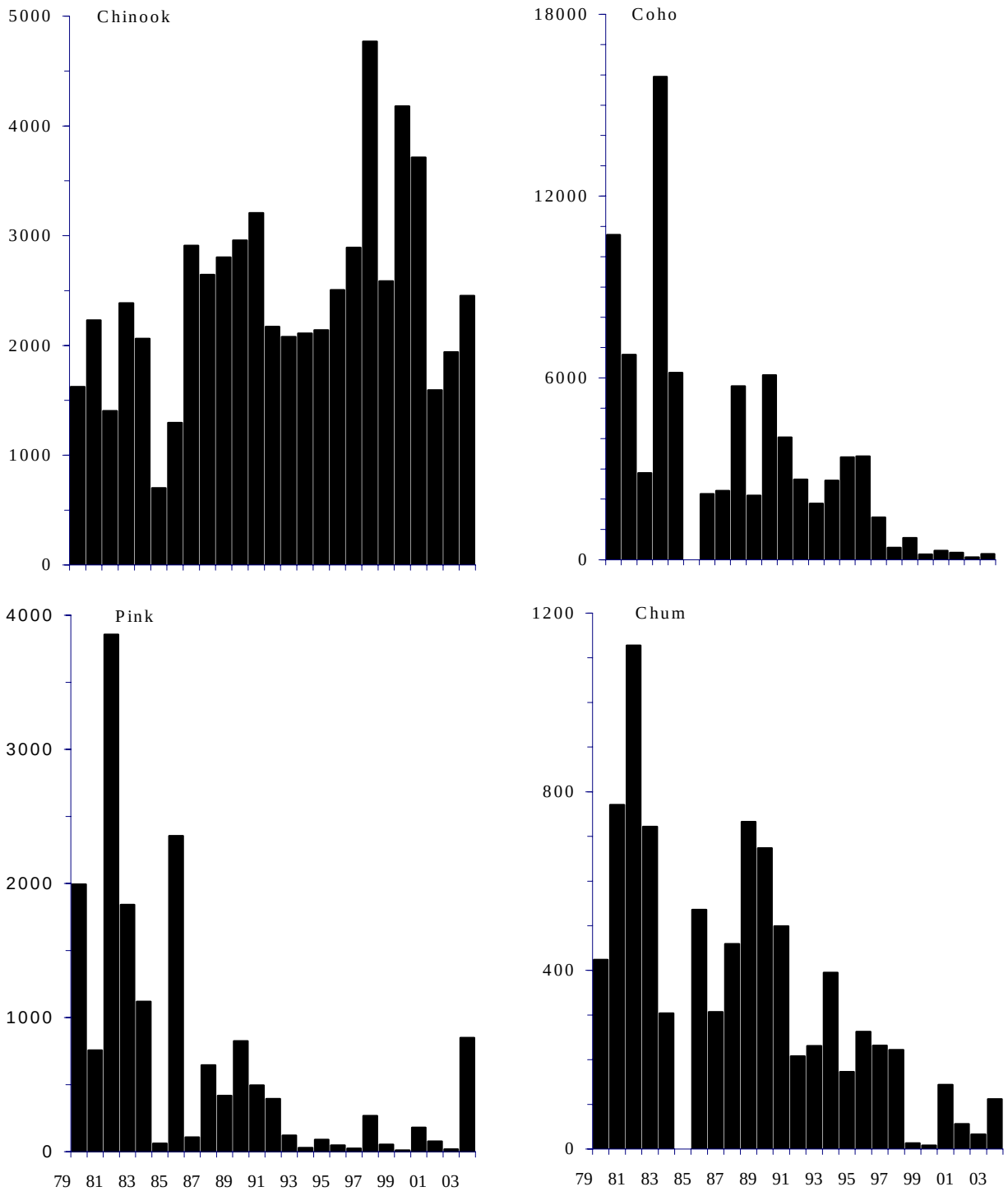

Figure 4. Catches of Chinook, coho, pink, and chum salmon in the combined Canadian fisheries in the Stikine River, 1979–2003.

of 23,400 Tahltan Lake fish. The catch target for week 29 was, therefore, approximately 10,000 Tahltan Lake sockeye salmon. Catches in District 108, which opened in week 28, were well above average. The CPUE of Tahltan Lake sockeye salmon through to day two was above average (85 s/f/d vs. 77 s/f/d), which prompted a one-day extension. Although the estimated fishery cumulative catch of 17,500 Tahltan Lake sockeye salmon taken through to the end stat week 29 (estimated day four catch) was approximately 5,000 fish below the guideline catch as generated by the SMM, it was decided to close the fishery after four days. This decision was made based on, once again, some uncertainty in the SMM performance, bolstered by the relatively low First Nations catch at Telegraph Creek (21 s/f/d vs. 23 s/f/d) and by the below average Tahltan Lake weir count (1,866 vs. 2,069 1993-2002 average). The CPUE of mainstem fish was twice the ten year average (82 s/f/s vs. 41 s/f/d) in week 29. The CPUE of Tuya Lake sockeye salmon was also above average.

The fishery was posted for three days for statistical week 30 (July 20-July 26) based on a SMM projection of Tahltan lake sockeye salmon of 106,000 fish with a cumulative guideline harvest of 26,000 Tahltan Lake fish. The allowable catch for week 30 was, therefore, again approximately 10,000 Tahltan Lake sockeye salmon. Week 29 catches in District 108 were above average. The CPUE of Tahltan Lake sockeye salmon was near average (51 s/f/d vs. 53 s/f/d), while the CPUE of mainstem sockeye salmon was over twice the 10 year average (150 s/f/d vs. 65 s/f/d). Tuya sockeye salmon CPUE was also above average. On average close to 80% of the Tahltan Lake stock has transited the fishery by week 30 so, at this time, it was judged unlikely that our TAC would be met this year. The fishery was extended two days with a focus on harvesting the strong run of mainstem sockeye salmon. The cumulative catch of 20,200 Tahltan sockeye salmon was approximately 6,700 fish below the weekly guideline. The First Nations CPUE was above average this week, which indicated an above average run of Tahltan Lake bound sockeye salmon. The projected Tahltan Lake run based on the weir count to 26 July was 29,000 fish.

In week 31 (July 27 to Aug 02), the fishery was posted for three days and extended an additional two days based on the above average CPUE of mainstem fish (100 s/d/f vs. 60 s/d/f). Management focus shifted from Tahltan Lake to mainstem sockeye salmon, which represented approximately 80% of the sockeye salmon catch this week. The SMM generated an inriver run size of approximately 105,000 mainstem sockeye salmon with a Canadian TAC of 52,600 fish. The catch of mainstem fish at the outset of the opening was only 13,000 fish leaving a huge surplus in TAC for week 31 and the balance of the fishing season. The CPUE for mainstem sockeye salmon remained above average throughout the fishery.

In week 32 (Aug 03 to Aug 09), the fishery was posted for three days and extended an additional two days based on the above average CPUE of mainstem fish (58 s/d/f vs. 55 s/d/f) and on the fact that four licenses had pulled out of the fishery. The cumulative catch of approximately 21,000 mainstem fish by the end of this stat week was well behind the TAC of 52,600.

For the remainder of the fishery (weeks 33 to 37) weekly openings were liberal, ranging from three to seven days in an attempt to harvest the surplus TAC of mainstem sockeye salmon. The fishing effort, however, was light with some fishers electing not to fish during the majority of the available open days.

The sockeye salmon run timing appeared normal based on the sockeye salmon CPUE in the lower river commercial fishery. The 2003 Stikine River sockeye salmon run peaked in week 28 (06-12 July); the Tahltan and Tuya stocks peaked in week 28 (06-12 July); and, the mainstem

stock peaked in week 30(20-26 July) (Appendix A.11 and A.16). The Tahltan and Tuya stocks have similar timing.

As in recent years, ESSR fishing activities again focused on the lower Tuya River to harvest surplus fish returning from the fry-planting program. A six-person crew gillnetted the mouth of the Tuya River from 15 July to 25 August and harvested at total of 7,031 sockeye salmon (Appendix B.18). This represents the highest catch and effort for this ESSR fishery since its inception in 1996. Fish were sold to a Prince Rupert fish buyer.

Out of 18 licenses available for the lower river commercial fishery, 11 licenses were issued in 2003 with a maximum of 11 licenses being active in any one week (Appendix A.10). The total effort was 267 permit-days, 72.9% of the 1993-2002 average of 366 permit-days (Appendix B.12). Gear was restricted to one drift or set gill net and the commercial fishing zone was reduced from the 1997-2000 zone defined by the Canada/US border upstream to the mouth of Flood Creek to an area bounded by the Canada/US border to the mouth of the Porcupine River (the pre-1997 fishing zone).

Upper Stikine River Commercial Fishery

A small commercial fishery has existed near Telegraph Creek on the upper Stikine River since 1975. A total of 454 sockeye salmon was caught, which was 34% of the 1993-2002 average of 1,321 fish (Appendices A.12 and B.14). A total of 19 large Chinook and 12 jack Chinook salmon were harvested which were 73% and 138% of the respective averages of 26 and 9 fish. The fishing effort was 28% of average with one fisher fishing one to five days per week. A total of 10 days was fished and the total effort was 10 permit-days. The 1993-02 average fishing time was 24 days with an average effort of 36 permit-days. Fishing time was the same as what was permitted in the lower Stikine River commercial fishery lagged by one week; except for the first opening in the upper river, which was concurrent with the lower river opening.

Aboriginal Fishery

The Stikine River aboriginal fishery, which is located near Telegraph Creek, harvested 682 large Chinook, 373 jack Chinook, and 6,595 sockeye salmon (Appendix A. 13 and B.15). The catch of sockeye salmon was 13% above the 1993-2002 average of 5,818 fish. The harvest of large Chinook salmon was 84% of the average of 808 large fish, while the jack Chinook salmon catch was 71% above the 1993-2002 average of 218 jacks (Appendix B. 15).

ESCAPEMENT

Sockeye Salmon

A total of 53,933 sockeye salmon was counted through the Tahltan Lake weir in 2003; nearly double the 1993-2002 average of 26,906 fish. The 2003 count was the third highest on record (record count 67,326 in 1985) and was approximately 47% above the upper range of the escapement goal of 18,000 to 30,000 fish (Appendices A. 17 and B.22). In addition to the 400 fish sacrificed at the weir, a total of 3,946 sockeye salmon was collected for broodstock required for the fry-planting project, leaving a spawning escapement of 49,587 sockeye salmon (Table 2). Of the spawning escapement, an estimated 21,694 fish (44%) originated from the fry-planting program, which is close to the 41% contribution of smolts observed in 2003, the principal cycle year contributing to the 2003 run (Appendix B. 24). The estimate of planted fish in 2003 was

based on the proportion of thermally marked otoliths from a sample of 400 sockeye salmon sacrificed at the weir for stock composition analysis.

The spawning escapements for the mainstem and the Tuya stock groups are estimated indirectly by computing the ratio of Tahltan to the mainstem and Tuya components in the total inriver sockeye salmon run. Stock identification data are collected in the lower river commercial and test fisheries. The ratios of Tahltan:mainstem and Tahltan:Tuya are applied to the estimated inriver Tahltan run size to develop an estimate of the total inriver sockeye salmon run. The escapements for Tuya and mainstem sockeye salmon stocks are estimated by subtracting the stock- specific inriver catches from the respective inriver run estimates.

The 2003 escapement estimates are 57,972 mainstem and 13,349 Tuya sockeye salmon. The mainstem sockeye salmon stocks spawn in tributaries, lakes other than Tahltan Lake, and in the mainstem and side sloughs of the Stikine River. The Mainstem spawning escapement estimate is approximately 69% above the escapement goal range of 20,000 to 40,000 fish. Aerial survey results, however, failed to show an above average escapement; in fact the count of only 604 fish was 59% of the 1993-2002 average of 1,029 sockeye salmon (Appendix B. 23). The Tuya River sockeye salmon are blocked, by natural barriers, from entering potential spawning grounds of the Tuya Lake and are, therefore, targeted in an ESSR (terminal) fishery. The 2003 Tuya ESSR (terminal) fishery harvested 7,031 sockeye salmon, representing a terminal harvest rate of 34% (Appendix B.18). The fate of the remaining 13,349 Tuya fish is unknown. Radio telemetry data from 1998, 2000, and 2001 indicated fish moved from below the Tuya barrier to the mainstem Stikine River as far down river as the mouths of the Scud and Porcupine rivers. One fish was located in the Stikine River downstream from the Canada/U.S. boundary. Some Tuya sockeye salmon were found in the Tahltan River. In addition, otolith samples collected in August 2001-2003 from fish spawning in Shakes Creek (located approximately 50 km downstream from the Tuya River) indicated that all the sockeye salmon spawning in this area originated from Tuya fry plants.

For the fourth consecutive year a sockeye salmon mark–recapture program was conducted to develop an alternate abundance-based management regime for Stikine River sockeye salmon. The estimated total escapement using a modified Petersen estimate is approximately 143,100 sockeye salmon (marked=2,310, recovered=617, catch=54,884), ranging from 129,300 to 156,900 fish. This estimate is 8% above the 132,285 postseason escapement estimate, and 18% below the escapement estimate of 175,721 fish generated from the final run of the SMM. The stock-specific escapement estimates based on the mark–recapture study were 57,600 Tahltan (7% above the postseason commercial fishery cpue based estimate), 16,800 Tuya (82 % of the cpue estimate), and 68,700 mainstem sockeye salmon (19% above the cpue).

Chinook Salmon

The 2003 Chinook salmon escapement enumerated at the Little Tahltan weir was 6,492 large fish and 334 jack Chinook salmon (Figure 5, Appendices A.19 and B.25). The escapement of large Chinook salmon in the Little Tahltan River was 22% above the upper limit of the escapement goal range (2,700 to 5,300 fish with a point goal of 3,300 fish). Aerial surveys of the Tahltan River and Beatty Creek were discontinued in 2002. The peak survey count at Andrew Creek was 595 fish, 89% of the 1993-2002 average of 671 fish and below the escapement goal range of 650-1,500 fish (Appendix B. 26). The aerial survey count for the Little Tahltan River was 1,903 fish, 29 % of the weir count and 81% of the 1993-2002 average.

For the eighth consecutive year a mark-recapture study was conducted to ass the inriver Chinook salmon abundance. The inriver run was estimated to be 43,022 Chinook salmon with a spawning escapement of 39,965 fish, 16% above the 1996-2002 average of 34,587 fish. The contribution of Little Tahltan Chinook salmon accounted for 16% of the total escapement, 84% of the 1996-2002 average contribution of 19%.

Coho Salmon

Aerial surveys were not conducted successfully in 2003. An attempt was made to enumerate Stikine coho salmon on October 26, but extremely high water prompted the decision to abort the survey after an overflight of the Scud index site. For the fourth consecutive year, a mark–recapture program was conducted to develop an abundance-based management regime for Stikine River coho salmon. As in year 2002, an additional set gillnet was deployed near the regular tagging site in an effort to increase the number of tagged salmon. The escapement estimated using a modified Peterson estimate (m=1,187, r=20, c=1,889) is approximately 105,000 coho salmon, with a range of 61,000 to 149,000 fish. Although the additional net used at the tagging site resulted an increase in marked fish over studies conducted in 2000-01, the paucity of recovered fish (marked and unmarked, n=1,889) resulted in the very wide range in the coho salmon escapement estimate. Increased fishing effort (commercial and test fishing) is essential for future studies. This escapement estimate is two times the upper end of the escapement goal range of 30,000 to 50,000 coho salmon.

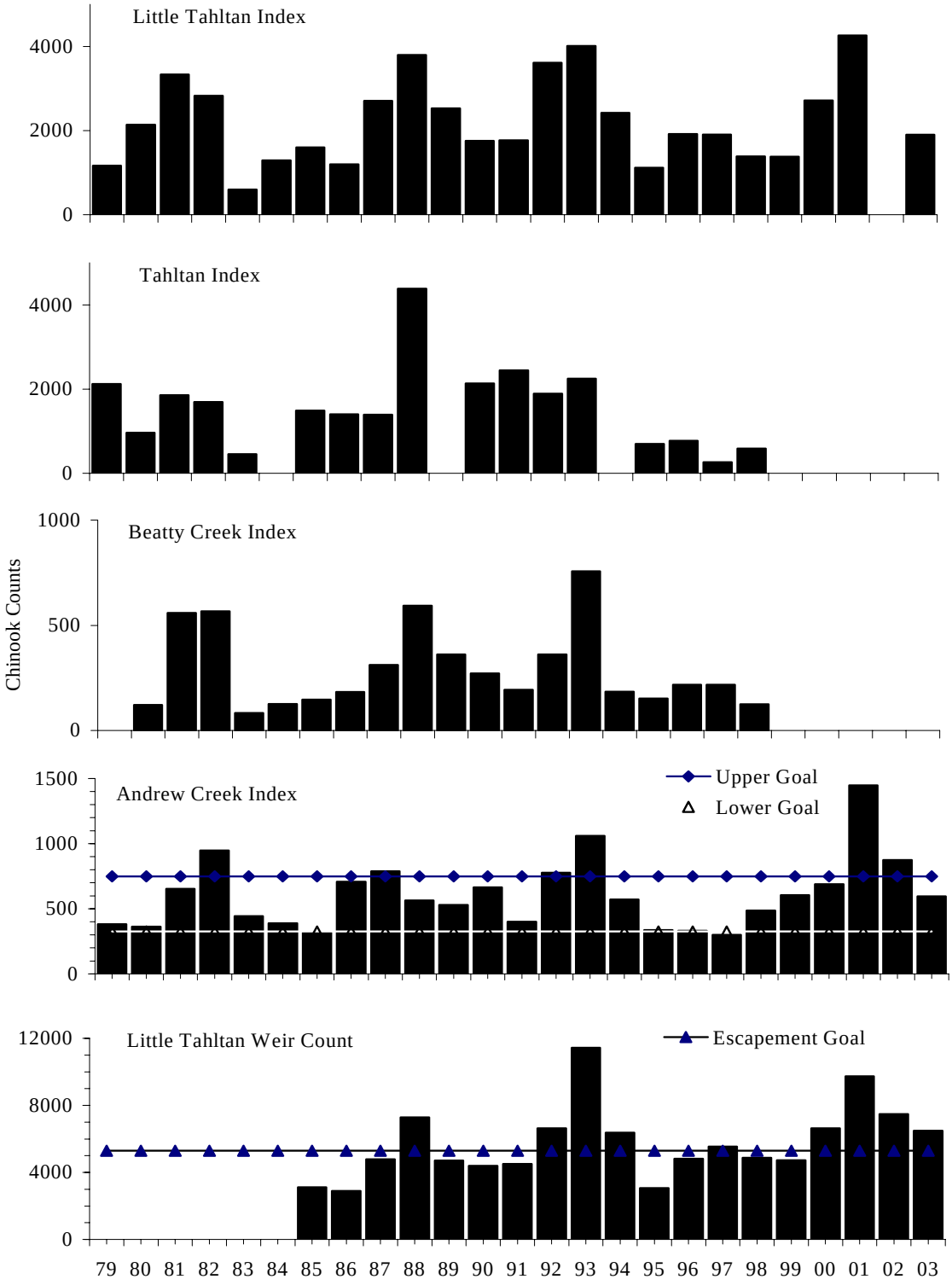

Figure 5. Chinook salmon weir counts and index escapement estimates for major spawning areas and for the entire Stikine River, 1979–2003.

The test fishery cumulative weekly CPUE of 6.85 coho salmon was the third highest on record. When compared with the cumulative weekly CPUE of 23.97 sockeye salmon, the coho salmon catch was 29% of the cumulative weekly sockeye salmon CPUE. The estimated inriver run size of sockeye salmon was 194,425 fish. Assuming the catchability of coho salmon is the similar to that of sockeye salmon (the same fishing site and gear were used), the coho salmon escapement is approximately 56,000 (194,425*0.286-inriver catch). This estimate falls well below the mark–recapture estimate although both estimates exceed the upper end of the escapement goal range.

SOCKEYE SALMON RUN RECONSTRUCTION

The 2003 Stikine River sockeye salmon run was estimated to be 240,977 fish, of which 98,106 were of Tahltan Lake origin (wild & planted), 39,574 were of Tuya origin (fry from Tahltan broodstock planted into Tuya Lake), and 103,297 were mainstem stocks (Table 2). These estimates are based on scale pattern analysis and otolith recovery and analysis in the U.S. Districts 106 and 108 catches; otolith analysis, egg-diameter stock-composition estimates for inriver catches from the Canadian commercial, aboriginal, ESSR, and test fishery catches; and escapement data. The 2003 total run is 31% above the 1993-2002 average run of 183,835 sockeye salmon (Appendix B. 28) and 31% above the preseason forecast of 183,600 sockeye salmon (Table 1).

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 Canada/U.S. border, an aboriginal fishery, and a sport fishery.

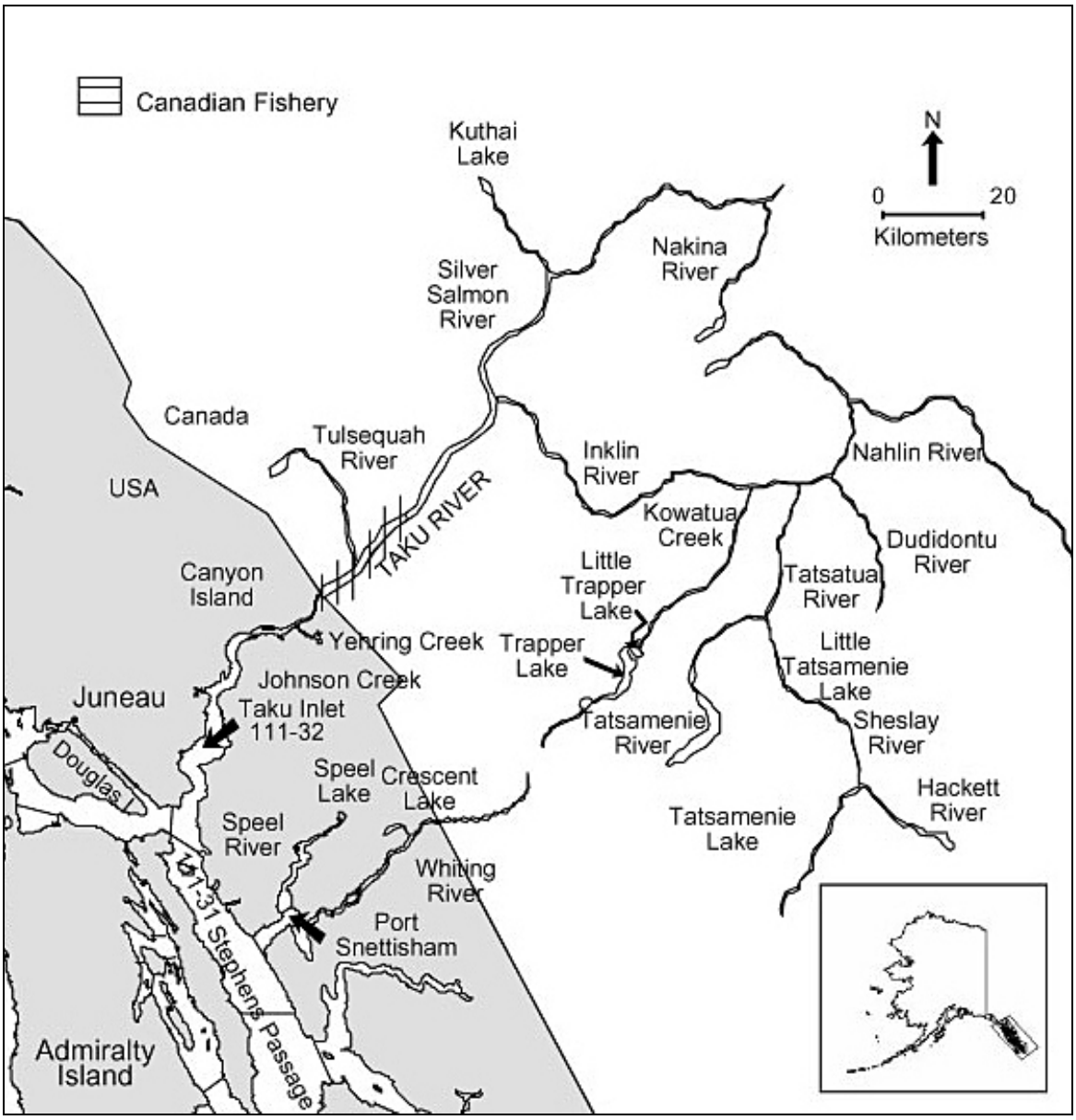

Figure 6. The Taku River and principal U.S. and Canadian fishing areas.

HARVEST REGULATIONS

New fishing arrangements were in place in 1999 as a result of negotiations between Canada and the United States of Annex IV, Chapter 1 of the Pacific Salmon Treaty. The arrangements that are expected to apply to the Taku River for the 1999 to 2008 period are as follows:

(1) Sockeye salmon:

(i) Except as noted below, Canada shall harvest no more than 18% of the TAC of the wild sockeye salmon originating in the Canadian portion of the Taku River each year;

(ii) If the projected inriver escapement is greater than 100,000 sockeye salmon, Canada may, in addition, harvest 20% of the projected inriver escapement above 100,000 sockeye salmon;

(iii) The Parties agree to manage the runs of Taku River sockeye salmon to ensure that each country obtains catches in their existing fisheries equivalent to each country's share of wild sockeye salmon and a 50% share of fish originating from Taku River fry plants;

(iv) The Parties agree to continue the existing joint Taku River enhancement program designed to produce annually 100,000 returning sockeye salmon.

(2) Coho salmon:

(i) The Parties agree to develop and implement an abundance-based approach to managing coho salmon on the Taku River no later than May 1, 2004. The Parties commit to developing a revised MSY escapement goal to be implemented no later than May 1, 2004.

(ii) Until a new abundance-based approach is developed, the management intent of the United States is to ensure a minimum above-border inriver run of 38,000 coho salmon, and the following arrangements will apply:

a. no numerical limit on the Taku River coho salmon catch will apply in Canada during the directed sockeye salmon fishery (through statistical week 33);

b. if inseason projections of above-border run size are less than 50,000 coho salmon, a directed Canadian harvest of up to 3,000 coho salmon is allowed for assessment purposes as part of the joint Canada/US Taku River mark–recapture program;

c. if inseason projections of above-border run size exceed 50,000 coho salmon, a directed Canadian harvest of 5,000 coho salmon is allowed;

d. if inseason projections of above-border run size exceed 60,000 coho salmon, a directed Canadian harvest of 7,500 coho salmon is allowed;

e. if inseason projections of above border run size exceed 75,000 coho salmon, a directed Canadian harvest of 10,000 coho salmon is allowed.

(3) Chinook salmon:

(i) Both Parties shall take the appropriate management action to ensure that the necessary escapement goals for Chinook salmon bound for the Canadian portions of the Taku River are achieved.

(ii) The Parties agree that new fisheries on Taku River Chinook salmon will not be developed without the consent of both Parties. Management of new directed fisheries will be abundance-based through an approach to be developed by the Committee no later than May 01, 2004. The Parties agree to implement assessment programs in support of the development of an abundance-based management regime.

(iii) The Parties shall review an appropriate MSY escapement goal for Taku River Chinook salmon by May 1999 and thereafter establish a new goal as soon as practicable.

U.S. FISHERIES

The traditional District 111 commercial drift gillnet salmon fishery was open for a total of 78 days from June 15, through October 16, 2003 (Appendix C.1). The harvest totaled 1,465 Chinook, 205,433 sockeye, 23,707 coho, 112,395 pink, and 170,420 chum salmon. Harvests of Chinook, coho, pink, and chum salmon were below average (Figure 7, Appendix D.1). The sockeye salmon harvest was above average. Weekly commercial fishery catches and stock composition estimates for these fisheries are provided in Appendices C.1 – C.3 and annual catches from 1960 through 2003 are provided in Appendices D.1 – D.3.

Hatchery stocks contributed significantly to the numbers of both sockeye and chum salmon harvested, and minor numbers to the harvest of other species. The 2003 season was the fourth year of significant numbers of adult sockeye salmon returning to the Snettisham Hatchery inside Port Snettisham. These fish contributed significantly to the harvests primarily in Stephens Passage and to the Speel Arm Terminal Harvest Area fishery inside Port Snettisham.

The Chinook salmon harvest of 1,465 fish was 50% of the 1993-2002 average of 2,923 fish (Appendix C.1 and D.1). Alaskan hatchery fish contributed 319 fish as estimated by coded wire tag (CWT) analysis, for approximately 22% of the harvest.

The sockeye salmon harvest was 205,433 fish, 41% above the 1993-2002 average of 146,087 fish (Appendices C.1 and D.1). Weekly sockeye salmon harvests in District 111 were below average in statistical week (SW) 25, SW26, SW29, SW36, and SW38-41. Weekly sockeye salmon harvests were above average during SW27, SW28 and SW30-35, and SW37. Weekly sockeye salmon catch-per-unit-effort (CPUE) was a ten-year record for SW27, SW28, and SW32. However, weekly sockeye salmon CPUE was lower than average during eight out of

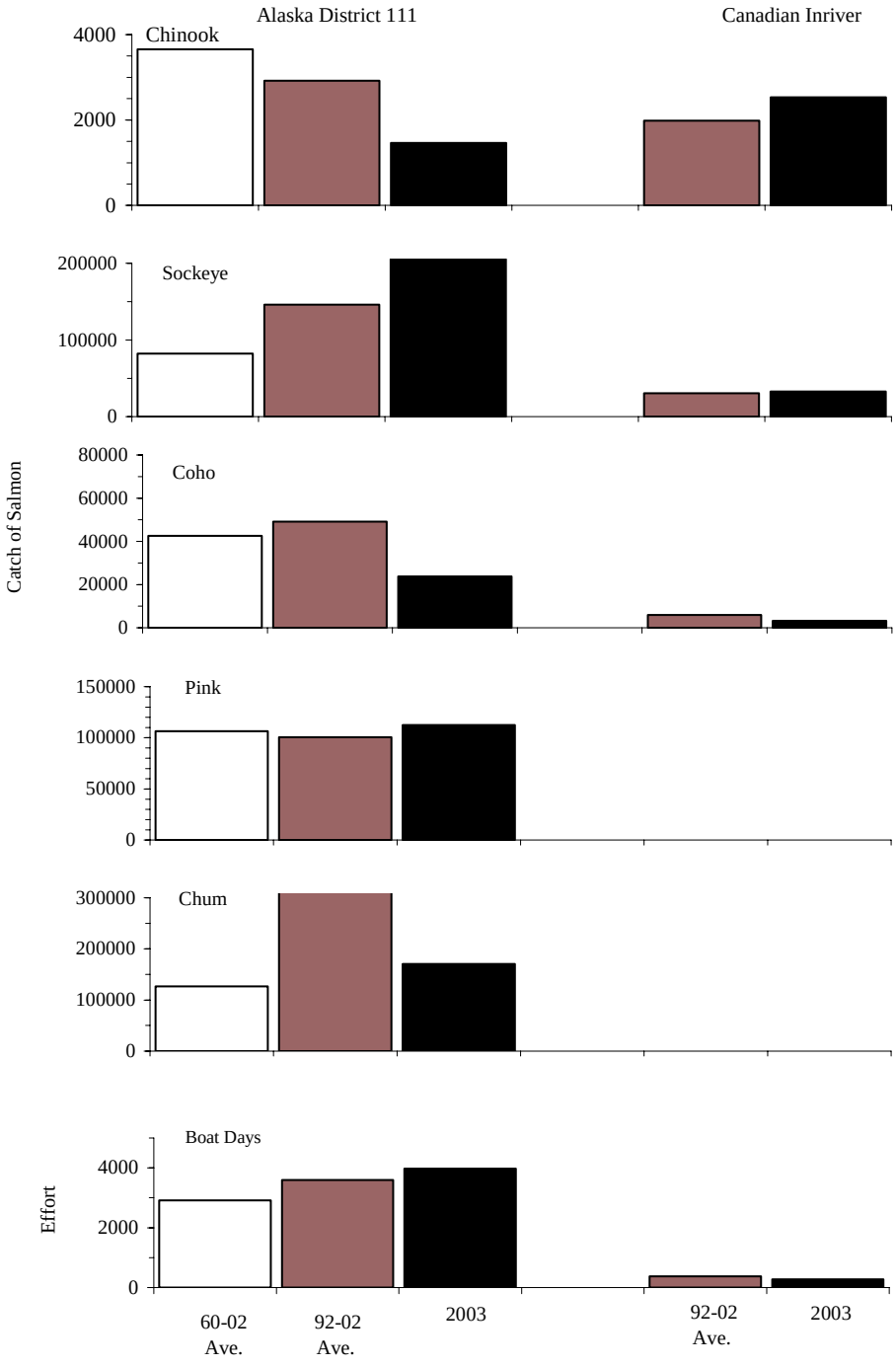

Figure 7. Average catches and fishing efforts computed with 2003 values for the Alaska District 111 commercial fishery and the Canadian commercial fishery in the Taku River.

eighteen statistical weeks. Domestic hatchery sockeye salmon stocks started to contribute to the traditional fishery in SW28 and added significant numbers to the harvests in SW29 through SW31. Fishermen targeting on those runs of hatchery sockeye salmon and the Limestone Inlet hatchery chum salmon, increased the amount and percentage of fishing effort that occurred in Stephens Passage. Of the total sockeye salmon harvest, 37% occurred in Stephens Passage, greater than the 1993-2002 average of 23%. Sockeye salmon from a joint U.S./Canada fry-planting program at Tatsamenie Lake contributed an estimated 767 fish to the fishery (0.4% of harvest (Appendices C.3 and D.2)). Contributions of U.S. hatchery sockeye salmon to the Traditional District 111 gillnet fishery totaled 32,196 fish or 18% of the harvest. These were predominately Snettisham Hatchery fish but also included a small number of thermally marked fish from a fry-planting program at Sweetheart Lake in Port Snettisham. The postseason estimate of stock composition of the harvest of wild sockeye salmon in the district was 134,957 (92%) Taku River fish and 9,983 (8%) wild Snettisham fish (Table 3, Figure 8, Appendices C.2 and C.3). An additional 27,530 sockeye salmon were harvested in hatchery terminal area fisheries inside Port Snettisham. The majority of these fish are from hatchery releases but a small portion of wild Speel Lake sockeye salmon stocks are also taken in this fishery.

Coho salmon stocks harvested in District 111 include runs to the Taku River, Port Snettisham, Stephens Passage, and local Juneau area streams as well as Alaskan hatcheries. The coho salmon harvest of 23,707 fish was 48% of the 1993-2002 average of 49,070 fish (Appendices C.1 and D.1). Weekly coho salmon harvests were above average during SW27, but below average during the remainder of the season. Coho salmon catch-per-unit effort was above average during SW37. Alaskan hatchery coho salmon contributed 1,505 fish or 6% of the District 111 harvest. For most of the season, weekly estimates of Taku River coho salmon abundance indicated an above average run size.

The District 111 pink salmon harvest of 112,395 fish was 12% above the 1993-2002 average of 100,667 fish (Appendices C.1 and D.1).

The harvest total of 170,420 chum salmon was 55% of the 1993-2002 average of 312,823 fish (Appendices C.1 and D.1). The summer chum salmon harvest, 169,214 fish, comprised 99% of the season's chum salmon harvest. The summer chum salmon run was considered to last through mid-August (SW33) and was comprised mostly of domestic hatchery fish, with small numbers of wild fish contributing to the catches. Chum salmon runs to DIPAC hatcheries in Gastineau Channel and to the DIPAC remote release site at Limestone Inlet contributed a major portion of the harvest but quantitative contribution estimates were not available. As in recent years, a gear restriction of a minimum six-inch mesh size net was employed during the last half July in the fishery openings in Section 11-B south of Circle Point. This allowed harvest of hatchery chum salmon returning to the Limestone Inlet remote release site while limiting harvest rates on wild sockeye salmon stocks. Approximately 63% of the District 111 chum salmon harvest was made in Taku Inlet, 32% in Stephens Passage, and 2% inside Port Snettisham. The harvest of 1,206 fall chum salmon, SW34 and later, was 19% of the 1993-2002 average (Appendix D.1). Most of these chum salmon are assumed to be wild fish of Taku and Whiting Rivers origin.

Table 3. Taku River sockeye salmon terminal run reconstruction, 2003. Estimates do not include spawning escapements below the U.S./Canada border.

	Taku			Snettisham Stocks		
	Total	Wild	Planted	Total	Wild	Hatchery
Escapement	167,691	166,266	1,425			
Canadian Harvest						
Commercial	32,933	32,666	267			
Food Fishery	267	265	2			
Total	33,200	32,931	269			
Test Fishery Catch	27	27	0			
Above Border Run	200,918	199,224	1,694			
U.S. Harvest [a]						
District 111	135,724	134,957	767	42,179	9,983	32,196
Personal Use	1,126	1,120	6			
Total	136,850	136,077	773			
Test Fishery Catch	0					
Total Run	337,768	335,301	2,467			
Taku Harvest Plan	Total	Wild	Planted			
Escapement Goal	75,000	75,000	0			
TAC	262,768	260,301	2,467			
Canada						
Base Allowable	48,088	46,854	1,234			
Surplus Allowable	13,538	13,538				
Total	61,626	60,392	1,234			
Total %	23.5%	23.2%	50.0%			
Actual	33,200	32,931	269			
Actual %	12.6%	12.7%	10.9%			
U.S.						
Total	214,680	213,447	1,234			
Total %	81.7%	82.0%	50.0%			
Actual	136,850	136,077	773			
Actual %	52.1%	52.3%	31.3%			

[a] U.S. harvest estimate differs from Joint Interception Committee estimate because no estimates are made for catches other than the listed fisheries.

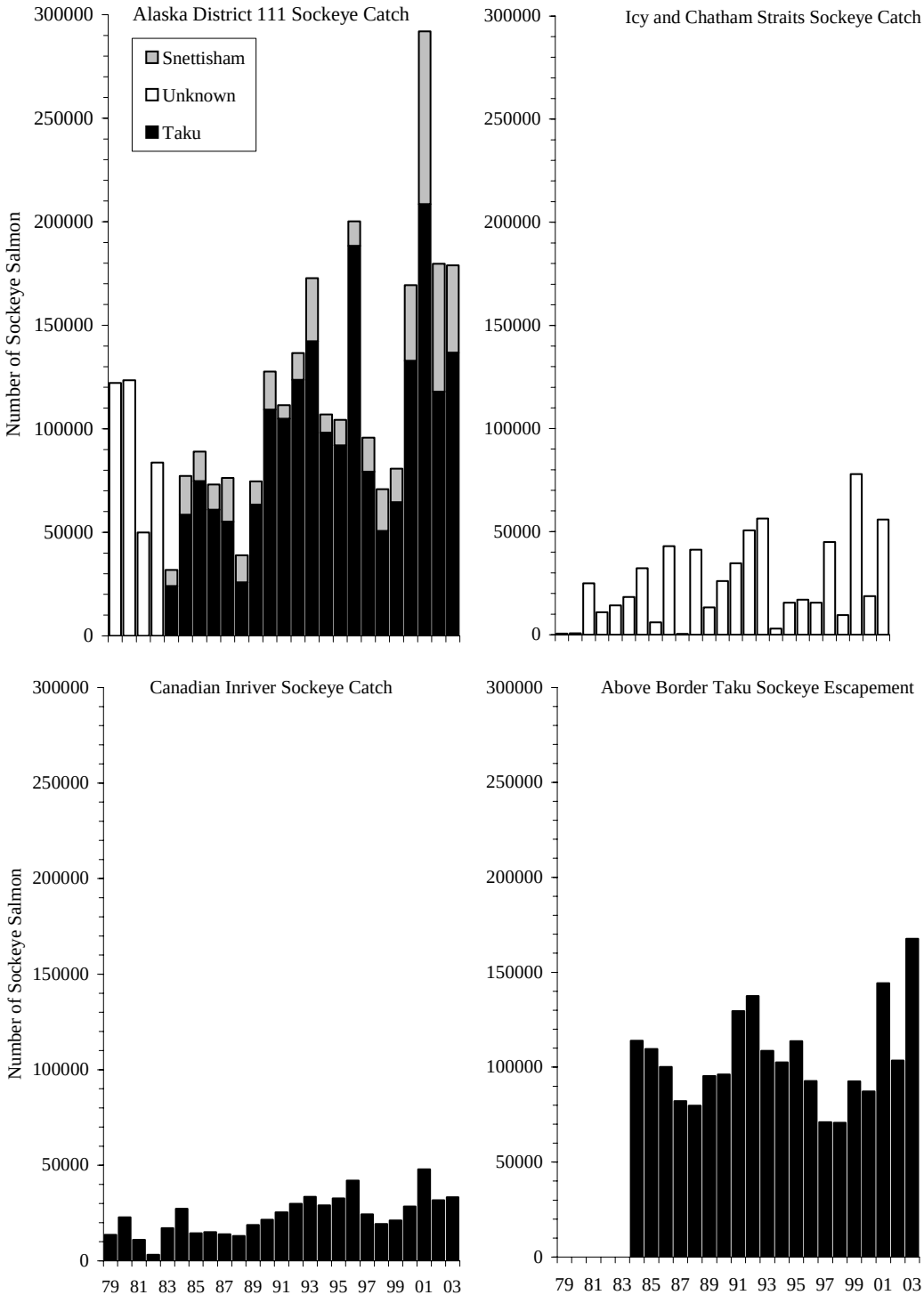

Figure 8. Sockeye salmon catches for the Alaska District 111, the Icy and Chatham Straits, the combined Canadian commercial and food fisheries in the Taku River, and Taku sockeye salmon escapements, 1979-2003.

For the 2003 season fishing time was 55% above the 1993-2002 average time (Appendix D.1). The maximum number of boats participating in the fishery in a given week was 125 boats (Appendix C.1). Fishing effort as measured by the total number of boats delivering fish each week times the number of days open to fishing, was 3,977 boat-days for the season, 11% above the 1993-2002 average (Appendix D.1).

Management actions to conduct the Taku River drift gillnet fishery were limited to imposing restrictions in time, area and gear. Because there is no bi-laterally agreed forecast for Taku River sockeye salmon, early season management of the District 111 fishery is based on fishery CPUE and Canyon Island fishwheel catches. As the fishing season progresses sufficient data is acquired to estimate the inriver run size from the mark-recapture program at Canyon Island and to use that estimate in conjunction with migratory timing and historical fishery catch data to forecast the entire Taku sockeye salmon run. In the first week of the season (SW25), which began June 15, three days of fishing time were allowed in both Taku Inlet (Sub-district 111-32) and Stephens Passage (Sub-district 111-31). The sockeye salmon harvest in the first week was 72% of the ten-year average. Fishing time for SW26 was initially set for three days. The projected inriver run was estimated to be 284,476 sockeye salmon (Table 4). Both Taku Inlet and Stephens Passage were initially opened for three days in SW27, and then extended for 1 day based on strong inriver run projections and the increasing catch rate during the week. The Taku inriver run was estimated to be 39,582 fish. The projected inriver run was 191,464 with a total Taku sockeye salmon run of 311,926 fish (Table 4). The District 111 sockeye salmon catch for the week was 84% above the 1993-2002 average. Approximately 98% of the sockeye salmon harvested during the week came from Taku Inlet, while the remainder was harvested in Stephens Passage. Both Taku Inlet and Stephens Passage were open initially for four days during SW28 due to strong inriver abundance estimates and high fishwheel catches. The catch of 42,050 sockeye salmon set a new record for SW28 and was more than double the ten-year average with 95% of the catch occurring in Taku Inlet. No extensions were given.

Table 4. U.S. inseason forecasts of terminal run[a] size, TAC, inriver run size, and the U.S. harvest of Taku River sockeye salmon for 2003.

Statistical Week	Inriver Run	Terminal Run	Total TAC	U.S. TAC	Projected U.S. Catch
26	284,476	356,947	318,843	231,197	72,471
27	191,464	311,926	255,219	194,279	120,462
28	200,144	354,081	299,110	228,846	153,936
29	254,287	409,955	365,813	273,648	155,668
30	220,966	365,927	315,120	237,928	144,960
31	207,062	349,112	295,524	224,570	142,050
32	200,859	337,700	282,871	214,921	136,841
Postseason	200,918	337,768	262,768	214,680	136,850

[a] Terminal run does not include any marine harvest of Taku River salmon that might occur outside of District 111.

During SW29, both Taku Inlet and Stephens Passage were opened for four days. The 6" gillnet mesh restriction was established south of Circle Point to conserve Speel and Crescent wild stock sockeye salmon. The week's sockeye salmon catch was 74% of the 1993-2002 average with 82%

of the harvest taken in Taku Inlet. Analysis of otoliths revealed that 14.1% (27 of 191) of the samples processed from Stephens Passage during this week were Snettisham hatchery sockeye salmon.

During SW30, 11B was initially opened for three days. Due to strong catches in the first days of the fishery, good Canyon Island (CI) fish wheel catches, and historical scale analysis from SW29 indicating very few Tatsamenie fish in the catch, Taku Inlet was extended for 1 day north of the revised Pete's Rock to Pt Bishop line. The District 111 drift gillnet sockeye salmon catch of 24,003 was slightly above the 1993-2002 average for the week, with 87% of the catch in Taku Inlet. The District 111 coho salmon catch was 598 fish for the week (Appendix C.1), 46% the 1993-2002 average of 1,297 fish.

In SW31, Taku Inlet north of Circle Point was open for two days in accordance with the TBR agreement to conserve the anticipated weak run of Tatsamenie Lake sockeye salmon, and for three days south of Circle Point. Confidence in achieving the reduced lower end of the escapement goal range for Speel Lake allowed lifting the mesh restriction, and 11C was opened because pink salmon escapement in the area was adequate. Due to a surge in escapement at Speel, indications from Snettisham hatchery the sockeye salmon were returning a week earlier than usual, and historical stock composition data indicating very few Tatsamenie sockeye salmon caught in Stephens Passage, there was a 2-day extension south of Circle Point. Historically, by the end of SW31, 89% of the Little Trapper Lake and 30% of the Tatsamenie Lake sockeye salmon have passed Canyon Island. The weekly District 111 drift gillnet sockeye salmon catch total was 22% above the average with about 55% (17,025) being harvested from Stephens Passage where the fleet was targeting hatchery sockeye salmon bound for Port Snettisham.

The SW32 catch of 36,844 sockeye salmon was the highest catch for the stat week since 1960. Fishing time in Taku Inlet was held to two days to conserve Tatsamenie sockeye salmon while Stephens Passage south of Circle Point including Port Snettisham was open for 4 days. Of the 5,642 sockeye salmon harvested in Taku Inlet, 13.6% were Port Snettisham hatchery fish, for the 15,417 fish harvested in Stephen's Passage 66.7% were of hatchery origin, and an estimate 99.3% of the 15,803 fish harvested inside Port Snettisham were of hatchery origin. Due to a surge in escapement to Speel Lake, the Speel Arm Terminal Harvest Area was opened until further notice to harvest the Snettisham hatchery sockeye salmon run.

In SW33 the Taku Inlet opening was again limited to two days while Stephens Passage and outer Port Snettisham was opened for four days. The sockeye salmon catch for SW33 was 11,965 fish, 190% of the 1993-2002 average. Estimated hatchery contributions were 19.0% in Taku Inlet, 64.3% in Stephen's Passage, and >99.0% inside Port Snettisham.

The fall drift gillnet season in District 111 lasted nine weeks, beginning on August 17 in SW34, and lasting until October 16 in SW42. Taku Inlet openings were limited to two days per week in SW 35, & 36 to conserve Taku River fall chum salmon. In the first week of the fall season (SW34), fishing time was set at three days in Stephens Passage (south of Circle Point) and 11-C to allow continued harvest of hatchery sockeye salmon bound for Port Snettisham. The sockeye salmon catch for the week of 3,147 fish (Appendix C.1) was 29% above the 1993-2002 average with 89% taken in Stephens Passage and Port Snettisham. The coho salmon catch of 1,009 for week 34 was well below the ten-year average of 4,743 fish and remained well below average until week 37. During SW37, both Taku Inlet and Stephens Passage were opened for four days. Catch rates were slightly above the ten-year average for the only week of the season. The

Canyon Island fish wheel counts of coho salmon and inriver abundance estimates strengthened in week 37 and the inriver abundance estimate in week 38 was the second highest since 1984 prompting a one-day extension. Due to continued high inriver abundance estimates, low effort, and strong troller CPUE in the outer districts, Taku Inlet and Stephens Passage was open 7 days a week in weeks 39 through 41, and closed for the season after 4 days open in week 42. There were no reported landings in week 42. Even though the fishery performance of 23,707 fish was poor, the estimated above border Taku coho salmon escapement was the second highest on record (Appendix C.8).

Several other fisheries in the Juneau area harvested transboundary Taku River salmon stocks in 2003. Personal use permits were used to harvest an estimated 1,126 Taku River sockeye salmon (Appendix D.4). In 2003, sport fisheries in the Juneau area harvested an estimated 12,697 Chinook salmon. A number of stocks are known to contribute to the Juneau area sport fishery, including those from the Taku, Chilkat, and King Salmon rivers, and local hatchery stocks, but the major contributor of large, wild mature fish was believed to be the Taku River. Of 12,697 Chinook harvested, 1,337 (11%) were estimated to be of Taku River origin based on coded wire tag analysis and maturity data. The July Hawk Inlet shoreline purse seine fishery in Chatham Straits opened for 10 hours in week 28 from Pt Marsden north to the latitude of Pt. Couverden, and for 10 hours in week 29 from Pt. Hepburn north to the latitude of Pt Couverden. The catches for these fisheries totaled 52 Chinook, 8,342 sockeye, 413 coho, 178,219 pink, and 38,693 chum salmon. A large number of stocks, including the Taku River, contribute to this pink salmon directed fishery. A purse seine test fishery was also conducted each week, during the first two weeks in July, with catches totaling 7 Chinook, 574 sockeye, 24 coho, 3,619 pink and 4,042 chum salmon.

CANADIAN FISHERIES

Taku River commercial fishers harvested 32,933 sockeye, 1,959 large Chinook, 570 jack Chinook (fish less than 2.3 kg), and 3,242 coho salmon, and 27 steelhead trout in 2003 (Figure 7, Appendices C.4 and D.5). The sockeye salmon catch was 7% above the 1993-2002 average of 30,673 fish (Figure 8). Fish originating from fry plants contributed an estimated 267 fish to the catch, comprising 0.9% of the total sockeye salmon harvest. The catch of coho salmon was 55% of the 1993-2002 average of 5,837 fish. The catch of large Chinook salmon was 6% above the average of 1,793 fish, while the catch of jack Chinook salmon was 286% of the average of 191 fish (Appendix D.5). There were 44 days of fishing, compared to the 1993-2002 average of 46 days. The seasonal fishing effort of 275 boat-days was 74% of the average of 371 boat-days. As in recent years, both set and drift gill netting techniques were used with the majority of the catch taken in drift gillnets. Mesh sizes were restricted to less than 150 mm through July 16 to minimize the incidental catch of Chinook salmon.

In addition to the commercial catches, 279 large and 237 jack Chinook, 267 sockeye, 416 coho, and four pink salmon were harvested in the aboriginal fishery in 2003 (Appendix D.7). The 1993-2002 average catches in the Taku aboriginal fishery have included 70 Chinook (large and jacks combined), 229 sockeye, 240 coho, and 3 chum salmon and two steelhead trout.

According to the estimate of 330,240 sockeye salmon, Canadian catches (excluding test fishery catches) represented approximately 13% of the TAC for wild fish. The run of planted fish to Tatsamenie Lake was estimated to be 2,467 fish, 269 of which were harvested in Canadian

commercial or aboriginal fisheries. This represented approximately 11% of the TAC of planted fish.

The inriver coho salmon run was 186,755 fish. Accordingly, as per PST provisions, the Canadian allowable catch after week 33 was 10,000 coho salmon. Only about 14% of this allocation was taken because commercial fishing activity deceased significantly after week 33 due to poor market conditions. An estimated 300 coho salmon were harvested in the recreational fishery.

A test fishery was conducted from April 27 through June 11 as part of the Chinook salmon mark–recapture project. This fishery landed 1,401 large Chinook, 398 jack Chinook, and 27 sockeye salmon (Appendices C.7 and D.8).

As part of the coho salmon mark–recapture project, a catch-and-release gillnet fishery was conducted for coho salmon from August 23 through October 10 (Appendix C.7). Totals of 4,090 coho, 197 sockeye, 222 chum, and 7 pink salmon and 182 steelhead trout caught. All but 59 coho salmon and 7 steelhead trout were released.

The Canadian preseason forecast was for a total run of approximately 304,000 sockeye salmon, which was the average of a sibling-based forecast (350,900 fish) and stock recruitment-based forecast (256,700 fish) (Table 5). The point estimate was 17% above the previous 1993-2002 average run of approximately 259,000 sockeye salmon (Canadian estimate). The total run incorporates an assumed U.S. harvest of 5% in marine approach waters (outside District 111); the terminal run forecast was therefore approximately 289,000 fish. The preseason forecast was used to guide weekly management actions for the first two weeks of the season; thereafter, inseason forecasts based on the joint Canada/U.S mark-recapture project were used (Table 5). For coho salmon, the preseason outlook was for an average run due to good smolt numbers encountered in the 2002 coded-wire tagging program. However U.S. exploitation rates were expected to be low, and consequently border escapement was expected to be above average.

As in previous years, cumulative guideline harvests were developed each week to guide weekly management decisions so that: a) the catch was consistent with conservation and Treaty goals; and b) management was responsive to changes in forecasts of abundance, i.e. abundance based. The guidelines were based on current inseason forecasts of the total run and Canadian sockeye salmon TAC (based on mark-recapture estimates) apportioned by historical run timing.

The commercial fishery commenced at noon on Sunday, June 15 (SW25) for a scheduled opening of two days. Since the incidental catch of Chinook salmon was significant and both the current and cumulative sockeye salmon CPUE in the fishwheels were below average, the fishing period was not extended.

Table 5. Canadian inseason forecasts of total run size, total allowable catch (TAC), and spawning escapement of Taku River sockeye salmon, 2003.

Statistical Week	Total Run[a]	TAC	Projected Escapement	Canadian TAC	Inseason Guideline	Actual Catch
25	304,000	229,000	75,000	36,220	3,149	1,339
26	238,318	163,318	171,974	43,792	7,690	4,530
27	191,875	116,875	110,209	23,079	6,589	9,280
28	249,790	174,790	118,948	35,252	13,613	12,673
29	383,994	308,994	183,825	72,384	36,240	18,611
30	374,762	299,762	168,746	67,706	41,686	25,272
31	365,572	290,572	160,090	64,321	47,184	28,918
32	358,317	283,316	156,088	62,215	52,495	31,235
33	366,293	291,292	160,879	64,608	58,818	32,345
34	360,804	285,802	157,924	63,029	60,109	32,601

[a] Includes allowance for marine catches outside District 111 (assumed 5% harvest rate)

In SW26 (starting June 22), the fishery was opened on three days. An extension of one day was granted for the following reasons: as of the close of Day 2, the CPUE (128 s/f/d) was well above average (73 s/f/d), and the third highest on record (dating to 1988); the lower end of the preseason forecast range provided a guideline harvest of 5,743 fish for the week with 1,213 more fish to be harvested. The final catch for the opening was 3,232 (Appendix C.4).

In SW27 (starting June 29) the fishery initially opened for three days. In spite of the fact that the run size estimate indicated a guideline harvest, which was likely to be exceeded (assuming average timing), the fishery was extended by one day due to high CPUE both in the fishery and the Canyon Island fishwheels. The cumulative catch at the end of week 27 was 3,440 fish over the weekly guideline harvest. CPUE for this week was 64% above the 1993-2002 average; this may have been due in part to water levels that were well below average.

The SW28 (starting July 6) fishery initially opened for three days. The inriver abundance estimate after Day 2 was approximately 56,000 sockeye salmon, the guideline harvest was 12,213 fish, and the catch to date was 10,084 fish, which left a balance of 2,129 fish for the remainder of the week's fishery. CPUE was 130 s/f/d on Day 2 versus a weekly average of 94 s/f/d. Canyon Island fishwheel CPUE on July 5 and 6 (Day 1 and to midnight on Day 2) was more than twice the average. An extension of one day was granted.

SW29 (starting July 13) initially opened for three days. At the close of Day 2, the opening was extended by two days based on the following: above average fishery CPUE (132 versus weekly average of 104 s/f/d), near-record Canyon Island fishwheel catches on July 13 and 14 (348 and 420 fish respectively, versus averages of 88 and 90 fish, respectively), and approximately 200 fish caught on the morning of July 15, as well as a significant surplus (at least 13,000 sockeye salmon) showing in the guideline harvest. Water levels were well above average for this opening; this may explain the fact that fishery CPUE was only slightly above average while fishwheel CPUE was near record. On Day 5, only two licensees fished due to closure of a landing station. CPUE did increase to 148 and 141 s/f/d on days 3 and 4 but dropped to 42 on Day 5. The drop in Day 5 is believed to be have been related more to effort levels than to fish

abundance. At closing, there was a guideline harvest shortfall which ranged from 12,856 to 16,709 fish for one week early or average run timing, respectively.

Despite the surplus in the guideline harvest high fishery and fishwheel CPUE in the previous week, an opening of only 3 days was posted for SW30 (starting July 20). This was due to an anticipated drop in abundance as the Tatsamenie stock moved into the lower river. (In 2002, fishery CPUE dropped to only 59 s/f/d in SW30). However, this concern appeared to be unfounded as both fishery and fishwheel CPUE were 60% above average and inriver abundance was estimated at 125,000 fish giving a guideline harvest of 41,500 fish. As a result of these favorable run status indicators, the fishery was extended by two days.

During the preseason TTC meeting it was agreed that a coordinated management focus would occur during SW31-33 (weeks beginning July 27, and August 3 and 10). The purpose of the management action was to increase the escapement of the Tatsamenie stock and provide sufficient broodstock for the joint fry-planting program. The preseason forecast, based on smolt emigration estimates, was for a run even lower that the one observed in 2002. Fishing time in U.S. Taku Inlet and the Canadian Inriver fisheries would be limited to two days unless agreed to by fishery managers of the two countries.

Consequently, SW31-33 were opened for two days each week. Fishery performance was above average in SW31 (159 versus 110 s/f/d), and average in SW32 (105 versus 109 s/f/d), however cumulative fishwheel CPUE for weeks 31 and 32 respectively was approximately 50% of average (9 each week versus averages of 19 and 15). Both openings ended as scheduled for the reasons noted above. In SW33 the Tulsequah flood peaked late on Day 1; only two licensees fished, with a landing of 139 sockeye salmon. The fishery was extended by one day to compensate for this. The total sockeye salmon landing for the week was 1,190 fish (Appendix C.4)

Due to poor market conditions, the commercial fishery was almost completely vacated at the end of SW33, which marked the start of the coho salmon season. Despite the fact that the fishery was open continuously from SW34 through SW40 (starting September 28), only one license holder fished. Landings of sockeye and coho salmon were 195 and 207 fish respectively in SW34 (starting August 17). The remainder of the catch (129 sockeye and 905 coho salmon) was harvested by the end of SW37 (starting September 7).

The cumulative fishery sockeye salmon CPUE for the season was 1,136 s/f/d, 28% above the 1993-2002 average of 885 s/f/d. CPUE was above average for all weeks during the season except for weeks 32 and 35; the CPUE in SW of 4,750 s/f/d was a record for that week. Peak CPUE was observed in SW30, likely reflective of the strong run of Little Trapper Lake sockeye salmon (Appendix C.4); normally CPUE peaks in weeks 31 or 32.

ESCAPEMENT

Sockeye Salmon

Spawning escapement of sockeye salmon in the Canadian portion of the Taku River drainage is estimated from the joint Canada/U.S. mark-recapture program. Counting weirs operated by DFO at Little Trapper and Tatsamenie lakes provide information on the distribution and abundance of discrete spawning stocks within the watershed. A pilot study was conducted at King Salmon Lake by the TRTFN to estimate the number of sockeye salmon spawning in that system. A weir was

operated from August 4 to September 4, through which 697 sockeye salmon passed. On September 4, a spawning assessment was done by boat, and a total of 2,970 sockeye salmon (including 82 that possessed spaghetti tags) were counted.

The joint Canada/U.S. mark-recapture program has been operated annually from 1984 to 2003 to estimate the above-border run size (i.e., border escapement); spawning escapement is then estimated by subtracting the inriver catch. The 2003 estimate of border run is 200,918 sockeye salmon and the spawning escapement is estimated at 167,691 fish (Table 3). This spawning escapement is 70% higher than the 1993-2002 average of 98,694 fish (Appendix D.9), and is more than twice the mid-point of the interim escapement goal range of 71,000 to 80,000 sockeye salmon.

The sockeye salmon count through the Kuthai Lake weir was 7,769 fish, 53.9% above the 1993-2002 average count of 5,047 fish (Appendices C.11 and D.10). The estimated number of females was 4,623 fish, which is 60.3% of the escapement, based on 642 live fish examined at the weir.

The Little Trapper Lake weir count was 31,227 sockeye salmon; this is the highest count since the weir was installed in 1983 and is 2.8 times the 1993-2002 average of 11,071 fish (Appendix D.10). The estimated number of females was 16,430 fish, which is 52.6% of the run, based on a sample of 749 live fish at the weir.

The Tatsamenie Lake weir count in 2003 was 4,515 sockeye salmon (Appendix C.9). This was 57% of the 1995-2002 average 7,989 fish; it should be noted however that the 2001 count, which was more that twice the previous record, strongly influences this average (Appendix D.10). There were an estimated 2,716 females counted through the weir, or 60% of the count based on a sample of 680 live fish at the weir. A total of 845 females and 705 males were held for broodstock; gametes were collected from 622 females and 509 males. The total broodstock mortality was 48 females and 83 males. Totals of 129 females and 113 males were released unspawned on October 18 after the end of the egg-take; it is not known if any of these fish successfully spawned. The 845 females collected represented 31% of the estimated female escapement. (DFO guidelines limit broodstock collection to 30% of escapement). Prior to 1995, weir counts for the Tatsamenie system were made at Little Tatsamenie Lake and included fish which spawn between Little Tatsamenie and Tatsamenie lakes as well as fish which spawn in Tatsamenie Lake and its outlet stream. In 1995 the weir was moved upstream to Tatsamenie Lake. In 1994 weirs were operated at both Little Tatsamenie and Tatsamenie lakes; approximately 40% of the fish counted at the Little Tatsamenie weir did not migrate as far as the upper weir site at Tatsamenie Lake. It is felt however that using data from this particular year to estimate the escapement to the upper lake prior to 1994 might bias annual estimates high.

A pilot study was conducted at King Salmon Lake to estimate the spawning population in that system.

Chinook Salmon

Spawning escapement of Chinook salmon in the Canadian portion of the Taku drainage was estimated from the joint Canada/U.S. mark-recapture program. Tag application occurred April 24 through July 24 (SW17 - 30). Tag recovery effort consisted of sampling commercial, test, and aboriginal gillnet fisheries from April 27 through October 4 (SW18 - 40), as well as spawning

ground sampling in August and September. The above-border mark-recapture estimate of 39,290 large Chinook salmon is within the escapement goal range of 30,000 to 55,000 fish.

Aerial surveys of large Chinook salmon to the six escapement index areas annually surveyed were: Nakina, 2,126 fish; Kowatua, 850 fish; Tatsamenie, 1,066 fish; Dudidontu, 644 fish; Tseta, 436 fish; and Nahlin, 861 fish (Figure 9, Appendix D.12). The total of 5,418 large Chinook salmon (Tseta counts are no longer included in the index total) observed was 61% of the 1993-2002 average of 9,058 fish.

A carcass weir was again operated by the TRTFN on the Nakina River to obtain tag and age-length-sex data on Chinook salmon. A total of 2,680 carcasses were enumerated at the weir (Appendix C.12).

Coho Salmon

Spawning escapement of coho salmon in the Canadian portion of the Taku River drainage was estimated from the joint Canada/U.S. mark-recapture program. Tag application occurred through October 8 (SW40) and tag recovery occurred through October 8 (SW41). The recovery effort consisted of sampling the commercial, test, and aboriginal fishery catches. The above-border run estimated to be 186,755 fish, the second highest on record, and the spawning escapement was estimated at 183,038 fish (Appendices C.8 and D.12). The spawning escapement is more than twice the 1993-2002 average of 84,916 fish and almost five times the upper limit of the interim escapement goal range (27,500 to 35,000 fish).

Pink Salmon

There is no program to estimate the escapement of Taku River pink salmon; however, the Canyon Island fish wheels provide an index of annual variation in border escapement. Pink

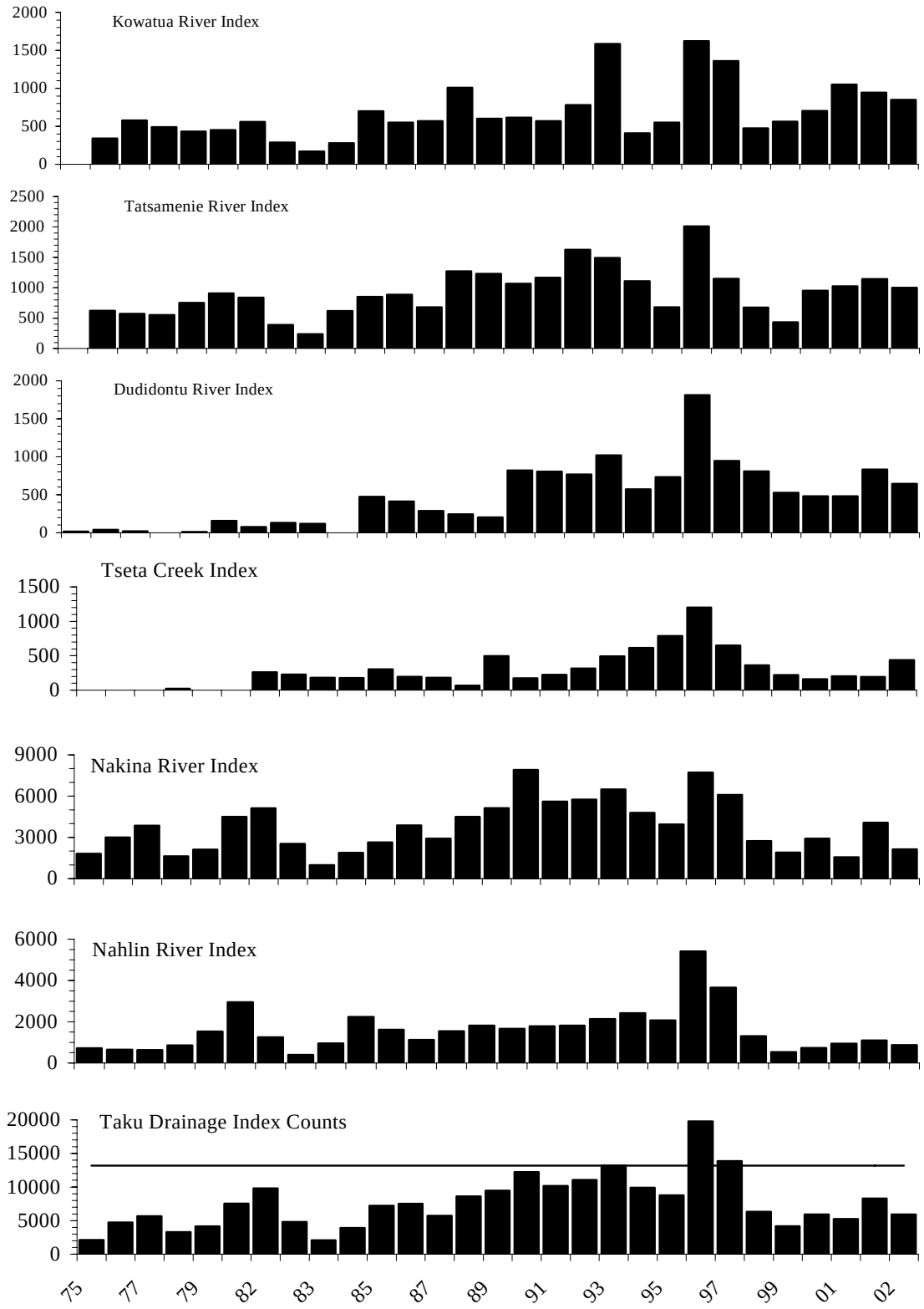

Figure 9. Taku River Chinook salmon index escapement counts, 1975–2003.

salmon escapement to the Taku River was characterized as above average. A total of 15,492 pink salmon were caught and released in the Canyon Island fish wheels in 2003 (Appendix D.15), which is 24% above the 1993-2002 average of 12,517 fish.

Chum Salmon

As with pink salmon, there was no program in place to estimate the system-wide escapement of chum salmon. A total of 268 chum salmon was caught and released in the Canyon Island fish wheels, 88.6% of the 1993-2002 average of 302 fish (Appendix D.15). The Taku River fall chum salmon run has been depressed since 1988. It is unlikely that the spawning escapement goal of 50,000 to 80,000 chum salmon was achieved in 2003.

Steelhead Trout

There was no program in place to estimate the system-wide steelhead trout escapement. An escapement goal has not been set for this species. A total of 93 steelhead trout was caught and released in the Canyon Island fish wheels in 2003, which is near the 1993-2002 average of 97 fish (Appendix D.15).

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). Unknown quantities of Alsek River 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).

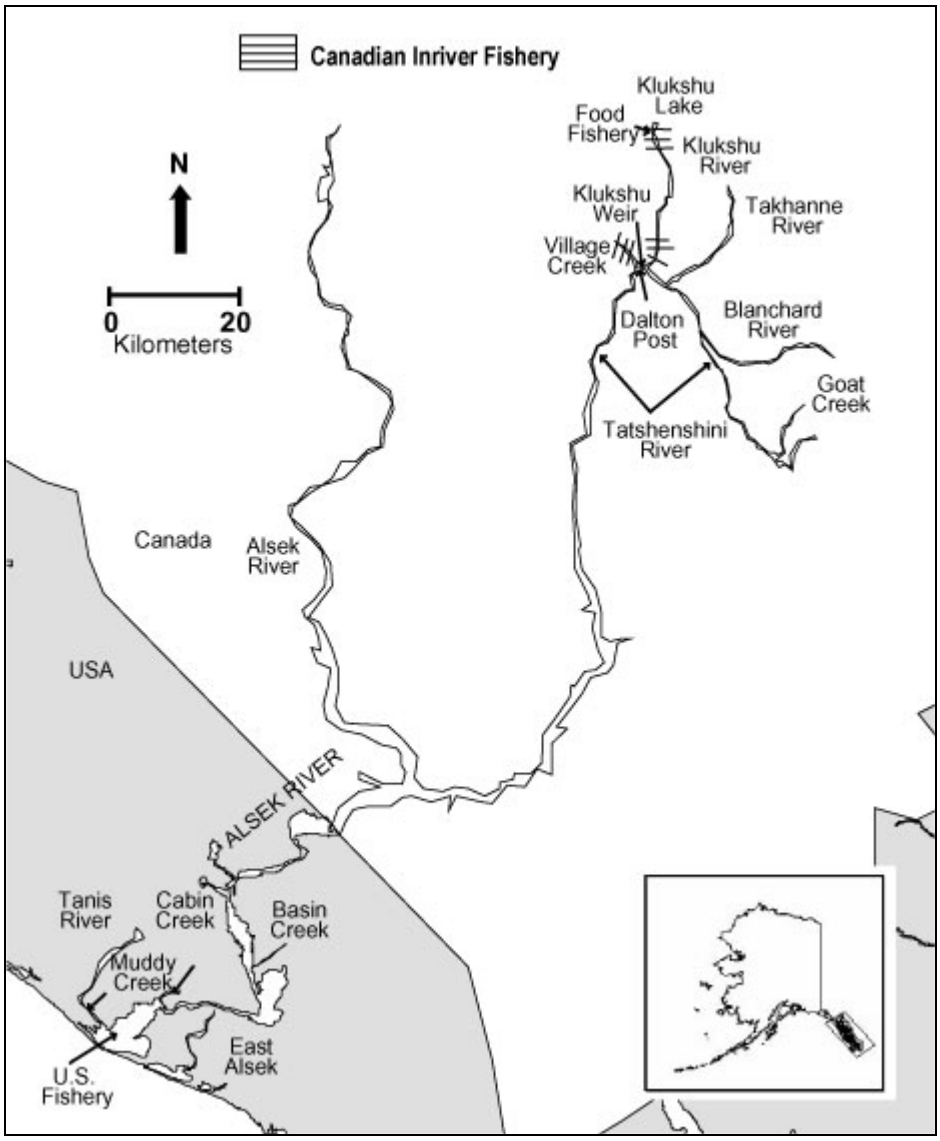

Figure 10. The Alsek River and principal U.S. and Canadian fishing areas.

HARVEST REGULATIONS & MANAGEMENT OBJECTIVES

Although catch sharing of Alsek River salmon stocks between Canada and the U.S. has not yet been specified, Annex IV does call for the development and implementation of cooperative abundance-based management plans and programs for Alsek River Chinook, sockeye and coho salmon. Interim escapement goal ranges for Alsek River sockeye and coho salmon were initially set by the TTC at 33,000 to 58,000 sockeye, and 5,400 to 25,000 coho salmon. The principle escapement-monitoring tool for Chinook, sockeye, and coho salmon stocks on the Alsek River is the Klukshu weir, operated by DFO and the Champagne-Aishihik First Nation (CAFN). The weir has been in operation since 1976. To make the management objectives of Chinook and sockeye salmon better defined in terms of Klukshu stocks, revised goals, expressed in terms of Klukshu stocks only, were established in 1999 and adopted again in 2003. Mark-recapture programs to estimate the total inriver abundance and the fraction of the escapement contributed by the Klukshu stocks have been in operation since 1997 for Chinook salmon and since 2000 for sockeye salmon.

The initiative to establish a specific Klukshu Chinook salmon spawning goal began in 1991 when the TTC set an interim spawning objective of 4,700 Klukshu Chinook salmon. This goal was based more on manager's intuition than on science. From 1995 through 1997, the TTC reviewed this escapement level and concluded that goal of 4,700 Chinook salmon was not supported by the data. A new goal range of 1,100 to 2,300 fish was proposed based on joint analyses of stock-recruitment data. The Parties conducted independent internal reviews of these analyses. Although there was not unanimous support for the proposal, there was agreement on establishing a minimum goal consistent with the lower end of the proposed range. As a result, Canadian and U.S. managers agreed to a minimum spawning escapement goal of 1,100 Chinook salmon for the Klukshu system for 2000 and this was used again in the 2003 season.

The stock-recruitment analysis of Klukshu sockeye salmon data has been completed and has undergone internal peer review. The new escapement goal range for Klukshu River sockeye salmon is 7,500 to 15,000 spawners per year.

PRESEASON FORECASTS

The overall sockeye salmon run to the Klukshu River in 2003 was expected to be slightly above average in strength. Principal contributing brood years to the 2003 run were expected to be 1998 (Klukshu escapement of 13,580 fish) and 1999 (Klukshu escapement of 5,101 fish); the 1993-2002 average Klukshu escapement was 12,484 fish. Based on historical stock-recruitment analysis, the range of Klukshu escapements that appear most likely to produce maximum sustained yields is 7,500 to 15,000 sockeye salmon.

The 2003 overall Alsek River sockeye salmon run was expected to be approximately 68,800 fish. This estimate was based on: a predicted run of 17,200 Klukshu sockeye salmon derived from the average of the historical Klukshu stock-recruitment data and an assumed Klukshu contribution of 25%. A run size of this magnitude is slightly above the 1993-2002 average run size estimate of approximately 66,400 fish (based on the Klukshu weir count expanded by 1/0.25 to account for other inriver escapement and an assumed U.S. harvest rate of 20%).

The Klukshu early run sockeye salmon escapements in 1998 and 1999 were 597 and 371, respectively (Appendix E.7). Both the 1997 and 1998 escapements were well below the optimum level of 2,500 sockeye salmon spawners as determined through separate stock-recruitment analyses by DFO of the early run. Due to the under escapement in 1997 and 1998, the early run was expected to be well below average.

The Klukshu Chinook salmon escapements in 1997 and 1998, 2,800 and 1,350 fish, respectively, were above average and well below average (Appendix E.7). The escapements for 1997 and 1998 were above and near the lower end of the optimum escapement range of 1,100 to 2,300 Chinook salmon estimated from current stock-recruitment analysis. As a result, the preliminary outlook was for a below average run. The 2003 overall Alsek River Chinook salmon run was expected to be approximately 16,100 Chinook salmon. This estimate was based on: a predicted run of 2,700 Klukshu Chinook salmon derived from the historical Klukshu stock-recruitment data; and an assumed Klukshu contribution to the total run of approximately 17%.

The coho salmon escapements observed at the Klukshu River in 1999 (2,500 coho salmon but incomplete count) and 2000 (4,800 coho salmon) suggests the run in 2003 would be slightly above average (Appendix E.7). The 1993-2002 average escapement was approximately 2,900 coho salmon.

U.S. FISHERIES

The Dry Bay commercial set gillnet fishery harvested an estimated 937 Chinook, 39,698 sockeye, and 47 coho salmon. No pink or chum salmon were taken in the fishery (Figures 11-14, Appendices E.1 and E.4). The estimate of the Chinook salmon harvest was 55% above the 1993-2002 average of 607 fish, the sockeye salmon harvest was 2.2 times the average of 18,074 fish, and the coho salmon harvest was 0.7% of the average of 6,464 fish. The fishery was open for 60 days, above the 1993-2002 average of 51 boat-days (Appendix E.4). Weekly fishing time remained fairly constant at three days for almost the entire season. The total effort expended in the fishery was 271 boat-days, 65.0% of the 1993-2002 average of 471 boat-days. The estimate of subsistence harvests included 176 sockeye, 24 Chinook, and 27 coho salmon (Appendix E.5).

The Alsek River commercial fishery opened on the first Monday in June, statistical week 23 (June 2) (Appendix E.1). The initial opening was for 24 hours. For the next two weeks of the season weekly openings were extended to 72 hours because sockeye salmon CPUE remained more than triple the average. The fourth opening was limited to 48 hours when CPUE dropped to double the average. Beginning the first week of July fishery performance remained very strong through the end of the sockeye salmon season and all weekly periods remained at 72 hours. The fishery targeted coho salmon stocks after late August and fishing times were maintained at 3 days per week for the entire coho salmon season.

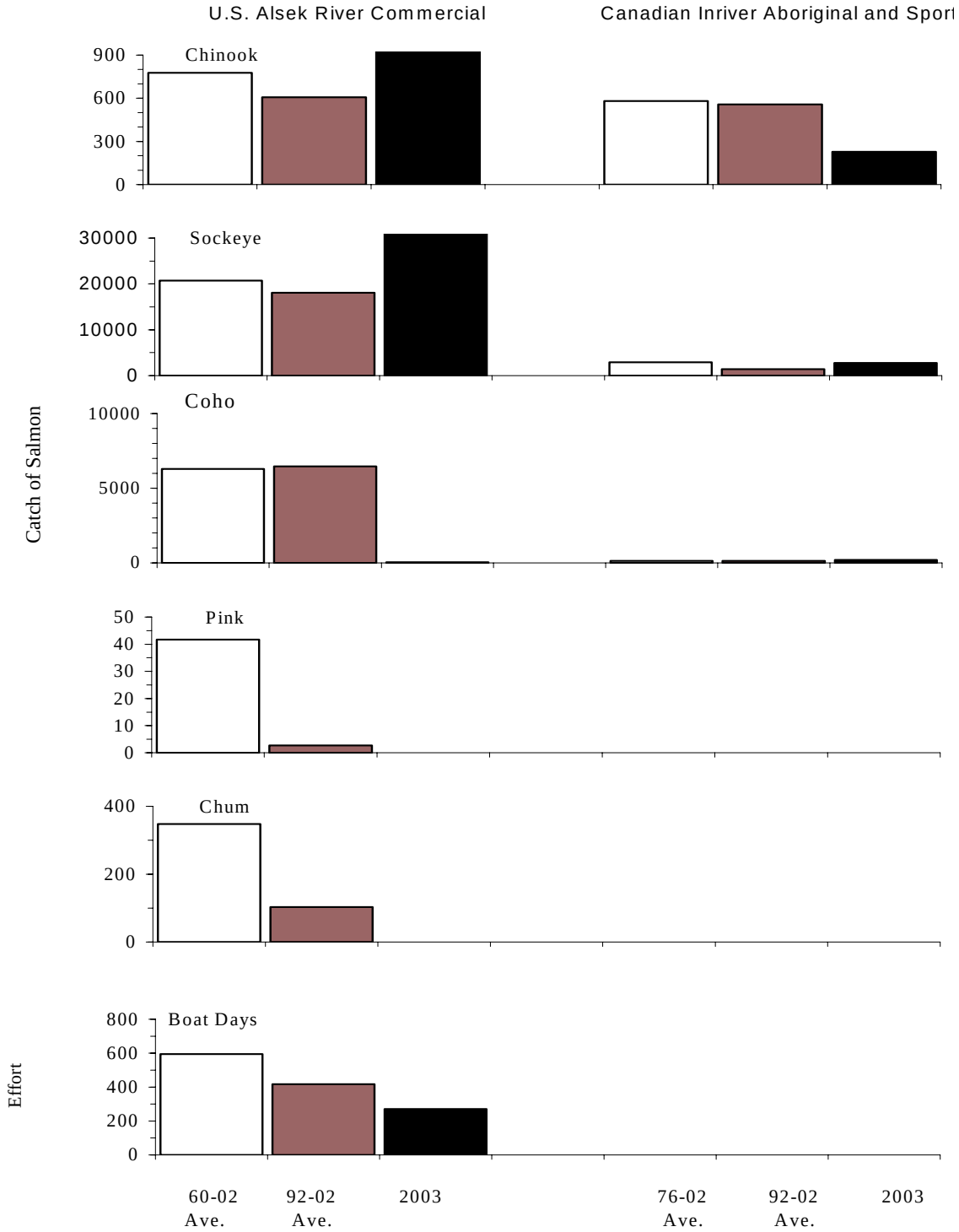

Figure 11. Average catches and fishing efforts compared with 2003 values for the Alaska Alsek River commercial fishery and the Canadian aboriginal and sport fisheries in the Alsek River.

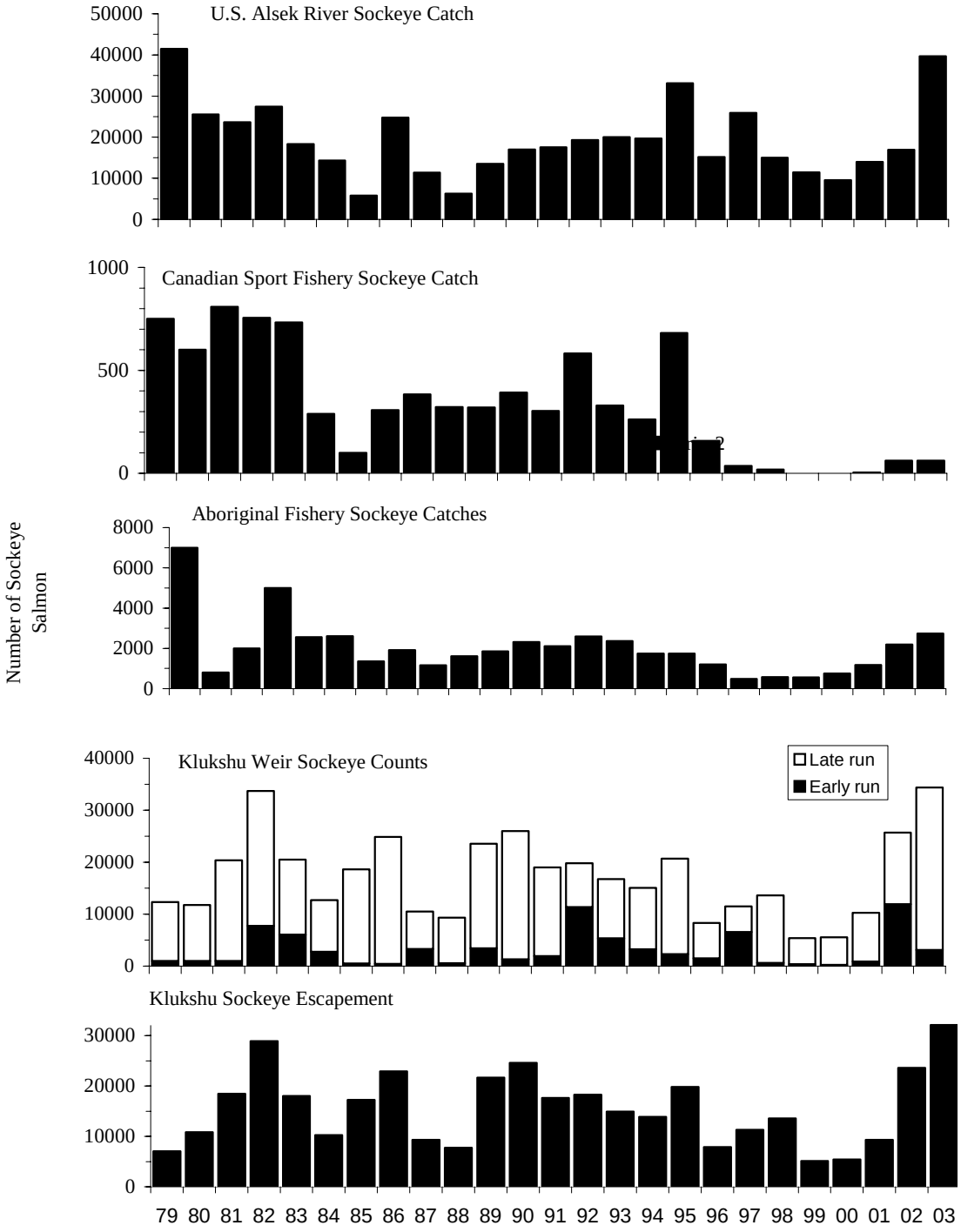

Figure 12. Alsek River sockeye salmon catches and weir counts, 1979-2003.

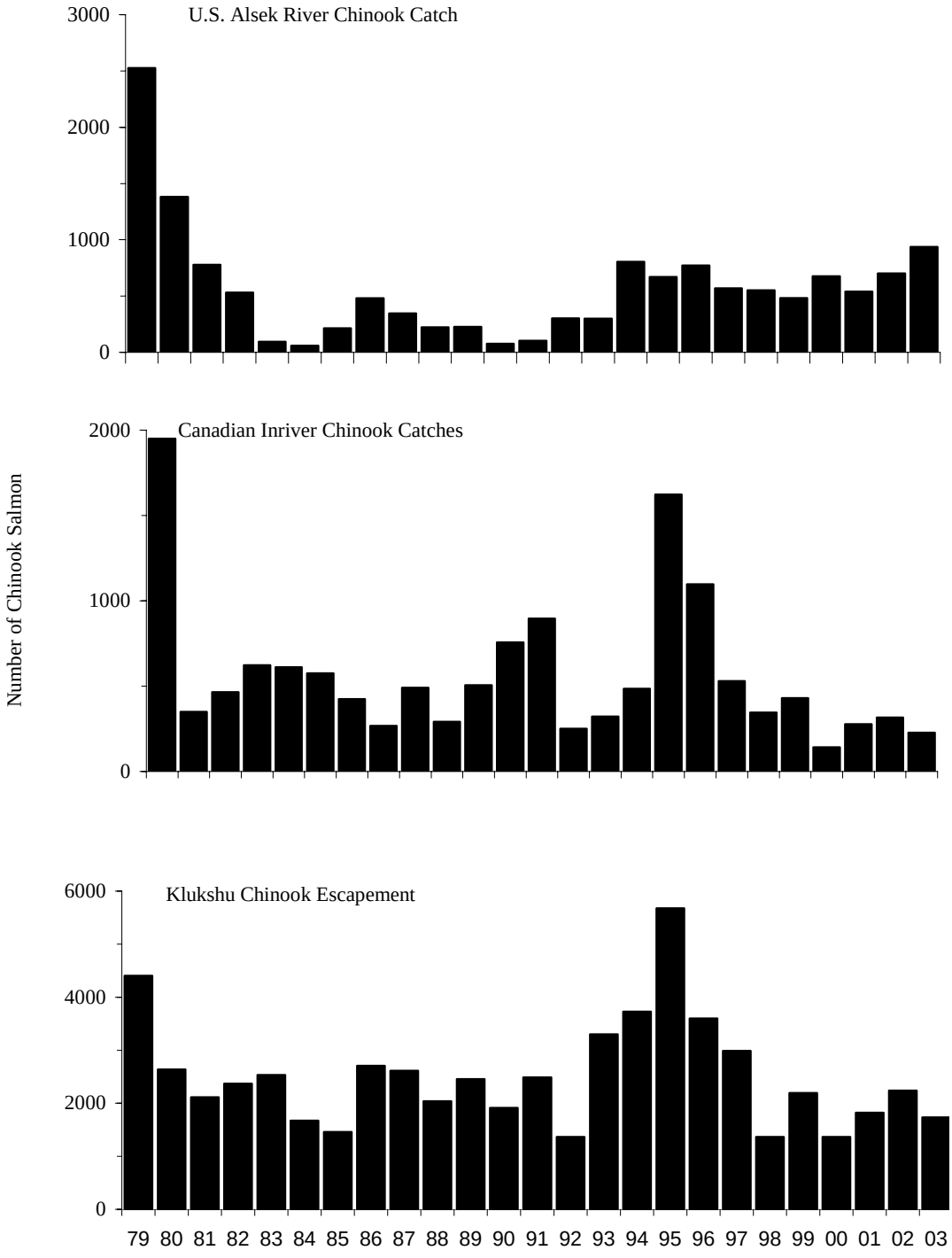

Figure 13. Alsek River Chinook salmon catches and weir counts, 1979-2003.

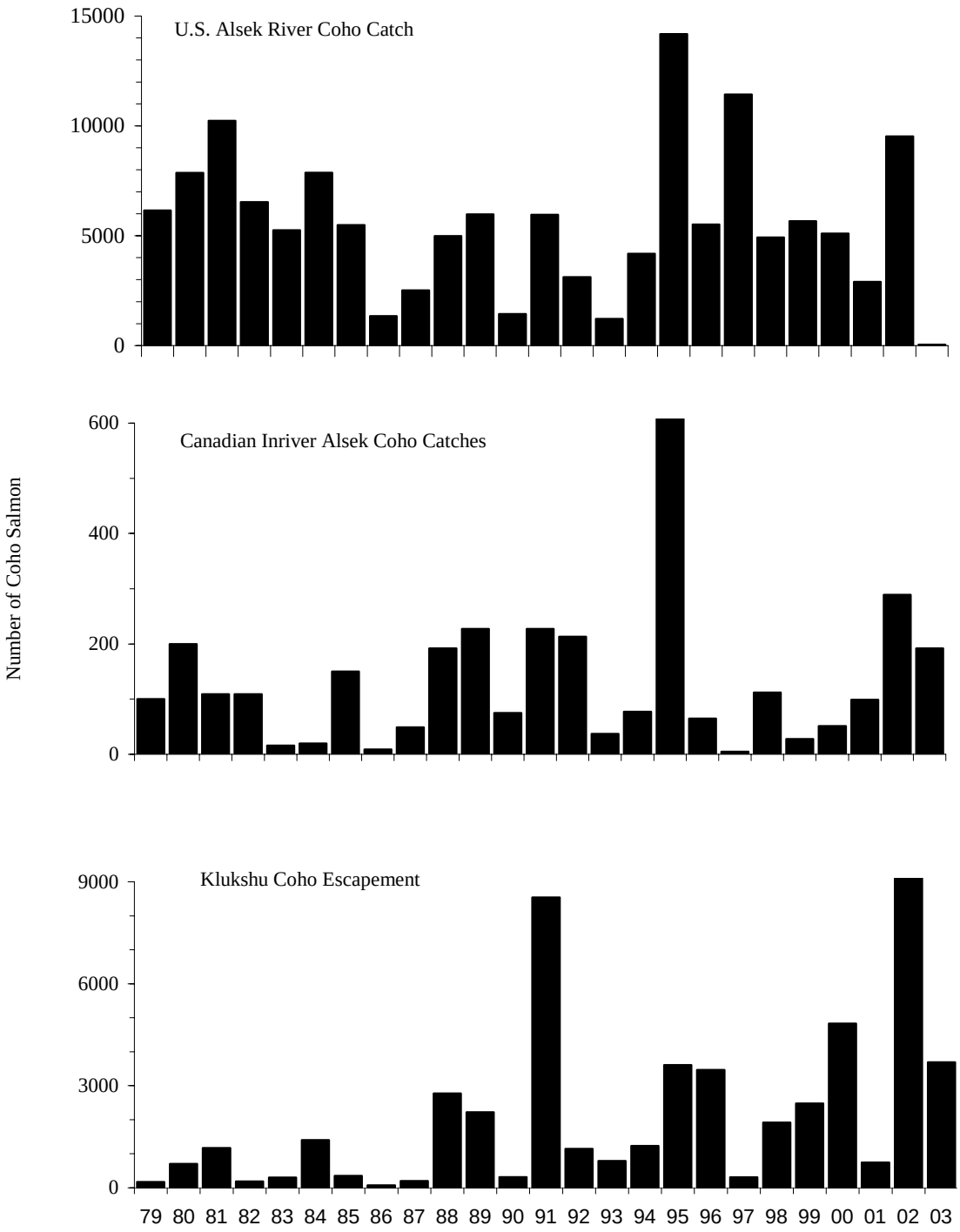

Figure 14. Alsek River coho salmon catches and weir counts, 1979-2003.

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 1963 and Chinook salmon have only been harvested incidentally during the sockeye salmon fishery in early June. From 1963 through 1997, the early June periods were limited in time in order to reduce the impact on Chinook salmon. With the advent of the new Chinook salmon escapement goal concern for incidentally caught Chinook salmon has diminished, therefore the management of the early June periods was based on sockeye salmon CPUE. Gillnet mesh size was restricted to a maximum of six inches through July 1.

CANADIAN FISHERIES

The aboriginal fishery harvested an estimated 90 Chinook, 2,734 sockeye, and no coho salmon (Figures 11-14, Appendices E.2 and E.6). The estimated Chinook salmon catch was 38% of the 1993-2002 average of 242 fish. The sockeye salmon catch was 2.1 times the average of 1,277 fish; the average coho salmon catch is 29 fish.

Catch estimates for the Tatshenshini recreational fishery were below average for Chinook and sockeye salmon with an estimated 138 Chinook and 61 sockeye salmon harvested, and above average for coho salmon with 192 fish harvested. These represent 44% of the 1993-2002 average for Chinook, 39% for sockeye, and 177% for coho salmon. The low Chinook and sockeye salmon catches have been attributed to the changed river channel (i.e., fewer holding areas below the Tatshenshini/Klukshu rivers confluence) and to the relocation of the Klukshu weir in 2001, which has allowed migrating salmon to stage further up from Dalton Post in the Klukshu River. Retention of sockeye salmon in the Tatshenshini River was permitted starting on August 15th as per regulation. By August 30th, the upper end of the escapement goal had been exceeded and it was decided to increase the daily sockeye salmon limit to 4 fish (8 fish in possession) starting on September 6. High coho salmon counts at the Klukshu weir prompted an increase in the daily coho salmon recreational catch limit from two per day to four on October 9th. The preliminary catch data was derived from a creel census in the Dalton Post area and a catch card program conducted by the Yukon Salmon Committee (YSC) and DFO. Weekly estimates and annual comparisons are listed in Appendices E.2 and E.6.

Management of salmon in the Yukon is a shared responsibility between DFO and the Yukon Salmon Committee (YSC). The YSC was established in 1995 pursuant to the Comprehensive Land Claim Umbrella Final Agreement between the Government of Canada, the Council for Yukon Indians and the Government of the Yukon. The Committee is a public board consisting of ten members, 70% of which are appointed by Yukon First Nations. Two CAFN members sit on the YSC. Although the Committee currently operates by consensus, the voting structure of the Committee is organized so that, should a vote be necessary, 50% of the votes reside with appointees of Yukon First Nations.

The 2003 Alsek-Tatshenshini management plan, adopted by CAFN, YSC, and DFO, was based on the objectives described in the ***Harvest Regulations & Management Objectives*** section above. For Chinook and early run sockeye salmon management, the status of the Klukshu weir counts was to be reviewed on or about July 18 to ensure weir and spawning escapement targets were on track. The status of the late run sockeye salmon would be reviewed the first week of September. Adjustments to inseason fishing regimes in the sport and aboriginal fisheries would be made if deemed necessary. Other key elements of the plan are described below.

The center of aboriginal fishing activity in the Alsek River drainage occurs at the CAFN 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. The fishing plan for the aboriginal fishery in the Klukshu River for the period prior to August 15 allowed fishing by means of fish traps for 2 days per week. After August 15, it was planned that the traps would be fished 3 days per week. Conservation thresholds that might invoke restrictions in the Aboriginal fishery were projected Klukshu weir counts of <1,100 Chinook and <1,500 early sockeye salmon. Gaff fisheries also exist on Village Creek and in the headwaters of the Tatshenshini River and tributaries thereof (Goat Creek, Stanley Creek, Parton River, and the Blanchard River). The plan did not restrict the gaff fishery other than to reserve Goat Creek, Stanley Creek, and the Parton River for elders only.

The majority of the recreational fishing effort on this drainage occurs on the Tatshenshini River, at and just downstream of the mouth of the Klukshu River in the vicinity of the abandoned settlement of Dalton Post. The management plan prohibited the retention of sockeye salmon in the recreational fishery prior to August 15 unless the weir count projection for the early run was >4,500 sockeye salmon. The Chinook salmon daily catch limit was one fish and the possession limit was 2 Chinook salmon. For other salmon species, the daily catch and possession limits were 2, and 4 fish, respectively. However, the aggregate limit for all salmon combined was 2 salmon per day, 4 fish in possession. Starting in 2003, salmon fishing was permitted in the Tatsheshini River seven days a week; this fishery had previously been open from 6:00 am Saturday to 12:00 noon Tuesday each week. Headwater areas upstream of the British Columbia/Yukon border were to be closed for the season to protect spawning Chinook salmon. Conservation thresholds that were expected to invoke additional restrictions in the sport fishery were projected Klukshu weir counts of <1,500 Chinook and < 10,600 sockeye salmon (early and late runs combined).

A mandatory Yukon Salmon Conservation Catch Card (YSCCC), introduced by the YSC in 1999, was required by all recreational salmon fishers in 2003. The purpose of the YSCCC is to improve harvest estimates and to serve as a statistical base to ascertain the importance of salmon to the Yukon recreational fishery. Anglers are required to report their catch via mail by the late fall. Information requested includes the number, sex, size, date and location of salmon caught and released.

Since 2001, CAFN has imposed a fishing area closure from the Klukshu River Bridge crossing up to the new weir location to allow for better staging opportunities for salmon in the vicinity of the Klukshu/Tatshenshini confluence.

ESCAPEMENT

Total drainage abundance programs are being implemented as part of the development of abundance-based management regimes and to accurately assess whether the system-wide escapement goals for Alsek River Chinook and sockeye salmon stocks are appropriate and if so, are being achieved. At this time, there are no programs in place to estimate the drainage-wide coho salmon escapement. A large and 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 allow annual comparisons of escapement indices. The most reliable long-term comparative escapement index

for Alsek River drainage salmon stocks is the Klukshu River weir count. Escapements for 2003 are shown in Table 6.

Sockeye Salmon

The weir count and escapement estimates of Klukshu River sockeye salmon were 34,362 and 32,120 fish respectively in 2003 (Table 6, Appendices E.3 and E.7). The count of 3,084 early run fish (count through August 15) was 94% of the 1993-2002 average of 3,299 fish while the count of 31,278 late run fish was 3.1 times the average of 9,983 fish. The total escapement was a record, was 2.6 times the average escapement of 12,484 sockeye salmon, and was more than twice the upper end of the recommend escapement goal range of 7,500 to 15,000 fish. The sockeye salmon escapement estimate at the Village Creek counter of 4,340 fish in 2003, was 70.4% higher than the 1993-2002 average of 2,547 fish (Appendix E.9).

Table 6. Catch and Klukshu index escapement data for Alsek River sockeye, Chinook, and coho salmon for 2003.

	Sockeye	Chinook	Coho
Inriver Run from Mark-Recapture	90,088	4,989	N/A
Escapement Index [a]			
Klukshu Weir Count	34,362	1,737	3,689
Klukshu Escapement	32,120	1,661	3,689
Harvest [b]			
U.S. Commercial	39,755	942	47
U.S. Subsistence	176	24	27
Canadian Sport	61	138	192
Canadian Aboriginal	2,734	90	0
Total	42,609	1,115	149

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

[b] U.S. harvest estimate differs from Joint Interception Committee estimate because no estimates are made for catches other than the listed fisheries.

A sockeye salmon mark–recapture program was initiated in 2000 to explore the feasibility of developing an abundance-based management regime for Alsek River sockeye salmon and this was continued through 2003. The modified Peterson estimate of the inriver run above Dry Bay is approximately 90,088 sockeye salmon (m=1,815, r=111, c=5,554), with a 95% confidence interval of 74,927 to 108,287 fish (Appendix E.8). The Klukshu weir count therefore represented approximately 38% of the total Alsek inriver run in 2003. The estimated contribution of Nesketaheen sockeye salmon to the total Alsek River run was approximately 5%. The radio tagging study, which was initiated in 2001 to determine the run timing and distribution of sockeye salmon in the Alsek River drainage, was continued for the final year in 2003. In total, 335 radio tags were applied to migrating sockeye salmon captured above the U.S. commercial fishery. To date, analysis of the radio tagging data has not been completed.

Historical aerial survey counts for other Alsek River index tributaries are listed in Appendix E.9.

Chinook Salmon

The most reliable comparative Chinook salmon escapement index for the Alsek River drainage is the Klukshu River weir count. The Chinook salmon weir and escapement counts in 2003 were 1,737 and 1,661 fish respectively (Table 6), and were both 61% of the 1993-2002 averages of 2,828 and 2,716 fish, respectively (Figure 13, Appendix E.7). The 2003 escapement was within the revised interim escapement goal range of 1,100 to 2,300 Klukshu Chinook salmon.

Aerial Chinook salmon surveys were again flown in 2003. The count of 127 Chinook salmon in the Blanchard River was 46% of the 1993-2002 average of 275 fish, the 10 fish counted at Goat Creek was 22% of the average of 45 fish, and the count of 105 fish for the Takhanne River was 4% of the average of 236 fish (Appendix E.10).

A Chinook salmon mark-recapture study was conducted again in 2003. The estimated inriver run past Dry Bay for Alsek River Chinook salmon was 4,849 large fish (Appendix E.11). The Klukshu escapement of 1,358 large fish represents approximately 32% of the total large Chinook salmon escapement.

Coho Salmon

The Klukshu weir count and escapement of 3,689 fish are both 26% higher than their respective averages for 1993-2002, (Table 6). The weir is removed prior to the completion of the coho salmon run and typically does not include fish that migrate after mid-October. (Figure 14, Appendix E.12)

SOCKEYE SALMON RUN RECONSTRUCTION

Estimates of the Klukshu contribution to the sockeye salmon run to the Alsek River drainage vary from 14% from the mark-recapture study in 2000 to 38% from the mark-recapture study done in 2003 (Appendix E.8). For 2003, the estimated inriver run above Alsek Lake was 90,088 sockeye salmon (Table 6). The Canadian aboriginal and sport catch estimates of 2,795 fish left a spawning escapement of 87,293 fish. The estimated U.S. subsistence and commercial catch of 39,874 sockeye salmon added to the inriver run produce an Alsek inriver run estimate of approximately 129,962 sockeye salmon (Appendix E.8).

ENHANCEMENT ACTIVITIES

EGG COLLECTION

In 2003, sockeye salmon eggs were collected at Tahltan Lake on the Stikine River for the sixteenth year, and in the Tatsamenie Lake system on the Taku River, for the fourteenth year of this program.

Tahltan Lake

The egg collection was contracted to Arc Environmental Ltd. for the seventh consecutive year. The first large escapement since 1996 provided good numbers of brood stock. Collection of fish was much easier in comparison with recent years. An estimated 5.4 million eggs were collected from 1,936 females and milt was collected from 1,961 males (Appendix A.17). The estimated egg collection is based on eyed egg processing completed at the hatchery; the average fecundity is 2,700 eggs per female. The brood stock was collected by beach seine at the major spawning site as has been done in most years. Fish were not collected from other sites due to several

constraints. The eggs were collected on thirteen distinct egg-take days. Due to inclement weather, eggs collected on September 1 and 13 were delayed in shipment to the hatchery by one and two days, respectively. The egg-take goal at Tahltan Lake is 6.0 million eggs.

Tatsamenie Lake

Tatsamenie Lake brood stock was captured for the tenth year at an adult enumeration weir located at the outlet of Tatsamenie Lake. Egg collection was again contracted to B. Mercer and Associates Ltd. A total of 799 females and 705 males were held prior to the first egg take on September 19. The held brood stock represented 33% of the 2003 sockeye salmon escapement (4,515 fish) into Tatsamenie Lake (Appendix C.9). An estimated 2.82 million eggs were collected (based on a hatchery estimate of egg counts and a fecundity of 4,223 eggs per female) from 622 females and milt was collected from 509 males during 6 egg collections. Mortality of held fish included 48 females and 83 males; the remaining 129 females and 113 males not used for gamete collection were released on October 18 and it is not know if any of the fish spawned successfully. Investigation of a passive flow incubator continued at the lake with 195,500 eggs collected from 46 females and placed in the incubator on October 10. the results from this experiment will be reported in the 2004 Transboundary Technical Committee Report.

INCUBATION, THERMAL MARKING, AND FRY PLANTS (2002 BROOD YEAR)

The egg incubation and thermal-marking program at Snettisham Hatchery went smoothly in year 2002/2003. Snettisham hatchery is operated by DIPAC (Douglas Island Pink and Chum, Inc.), a private aquaculture organization in Juneau. A co-operative agreement between ADF&G and DIPAC provides for Snettisham hatchery to serve the needs of the joint TBR enhancement projects.

Incubation of 2002 brood eggs took place at Snettisham Hatchery and the resultant fry were transported to the appropriate systems from May 21 to June 12, 2003. An estimated 484,000 Tatsamenie Lake sockeye salmon fry in three incubators were lost to the IHN virus.

Tahltan Lake

A total of 2.623 (Appendix F.1) million fry from the 2002 Tahltan sockeye salmon egg take was planted back into Tahltan Lake in 2003 (Appendix F.1 and F.2). Survival from green-egg to outplanted fry was 93%. Fry outplanting took place from May 21 to May 28 (Appendix F.17).

Tuya Lake

There were 1.24 million fry planted in Tuya Lake on June 12, 2003. These fish were from eggs collected at Tahltan Lake in the fall of 2002. Survival from green-egg to outplanted fry was 89% (Appendix F.2).

Tatsamenie Lake

A total of 0.92 million fry from the 2002 egg-take was released into Tatsamenie Lake in 2003, and additional 0.442 million fry were placed in a net pen in the lake for feeding, but were lost to IHNV. Survival from green-egg to outplanted-fry was 54% (Appendix F.3). Low survival was partially due to loss of three incubators to IHNV. Outplanting took place from May 21 to May 27.

The loss of Tatsamenie fry to IHNV both during incubation at Snettisham and during the net pen rearing at Tatsamenie Lake is an expected consequence of the culture of sockeye salmon. The

strategy of compartmentalization and isolation provides assurance that losses are kept to a minimum. The incidence in of the IHN virus in the brood stock was one of the highest we have seen in 2002.

The Appendix F tables summarize enhancement activities for 2003 and prior years.

OUTPLANT EVALUATION SURVEYS

Acoustic, Trawl, Beach seine and Limnological Sampling

In 2003, surveys were directed by the Salmon Indexing Methods Unit of Stock Assessment Division of the Pacific Biological Station (PBS) and the Yukon/Transboundary Stock Assessment section of Fisheries and Oceans Canada. Limnological, beach seine, hydroacoustic and trawl surveys were conducted at Tatsamenie Lake by B. Mercer & Associates. A spring limnological survey that included beach seining was conducted by B. Mercer & Associates at Tuya Lake and an early August survey that included index netting, hydroacoustic surveys and trawling was conducted by the PBS. Limnological and beach seine surveys were performed at Tahltan Lake by onsite Fisheries and Oceans Canada (DFO) personnel.

Fry otoliths were examined at DFO's thermal mark lab in Whitehorse, Yukon. Data analyses will take place during the winter of 2003/2004. Limnetic fish population estimates (rounded to the nearest 100,000), density estimates and beach seine catches are presented in various tables in Appendix F. The limnetic sockeye salmon fry population estimates are based on acoustic surveys and trawl samples only; beach seine catches are not used. Currently, beach seine catches serve as a qualitative index of the abundance of fish in the littoral zone, and provide samples to evaluate the proportion of wild to outplanted hatchery fry and length and weight data. Limnetic fry density estimates are made from the sounding transects. Each lake is divided into a number of transects and each transect is further divided into a number of depth strata.

SMOLT ENUMERATION AND SAMPLING

Smolt sampling and enumeration programs were conducted at Tahltan and Tatsamenie lakes. Sampling and enumeration at Tahltan Lake was conducted by DFO, Whitehorse, as part of the continuing smolt program. B. Mercer and Associates, on contract to DFO, performed the work at Tatsamenie Lake.

Tahltan Lake

The Tahltan smolt enumeration program uses a fence and modified inclined plane traps to capture all emigrating smolts. Volumetric displacement techniques are employed to determine the total smolt run size. The 2003 smolt population was estimated to be 1,960,480 fish; approximately 50% (981,000) these fish originated from fry plants based on otolith interpretation (Appendix B.24)

Tuya Lake

Smolt sampling was not conducted at Tuya Lake in 2003.

Tatsamenie Lake

At Tatsamenie Lake, capture of smolts for sampling as well as for obtaining a mark-recapture population estimate was conducted over a six-week period using a fyke net, with attached wing nets. A total of 41,754 smolts were captured and 10,500 smolts were marked for the population

estimate (Appendix F.11). Recaptures of marked fish were used to develop weekly population estimates, which were then identified as wild and hatchery fish based on thermal mark analyses. From the captured smolts 597 representative samples were retained for length and weight sampling and the heads preserved for thermal mark analysis. The overall age composition of the smolts captured was 98% age 1+ and 2% age 2+ based on scale examination and weighted sampling.

The smolt population estimate developed using the Stratified Population Analysis System (SPAS) generated Maximum Likelihood Darroch estimator is 539,500 fish (S.E. 22,500). The hatchery age 1+ component was estimated to be 72,098 age 1+ smolts; 39,004 of these smolts were from a fed release group while 33,094 were from an unfed release group.

The estimate of the survival of the brood year 2001 fry outplants to age 1+ smolt was 3.5%. The fry to smolt survival was 2.7% for fed fry and 5.4% for unfed fry. The unfed group was released in May while the fed groups were released from mid- to late June.

The egg to age 1+ smolt survival for BY 2001 wild fry was 1.1% whereas the egg to age 1+ smolt survival for fed and unfed fry was 1.9% and 3.8%, respectively.

SHORT TERM FRY HOLDING AND FEEDING

Short-term pen holding of transported fry was conducted at Tahltan Lake. The primary objective of this outplant procedure was to assess post-transport mortality rates. Five shipments of sockeye salmon fry were received on May 21, 27, and 28. All fish were held for a period of approximately 24 hours and none of the fish were fed. The number of observed mortalities is unavailable, however it was very low.

At Tatsamenie Lake, two unfed groups of outplanted fry were released directly into the lake and a portion were fed. Unfortunately the fed fish was destroyed due to an IHNV outbreak. The Tatsamenie fry were transported in three shipments, one in May 21 and two shipments on May 27. The fry were released onshore 5 km from the south end of the lake on the west side and at 5 sites on within 2-3 km of the north end of the lake.

TATSAMENIE LAKE PASSIVE FLOW INCUBATORS

One passive flow incubator, of similar design to those successfully tested in prior years, was seeded with eggs at Tatsamenie Lake in October 2003. The incubator was filled with a total of 195,000 eggs.

The purpose of the incubator incubation is to determine if in-lake incubation will confer a survival advantage over the fry incubated at the hatchery. Differential survival between in-lake and hatchery incubated fry may help to determine the cause(s) of the low survival of fry planted into Tatsamenie Lake. We intend to continue with passive flow incubator assessment, despite some discouraging losses in 2001.

THERMAL MARK LABORATORIES

ADF&G Thermal Mark Laboratory

During the 2003 season the ADFG thermal mark lab received otoliths from 13,085 sockeye salmon collected by ADFG and DFO staff as part of the U.S./Canada fry-planting evaluation program. These collections came from commercial and test fisheries in U.S. waters and in Canadian fisheries on the Taku and Stikine Rivers over a 12-week period. In addition, several escapement samples

were examined. Combined, the laboratory processed 12,976 of the otoliths received (99%) and provided estimates on hatchery contributions for almost 100 distinct sampling collections. Of these totals, 2,260 otoliths were identified and classified as belonging to one of 30 marked groups. Estimates of the percentage of hatchery fish contributed to commercial fishery catches were provided to ADF&G and DFO fishery managers 24 to 48 hours after samples arrived at the lab.

Adult sockeye salmon otoliths were processed inseason by the ADF&G otolith lab to estimate the weekly contribution of planted sockeye salmon to the District 106, 108, and 111 gillnet fisheries and to Canadian commercial fisheries in the Stikine and Taku Rivers. Contributions of planted sockeye salmon stocks to catches were as follows: 16,612 planted Stikine River fish to District 106 and 108, and 773 planted Taku River fish to District 111 (includes inriver personal use fishery). Estimates of contributions to Canadian fisheries included 25,125 planted Stikine River fish to Stikine River fisheries and 271planted Taku River fish to the Taku River fisheries.

Canadian Thermal Mark Laboratory

Sub-samples of juvenile and adult otolith samples collected at the study lakes during the 2003 season are being analyzed at the DFO thermal mark lab in Whitehorse. It is anticipated that results will be completed by March 2004.

APPENDICES

Appendix A.1. Weekly salmon catch in the Alaskan District 106 commercial drift gillnet fisheries, 2003. Effort may be less than the sum of effort from 106-41&42 and 106-30 because some boats fished in more than one sub-district.

							Effort		
	Start			Catch					Permit
Week	Date	Chinook	Sockeye	Coho	Pink [a]	Chum	Permits	Days	Days
25	15-Jun	16	1,148	903	1,603	3,067	31	2.0	62
26	22-Jun	70	7,477	4,710	23,655	10,068	45	2.0	90
27	29-Jun	70	8,579	7,381	27,758	11,274	64	2.0	128
28	6-Jul	64	13,019	7,492	34,132	20,829	49	3.0	147
29	13-Jul	16	17,714	9,228	42,372	22,633	66	3.0	198
30	20-Jul	24	17,682	12,523	52,264	36,311	84	3.0	252
31	27-Jul	28	24,473	10,417	76,677	21,313	82	4.0	328
32	3-Aug	22	15,975	13,182	63,248	19,928	82	4.0	328
33	10-Aug	10	7,181	8,618	56,411	10,825	80	4.0	320
34	17-Aug	4	2,195	13,903	47,435	12,318	60	4.0	240
35	24-Aug	21	950	18,099	34,761	22,236	92	4.0	368
36	31-Aug	5	282	17,098	6,688	22,798	79	3.0	237
37	7-Sep	14	184	30,520	3,497	37,750	88	4.0	352
38	14-Sep	32	36	34,234	193	34,052	80	4.0	320
39	21-Sep	3	6	14,831	3	10,812	62	4.0	248
40	28-Sep	2	3	7,514	0	3,698	36	4.0	144
41-42	5-Oct	21	0	1,404	0	341	15	5.0	75
Total		422	116,904	212,057	470,697	300,253		59.0	3,837
Alaska Hatchery Contribution									
25	15-Jun	63		428		0			
26	22-Jun	52		3,439		2,498			
27	29-Jun	20		4,726		8,053			
28	6-Jul	27		5,304		12,293			
29	13-Jul	0		5,215		5,553			
30	20-Jul	0		4,190		10,805			
31	27-Jul	0		3,246		6,377			
32	3-Aug	0		3,955		4,432			
33	10-Aug	0		1,230		1,090			
34	17-Aug	0		2,445		4,530			
35	24-Aug	0		4,902		9,539			
36	31-Aug	2		6,031		8,216			
37	7-Sep	28		13,634		10,939			
38	14-Sep	0		20,026		12,388			
39	21-Sep	0		10,928		8,311			
40	28-Sep	0		2,989		0			
41-42	5-Oct	0		767		347			
Total		192		93,454		105,372			
Catches not including Alaska hatchery contributions									
25	15-Jun	-47	1,148	475	1,603	3,067	31	2.0	62
26	22-Jun	18	7,477	1,271	23,655	7,570	45	2.0	90
27	29-Jun	50	8,579	2,655	27,758	3,221	64	2.0	128
28	6-Jul	37	13,019	2,188	34,132	8,536	49	3.0	147
29	13-Jul	16	17,714	4,013	42,372	17,080	66	3.0	198
30	20-Jul	24	17,682	8,333	52,264	25,506	84	3.0	252
31	27-Jul	28	24,473	7,171	76,677	14,936	82	4.0	328
32	3-Aug	22	15,975	9,227	63,248	15,496	82	4.0	328
33	10-Aug	10	7,181	7,388	56,411	9,735	80	4.0	320
34	17-Aug	4	2,195	11,458	47,435	7,788	60	4.0	240
35	24-Aug	21	950	13,197	34,761	12,697	92	4.0	368
36	31-Aug	3	282	11,067	6,688	14,582	79	3.0	237
37	7-Sep	-14	184	16,886	3,497	26,811	88	4.0	352
38	14-Sep	32	36	14,208	193	21,664	80	4.0	320
39	21-Sep	3	6	3,903	3	2,501	62	4.0	248
40	28-Sep	2	3	4,525	0	3,698	36	4.0	144
41-42	5-Oct	21	0	637	0	-6	15	5.0	75
Total		230	116,904	118,603	470,697	194,881	1,095	59.0	3,837

[a] Data not available to estimate contributions of pink salmon from Alaska hatcheries.

Appendix A.2. Weekly stock proportions of sockeye salmon harvested in the Alaskan District 106 commercial drift gillnet fisheries, 2003. Data based on SPA.

			Stikine				Planted	CPUE of Stikine Fish			
Week	Alaska	Canada	Tahltan [a]	Tuya	Mainstem	Total	Tahltan	Tahltan [a]	Tuya	Mainstem	Total
Proportio											
25	0.545	0.117	0.258	0.077	0.003	0.338	0.076	0.065	0.034	0.002	0.046
26	0.353	0.150	0.359	0.121	0.017	0.497	0.138	0.407	0.237	0.070	0.305
27	0.435	0.132	0.260	0.157	0.016	0.433	0.136	0.238	0.248	0.054	0.214
28	0.584	0.106	0.161	0.116	0.032	0.309	0.072	0.195	0.242	0.144	0.202
29	0.720	0.062	0.073	0.075	0.070	0.219	0.035	0.089	0.158	0.321	0.144
30	0.842	0.028	0.001	0.032	0.098	0.130	0.016	0.001	0.052	0.348	0.067
31	0.891	0.086	0.003	0.016	0.003	0.022	0.003	0.003	0.029	0.011	0.012
32	0.838	0.154	0.002	0.000	0.006	0.008	0.000	0.001	0.000	0.014	0.003
33	0.861	0.108	0.000	0.000	0.030	0.030	0.000	0.000	0.000	0.035	0.005
34	0.931	0.069	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.725	0.270	0.000	0.000	0.005	0.005	0.000	0.000	0.000	0.001	0.000
36	0.723	0.270	0.000	0.000	0.008	0.008	0.000	0.000	0.000	0.000	0.000
37	0.722	0.270	0.000	0.000	0.008	0.008	0.000	0.000	0.000	0.000	0.000
38	0.722	0.270	0.000	0.000	0.008	0.008	0.000	0.000	0.000	0.000	0.000
39	0.721	0.270	0.000	0.000	0.009	0.009	0.000	0.000	0.000	0.000	0.000
40	0.724	0.270	0.000	0.000	0.006	0.006	0.000	0.000	0.000	0.000	0.000
Total	0.742	0.096	0.075	0.053	0.035	0.162	0.036				
Catches											
25	625	134	297	89	3	388	87	4.8	1.4	0.0	6.3
26	2,643	1,122	2,683	905	124	3,713	1,035	29.8	10.1	1.4	41.3
27	3,730	1,133	2,234	1,347	135	3,716	1,165	17.5	10.5	1.1	29.0
28	7,607	1,384	2,097	1,514	417	4,028	932	14.3	10.3	2.8	27.4
29	12,748	1,094	1,292	1,332	1,248	3,872	624	6.5	6.7	6.3	19.6
30	14,885	496	18	559	1,724	2,301	277	0.1	2.2	6.8	9.1
31	21,815	2,109	79	399	71	549	66	0.2	1.2	0.2	1.7
32	13,382	2,467	36	0	90	126	0	0.1	0.0	0.3	0.4
33	6,184	779	0	0	218	218	0	0.0	0.0	0.7	0.7
34	2,043	152	0	0	0	0	0	0.0	0.0	0.0	0.0
35	689	256	0	0	5	5	0	0.0	0.0	0.0	0.0
36	204	76	0	0	2	2	0	0.0	0.0	0.0	0.0
37	133	50	0	0	1	1	0	0.0	0.0	0.0	0.0
38	26	10	0	0	0	0	0	0.0	0.0	0.0	0.0
39	4	2	0	0	0	0	0	0.0	0.0	0.0	0.0
40	2	1	0	0	0	0	0	0.0	0.0	0.0	0.0
Total	86,720	11,264	8,736	6,145	4,039	18,920	4,186	73.3	42.5	19.7	135.4

[a] All Tahltan includes wild and thermally marked fish.

Appendix A.3. Weekly salmon catch and effort in the Alaskan Sub-district 106-41&42 (Sumner Strait) commercial drift gillnet fishery, 2003.

							Effort		
	Start	Catch							Permit
Week	Date	Chinook	Sockeye	Coho	Pink	Chum	Permits	Days	Days
25	15-Jun	15	1,093	842	1,516	3,046	27	2.0	54
26	22-Jun	59	7,071	3,733	18,496	9,889	36	2.0	72
27	29-Jun	49	8,122	6,167	22,891	10,116	56	2.0	112
28	6-Jul	25	9,911	4,506	22,852	17,572	36	3.0	108
29	13-Jul	7	12,698	4,961	19,185	18,041	43	3.0	129
30	20-Jul	14	13,253	6,122	31,284	29,715	60	3.0	180
31	27-Jul	11	18,837	6,600	58,479	17,957	61	4.0	244
32	3-Aug	7	10,241	7,992	35,413	14,707	55	4.0	220
33	10-Aug	2	5,093	5,264	31,018	8,368	50	4.0	200
34	17-Aug	0	1,290	9,911	25,384	10,187	35	4.0	140
35	24-Aug	0	543	11,942	15,167	13,967	61	4.0	244
36	31-Aug	3	239	14,325	5,587	19,262	62	3.0	186
37	7-Sep	13	164	26,797	3,078	31,901	76	4.0	304
38	14-Sep	26	32	21,375	157	23,762	64	4.0	256
39	21-Sep	3	6	11,531	1	7,857	49	4.0	196
40	28-Sep	2	2	4,293	0	2,063	21	4.0	84
41-42	5-Oct	18	0	1,313	0	324	12	5.0	34
Total		254	88,595	147,674	290,508	238,734		59.0	2,763

Appendix A.4. Weekly stock proportions and catches of sockeye salmon harvested in the Alaskan Sub-district 106-41&42 (Sumner Strait) commercial drift gillnet fishery, 2003. Data based on scale pattern analysis.

			Stikine				Planted	CPUE of Stikine Fish			
Week	Alaska	Canada	Tahltan [a]	Tuya	Mainstem	Total	Tahltan	Tahltan [a]	Tuya	Mainstem	Total
Proportions											
25	0.532	0.116	0.269	0.081	0.003	0.352	0.079	0.059	0.030	0.002	0.042
26	0.327	0.151	0.377	0.127	0.018	0.522	0.146	0.404	0.231	0.069	0.300
27	0.405	0.138	0.275	0.165	0.017	0.457	0.140	0.218	0.221	0.048	0.194
28	0.471	0.132	0.207	0.148	0.042	0.397	0.094	0.207	0.250	0.155	0.213
29	0.624	0.078	0.101	0.100	0.098	0.299	0.049	0.108	0.181	0.388	0.172
30	0.847	0.020	0.001	0.042	0.089	0.132	0.021	0.001	0.057	0.264	0.057
31	0.882	0.090	0.003	0.021	0.004	0.028	0.004	0.003	0.030	0.012	0.013
32	0.905	0.087	0.000	0.000	0.009	0.009	0.000	0.000	0.000	0.016	0.002
33	0.832	0.125	0.000	0.000	0.043	0.043	0.000	0.000	0.000	0.044	0.006
34	0.943	0.057	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.721	0.270	0.000	0.000	0.009	0.009	0.000	0.000	0.000	0.001	0.000
36	0.721	0.270	0.000	0.000	0.009	0.009	0.000	0.000	0.000	0.000	0.000
37	0.721	0.270	0.000	0.000	0.009	0.009	0.000	0.000	0.000	0.000	0.000
38	0.721	0.270	0.000	0.000	0.009	0.009	0.000	0.000	0.000	0.000	0.000
39	0.721	0.270	0.000	0.000	0.009	0.009	0.000	0.000	0.000	0.000	0.000
40	0.721	0.270	0.000	0.000	0.009	0.009	0.000	0.000	0.000	0.000	0.000
Total	0.700	0.095	0.097	0.068	0.040	0.204	0.047	0.537	0.317	0.146	1.000
Catches											
25	581	127	294	88	3	385	87	5.4	1.6	0.1	7.1
26	2,315	1,067	2,664	901	124	3,689	1,035	37.0	12.5	1.7	51.2
27	3,290	1,123	2,234	1,340	135	3,709	1,140	19.9	12.0	1.2	33.1
28	4,668	1,311	2,052	1,463	417	3,932	932	19.0	13.5	3.9	36.4
29	7,919	986	1,279	1,266	1,248	3,793	624	9.9	9.8	9.7	29.4
30	11,229	268	11	559	1,186	1,756	277	0.1	3.1	6.6	9.8
31	16,608	1,698	61	399	71	531	66	0.3	1.6	0.3	2.2
32	9,263	888	0	0	90	90	0	0.0	0.0	0.4	0.4
33	4,236	639	0	0	218	218	0	0.0	0.0	1.1	1.1
34	1,217	73	0	0	0	0	0	0.0	0.0	0.0	0.0
35	392	146	0	0	5	5	0	0.0	0.0	0.0	0.0
36	172	64	0	0	2	2	0	0.0	0.0	0.0	0.0
37	118	44	0	0	1	1	0	0.0	0.0	0.0	0.0
38	23	9	0	0	0	0	0	0.0	0.0	0.0	0.0
39	4	2	0	0	0	0	0	0.0	0.0	0.0	0.0
40	1	1	0	0	0	0	0	0.0	0.0	0.0	0.0
Total	62,037	8,446	8,595	6,016	3,501	18,112	4,161	91.6	54.2	24.9	170.8

[a] All Tahltan includes wild and thermally marked fish.

Appendix A.5. Weekly salmon catch and effort in the Alaskan Sub-district 106-30 (Clarence Strait) commercial drift gillnet fishery, 2003.

							Effort		
	Start	Catch							Permit
Week	Date	Chinook	Sockeye	Coho	Pink	Chum	Permits	Days	Days
25	15-Jun	1	55	61	87	21	4	2.0	8
26	22-Jun	11	406	977	5,159	179	9	2.0	18
27	29-Jun	21	457	1,214	4,867	1,158	10	2.0	20
28	6-Jul	39	3,108	2,986	11,280	3,257	13	3.0	39
29	13-Jul	9	5,016	4,267	23,187	4,592	23	3.0	69
30	20-Jul	10	4,429	6,401	20,980	6,596	25	3.0	75
31	27-Jul	17	5,636	3,817	18,198	3,356	23	4.0	92
32	3-Aug	15	5,734	5,190	27,835	5,221	29	4.0	116
33	10-Aug	8	2,088	3,354	25,393	2,457	32	4.0	128
34	17-Aug	4	905	3,992	22,051	2,131	25	4.0	100
35	24-Aug	21	407	6,157	19,594	8,269	34	4.0	136
36	31-Aug	2	43	2,773	1,101	3,536	19	3.0	57
37	7-Sep	1	20	3,723	419	5,849	15	4.0	60
38	14-Sep	6	4	12,859	36	10,290	24	4.0	96
39	21-Sep	0	0	3,300	2	2,955	16	4.0	64
40	28-Sep	0	1	3,221	0	1,635	18	4.0	72
41-42	5-Oct	3	0	91	0	17	3	5.0	8
Total		168	28,309	64,383	180,189	61,519		59.0	1,158

Appendix A.6. Weekly stock proportions and catches of sockeye salmon harvested in the Alaskan Sub-district 106-30 (Clarence Strait) commercial drift gillnet fishery, 2003. Data based on scale pattern analysis.

			Stikine				Planted	CPUE of Stikine Fish			
Week	Alaska	Canada	Tahltan [a]	Tuya	Mainstem	Total	Tahltan	Tahltan [a]	Tuya	Mainstem	Total
Proportions											
25	0.807	0.134	0.048	0.011	0.000	0.059	0.000	0.098	0.000	0.000	0.030
26	0.807	0.134	0.048	0.011	0.000	0.059	0.000	0.322	0.000	0.000	0.098
27	0.963	0.022	0.000	0.015	0.000	0.015	0.054	0.000	0.000	0.000	0.026
28	0.946	0.023	0.014	0.016	0.000	0.031	0.000	0.345	0.000	0.000	0.183
29	0.963	0.022	0.003	0.013	0.000	0.016	0.000	0.056	0.000	0.000	0.085
30	0.825	0.051	0.002	0.000	0.121	0.123	0.000	0.028	0.000	1.000	0.540
31	0.924	0.073	0.003	0.000	0.000	0.003	0.000	0.058	0.000	0.000	0.015
32	0.718	0.275	0.006	0.000	0.000	0.006	0.000	0.093	0.000	0.000	0.023
33	0.933	0.067	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
34	0.913	0.087	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.731	0.269	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
36	0.731	0.269	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
37	0.731	0.269	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38	0.731	0.269	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000
39	0.731	0.269	0.000	0.000	0.000	0.000	0.000	0.000	2.000	0.000	0.000
40	0.731	0.269	0.000	0.000	0.000	0.000	0.000	0.000	3.000	0.000	0.000
Total	0.872	0.100	0.005	0.005	0.019	0.029	0.001	0.249	0.218	0.533	1.000
Catches											
25	44	7	3	1	0	3	0	0.3	0.1	0.0	0.4
26	328	55	19	4	0	24	0	1.1	0.2	0.0	1.3
27	440	10	0	7	0	7	25	0.0	0.4	0.0	0.4
28	2,939	73	45	51	0	96	0	1.2	1.3	0.0	2.5
29	4,829	108	13	66	0	79	0	0.2	1.0	0.0	1.1
30	3,656	228	7	0	538	545	0	0.1	0.0	7.2	7.3
31	5,207	411	18	0	0	18	0	0.2	0.0	0.0	0.2
32	4,119	1,579	36	0	0	36	0	0.3	0.0	0.0	0.3
33	1,948	140	0	0	0	0	0	0.0	0.0	0.0	0.0
34	826	79	0	0	0	0	0	0.0	0.0	0.0	0.0
35	297	110	0	0	0	0	0	0.0	0.0	0.0	0.0
36	31	12	0	0	0	0	0	0.0	0.0	0.0	0.0
37	15	5	0	0	0	0	0	0.0	0.0	0.0	0.0
38	3	1	0	0	0	0	0	0.0	0.0	0.0	0.0
39	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0
40	1	0	0	0	0	0	0	0.0	0.0	0.0	0.0
Total	24,683	2,818	141	129	538	808	25	3.3	2.9	7.2	13.5

[a] All Tahltan includes wild and thermally marked fish.

Appendix A.7. Weekly salmon catch and effort in the Alaskan District 108 commercial drift gillnet fishery, 2003. The 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.

							Effort		
	Start	Catch							Permit
Week	Date	Chinook	Sockeye	Coho	Pink [a]	Chum	Permits	Days	Days
28	6-Jul	104	11,224	1,209	10,578	5,141	37	3.0	111.0
29	13-Jul	50	10,581	1,049	15,959	4,252	52	4.0	140.0
30	20-Jul	108	14,545	2,906	29,636	18,746	65	5.0	209.0
31	27-Jul	39	4,048	733	7,622	4,850	27	4.0	108.0
32	3-Aug	5	1,231	1,090	6,930	2,687	10	4.0	40.0
33	10-Aug	3	284	621	2,353	1,527	12	4.0	48.0
34	17-Aug	0	145	1,170	935	950	10	4.0	40.0
35	24-Aug	0	63	2,113	605	982	13	4.0	52.0
36	31-Aug	0	30	1,478	1,486	366	20	3.0	60.0
37	7-Sep	1	5	10,116	9	6,570	41	4.0	164.0
38	14-Sep	0	2	9,226	0	2,628	31	4.0	124.0
39	21-Sep	0	0	4,295	0	2,687	26	4.0	104.0
40	28-Sep	0	0	2,362	0	300	12	4.0	48.0
41	5-Oct	2	0	383	0	11	6	3.0	18.0
42	12-Oct	0	0	44	0	4	2	2.0	4.0
Total		312	42,158	38,795	76,113	51,701	364	56.0	1,270
Alaska Hatchery Contribution									
28	6-Jul	38		265		1,622			
29	13-Jul	68		937		958			
30	20-Jul	56		157		4,149			
31	27-Jul	48		130		0			
32	3-Aug	0		181		0			
33	10-Aug	0		0		0			
34	17-Aug	0		0		0			
35	24-Aug	0		128		0			
36	31-Aug	0		128		0			
37	7-Sep	0		545		0			
38	14-Sep	0		1,454		0			
39	21-Sep	0		1,754		0			
40	28-Sep	0		1,104		0			
41	5-Oct	0		229		0			
42	12-Oct	0		249		0			
Total		209	0	7,260		6,729			
Catches not including Alaska hatchery contributions									
28	6-Jul	66	11,224	944	10,578	3,519	37	3.0	111
29	13-Jul	-18	10,581	112	15,959	3,294	52	4.0	140
30	20-Jul	52	14,545	2,749	29,636	14,597	65	5.0	209
31	27-Jul	-9	4,048	603	7,622	4,850	27	4.0	108
32	3-Aug	5	1,231	909	6,930	2,687	10	4.0	40
33	10-Aug	3	284	621	2,353	1,527	12	4.0	48
34	17-Aug	0	145	1,170	935	950	10	4.0	40
35	24-Aug	0	63	1,985	605	982	13	4.0	52
36	31-Aug	0	30	1,350	1,486	366	20	3.0	60
37	7-Sep	1	5	9,571	9	6,570	41	4.0	164
38	14-Sep	0	2	7,772	0	2,628	31	4.0	124
39	21-Sep	0	0	2,541	0	2,687	26	4.0	104
40	28-Sep	0	0	1,258	0	300	12	4.0	48
41	5-Oct	2	0	154	0	11	6	3.0	18
42	12-Oct	0	0	-205	0	4	2	2.0	4
Total		103	42,158	31,535	76,113	44,972	364	56.0	1,270

[a] Data not available to estimate contributions of pink salmon from Alaska hatcheries.

Appendix A.8. Weekly stock proportions and stock-specific catch of sockeye salmon in the Alaskan District 108 commercial drift gillnet fishery, 2003. Data based on SPA.

			Stikine				Planted	CPUE of Stikine Fish			
Week	Alaska	Canada	Tahltan [a]	Tuya	Mainste	Total	Tahltan	Tahltan [a]	Tuya	Mainste	Total
Proportio											
28	0.134	0.167	0.289	0.149	0.262	0.699	0.170	0.544	0.703	0.205	0.346
29	0.278	0.141	0.130	0.035	0.415	0.581	0.098	0.184	0.124	0.243	0.215
30	0.204	0.071	0.194	0.024	0.507	0.726	0.044	0.252	0.078	0.274	0.247
31	0.317	0.093	0.030	0.054	0.506	0.590	0.012	0.021	0.095	0.147	0.108
32	0.436	0.096	0.000	0.000	0.468	0.468	0.007	0.000	0.000	0.112	0.071
33	0.645	0.130	0.000	0.000	0.225	0.225	0.068	0.000	0.000	0.010	0.007
34	0.645	0.130	0.000	0.000	0.225	0.225	0.000	0.000	0.000	0.006	0.004
35	0.645	0.130	0.000	0.000	0.225	0.225	0.000	0.000	0.000	0.002	0.001
36	0.645	0.130	0.000	0.000	0.225	0.225	0.000	0.000	0.000	0.001	0.001
37	0.645	0.130	0.000	0.000	0.225	0.225	0.000	0.000	0.000	0.000	0.000
38	0.645	0.130	0.000	0.000	0.225	0.225	0.000	0.000	0.000	0.000	0.000
Total	0.227	0.118	0.179	0.062	0.414	0.655	0.087	0.263	0.105	0.632	1.000
Catch											
28	1,500	1,874	3,239	1,673	2,938	7,850	1,908	29.2	15.1	26.5	70.7
29	2,942	1,493	1,379	372	4,395	6,146	1,040	9.9	2.7	31.4	43.9
30	2,964	1,027	2,824	351	7,379	10,554	642	13.5	1.7	35.3	50.5
31	1,284	377	120	219	2,048	2,387	48	1.1	2.0	19.0	22.1
32	537	118	0	0	576	576	9	0.0	0.0	14.4	14.4
33	183	37	0	0	64	64	19	0.0	0.0	1.3	1.3
34	93	19	0	0	33	33	0	0.0	0.0	0.8	0.8
35	41	8	0	0	14	14	0	0.0	0.0	0.3	0.3
36	19	4	0	0	7	7	0	0.0	0.0	0.1	0.1
37	3	1	0	0	1	1	0	0.0	0.0	0.0	0.0
38	1	0	0	0	0	0	0	0.0	0.0	0.0	0.0
Total	9,568	4,958	7,562	2,615	17,455	27,632	3,666	53.7	21.4	129.1	204.2

[a] All Tahltan includes wild and thermally marked fish.

Appendix A.9. Weekly salmon catch and effort an sockeye stock composition in the Alaskan District 108 test fishery, 2003.

There was no marine test fishery in 2003.

Appendix A.10. Weekly salmon and steelhead trout catch and effort in the Canadian commercial fishery in the lower Stikine River, 2003.

		Catch							Effort		
	Start	Chinook									Permit
Week	Date	Jacks[a]	Large	Sockeye	Coho	Pink	Chum	Steelhead	Permits	Days	Days
26	22-Jun	402	260	832	0	0	0	0	10.00	1.0	10.0
27	29-Jun	177	266	7,455	0	0	0	0	10.00	4.0	40.0
28	6-Jul	68	97	13,856	0	0	0	0	10.00	4.0	40.0
29	13-Jul	9	43	9,589	1	0	2	0	10.00	4.0	40.0
30	20-Jul	15	18	11,640	1	73	12	0	10.20	5.0	51.0
31	27-Jul	1	8	6,743	7	234	29	0	10.60	5.0	53.0
32	3-Aug	0	3	1,488	30	518	60	0	6.00	4.0	24.0
33	10-Aug	0	0	19	3	5	0	0	5.00	0.1	0.3
34	17-Aug	0	0	103	93	20	8	0	5.00	1.5	7.5
35	24-Aug	0	0	10	44	0	1	0	5.00	0.1	0.6
36	31-Aug	0	0	0	11	0	0	0	5.00	0.1	0.3
Total		672	695	51,735	190	850	112	0		28.8	275.2

[a] Jacks as reported by fishery and loosely based on "small" fish ~2.5-3.0 kg; the jack catch may not correspond with the estimated jack catch based on sampling, i.e. jack<660 mef or <735 fl.

Appendix A.11. Weekly sockeye salmon stock proportions and catch by stock in the Canadian commercial fishery in the lower Stikine River, 2003. Sex specific age compositions were calculated and the stock composition of the females sampled for egg diameters was expanded to the catch by age.

	Proportion				Planted	Catch			Tahltan	
Week	Small Egg	Tahltan [a]	Tuya	Mainstem	Tahltan	Tahltan [a]	Tuya	Mainstem	Wild	Planted
26	0.897	0.679	0.246	0.075	0.132	565	205	62	455	110
27	0.809	0.621	0.286	0.093	0.181	4,630	2,134	691	3,279	1,351
28	0.885	0.616	0.198	0.186	0.203	8,538	2,742	2,576	5,730	2,808
29	0.659	0.444	0.183	0.373	0.116	4,254	1,755	3,580	3,145	1,109
30	0.345	0.263	0.093	0.644	0.078	3,065	1,082	7,493	2,152	913
31	0.167	0.136	0.058	0.806	0.064	915	393	5,435	482	433
32	0.058	0.067	0.015	0.918	0.026	99	23	1,366	60	39
33	0.111	0.000	0.000	1.000	0.000	0	0	19	0	0
34	0.051	0.009	0.009	0.982	0.000	1	1	101	1	0
35	0.057	0.009	0.009	0.982	0.000	0	0	10	0	0
36	0.000	0.009	0.009	0.982	0.000	0	0	0	0	0
Total						22,067	8,335	21,333	15,304	6,763
Proportion						0.427	0.161	0.412	0.296	0.131

		CPUE			Tahltan	
Week	Total CPUE	Tahltan [a]	Tuya	Mainstem	Wild	Planted
26	83.200	56.500	20.500	6.200	45.500	11.000
27	186.375	115.750	53.350	17.275	81.975	33.775
28	346.400	213.450	68.550	64.400	143.250	70.200
29	239.725	106.350	43.875	89.500	78.625	27.725
30	228.235	60.098	21.216	146.922	42.196	17.902
31	127.226	17.264	7.415	102.547	9.094	8.170
32	62.000	4.125	0.958	56.917	2.500	1.625
33	60.800	0.000	0.000	60.800	0.000	0.000
34	13.733	0.122	0.122	13.490	0.122	0.000
35	16.000	0.142	0.142	15.717	0.142	0.000
Total	1363.695	573.800	216.127	573.767	403.404	170.397
Proportion		0.421	0.158	0.421	0.296	0.125

[a] All Tahltan includes wild and thermally marked fish.

Appendix A.12. Weekly salmon and steelhead trout catch and effort in the Canadian commercial fishery in the upper Stikine River, 2003.

		Catch							Effort		
	Start	Chinook									Permit
Week	Date	Jacks[a]	Large	Sockeye	Coho	Pink	Chum	Steelhead	Permits	Days	Days
28	6-Jul	8	6	63					1.0	3.0	3.0
29	13-Jul	2	2	104					1.0	3.0	3.0
30	20-Jul	2	11	287					1.0	4.0	4.0
Total		12	19	454	0	0	0	0	3.0	10.0	10.0

[a] Jacks as reported by fishery and loosely based on "small" fish ~2.5-3.0 kg; the jack catch may not correspond with the estimated jack catch based on sampling, I.e. jack<660 mef or <735 fl.

Appendix A.13. Weekly salmon and steelhead trout catch and effort in the Canadian Aboriginal fishery located at Telegraph Creek, on the Stikine River, 2003.

		Catch							Effort		Tahltan Sport Fishery			
	Start	Chinook									Rod[b]	Chinook		
Week	Date			Socke		Chu	Steelhea	Permit		Days	Hours	Retain	Releas	Total
21	18-May	0	1	0				1.00	1.0	1.0				
22	25-May	1	30	0				2.29	7.0	16.0				
23	1-Jun	11	34	0				3.00	7.0	21.0				
24	8-Jun	5	28	0				1.50	6.0	9.0				
25	15-Jun	0	5	0				1.00	1.0	1.0				
26	22-Jun	41	82	0				2.29	7.0	16.0	147	53	20	73
27	29-Jun	54	100	20				3.14	7.0	22.0	242	46	7	52
28	6-Jul	64	31	119				3.00	7.0	21.0	206	43	40	83
29	13-Jul	62	103	1,256				11.14	7.0	78.0	139	4	4	9
30	20-Jul	54	80	2,477				16.43	7.0	115.0	274	48	63	111
31	27-Jul	30	96	1,762				9.14	7.0	64.0	99	19	24	43
32	3-Aug	19	19	428				3.80	5.0	19.0	4	0	0	0
33	10-Aug	31	60	277				1.17	6.0	7.0				
34	17-Aug	1	13	250				1.7	6.0	10.0				
35	24-Aug	0	0	6				1.0	1	1.0				
Total		373	682	6,595	0	0	0	0	82	401.0	1,112	213	159	372

[a] Jacks as reported by fishery and loosely based on "small" fish ~2.5-3.0 kg; the jack catch may not correspond with the estimated jack catch based on sampling, I.e. jack<660 mef or <735 fl.

[b] Weekly catches and effort were expanded by 10% because the creel census was not conducted throughout the entire chinook salmon migration.

Appendix A.14. Catch by stock and week for sockeye salmon harvested in the Canadian upper river commercial and Aboriginal fisheries in the Stikine River, 2003.

		Upper River Commercial					Aboriginal Fishery				
					Tahltan					Tahltan	
Week	Start Date	Tahltan	Tuya	Mainstem	Wild	Planted	Tahltan	Tuya	Mainstem	Wild	Planted
27	29-Jun						10	5	5	7	3
28	6-Jul	39	12	12	27	12	73	23	23	50	23
29	13-Jul	69	23	12	51	19	837	275	144	610	227
30	20-Jul	208	65	14	142	66	1,797	560	120	1,227	570
31	27-Jul						822	377	563	441	381
32	3-Aug						221	107	100	167	54
33	10-Aug						124	111	42	109	15
34	17-Aug						100	110	39	46	54
35	24-Aug						2	3	1	1	1
Total		316	100	38	219	97	3,987	1,571	1,037	2,659	1,328

Appendix A.15. Weekly salmon and steelhead trout catch and effort in the Canadian test fishery in the Stikine River, 2003.

		Catch							
	Start	Chinook							# Drifts/
Week	Date	Jacks[a]	Large	Sockeye	Coho	Pink	Chum	Steelhead	Set Hours
Drift									
26	22-Jun	54	40	214	0	0	0	0	77
27	29-Jun	7	16	126	0	0	0	0	42
28	6-Jul	1	3	167	0	0	0	0	42
29	13-Jul	0	3	202	0	9	8	0	42
30	20-Jul	0	1	118	0	27	1	1	28
31	27-Jul	0	1	64	1	16	3	0	28
32	3-Aug	0	0	40	5	16	9	4	28
33	10-Aug	0	0	11	15	10	7	6	28
34	17-Aug	0	0	28	76	9	16	6	56
35	24-Aug	0	0	11	96	4	5	4	56
36	31-Aug	0	0	9	13	0	0	0	56
37	7-Sep	0	0	4	31	1	2	2	32
38	14-Sep	0	0	3	23	0	3	5	30
39	21-Sep	0	0	0	10	0	0	0	30
40	28-Sep	0	0	0	12	0	0	2	30
41	5-Oct	0	0	0	5	0	0	0	30
42	12-Oct	0	0	0	4	0	0	0	25
Total		62	64	997	291	92	54	30	660
Set gillnet									
26	22-Jun	79	7	678	0	0	0	0	120
27	29-Jun	10	4	212	0	0	0	0	36
28	6-Jul	2	0	279	0	0	0	0	60
29	13-Jul	0	0	318	0	22	4	0	60
30	20-Jul	0	1	254	0	43	4	0	36
31	27-Jul	0	1	134	0	58	10	0	36
32	3-Aug	0	0	91	6	24	5	0	36
33	10-Aug	0	1	33	17	4	6	0	36
34	17-Aug	0	0	98	114	31	20	18	84
35	24-Aug	0	0	50	132	13	18	14	84
36	31-Aug	0	0	12	108	4	9	3	84
37	7-Sep	0	0	5	102	1	9	10	120
38	14-Sep	0	0	0	7	0	0	1	12
39	21-Sep	0	0	0	0	0	0	0	0
40	28-Sep	0	0	6	33	0	0	10	108
41	5-Oct	0	0	2	4	0	0	0	120
42	12-Oct	0	0	1	2	0	0	0	84
Total		91	14	2,173	525	200	85	56	1,116
Additional Drifts									
19	4-May	3	11	0	0	0	0	0	59
20	11-May	28	108	0	0	0	0	3	230
21	18-May	55	169	0	0	0	0	0	227
22	25-May	48	139	0	0	0	0	0	223
23	1-Jun	114	212	0	0	0	0	0	209
24	8-Jun	101	181	7	0	0	0	0	145
25	15-Jun	268	405	147	0	0	0	0	150
37	7-Sep	0	0	11	175	2	10	13	75
38	14-Sep	0	0	17	433	3	19	25	194
39	21-Sep	0	0	2	136	0	0	0	126
40	28-Sep	0	0	1	87	0	0	9	101
41	5-Oct	0	0	1	46	0	0	0	95
42	12-Oct	0	0	0	6	0	0	0	81
Total		617	1,225	186	883	5	29	50	1,915

-continued-

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Week	Start Date	Catch: Chinook Jacks[a]	Chinook Large	Sockeye	Coho	Pink	Chum	Steelhead	# Drifts/ Set Hours
Total Test Fishery Catch									
19	4-May	3	11	0	0	0	0	0	0
20	11-May	28	108	0	0	0	0	3	0
21	18-May	55	169	0	0	0	0	0	0
22	25-May	48	139	0	0	0	0	0	0
23	1-Jun	114	212	0	0	0	0	0	0
24	8-Jun	101	181	7	0	0	0	0	0
25	15-Jun	268	405	147	0	0	0	0	0
26	22-Jun	133	47	892	0	0	0	0	77
27	29-Jun	17	20	338	0	0	0	0	42
28	6-Jul	3	3	446	0	0	0	0	42
29	13-Jul	0	3	520	0	31	12	0	42
30	20-Jul	0	2	372	0	70	5	1	28
31	27-Jul	0	2	198	1	74	13	0	28
32	3-Aug	0	0	131	11	40	14	4	28
33	10-Aug	0	1	44	32	14	13	6	28
34	17-Aug	0	0	126	190	40	36	24	56
35	24-Aug	0	0	61	228	17	23	18	56
36	31-Aug	0	0	21	121	4	9	3	56
37	7-Sep	0	0	20	308	4	21	25	32
38	14-Sep	0	0	20	463	3	22	31	30
39	21-Sep	0	0	2	146	0	0	0	30
40	28-Sep	0	0	7	132	0	0	21	30
41	5-Oct	0	0	3	55	0	0	0	30
42	12-Oct	0	0	1	12	0	0	0	25
Total Test Catch		770	1,303	3,356	1,699	297	168	136	3,691

[a] Jacks as reported by fishery and loosely based on "small" fish ~2.5-3.0 kg; the jack catch may not correspond with the estimated jack catch based on sampling, I.e. jack<660 mef or <735 fl.

Appendix A.16. Weekly catch, CPUE, and migratory timing of Tahltan, Tuya, and mainstem sockeye stocks in the Stikine test fishery, 2003. Sex specific age compositions were calculated and the smoothed stock compositions of the females sampled for egg diameters was expanded to the catch by age.

	Proportions			Catch			CPUE				Migratory Timing		
Week	Tahltan	Tuya	Mainstem	Tahltan	Tuya	Mainstem	Tahltan	Tuya	Mainstem	Total	Tahltan	Tuya	Mainstem
Drift													
26	0.636	0.211	0.154	136	45	33	1.767	0.586	0.427	2.779	0.071	0.023	0.017
27	0.666	0.145	0.189	84	18	24	1.997	0.435	0.568	3.000	0.080	0.017	0.023
28	0.473	0.202	0.325	79	34	54	1.881	0.802	1.293	3.976	0.075	0.032	0.052
29	0.417	0.108	0.475	84	22	96	2.007	0.518	2.285	4.810	0.080	0.021	0.092
30	0.312	0.008	0.680	37	1	80	1.314	0.034	2.866	4.214	0.053	0.001	0.115
31	0.207	0.005	0.788	13	0	50	0.473	0.012	1.801	2.286	0.019	0.000	0.072
32	0.076	0.038	0.885	3	2	35	0.109	0.055	1.265	1.429	0.004	0.002	0.051
33	0.068	0.000	0.932	1	0	10	0.027	0.000	0.366	0.393	0.001	0.000	0.015
34	0.048	0.000	0.952	1	0	27	0.024	0.000	0.476	0.500	0.001	0.000	0.019
35	0.052	0.000	0.948	1	0	10	0.010	0.000	0.186	0.196	0.000	0.000	0.007
36	0.052	0.000	0.948	0	0	9	0.008	0.000	0.152	0.161	0.000	0.000	0.006
37	0.052	0.000	0.948	0	0	4	0.006	0.000	0.119	0.125	0.000	0.000	0.005
38	0.052	0.000	0.948	0	0	3	0.005	0.000	0.095	0.100	0.000	0.000	0.004
39	0.052	0.000	0.948	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.052	0.000	0.948	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
41	0.052	0.000	0.948	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
42	0.052	0.000	0.948	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total				537	156	451	10.278	2.670	12.000	24.949			
Proportion				0.470	0.136	0.394			Prop. of run		0.412	0.107	0.481
Set													
26	0.636	0.211	0.154	431	143	104	3.591	1.191	0.868	5.650	0.095	0.032	0.023
27	0.666	0.145	0.189	141	31	40	3.920	0.854	1.115	5.889	0.104	0.023	0.030
28	0.473	0.202	0.325	132	56	91	2.200	0.938	1.512	4.650	0.058	0.025	0.040
29	0.417	0.108	0.475	133	34	151	2.212	0.571	2.518	5.300	0.059	0.015	0.067
30	0.312	0.008	0.680	79	2	173	2.200	0.057	4.799	7.056	0.058	0.002	0.127
31	0.207	0.005	0.788	28	1	106	0.771	0.019	2.933	3.722	0.020	0.000	0.078
32	0.076	0.038	0.885	7	3	81	0.193	0.096	2.238	2.528	0.005	0.003	0.059
33	0.068	0.000	0.932	2	0	31	0.063	0.000	0.854	0.917	0.002	0.000	0.023
34	0.048	0.000	0.952	5	0	93	0.056	0.000	1.111	1.167	0.001	0.000	0.029
35	0.052	0.000	0.948	3	0	47	0.031	0.000	0.564	0.595	0.001	0.000	0.015
36	0.052	0.000	0.948	1	0	11	0.007	0.000	0.135	0.143	0.000	0.000	0.004
37	0.052	0.000	0.948	0	0	5	0.002	0.000	0.040	0.042	0.000	0.000	0.001
38	0.052	0.000	0.948	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
39	0.052	0.000	0.948	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.052	0.000	0.948	0	0	6	0.003	0.000	0.053	0.056	0.000	0.000	0.001
41	0.052	0.000	0.948	0	0	2	0.001	0.000	0.016	0.017	0.000	0.000	0.000
42	0.052	0.000	0.948	0	0	1	0.001	0.000	0.011	0.012	0.000	0.000	0.000
Total				962	270	941	15.250	3.726	18.766	37.742			
Proportion				0.442	0.124	0.433					0.404	0.099	0.497

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	Proportions			Catch			CPUE				Migratory Timing		
Week	Tahltan	Tuya	Mainstem	Tahltan	Tuya	Mainstem	Tahltan	Tuya	Mainstem	Total	Tahltan	Tuya	Mainstem
Additional Drifts													
19	0.662	0.234	0.104	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.662	0.234	0.104	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	0.662	0.234	0.104	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	0.662	0.234	0.104	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	0.662	0.234	0.104	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	0.662	0.234	0.104	5	2	1	0.032	0.011	0.005	0.048	0.100	0.035	0.016
25	0.662	0.234	0.104	97	34	15	0.649	0.229	0.102	0.980	0.026	0.009	0.004
37	0.052	0.000	0.948	1	0	10	0.008	0.000	0.139	0.147	0.024	0.000	0.436
38	0.052	0.000	0.948	1	0	16	0.005	0.000	0.083	0.088	0.014	0.000	0.261
39	0.052	0.000	0.948	0	0	2	0.001	0.000	0.015	0.016	0.003	0.000	0.047
40	0.052	0.000	0.948	0	0	1	0.001	0.000	0.009	0.010	0.002	0.000	0.029
41	0.052	0.000	0.948	0	0	1	0.001	0.000	0.010	0.011	0.002	0.000	0.031
42	0.052	0.000	0.948	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total				6	2	31	0.046	0.011	0.262	0.319			
Proportion				0.161	0.042	0.797					0.144	0.035	0.820

Total Test Fishery Catches							Tahltan			
							Wild	Planted	Wild	Planted
19	0.662	0.234	0.104	0	0	0	0.468	0.195	0	0
20	0.662	0.234	0.104	0	0	0	0.468	0.195	0	0
21	0.662	0.234	0.104	0	0	0	0.468	0.195	0	0
22	0.662	0.234	0.104	0	0	0	0.468	0.195	0	0
23	0.662	0.234	0.104	0	0	0	0.468	0.195	0	0
24	0.662	0.234	0.104	5	2	1	0.468	0.195	3	1
25	0.662	0.234	0.104	97	34	15	0.468	0.195	69	29
26	0.636	0.211	0.154	567	188	137	0.471	0.165	420	147
27	0.666	0.145	0.189	225	49	64	0.402	0.263	136	89
28	0.473	0.202	0.325	211	90	145	0.352	0.121	157	54
29	0.417	0.108	0.475	217	56	247	0.329	0.088	171	46
30	0.312	0.008	0.680	116	3	253	0.290	0.022	108	8
31	0.207	0.005	0.788	41	1	156	0.207	0.000	41	0
32	0.076	0.038	0.885	10	5	116	0.076	0.000	10	0
33	0.068	0.000	0.932	3	0	41	0.068	0.000	3	0
34	0.048	0.000	0.952	6	0	120	0.048	0.000	6	0
35	0.052	0.000	0.948	3	0	58	0.052	0.000	3	0
36	0.052	0.000	0.948	1	0	20	0.052	0.000	1	0
37	0.052	0.000	0.948	1	0	19	0.052	0.000	1	0
38	0.052	0.000	0.948	1	0	19	0.052	0.000	1	0
39	0.052	0.000	0.948	0	0	2	0.052	0.000	0	0
40	0.052	0.000	0.948	0	0	7	0.052	0.000	0	0
41	0.052	0.000	0.948	0	0	3	0.052	0.000	0	0
42	0.052	0.000	0.948	0	0	1	0.052	0.000	0	0
Total				1,505	428	1,423			1131	374
Proportion				0.448	0.128	0.424				

Appendix A.17. Daily counts of adult sockeye salmon passing through Tahltan Lake weir, 2003.

Date	Count [a]	Cumulative Count	Cumulative Percent	Date	Count	Cumulative Count	Cumulative Percent
7-Jul	0	0	0.0	13-Aug	200	51,664	95.8
8-Jul	0	0	0.0	14-Aug	180	51,844	96.1
9-Jul	0	0	0.0	15-Aug	189	52,033	96.5
10-Jul	0	0	0.0	16-Aug	332	52,365	97.1
11-Jul	2	2	0.0	17-Aug	147	52,512	97.4
12-Jul	4	6	0.0	18-Aug	99	52,611	97.5
13-Jul	4	10	0.0	19-Aug	91	52,702	97.7
14-Jul	10	20	0.0	20-Aug	98	52,800	97.9
15-Jul	19	39	0.1	21-Aug	61	52,861	98.0
16-Jul	555	594	1.1	22-Aug	56	52,917	98.1
17-Jul	1,272	1,866	3.5	23-Aug	39	52,956	98.2
18-Jul	1,879	3,745	6.9	24-Aug	49	53,005	98.3
19-Jul	2,756	6,501	12.1	25-Aug	179	53,184	98.6
20-Jul	1,753	8,254	15.3	26-Aug	307	53,491	99.2
21-Jul	1,867	10,121	18.8	27-Aug	215	53,706	99.6
22-Jul	884	11,005	20.4	28-Aug	26	53,732	99.6
23-Jul	778	11,783	21.8	29-Aug	0	53,732	99.6
24-Jul	489	12,272	22.8	30-Aug	54	53,786	99.7
25-Jul	873	13,145	24.4	31-Aug	57	53,843	99.8
26-Jul	1,674	14,819	27.5	1-Sep	23	53,866	99.9
27-Jul	3,092	17,911	33.2	2-Sep	12	53,878	99.9
28-Jul	4,987	22,898	42.5	3-Sep	0	53,878	99.9
29-Jul	4,925	27,823	51.6	4-Sep	8	53,886	99.9
30-Jul	6,366	34,189	63.4	5-Sep	1	53,887	99.9
31-Jul	4,104	38,293	71.0	6-Sep	21	53,908	100.0
1-Aug	3,020	41,313	76.6	7-Sep	3	53,911	100.0
2-Aug	2,760	44,073	81.7	8-Sep	7	53,918	100.0
3-Aug	1,309	45,382	84.1	9-Sep	0	53,918	100.0
4-Aug	1,109	46,491	86.2	10-Sep	6	53,924	100.0
5-Aug	557	47,048	87.2	11-Sep	0	53,924	100.0
6-Aug	787	47,835	88.7	12-Sep	6	53,930	100.0
7-Aug	804	48,639	90.2	13-Sep	0	53,930	100.0
8-Aug	794	49,433	91.7	14-Sep	0	53,930	100.0
9-Aug	801	50,234	93.1	15-Sep	1	53,931	100.0
10-Aug	472	50,706	94.0	16-Sep	2	53,933	100.0
11-Aug	385	51,091	94.7	17-Sep	0	53,933	100.0
12-Aug	373	51,464	95.4				

	Hatchery	Wild	Total
Total Counted			53,933
Fish removed for broodstock	-1,726	-2,220	-3,946 [a]
Fish removed for otolith samples	-175	-225	-400 [b]
Total Spawners	21,694	27,893	49,587

[a] A total of 1,984 females and 1,961 males were taken for broodstock (67 rejects included in the broodstock total).

[b] 400 fish were sacrificed for otolith analysis.

Appendix A.18. Daily counts of sockeye salmon smolt migrating through Tahltan Lake smolt weir, 2003.

		Cumulative				Cumulative	
Date	Count	Count	Percent	Date	Count	Count	Percent
6-May	0	0	0.0	2-Jun	152,613	1,534,837	78.3
7-May	0	0	0.0	3-Jun	139,775	1,674,612	85.4
8-May	0	0	0.0	4-Jun	51,066	1,725,678	88.0
9-May	0	0	0.0	5-Jun	26,721	1,752,399	89.4
10-May	0	0	0.0	6-Jun	45,790	1,798,189	91.7
11-May	2	2	0.0	7-Jun	79,608	1,877,797	95.8
12-May	1,656	1,658	0.1	8-Jun	24,079	1,901,876	97.0
13-May	84,038	85,696	4.4	9-Jun	6,043	1,907,919	97.3
14-May	21,628	107,324	5.5	10-Jun	7,628	1,915,547	97.7
15-May	6,430	113,754	5.8	11-Jun	15,502	1,931,049	98.5
16-May	2,901	116,655	6.0	12-Jun	1,783	1,932,832	98.6
17-May	89,277	205,932	10.5	13-Jun	11,355	1,944,187	99.2
18-May	27,164	233,096	11.9	14-Jun	9,475	1,953,662	99.7
19-May	26,373	259,469	13.2	15-Jun	2,883	1,956,545	99.8
20-May	4,901	264,370	13.5	16-Jun	927	1,957,472	99.8
21-May	24,547	288,917	14.7	17-Jun	1,155	1,958,627	99.9
22-May	122,633	411,550	21.0	18-Jun	867	1,959,494	99.9
23-May	88,506	500,056	25.5	19-Jun	264	1,959,758	100.0
24-May	111,498	611,554	31.2	20-Jun	157	1,959,915	100.0
25-May	25,322	636,876	32.5	21-Jun	300	1,960,215	100.0
26-May	262,944	899,820	45.9	22-Jun	68	1,960,283	100.0
27-May	60,315	960,135	49.0	23-Jun	145	1,960,428	100.0
28-May	4,609	964,744	49.2	24-Jun	16	1,960,444	100.0
29-May	43,975	1,008,719	51.5	25-Jun	36	1,960,480	100.0
30-May	167,209	1,175,928	60.0				
31-May	18,766	1,194,694	60.9	Wild		979,442	
1-Jun	187,530	1,382,224	70.5	Hatchery		981,038	
						1,960,480	

Appendix A.19. Daily counts of adult chinook salmon passing through Little Tahltan weir, 2003.

	Large Chinook			Chinook Jacks		
		Cumulative			Cumulative	
Date	Count	Count	Percent	Count	Count	Percent
20-Jun	1	1	0.0	0	0	0.0
21-Jun	0	1	0.0	0	0	0.0
22-Jun	0	1	0.0	0	0	0.0
23-Jun	0	1	0.0	0	0	0.0
24-Jun	0	1	0.0	0	0	0.0
25-Jun	0	1	0.0	0	0	0.0
26-Jun	0	1	0.0	0	0	0.0
27-Jun	0	1	0.0	0	0	0.0
28-Jun	23	24	0.4	0	0	0.0
29-Jun	185	209	3.2	0	0	0.0
30-Jun	78	287	4.4	1	1	0.3
1-Jul	305	592	9.1	2	3	0.9
2-Jul	316	908	14.0	11	14	4.2
3-Jul	0	908	14.0	0	14	4.2
4-Jul	53	961	14.8	1	15	4.5
5-Jul	285	1,246	19.2	13	28	8.4
6-Jul	50	1,296	20.0	2	30	9.0
7-Jul	40	1,336	20.6	4	34	10.2
8-Jul	413	1,749	26.9	25	59	17.7
9-Jul	179	1,928	29.7	19	78	23.4
10-Jul	7	1,935	29.8	1	79	23.7
11-Jul	195	2,130	32.8	0	79	23.7
12-Jul	237	2,367	36.5	7	86	25.7
13-Jul	34	2,401	37.0	1	87	26.0
14-Jul	213	2,614	40.3	6	93	27.8
15-Jul	121	2,735	42.1	3	96	28.7
16-Jul	41	2,776	42.8	2	98	29.3
17-Jul	48	2,824	43.5	5	103	30.8
18-Jul	291	3,115	48.0	17	120	35.9
19-Jul	374	3,489	53.7	28	148	44.3
20-Jul	0	3,489	53.7	0	148	44.3
21-Jul	179	3,668	56.5	21	169	50.6
22-Jul	57	3,725	57.4	8	177	53.0
23-Jul	130	3,855	59.4	9	186	55.7
24-Jul	23	3,878	59.7	2	188	56.3
25-Jul	363	4,241	65.3	28	216	64.7
26-Jul	194	4,435	68.3	10	226	67.7
27-Jul	246	4,681	72.1	7	233	69.8
28-Jul	246	4,927	75.9	9	242	72.5
29-Jul	106	5,033	77.5	1	243	72.8
30-Jul	102	5,135	79.1	11	254	76.0
31-Jul	188	5,323	82.0	16	270	80.8

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	Large Chinook			Chinook Jacks		
		Cumulative			Cumulative	
Date	Count	Count	Percent	Count	Count	Percent
1-Aug	189	5,512	84.9	14	284	85.0
2-Aug	177	5,689	87.6	8	292	87.4
3-Aug	137	5,826	89.7	10	302	90.4
4-Aug	0	5,826	89.7	0	302	90.4
5-Aug	0	5,826	89.7	0	302	90.4
6-Aug	70	5,896	90.8	6	308	92.2
7-Aug	55	5,951	91.7	2	310	92.8
8-Aug	384	6,335	97.6	20	330	98.8
9-Aug	29	6,364	98.0	0	330	98.8
10-Aug	64	6,428	99.0	4	334	100.0
11-Aug	20	6,448	99.3	0	334	100.0
12-Aug	44	6,492	100.0	0	334	100.0
13-Aug	0	6,492	100.0	0	334	100.0
14-Aug	0	6,492	100.0	0	334	100.0
15-Aug	0	6,492	100.0	0	334	100.0
16-Aug	0	6,492	100.0	0	334	100.0
17-Aug	0	6,492	100.0	0	334	100.0
Total Counted		6,492			334	
Broodstock		0 [a]				
Escapement		6,492			334	

[a] No broodstock collected in 2003.

Appendix B.1. Salmon catch and effort in the Alaskan District 106 commercial drift gillnet fisheries, 1960-2003. Effort may be less than the sum of effort from 106-41/42 and 106-30 since some boats fished in more than one sub-district.

	Catch						Effort	
Year	Chinook	Sockeye	Coho	Pink [a]	Chum	Steelhead	Permit Days	Days Open
1960	46	10,354	336	1,246	502		369	17.0
1961	416	20,614	14,934	124,236	64,479		1,737	57.0
1962	1,308	47,033	42,276	256,620	59,119		4,693	52.0
1963	1,560	80,767	52,103	514,596	90,103		5,589	51.0
1964	2,082	76,541	64,654	443,086	44,218		5,383	49.0
1965	1,802	87,749	75,728	625,848	27,658		4,507	50.8
1966	1,665	89,847	62,823	400,932	40,756		4,978	74.3
1967	1,318	86,385	17,670	91,609	26,370		2,511	27.0
1968	1,316	64,671	67,151	169,107	61,366		4,965	52.0
1969	877	70,318	10,280	197,073	10,903	559	2,112	31.0
1970	785	42,778	35,470	94,892	32,231	473	1,863	41.0
1971	1,336	53,202	48,085	527,975	37,680	585	2,774	47.0
1972	2,573	101,338	93,427	89,467	72,382	692	3,321	41.0
1973	1,931	71,995	38,447	303,621	87,729	500	3,300	26.0
1974	1,926	57,346	45,651	104,403	50,309	335	2,179	28.0
1975	2,587	32,051	30,962	203,015	23,968	222	1,649	18.0
1976	384	15,481	19,126	139,439	6,868	128	827	22.0
1977	671	67,023	8,401	419,107	13,300	65	1,381	28.0
1978	2,682	41,574	55,578	224,715	16,545	203	1,510	27.1
1979	2,720	66,373	28,083	648,212	35,507	319	2,703	31.4
1980	580	107,422	16,666	45,662	26,291	91	1,324	25.0
1981	1,565	182,001	22,614	437,573	34,296	187	2,926	26.0
1982	1,648	193,798	31,481	25,533	18,646	282	1,700	22.5
1983	567	48,842	62,442	208,290	20,144	261	1,453	31.4
1984	892	91,653	41,359	343,255	70,258	498	1,890	31.4
1985	1,687	264,987	91,188	584,953	69,673	1,003	2,673	31.4
1986	1,704	145,709	194,912	308,484	82,289	1,314	3,510	31.4
1987	836	136,427	34,534	243,482	42,025	489	1,767	19.5
1988	1,104	92,529	13,103	69,559	69,620	587	1,495	18.5
1989	1,544	192,734	92,385	1,101,194	67,351	394	3,222	34.0
1990	2,108	185,805	164,235	319,186	73,232	960	3,502	34.0
1991	2,055	144,104	198,160	133,566	124,630	198	3,620	39.0
1992	1,355	203,155	298,935	94,248	140,468	187	4,230	40.0
1993	992	205,955	231,038	537,960	134,601	125	4,353	38.0
1994	754	211,048	267,862	179,994	176,026	95	4,468	43.0
1995	951	207,298	170,561	448,163	300,078	110	3,657	34.0
1996	644	311,100	223,640	188,035	283,290	130	5,290	46.0
1997	1,075	168,518	77,550	789,051	186,456		3,668	39.0
1998	518	113,435	273,197	502,655	332,022		4,398	43.0
1999	518	104,878	203,262	490,716	448,367		4,943	50.0
2000	1,220	90,076	96,207	156,619	199,836		2,409	33.0
2001	1,057	164,013	188,465	825,330	282,910		3,854	50.0
2002	446	56,135	226,560	82,951	112,541		2,684	47.0
Averages								
60-02	1,298	111,746	93,757	318,504	95,280	393	3,055	36.7
93-02	818	163,246	195,834	420,147	245,613	115	3,972	42.3
2003	422	116,904	212,057	470,697	300,253		3,837	59.0

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	Catch						Effort	
							Permit	Days
Year	Chinook	Sockeye	Coho	Pink [a]	Chum	Steelhead	Days	Open
Alaska Hatchery Contribution								
1989	512		5,029		20,277			
1990	1,009	33	50,354		27,259			
1991	608	182	64,067		47,731			
1992	658	55	112,824		47,503			
1993	305	53	77,914		42,206			
1994	402	1,580	36,805		67,111			
1995	353	4,548	27,333		72,417			
1996	324	5,799	55,218		108,764			
1997	369	1,435	19,479		79,990			
1998	290	706	101,129		118,096			
1999	189	2,257	82,828		211,082			
2000	790	1,134	48,169		71,306			
2001	446	340	67,378		99,224			
2002	161	0	78,485		23,509			
Averages								
89-02	458	1,394	59,072		74,034			
2003	192	0	93,454		105,372			
Catches not including Alaska hatchery contributions								
1989	1,032	192,734	87,356	1,101,194	47,074	394	3,222	34.0
1990	1,099	185,772	113,881	319,186	45,973	960	3,502	34.0
1991	1,447	143,922	134,093	133,566	76,899	198	3,620	39.0
1992	697	203,100	186,111	94,248	92,965	187	4,230	40.0
1993	687	205,902	153,124	537,960	92,395	125	4,353	38.0
1994	352	209,468	231,057	179,994	108,915	95	4,468	43.0
1995	598	202,750	143,228	448,163	227,661	110	3,657	34.0
1996	320	305,301	168,422	188,035	174,526	130	5,290	46.0
1997	706	167,083	58,071	789,051	106,466	0	3,668	39.0
1998	228	112,729	172,068	502,655	213,926	0	4,398	43.0
1999	329	102,621	120,434	490,716	237,285	0	4,943	50.0
2000	430	88,942	48,038	156,619	128,530	0	2,409	33.0
2001	611	163,673	121,087	825,330	183,686	0	3,854	50.0
2002	285	56,135	148,075	82,951	89,032	0	2,684	47.0
Averages								
89-02	630	167,152	134,646	417,833	130,381	157	3,878	40.7
2003	230	116,904	118,603	470,697	194,881	0	3,837	59.0

[a] Data not available to estimate contributions of pink salmon from Alaska hatcheries.

Appendix B.2. Stock proportions and catches of sockeye salmon in the Alaskan District 106 commercial drift gillnet fisheries, 1982-2003. Catches do not include Blind Slough terminal area harvest. Data based on SPA.

			Stikine				Tahltan	
Year	Alaska	Canada	Tahltan [a]	Tuya	Mainstem	Total	Wild	Planted
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		
1994	0.579	0.254	0.142		0.025	0.167	0.108	0.033
1995	0.316	0.560	0.081	0.001	0.043	0.124	0.044	0.036
1996	0.531	0.268	0.166	0.028	0.007	0.201	0.147	0.019
1997	0.576	0.271	0.058	0.079	0.016	0.153	0.037	0.021
1998	0.598	0.307	0.015	0.080	0.000	0.095	0.013	0.002
1999	0.671	0.092	0.057	0.061	0.118	0.237	0.054	0.003
2000	0.643	0.233	0.020	0.085	0.019	0.124	0.017	0.003
2001	0.260	0.033	0.013	0.025	0.012	0.049	0.008	0.004
2002	0.758	0.098	0.037	0.072	0.035	0.144	0.024	0.012
Avg. 83-02	0.597	0.258	0.057		0.034	0.113		
Avg. 93-02	0.533	0.245	0.069	0.054	0.044	0.156	0.051	0.015
2003	0.742	0.096	0.075	0.053	0.035	0.162	0.039	0.036
Catches								
1982	94,275	61,853				37,670		
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	78,533	47,707	14,364		3,501	17,864		
1992	120,977	47,207	14,187		20,784	34,971		
1993	82,300	69,617	20,204		33,833	54,037		
1994	122,118	53,683	29,876		5,371	35,247	22,857	7,019
1995	65,544	116,075	16,715	125	8,839	25,679	9,182	7,533
1996	165,221	83,271	51,598	8,821	2,189	62,608	45,826	5,772
1997	97,101	45,665	9,764	13,232	2,756	25,752	6,281	3,483
1998	67,890	34,811	1,678	9,020	36	10,734	1,477	201
1999	70,363	9,696	5,988	6,427	12,404	24,819	5,700	288
2000	57,935	20,996	1,827	7,612	1,706	11,145	1,573	254
2001	86,078	54,512	6,339	12,965	4,119	23,423	4,747	1,592
2002	42,573	5,487	2,055	4,058	1,962	8,075	1,375	680
Avg. 83-02	90,506	46,875	10,681		5,745	19,540		
Avg. 93-02	85,712	49,381	14,604	7,783	7,322	28,152	11,002	2,980
2003	86,720	11,264	8,736	6,145	4,039	18,920	4,550	4,186

[a] All Tahltan includes wild and thermally marked fish.

Appendix B3. Salmon catch and effort in the Alaskan Sub-district 106-41/42 (Sumner Strait) commercial drift gillnet fishery, 1960-2003.

	Catch						Effort	
Year	Chinook	Sockeye	Coho	Pink	Chum	Steelhead	Permit Days	Days Open
1960	24	9,005	277	1,103	362		251	17.0
1961	75	9,488	1,851	26,435	9,657		359	48.0
1962	131	19,692	6,548	45,987	9,544		811	44.0
1963	310	45,305	15,727	135,503	50,380		2,311	47.0
1964	316	52,943	27,338	183,402	22,913		2,344	49.0
1965	679	58,736	30,570	162,271	15,763		1,658	50.8
1966	690	65,721	30,792	96,287	24,235		2,080	74.3
1967	668	60,148	10,573	52,284	19,626		1,463	27.0
1968	1,010	50,212	46,111	82,012	39,001		2,997	52.0
1969	607	46,258	6,094	92,075	6,393	482	1,147	31.0
1970	420	26,812	15,153	29,102	18,092	366	905	41.0
1971	671	33,991	24,727	283,739	19,329	363	1,619	50.0
1972	1,747	74,745	60,827	40,644	46,511	515	2,152	41.0
1973	1,540	55,254	24,921	160,297	62,486	375	2,253	26.0
1974	1,342	46,760	28,889	57,296	38,045	238	1,579	28.0
1975	467	19,319	4,650	29,340	7,762	112	515	17.0
1976	237	9,319	10,367	20,251	2,301	71	366	19.0
1977	202	47,408	1,819	51,038	4,240	33	447	17.0
1978	274	1,422	26,762	9,546	3,142	70	389	26.5
1979	458	34,807	12,087	176,395	16,816	154	952	25.0
1980	205	48,434	10,894	17,068	15,176	39	596	16.0
1981	598	132,293	13,161	220,194	25,682	156	1,732	25.0
1982	648	121,563	21,193	10,392	11,891	199	1,083	22.0
1983	268	28,153	41,208	74,347	13,001	198	875	32.0
1984	136	27,372	19,124	99,807	28,461	268	587	32.0
1985	538	172,088	50,577	319,379	45,566	664	1,726	38.0
1986	421	85,247	104,328	105,347	48,471	684	1,896	32.0
1987	441	79,165	17,776	117,059	25,877	318	978	20.0
1988	452	57,337	6,349	10,894	42,210	341	815	18.0
1989	581	107,886	55,671	418,044	40,156	268	1,716	34.0
1990	759	104,922	94,526	84,543	42,474	767	1,827	34.0
1991	844	89,355	136,990	64,334	85,435	135	2,118	39.0
1992	743	146,608	190,885	38,483	100,666	138	2,630	40.0
1993	458	129,859	134,902	296,986	96,995	107	2,728	38.0
1994	456	157,526	191,695	66,225	125,826	59	2,988	43.0
1995	663	133,713	109,613	154,004	189,369	100	2,349	34.0
1996	487	223,784	159,319	70,620	162,872	97	3,623	46.0
1997	829	118,675	52,917	414,619	100,612		2,402	39.0
1998	334	79,052	175,124	196,403	200,892		2,999	43.0
1999	397	73,378	130,083	277,194	284,807		3,294	50.0
2000	558	57,863	54,232	80,014	120,111		1,522	33.0
2001	516	99,219	133,956	345,385	168,265		2,406	50.0
2002	216	39,030	163,727	41,086	71,333		1,844	47.0
Averages								
60-02	545	71,625	57,078	122,266	57,273	261	1,659	35.7
93-02	491	111,210	130,557	194,254	152,108	91	2,616	42.3
2003	254	88,595	147,674	290,508	238,734		2,763	59.0

Appendix B.4. Stock proportions and catches of sockeye salmon in the Alaskan Sub-district 106-41/42 (Sumner Strait) commercial drift gillnet fishery, 1985-2003. Data based on SPA.

			Stikine				Tahltan	
Year	Alaska	Canada	Tahltan [a]	Tuya	Mainstem	Total	Wild	Planted
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		
1994	0.531	0.271	0.166		0.032	0.198	0.127	0.040
1995	0.287	0.565	0.099	0.001	0.048	0.149	0.049	0.051
1996	0.479	0.245	0.228	0.039	0.009	0.276	0.203	0.025
1997	0.538	0.269	0.079	0.101	0.014	0.193	0.056	0.023
1998	0.550	0.337	0.017	0.096	0.000	0.113	0.014	0.003
1999	0.618	0.101	0.074	0.079	0.128	0.281	0.070	0.004
2000	0.611	0.223	0.028	0.116	0.023	0.167	0.024	0.004
2001	0.493	0.336	0.032	0.112	0.028	0.171	0.017	0.015
2002	0.730	0.101	0.049	0.087	0.034	0.169	0.031	0.017
Averages								
85-02	0.573	0.282	0.073	0.079	0.038	0.146		
93-02	0.521	0.277	0.091	0.079	0.049	0.202	0.066	0.020
2003	0.700	0.095	0.097	0.068	0.040	0.204	0.050	0.047
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	41,123	33,644	11,541		3,048	14,588		
1992	85,364	35,277	12,961		13,005	25,967		
1993	47,970	42,450	17,446		21,992	39,438		
1994	83,692	42,620	26,164		5,050	31,214	19,934	6,230
1995	38,343	75,505	13,292	125	6,448	19,865	6,514	6,778
1996	107,193	54,823	50,924	8,731	2,113	61,768	45,340	5,584
1997	63,827	31,892	9,327	11,937	1,692	22,956	6,594	2,733
1998	43,479	26,661	1,326	7,555	31	8,912	1,125	201
1999	45,335	7,420	5,425	5,786	9,412	20,623	5,159	266
2000	35,327	12,875	1,617	6,727	1,317	9,661	1,363	254
2001	48,906	33,309	3,164	11,063	2,777	17,004	1,723	1,441
2002	28,487	3,928	1,896	3,394	1,325	6,615	1,216	680
Averages								
85-02	58,537	32,736	9,997	6,915	4,252	17,322		
93-02	54,256	33,148	13,058	6,915	5,216	23,806	9,885	2,685
2003	62,037	8,446	8,595	6,016	3,501	18,112	4,434	4,161

[a] All Tahltan includes wild and thermally marked fish.

Appendix B.5. Salmon catch and effort in the Alaskan Sub-district 106-30 (Clarence Strait) commercial drift gillnet fishery, 1960-2003.

	Catch						Effort	
							Permit	Days
Year	Chinook	Sockeye	Coho	Pink	Chum	Steelhead	Days	Open
1960	22	1,349	59	143	140		118	13.0
1961	341	11,126	13,083	97,801	54,822		1,378	57.0
1962	1,177	27,341	35,728	210,633	49,575		3,882	52.0
1963	1,250	35,462	36,376	379,093	39,723		3,278	51.0
1964	1,766	23,598	37,316	259,684	21,305		3,039	49.0
1965	1,123	29,013	45,158	463,577	11,895		2,849	50.8
1966	975	24,126	32,031	304,645	16,521		2,898	74.3
1967	650	26,237	7,097	39,325	6,744		1,048	27.0
1968	306	14,459	21,040	87,095	22,365		1,968	52.0
1969	270	24,060	4,186	104,998	4,510	77	1,026	31.0
1970	365	15,966	20,317	65,790	14,139	107	1,025	41.0
1971	665	19,211	23,358	244,236	18,351	222	1,517	50.0
1972	826	26,593	32,600	48,823	25,871	177	1,276	41.0
1973	391	16,741	13,526	143,324	25,243	125	1,303	26.0
1974	584	10,586	16,762	47,107	12,264	97	712	28.0
1975	2,120	12,732	26,312	173,675	16,206	110	1,159	8.5
1976	147	6,162	8,759	119,188	4,567	57	527	21.0
1977	469	19,615	6,582	368,069	9,060	32	940	21.0
1978	2,408	40,152	28,816	215,169	13,403	133	1,148	16.0
1979	2,262	31,566	15,996	471,817	18,691	165	1,848	25.0
1980	375	58,988	5,772	28,594	11,115	52	749	25.0
1981	967	49,708	9,453	217,379	8,614	31	1,321	26.0
1982	1,000	72,235	10,288	15,141	6,755	83	647	21.0
1983	299	20,689	21,234	133,943	7,143	63	589	37.0
1984	756	64,281	22,235	243,448	41,797	230	1,236	24.0
1985	1,149	92,899	40,611	265,574	24,107	339	1,372	36.0
1986	1,283	60,462	90,584	203,137	33,818	630	1,664	31.0
1987	395	57,262	16,758	126,423	16,148	171	799	20.0
1988	652	35,192	6,754	58,665	27,410	246	682	19.0
1989	963	84,848	36,714	683,150	27,195	126	1,583	34.0
1990	1,349	80,883	69,709	234,643	30,758	193	1,676	34.0
1991	1,211	54,749	61,170	69,232	39,195	63	1,505	39.0
1992	612	56,547	108,050	55,765	39,802	49	1,603	40.0
1993	534	76,096	96,136	240,974	37,606	18	1,646	38.0
1994	298	53,522	76,167	113,769	50,200	36	1,606	43.0
1995	288	73,585	60,948	294,159	110,709	10	1,422	34.0
1996	157	87,316	64,321	117,415	120,418	33	1,580	39.0
1997	246	49,843	24,633	374,432	85,844		1,329	38.0
1998	184	34,383	98,073	306,252	131,130		1,522	43.0
1999	121	31,500	73,179	213,522	163,560		1,766	49.0
2000	662	32,213	41,975	76,605	79,725		934	33.0
2001	541	64,794	54,509	479,945	114,645		1,573	50.0
2002	230	17,105	62,833	41,865	41,208		896	47.0
Averages								
60-02	753	40,121	36,679	196,238	38,007	131	1,457	35.7
93-02	326	52,036	65,277	225,894	93,505	24	1,427	41.4
2003	168	28,309	64,383	180,189	61,519		1,158	59.0

Appendix B.6. Stock proportions and catches of sockeye salmon in the Alaskan Sub-district 106-30 (Clarence Strait) commercial drift gillnet fishery, 1985-2003. Data based on SPA.

			Stikine				Tahltan	
Year	Alaska	Canada	Tahltan [a]	Tuya	Mainstem	Total	Wild	Planted
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		
1994	0.718	0.207	0.069		0.006	0.075	0.055	0.015
1995	0.370	0.551	0.047	0.000	0.032	0.079	0.036	0.010
1996	0.665	0.326	0.008	0.001	0.001	0.010	0.006	0.002
1997	0.668	0.276	0.009	0.026	0.021	0.056	-0.006	0.015
1998	0.710	0.237	0.010	0.043	0.000	0.053	0.010	0.000
1999	0.795	0.072	0.018	0.020	0.095	0.133	0.017	0.001
2000	0.702	0.252	0.007	0.027	0.012	0.046	0.007	0.000
2001	0.574	0.327	0.049	0.029	0.021	0.099	0.047	0.002
2002	0.824	0.091	0.009	0.039	0.037	0.085	0.009	0.000
Average								
85-02	0.668	0.266	0.023	0.023	0.032	0.066		
93-02	0.647	0.270	0.026	0.023	0.038	0.083	0.021	0.005
2003	0.872	0.100	0.005	0.005	0.019	0.029	0.004	0.001
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	37,410	14,063	2,823		453	3,277		
1992	35,613	11,930	1,226		7,778	9,004		
1993	34,330	27,167	2,758		11,841	14,599		
1994	38,426	11,063	3,712		321	4,033	2,923	789
1995	27,201	40,570	3,423	0	2,391	5,814	2,668	755
1996	58,028	28,448	674	90	76	840	486	188
1997	33,274	13,773	437	1,295	1,064	2,796	-313	750
1998	24,411	8,150	352	1,465	5	1,822	352	0
1999	25,028	2,276	563	641	2,992	4,196	541	22
2000	22,608	8,121	210	885	389	1,484	210	0
2001	37,172	21,203	3,175	1,902	1,342	6,419	3,024	151
2002	14,086	1,559	159	664	637	1,460	159	0
Average								
85-02	36,865	17,390	1,444		1,870	3,700		
93-02	31,456	16,233	1,546	868	2,106	4,346	1,117	295
2003	24,683	2,818	141	129	538	808	116	25

[a] All Tahltan includes wild and thermally marked fish.

Appendix B.7. Salmon catch and effort in the Alaskan District 108 commercial drift gillnet fishery, 1960-2003. 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.

	Catch						Effort	
							Permit	Days
Year	Chinook	Sockeye	Coho	Pink [a]	Chum	Steelhead	Days	Open
1960								
1961								
1962	618	4,430	3,921	2,889	2,035			27.0
1963	1,430	9,979	11,612	10,198	11,024			53.0
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	2,311	238	967	46.0
1970	3,207	15,120	18,403	20,523	12,305	109	1,222	51.0
1971	3,717	18,143	14,876	21,806	4,665	62	1,070	57.0
1972	9,332	51,734	38,520	17,153	17,363	193	2,095	64.0
1973	9,254	21,387	5,837	6,585	6,680	67	1,519	39.0
1974	8,199	2,428	16,021	4,188	2,107	57	1,178	28.5
1975	1,534	0	0	0	1	5	258	8.0
1976	1,123	18	6,056	722	124	20	372	19.0
1977	1,443	48,374	14,405	16,253	4,233	24	742	23.0
1978	531	56	32,650	1,157	1,001	60	565	12.0
1979	91	2,158	234	13,478	1,064	3	94	5.0
1980	631	14,053	2,946	7,224	6,910	8	327	22.0
1981	283	8,833	1,403	1,466	3,594	9	177	9.0
1982	1,033	6,911	19,971	16,988	741	32	494	21.0
1983	47	178	15,369	4,171	675	81	263	17.0
1984	14	1,290	5,141	4,960	1,892	4	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	5	246	25.0
1987	149	1,629	1,015	3,343	949	4	81	13.0
1988	206	1,246	12	144	3,109	9	66	8.0
1989	310	10,083	4,261	27,640	3,375	10	216	28.0
1990	557	11,574	8,218	13,822	9,382	29	359	34.0
1991	1,504	22,275	15,864	10,935	11,402	11	643	48.5
1992	967	52,717	22,127	66,742	15,458	27	1,246	51.0
1993	1,628	76,874	14,307	39,661	22,504	29	1,569	48.0
1994	1,996	97,224	44,891	35,405	27,658	47	2,199	57.0
1995	1,702	76,756	17,834	37,788	54,296	18	1,729	49.5
1996	1,717	154,150	19,059	37,651	135,623	40	2,396	56.5
1997	2,566	93,039	2,140	65,745	38,913		1,699	44.0
1998	460	22,031	19,206	39,246	41,057		947	45.0
1999	1,049	36,548	28,437	48,550	117,196		1,675	54.0
2000	1,671	15,833	5,651	9,497	40,337		606	35.0
2001	7	610	10,731	11,012	5,397		377	36.0
2002	25	208	21,131	4,578	2,017		323	35.0
Averages								
60-02	2,089	24,990	13,530	21,965	16,261	44	819	35.7
93-02	1,282	57,327	18,339	32,913	48,500	34	1,352	46.0
2003	312	42,158	38,795	76,113	51,701	0	1,270	56.0

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Appendix B.7. (page 2 of 2)

	Catch						Effort	
							Permit	Days
Year	Chinook	Sockeye	Coho	Pink [a]	Chum	Steelhead	Days	Open
Alaska Hatchery Contribution								
1989	83		55		257			
1990	249		2,536		813			
1991	490		3,442		141			
1992	439		7,067		500			
1993	762		890		282			
1994	594		2,043		2,159			
1995	757	268	1,087		18,334			
1996	839	420	1,269		41,706			
1997	731		161		14,461			
1998	302	62	3,042		15,016			
1999	361	792	6,361		21,640			
2000	934		2,801		4,556			
2001	0		2,565		1,829			
2002	0	0	1,449		0			
Averages								
93-02	528	308	2,167		11,998			
2003	209	0	7,260		6,729			
Catches not including Alaska hatchery contributions								
1989	227	10,083	4,206	27,640	3,118	10	216	28.0
1990	308	11,574	5,682	13,822	8,569	29	359	34.0
1991	1,014	22,275	12,422	10,935	11,261	11	643	48.5
1992	528	52,717	15,060	66,742	14,958	27	1,246	51.0
1993	866	76,874	13,417	39,661	22,222	29	1,569	48.0
1994	1,402	97,224	42,848	35,405	25,499	47	2,199	57.0
1995	945	76,488	16,747	37,788	35,962	18	1,729	49.5
1996	878	153,730	17,790	37,651	93,917	40	2,396	56.5
1997	1,835	93,039	1,979	65,745	24,452	0	1,699	44.0
1998	158	21,969	16,164	39,246	26,041	0	947	45.0
1999	688	35,756	22,076	48,550	95,556	0	1,675	54.0
2000	737	15,833	2,850	9,497	35,781	0	606	35.0
2001	7	610	8,166	11,012	3,568	0	377	36.0
2002	25	208	19,682	4,578	2,017	0	323	35.0
Averages								
93-02	754	57,173	16,172	32,913	36,501	13	1,352	46.0
2003	103	42,158	31,535	76,113	44,972		1,270	56.0

Appendix B.8. Stock proportions and catches of sockeye salmon in the Alaskan District 108 commercial drift gillnet fishery, 1985-2003. Data based on SPA.

			Stikine				Tahltan	
Year	Alaska	Canada	Tahltan [a]	Tuya	Mainstem	Total	Wild	Planted
1985	0.064	0.000	0.292		0.644	0.936		
1986	0.206	0.017	0.094		0.683	0.777		
1987[b]	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		
1994	0.326	0.208	0.362		0.103	0.466	0.246	0.116
1995	0.135	0.204	0.455	0.006	0.200	0.661	0.198	0.257
1996	0.102	0.082	0.622	0.069	0.125	0.816	0.552	0.070
1997	0.058	0.131	0.362	0.261	0.189	0.812	0.260	0.102
1998	0.115	0.108	0.189	0.244	0.343	0.777	0.182	0.008
1999	0.144	0.036	0.414	0.201	0.205	0.820	0.390	0.024
2000	0.204	0.128	0.132	0.261	0.275	0.669	0.100	0.032
2001	0.775	0.098	0.000	0.005	0.121	0.126	0.000	0.000
2002	0.875	0.120	0.000	0.000	0.005	0.005	0.000	0.000
Averages								
85-02	0.246	0.091	0.255	0.131	0.350	0.664		
93-02	0.297	0.123	0.279	0.131	0.197	0.581	0.214	0.068
2003	0.227	0.118	0.179	0.062	0.414	0.655	0.092	0.087
Catch								
1985	68	0	310		683	992		
1986	862	71	393		2,858	3,252		
1987	204	0	714		712	1,425		
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		
1994	31,715	20,250	35,222		10,037	45,259	23,936	11,286
1995	10,374	15,641	34,950	461	15,330	50,741	15,224	19,726
1996	15,755	12,618	95,837	10,621	19,319	125,777	85,041	10,796
1997	5,381	12,152	33,644	24,288	17,574	75,506	24,144	9,500
1998	2,541	2,376	4,170	5,383	7,561	17,114	4,000	170
1999	5,255	1,313	15,134	7,360	7,486	29,980	14,258	876
2000	3,226	2,019	2,097	4,138	4,353	10,588	1,591	506
2001	473	60	0	3	74	77	0	0
2002	182	25	0	0	1	1	0	0
Averages								
85-02	6,238	4,592	14,800	6,532	9,136	26,839		
93-02	9,266	7,520	24,074	6,532	11,242	40,542	18,688	5,873
2003	9,568	4,958	7,562	2,615	17,455	27,632	3,896	3,666

[a] All Tahltan includes wild and thermally marked fish.

[b] There was no data available to determine the ratio of Tahltan to mainstem Stikine stocks; a 1:1 ratio was assumed.

Appendix B.9. Salmon catch in the Alaskan District 106 and 108 test fisheries, 1984-2003. Table only includes years when test fisheries were operated.

Year	Catch					Boat Hours
	Chinook	Sockeye	Coho	Pink	Chum	
Sub-district 106-41 (Sumner Strait)						
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
1994	0	12	1	0	16	11.00
Sub-district 106-30 (Clarence Strait)						
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	
Total District						
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
1994	0	12	1	0	16	11.00
District 108						
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
1998	0	3,510	142	61	235	45.00
1999	29	4,801	217	429	1,368	45.00
2000	21	4,686	140	53	724	

Appendix B.10. Stock proportions of sockeye salmon in the Alaskan District 106 and 108 test fisheries, 1984-2003. Data based on SPA. Table only includes years when test fisheries were operated.

			Stikine				Tahltan	
Year	Alaska	Canada	Tahltan [a]	Tuya	Mainstem	Total	Wild	Planted
Sub-district 106-41 (Sumner Strait) 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		
1994	0.500	0.250	0.250		0.000	0.250	0.167	0.083
Sub-district 106-30 (Clarence Strait) 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		
District 106 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		
1994	0.500	0.250	0.250		0.000	0.250	0.250	0.000
District 108 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		
1998	0.064	0.041	0.353	0.438	0.104	0.895	0.336	0.016
1999	0.162	0.019	0.481	0.298	0.041	0.820	0.453	0.028
2000	0.110	0.116	0.302	0.321	0.150	0.774	0.240	0.062

[a] All Tahltan includes thermally marked fish.

Appendix B.11. Stock specific catches of sockeye salmon in the Alaskan District 106 and 108 test fisheries, 1984-2003. Data based on SPA. Table only includes years when test fisheries were operated.

			Stikine				Tahltan	
Year	Alaska	Canada	Tahltan [a]	Tuya	Mainstem	Total	Wild	Planted
Sub-district 106-41 (Sumner Strait) Catches								
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		
1994	6	3	3		0	3		
Sub-district 106-30 (Clarence Strait) 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		
District 106 Catches								
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		
1994	6	3	3		0	3	3	0
District 108 Catches								
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		
1998	224	145	1,238	1,538	365	3,141	1,181	57
1999	776	89	2,309	1,430	197	3,936	2,174	135
2000	516	544	1,416	1,505	705	3,626	1,125	291

[a] All Tahltan includes thermally marked fish.

Appendix B.12. Salmon and steelhead trout catch and effort in the Canadian commercial fishery in the lower Stikine River, 1979-2003.

	Catch							Effort	
	Chinook							Permit	
Year	Jacks [a]	Large	Sockeye	Coho	Pink		Steelhead	Days	Days
1979[b]	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[c]									
1985	91	256	17,093	2,172	2,321	532	231	145.5	22.5
1986	365	806	12,411	2,278	107	295	192	239.0	13.5
1987	242	909	6,138	5,728	646	432	217	287.0	20.0
1988	201	1,007	12,766	2,112	418	730	258	320.0	26.5
1989	157	1,537	17,179	6,092	825	674	127	325.0	23.0
1990	680	1,569	14,530	4,020	496	499	188	328.0	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	235.4	55.0
1993	164	830	38,464	2,616	29	395	63	483.8	58.0
1994	158	1,016	38,462	3,377	89	173	75	430.1	74.0
1995	599	1,067	45,622	3,418	48	256	208	534.0	59.0
1996	221	1,708	66,262	1,402	25	229	153	439.2	81.0
1997	186	3,283	56,995	401	269	222	33	569.4	89.0
1998	328	1,614	37,310	726	55	13	209	374.0	46.5
1999	789	2,127	32,556	181	11	8	14	261.3	31.0
2000	240	1,970	20,472	298	181	144	89	227.0	23.3
2001	59	826	19,872	233	78	56	30	173.0	23.0
2002	209	433	10,420	82	19	33	17	169.0	21.0
Averages									
79-02[d]	291	1,209	24,635	3,553	670	367	205	403	42.4
93-02	295	1,487	36,644	1,273	80	153	89	366	50.6
2003	672	695	51,735	190	850	112	0	275.2	28.8

[a] Jacks as reported by fishery and loosely based on "small" fish ~2.5-3.0 kg; the jack catch may not correspond with the

[b] The lower river commercial catch in 1979 includes the upper river commercial catch.

[c] There was no commercial fishery in 1984.

[d] Chinook averages only since 1983 when large fish and jacks were recorded separately.

Appendix B.13. Sockeye salmon stock proportions and catch by stock in the Canadian commercial fishery in the lower Stikine River, 1979-2003. 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 1989-2003.

	Proportions			Planted	Catch			Tahltan	
Year	Tahltan	Tuya	Mainstem	Tahltan	Tahltan	Tuya	Mainstem	Wild	Planted
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		
1994	0.616		0.384		23,678		14,784		
1995	0.676	0.020	0.304	0.195	30,848	893	13,881	21,936	8,912
1996	0.537	0.113	0.350	0.066	35,584	7,465	23,213	31,197	4,387
1997	0.356	0.272	0.372	0.072	20,269	15,513	21,213	16,175	4,094
1998	0.335	0.352	0.313	0.020	12,498	13,137	11,675	11,751	747
1999	0.576	0.241	0.183	0.021	18,742	7,862	5,952	18,046	696
2000	0.252	0.397	0.350	0.039	5,165	8,136	7,171	4,364	801
2001	0.175	0.226	0.599	0.032	3,482	4,483	11,907	2,850	632
2002	0.320	0.128	0.552	0.074	3,335	1,335	5,750	2,559	776
Averages									
79-02	0.425		0.499		11,315		10,762		
93-02	0.438	0.219	0.387	0.065	17,426	7,353	13,335	13,610	2,631
2003	0.427	0.161	0.412	0.131	22,067	8,335	21,333	15,304	6,763

[a] There was no commercial fishery in 1984.

Appendix B.14. Salmon and steelhead trout catch and effort in the Canadian commercial fishery in the upper Stikine River, 1975-2003.

	Catch							Effort	
	Chinook							Permit	
Year	Jacks [a]	Large	Sockeye	Coho	Pink	Chum	Steelhead	Days	Days
1975		178	270	45	0	0	0		
1976		236	733	13	0	0	0		
1977		62	1,975	0	0	0	0		
1978		100	1,500	0	0	0	0		
1979[b]									
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[c]									
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
1994	1	76	2,466	0	1	0	0	68.0	50.0
1995	17	9	2,355	0	0	0	0	54.0	25.0
1996	44	41	1,101	0	0	0	0	75.0	59.0
1997	6	45	2,199	0	0	0	0	42.0	29.0
1998	0	12	907	0	0	0	0	19.0	19.0
1999	12	24	625	0	0	0	0	19.0	18.0
2000	2	7	889	0	0	0	0	19.8	9.3
2001	0	0	487	0	0	0	0	6.0	4.0
2002	3	2	484	0	0	0	0	12.0	9.0
Averages									
75-02[d]	17	54	971	4	1	1	0	26	15.3
93-02	9	26	1,321	0	0	0	0	36	24.4
2003	12	19	454	0	0	0	0	10.0	10.0

[a] Jacks as reported by fishery and loosely based on "small" fish ~2.5-3.0 kg; the jack catch may not correspond with the estimated jack

[b] Catches in 1979 were included in the lower river commercial catches.

[c] There was no commercial fishery in 1984.

[d] Chinook averages only since 1986 when large fish and jacks were recorded separately.

Appendix B.15. Salmon and steelhead trout catch in the Canadian Aboriginal fishery located at Telegraph Creek, on the Stikine River, 1972-2003.

	Catch						
	Chinook						
Year	Jacks [a]	Large	Sockeye	Coho	Pink	Chum	Steelhead
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
1994	191	698	4,167	4	0	0	9
1995	244	570	5,490	0	0	7	62
1996	156	722	6,918	2	0	3	30
1997	94	1,155	6,365	0	0	0	0
1998	95	538	5,586	0	0	0	0
1999	463	765	4,874	0	0	0	0
2000	386	1,109	6,107	3	0	0	14
2001	44	665	5,241	0	0	0	0
2002	366	927	6,390	0	0	0	0
Averages							
72-02 [b]	216	856	4,454	13	12	2	6
93-02	218	808	5,818	1	0	1	12
2003	373	682	6,595	0	0	0	0

[a] Jacks as reported by fishery and loosely based on "small" fish ~2.5-3.0 kg; the jack catch may not correspond with the estimated jack catch

[b] Chinook averages only since 1983 when large fish and jacks were recorded separately.

Appendix B. 16. Stock specific sockeye catches in the Canadian upper river commercial and Aboriginal fisheries in the Stikine River, 1972-2003.

	Upper River Commercial					Aboriginal Fishery				
				Tahltan					Tahltan	
Year	Tahltan	Tuya	Mainstem	Wild	Planted	Tahltan	Tuya	Mainstem	Wild	Planted
1972						3,936		437		
1973						3,303		367		
1974						3,150		350		
1975	243		27			1,784		198		
1976	660		73			2,620		291		
1977	1,778		198			3,902		434		
1978	1,350		150			3,150		350		
1979[a]						2,700		300		
1980	630		70			1,890		210		
1981	692		77			4,227		470		
1982	176		20			4,453		495		
1983	553		61			4,184		465		
1984[b]						4,794		533		
1985	976		108			6,558		729		
1986	734		82			3,787		421		
1987	448		50			2,681		298		
1988	313		35			1,959		218		
1989	444		49			2,124		236		
1990	425		47			2,720		302		
1991	685		76			3,995		444		
1992	740		82			3,988		443		
1993	1,523		169			6,337		704		
1994	2,219		247	1,904	315	3,750		417	3,217	533
1995	2,120	60	176	1,508	612	4,941	139	410	3,514	1,427
1996	945	150	6	824	121	5,802	972	144	4,931	871
1997	1,152	834	213	914	238	3,318	2,403	644	2,631	687
1998	363	517	27	336	27	2,352	3,103	131	2,227	125
1999	359	206	60	356	3	3,038	1,423	413	2,903	135
2000	224	581	84	224	0	1,733	3,989	385	1,681	52
2001	213	229	45	148	65	1,795	2,939	507	1,454	341
2002	182	240	62	140	42	2,698	3,154	538	2,093	605
Averages										
72-02	775		88			3,473		396		
93-02	930	352	109	706	158	3,576	2,265	429	2,739	531
2003	316	100	38	219	97	3,987	1,571	1,037	2,659	1,328

[a] Catches in 1979 were included in the lower river commercial catches.

[b] There was no commercial fishery in 1984.`

Appendix B.17. Salmon and steelhead trout catch in the combined Canadian net fisheries in the Stikine River, 1972-2003. ESSR catches not included.

	Catch						
	Chinook						
Year	Jacks [a]	Large	Sockeye	Coho	Pink	Chum	Steelhead
1972		0	4,373	0	0	0	0
1973		200	3,670	0	0	0	0
1974		100	3,500	0	0	0	0
1975		1,202	2,252	50	0	0	0
1976		1,160	3,644	13	0	0	0
1977		162	6,310	0	0	0	0
1978		500	5,000	0	0	0	0
1979	63	1,562	13,534	10,720	1,994	424	264
1980		2,231	20,919	6,769	756	771	362
1981		1,404	27,017	2,867	3,857	1,128	284
1982		2,387	20,540	15,944	1,842	722	828
1983	645	1,418	21,120	6,173	1,120	304	714
1984[b]	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
1994	350	1,790	45,095	3,381	90	173	84
1995	860	1,646	53,467	3,418	48	263	270
1996	421	2,471	74,281	1,404	25	232	183
1997	286	4,483	65,559	401	269	222	33
1998	423	2,164	43,803	726	55	13	209
1999	1,264	2,916	38,055	181	11	8	14
2000	628	3,086	27,468	301	181	144	103
2001	103	1,491	25,600	233	78	56	30
2002	578	1,362	17,294	82	19	33	17
Averages							
72-02[c]	543	2,234	23,546	2,652	510	275	158
93-02	522	2,321	43,782	1,274	81	154	101
2003	1,057	1,396	58,784	190	850	112	0

[a] Jacks as reported by fishery and loosely based on "small" fish ~2.5-3.0 kg; the jack catch may not correspond with the estimated jack catch

[b] There was no commercial fishery in 1984.

[c] Chinook averages only since 1986 when large fish and jacks were recorded separately in all fisheries.

Appendix B.18. Salmon catches in the Stikine River harvested under Canadian ESSR licenses, 1992-2003.

	Tahltan				
Year	Total	Wild	Planted	Tuya	
1993	1,752	1,714	38		
1994	6,852	5,682	1,170		
1995	10,740	6,680	4,060		
1996	14,339	12,667	1,672	216	
1997	378	278	100	2,015	No ESSR at Tahltan
1998	390	324	66	6,103	No ESSR at Tahltan
1999	429	404	25	2,822	No ESSR at Tahltan
2000	406	324	82	1,283	No ESSR at Tahltan
2001	50	30	20	410	No ESSR at Tahltan
2002	400	285	115	501	No ESSR at Tahltan
2003	400	225	175	7,031	No ESSR at Tahltan
Salmon taken for otolith samples at Tahltan weir and included in ESSR catch when fishery was operated.					
1996	407	360	47		
1997	378	278	100		
1998	390	324	66		
1999	429	404	25		
2000	406	324	82		
2001	50	30	20		
2002	400	285	115		
2003	400	225	175		

Appendix B.19. Salmon and steelhead trout catches and effort in Canadian test fisheries in the Stikine River, 1985-2003.

	Catches							Effort
	Chinook							Drift=#
Year	Jacks [a]	Large	Sockeye	Coho	Pink	Chum	Steelhead	Set=hr.
Drift Test Fishery Catches								
1986	12	27	412	226	8	25	0	405
1987[b]		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
1994	4	43	179	71	6	20	7	175
1995	13	18	297	35	4	12	4	285
1996	5	42	262	55	4	55	10	245
1997	7	30	245	11	9	15	2	210
1998	11	25	190	207	20	40	24	820
1999	43	53	410	312	11	17	25	1,006
2000	4	59	374	60	9	45	23	694
2001	3	128	967	257	74	47	27	883
2002	50	63	744	306	14	31	20	898
Averages								
85-02	13	82	408	140	22	32	10	580
93-02	15	56	411	135	16	30	15	552
2003	62	64	997	291	92	54	30	660
Set Test Fishery Catches								
1985			1,340					
1986								
1987[b]		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
1994	34	74	414	0	0	0	0	456
1995	35	61	850	166	5	41	14	888
1996	40	64	338	0	0	0	1	312
1999	16	49	803	64	6	10	11	1,577
2000	0	87	1,015	181	25	120	27	3,715
2001	7	56	2,223	1,078	124	61	61	2,688
2002	56	48	3,540	1,323	13	48	50	2,845
Averages								
85-02	22	71	1,379	342	95	60	17	1,576
93-02	25	66	1,321	369	22	43	21	1,713
2003	91	14	2,173	525	200	85	56	1,116

-continued-

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	Catches							Effort
	Chinook							Drift=#
Year	Jacks [a]	Large	Sockeye	Coho	Pink	Chum	Steelhead	Set=hr.
Additional Test Fishery Catches								
1992	134	417	594	0	0	0	0	85
1993	65	389	1,925	2	1	3	2	266
1994	40	178	840	0	0	0	0	131
1995	136	169	1,423	26	1	9	1	222
1996	31	192	712	0	0	0	0	138
1999	38	751	4,683	16	18	2	7	531
2000	14	787	989	195	0	9	26	1,427
2001	49	1,652	91	426	0	1	6	1,399
2002	217	1,545	128	1,116	0	1	21	2,048
Averages								
85-02	80	676	1,265	198	2	3	7	694
93-02	74	708	1,349	223	3	3	8	770
2003	617	1,225	186	883	5	29	50	1,915
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	
1994	78	295	1,433	71	6	20	7	
1995	184	248	2,570	227	10	62	19	
1996	76	298	1,312	55	4	55	11	
1997	7	30	245	11	9	15	2	
1998	11	25	190	207	20	40	24	
1999	97	853	5,896	392	35	29	43	
2000[c]	18	933	2,378	436	34	174	76	
2001[c]	59	1,836	3,281	1,761	198	109	94	
2002[c]	323	1,656	4,412	2,745	27	80	91	
Averages								
85-02	70	470	2,167	498	96	79	27	
93-02	94	674	2,547	608	36	67	38	
2003	770	1,303	3,356	1,699	297	168	136	

[a] Jacks as reported by fishery and loosely based on "small" fish ~2.5-3.0 kg; the jack catch may not correspond with the estimated jack catch

[b] 1987 jack chinook catch was for both set and drift nets.

[c] Catch of large fish includes 226, 401, and 378 released fish in 2000-2002, respectively

Appendix B.20. Sockeye salmon stock proportions and catch by stock in the test fishery in the lower Stikine River, 1985-2003. Stock composition based on: SPA 1985; average of SPA and GPA 1986-1988; egg diameter 1989-2003.

	Catch					Proportions				
	Tahltan				Marked	Tahltan		Average[a]		
Year	U.S.	Canada	Tuya	Mainstem	Tahltan	U.S.	Canada	Tahltan	Tuya	Mainstem
1985	560	439		841		0.418	0.328	0.372		0.628
1986	164	127		267		0.398	0.308	0.352		0.648
1987	513	397		1,213		0.308	0.238	0.273		0.727
1988	408	295		895		0.327	0.237	0.282		0.718
1989		414		1,192			0.258	0.258		0.742
1990		822		1,058			0.454	0.454		0.546
1991		1,443		931			0.608	0.608		0.392
1992		1,912		1,046			0.646	0.646		0.354
1993		2,184		1,564			0.583	0.583		0.417
1994		1,228		205			0.857	0.857		0.143
1995		2,064	20	486	729		0.803	0.803	0.008	0.189
1996		875	116	321	108		0.667	0.667	0.088	0.245
1997		97	54	94	20		0.396	0.396	0.220	0.384
1998		70	51	69	4		0.368	0.368	0.268	0.363
1999		3,031	1,564	1,301	113		0.514	0.514	0.265	0.221
2000		605	982	791	94		0.254	0.254	0.413	0.333
2001		684	924	1,673	124		0.208	0.208	0.282	0.510
2002		1,726	694	1,992	402		0.391	0.391	0.157	0.451
Averages										
85-02								0.460	0.213	0.445
93-02								0.504	0.213	0.326
2003		1,505	428	1,423	374		0.448	0.448	0.128	0.424

[a] Average proportions were from averages of weekly estimates.

Appendix B.21. Estimated proportion of inriver run comprised of Tahltan, Tuya, and mainstem sockeye stocks, 1979-2003. Stock compositions based on: scale circuli counts 1979-1983; SPA in 1985; average of SPA and GPA 1986-1988; and egg diameter analysis in 1989-2003. 1994-2000 and 2003 data from commercial catch. Estimates for 2001-2002 are from the test fishery.

	Tahltan		Average [a]		
Year	U.S.	Canada	Tahltan	Tuya	Mainstem
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
1994		0.606	0.606		0.394
1995		0.578	0.578	0.016	0.406
1996		0.519	0.519	0.104	0.377
1997		0.297	0.297	0.229	0.474
1998		0.309	0.309	0.348	0.344
1999		0.545	0.545	0.245	0.209
2000		0.260	0.260	0.391	0.349
2001		0.202	0.202	0.268	0.530
2002		0.360	0.360	0.141	0.498
Averages					
79-02			0.416		0.511
93-02			0.415	0.218	0.410
2003		0.421	0.421	0.158	0.421

[a] Average proportions were from averages of weekly stock composition and migratory timing (from drift test fishery estimates).

Appendix B.22. Counts of adult sockeye salmon migrating through Tahltan Lake weir, 1959-2003.

	Weir	Date of Arrival			Weir	Total		Samples	Spawners		
Year	Installed	First	50%	90%	Pulled	Count	Broodsto	or ESSR	Total	Natural	Hatchery
1959	30-Jun	2-Aug	12-Aug	16-Aug		4,311					
1960	15-Jul	2-Aug	24-Aug	27-Aug		6,387					
1961	20-Jul	9-Aug	11-Aug	15-Aug		16,619					
1962	1-Aug	2-Aug	5-Aug	8-Aug		14,508					
1963[a]	3-Aug					1,780					
1964	23-Jul	26-Jul	14-Aug	25-Aug		18,353					
1965[b]	19-Jul	18-Jul	2-Sep	7-Sep		1,471					
1966	12-Jul	3-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	8-Aug		19,726					
1969	7-Jul	11-Jul	18-Jul	31-Jul		11,805					
1970	5-Jul	25-Jul	1-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	21-Aug	52,545					
1973	10-Jul	24-Jul	30-Jul	7-Aug	1-Sep	2,877					
1974	3-Jul	28-Jul	3-Aug	17-Aug	13-Sep	8,101					
1975	10-Jul	25-Jul	8-Aug	17-Aug	28-Aug	8,159					
1976	16-Jul	29-Jul	1-Aug	6-Aug	24-Aug	24,111					
1977	6-Jul	11-Jul	16-Jul	10-Aug	25-Aug	42,960					
1978	10-Jul	10-Jul	20-Jul	29-Jul	26-Aug	22,788					
1979	9-Jul	23-Jul	1-Aug	11-Aug	31-Aug	10,211					
1980	4-Jul	15-Jul	22-Jul	12-Aug	3-Sep	11,018					
1981	30-Jun	16-Jul	26-Jul	3-Aug	8-Sep	50,790					
1982	2-Jul	10-Jul	19-Jul	29-Jul	4-Sep	28,257					
1983	27-Jun	5-Jul	22-Jul	5-Aug	7-Sep	21,256					
1984	20-Jun	19-Jul	24-Jul	3-Aug	29-Aug	32,777					
1985	28-Jun	18-Jul	31-Jul	6-Aug	5-Sep	67,326					
1986	10-Jul	26-Jul	4-Aug	11-Aug	4-Sep	20,280					
1987	14-Jul	21-Jul	4-Aug	13-Aug	27-Aug	6,958					
1988	16-Jul	16-Jul	6-Aug	14-Aug	29-Aug	2,536					
1989	7-Jul	9-Jul	1-Aug	14-Aug	4-Sep	8,316	2,210		6,106		
1990	6-Jul	15-Jul	26-Jul	3-Aug	28-Aug	14,927	3,302		11,625		
1991	30-Jun	17-Jul	25-Jul	7-Aug	5-Sep	50,135	3,552		46,583		
1992	9-Jul	18-Jul	25-Jul	3-Aug	2-Sep	59,907	3,694		56,213		
1993	7-Jul	10-Jul	28-Jul	10-Aug	11-Sep	53,362	4,506	1,752	47,104	46,074	1,030
1994	7-Jul	14-Jul	30-Jul	9-Aug	7-Sep	46,363	3,378	6,852	36,133	29,961	6,172
1995	8-Jul	9-Jul	24-Jul	12-Aug	16-Sep	42,317	4,902	10,740	26,675	16,591	10,084
1996	6-Jul	14-Jul	22-Jul	04-Aug	10-Sep	52,500	4,402	14,339	33,759	29,823	3,936
1997	9-Jul	15-Jul	25-Jul	26-Aug	26-Sep	12,483	2,294	378	9,811	7,829	1,982
1998	9-Jul	11-Jul	25-Jul	26-Aug	17-Sep	12,658	3,099	390	9,169	8,553	616
1999	10-Jul	19-Jul	31-Jul	13-Aug	15-Sep	10,748	2,870	429	7,449	6,952	497
2000	9-Jul	21-Jul	25-Jul	03-Aug	4-Sep	6,076	1,717	406	3,953	3,152	801
2001	08-Jul	19-Jul	31-Jul	09-Aug	14-Sep	14,811	2,386	50	12,375	7,475	4,900
2002	07-Jul	12-Jul	25-Jul	08-Aug	14-Sep	17,740	3,051	400	14,289	10,490	3,799
Averages											
59-02	09-Jul	19-Jul	30-Jul	11-Aug	04-Sep	22,672					
93-02	08-Jul	14-Jul	26-Jul	12-Aug	13-Sep	26,906	3,261	3,574	20,072	16,690	3,382
2003	07-Jul	11-Jul	29-Jul	08-Aug	18-Sep	53,933	3,946	400	49,587	27,893	21,694

[a] Daily counts unavailable.

[b] A slide occurred blocking the entrance for a while.

Appendix B.23. Aerial survey counts of Mainstem sockeye stocks in the Stikine River drainage, 1984-2003. 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	6	0	0		270		566
1987	6	490	62	6	30		103		697
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
1994	267	292	66			62	147	114	948
1995	13	260	11			72	47	31	434
1996	134	351	149			27	54	338	1,053
1997	204	271	25			12	116	32	660
1998	230	246	89			9	183	135	892
1999	56	301	64			54	98	78	651
2000[a]	47	86	86			32	0	90	341
2001	601	2,037	268			163	217	232	3,518
2002	239	216	95			13	353	0	916
Averages									
84-02	158	432	81	34	25	54	192	98	1,004
93-02	185	438	99	28	2	52	132	119	1,029
2003	240	71	239			0	54	0	604

[a] Survey conditions were exceptionally poor; therefore, the counts probably did reflect relative abundance.

Appendix B.24. Estimates of sockeye salmon smolt migrating through Tahltan Lake smolt weir, 1984-2003.

	Weir	Date of Arrival			Total	Total	Date and	Smolt	
Year	Installed	First	50%	90%	Count	Estimate	Expansion	Natural	Hatchery
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	595,147	610,407	6/14		
1991[c]	05-May	14-May	21-May	30-May	1,439,676	1,487,265	6/13	1,220,397	266,868
1992[d]	07-May	13-May	21-May	27-May	1,516,150	1,555,026	6/14	750,702	804,324
1993	07-May	11-May	17-May	22-May		3,255,045		2,855,562	399,483
1994	08-May	08-May	16-May	12-Jun		915,119		620,809	294,310
1995	05-May	06-May	13-May	11-Jun		822,284		767,027	55,257
1996	11-May	11-May	20-May	25-May		1,559,236		1,408,020	151,216
1997	07-May	11-May	23-May	30-May		518,202		348,685	169,517
1998	07-May	08-May	25-May	05-Jun		540,866		326,420	214,446
1999	06-May	10-May	09-Jun	15-Jun		762,033		468,488	293,545
2000	07-May	09-May	22-May	17-Jun		619,274		355,618	263,656
2001	06-May	07-May	24-May	18-Jun		1,495,642		841,268	654,374
2002	06-May	14-May	27-May	12-Jun		1,873,598		1,042,435	831,163
Averages									
84-02	05-May	11-May	23-May	04-Jun		1,034,300		917,119	366,513
93-02	07-May	09-May	22-May	07-Jun		1,236,130		903,433	332,697
2003	06-May	11-May	29-May	06-Jun		1,960,480		979,442	981,038

[a] Estimate includes approximately 30,000 mortalities from overcrowding on May 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.25. Weir counts of chinook salmon at Little Tahltan River, 1985-2003.

Year	Weir Installed	Date of Arrival First	Date of Arrival 50%	Date of Arrival 90%	Total Count	Broodstock and Other	Natural Spawners	Total Natural Spawners
Large								
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	-12	11,437	
1994	18-Jun	28-Jun	22-Jul	02-Aug	6,387	-14	6,373	
1995	17-Jun	20-Jun	17-Jul	04-Aug	3,072	0	3,072	
1996	26-Jun	08-Jul	16-Jul	30-Jul	4,821	0	4,821	
1997	14-Jun	22-Jun	16-Jul	29-Jul	5,557	-10	5,547	
1998	13-Jun	19-Jun	14-Jul	29-Jul	4,879	-6	4,873	
1999	18-Jun	27-Jun	19-Jul	1-Aug	4,738	-5	4,733	
2000	19-Jun	23-Jun	21-Jul	5-Aug	6,640	-9	6,631	
2001	20-Jun	23-Jun	18-Jul	2-Aug	9,738	-8	9,730	
2002	20-Jun	23-Jun	18-Jul	27-Jul	7,490	-14	7,476	
Averages								
85-02	21-Jun	26-Jun	28-Feb	01-Aug	5,727		5,722	
93-02	18-Jun	24-Jun	23-Aug	31-Jul	6,477	-8	6,469	
2003	20-Jun	20-Jun	19-Jul	6-Aug	6,492	0	6,492	
Jack Chinook (fish <660 mid-eye fork length or <735 snout fork 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			11,497
1994	18-Jun	02-Jul	22-Jul	05-Aug	121			6,494
1995	17-Jun	22-Jun	28-Jul	10-Aug	135			3,207
1996	26-Jun	02-Jul	13-Jul	14-Jul	22			4,843
1997	14-Jun	26-Jun	21-Jul	1-Aug	54			5,601
1998	13-Jun	26-Jun	20-Jul	7-Aug	37			4,910
1999	18-Jun	1-Jul	23-Jul	6-Aug	202			4,935
2000	19-Jun	23-Jun	20-Jul	5-Aug	108			6,739
2001	20-Jun	23-Jun	27-Jul	3-Aug	269			9,999
2002	20-Jun	26-Jun	21-Jul	7-Aug	618			8,094
Averages								
85-02	21-Jun	29-Jun	22-Jul	03-Aug	237			5,959
93-02	18-Jun	27-Jun	20-Jul	02-Aug	163			6,632
2003	20-Jun	30-Jun	21-Jul	5-Aug	334			6,826

Appendix B.26. Index counts of Stikine chinook escapements, 1979-2003. Counts do not include jacks (fish < 660mm mef length).

Year	Inriver Run[a]	Escape[a]	Marine Catch[b]	Total Run[c]	% to L. Tahltan	Little Tahltan Weir	Little Tahltan Aerial	Tahltan Aerial	Beatty Aerial	Andrew Creek Foot	Andrew Creek Expanded[d]	Comments
1979							1,166	2,118		382		Andrew weir includes broodstock
1980							2,137	960	122	363		Andrew weir includes broodstock
1981							3,334	1,852	558	654		Andrew weir includes broodstock
1982							2,830	1,690	567	947		Andrew weir includes broodstock
1983							594	453	83	444		Andrew weir includes broodstock
1984							1,294		126	389		Andrew weir includes broodstock
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		Andrew helicopter
1988						7,292	3,796	4,384	593	564		
1989						4,715	2,527		362	530		Tahltan not surveyed - visibility
1990						4,392	1,755	2,134	271	664		
1991						4,506	1,768	2,445	193	400		Andrew fixed wing
1992						6,627	3,607	1,891	362	778		Andrew helicopter, Little Tahltan inc. brood
1993						11,437	4,010	2,249	757	1,060		
1994						6,373	2,422		184	572		Andrew helicopter, Tahltan no survey
1995						3,072	1,117	696	152	338		
1996	31,718	28,949			0.167	4,821	1,920	772	218	332	664	
1997	31,509	26,996			0.205	5,547	1,907	260	218	300	478	
1998	28,133	25,968			0.188	4,873	1,385	587	125	487	974	
1999	23,716	19,947			0.237	4,733	1,379			605	1,210	Tahltan and Beatty is continued
2000	30,301	27,531			0.241	6,631	2,720			690	1,380	
2001	66,646	62,543			0.156	9,730	4,258			1,447	2,108	
2002	53,983	50,175	3,587	59,322	0.149	7,476	Missed peak survey - weather			875	1,752	
Averages												
79-						5,723	2,236	1,575	291	610		
93-	38,001	34,587			0.192	6,469	2,346	913	276	671		
2003	43,022	39,965	3,895	48,107	0.162	6,492	1,903			595	1,190	Andrew helicopter

[a] generated from a mark-recapture study (ADF&G fisheries data series)

[b] As reported in the mark-recapture reports

[c] From jointly accepted US and Canadian catch estimates

[d] Terminal run does not included chinook catches taken beyond the Stikine River or Districts 106 and 108.

Appendix B.27. Index counts of Stikine coho salmon escapements, 1984-2003. Missing data due to poor survey conditions.

Year	Katete West	Katete	Craig	Verrett	Bronson Slough	Scud Slough	Porcupine	Christina	Total
1984 10/30	147	313	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 10/29	302	878	985	218		221	352		2,956
1992 10/29	295	1,346	949	320		462	316		3,688
1993 10/30						206	324		
1994 11/1-2	28	652	1,026	466		448	1,105		3,725
1995 10/30	211	208	1,419	574		621	719		3,752
1996 10/30	163	232	205	549		630	1,466		3,245
1997 11/01	2	0	19	116		272	648		1,057
1998 10/30	14	63	141	282		143	450		1,093
1999 11/05	163	773	891	490		661	894		3,872
2000 11/2-3				5		95	206		306
2001 11/2-3	207	1,401	3,121	708		1,571	397		7,405
2002 11/05	806	2,642	4,488	1,695		1,389	1,626		12,646
Average									
84-02	226	760	1,127	437	54	569	590	28	3,488
93-02	199	746	1,414	543		604	784		4,122
2003	no surveys conducted due to inclement survey conditions								

Appendix B.28. Stikine River sockeye salmon run size, 1979-2003. Catches include test fishery catches.

Year	Inriver Run Canada	Inriver Run U.S.	Inriver Run Average[a]	Inriver Catch	Escapement[b]	Marine Catch	Total Run
1979		40,353	40,353	13,534	26,819	8,299	48,652
1980		62,743	62,743	20,919	41,824	23,206	85,949
1981		138,879	138,879	27,017	111,862	27,538	166,417
1982		68,761	68,761	20,540	48,221	42,256	111,016
1983	77,260	66,838	71,683	21,120	50,563	5,768	77,452
1984	95,454	59,168	76,211	5,327	70,884	7,708	83,919
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	4,085	43,350
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	34,323	154,476
1992			154,542	29,242	125,300	77,394	231,936
1993			176,100	52,698	123,402	104,630	280,730
1994			127,527	53,380	74,147	80,509	208,036
1995			142,308	66,777	75,531	76,420	218,728
1996			184,400	90,148	94,252	188,385	372,785
1997			125,657	68,197	57,460	101,258	226,915
1998			90,459	50,486	39,973	30,989	121,448
1999			65,879	47,202	18,677	58,735	124,614
2000			53,145	31,535	21,610	25,359	78,504
2001			103,755	29,341	74,414	23,500	127,255
2002			71,256	22,607	48,649	8,076	79,332
Avg. 79-02			97,551	32,887	64,664	41,381	138,931
Avg. 93-02			114,049	51,237	62,812	69,786	183,835
2003			194,425	69,571	124,854	46,552	240,977
Tahltan sockeye							
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	20,598	63,092
1983			32,684	11,428	21,256	5,065	37,749
1984			37,571	4,794	32,777	3,042	40,613
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	2,259	14,182
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	23,612	91,006
1992			76,681	16,774	59,907	28,218	104,899
1993			84,068	32,458	51,610	40,036	124,104
1994			77,239	37,728	39,511	65,101	142,340
1995			82,290	50,713	31,577	51,665	133,955
1996			95,706	57,545	38,161	147,435	243,141
1997			37,319	25,214	12,105	43,408	80,727
1998			27,941	15,673	12,268	7,086	35,027
1999			35,918	25,599	10,319	23,431	59,349
2000			13,803	8,133	5,670	5,340	19,143
2001			20,985	6,224	14,761	6,339	27,324
2002			25,681	8,341	17,340	2,055	27,736

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Year	Inriver Run Canada	Inriver Run U.S.	Inriver Run Average[a]	Inriver Catch	Escapement[b]	Marine Catch	Total Run
Averages							
79-02			43,106	17,356	25,751	22,548	65,654
93-02			50,095	26,763	23,332	39,190	89,284
2003			81,808	28,275	53,533	16,298	98,106
Tuya sockeye run							
1995			2,216	1,112	1,104	586	2,802
1996			19,158	8,919	10,239	19,442	38,600
1997			28,738	20,819	7,919	37,520	66,258
1998			31,442	22,911	8,531	15,941	47,383
1999			16,165	13,877	2,288	15,217	31,382
2000			20,779	14,971	5,808	13,255	34,034
2001			27,783	8,985	18,798	12,968	40,751
2002			10,078	5,924	4,154	4,058	14,136
Averages							
95-02			19,545	12,190	7,355	14,873	34,418
2003			30,814	17,465	13,349	8,760	39,574
Mainstem 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	21,657	47,925
1983			38,999	9,692	29,307	703	39,702
1984			38,640	533	38,107	4,666	43,306
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	1,826	29,168
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	10,712	63,470
1992			77,861	12,468	65,393	49,176	127,037
1993			92,033	20,240	71,792	64,594	156,627
1994			50,288	15,652	34,636	15,408	65,696
1995			57,802	14,953	42,850	24,169	81,971
1996			69,536	23,684	45,852	21,508	91,044
1997			59,600	22,164	37,436	20,330	79,930
1998			31,077	11,902	19,175	7,962	39,039
1999			13,797	7,726	6,071	20,087	33,884
2000			18,563	8,431	10,132	6,764	25,327
2001			54,987	14,132	40,855	4,193	59,180
2002			35,497	8,342	27,155	1,963	37,460
Averages							
79-02			47,929	11,468	36,461	13,875	61,805
93-02			48,318	14,723	33,595	18,698	67,016
2003			81,803	23,831	57,972	21,494	103,297

[a] The averages for 1983-1985 are averages of weekly run timing estimates as well as stock composition estimates and are not simple

[b] Escapement includes fish later captured for broodstock.

Appendix C.1. Weekly salmon catch and effort in the Alaskan District 111 and Sub-district 111-32 (Taku Inlet), commercial drift gillnet fishery, 2003.

							Effort		
	Start	Catch						Days	Boat
Week	Date	Chinook	Sockeye	Coho	Pink	Chum	Boats	Open	Days
District 111 catches									
25	15-Jun	365	5,120	1	1	3,002	63	3.0	189
26	22-Jun	457	6,463	9	608	6,442	79	3.0	237
27	29-Jun	312	23,032	106	17,777	18,159	85	4.0	340
28	6-Jul	212	42,050	177	32,939	32,706	114	4.0	456
29	13-Jul	53	20,562	136	19,187	36,974	125	4.0	500
30	20-Jul	37	24,003	598	12,034	37,376	112	4.0	448
31	27-Jul	23	30,670	1,001	17,490	24,730	114	5.0	570
32	3-Aug	3	36,844	740	8,474	5,552	105	4.0	420
33	10-Aug	3	11,965	1,000	3,635	4,273	73	4.0	292
34	17-Aug	0	3,147	1,009	241	305	33	3.0	99
35	24-Aug	0	1,006	2,504	9	86	29	3.0	87
36	31-Aug	0	119	1,883	0	123	16	3.0	48
37	7-Sep	0	437	7,276	0	414	23	4.0	92
38	14-Sep	0	15	3,857	0	124	16	5.0	80
39	21-Sep	0	0	3,161	0	141	14	6.5	91
40-41	28-Sep	0	0	249	0	13	2	14.0	28
Total		1,465	205,433	23,707	112,395	170,420		73.5	3,977
Alaskan hatchery contribution for chinook and coho salmon. [a]									
25	15-Jun	96		0					
26	22-Jun	223		0					
27	29-Jun	0		0					
28	6-Jul	0		0					
29	13-Jul	0		0					
30	20-Jul	0		0					
31	27-Jul	0		0					
32	3-Aug	0		0					
33	10-Aug	0		0					
34	17-Aug	0		0					
35	24-Aug	0		83					
36	31-Aug	0		47					
37	7-Sep	0		141					
38	14-Sep	0		1,174					
39	21-Sep	0		60					
40-41	28-Sep	0		0					
Total		319		1,505					

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Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Boats	Days Open	Boat Days
Catches not including Alaskan hatchery contribution:									
25	15-Jun	269		1					
26	22-Jun	234		9					
27	29-Jun	312		106					
28	6-Jul	212		177					
29	13-Jul	53		136					
30	20-Jul	37		598					
31	27-Jul	23		1,001					
32	3-Aug	3		740					
33	10-Aug	3		1,000					
34	17-Aug	0		1,009					
35	24-Aug	0		2,421					
36	31-Aug	0		1,836					
37	7-Sep	0		7,135					
38	14-Sep	0		2,683					
39	21-Sep	0		3,101					
40-41	28-Sep	0		249					
Total		1,146		22,202					
Sub-district 111-32 Catches (Taku Inlet)									
25	15-Jun	348	4,888	1	1	2,913	62	3.0	186
26	22-Jun	449	6,168	9	557	4,860	78	3.0	234
27	29-Jun	308	22,590	106	17,209	17,559	85	4.0	340
28	6-Jul	206	39,914	170	29,702	28,188	111	4.0	444
29	13-Jul	38	16,957	95	13,509	18,814	110	4.0	440
30	20-Jul	28	20,791	455	10,124	26,641	105	4.0	420
31	27-Jul	7	11,020	211	4,895	6,537	68	2.0	136
32	3-Aug	1	5,624	181	1,333	361	27	2.0	54
33	10-Aug	1	809	426	108	500	17	2.0	34
34	17-Aug	0	329	408	12	13	10	3.0	30
35	24-Aug	0	642	2,122	9	66	22	2.0	44
36	31-Aug	0	119	1,850	0	123	16	2.0	32
37	7-Sep	0	437	7,276	0	414	23	4.0	92
38	14-Sep	0	15	3,857	0	124	16	5.0	80
39	21-Sep	0	0	3,161	0	141	14	6.5	91
40-41	28-Sep	0	0	249	0	13	2	14.0	28
Total		1,386	130,303	20,577	77,459	107,267		64.5	2,685
Sub-district 111-34 Catches (Port Snettisham)									
31	27-Jul	3	5,072	81	2,656	1,805	35	2.0	70
32	3-Aug	1	15,803	115	3,223	1,098	60	4.0	240
33	10-Aug	2	5,830	95	1,276	185	30	4.0	120
34	17-Aug	0	825	19	229	50	5	3.0	15
Total		6	27,530	310	7,384	3,138		13.0	445

[a] Chum Salmon are not included because of the difficulty of making an accurate estimate, the majority of the summer chum catch was

Appendix C.2. Estimate of the proportion of natural and planted sockeye salmon stock groups harvested in the Alaskan District 111 commercial drift gillnet fishery by week, 2003. Does not include Port Snettisham harvests

		King	Little Trapper			Tatsamenie		Total		Wild		U.S.
Week	Kuthai	Salmon	Wild	Planted	Mainstem	Wild	Planted	Taku	Crescent	Speel	Snett.	Planted
25	0.678	0.007	0.006	0.000	0.229	0.079	0.000	1.000	0.000	0.000	0.000	0.000
26	0.545	0.023	0.085	0.000	0.169	0.163	0.000	0.984	0.000	0.013	0.013	0.003
27	0.198	0.040	0.207	0.000	0.490	0.022	0.002	0.960	0.000	0.039	0.039	0.001
28	0.066	0.022	0.431	0.000	0.465	0.003	0.003	0.990	0.000	0.006	0.006	0.004
29	0.044	0.017	0.374	0.000	0.470	0.014	0.002	0.921	0.004	0.025	0.028	0.051
30	0.010	0.009	0.229	0.000	0.526	0.031	0.010	0.815	0.034	0.027	0.061	0.124
31	0.000	0.005	0.129	0.000	0.326	0.061	0.010	0.532	0.025	0.044	0.069	0.400
32	0.000	0.004	0.001	0.000	0.308	0.039	0.002	0.354	0.005	0.086	0.091	0.555
33	0.000	0.000	0.001	0.000	0.056	0.037	0.001	0.095	0.000	0.302	0.303	0.603
34	0.000	0.000	0.001	0.000	0.056	0.037	0.001	0.095	0.000	0.302	0.303	0.603
35	0.000	0.000	0.001	0.000	0.056	0.037	0.001	0.095	0.000	0.302	0.303	0.603
36	0.000	0.000	0.001	0.000	0.056	0.037	0.001	0.095	0.000	0.302	0.303	0.603
37	0.000	0.000	0.001	0.000	0.056	0.037	0.001	0.095	0.000	0.302	0.303	0.603
38	0.000	0.000	0.001	0.000	0.056	0.037	0.001	0.095	0.000	0.302	0.303	0.603
Total	0.087	0.016	0.225	0.000	0.398	0.033	0.004	0.763	0.009	0.047	0.056	0.181

Appendix C.3. Weekly stock-specific catch of wild and planted Taku River and Port Snettisham sockeye salmon harvested in the Alaskan District 111 commercial drift gillnet fishery, 2003.

		King	Little Trapper			Tatsamenie		Total			Wild	U.S.
Week	Kuthai	Salmon	Wild	Planted	Mainstem	Wild	Planted	Taku	Crescent	Speel	Snett.	Planted
25	3,472	38	33	0	1,173	404	0	5,120	0	0	0	0
26	3,523	146	547	0	1,091	1,050	0	6,358	0	83	83	22
27	4,555	921	4,765	0	11,297	518	52	22,107	0	903	903	22
28	2,770	945	18,115	0	19,555	119	116	41,619	0	248	248	183
29	899	344	7,699	0	9,661	286	50	18,940	74	504	578	1,044
30	243	219	5,488	0	12,634	734	250	19,568	811	655	1,466	2,969
31	0	131	3,309	0	8,345	1,573	249	13,606	630	1,132	1,762	10,230
32	0	85	26	0	6,488	817	40	7,456	104	1,803	1,907	11,678
33	0	0	5	0	341	229	6	580	2	1,854	1,856	3,698
34	0	0	2	0	129	87	2	220	1	702	703	1,400
35	0	0	1	0	56	38	1	95	0	304	304	606
36	0	0	0	0	7	4	0	11	0	36	36	72
37	0	0	0	0	24	16	0	41	0	132	132	263
38	0	0	0	0	1	1	0	1	0	5	5	9
Total	15,462	2,829	39,989	0	70,801	5,876	767	135,724	1,622	8,361	9,983	32,196

Appendix C.4. Weekly salmon and steelhead trout catch and effort in the Canadian commercial fishery in the Taku River, 2003.

		Catch							Effort		
	Start	Chinook							Average	Days [a]	Permit
Week	Date	Jacks	Large [b]	Sockeye	Coho	Pink	Chum	Steelhead	Permits	Fished	Days
25	15-Jun	277	669	1,423		0	0	0	9.00	2.00	18.00
26	22-Jun	158	640	3,232	1	0	0	0	8.25	4.00	33.00
27	29-Jun	84	366	4,748	8	0	0	0	7.75	4.00	31.00
28	6-Jul	33	158	3,393	41	0	0	0	8.50	4.00	34.00
29	13-Jul	12	97	5,911	155	0	0	0	8.80	5.00	44.00
30	20-Jul	5	19	6,942	335	0	0	0	8.20	5.00	41.00
31	27-Jul	0	6	3,430	224	0	0	0	11.50	2.00	23.00
32	3-Aug	1	4	2,404	659	0	0	0	11.00	2.00	22.00
33	10-Aug	0	0	1,090	707	0	0	0	5.33	3.00	16.00
34	17-Aug	0	0	195	207	0	0	0	1.00	5.00	5.00
35	24-Aug	0	0	89	290	0	0	3	1.00	3.00	3.00
36	31-Aug	0	0	53	265	0	0	6	1.00	2.00	2.00
37	7-Sep	0	0	23	350	0	0	18	1.00	3.00	3.00
Total		570	1,959	32,933	3,242	0	0	27		44.00	275.00

[a] An additional 38 days of fishing were open with no effort taking place.

[b] Catches of large fish differ from those used for mark-recapture estimate in Appendix C.8. because of different definitions of large fish and jacks.

Appendix C.5. Weekly stock proportions of sockeye salmon harvested in the Canadian commercial fishery in the Taku River, 2003.

	Start		King	Little Trapper			Tatsamenie	
Week	Date	Kuthai	Salmon	Wild	Planted	Mainstem	Wild	Planted
25	15-Jun	0.819	0.022	0.021	0.000	0.000	0.139	0.000
26	22-Jun	0.808	0.013	0.000	0.000	0.178	0.001	0.000
27	29-Jun	0.465	0.022	0.349	0.000	0.104	0.060	0.000
28	6-Jul	0.286	0.060	0.418	0.000	0.086	0.150	0.000
29	13-Jul	0.065	0.025	0.685	0.000	0.102	0.123	0.000
30	20-Jul	0.027	0.023	0.497	0.000	0.384	0.059	0.010
31	27-Jul	0.041	0.018	0.330	0.000	0.568	0.022	0.021
32	3-Aug	0.000	0.000	0.132	0.000	0.694	0.142	0.032
33	10-Aug	0.000	0.005	0.261	0.000	0.441	0.261	0.032
34	17-Aug	0.000	0.005	0.261	0.000	0.441	0.261	0.032
35	24-Aug	0.000	0.005	0.261	0.000	0.441	0.261	0.032
36	31-Aug	0.000	0.005	0.261	0.000	0.441	0.261	0.032
37	7-Sep	0.000	0.005	0.261	0.000	0.441	0.261	0.032
Total		0.233	0.023	0.378	0.000	0.270	0.089	0.008

Appendix C.6. Weekly stock-specific catch of sockeye salmon in the Canadian commercial fishery in the Taku River, 2003.

	Start		King	Little Trapper			Tatsamenie	
Week	Date	Kuthai	Salmon	Wild	Planted	Mainstem	Wild	Planted
25	15-Jun	1,165	31	30	0	0	198	0
26	22-Jun	2,612	44	0	0	574	2	0
27	29-Jun	2,208	106	1,655	0	494	285	0
28	6-Jul	971	204	1,419	0	292	508	0
29	13-Jul	382	149	4,048	0	604	727	0
30	20-Jul	187	157	3,453	0	2,665	408	72
31	27-Jul	141	60	1,132	0	1,948	77	71
32	3-Aug	0	0	319	0	1,668	340	77
33	10-Aug	0	6	284	0	480	284	35
34	17-Aug	0	1	51	0	86	51	6
35	24-Aug	0	0	23	0	39	23	3
36	31-Aug	0	0	14	0	23	14	2
37	7-Sep	0	0	6	0	10	6	1
Total		7,666	759	12,434	0	8,885	2,923	267

Appendix C.7. Weekly salmon and steelhead trout catch and effort in the Canadian test fishery in the Taku River, 2003.

		Catch						
	Start	Chinook						
Week	Date [a]	Med. &	Large	Sockeye	Coho	Pink	Chum	Steelhead
18	27-Apr	4	101	0	0	0	0	0
19	4-May	25	154	0	0	0	0	0
20	11-May	38	198	0	0	0	0	0
21	18-May	89	300	0	0	0	0	0
22	25-May	74	249	0	0	0	0	0
23	1-Jun	97	250	2	0	0	0	0
24	8-Jun	71	149	25	0	0	0	0
35	24-Aug	0	0	0	7	0	0	0
36	31-Aug	0	0	0	6	0	0	0
37	7-Sep	0	0	0	7	0	0	1
38	14-Sep	0	0	0	5	0	0	0
39	21-Sep	0	0	0	11	0	0	0
40	28-Sep	0	0	0	12	0	0	0
41	5-Oct	0	0	0	11	0	0	6
Total		398	1,401	27	59	0	0	7

[a] There was no test fishing during statistical weeks 25-34 inclusive.

Appendix C.8. Mark-recapture estimate of above border run of chinook, sockeye, and coho salmon in the Taku River, 2003.

Recovery Week	Start Date		Above Border Run	Canadian Harvests				Above Border Escapement
				Commercial [a]	Test	Aboriginal [b]	Recreational	
Inseason Chinook Estimates								
18	27-Apr		458		101			357
19	4-May		2,272		154			2,118
20	11-May		9,073		198			8,875
21	18-May		2,856		300	95		2,461
22	25-May		11,447		249	139		11,059
23	1-Jun		9,755		250	21		9,484
24	8-Jun		6,811		149			6,662
Inseason Estimate			42,672		1,401	255	300	40,716
(estimate includes tagged chinook from SW 23 (June 1-7, 2003); recoveries through SW 24 (June 8-14, 2003).								
Final			39,765	1350	1401	279	300	36,435
95% CI		26,623	52,907					
Sockeye								
22-23	25-May		939		2			937
24	8-Jun		4,193		25			4,168
25	15-Jun		8,598	1,423	0			7,175
26	22-Jun		9,828	3,232	0			6,596
27	29-Jun		20,349	4,748	0			15,601
28	6-Jul		24,577	3,393	0			21,184
29	13-Jul		35,941	5,911	0			30,030
30	20-Jul		26,743	6,942	0			19,801
31	27-Jul		12,660	3,430	0			9,230
32	3-Aug		13,223	2,404	0			10,819
33	10-Aug		18,020	1,090	0			16,930
34	17-Aug		12,346	195	0			12,151
35	24-Aug		3,759	89	0			3,670
36	31-Aug		4,645	53	0			4,592
37	7-Sep		4,222	23	0			4,199
38	14-Sep		2,151	0	0			2,151
M-R			200,918					
95% C.I.		180,904	220,932					
Total Estimate			200,918	32,933	27	267		167,691
Coho								
27-36	29-Jun		102,499	2,892	13			99,594
37-41	7-Sep		69,063	350	46	416		68,251
Inseason Estimate			171,562	3,242	59	416		167,845
Final M-R Estimate			186,755					
95% C.I.		155,589	217,921					
Final Expanded Estimate [c]			186,755	3,242	59	416		183,038

[a] Catches of large fish differ from those used for commercial catch table Appendix C.4. because of different definitions of large fish and jacks.

[b] Aboriginal catch by week is not available

[c] Expansion = 1.0

Appendix C.9. Daily counts of adult sockeye salmon passing through Tatsamenie weir, 2003.

	Sockeye		
Date	Count	Cumulative Count	Percent
10-Aug	---- Weir Fish Tight ----		
11-Aug	00		0.0
12-Aug	1	1	0.0
13-Aug	1	2	0.0
14-Aug	1	3	0.1
15-Aug	8	11	0.2
16-Aug	40	51	1.1
17-Aug	13	64	1.4
18-Aug	62	126	2.8
19-Aug	44	170	3.8
20-Aug	16	186	4.1
21-Aug	31	217	4.8
22-Aug	13	230	5.1
23-Aug	21	251	5.6
24-Aug	72	323	7.2
25-Aug	163	486	10.8
26-Aug	61	547	12.1
27-Aug	312	859	19.0
28-Aug	210	1,069	23.7
29-Aug	70	1,139	25.2
30-Aug	196	1,335	29.6
31-Aug	247	1,582	35.0
1-Sep	121	1,703	37.7
2-Sep	310	2,013	44.6
3-Sep	385	2,398	53.1
4-Sep	189	2,587	57.3
5-Sep	62	2,649	58.7
6-Sep	114	2,763	61.2
7-Sep	105	2,868	63.5
8-Sep	73	2,941	65.1
9-Sep	56	2,997	66.4
10-Sep	48	3,045	67.4
11-Sep	50	3,095	68.5
12-Sep	187	3,282	72.7
13-Sep	70	3,352	74.2
14-Sep	146	3,498	77.5
15-Sep	19	3,517	77.9
16-Sep	17	3,534	78.3
17-Sep	56	3,590	79.5
18-Sep	34	3,624	80.3
19-Sep	80	3,704	82.0
20-Sep	102	3,806	84.3
21-Sep	235	4,041	89.5
22-Sep	40	4,081	90.4
23-Sep	67	4,148	91.9
24-Sep	30	4,178	92.5
25-Sep	37	4,215	93.4
26-Sep	31	4,246	94.0
27-Sep	74	4,320	95.7
28-Sep	58	4,378	97.0
29-Sep	68	4,446	98.5
30-Sep	23	4,469	99.0

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	Sockeye		
Date	Count	Cumulative Count	Percent
1-Oct	5	4,474	99.1
2-Oct	8	4,482	99.3
3-Oct	13	4,495	99.6
4-Oct	15	4,510	99.9
5-Oct	2	4,512	99.9
6-Oct	3	4,515	100.0
7-Oct	---- Weir Pulled ----		
Counts		4,515	
Outlet spawners		<15	
Broodstock [a]		-1,550	
Released fish		242	
Spawners		2,965	

[a] Broodstock included 622 females and 509 males which were spawned successfully, and 48 females and 83 males

Appendix C.10. Daily counts of adult sockeye salmon passing through Little Trapper Lake weir, 2003.

Date	Count	Cumulative Count	Percent
23-Jul	----Weir Fish Tight ----		
24-Jul	0	0	0.00
25-Jul	0	0	0.00
26-Jul	0	0	0.00
27-Jul	2	2	0.01
28-Jul	0	2	0.01
29-Jul	65	67	0.21
30-Jul	142	209	0.67
31-Jul	493	702	2.25
1-Aug	1,671	2,373	7.60
2-Aug	3,598	5,971	19.12
3-Aug	3,967	9,938	31.83
4-Aug	2,823	12,761	40.87
5-Aug	618	13,379	42.84
6-Aug	1,586	14,965	47.92
7-Aug	1,858	16,823	53.87
8-Aug	1,086	17,909	57.35
9-Aug	917	18,826	60.29
10-Aug	1,001	19,827	63.49
11-Aug	1,173	21,000	67.25
12-Aug	1,255	22,255	71.27
13-Aug	1,364	23,619	75.64
14-Aug	809	24,428	78.23
15-Aug	708	25,136	80.49
16-Aug	603	25,739	82.43
17-Aug	616	26,355	84.40
18-Aug	613	26,968	86.36
19-Aug	314	27,282	87.37
20-Aug	338	27,620	88.45
21-Aug	327	27,947	89.50
22-Aug	304	28,251	90.47
23-Aug	354	28,605	91.60
24-Aug	255	28,860	92.42
25-Aug	132	28,992	92.84
26-Aug	204	29,196	93.50
27-Aug	226	29,422	94.22
28-Aug	437	29,859	95.62
29-Aug	278	30,137	96.51
30-Aug	165	30,302	97.04
31-Aug	193	30,495	97.66
1-Sep	43	30,538	97.79
2-Sep	271	30,809	98.66
3-Sep	117	30,926	99.04
4-Sep	34	30,960	99.14
5-Sep	48	31,008	99.30
6-Sep	113	31,121	99.66
7-Sep	39	31,160	99.79
8-Sep	62	31,222	99.98
9-Sep	0	31,222	99.98
10-Sep	5	31,227	100.00
10-Sep	---- Weir Pulled ----		
Count		31,227	

Appendix C.11. Daily counts of adult sockeye salmon passing through the Kuthai Lake weir, 2003.

Date	Count	Cumulative Count	Cumulative Percent
1-Jul	----Weir Fish Tight ----		
2-Jul	0	0	0.00
3-Jul	0	0	0.00
4-Jul	0	0	0.00
5-Jul	0	0	0.00
6-Jul	0	0	0.00
7-Jul	0	0	0.00
8-Jul	0	0	0.00
9-Jul	0	0	0.00
10-Jul	11	11	0.14
11-Jul	28	39	0.50
12-Jul	139	178	2.29
13-Jul	334	512	6.59
14-Jul	530	1,042	13.41
15-Jul	590	1,632	21.01
16-Jul	605	2,237	28.79
17-Jul	243	2,480	31.92
18-Jul	192	2,672	34.39
19-Jul	710	3,382	43.53
20-Jul	340	3,722	47.91
21-Jul	964	4,686	60.32
22-Jul	242	4,928	63.43
23-Jul	523	5,451	70.16
24-Jul	445	5,896	75.89
25-Jul	56	5,952	76.61
26-Jul	263	6,215	80.00
27-Jul	65	6,280	80.83
28-Jul	194	6,474	83.33
29-Jul	248	6,722	86.52
30-Jul	12	6,734	86.68
31-Jul	26	6,760	87.01
1-Aug	425	7,185	92.48
2-Aug	0	7,185	92.48
3-Aug	65	7,250	93.32
4-Aug	10	7,260	93.45
5-Aug	5	7,265	93.51
6-Aug	327	7,592	97.72
7-Aug	46	7,638	98.31
8-Aug	0	7,638	98.31
9-Aug	0	7,638	98.31
10-Aug	0	7,638	98.31
11-Aug	0	7,638	98.31
12-Aug	78	7,716	99.32
13-Aug	0	7,716	99.32
14-Aug	0	7,716	99.32
15-Aug	0	7,716	99.32

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Date		Count	Cumulative Count	Cumulative Percent
16-Aug		0	7,716	99.32
17-Aug		0	7,716	99.32
18-Aug		0	7,716	99.32
19-Aug		4	7,720	99.37
20-Aug		39	7,759	99.87
21-Aug		0	7,759	99.87
22-Aug		0	7,759	99.87
23-Aug		0	7,759	99.87
24-Aug		0	7,759	99.87
25-Aug		0	7,759	99.87
26-Aug		10	7,769	100.00
27-Aug		0	7,769	100.00
28-Aug		0	7,769	100.00
29-Aug		0	7,769	100.00
30-Aug		0	7,769	100.00
31-Aug	---- Weir Pulled ----			
Total count			7,769	
Harvest above weir			-112	
Escapement			7,657	

Appendix C.12. Daily counts of chinook salmon carcasses at the Nakina River weir, 2003.

	Count			Cumulative	
Date	Female	Male	Combined	Count	Percent
1-Aug	1	1	2	2	0.00
2-Aug	1	3	4	6	0.00
3-Aug	1	1	2	8	0.00
4-Aug	9	23	32	40	0.01
5-Aug	7	31	38	78	0.03
6-Aug	11	51	62	140	0.05
7-Aug	18	90	108	248	0.09
8-Aug	23	109	132	380	0.14
9-Aug	19	110	129	509	0.19
10-Aug	26	132	158	667	0.25
11-Aug	42	206	248	915	0.34
12-Aug	45	207	252	1,167	0.44
13-Aug	36	218	254	1,421	0.53
14-Aug	40	251	291	1,712	0.64
15-Aug	38	203	241	1,953	0.73
16-Aug	30	172	202	2,155	0.80
17-Aug	32	225	257	2,412	0.90
18-Aug	20	105	125	2,537	0.95
19-Aug	11	72	83	2,620	0.98
20-Aug	5	34	39	2,659	0.99
21-Aug	2	19	21	2,680	1.00
Total	417	2,263	2,680		

Appendix D.1. Salmon catches and effort in the Alaskan District 111 and Sub-district 111-32 (Taku Inlet) commercial drift gillnet fishery, 1960-2003. Days open are for the entire district and include openings to harvest spawner chinook salmon, 1960-1975.

	Catch							Effort	
Year	Chinook	Sockeye	Coho	Pink	S. Chum [a]	F. Chum [a]	Steelhead	Boat Days	Days Open
District 111									
1960	8,810	42,819	22,374	33,155	8,754	33,098			60.00
1961	7,434	45,981	15,486	41,455	8,578	15,855			62.00
1962	5,931	36,745	15,661	17,280	7,453	13,182			52.00
1963	2,652	24,119	10,855	21,392	12,335	7,779			54.00
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	369	1,518	41.50
1970	3,357	50,922	44,960	197,017	19,593	90,797	1,055	2,688	53.00
1971	6,958	66,181	41,830	31,484	31,813	59,332	631	3,053	55.00
1972	10,955	80,404	49,780	144,339	67,126	80,831	574	3,103	51.00
1973	9,799	85,317	35,453	58,186	33,296	75,949	554	3,286	41.00
1974	2,908	38,670	38,667	57,731	11,263	75,423	465	2,315	29.50
1975	2,182	32,513	1,185	9,567	2,091	587	89	1,084	15.50
1976	1,757	61,749	41,729	14,962	6,027	75,776	499	1,914	25.00
1977	1,068	70,097	54,917	88,578	8,995	52,107	359	2,258	27.00
1978	1,926	55,398	31,944	51,385	9,076	27,178	397	2,174	26.00
1979	3,701	122,148	16,194	152,836	5,936	55,261	243	2,269	28.83
1980	2,251	123,451	41,677	296,572	33,627	159,020	363	4,123	30.92
1981	1,721	49,942	26,711	254,856	22,546	53,892	262	2,687	30.00
1982	3,057	83,625	29,072	109,297	14,867	22,741	476	2,433	35.50
1983	888	31,821	21,455	66,239	6,160	9,104	183	1,274	33.00
1984	1,773	77,233	33,836	145,971	45,811	40,930	366	2,757	52.50
1985	2,636	88,077	55,597	311,248	58,972	47,748	499	3,264	48.00
1986	2,584	73,061	30,512	16,568	29,909	28,883	529	2,129	32.83
1987	2,076	75,212	35,219	363,439	57,280	64,380	272	2,514	34.75
1988	1,779	38,923	44,881	157,831	80,307	59,271	226	2,135	32.00
1989	1,811	74,019	51,812	180,597	18,022	18,955	215	2,333	41.00
1990	3,480	126,884	67,530	153,036	112,336	33,463	310	3,188	38.33
1991	3,217	109,877	126,436	74,183	147,404	13,771	69	4,145	57.00
1992	2,341	135,411	172,662	314,445	97,725	14,802	166	4,550	50.00
1993	6,748	171,556	65,536	17,081	156,033	10,447	52	3,827	43.00
1994	5,047	105,861	188,501	401,525	198,002	16,169	459	5,078	66.00
1995	4,660	103,377	83,626	41,269	339,178	10,920	128	4,034	49.00
1996	2,659	199,014	33,633	12,660	347,612	6,455	240	3,229	46.00
1997	2,804	94,745	3,515	51,424	173,804	3,060		2,107	33.00
1998	794	69,677	28,713	168,283	291,416	4,695		3,070	48.00
1999	1,841	79,425	17,273	59,316	429,213	4,639		2,841	59.00
2000	1,137	168,272	7,546	54,716	665,582	3,013		2,919	40.00
2001	1,696	290,450	22,529	122,829	235,276	1,693		4,731	54.00
2002	1,840	178,488	39,823	77,562	230,092	929		4,095	62.00
Averages									
60-02	3,653	82,221	42,499	106,446	94,189	32,205	359	2,915	44.96
93-02	2,923	146,087	49,070	100,667	306,621	6,202	220	3,593	50.00
2003	1,465	205,433	23,707	112,395	169,214	1,206		3,977	73.50

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	Catch							Effort	
Year	Chinook	Sockeye	Coho	Pink	S. Chum [a]	F. Chum [a]	Steelhead	Boat Days	Days Open
Sub-district 111-32 Catches (Taku Inlet)									
1960	8,763	26,641	20,282	26,777	4,566	28,720		1,680	60.00
1961	7,269	30,805	14,618	34,615	6,863	14,876		2,901	62.00
1962	5,719	25,969	13,699	10,006	5,418	11,812		1,568	52.00
1963	2,547	16,079	9,406	18,102	8,085	7,071		1,519	51.00
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	366	1,413	42.00
1970	3,073	41,476	37,587	143,886	14,208	76,795	996	2,425	53.00
1971	6,753	62,459	38,571	30,765	31,110	54,696	627	2,849	55.00
1972	9,633	62,877	38,568	78,673	45,955	60,097	544	2,797	51.00
1973	9,525	80,063	29,770	55,234	30,817	61,025	513	3,135	41.00
1974	2,280	26,256	27,670	32,684	6,469	51,063	378	1,741	30.00
1975	1,998	28,201	429	8,084	1,639	31	77	986	15.00
1976	1,693	51,674	31,641	11,868	3,766	42,674	450	1,582	23.00
1977	754	47,512	48,403	67,072	5,436	43,595	318	1,879	27.00
1978	1,642	43,795	21,620	41,624	7,142	18,101	314	1,738	24.00
1979	3,016	103,043	12,741	114,324	4,317	46,142	225	2,011	29.00
1980	1,986	108,577	35,814	241,085	25,779	131,126	337	3,634	31.00
1981	1,325	39,963	20,936	98,524	10,407	40,212	233	1,740	22.00
1982	2,841	75,012	24,761	77,942	11,558	18,363	447	2,130	36.00
1983	689	25,957	17,665	40,996	3,171	7,813	172	1,065	31.00
1984	1,414	59,229	25,951	83,028	28,214	27,967	315	2,120	39.00
1985	2,152	70,160	45,106	176,710	35,897	40,530	436	2,116	37.00
1986	1,877	60,106	26,474	9,772	14,646	24,790	485	1,413	30.00
1987	1,534	54,436	23,342	200,203	31,992	28,891	197	1,517	30.00
1988	949	23,752	33,159	41,625	25,969	27,010	174	1,213	29.00
1989	1,606	68,104	44,034	141,385	15,254	15,491	183	1,909	36.00
1990	2,432	110,006	60,078	101,168	88,350	29,099	286	2,879	38.00
1991	2,614	96,006	118,902	44,347	97,577	12,279	63	3,324	52.00
1992	1,672	103,238	152,598	180,340	57,153	11,649	135	3,407	43.00
1993	4,413	144,982	58,062	8,801	101,356	7,760	46	3,372	43.00
1994	3,051	88,625	156,314	198,507	129,350	12,280	422	3,960	60.00
1995	3,497	81,266	70,826	18,469	192,557	8,786	119	3,061	45.00
1996	2,412	188,412	31,828	12,123	294,890	5,245	236	2,685	41.00
1997	2,724	84,115	2,993	38,794	143,354	1,936		1,761	30.00
1998	634	47,413	24,606	85,269	192,057	2,800		2,007	39.00
1999	1,762	68,914	14,086	43,958	327,706	2,643		2,563	58.00
2000	1,032	127,274	6,299	25,729	453,147	1,311		2,325	38.00
2001	1,290	179,683	12,647	49,174	141,715	1,012		3,635	55.00
2002	1,546	113,110	30,501	40,283	108,171	671		2,792	54.00
Averages									
60-02	3,224	65,487	36,158	65,428	63,451	24,772	325	2,216	42.23
93-02	2,236	112,379	40,816	52,111	208,430	4,444	206	2,816	46.30
2003	1,386	130,303	20,577	77,459	106,373	894		2,685	64.50

[a] S Chum and F Chum refer to Summer and Fall runs of these fish, fish harvested prior to week 34 are considered summer chum, and

Appendix D.2. Stock proportions and catches of sockeye salmon in the Alaska District 111 commercial drift gillnet fishery, 1983-2003. Data based on analysis of scale patterns, otolith marks, and incidence of brain parasites. Does not include catches inside Port Snettisham.

		King	Little Trapper			Tatsamenie		Total			Wild	U.S.
Week	Kuthai	Salmon	Wild	Planted	Mainstem	Wild	Planted	Taku	Crescent	Speel	Snett.	Planted
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		[a]		[a]	0.156		0.849	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	
1994	0.110		0.356		0.361	0.091		0.917	0.036	0.022	0.058	0.025
1995	0.046		0.214	0.010	0.428	0.153	0.029	0.880	0.018	0.075	0.093	0.026
1996	0.069		0.117	0.010	0.499	0.232	0.014	0.941	0.013	0.032	0.045	0.014
1997	0.067		0.170	0.011	0.282	0.286	0.011	0.826	0.027	0.026	0.053	0.120
1998	0.087		0.158	0.008	0.209	0.245	0.004	0.710	0.026	0.007	0.033	0.257
1999	0.176		0.259	0.003	0.235	0.119	0.005	0.797	0.049	0.023	0.072	0.131
2000	0.139		0.273	0.002	0.211	0.151	0.008	0.783	0.004	0.054	0.058	0.160
2001	0.076		0.130	0.000	0.268	0.207	0.031	0.713	0.014	0.032	0.046	0.241
2002	0.098		0.254	0.000	0.173	0.126	0.004	0.654	0.014	0.032	0.047	0.299
Avg. 86-02	0.082		0.227	0.005	0.319	0.172	0.013	0.810	0.062	0.048	0.110	0.142
Avg. 93-02	0.093		0.226	0.005	0.297	0.173	0.013	0.804	0.027	0.041	0.068	0.142
2003	0.087	0.016	0.225	0.000	0.398	0.033	0.004	0.755	0.009	0.047	0.064	0.181
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		[a]		[a]	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	10,67		56,350		52,876	21,139		141,038	11,877	18,641	30,518	
1994	11,63		37,644		38,179	9,585		97,046	3,859	2,319	6,178	2,637
1995	4,788		22,109	1,017	44,278	15,767	3,049	91,008	1,901	7,741	9,642	2,727
1996	13,74		23,307	1,920	99,231	46,148	2,859	187,207	2,544	6,416	8,960	2,848
1997	6,345		16,105	1,031	26,694	27,107	1,006	78,288	2,558	2,510	5,068	11,389
1998	6,055		11,018	570	14,560	17,040	250	49,493	1,784	500	2,284	17,900
1999	14,01		20,596	247	18,680	9,421	367	63,327	3,879	1,814	5,693	10,405
2000	23,35		45,977	279	35,451	25,347	1,301	131,712	621	9,088	9,709	26,851
2001	22,04		37,862	0	77,938	60,109	9,057	207,008	4,097	9,331	13,428	70,014
2002	17,47		45,308	0	30,819	22,449	660	116,710	2,559	5,779	8,338	53,440
Avg[b]. 86-02	10,03		27,932	633	40,301	22,639	2,319	102,378	5,630	5,867	11,498	22,023
Avg. 93-02	13,01		31,628	633	43,871	25,411	2,319	116,284	3,568	6,414	9,982	22,023
2003	15,46	2,829	39,989	0	70,801	5,876	767	135,724	1,622	8,361	9,983	32,196

[a] The Trapper and Mainstem groups were combined in the 1989 analysis and were 45,573 fish.

[b] Averages for individual stocks do not include 1989.

Appendix D.3. Proportion of wild Taku River sockeye salmon in the Alaskan District 111 commercial drift gillnet catch by week, 1983-2003. Data based on scale patterns and incidence of brain parasites and includes only wild fish.

	Week										
Year	25	26	27	28	29	30	31	32	33	34	Total
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
1994		1.000	0.981	0.973	0.967	0.870	0.835	0.938	0.804	0.901	0.917
1995	0.942	0.889	0.903	0.858	0.872	0.868	0.761	0.759	0.705	0.740	0.841
1996	1.000	0.998	0.909	0.974	0.950	0.991	0.914	0.945	0.879	0.804	0.953
1997	0.992	0.970	0.910	0.926	0.951	0.939	0.939	0.925	0.872	0.906	0.938
1998		0.964	0.974	0.978	0.971	0.949	0.948	0.942	0.997	0.857	0.955
1999		0.966	0.988	0.953	0.934	0.917	0.878	0.833	0.732	0.665	0.917
2000		0.973	0.962	0.958	0.929	0.898	0.872	0.907	0.908	0.858	0.931
2001	0.995	0.998	0.948	0.888	0.908	0.930	0.961	0.945	0.858	0.858	0.936
2002	0.986	0.989	0.993	0.970	0.872	0.946	0.829	0.880	0.851	0.851	0.933
Average											
83-02	0.966	0.971	0.928	0.899	0.856	0.812	0.831	0.833	0.800	0.778	0.863
93-02	0.983	0.971	0.947	0.931	0.921	0.909	0.873	0.890	0.834	0.815	0.914
2003	1.000	0.987	0.961	0.994	0.970	0.929	0.883	0.795	0.236	0.236	0.931

Appendix D.4. Salmon catch in the U.S. subsistence and personal use fisheries in the Taku River, 1967-2003. The subsistence fishery was open 1967 to 1976 and 1985 and the personal use fishery was open 1989-2003. The harvests are minimum estimates because not all permits are filled out and returned.

	Catch					
Year	Chinook	Sockeye	Coho	Pink	Chum	Permits
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	920	35	16	1	54
1989	25	562	57	591	16	75
1990	26	793	103	111	46	95
1991	25	800	86	97	2	88
1992	21	1,217	88	100	0	125
1993	9	1,201	25	93	3	128
1994	21	1,111	93	76	3	116
1995	18	990	97	40	6	106
1996	33	1,189	67	110	5	130
1997	16	1,053	27	86	1	123
1998	15	1,153	86	225	2	130
1999	22	1,254	44	105	3	147
2000	22	1,134	31	68	7	128
2001	8	1,462	22	195	11	163
2002	14	1,289	68	59	20	136
Averages						
67-02	11	838	54	95	8	
93-02	18	1,184	56	106	6	131
2003	13	1,126	57	237	2	123

Appendix D.5. Salmon and steelhead trout catch and effort in the Canadian commercial fishery in the Taku River, 1979-2003.

	Catch							Effort	
	Chinook							Boat	Days
Year	Jack	Large	Sockeye	Coho	Pink	Chum	Steelhead	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
1994	235	2,065	28,762	14,531	168	18	232	497	74
1995	298	1,577	32,640	13,629	2	1	205	428	51
1996	144	3,331	41,665	5,028	0	0	98	415	65
1997	84	2,731	24,003	2,594	0	1	160	394	47
1998	227	1,107	19,038	5,090	0	2	176	299	42
1999	257	908	20,681	4,416	0	0	81	300	34
2000	87	1,576	28,009	4,395	0	0	192	351	39
2001	118	1,458	47,660	2,568	0	0	3	382	42
2002	291	1,561	31,053	3,082	0	0	2	286	33
Averages									
79-02	189	1,041	22,917	4,751	3,023	1,966	126	320	36
93-02	191	1,793	30,673	5,837	19	4	116	371	46
2003 [a]	570	1,959	32,933	3,242	0	0	27	275	44

[a] Catches of large Chinook salmon differ from those used for mark-recapture estimate in Appendix C.8. because of different definitions of large fish and jacks.

Appendix D.6. Sockeye salmon stock proportions and catch by stock in the Canadian commercial fishery on the Taku River, 1986-2003. Data based on scale pattern analysis.

		King	Little Trapper			Tatsamenie		Total	Total
Year	Kuthai	Salmon	Wild	Planted	Mainstem	Wild	Planted	Wild	Planted
Proportions									
1986	0.111		0.397		0.350	0.143		1.000	
1987	0.062		0.201		0.649	0.088		1.000	
1988	0.143		0.417		0.343	0.098		1.000	
1989[a]	0.053		[a]		[a]	0.203		1.000	
1990	0.112		0.388		0.338	0.163		1.000	
1991	0.064		0.308		0.452	0.176		1.000	
1992	0.092		0.240		0.569	0.099		1.000	
1993	0.126		0.392		0.432	0.049		1.000	
1994	0.158		0.482		0.302	0.058		1.000	
1995	0.047		0.427	0.010	0.373	0.112	0.031	0.959	0.041
1996	0.105		0.221	0.008	0.442	0.215	0.010	0.982	0.018
1997	0.120		0.282	0.019	0.277	0.294	0.008	0.973	0.027
1998	0.225		0.207	0.028	0.254	0.283	0.003	0.969	0.031
1999	0.389		0.305	0.008	0.145	0.147	0.006	0.986	0.014
2000	0.172		0.205	0.000	0.326	0.282	0.016	0.984	0.016
2001	0.184		0.168	0.000	0.364	0.246	0.039	0.961	0.039
2002	0.316		0.428	0.000	0.192	0.062	0.002	0.998	0.002
Averages [b]									
86-02	0.151		0.317		0.363	0.157		0.988	
93-02	0.184		0.312	0.009	0.310	0.175	0.014	0.981	0.023
2003	0.233	0.023	0.378	0.000	0.270	0.089	0.008	0.992	0.008
Catch									
1986	1,629		5,855		5,152	2,103		14,739	
1987	834		2,728		8,793	1,199		13,554	
1988	1,715		5,005		4,122	1,172		12,014	
1989[a]	990		[a]		[a]	3,763		18,545	
1990	2,355		8,183		7,131	3,431		21,100	
1991	1,601		7,721		11,327	4,418		25,067	
1992	2,699		7,085		16,764	2,924		29,472	
1993	4,192		13,036		14,347	1,641		33,217	
1994	4,544		13,858		8,684	1,676		28,762	
1995	1,528		13,934	331	12,185	3,659	1,003	31,306	1,334
1996	4,357		9,195	331	18,422	8,959	401	40,933	732
1997	2,891		6,758	456	6,637	7,060	201	23,346	657
1998	4,279		3,944	533	4,829	5,397	56	18,449	589
1999	8,044		6,314	171	2,992	3,034	126	20,384	297
2000	4,809		5,745	0	9,122	7,897	436	27,573	436
2001	8,748		8,005	0	17,330	11,709	1,868	45,792	1,868
2002	9,826		13,305	0	5,948	1,925	49	31,004	49
Averages [b]			16						
86-02	4,003		8,167		9,612	4,263		26,044	
93-02	5,322		9,409	228	10,050	5,296	518	30,077	745
2003	7,666	759	12,434	0	8,885	2,923	267	32,666	267

[a] The Trapper and Mainstem groups were combined in the 1989 analysis with 13,792 fish or .744 proportion.

[b] Averages do not include 1989.

Appendix D.7. Salmon catches in the Canadian Aboriginal fishery on the Taku River, 1980-2003.

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
1994		119	239	162	4	0	1
1995		70	71	109	0	7	4
1996		63	360	24	0	0	0
1997		103	349	96	0	0	0
1998		60	239	0	0	0	0
1999		50	382	471	0	0	0
2000		50	140	342	0	0	0
2001		125	210	500	0	25	5
2002		37	155	688	0	0	9
Averages							
80-02		46	183	146	0	2	2
93-02		70	229	240	0	3	2
2003	237	279	267	416	4	0	0

Appendix D.8. Salmon and steelhead trout catch in the Canadian test fishery in the Taku River, 1987-2003.

	Catch						
	Chinook						
Year	Jack	Large	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
1994	There was no Canadian test fishery in 1994.						
1995	There was no Canadian test fishery in 1995.						
1996	There was no Canadian test fishery in 1996.						
1997	The 1 sockeye and 39 coho salmon caught in 1997 were released live.						
1998	There was no Canadian test fishery in 1998.						
1999[b]	2	577	88	688	0	0	48
2000[c]	87	1,312	319	710	0	0	19
2001[d]	229	1,175	247	31	0	0	0
2002[e]	355	1,311	518	32	0	0	9
Averages							
87-02		453	271	822	6	66	28
93-02		875	268	611	0	10	18
2003[f]	398	1,401	27	59	0	0	7

[a] Incomplete harvest data.

[b] In addition to these fish, 180 adult female chinook, one adult male chinook and four steelhead were captured and released live.

[c] In addition to these fish, 180 female chinook, 2,976 coho, 82 sockeye, 159 chum and 116 steelhead were captured and released live.

[d] In addition to these fish, 871 female chinook, 1,256 coho, 3 sockeye, 5 chum and 27 steelhead were captured and released live.

[e] In addition to these fish, 1,132 female chinook, 3,767 coho, 164 sockeye, 111 chum and 98 steelhead were captured and released live.

[f] In addition to these fish, 4,031 coho, 197 sockeye, 222 chum and 176 steelhead were captured and released live.

Appendix D.9. Taku River sockeye salmon run size, 1984-2003. Run estimate does not include spawning escapements below the U.S./ Canada border. The early season sockeye expansion is based on the proportion of fish wheel sockeye catch that occurs before the fishery opens.

Above Border M-R					Expanded					
	Run	Start	Expansion		Run	Canadian		U.S.	Total	Exploit.
Year	Estimate	Date	Method	Factor	Estimate	Catch	Escape.	Catch	Run	Rate
1984	133,414	17-Jun	Ave.(88-90&95-96) FW CPUE	0.056	141,254	27,292	113,962	58,543	199,796	0.430
1985	118,160	16-Jun	Ave.(88-90&95-96) FW CPUE	0.047	123,974	14,411	109,563	74,729	198,703	0.449
1986	104,162	22-Jun	Ave.(88-90&95-96) FW CPUE	0.095	115,045	14,939	100,106	60,934	175,980	0.431
1987	87,554	21-Jun	Ave.(88-90&95-96) FW CPUE	0.088	96,023	13,887	82,136	55,154	151,178	0.457
1988	86,629	19-Jun	1988 FW CPUE	0.065	92,641	12,967	79,674	25,811	118,452	0.327
1989	99,467	18-Jun	1989 FW CPUE	0.128	114,068	18,805	95,263	63,367	177,435	0.463
1990	117,385	10-Jun	1990 CPUE	0.002	117,573	21,474	96,099	109,292	226,865	0.576
1991	153,773	9-Jun	Ave.(88-90&95-96) FW CPUE	0.007	154,873	25,380	129,493	104,931	260,103	0.502
1992	162,003	21-Jun	Ave.(88-90&95-96) FW CPUE	0.032	167,376	29,862	137,514	123,655	291,031	0.527
1993	138,523	13-Jun	Ave.(88-90&95-96) FW CPUE	0.026	142,148	33,523	108,625	142,239	284,387	0.618
1994	129,119	12-Jun	Ave.(88-90&95-96) FW CPUE	0.019	131,580	29,001	102,579	98,157	229,737	0.553
1995	145,264	11-Jun	1995 FW CPUE	0.008	146,450	32,711	113,739	91,998	238,448	0.523
1996	132,322	9-Jun	1996 FW CPUE	0.017	134,651	42,025	92,626	188,396	323,047	0.713
1997	93,816	3-May	1997 FW CPUE	0.017	95,438	24,352	71,086	79,341	174,779	0.593
1998	89,992	2-May	No expansion in 1998		89,992	19,277	70,715	50,646	140,638	0.497
1999	113,706	14-May	No expansion in 1999		113,706	21,151	92,555	64,581	178,287	0.481
2000	115,693	14-May	No expansion in 2000		115,693	28,468	87,225	132,846	248,539	0.649
2001	192,245	27-May	No expansion in 2001		192,245	47,958	144,287	208,470	400,715	0.640
2002	135,233	19-May	No expansion in 2002		135,233	31,726	103,507	117,999	253,232	0.591
Averages										
84-02					127,366	25,748	101,619	97,426	224,808	0.548
93-02					129,714	31,019	98,694	117,467	247,181	0.586
2003	200,918	20-May	No expansion in 2003		200,918	33,227	167,691	136,850	337,768	0.504

Appendix D.10. Sockeye salmon escapement estimates of Taku River and Port Snettisham sockeye stocks, 1979-2003. Spawners equals escapement to the weir minus fish collected for brood stock.

	Little Trapper		Tatsamenie		Hackett	Kuthai Lake	Nahlin River	Crescent Lake		Speel Lake	
Year	Count	Escape.	Escape.	Spawners	Weir	Weir	Weir	Escape.	Spawners	Escape.	Spawners
1980						1,658					
1981						2,299					
1982											
1983 [a]	7,402	7,402						19,422	19,422	10,484	10,484
1984	13,084	13,084						6,707	6,707	9,764	9,764
1985 [a]	14,889	14,889	13,093	13,093	2,309			7,249	7,249	7,073	7,006
1986	13,820	13,820	11,446	11,446	1,004			3,414	3,414	5,857	5,457
1987 [a]	12,007	12,007	2,794	2,794	910			7,839	7,839	9,319	9,319
1988 [bc]	10,637	10,637	2,063	2,063	516		138	1,199	1,199	969	710
1989 [c]	9,606	9,606	3,039	3,039				1,109	775	12,229	10,114
1990 [c]	9,443	7,777	5,736	4,929			2,515	1,262	757	18,064	16,867
1991 [d]	22,942	21,001	8,381	7,585				9,208	8,666	299	299
1992 [bd]	14,372	12,732	6,576	5,681		1,457	297	22,674	21,849	9,439	8,136
1993 [c]	17,432	16,685	5,028	4,230		6,312	2,463				
1994	13,438	12,691	4,371	3,578		5,427	960				
1995 [de]	11,524	11,524	8,000	6,607		3,310	3,711			16,208	14,260
1996 [f]	5,483	5,483	10,381	8,026		4,243	2,538			20,000	18,610
1997 [g]	5,924	5,924	8,363	5,981		5,746	1,857			4,999[i]	
1998 [h]	8,717	8,717	5,997	4,735		1,934	345			13,358[i]	
1999	11,805	11,805	2,104	1,888		10,042				10,277[i]	
2000	11,551	11,551	7,575	6,094		4,096				6,764[i]	
2001	16,860	16,860	22,575	21,094		1,663	935			8,060[i]	
2002 [j]	7,973	11,484	5,495	4,379		7,697				5,016[i]	
Averages											
83-02	11,945	11,784	7,390	6,513	1,185	4,721	1,576	8,008	7,788	9,343	9,252
93-02	11,071	11,272	7,989	6,661		5,047	1,830	#DIV/0!	#DIV/0!	10,585	16,435
2003	31,227	31,227	4,515	2,965		7,769				7,014[i]	

[a] Weir count plus spawning ground survey for Trapper 83, 85, 87.

[b] Weir counts are incomplete for Kuthai 92, Nahlin 88, 92.

[c] Counts may be low due to uncounted fish passage past weir for Crescent 88-90, Speel 90, Kuthai 93.

[d] Mark-recapture estimates for Crescent 91, 92 Speel 95.

[e] In 1995 the weir was moved upstream to Tatsamenie Lake, the count of 8,000 is an expansion (based on past experience) of the 5,780 fish counted there.

[f] The estimated return of 10,381 through the Tatsamenie Lake weir in 1996 is thought to represent approximately 80% of the sockeye run past the old weir location at Little Tatsamenie Lake. This results in a potential run of 12,976 sockeye salmon.

[g] The estimated return of 8,363 through the Tatsamenie Lake weir in 1997 is thought to represent approximately 80% of the sockeye run past the old weir location at L. Tatsamenie Lake resulting in a potential run of 10,454 sockeye.

[h] The estimated count of 5,997 fish through Tatsamenie Lake weir in 1998 does not include an estimated 1,499 fish spawning in the outlet stream i.e. total estimate 7,496.

[i] Minimum estimates of run size.

[j] In 2002 the Trapper weir count was expanded by 69% migratory timing to account for fish passage during high water and the Kuthai weir count had 102 fish removed for an aboriginal food fishery.

Appendix D.11. Taku River chinook salmon run size, 1979-2003. Run estimate does not include spawning escapements below the U.S./ Canada border.

	Above Border M-R							
	Start	Run	Spawning	Confidence Intervals		Canadian	U.S.	Total
Year	Date	Estimate	Escapement	Lower	Upper	Catch [a]	Catch [b]	Run
Large Fish Only								
1979						373	6,920	6,920
1980						533	8,560	8,560
1981						419	7,590	7,590
1982						341	4,915	4,915
1983						724	1,614	1,614
1984						687	4,363	4,363
1985						566	3,414	3,414
1986						572	2,353	2,353
1987						475	1,975	1,975
1988						931	1,005	1,005
1989		43,119	40,329	29,263	51,395	1,104	2,790	45,908
1990		55,187	52,142	33,863	70,421	1,377	3,045	58,232
1991						1,508	5,349	5,349
1992						1,587	4,203	4,203
1993						1,663	8,096	8,096
1994						2,117	6,139	6,139
1995		38,138	33,805	23,887	43,723	1,761	4,333	42,471
1996		87,040	79,019	61,285	96,753	2,957	8,021	95,062
1997	3-May	123,631	114,938	79,878	149,998	2,492	8,693	132,324
1998	3-May	34,055	31,039	6,108	55,970	1,347	3,016	37,071
1999	3-May	23,731	19,734	11,978	27,490	1,430	3,997	27,728
2000	24-Apr	33,979	30,529	19,912	41,146	2,963	3,450	37,428
2001	28-Apr	46,855	42,980	30,285	55,675	2,950	3,875	50,730
2002	26-Apr	57,196	52,409	30,931	73,887	3,102	4,787	61,983
Averages								
79-02		54,293	49,692			1,416	4,688	27,310
93-02		55,578	50,557			2,278	5,441	49,903
2003	27-Apr	39,765	39,290	26,623	52,907	3,330	3,986	43,751

-continued-

Appendix D.11. (Page 2 of 2)

Year	Above Border M-R Start Date	Above Border M-R Run Estimate	Spawning Escapement	Confidence Intervals Lower	Confidence Intervals Upper	Canadian Catch [a]	U.S. Catch [b]	Total Run
All Chinook Salmon								
1979						397	9,689	
1980						610	9,251	
1981						459	8,022	
1982						354	5,896	
1983						865	1,969	
1984						815	4,787	
1985						654	4,128	
1986						662	2,837	
1987						533	2,421	
1988						1,140	1,256	
1989		52,269	50,898	39,402	62,394	1,371	3,115	54,013
1990		60,972	59,238	40,772	77,704	1,734	3,645	62,883
1991			73,352			1,909	5,986	
1992			74,572			2,013	4,503	
1993			77,342			2,115	8,803	
1994			53,653			2,719	6,519	
1995		68,297	66,052	53,592	78,512	2,245	6,221	74,518
1996		93,259	89,421	71,557	107,285	3,838	8,246	101,505
1997	3-May	120,698	117,480	82,372	152,588	3,218	8,826	129,524
1998	3-May	44,508	42,814	17,089	68,539	1,694	3,199	47,707
1999	3-May	30,139	28,045	19,709	36,381	2,094	4,504	34,643
2000	24-Apr	42,795	39,331	28,237	50,425	3,464	3,734	46,529
2001	28-Apr	51,206	47,800	34,892	60,709	3,405	4,235	55,441
2002	26-Apr	61,521	57,647	36,028	79,266	3,874	5,354	66,875
Averages								
79-02		62,566	62,689			1,758	5,298	67,364
93-02		64,053	61,959			2,867	5,964	69,593
2003	27-Apr	61,874	56,730	40,755	82,919	5,144	4,457	66,331

[a] In years when sample size data is available (1999-present in the commercial and test fisheries, and 2003-2004 in the Aboriginal fishery) it was used to determine the number of large fish in the Canadian harvest. In years when sample data is not available, the average % large in the commercial fishery from 1999-2004 (75%) was applied to all catches except the recreational catch, which is assumed to be 100% large and comprise 300 fish annually. Catches may differ from those in Appendix D.5 and D.7 because of different definitions of large fish and jacks.

[b] U.S. catch includes D111 commercial gillnet and Juneau area sport fishery harvests; the estimate of large fish for the commercial fishery includes age-1.3 and older fish; all sport harvests are assumed to be large fish.

Appendix D.12. Aerial survey index escapement counts of large (3-ocean and older) Taku River chinook salmon, 1975-2003.

Year	Kowatua	Tatsatua	Dudidontu	Tseta	Nakina	Nahlin	Total Index Count Without Tseta
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		21	1,620	624	3,284
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	9,528
1982	289	387	130	228	2,533	1,246	4,585
1983	171	236	117	179	968	391	1,883
1984 [ab]	279	616		176	1,887	951	3,733
1985	699	848	475	303	2,647	2,236	6,905
1986	548	886	413	193	3,868	1,612	7,327
1987	570	678	287	180	2,906	1,122	5,563
1988	1,010	1,272	243	66	4,500	1,535	8,560
1989	601	1,228	204	494	5,141	1,812	8,986
1990	614	1,068	820	172	7,917	1,658	12,077
1991	570	1,164	804	224	5,610	1,781	9,929
1992	782	1,624	768	313	5,750	1,821	10,745
1993	1,584	1,491	1,020	491	6,490	2,128	12,713
1994	410	1,106	573	614	4,792	2,418	9,299
1995	550	678	731	786	3,943	2,069	7,971
1996	1,620	2,011	1,810	1,201	7,720	5,415	18,576
1997	1,360	1,148	943	648	6,095	3,655	13,201
1998	473	675	807	360	2,720	1,294	5,969
1999	561	431	527	221	1,900	532	3,951
2000	702	953	482	160	2,907	728	5,772
2001	1,050	1,024	479	202	1,552	935	5,040
2002	945	1,145	834	192	4,066	1,099	8,089
Averages							
75-02	676	922	492	334	3,854	1,573	7,850
93-02	926	1,066	821	488	4,219	2,027	9,058
2003	850	1,000	644	436	2,126	861	5,481

[a] Partial survey for Tseta 84

[b] Extrapolated results for Nahlin 84

Appendix D.13. Taku River (above border) coho salmon run size, 1987-2003. The run estimates do not include spawning escapements below the U.S./Canada border. Estimates are expanded if mark-recapture activities terminate prior to run completion.

Above Border M-R										
	Run	End	Expansion							Total
Year	Estimate	Date	Method	Factor	Expanded Estimate	Canadian Catch	Escape.	U.S. Catch	Total Run	Exploitation Rate
1987	43,750	20-Sep	Test Fish CPUE	1.42	61,976	6,519	55,457			
1988	43,093	18-Sep		1.00	43,093	3,643	39,450			
1989	60,841	1-Oct		1.00	60,841	4,033	56,808			
1990	75,881			1.00	75,881	3,685	72,196			
1991	132,923			1.00	132,923	5,439	127,484			
1992	50,557	5-Sep	District 111-32 CPUE	1.79	90,394	5,541	84,853	96,283	186,677	0.545
1993	62,076	11-Sep	District 111-32 CPUE	1.84	114,091	4,634	109,457	97,758	211,849	0.483
1994	98,643	24-Sep	District 111-32 CPUE	1.13	111,036	14,693	96,343	228,607	339,643	0.716
1995	61,738	30-Sep	District 111-32 CPUE	1.12	69,448	13,738	55,710	111,571	181,019	0.692
1996	44,172	28-Sep	District 111-32 CPUE	1.12	49,687	5,052	44,635	44,529	94,216	0.526
1997	35,035	27-Sep	District 111-32 CPUE	1.00	35,035	2,690	32,345	15,825	50,860	0.364
1998	49,290	26-Sep	District 111-32 CPUE	1.35	66,472	5,090	61,382	53,368	119,840	0.488
1999	59,052	3-Oct	Troll CPUE	1.12	66,343	5,575	60,768	50,789	117,132	0.481
2000	70,147	2-Oct	Troll CPUE	1.00	70,147	5,447	64,700	35,390	105,537	0.387
2001	107,493	5-Oct	Troll CPUE	1.00	107,493	3,033	104,460	53,390	160,883	0.351
2002	223,162	7-Oct	Troll CPUE	1.00	223,162	3,802	219,360	80,000	303,162	0.276
Average										
87-02	76,116	9/25		1.18	86,126	5,788	80,338	78,865	170,074	
93-02	81,081	9/26		1.22	91,291	6,375	84,916	78,865	170,074	0.483
2003	186,755	8-Oct	Troll CPUE	1.00	186,755	3,717	183,038	78,336	265,091	0.310

Appendix D.14. Escapement counts of Taku River coho salmon, 1984-2003. Counts are for age-.1 fish and do not include jacks. Because of variability between methods, visibility, observers, and timing, these counts are not an index of run strength.

	Yehring Creek		Sockeye Creek	Johnson Creek	Fish Creek	Flannigan Slough	Tatsamenie River	Hacket River	Dudidontu River	Upper Nahlin River	
Year	Weir	Aerial	Aerial	Ar/Foot	Aerial	Aerial	Weir	Weir	Aerial	Aerial	Weir
1984		2,900	275	235	700	1,480					
1985		560	740	150	1,000	2,320	201 [b]	1,031			
1986	2116 [a]	1,200	174 [c]	70	53 [c]	1095 [c]	344 [b]	2,723	108	318	
1987	1627 [a]	565 [c]	980 [c]	150	250	2100 [c]	173 [b]	1,715	276	165	
1988	1,423	658 c	585 [c]	500	1215 [c]	1308 [c]	663 [a]	1,260	367	694	1,322
1989	1570 [d]	600	400	400	235	1,670	712 [a]		115	322	
1990	2522 [d]	220	193 [c]		425 [c]	414 [c]	669 [a]		25	256	
1991		475 [c]	399 [c]	120	1378 [c]	1348 [c]	1,101		458	176 [e]	
1992		1267 [cf]	594 [f]	654	478	1,288	730				970 [ab]
1993		250	130	90	380	70	88 [b]				326 [g]
1994		500	60	450	200	50	168				2112 [g]
1995		70	230	170	132	421	62 [b]				
1996		35	28	50	250	278	21 [b]				
1997		500	10	550	600						
1998		280		300	450						
1999		1,050			400						
2000		450		500	1,800						
2001	Data not available										
2002	Data not available										
Average											
84-02	1,423	663	234	293	529	947	666	1,682	225	351	1,322
93-02		392	92	301	527	205	168				
2003	Data not available										

[a] Weir count combined with spawning ground count.
[b] Incomplete weir count.
[c] Count is an average of surveys by different observers.
[d] Includes mark-recapture estimate.
[e] Poor survey conditions.
[f] Foot survey.
[g] Surveys conducted before peak abundance on spawning grounds.

Appendix D.15. Canyon Island fish wheel salmon counts and periods of operation on the Taku River, 1983-2003.

		Catch							
	Period of						Pink		
Year	Operation	Chinook	Sockeye	Coho	Pink	Chum	even year	odd year	Steelhead
1984	6/15-9/18	138	2,334	889	20,751	316	20,751		
1985	6/16-9/21	184	3,601	1,207	27,670	1,376		27,670	
1986	6/14-8/25	571	5,808	758	7,256	80	7,256		
1987	6/15-9/20	285	4,307	2,240	42,786	1,533		42,786	34
1988	5/11-9/19	1,436	3,292	2,168	3,982	1,089	3,982		34
1989	5/05-10/01	1,811	5,650	2,243	31,189	645		31,189	38
1990	5/03-9/23	1,972	6,091	1,860	13,358	748	13,358		43
1991	6/08-10/15	680	5,102	4,922	23,553	1,063		23,553	138
1992	6/20-9/24	212	6,279	2,103	9,252	189	9,252		22
1993	6/12-9/29	562	8,975	2,552	1,625	345		1,625	16
1994	6/10-9/21	906	6,485	4,792	27,100	367	27,100		107
1995	5/4-9/27	1,535	6,228	2,535	1,712	218		1,712	61
1996	5/3-9/20	1,904	5,919	1,895	21,583	388	21,583		68
1997	5/3-10/1	1,321	5,708	1,665	4,962	485		4,962	103
1998	5/2-9/15 [a]	894	4,230	1,777	23,347	179	23,347		119
1999	5/3-10/3 [b]	440	4,636	1,848	23,503	164		23,503	119
2000	4/23-10/3 [c]	1,211	5,865	1,877	6,529	423	6,529		160
2001	4/23-10/5 [d]	1,262	6,201	2,380	9,134	250		9,134	125
2002	4/24-10/7 [e]	1,578	5,812	3,766	5,672	205	5,672		87
Averages									
84-02		995	5,396	2,288	16,051	530	13,883	18,459	80
93-02		1,161	6,006	2,509	12,517	302	16,846	8,187	97
2003	4/20-10/08 [f]	1,351	5,970	3,002	15,492	268		15,492	93

[a] gillnetting was used to supplement catches from September 16-23

[b] gillnetting was used to supplement catches from April 24 - June 23 and September 3 - October 3.

[c] gillnetting was used to supplement catches from May 8 - June 2 and September 9 - October 3.

[d] gillnetting was used to supplement catches from April 28 - June 17 and September 8 - October 5.

[e] gillnetting was used to supplement catches from April 24 - June 8 and September 11 - October 7.

[f] gillnetting was used to supplement catches from April 20-June 12 and September 09-October 8.

Appendix E.1. Weekly salmon catch and effort in the U.S. commercial fishery in the Alsek River, 2003.

							Effort		
	Start	Catch						Days	Boat
Week	Date	Chinook	Sockeye	Coho	Pink	Chum	Boats	Open	Days
23	1-Jun	49	185	0	0	0	9	1.0	9.0
24	8-Jun	658	2,005	0	0	0	11	3.0	33.0
25	15-Jun	164	4,309	0	0	0	12	3.0	36.0
26	22-Jun	59	1,614	0	0	0	11	2.0	22.0
27	29-Jun	3	6,592	0	0	0	9	3.0	27.0
28	6-Jul	4	3,200	0	0	0	11	3.0	33.0
29	13-Jul	0	2,796	0	0	0	9	3.0	27.0
30	20-Jul	0	4,306	0	0	0	8	3.0	24.0
31	27-Jul	0	5,756	13	0	0	9	3.0	27.0
32	3-Aug	0	7,405	0	0	0	6	3.0	18.0
33-43	10-Aug	0	1,530	34	0	0	5	12.0	15.0
Total		937	39,698	47	0	0		39	271

Appendix E.2. Weekly salmon catch and effort in the Canadian Aboriginal and sport fisheries in the Alsek River, 2003. Total catches do not include released fish.

		Chinook				Sockeye				Coho			
		Sport				Sport				Sport			
Week	Date	Kept [a]	Released [a]	Aboriginal [b]	Total [c]	Kept	Released	Aboriginal [b]	Total [c]	Kept	Released	Aboriginal [b]	Total [c]
23	1-Jun	0	2	0	0	0	0	0	0	0	0	0	0
24	8-Jun	0	0	0	0	0	0	0	0	0	0	0	0
25	15-Jun	1	0	0	1	0	0	0	0	0	0	0	0
26	22-Jun	14	8	0	14	0	0	0	0	0	0	0	0
27	29-Jun	26	16	8	34	0	0	4	4	0	0	0	0
28	6-Jul	38	12	6	44	0	5	31	31	0	0	0	0
29	13-Jul	39	44	24	63	0	3	105	105	0	0	0	0
30	20-Jul	16	12	34	50	0	6	48	48	0	0	0	0
31	27-Jul	2	10	8	10	0	0	2	2	0	0	0	0
32	3-Aug	0	3	6	6	0	2	212	212	0	1	0	0
33	10-Aug	1	0	4	5	0	0	148	148	1	0	0	1
34	17-Aug	0	0	0	0	0	0	280	280	0	0	0	0
35	24-Aug	0	0	0	0	0	0	786	786	1	0	0	1
36	31-Aug	0	0	0	0	17	6	593	610	1	0	0	1
37	7-Sep	0	0	0	0	15	8	286	301	11	8	0	11
38	14-Sep	0	0	0	0	17	18	50	67	15	11	0	15
39	21-Sep	0	0	0	0	7	3	95	102	15	7	0	15
40	28-Sep	0	0	0	0	4	12	74	78	71	23	0	71
41	5-Oct	1	1	0	1	0	1	20	20	74	21	0	74
42	12-Oct	0	0	0	0	0	0	0	0	3	0	0	3
43	19-Oct	0	0	0	0	1	0	0	1	0	0	0	0
44	26-Oct	0	0	0	0	0	0	0	0	0	0	0	0
45	2-Nov	0	0	0	0	0	0	0	0	0	0	0	0
Total		138	108	90	228	61	64	2,734	2,795	192	71	0	192
Village Creek food fish [d]				0				469				0	
Harvest at Klukshu River weir [d]				3				179				0	
Food fish above Klukshu Weir [d]				73				2,063				0	

[a] Includes estimates of sport catch (kept and released) in Takhanne and Blanchard rivers; estimates based on salmon catch card information.

[b] Does not include released fish.

[c] Aboriginal catches are reported and are believed to represent 90% of the absolute catches.

[d] The total food fish catch above the Klukshu Weir and at Village Creek are included in the weekly aboriginal catches.

Appendix E.3. Daily counts of salmon passing through Klukshu River weir, 2003.

	Chinook [a]			Sockeye			Coho		
		Cumulative			Cumulative			Cumulative	
Date	Daily	Daily	Prop.	Daily	Daily	Prop.	Daily	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	1	1	0.001	0	0	0.000	0	0	0.000
17-Jun	0	1	0.001	0	0	0.000	0	0	0.000
18-Jun	0	1	0.001	2	2	0.000	0	0	0.000
19-Jun	1	2	0.001	0	2	0.000	0	0	0.000
20-Jun	0	2	0.001	0	2	0.000	0	0	0.000
21-Jun	3	5	0.003	0	2	0.000	0	0	0.000
22-Jun	1	6	0.003	0	2	0.000	0	0	0.000
23-Jun	2	8	0.005	0	2	0.000	0	0	0.000
24-Jun	3	11	0.006	1	3	0.000	0	0	0.000
25-Jun	3	14	0.008	2	5	0.000	0	0	0.000
26-Jun	3	17	0.010	1	6	0.000	0	0	0.000
27-Jun	5	22	0.013	5	11	0.000	0	0	0.000
28-Jun	0	22	0.013	0	11	0.000	0	0	0.000
29-Jun	23	45	0.026	4	15	0.000	0	0	0.000
30-Jun	9	54	0.031	2	17	0.000	0	0	0.000
1-Jul	6	60	0.035	5	22	0.001	0	0	0.000
2-Jul	9	69	0.040	4	26	0.001	0	0	0.000
3-Jul	8	77	0.044	2	28	0.001	0	0	0.000
4-Jul	13	90	0.052	2	30	0.001	0	0	0.000
5-Jul	10	100	0.058	8	38	0.001	0	0	0.000
6-Jul	9	109	0.063	7	45	0.001	0	0	0.000
7-Jul	18	127	0.073	6	51	0.001	0	0	0.000
8-Jul	202	329	0.189	6	57	0.002	0	0	0.000
9-Jul	13	342	0.197	41	98	0.003	0	0	0.000
10-Jul	16	358	0.206	8	106	0.003	0	0	0.000
11-Jul	17	375	0.216	15	121	0.004	0	0	0.000
12-Jul	31	406	0.234	14	135	0.004	0	0	0.000
13-Jul	38	444	0.256	27	162	0.005	0	0	0.000
14-Jul	48	492	0.283	326	488	0.014	0	0	0.000
15-Jul	31	523	0.301	17	505	0.015	0	0	0.000
16-Jul	26	549	0.316	3	508	0.015	0	0	0.000
17-Jul	99	648	0.373	43	551	0.016	0	0	0.000
18-Jul	239	887	0.511	89	640	0.019	0	0	0.000
19-Jul	81	968	0.557	72	712	0.021	0	0	0.000
20-Jul	66	1,034	0.595	7	719	0.021	0	0	0.000
21-Jul	104	1,138	0.655	7	726	0.021	0	0	0.000
22-Jul	25	1,163	0.670	3	729	0.021	0	0	0.000
23-Jul	28	1,191	0.686	0	729	0.021	0	0	0.000
24-Jul	134	1,325	0.763	19	748	0.022	0	0	0.000
25-Jul	142	1,467	0.845	46	794	0.023	0	0	0.000
26-Jul	13	1,480	0.852	2	796	0.023	0	0	0.000
27-Jul	21	1,501	0.864	2	798	0.023	0	0	0.000
28-Jul	18	1,519	0.874	0	798	0.023	0	0	0.000
29-Jul	12	1,531	0.881	1	799	0.023	0	0	0.000
30-Jul	19	1,550	0.892	6	805	0.023	0	0	0.000
31-Jul	11	1,561	0.899	7	812	0.024	0	0	0.000

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	Chinook [a]			Sockeye			Coho		
		Cumulative			Cumulative			Cumulative	
Date	Daily	Daily	Prop.	Daily	Daily	Prop.	Daily	Daily	Prop.
1-Aug	24	1,585	0.912	6	818	0.024	0	0	0.000
2-Aug	33	1,618	0.931	7	825	0.024	0	0	0.000
3-Aug	7	1,625	0.936	16	841	0.024	0	0	0.000
4-Aug	7	1,632	0.940	8	849	0.025	0	0	0.000
5-Aug	0	1,632	0.940	3	852	0.025	0	0	0.000
6-Aug	5	1,637	0.942	370	1,222	0.036	0	0	0.000
7-Aug	3	1,640	0.944	55	1,277	0.037	0	0	0.000
8-Aug	8	1,648	0.949	38	1,315	0.038	0	0	0.000
9-Aug	3	1,651	0.950	96	1,411	0.041	0	0	0.000
10-Aug	0	1,651	0.950	61	1,472	0.043	0	0	0.000
11-Aug	22	1,673	0.963	591	2,063	0.060	0	0	0.000
12-Aug	6	1,679	0.967	116	2,179	0.063	0	0	0.000
13-Aug	7	1,686	0.971	460	2,639	0.077	0	0	0.000
14-Aug	7	1,693	0.975	252	2,891	0.084	0	0	0.000
15-Aug	2	1,695	0.976	193	3,084	0.090	0	0	0.000
16-Aug	0	1,695	0.976	109	3,193	0.093	0	0	0.000
17-Aug	0	1,695	0.976	126	3,319	0.097	0	0	0.000
18-Aug	2	1,697	0.977	522	3,841	0.112	0	0	0.000
19-Aug	3	1,700	0.979	326	4,167	0.121	0	0	0.000
20-Aug	0	1,700	0.979	305	4,472	0.130	0	0	0.000
21-Aug	0	1,700	0.979	12	4,484	0.130	0	0	0.000
22-Aug	3	1,703	0.980	372	4,856	0.141	0	0	0.000
23-Aug	1	1,704	0.981	278	5,134	0.149	0	0	0.000
24-Aug	2	1,706	0.982	112	5,246	0.153	0	0	0.000
25-Aug	5	1,711	0.985	432	5,678	0.165	0	0	0.000
26-Aug	5	1,716	0.988	1,083	6,761	0.197	0	0	0.000
27-Aug	2	1,718	0.989	2,782	9,543	0.278	0	0	0.000
28-Aug	8	1,726	0.994	2,385	11,928	0.347	0	0	0.000
29-Aug	1	1,727	0.994	2,341	14,269	0.415	0	0	0.000
30-Aug	5	1,732	0.997	1,093	15,362	0.447	0	0	0.000
31-Aug	2	1,734	0.998	1,045	16,407	0.477	0	0	0.000
1-Sep	3	1,737	1.000	2,792	19,199	0.559	0	0	0.000
2-Sep	0	1,737	1.000	1,717	20,916	0.609	0	0	0.000
3-Sep	0	1,737	1.000	1,163	22,079	0.643	0	0	0.000
4-Sep	0	1,737	1.000	1,312	23,391	0.681	0	0	0.000
5-Sep	0	1,737	1.000	948	24,339	0.708	0	0	0.000
6-Sep	0	1,737	1.000	725	25,064	0.729	0	0	0.000
7-Sep	0	1,737	1.000	610	25,674	0.747	0	0	0.000
8-Sep	0	1,737	1.000	472	26,146	0.761	0	0	0.000
9-Sep	0	1,737	1.000	564	26,710	0.777	0	0	0.000
10-Sep	0	1,737	1.000	892	27,602	0.803	0	0	0.000
11-Sep	0	1,737	1.000	944	28,546	0.831	0	0	0.000
12-Sep	0	1,737	1.000	664	29,210	0.850	0	0	0.000
13-Sep	0	1,737	1.000	620	29,830	0.868	0	0	0.000
14-Sep	0	1,737	1.000	365	30,195	0.879	0	0	0.000
15-Sep	0	1,737	1.000	431	30,626	0.891	0	0	0.000
16-Sep	0	1,737	1.000	191	30,817	0.897	0	0	0.000
17-Sep	0	1,737	1.000	106	30,923	0.900	0	0	0.000
18-Sep	0	1,737	1.000	109	31,032	0.903	0	0	0.000
19-Sep	0	1,737	1.000	106	31,138	0.906	0	0	0.000
20-Sep	0	1,737	1.000	52	31,190	0.908	0	0	0.000

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	Chinook [a]			Sockeye			Coho		
		Cumulative			Cumulative			Cumulative	
Date	Daily	Daily	Prop.	Daily	Daily	Prop.	Daily	Daily	Prop.
21-Sep	0	1,737	1.000	172	31,362	0.913	1	1	0.000
22-Sep	0	1,737	1.000	112	31,474	0.916	0	1	0.000
23-Sep	0	1,737	1.000	285	31,759	0.924	2	3	0.001
24-Sep	0	1,737	1.000	372	32,131	0.935	1	4	0.001
25-Sep	0	1,737	1.000	340	32,471	0.945	18	22	0.006
26-Sep	0	1,737	1.000	168	32,639	0.950	73	95	0.026
27-Sep	0	1,737	1.000	143	32,782	0.954	83	178	0.048
28-Sep	0	1,737	1.000	162	32,944	0.959	215	393	0.107
29-Sep	0	1,737	1.000	172	33,116	0.964	86	479	0.130
30-Sep	0	1,737	1.000	118	33,234	0.967	136	615	0.167
1-Oct	0	1,737	1.000	519	33,753	0.982	842	1,457	0.395
2-Oct	0	1,737	1.000	193	33,946	0.988	700	2,157	0.585
3-Oct	0	1,737	1.000	120	34,066	0.991	445	2,602	0.705
4-Oct	0	1,737	1.000	154	34,220	0.996	354	2,956	0.801
5-Oct	0	1,737	1.000	5	34,225	0.996	28	2,984	0.809
6-Oct	0	1,737	1.000	52	34,277	0.998	347	3,331	0.903
7-Oct	0	1,737	1.000	0	34,277	0.998	15	3,346	0.907
8-Oct	0	1,737	1.000	33	34,310	0.998	241	3,587	0.972
9-Oct	0	1,737	1.000	0	34,310	0.998	8	3,595	0.975
10-Oct	0	1,737	1.000	41	34,351	1.000	70	3,665	0.993
11-Oct	0	1,737	1.000	4	34,355	1.000	4	3,669	0.995
12-Oct	0	1,737	1.000	7	34,362	1.000	20	3,689	1.000
13-Oct	0	1,737	1.000	0	34,362	1.000	0	3,689	1.000
14-Oct	0	1,737	1.000	0	34,362	1.000	0	3,689	1.000
15-Oct	0	1,737	1.000	0	34,362	1.000	0	3,689	1.000
16-Oct	0	1,737	1.000	0	34,362	1.000	0	3,689	1.000
17-Oct	0	1,737	1.000	0	34,362	1.000	0	3,689	1.000
18-Oct	0	1,737	1.000	0	34,362	1.000	0	3,689	1.000
Total Count		1,737			34,362			3,689	
Adjustments									
Catch at weir		3			179			0	
Catch above weir		73			2,063			0	
Total Escapement		1,661			32,120			3,689	

[a] Jack chinook included in the counts.

Appendix E.4. Salmon catch and effort in the U.S. commercial fishery in the Alsek River, 1960-2003.

	Catch					Effort	
						Boat	Days
Year	Chinook	Sockeye	Coho	Pink	Chum	Days	Open
1960							
1961	2,120	23,339	7,679	84	86	1,436	80.0
1962							
1963	131	6,055	7,164	42	34	692	68.0
1964	591	14,127	9,760	144	367	592	68.0
1965	719	28,487	9,638	10	72	1,016	72.0
1966	934	29,091	2,688	22	240	500	64.0
1967	225	11,108	10,090	107	30	600	68.0
1968	215	26,918	10,586	82	240	664	68.0
1969	685	29,259	2,493	38	61	807	61.0
1970	1,128	22,654	2,188	6	26	670	52.3
1971	1,222	25,314	4,730	3	120	794	60.5
1972	1,827	18,717	7,296	37	280	640	65.0
1973	1,757	26,523	4,395	26	283	894	52.0
1974	1,162	16,747	7,046	13	107	699	46.0
1975	1,379	13,842	2,230	16	261	738	58.0
1976	512	19,741	4,883	0	368	550	58.5
1977	1,402	40,780	11,817	689	483	882	57.0
1978	2,441	50,580	13,913	59	233	929	57.0
1979	2,525	41,449	6,158	142	263	1,110	51.0
1980	1,382	25,522	7,863	21	1,005	773	42.0
1981	779	23,641	10,232	65	816	588	40.0
1982	532	27,443	6,534	6	358	552	33.0
1983	94	18,293	5,253	20	432	487	38.0
1984	60	14,326	7,868	24	1,610	429	33.0
1985	213	5,792	5,490	3	427	277	33.0
1986	481	24,791	1,344	13	462	517	34.0
1987	347	11,393	2,517	0	1,924	388	40.5
1988	223	6,286	4,986	7	908	324	34.0
1989	228	13,513	5,972	2	1,031	378	38.0
1990	78	17,013	1,437	0	495	374	38.0
1991	103	17,542	5,956	0	105	530	49.0
1992	301	19,298	3,116	1	120	372	46.0
1993	300	20,043	1,215	0	49	372	40.0
1994	805	19,639	4,182	0	32	403	61.0
1995	670	33,112	14,184	13	347	879	53.5
1996	772	15,182	5,514	0	165	419	51.0
1997	568	25,879	11,427	0	34	611	59.0
1998	550	15,007	4,925	1	145	358	41.0
1999	482	11,441	5,660	0	112	319	44.0
2000	677	9,522	5,103	5	130	307	37.0
2001	541	13,995	2,909	8	17	234	50.0
2002	700	16,918	9,525	0	1	270	73.0
Averages							
60-02	777	20,740	6,292	42	348	594	51.6
93-02	607	18,074	6,464	3	103	417	51.0
2003	937	39,698	47	0	0	271	60.0

Appendix E.5. Salmon catch in the U.S. subsistence and personal use fisheries in the Alsek River, 1976-2003. Catches are those reported on returned permits.

	Catch		
Year	Chinook	Sockeye	Coho
1976	13	51	5
1977	18	113	0
1978			
1979	80	35	70
1980	57	41	62
1981	32	50	74
1982	87	75	50
1983	31	25	50
1984			
1985	16	95	0
1986	22	241	45
1987	27	173	31
1988	13	148	9
1989	20	131	34
1990	85	144	12
1991	38	104	0
1992	15	37	44
1993	38	96	28
1994	60	47	20
1995	51	167	53
1996	60	67	28
1997	38	273	26
1998	63	158	42
1999	44	152	21
2000	73	146	31
2001	19	72	45
2002	60	232	35
Averages			
76-02	42	115	33
93-02	51	141	33
2003	24	176	27

Appendix E.6. Salmon catches in the Canadian Aboriginal and sport fisheries in the Alsek River, 1976-2003.

	Chinook			Sockeye			Coho		
Year	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
1994	289	197	486	1,745	261	2,006	8	69	77
1995	580	1,044	1,624	1,745	682	2,427	83	527	610
1996	448	650	1,098	1,204	157	1,361	56	9	65
1997	232	298	530	484	36	520	5	0	5
1998	171	175	346	567	18	585	72	40	112
1999	238	192	430	554	0	554	0	28	28
2000	65	77	142	745	0	745	51	0	51
2001	120	157	277	1,173	4	1,177	5	94	99
2002	120	197	317	2,194	61	2,255	6	283	289
Averages									
76-02	267	314	581	2,579	363	2,941	12	120	132
93-02	242	316	557	1,277	155	1,432	29	109	137
2003	90	138	228	2,734	61	2,795	0	192	192

Appendix E.7. Klukshu River weir counts of chinook, sockeye, and coho salmon, 1976-2003. The escapement count equals the weir count minus the aboriginal fishery catch above the weir and brood stock taken.

	Chinook [a]		Sockeye				Coho [b]	
Year	Count	Escape. [c]	Early [d]	Late	Total	Escape.	Count	Escape. [c]
1976	1,278	1,153	181	11,510	11,691	7,941	1,572	
1977	3,144	2,894	8,931	17,860	26,791	15,441	2,758	
1978	2,976	2,676	2,508	24,359	26,867	19,017	30	
1979	4,404	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	8,428	19,767	18,269	1,145	1,145
1993	3,302	3,220	5,369	11,371	16,740	14,921	788	788
1994	3,727	3,628	3,247	11,791	15,038	13,892	1,232	1,232
1995	5,678	5,394	2,289	18,407	20,696	19,817	3,614	3,564
1996	3,599	3,382	1,502	6,818	8,320	7,891	3,465	3,465
1997	2,989	2,829	6,565	4,931	11,496	11,303	307	302
1998	1,364	1,347	597	12,994	13,591	13,580	1,921	1,961
1999	2,193	2,168	371	5,010	5,381	5,101	2,481	2,531
2000	1,365	1,321	237	5,314	5,551	5,422	4,832	4,791
2001	1,825	1,738	908	9,382	10,290	9,329	748	746
2002	2,240	2,134	11,904	13,807	25,711	23,587	9,921	9,921
Averages								
76-02	2,536	2,313	3,220	13,857	17,077	14,821	1,971	
93-02	2,828	2,716	3,299	9,983	13,281	12,484	2,931	2,930
2003	1,737	1,661	3,084	31,278	34,362	32,120	3,689	3,689

[a] Counts include jack chinook salmon.

[b] Weir was removed prior to the end of the coho run.

[c] 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.

[d] Includes sockeye counts up to and including August 15.

Appendix E.8. Alsek River sockeye escapement, 2000-2003. Estimates are based on a mark-recapture study.

Year	Inriver Run Estimate	Confidence Interval Lower	Confidence Interval Upper	Canadian Catch	Spawning Escapement	U.S. Catch	Total Run	Percent Klukshu
2000	39,413	28,393	56,256	745	38,668	9,668	49,081	14.1%
2001	37,917	30,878	45,539	1,177	36,740	14,067	51,984	27.1%
2002	79,546	63,249	99,972	2,255	77,291	17,150	96,696	16.7%
Averages								
00-02	52,292			1,392	50,900	13,628	65,920	19.3%
2003	90,088	74,927	108,287	2,795	87,293	39,874	129,962	38.1%

Appendix E.9. Alsek River sockeye counts from U.S. and Canadian aerial surveys and from the electronic counter at Village Creek, 1985-2003.

Year	U.S. Aerial Surveys [a] Basin Creek	Cabin Creek	Muddy Creek	Tanis River	Canada Aerial Surveys [b] Tatshenshini River	Neskataheen Lake	Village Creek Counter
1985	2,600			2,200			
1986	100		300	2,700	536	750	1,490
1987	350	220		1,600			1,875
1988	500			750	433	456	433 [c]
1989	320			680	1,689	1,700	9,569
1990	275	300		3,500			7,500 [d]
1991				800			5,670 [e]
1992	1,000	10		50			11,485 [f]
1993	4,800			900			3,135 [g]
1994	250			600	366		4,007 [h]
1995	2,700			350			4,041
1996	325			650			1,583
1997	600			350			1,900
1998				130			826
1999	30			800			NA [i]
2000	25			180			2,222
2001				700			2,487 [j]
2002	No surveys flown in 2002						2,725
Averages							
85-02	991	177	300	996	756	969	3,809
93-02	1,247			518	366		2,547
2003	No surveys flown in 2003						4,340 [k]

[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 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.

[i] No counts due to a major malfunction of the counter

[j] Estimated count based on absolute electronic records (1,842) and the total number of non-operational days.

[k] Estimated count based on absolute electronic records (2,778) and the total number of non-operational days.

Appendix E.10. Aerial survey index counts of Alsek chinook salmon escapements, 1984-2003.

Year	Blanchard River	Takhanne River	Goat Creek
1984	304	158	28
1985	232	184	
1986	556	358	142
1987	624	395	85
1988	437	169	54
1989	[a]	158	34
1990	[a]	325	32
1991	121	86	63
1992	86	77	16
1993	326	351	50
1994	349	342	67
1995	338	260	[b]
1996	132	230	12
1997	109	190	
1998	71	136	39
1999	371	194	51
2000	163	152	33
2001	543	287	21
2002	351	220	86
Averages			
84-02	301	225	51
93-02	275	236	45
2003	127	105	10

[a] Not surveyed due to poor visibility.

[b] Late survey date which missed the peak of spawning

Appendix E.11. Alsek River run of large (=>660 mef) chinook salmon, 1997-2003. Estimates are based on a mark-recapture study and include the percent of chinook salmon spawning in the Klukshu River.

	Inriver Run Past	Confidence Interval		U.S. Catch Dry Bay		Total Inriver	Canadian Catch		
Year	Dry Bay	Lower	Upper	Commercial	Subsistence	Run	Aboriginal	Sport	Escapement
1997	15,250	9,081	21,418	568	38	15,856	232	298	14,720
1998	4,967	3,027	9,765	550	63	5,580	171	175	4,621
1999	11,969	8,243	22,035	482	44	12,495	238	192	11,539
2000	8,432	6,805	14,308	677	73	9,182	65	77	8,290
2001	11,246	9,146	14,303	541	19	11,806	120	157	10,969
2002	8,807	8,345	10,790	700	60	9,567	120	197	8,490
Averages									
97-02	10,112			586	50	10,748	158	183	9,772
2003	4,849	3,890	5,809	937	24	5,810	242	316	4,292

Klukshu weir count of large chinook salmon as a percent of the Alsek escapement of large chinook salmon

	Weir Count		Percent
	All	Large	Klukshu
1997	2,989	2,864	19.5%
1998	1,364	1,184	25.6%
1999	2,193	1,663	14.4%
2000	1,365	1,218	14.7%
2001	1,825	1,538	14.0%
2002	2,240	2,067	24.3%
Averages			
97-02	1,996	1,756	18.8%
2003	1,737		31.6%

Appendix E.12. Aerial survey counts of coho salmon from U.S. lower Alsek River tributaries, 1985-2003.

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]
1994	975[a]
1995	1,050
1996	1,550
1997	No surveys due to poor weather conditions
1998	500
1999	No surveys due to poor weather conditions
2000	620
2001	No surveys due to lack of air service
2002	No surveys flown in 2002
Averages	
85-02	1,010
93-02	916
2003	No surveys flown in 2003

[a] Few systems surveyed.

Appendix F.1. Tahltan Lake egg collection, fry plants, and survivals, 1989-2003. Numbers for eggs and fry are millions.

						Survival		Thermal
	Egg Take		Designated	Fry	Percent	Fertilized	Green	Mark
Brood Year	Target	Collected [a]	Tahltan	Planted	Fertilized	Egg to Fry	Egg to Fry	Pattern
1989[a]	3.000	2.955	2.955	1.042	0.704	0.501	0.353	1:1.4
1990	5.000	4.511	4.511	3.585	0.824	0.964	0.795	1:1.3
1991	5.000	4.246	1.514	1.415	0.949	0.985	0.935	1:1.4
1992	5.400	4.901	2.154	1.947	0.919	0.983	0.904	1:1.4+2.3
1993	6.000	6.140	0.969	0.904	0.946	0.986	0.933	1:1.6+2.5N
1994	6.000	4.183	1.418	1.143	0.929	0.868	0.806	1:1.6
1995	6.000	6.891	3.008	2.296	0.906	0.843	0.763	1:1.7
1996	6.000	6.402	3.169	2.313	0.923	0.791	0.730	1:1.6
1997	6.000	3.221	2.700	1.900	0.812	0.867	0.704	2:1.6
1998	6.000	4.022	1.998	1.671	0.911	0.918	0.836	1:1.7
1999	6.000	3.505	2.773	2.228	0.901	0.890	0.803	2:1.6
2000	6.000	2.388	2.388	1.873	0.920	0.853	0.784	1:1.7
2001	6.000	3.306	3.306	2.533	0.829	0.924	0.766	2:1.6
2002	6.000	4.050	2.780	2.623	0.926	unknown	0.944	1:1.7
Averages								
89-02	5.600	4.337	2.546	1.962	0.886	0.885	0.790	
93-02	6.000	4.411	2.451	1.948	0.900	0.896	0.807	
2003	6.000	5.391	2.661	2.226	0.899	0.931	0.837	1:1.6 & 1:1.5+2.4

[a] These values include eggs collected from Tahltan broodstock for outplants to both Tahltan and Tuya Lakes.

Appendix F.2. Tuya Lake fry plants and survivals, 1991-2003. Numbers for eggs and fry are millions.

Brood Year	Egg Take Designated Tuya	Fry Planted	Percent Fertilized	Survival		Thermal Mark Pattern	Calculated Survival Rates
				Fertilized Egg to Fry	Green Egg to Fry		
1991	2.732	1.632	0.944	0.633	0.597	1:1.6	0.597
1992	2.747	1.990	0.929	0.780	0.725	1:1.7	0.724
1993	5.171	4.691	0.911	0.996	0.907	1:1.4+2.5N	0.907
1994	2.765	2.267	0.870	0.943	0.820	1:1.4	0.820
1995	3.883	2.474	0.795	0.802	0.637	1:1.4+2.4	0.637
1996	3.233	2.614	0.932	0.868	0.809	1:1.4	0.809
1997	0.521	0.433	0.911	0.912	0.831	2:1.4	0.831
1998	2.024	1.603	0.917	0.864	0.792	1:1.4	0.792
1999	1.053	0.867	0.960	0.860	0.820	2:1.4	0.823
2000 [a]	0.000	0.000					
2001 [a]	0.000	0.000					
2002	1.271	1.124	0.904	0.978	0.885	1:1.7+2.3	0.884
Averages							
91-02	2.117	1.641	0.907	0.864	0.782		0.783
93-02	1.992	1.607	0.900	0.903	0.813		0.813
2003	2.730	2.445	0.927	0.966	0.895	1:1.4	0.896

[a] All eggs collected in 2000 and 2001 were for backplant into Tahltan Lake.

Appendix F.3. Tatsamenie Lake egg collection, fry plants, and survivals, 1989-2003. Numbers for eggs and fry are millions.

Brood	Egg Take			Fry	Percent	Survival		Calculated	Thermal		Last
						Fertilized	Green	Survival	Mark	Number	Date
Year	Target	Collected [a]	Transport	Planted	Fertilized	Egg to Fry	Egg to Fry	Rates [b]	Pattern	Released	Released
1990	2.500	0.985	0.985	0.673	0.775	0.882	0.684	0.683	1:1.3	0.673	22-Jun
1991	1.500	1.360	1.360	1.232	0.927	0.977	0.906	0.906	2:1.4	1.232	26-Jun
1992	1.750	1.486	1.486	0.909	0.858	0.713	0.612	0.612	1:1.5	0.909	14-Jul
1993	2.500	1.144	1.144	0.521	0.619	0.735	0.455	0.455	2:1.5	0.521	14-Jul
1994	2.500	1.229	1.229	0.898	0.801	0.912	0.731	0.731	1:1.5	0.898	21-Jul
1995	2.500	2.408	2.408	1.724	0.843	0.850	0.716	0.716	2:1.5	1.724	25-Jun
1996	5.000	5.142	5.142	3.945	0.849	0.942	0.800	0.767	1:1.5&1:1.5,2.3	3.945	27-Jun
1997	5.000	4.979	4.979	3.597	0.910	0.850	0.773	0.722	2:1.5&2:1.5,2.3	3.597	9-Jul
1998	2.500	2.560	2.560	1.769	0.897	0.817	0.733	0.691	1:1.4+2.5&1:1.4+2.3	1.769	30-Jun
1999	2.500	0.472	0.472	0.350	0.922	0.805	0.742	0.742	2:1.5	0.350	4-Jul
2000	3.000	3.130	2.886	2.320	0.943	0.956	0.902	0.804	1.1.5+2.3&1.1.5	2.320	26-Jun
2001	4.800	4.364	3.499	2.233	0.900	0.709	0.638	0.638	2:1.5&2:1.5,2.3	2.160	25-Jun
2002	3.000	2.524	2.524	1.353	0.823	0.715	0.588	0.536	1:1.4&1:1.4+2.3	0.911	27-May
Avg.											
90-02	3.004	2.445		1.656	0.851	0.836	0.714				29-Jun
93-02	3.330	2.795		1.871	0.851	0.829	0.708				29-Jun
2003	5.000	2.823	2.627	2.141	0.919	0.951	0.873	0.815	1.1.5+2.3&1.1.5	2.141	27-May

Multiple Release Treatments

	Treatment 1				Treatment 2			
Year	Mark	Treatment	Number Released	Last Date Released	Mark	Treatment	Number Released	Last Date Released
1996	1:1.5	onshore		27-Jun	1:1.5,2.3	onshore		27-Jun
1997	2:1.5	onshore	3.202	29-Jun	2:1.5,2.3	fed at lake	0.394	9-Jul
1998	1:1.4+2.5	unfed	0.751	9-Jun	1:1.4+2.3	fed at lake	1.018	30-Jun
1999	2:1.5	fed at lake	0.350	4-Jul				
2000	1.1.5+2.3	fed early	1.265	15-Jun	1.1.5	fed late	1.054	26-Jun
2001	2:1.5	unfed early	1.432	30-May	2:1.5,2.3	fed	0.727	25-Jun
2002	1:1.4	direct release	0.911	27-May	1:1.4+2.3	fed - IHN loss	0.000	none
Averages								
96-02			1.319				0.639	
2003	1.1.5+2.3	unfed early south	1.005	27-May	1.1.5	unfed early north	1.136	24-May

[a] Eggs not transported but placed in inlake incubator; 2000 = 244,000, 2001 = 865,000, 2002 = 196,000, 2003 = 196,000..

[b] Survival rates are for hatchery eggs and hatchery fry plants and do not include the lake incubators.

Appendix F.4. Lengths and weights of wild and planted juvenile sockeye salmon in samples collected during surveys of Tahltan Lake from 1992-2003.

Sampling		Wild Fry						Planted Fry					
Year and	Capture	Mean		Mean			%	Mean		Mean			%
Date	Method	length mm	95% CI	weight g	95%CI	n	Wild	length mm	95% CI	weight g	95% CI	n	Enhanced
1992													
9-Jun	stocking									0.13	0.00		
23-Jun	beach seine	31.68	1.22	0.26	0.05	72	90.00	29.63	1.84	0.17	0.04	8	10.00
29-Jul	beach seine	30.73	1.27	0.22	0.06	71	94.67	33.25	5.86	0.31	0.25	4	5.33
29-Jul	trawl	51.30	3.77	1.45	0.35	21	87.50	53.00	28.65	1.51	2.47	3	12.50
20-Aug	beach seine	27.58	0.57	0.11	0.01	12	100.00					0	0.00
3-Oct	trawl	60.70	3.98	2.37	0.48	32	86.49	62.40	17.24	2.72	1.65	5	13.51
1993													
17-Jun	stocking									0.13	0.00		
3-Aug	beach seine	29.15	0.32	0.15	0.01	95	98.96	28.00		0.14		1	1.04
19-Sep	trawl	61.00	2.22	2.57	0.27	93	57.76	61.60	1.58	2.50	0.21	68	42.24
1994													
26-Jun	stocking									0.13	0.00		
19-Sep	beach seine	54.63	15.68	2.10	1.42	8	100.00					0	0.00
19-Sep	trawl	53.30	6.22	1.69	0.65	16	94.12	63.00		2.63		1	5.88
1995													
29-Jun	stocking									0.13	0.00		
17-Jun	no fry sampling conducted in 1995												
1996													
20-Jun	stocking									0.12	0.00		
19-Sep	beach seine	43.36	3.62	0.95	0.23	59	85.51	58.50	2.27	1.79	0.33	10	14.49
19-Sep	trawl	57.00	2.31	1.99	0.26	56	64.37	58.60	1.64	1.95	0.16	31	35.63
1997													
21-Jun	stocking									0.14	0.00		
29-Sep	trawl	66.80	1.71	3.70	0.32	58	36.71	67.60	0.72	3.60	0.13	100	63.29
1998													
10-Jun	stocking									0.12	0.00		
20-Jun	no fry sampling conducted in 1998												
1999													
31-May	stocking									0.13	0.00		
in-lake	no beach seines were conducted; no fry were caught in trawls												
2000													
20-27 May	Stocking												
in-lake	Fry sampling not conducted												
2001													
2002													
25-May	Stocking												
31-May		Fry samples archived				3,185							
2-Jun		Fry samples archived				1,845							
27-Jun		Fry samples archived				215							

Appendix F.5. Lengths and weights of wild and planted juvenile sockeye salmon in samples collected during surveys of Tuya Lake from 1992-2003.

Sampling		Planted Fry					Un Marked Fry				
Year and Date	Capture Method	Mean length mm	95% CI	Mean weight g	95% CI	n	Mean length mm	95% CI	Mean weight g	95% CI	n
1992											
19-Jun	stocking			0.13	0.00						
24-Jun	beach seine	27.74	0.17	0.14	0.00	150					
25-Jul	beach seine	32.27	0.58	0.27	0.02	150					
24-Aug	beach seine	63.20	4.76	2.57	0.66	5					
18-Sep	beach seine	no fry caught in beach seines									
18-Sep	trawl	70.10	4.32	3.60	0.81	10					
1993											
27-Jun	stocking			0.13	0.00						
2-Sep	beach seine	no fry caught in beach seines									
2-Sep	trawl	57.80	10.51	2.15	1.32	5					
1994											
3-Jul	stocking			0.13	0.00						
5-Sep	beach seine	no fry caught in beach seines									
5-Sep	trawl	60.52	1.28	2.40	0.17	75					
1995											
27-Jun	stocking			0.13	0.00						
1-Aug	beach seine	no fry caught in beach seines									
12-Sep	beach seine	no fry caught in beach seines									
12-Sep	trawl	67.60	2.16	3.38	0.37	20					
1996											
27-Jun	stocking			0.11	0.00						
26-Jul	beach seine	only 7 fry caught in beach seines (not processed)									
12-Sep	beach seine	no fry caught in beach seines									
12-Sep	trawl	57.41	1.59	1.91	0.16	51					
1997											
27-Jun	stocking			0.14	0.00						
3-Aug	beach seine	42.22	0.71	0.75	0.04	129					
25-Sep	beach seine	no fry caught in beach seines									
25-Sep	trawl	72.00	2.48	4.04	0.32	6					
1998											
26-Jun	stocking			0.12	0.00						
2-Aug	beach seine	no fry caught in beach seines									
19-Sep	beach seine	no fry caught in beach seines									
19-Sep	trawl	only one fry caught in 8 trawls									
1999											
26-Jun	stocking			0.12	0.00				0.12	0.00	
1-Aug	beach seine	41.90	1.56	0.69	0.09	71	33.70	1.68	0.55	0.06	44
14-Sep	trawl	No fry caught in 5 trawls									
2000											
	Stocking	No fry stocked in 2000									
16-Jun	Beach seine					2					
3-Jul	Beach seine					127					
2-Aug	Beach seine					16					
15-Aug	Trawl					2					
2001											
	Stocking	No fry stocked in 2001									
28-Jun	Beach seine					0					
16-Aug	Beach seine					0					
17-Aug	Trawl					0					

Appendix F.6. Lengths and weights of wild and planted juvenile sockeye salmon in samples collected during surveys of Tatsamenie Lake from 1992-2003.

Sampling		Wild Fry						Planted Fry					
Year and Date	Capture Method	Mean length	95% CI	Mean weight g	95% CI	n	% Wild	Mean length	95% CI	Mean Weight g [a]	95% CI	n	% Enhance
1992													
21-Jun	beach seine	33.43	0.44	0.28	0.02	100	100.00					0	0.00
24-Jun	stocking									0.15			
1-Aug	beach seine	36.02	0.70	0.29	0.02	116	92.80	33.44	1.89	0.20	0.04	9	7.20
1-Aug	trawl age 0+	36.00	32.29	0.54	1.78	3	100.00					0	0.00
21-Aug	beach seine	50.21	1.95	1.33	0.19	89	97.80	48.50	57.18	1.14	5.14	2	2.20
28-Sep	beach seine	35.25	2.67	0.36	0.11	32	96.97	30.00		0.19		1	3.03
28-Sep	trawl age 0+	50.90		1.03		49	92.00	48.30		0.77		4	8.00
1993													
10-Jul	stocking									0.13			
1-Aug	beach seine	37.44	1.18	0.47	0.05	95	95.96	34.25	11.05	0.36	0.39	4	4.04
14-Sep	beach seine	33.50	2.81	0.28	0.09	10	90.91	41.00		0.49		1	9.09
14-Sep	trawl age 0+	47.90	1.21	1.10	0.08	102	86.44	43.80	4.11	0.89	0.45	16	13.56
1994													
14-Jul	stocking									0.15			
26-Jul	beach seine	44.29	1.51	0.89	0.09	119	98.35	31.50	6.35	0.21	0.30	2	1.65
15-Sep	beach seine	38.38	4.77	0.55	0.22	16	94.12	55.00		1.46		1	5.88
15-Sep	trawl age 0+	60.00	2.64	2.43	0.32	50	98.04	55.00		1.93		1	1.96
1995													
20-Jul	stocking									0.15			
28-Jul	beach seine	36.68	1.42	0.46	0.06	37	48.05	29.05	0.66	0.17	0.01	40	51.95
19-Sep	trawl age 0+	48.40	2.45	1.16	0.19	39	90.70	46.50	10.27	1.00	0.67	4	9.30
1996													
20-Jun	stocking									0.11			
23-Jul	beach seine	31.39	0.45	0.21	0.02	186	93.47	31.38	1.36	0.23	0.05	13	6.53
19-Sep	beach seine	38.92	1.81	0.54	0.14	52	92.86	47.50	16.76	0.98	1.08	4	7.14
19-Sep	trawl age 0+	45.20	1.41	0.86	0.11	51	94.44	50.30	16.91	1.21	0.99	3	5.56
1997													
22-Jun	stocking									0.17			
26-Jun	beach seine	33.10	0.56	0.27	0.02	126	61.76	29.79	0.28	0.16	0.01	78	38.24
25-Jul	beach seine	36.04	0.57	0.41	0.03	228	64.59	35.78	0.51	0.39	0.02	125	35.41
4-Sep	beach seine	45.48	1.44	0.96	0.13	124	93.23	48.56	7.62	1.23	0.83	9	6.77
4-Sep	trawl	44.90	1.80	1.00	0.17	85	89.47	49.50	6.01	1.32	0.59	10	10.53
1-Oct	beach seine	37.98	2.32	0.55	0.20	42	100.00					0	0.00
1-Oct	trawl [b]	68.88	2.17	4.20	0.42	88	89.80	76.20	4.11	5.64	1.00	10	10.20
1998													
14-Jun	beach seine			0.41		50							
22-Jun	stocking									0.14			
30-Jun	beach seine	33.87	1.40	0.29	0.05	93	51.67	30.18	0.57	0.17	0.02	87	48.33
19-Jul	beach seine	36.65	1.40	0.45	0.08	82	64.57	36.16	0.91	0.39	0.04	45	35.43
5-Aug	beach seine	38.78	4.42	0.58	0.28	23	60.53	46.13	3.53	0.88	0.17	15	39.47
23-Aug	beach seine	31.27	0.96	0.22	0.03	52	94.55	45.00	7.45	0.74	0.58	3	5.45
13-Sep	beach seine	48.32	1.83	0.98	0.12	47	85.45	51.38	2.86	1.20	0.20	8	14.55
23-Sep	trawl	43.80	1.04	0.80	0.07	134	92.41	44.20	4.46	0.81	0.23	11	7.59
3-Oct	beach seine	45.02	4.74	1.23	0.44	48	84.21	54.22	8.75	1.51	0.66	9	15.79
15-Oct	trawl age 0+	54.10	2.22	1.54	0.27	79	88.76	59.20	5.19	2.20	0.77	10	11.24

-continued-

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Sampling		Wild Fry						Planted Fry					
Year and	Capture	Mean		Mean			%	Mean		Mean			%
Date	Method	length	95% CI	weight g	95% CI	n	Wild	length	95% CI	Weight g	95% CI	n	Enhance
1999													
4-Jun	stocking									0.15			
14-Jun	beach seine	31.58	0.36	0.17	0.01	57	70.37	29.92	0.48	0.13	0.01	24	29.63
2-Jul	beach seine	34.15	0.80	0.27	0.03	74	62.18	35.33	0.79	0.27	0.04	45	37.82
22-Jul	beach seine	34.72	1.08	0.35	0.05	65	79.27	42.24	1.08	0.66	0.06	17	20.73
10-Aug	beach seine	37.87	1.55	0.43	0.07	91	91.00	44.00	1.68	0.66	0.10	9	9.00
31-Aug	beach seine	42.63	5.44	0.77	0.35	16	100.00					0	0.00
17-Sep	beach seine	37.82	1.53	0.41	0.06	72	98.63	50.00		0.88		1	1.37
5-Oct	beach seine	37.74	2.24	0.42	0.08	27	100.00					0	0.00
15,17-	trawl age 0+	48.00	1.78	0.82	0.11	25	100.00					0	0.00
2000													
17-Jun	Beach seine	31.20	0.41	0.12	0.01	144	100.00					0	0.00
29-Jul	Beach seine	39.10	1.68	0.39	0.08	123	96.00	48.10	17.44	1.05	1.40	5	4.00
27-Aug	Beach seine	33.20	2.02	0.23	0.05	15	100.00					0	0.00
27-Aug	Trawl	43.30	7.86	0.29	0.06	14	93.00	50.00n/a		1.13n/a		1	7.00
10-Oct	Beach seine	47.00	2.03	0.61	0.09	43	100.00					0	0.00
16-Oct	Beach seine	56.20	2.14	1.73	0.23	47	94.00	70.70	8.60	2.63	1.02	3	6.00
13to16-	Trawl	49.40	3.56	0.90	0.17	16	94.00	77.00n/a		3.00n/a		1	6.00
2001													
14-Jun													
18-Jun	Beach seine	31.02	0.25	0.11	0.00	167	47.00	32.41	0.27	0.15	0.01	189	53.00
24-Jun	Beach seine	31.24	0.25	0.13	0.00	229	58.00	33.70	0.32	0.18	0.01	164	42.00
29-Jun	Beach seine	32.20	0.34	0.15	0.01	211	50.00	33.32	0.31	0.17	0.01	209	50.00
3-Jul	Beach seine	31.80	0.32	0.23	0.15	245	61.00	33.86	0.37	0.19	0.01	159	39.00
8-Jul	Beach seine	32.30	0.30	0.16	0.01	309	74.00	35.30	0.47	0.23	0.01	111	26.00
15-Jul	Beach seine	30.50	1.17	0.18	0.01	270	67.00	37.20	0.74	0.29	0.01	130	33.00
24-Jul	Beach seine	34.50	0.62	0.23	0.02	240	58.00	39.30	0.62	0.37	0.02	42	42.00
4-Aug	Beach seine	34.80	0.64	0.25	0.02	302	72.00	42.60	0.69	0.51	0.03	119	28.00
12-Aug	Trawl	39.10	1.07	0.44	0.05	237	60.00	49.00	0.72	0.81	0.04	160	40.00
13-Aug	Beach seine	35.90	0.92	0.31	0.04	299	75.00	44.90	1.04	0.61	0.06	99	25.00
6-Sep	Trawl	39.20	1.91	0.39	0.08	46	75.00	59.20	2.83	1.51	0.25	15	25.00
10-Sep	Trawl	39.90	1.08	0.40	0.05	132	97.00	59.80	7.21	1.70	0.87	4	3.00
19-Sep	Beach seine	48.30	1.53	0.84	0.08	178	95.00	61.80	5.17	1.92	0.46	9	5.00
20-Sep	Trawl	44.00	1.23	0.58	0.08	170	96.00	65.60	4.67	2.29	0.67	7	4.00
22-Oct	Trawl [c]	56.00	4.21	1.49	0.41	22	58.00	61.20	3.17	1.86	0.33	16	42.00
8-Oct	Beach seine	48.40	1.78	0.89	0.13	120	82.00	62.40	2.57	1.90	0.22	27	18.00
8,9-Oct	Trawl	46.40	1.49	0.65	0.07	55	97.00	65.00	9.80	2.36	1.48	2	3.00
20,23-	Trawl	46.40	2.07	0.64	0.08	27	97.00	67.00n/a		2.05n/a		1	3.00

[a] Weights have been adjusted upwards by 1.15 for shrinkage in preservative of 94% denatured ethanol.

[b] 1-Oct-97 trawl figures are for age 0+ and 1+ combined.

[c] 22-Oct trawls conducted at north end of lake with low light conditions.

Appendix F. 7. Estimation of total emigration and age composition of outmigrant wild and planted Tahltan Lake sockeye salmon smolts, 1984-2003.

			Wild						Planted					
Sample	Total		% of sample			Estimated outmigration			% of sample			Estimated		
Year	Smolts	n	1+	2+	3+	1+	2+	3+	1+	2+	3+	1+	2+	3+
1984	218,702		94.0	6.0	0.0	205,513	13,189							
1985	613,531		81.7	17.3	1.0	501,158	106,338	6,035						
1986	244,330		90.4	9.6	0.0	220,785	23,545							
1987	810,432		84.4	15.6	0.0	683,628	126,804							
1988	1,170,136		90.3	9.7	0.0	1,056,188	113,711	237						
1989	580,574		90.3	9.6	0.0	524,454	55,883	237						
1990	610,407		84.2	15.2	0.6	513,743	92,969	3,695						
1991	1,487,265	1,210	91.9	7.9	0.2	1,120,941	96,820	2,636	100.0	0.0	0.0	266,868	0	0
1992[a]	1,555,026	1,143	87.7	11.9	0.4	658,331	89,632	2,739	96.1	3.9	0.0	772,782	31,542	0
1993	3,255,045	1,289	98.0	2.0	0.0	2,799,607	55,955	0	92.6	7.4	0.0	369,892	29,591	0
1994	915,119	736	88.4	11.6	0.0	549,078	71,731	0	100.0	0.0	0.0	294,310	0	0
1995	822,284	783	97.0	3.0	0.0	743,655	23,372	0	80.8	19.2	0.0	44,6.320	10,627	0
1996	1,559,236	735	95.2	4.8	0.0	1,340,067	67,973	0	95.9	4.1	0.0	144,971	6,245	0
1997	518,202	555	91.4	8.6	0.0	317,677	30,009	0	95.2	4.8	0.0	161,301	8,215	0
1998	540,866	682	88.2	11.8	0.0	287,746	38,674	0	98.1	1.9	0.0	210,394	4,052	0
1999	762,034	504	96.4	3.6	0.0	451,794	16,694	0	99.5	0.5	0.0	292,168	1,377	0
2000	619,274	644	90.0	10.0	0.0	320,132	35,486	0	100.0	0.0	0.0	263,656	0	0
2001	1,495,642	997	91.0	9.0	0.0	765,141	76,127	0	95.8	4.2	0.0	627,123	27,251	0
2002	1,873,598	848	74.9	24.1	1.0	780,713	251,505	10,217	99.6	0.4	0.0	827,471	3,692	0
Average														
84-02	1,034,221	844	90	10	0	728,695	72,989	1,612	96	4	0	355,657	10,219	0
93-02	1,235,979	777	91	9	0	836,213	66,812	1,022	96	4	0	322,823	9,109	0
2003	1,960,480	829	91.6	8.4	0.0	897,029	82,413	0	99.6	0.4	0.0	977,178	3,859	0

[a] Does not include a count of 1,899 age 4+ smolts.

Appendix F.8. Age specific length and weight for wild and planted outmigrant sockeye salmon smolts sampled at Tahltan Lake weir, 1984-2003.

			Wild				Planted				
	Smolt		Weight (g)		Length (mm)		Weight (g)		Length (mm)		Lake
Year	Estimate	n	1+	2+	1+	2+	1+	2+	1+	2+	Fertilize
1984	218,702	1,254	4.8	11.6	86.2	112.1					no
1985	613,531	1,187	3.8	9.3	78.8	111.5					yes
1986	244,330	1,979	4.7	8.5	86.3	103.8					yes
1987	810,432	2,039	6.3	10.8	85.4	111.1					no
1988	1,170,13	2,637	5.8	12.1	92.1	115.7					no
1989	580,574	2,243	6.0	15.9	90.5	118.3					no
1990	607,645	1,444	5.9	9.0	89.0	111.0					no
1991	1,487,26	1,210	5.8	11.5	90.6	112.0	5.4		88.6		no
1992	1,555,02	1,143	4.8	10.2	84.8	110.1	4.6	12.0	84.3	115.0	no
1993	3,255,04	1,289	4.1	10.0	80.7	105.3	3.9	12.9	79.7	117.0	no
1994	915,119	736	5.0	8.6	84.3	102.5	4.7		83.4		no
1995	822,284	783	4.7	13.5	83.4	116.7	4.4	12.0	81.7	113.0	no
1996	1,559,23	735	4.0	7.2	80.0	103.8	3.2	8.7	74.4	105.5	no
1997	518,202	555	3.4	6.2	77.4	95.2	3.2	5.7	76.3	93.3	no
1998	540,866	682	4.5	8.4	83.4	103.2	4.8	9.3	85.8	103.3	no
1999	762,033	822	4.7	8.9	83.8	107.8	4.6	6.5	83.4	95.0	no
2000	619,275	644	5.5	9.3	86.2	104.7	5.9	n/a	88.3	n/a	no
2001	1,495,64	997	5.6	12.4	104.6	113.8	6.3	15.2	89.5	122.1	no
2002	1,873,59	848	5.9	14.1	87.4	115.8	6.9	17.9	91.8	126.0	no
Averages											
84-02	1,034,15	1,222	5	10.4	86.0	109.2	4.8	11.1	83.9	110.0	
93-02	1,236,13	809	5	9.9	85.1	106.9	4.8	11.0	83.4	109.4	
2003	1,960,48	829	5.5	14.8	87.1	119.8	5.7	16.9	88.2	116.0	no

Appendix F.9. Age specific length and weight for wild and planted outmigrant sockeye salmon smolts sampled at Tuya Lake, 1993-2003.

Sample	Sample			Weight			Length		
Year	Age-1.	Age-2.	Age-3.	Age-1.	Age-2.	Age-3.	Age-1.	Age-2.	Age-3.
Unmarked Fish									
1993[a]									
1994									
1995									
1996									
1997[b]									
1998									
1999[c]	8			9.6			96.4		
2000	4			12.6			106.5		
2001	3	1		13.6	21.4	128.0	106.0		
2002	Not Sampled								
Averages									
93-02	5	1		11.9	21.4	128.0	103.0		
2003	Not Sampled								
Marked									
1993[a]	100			8.8			99.7		
1994	432	20		9.0	22.3		99.0	135.3	
1995	208	4		9.6	27.4		95.6	137.0	
1996	236	10		9.7	24.5		99.5	133.1	
1997[b]	178	139		8.4	26.4		93.8	136.1	
1998	228	14		10.1	25.2		103.4	140.7	
1999[c]	89	19	3	11.2	35.1	67.9	104.1	158.2	205.3
2000	396	0		8.4			93.8		
2001	69	146	0	12.5	26.2		106.6	137.7	
2002	Not Sampled								
Averages									
93-02	215	44	2	9.7	26.7	67.9	99.5	139.7	205.3
2003	Not Sampled								

[a] The first fry outplant occurred in 1992 from BY 91.

[b] One age-3. Smolt was captured at Tuya Lake in 1997.

[c] The smolt outmigration in 1999 (BY 97) was the first year in which samples contained otoliths with no thermal marks.

Appendix F.10. Age specific length and weight for wild and planted outmigrant sockeye salmon smolts sampled at Tatsamenie Lake, 1992-2003.

	Sample Size [a]		Smolt Estimate [ab]		Weight (g) [c]		Length (mm) [c]	
Year	Age-1.	Age-2.	Age-1.	Age-2.	1+	2+	1+	2+
Wild Fish								
1992[d]					4.9	14.1	81.0	117.5
1993					4.6	9.5	76.3	102.8
1994					3.6	13.3	75.9	114.7
1995					5.1	16.1	81.9	119.3
1996			415,133	79,439	3.7	16.3	75.0	124.3
1997	331	45			3.7	9.6	75.3	106.3
1998	390	13	2,068,001	70,060	4.1	10.2	78.2	108.2
1999	314	124	455,240	236,401	3.9	12.8	75.2	114.3
2000	230	182	87,008	70,882	4.1	10.3	79.8	110.7
2001			26,797	34,826	5.7	10.9	91.2	114.3
2002			144,527	0	4.4	8.5	82.1	104.1
Averages								
93-02	316	91	532,784	81,935	4.3	12.0	79.3	112.4
2003			457,563	9,830	3.2	6.8	72.9	98.5
Planted Fish								
1992[d]					5.0		81.6	
1993					2.9		65.2	
1994					3.4	11.5	73.0	111.4
1995					4.5	15.2	79.8	117.0
1996			11,788	6,663	3.0	16.9	69.9	126.8
1997	109	5			3.4	9.5	73.0	107.0
1998	72	0	364,093	0	4.3		82.2	
1999	58	2	81,544	3,456	3.6	16.2	75.0	129.0
2000	80	11	30,049	2,781	4.5	9.8	83.7	109.4
2001			8,728	555	4.0		80.2	
2002			88,473	0	7.0		96.4	
Averages								
93-02	80	5	97,446	2,242	4.1	13.2	78.2	116.8
2003			72,098	0	4.3	12.4	79.5	115.2

[a] There are no sample sizes available for 1992-1996 and no population estimates for 1992-1995 and 1997.

[b] Smolt numbers are estimated from smolt mark-recapture programs, age-specific estimates were derived from weighted sample ratios.

[c] Measurements are from fresh, unpreserved fish.

[d] The first fry were outplanted in 1991 (BY90).

e A total of 14.9% (71) were of enhanced origin.

Appendix F.11. Tatsamenie Lake fall fry abundance and mean smolt length and weight by age class.

	Population Estimates			Mean Weight in grams			
	Broodyear	Fall	Emigrant				
Brood-year	Spawning [a]	Fry [b]	Smolt [c]	Wild Smolt		Planted Smolt	
BY=t	Escapement	year t+1	year t+2	in t+2	in t+3	in t+2	in t+3
1990	3,725	821,668		4.9	9.5	5.0	
1991	6,383	1,795,965		4.6	13.3	2.9	11.5
1992	4,541	1,146,054		3.6	16.1	3.4	15.2
1993	2,700	1,053,185		5.1	16.3	4.5	16.9
1994	1,740	940,100	505,187	3.7	9.6	3.0	9.5
1995	4,380	831,900		3.7	10.7	3.4	
1996	6,447	1,260,199	2,502,154	3.8	12.8	3.8	16.2
1997	5,338	504,397	776,641	3.9	10.2	3.6	10.1
1998	4,070	352,000	190,720	4.1	10.3	4.5	9.8
1999	1,890	151,000	70,906	5.7	8.5	5.3	9.4
2000	6,094	807,000	233,000	4.4	6.8	4.5	
2001	21,400	1,913,000	539,491	3.2		4.0	
2002	4,800	1,076,000	238,279				
Averages							
90-02	5,654	973,267	632,047	4.2	11.3	4.0	12.3
93-02	5,886	888,878	632,047	4.2	10.7	4.1	12.0
2003	5,300	1,500,000					

[a] Tatsamenie Lake escapement estimates are derived from the Tatsamenie Lake (1994 to 2001) weir counts, minus sockeye used for broodstock, and the little Tatsamenie (1991 to 1993) weir counts less broodstock and the estimated connecting stream stock.

[b] Derived from fall fry population acoustic estimates.

[c] Obtained from smolt mark -recapture program.

Appendix F.12. Egg to smolt survival by brood year for Tahltan Lake sockeye.

Table 12 (a). Wild egg to smolt survival.

Brood	Weir	Females			Mil. eggs	Wild Smolt Production				Total	% Egg to Smolt		
Year	Count	Egg Take	Other	Spawners	Deposited	1.0	2.0	3.0	4.0	Smolts	Age-1+	Age-2.+	All
1981	50,790			24,744	67		13,189	6,035		19,224		0.02	
1982	28,257			13,853	37	205,513	106,338			311,851	0.55	0.28	0.00
1983	21,256			8,374	23	501,158	23,545			524,703	2.22	0.10	0.00
1984	32,777			15,342	41	220,785	126,804	237		347,826	0.53	0.31	0.00
1985	67,326			29,714	80	683,628	113,711	237		797,576	0.85	0.14	0.00
1986	20,280			10,847	29	1,056,188	55,883	3,695		1,115,766	3.61	0.19	0.01
1987	6,958			3,618	10	524,454	92,969	2,636	1,899	621,958	5.37	0.95	0.03
1988	2,536			1,369	4	513,743	96,820	2,732		613,295	13.89	2.62	0.07
1989	8,316	1,110		3,381	9	1,120,941	89,405			1,210,346	12.27	0.98	0.00
1990	14,927	1,615		7,261	20	656,666	55,955			712,621	3.35	0.29	0.00
1991	50,135	1,766		23,302	63	2,799,607	71,731			2,871,338	4.45	0.11	0.00
1992	59,907	1,847		33,517	91	549,077	23,372			572,449	0.61	0.03	0.00
1993	53,362	2,253	876	27,153	73	743,668	67,975			811,643	1.01	0.09	0.00
1994	46,363	1,689	4,317	22,764	61	1,340,504	29,931			1,370,435	2.18	0.05	0.00
1995	42,317	2,425	5,370	13,364	36	317,850	38,674			356,524	0.88	0.11	0.00
1996	52,800	2,226	6,691	11,201	30	287,747	16,694			304,441	0.95	0.06	0.00
1997	12,483	1,140	189	4,912	13	451,796	36,326			488,122	3.41	0.27	0.00
1998	12,658	1,574	209	4,159	11	327,577	75,961			403,538	2.92	0.68	0.00
1999	10,748	1,523	252	3,924	11	763,469				763,469	7.20	0.00	0.00
2000	6,076	869	237	2,082	6	780,712	82,413			863,125	13.88	1.47	0.00
2001	14,811	1,148	82	6,131	17	897,029				897,029	5.42	0.00	0.00
2002	17,740	1,538	176	6,851	19								
Average	28,765	1,623	1,840	12,630	34	737,106	64,089	2,595	1,899	760,823	4.28	0.42	0.01
2003	53,933	1,936	200	24,831	67								

Table 12 (b). Enhanced Tahltan egg to smolt survival. Average fecundity of 2700 was used for years of no brood stock collection. Fecundity was determined from hatchery egg receipts for other years.

Brood	Release	Eggs to	Smolt production					% egg to smolt		
year	year	hatchery	1.0	2.0	3.0	4.0	Total	age 1+	age 2+	comb.
1989	1990	2,955,000	266,868	31,542			298,410	9.03%	1.07%	10.10%
1990	1991	4,511,000	772,782	29,591			802,373	17.13%	0.66%	17.79%
1991	1992	1,514,000	369,892	0			369,892	24.43%	0.00%	24.43%
1992	1993	2,154,000	294,310	10,624			304,934	13.66%	0.49%	14.16%
1993	1994	969,000	44,620	6,346			50,966	4.60%	0.65%	5.26%
1994	1995	1,326,000	144,877	8,259			153,136	10.93%	0.62%	11.55%
1995	1996	3,008,000	162,162	4,052			166,214	5.39%	0.13%	5.53%
1996	1997	3,100,000	210,393	1,377			211,770	6.79%	0.04%	6.83%
1997	1998	2,725,000	292,167	0			292,167	10.72%	0.00%	10.72%
1998	1999	1,998,000	255,372	27,251			282,623	12.78%	1.36%	14.15%
1999	2000	2,773,000	627,123	3,692			630,815	22.62%	0.13%	22.75%
2000	2001	2,388,000	827,471	3,859			831,330	34.65%	0.16%	34.81%
2001	2002	3,306,000	977,178				977,178	29.56%	0.00%	29.56%
2002	2003	2,780,000							0.00%	
Average		2,536,214	403,478	10,549			413,216	15.56%	0.38%	15.97%
2003	2004	2,661,000								

*Average fecundity of 2700 was used for years of no brood stock collection. Fecundity was determined from hatchery egg receipts for other years.

Appendix F.13. Egg to smolt survival for Tatsamenie Lake sockeye smolt outmigrations. The number of spawning females determined from total female escapement (# females weighted by stat. week derived from weir sampling) less females spawned + female broodstock mortalities +

Brood Year	Tatsameni Weir Escape.	Number of Females: Egg Take	Morts	Released	Number Spawning Females	Fecundity	Eggs Deposited
1993	4,040	286	53	92	1,100	3,671	4,038,100
1994	3,559	381	29	108	1,331	3,056	4,067,536
1995	5,780	726	32	177	3,802	3,796	14,432,392
1996	9,381	1,244	30	160	4,586	4,068	18,655,848
1997	8,097	1,212	142	212	1,857	4,113	7,637,841
1998	5,997	648	25	189	1,913	4,124	7,888,729
1999	2,104	116	0	279	721	4,247	3,062,087
2000	7,575	765	18	336	4,073	4,094	16,674,862
2001	21,822	1,045	221	273	8,314	4,663	39,817,357
2002	5,495	542	74	175	1,915	4,679	8,960,285
Average	7,385	697	62	200	2,961	4,051	12,523,504
2003	4,515	668	48	129	1,636	4,267	6,979,105

Wild Smolt Production

Number of Wild Smolt: 1996	1998	1999	2000	2001	2002	2003	Total Wild Smolts	% survival egg/smolt: 1+	2+	Total
77,326									1.91	
406,714								10.00		
	70,060								0.49	
	2,068,001	236,401					2,304,402	11.09	1.27	12.35
		455,240	70,882				526,122	5.96	0.93	6.89
			87,008	34,826			121,834	1.10	0.44	1.54
				26,797	19,078		45,875	0.88	0.62	1.50
					124,574	9,830	134,404	0.75	0.06	0.81
						457,563	457,563	1.15		1.15
484,040	2,138,061	691,641	157,890	61,623	143,652	467,393				

Hatchery Contribution age 1+	14,442	364,093	81,544	30,049	8,728	88,473	72,098
Hatchery Contribution age 2+	6,705	0	3,456	2,781	555	0	0
Total Hatchery Contribution	21,147	364,093	85,000	32,830	9,283	88,473	72,098
Total Smolts	505,187	2,502,154	776,641	190,720	70,906	232,125	539,491

Enhanced egg to smolt survival

BroodYear	# Eggs Taken	Smolts: Age-1+	Age-2+	% 1+	% 2+	Combined	Age-1+: Unfed fry	Fed fry
1993	1,211,593		6,705		0.6			
1994	1,228,541	14,442	0	1.2	0.0	1.2		
1995	2,613,600							
1996	5,060,592	364,093	3,456	7.2	0.1	7.3		
1997	4,984,956	81,544	2,781	1.6	0.1	1.7	1.2	5.5
1998	2,557,594	30,049	555	1.2	0.0	1.2	0.6	1.7
1999	496,370	8,728		1.8				1.8
2000	2,571,502	88,473		3.4			1.4	4.6
2001	3,499,157	72,098		2.1			3.8	1.9
2002	2,301,546	82,291		3.6			7.2	
Average	2,652,545	92,715	2,699	2.8	0.1	2.8	2.8	3.1
2003	2,730,376							

Appendix F.14. Tahltan Lake mean annual zooplankton biomass and densities, 1988 through 2003.

Table 14 (a). Mean Annual Zooplankton Wet Biomass (mg/m3) - Tahltan Lake.

Year	Total(-GB)	*Bosmina*	*Daphnia*	*Cyclops sp.*	*Skistodiaptomus*	nauplii	rotifers	Others*	N
1988	500.18	30.60	178.06	105.31	179.63	8.09	1.50	0.00	1
1989	699.55	33.97	221.57	225.99	170.52	7.51	6.36	0.00	4
1990	549.23	31.08	141.52	253.66	101.28	20.99	5.11	0.00	4
1991	475.60	35.00	126.88	205.62	95.43	9.23	7.56	0.00	4
1992	666.30	85.03	265.15	133.12	175.94	4.41	2.67	0.00	4
1993	578.15	51.58	204.43	207.20	105.71	4.32	4.92	0.00	3
1994	1027.55	78.11	402.43	259.73	280.61	2.66	4.02	0.00	3
1995	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
1996	980.76	36.83	523.26	251.89	158.64	4.80	5.33	0.00	2
1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
1998	1791.22	113.18	981.58	386.68	293.25	25.15	4.62	0.00	4
1999	1378.63	85.93	492.08	534.92	248.45	9.36	7.21	0.00	16
2000	822.75	37.63	150.00	433.88	163.63	37.00	0.63	0.00	8
2001	912.25	48.50	250.38	429.63	153.88	28.00	2.00	0.00	8
2002	762.38	33.13	234.63	330.00	139.00	22.63	3.00	0.00	8
Average	865.18	55.62	328.11	285.63	177.25	13.46	4.33	0.00	
2003	831.17	46.67	108.33	567.67	99.83	6.00	2.50	0.00	8

* Other groups include only Diaphanosoma sp.

Note: 1995 data were outliers (not included in the analysis); 1997 samples did not meet minimum criteria .

-continued-

Table 14 (b). Mean Annual Zooplankton Density (no./m3) - Tahltan Lake.

Year	Total (- GB)	*Bosmina sp.*	*Daphnia sp.*	*Cyclops sp.*	*Skistodiaptomus*	nauplii	rotifers	*Others	N
1988	24,097	928	4,608	5,472	3,968	7,296	1,824	0.00	1
1989	47,829	1,114	5,501	9,132	3,794	20,527	7,761	0.00	4
1990	53,488	1,159	4,692	10,549	2,101	21,856	13,131	0.00	4
1991	39,775	1,212	2,561	5,321	1,383	16,532	9,223	0.32	4
1992	24,783	3,062	6,327	5,126	2,461	11,715	3,250	0.00	4
1993	32,204	2,072	4,971	8,391	2,056	8,718	5,997	0.00	3
1994	27,718	2,238	6,090	6,546	2,692	5,251	4,901	0.00	3
1995	0	0	0	0	0	0	0	0.00	0
1996	31,697	1,227	8,488	7,016	1,468	6,969	6,464	0.00	2
1997	0	0	0	0	0	0	0	0.00	0
1998	67,461	2,629	11,349	9,228	3,752	34,868	5,636	0.00	4
1999	43,991	2,146	6,159	11,996	3,447	13,937	9,502	0.00	16
2000	80,912	987	2,559	12,877	3,430	51,483	5,681	0.00	8
2001	64,718	1,422	4,795	12,150	2,286	28,314	15,751	0.00	8
2002	58,379	914	4,933	7,462	1,592	19,383	24,094	0.00	8
Average	39,803	1,407	4,869	7,418	2,295	16,456	7,548	0	
2003	36,969	1,086	2,443	11,604	1,055	5,842	14,938	0.95	8

* Other groups include only Diaphanosoma sp.

Note: 1995 data were outliers (not included in the analysis); 1997 samples did not meet minimum criteria (not included in the analysis); see Methods)

Table 14 (c). Mean Annual Large Beast (LGB) Biomass (mg/m3) - Tahltan Lake.

Year	Chironomi	Araneida	Acarina
1988	4.86	0.00	0.00
1989	0.00	13.92	0.00
1990	0.00	0.00	3.36
1991	0.00	3.71	0.00
1992	0.00	0.00	0.00
1993	33.00	0.00	0.00
1994	189.43	0.00	0.00
1995	0.00	0.00	0.00
1996	0.00	0.00	0.00
1997	0.00	0.00	0.00
1998	0.00	26.47	0.00
1999	0.12	0.00	0.00
2000	0.00	0.00	0.00
2001	0.00	0.00	0.00
2002	0.00	0.00	0.00
Average	15.16	2.94	0.22
2003	0.00	0.00	0.00

Appendix F.15. Tuya Lake mean annual zooplankton biomass and densities, 1987 through 2003.

Table 15 (a). Mean Annual Zooplankton Wet Biomass (mg/m3) - Tuya Lake.

Year	Total-LBG	*Bosmina*	*Daphnia*	*Holopedium*	*Cyclops*	Calanoids	*Skistodiaptomus*	nauplii	rotifers	Others*	N
1987	456.00	0.00	17.98	0.00	139.86	110.54	176.21	6.43	4.99	0.00	1
1988	270.76	0.14	28.34	0.01	95.59	51.42	121.65	2.28	0.98	0.00	3
1989	300.36	0.00	26.97	0.00	192.54	22.32	52.27	3.53	2.72	0.00	5
1990	192.48	0.11	0.03	0.02	98.24	43.95	44.69	3.08	2.42	0.00	3
1991	230.48	0.20	3.79	0.08	127.46	25.17	65.01	4.31	4.44	0.00	4
1992	481.48	0.93	1.09	0.71	437.33	4.52	29.17	7.59	0.62	0.00	4
1993	247.55	0.02	0.10	8.99	196.43	8.19	27.36	2.65	3.83	0.00	3
1994	913.36	4.48	7.09	14.82	869.87	0.00	14.50	5.06	2.23	0.00	3
1995	300.86	10.81	0.65	230.04	4.65	0.00	42.11	6.93	5.71	0.00	2
1996	72.52	0.77	23.98	3.24	39.72	0.00	4.05	0.27	1.30	0.00	2
1997	299.35	1.20	38.24	6.08	144.29	0.00	107.86	1.22	1.08	0.01	2
1998	639.40	8.88	360.74	1.17	164.63	0.00	75.25	15.38	13.94	0.00	2
1999	523.25	26.55	158.50	0.00	305.55	0.00	17.26	3.87	11.78	0.00	4
2000	362.33	6.33	0.00	0.00	350.00	0.67	3.67	2.00	1.33	0.00	3
2001	692.00	8.00	11.00	0.00	628.50	0.00	33.00	11.00	0.50	0.00	2
2002	197.67	16.33	3.67	1.00	94.67	0.00	75.33	4.67	1.00	0.00	3
Average	386.24	5.30	42.64	16.63	243.08	16.67	55.59	5.02	3.68	0.00	
2003	576.75	3.50	28.25	0.00	541.25	0.00	7.00	0.50	0.00	0.00	4

* Other groups include only Diaphanosoma sp., Chydoridae and Harpacticoid copepods.

Table 15 (b). Mean Annual Zooplankton Density (no./m3) - Tuya Lake.

Year	Total - LBG	*Bosmina*	*Daphnia*	*Holopedium*	*Cyclops*	Calanoids	*Skistodiaptomus*	nauplii	rotifers	Others*	N
1987	28849.61	0.00	88.53	0.00	3254.40	76.80	4470.40	14879.90	6080.00	0.00	1
1988	10342.16	2.22	11.12	0.24	2864.89	57.06	3634.67	2545.13	1201.19	0.00	3
1989	17914.09	0.00	120.63	0.00	8583.55	34.06	1385.08	4475.12	3315.35	0.00	5
1990	11718.44	3.56	0.57	0.27	3377.02	58.07	965.01	4359.62	2955.43	0.00	3
1991	22495.30	10.79	27.54	1.55	3114.67	25.68	2280.08	11615.90	5418.63	0.00	4
1992	26819.42	53.97	16.05	16.59	14802.98	6.03	830.88	10411.89	753.56	0.00	4
1993	18066.78	0.34	1.28	461.54	6109.58	6.74	1125.88	4686.52	4673.18	0.00	3
1994	41061.47	111.11	96.03	126.54	30335.46	0.00	107.89	7566.21	2716.44	0.00	3
1995	25995.54	907.11	4634.86	2549.34	731.73	0.00	8718.98	4580.89	3872.45	0.00	2
1996	3210.88	30.72	112.64	66.56	1200.00	0.00	38.40	0.00	1760.00	0.00	2
1997	10616.33	53.34	1258.31	140.78	3169.34	0.00	2017.40	2721.34	1316.00	0.80	2
1998	47077.92	280.32	5344.87	17.07	1873.78	0.00	1790.58	17781.06	16998.95	0.00	2
1999	33432.75	883.25	6265.75	0.00	5738.50	0.00	118.25	6074.50	14352.00	0.00	4
2000	20624.40	297.10	1.07	1.27	6858.27	34.43	20.50	1563.80	11847.83	0.00	3
2001	27044.20	195.75	193.20	0.00	16521.95	0.00	1258.35	3242.50	5632.10	0.00	2
2002	18206.67	538.33	149.00	29.67	931.67	0.00	818.00	6944.33	8795.33	0.00	3
Average	22717.25	210.49	1145.09	213.21	6841.74	18.68	1848.77	6465.54	5730.53	0.05	
2003	19344.25	115.50	836.58	2.13	14605.25	1.05	1248.33	388.25	3250.53	0.00	4

* Other groups include only Diaphanosoma sp., Chydoridae and Harpacticoid copepods.

-continued-

Table 15 (c). Mean Annual Large Beast (LGB) Biomass (mg/m3) - Tuya Lake.

Year	Chironomi	Fish larva
1987	0.00	0.00
1988	797.93	0.00
1989	0.00	51.92
1990	0.00	94.98
1991	0.00	0.00
1992	41.28	0.00
1993	106.70	0.00
1994	0.00	0.00
1995	0.00	0.00
1996	187.44	0.00
1997	0.00	0.00
1998	0.00	0.00
1999	0.00	0.00
2000	0.00	0.00
2001	0.00	0.00
2002	0.00	0.00
Average	70.83	9.18
2003	0.00	0.00

Appendix F.16. Tatsamenie Lake mean annual zooplankton biomass and densities, 1988 through 2003.

Table 16(a). Mean Annual Zooplankton Wet Biomass (mg/m3) - Tatsamenie Lake.

Year	Total - LGB	*Bosmina*	*Daphnia*	*Cyclops*	nauplii	rotifers	Others*	N
1988	285.99	65.36	36.93	179.62	2.20	1.88	1.23	3
1989	314.34	57.59	70.97	176.73	2.81	6.17	0.07	4
1990	175.13	36.96	52.22	79.75	2.24	3.94	0.00	4
1991	449.88	139.84	15.67	238.16	1.23	3.07	51.90	4
1992	309.62	86.63	72.54	145.91	2.85	1.70	0.00	4
1993	286.69	73.34	56.70	148.35	2.34	5.97	0.00	3
1994	329.24	114.99	25.91	177.04	4.85	6.88	0.00	3
1995	278.05	54.77	59.60	139.40	1.98	3.31	0.00	2
1996	324.81	37.41	30.10	251.88	2.79	2.00	0.64	2
1997	346.65	30.00	122.03	193.09	2.15	0.49	0.00	3
1998	297.81	20.85	76.79	193.54	3.38	3.60	0.00	7
1999	376.30	12.96	17.81	335.80	5.29	4.44	0.00	12
2000	489.17	117.33	24.67	339.83	7.33	0.00	0.00	6
2001	842.17	41.33	23.00	772.00	3.67	0.50	0.00	6
2002	436.50	11.88	132.13	283.63	7.13	2.13	0.25	8
Average	369.49	60.08	54.47	243.65	3.48	3.07	3.61	
2003	541.50	16.50	148.50	367.00	6.50	3.00	0.00	2

* Other groups include calanoid copepods, Skistodiaptomus sp. and Holopedium sp.

Table 16 (b). Mean Annual Zooplankton Density (no./m3) - Tatsamenie Lake.

Year	Total - LGB	*Bosmina*	*Daphnia*	*Cyclops*	nauplii	rotifers	Others*	N
1988	13689.47	1875.56	1088.00	6712.88	1699.45	2291.56	10.77	3
1989	23253.98	1721.33	1686.99	6484.78	7349.30	7528.47	0.16	4
1990	16916.79	1241.60	1397.85	3542.40	5933.56	4801.02	0.00	4
1991	22665.42	4693.35	455.04	7390.48	5569.53	3745.52	804.57	4
1992	17937.97	2847.54	2035.85	4730.82	6255.00	2067.89	0.00	4
1993	24667.36	2993.78	1915.73	6904.87	5572.27	7280.26	0.00	3
1994	23690.13	3121.78	585.89	4163.98	6858.59	7861.28	0.00	3
1995	14464.13	1360.00	1520.00	3520.00	4032.00	4031.95	0.00	2
1996	12117.10	985.60	394.40	6117.27	2204.80	2434.14	4.64	2
1997	12160.71	824.89	2350.22	5045.33	3313.78	597.33	0.00	3
1998	17001.64	493.43	1540.50	4531.81	6049.48	4391.83	0.00	7
1999	17503.98	457.50	566.86	8671.42	8783.67	5418.67	0.00	12
2000	21545.58	3171.97	557.68	9727.12	8182.90	28.43	0.00	6
2001	36946.72	241.50	453.60	16664.00	3928.90	5645.68	0.00	6
2002	37741.75	296.63	2725.50	9004.50	7274.38	18440.38	0.00	8
Average	20820.18	1755.10	1284.94	6880.78	5533.84	5104.29	54.68	
2003	41036.50	358.00	2900.50	8888.00	6652.50	22236.00	0.10	2

* Other groups include calanoid copepods, Skistodiaptomus sp. and Holopedium sp.

-continued-

Table 16(c). Mean Annual Large Beast (LGB) Biomass (mg/m3) - Tatsamenie Lake.

Year	Chironomid larva	Acarina
1988	84.88	0.00
1989	50.88	0.00
1990	1.34	0.00
1991	23.90	0.00
1992	272.89	0.00
1993	69.32	0.00
1994	3.98	0.00
1995	572.30	0.00
1996	539.68	0.00
1997	546.32	0.00
1998	129.23	0.09
1999	2.73	0.00
2000	0.00	0.00
2001	0.00	0.00
2002	0.25	0.00
Average	153.18	0.01
2003	0.00	0.00

Appendix F.17. Summary of transboundary fry transport and thermal mark by lake and broodyear.

Brood Year	Green Eggs	Fry Transport	First Date	Last Date	Thermal Mark
Tahltan Lake					
1989	2,995,440	1,041,744	6/6	6/25	1:1.4
1990	4,510,605	3,584,658	6/4	6/21	1:1.3
1991	1,513,520	1,415,459	6/9	6/10	1:1.4
1992	2,153,996	1,947,207	6/14	6/20	1:1.5+2.3
1993	968,752	903,908	6/24	6/28	1:1.6+2.5n
1994	1,418,013	1,142,856	6/26	7/3	1:1.6
1995	3,007,955	2,296,152	6/15	6/25	1:1.7
1996	3,168,947	2,247,730	6/16	6/27	1:1.6
1997	2,700,358	1,900,417	6/7	6/13	2:1.6
1998	1,997,918	1,670,615	5/29	6/2	1:1.7
1999	2,772,973	2,228,339	5/20	5/27	2:1.6
2000	2,387,590	1,872,611	5/25	6/6	1:1.7
2001	3,305,851	2,530,000	6/3	6/12	2:1.6
2002	2,779,807	2,622,535	5/21	5/28	1:1.7
Average	2,548,695	1,957,445	6/6	6/15	
2003	2,660,673	2,225,916	5/20	5/28	1:1.6 &1:1.5+2.4
Tuya Lake (Tahltan Stock)					
1991	2,732,137	1,632,083	6/17	6/21	1:1.6
1992	2,747,144	1,990,370	6/16	7/6	1:1.7
1993	5,170,772	4,690,833	6/24	7/13	1:1.4+2.5n
1994	2,764,530	2,267,443	6/26	7/3	1:1.4
1995	3,882,653	2,473,742	6/21	7/3	1:1.4,2.4
1996	3,232,816	2,610,838	6/24	7/1	1:1.4
1997	520,809	432,651	6/26	6/26	2:1.4
1998	2,024,284	1,603,441	6/21	7/2	1:1.4
1999	1,053,345	866,530	6/23	6/26	2:1.4
2000	0	n/a	n/a	n/a	n/a
2001	0	n/a	n/a	n/a	n/a
2002	1,270,656	1,124,248	6/12	6/12	1:1.7+2.3
Average	2,158,448	1,992,554	6/18	6/26	
2003	2,730,376	2,444,671	6/16	6/20	1:1.4
Tatsamenie Lake (Tatsamenie Stocks)					
1990	984,681	673,236	6/22	6/22	1:1.3
1991	1,359,751	1,231,894	6/22	6/26	1:1.4
1992	1,486,091	909,452	7/9	7/14	1:1.5
1993	1,143,857	520,947	7/14	7/14	2:1.5
1994	1,228,541	897,500	7/18	7/21	1:1.5
1995	2,406,707	1,724,228	6/16	6/25	1:1.5
1996	4,933,509	3,940,933	6/16	6/27	1:1.5 & 1:1.5,2.3
1997	4,650,516	3,596,593	6/15	6/29	2:1.5 & 2:1.5,2.3
1998	2,414,494	1,769,032	6/1	6/9	1:1.4+2.3 & 1:1.4+2.5
1999	461,436	350,139	6/1	6/1	2:1.5
2000	2,571,502	2,319,588	6/4	6/16	1:1.5 &1:1.5+2.3
2001	3,499,157	2,230,000	5/30	6/16	2:1.5 &2:1.5,2.3n
2002	2,301,546	1,353,413	5/21	5/27	1:1.4 & 1:1.4+2.3
Average	2,264,753	1,655,150	6/16	6/23	1:1.5 &1:1.5+2.3
2003	2,451,685	2,140,957	5/24	5/27	1:1.5 &1:1.5+2.3
Trapper Lake					
1990	2,313,686	933,791	6/8	6/22	1:1.5
1991	2,952,934	1,810,998	6/5	6/11	3:1.6
1992	2,520,953	1,113,128	6/13	6/22	1:1.7+2.3
1993	1,173,660	916,083	6/16	6/24	1:1.5+2.5n
1994	1,117,249	773,375	6/21	7/3	1:1.7
Average	2,015,696	1,109,475	6/12	6/22	

Appendix F.18. Summary of Transboundary lakes egg receipt and incubation at Snettisham Hatchery by lake and brood year.

Brood Year	Green Eggs	Eyed Eggs	Disease Loss[a]	Emergent Fry	Disease Loss	Fry Transport
Tahltan Lake						
1989	2,955,440	2,080,900		1,094,553		1,041,744
1990	4,510,605	3,718,585		3,626,347		3,584,658
1991	4,245,657	4,015,026		3,950,299	885,000	3,047,542
1992	4,901,140	4,530,777	521,400	3,938,777		3,937,577
1993	6,139,524	5,628,141		5,592,725		5,594,741
1994	4,182,543	3,721,215				3,410,299
1995	6,890,608	5,811,281	522,221	4,942,237		4,769,894
1996	6,401,763	5,937,218	681,946	4,926,916		4,858,568
1997	3,221,167	2,665,870		2,620,020		2,333,068
1998	4,022,202	3,676,229		3,656,429		3,274,056
1999	3,826,318	3,504,997		2,383,889		2,228,339
2000	2,387,589	2,196,256	278,531	1,842,345		1,872,611
2001	3,305,851	2,740,981		2,539,095		2,524,400
2002	4,050,463	3,724,111		3,750,338		3,746,783
Average	4,360,062	3,853,685		3,451,075		3,301,734
2003	5,391,049	4,922,132		2,235,826		4,670,587
Tatsamenie Lake; the 1993 data included Little Tatsamenie total						
1993	136,897*					
1994	1,228,541	984,165				897,500
1995	2,406,707	2,028,504		1,724,228		1,724,228
1996	4,933,509	4,188,259		3,944,758		3,940,933
1997	4,650,516	4,232,964		4,214,614	178,577	3,596,593
1998	2,414,494	2,166,262		2,160,462		1,769,032
1999	461,436	435,104		433,405		350,139
2000	2,571,502	2,425,341		2,416,341		2,319,588
2001	3,499,157	3,148,097		2,235,242	555,856	2,233,200
2002	2,301,546	1,893,884	484,332	1,355,575		1,353,413
Average	2,718,601	2,389,176		2,310,578	367,217	2,020,514
2003	2,451,685	2,252,332		2,146,815		2,140,957
Little Tatsamenie Lake						
1990	984,681	762,965		680,596		673,236
1991	1,359,751	1,260,494		1,247,444		1,231,894
1992	1,486,091	1,275,238	246,000	915,502		909,452
1993	1,143,857	708,574	168,877	520,802		520,947
Average	1,243,595	1,001,818	207,439	841,086		833,882
Little Trapper Lake						
1990	2,313,686	2,020,843	1,001,250	944,913		933,791
1991	2,952,934	1,862,662		1,820,398		1,810,998
1992	2,520,953	2,054,881	917,303	1,113,578		1,113,128
1993	1,173,660	950,853		916,622		916,083
1994	1,117,249	837,316				773,375
Average	2,015,696	1,545,311	959,277	1,198,878		1,109,475

[a]All Disease loss was due to IHNV, with the exception of the Little Trapper 1990 brood year which was attributed to White Spot disease.

Appendix F.19. Transboundary Lakes sockeye brood stock disease histories for brood years 1988 to 2003.

	BKD		IHNV			
			IHNV Positive		Positives >= 100 pfu	
Brood Year	Number	% Positive	Number	%	Number	%
Tahltan Lake						
1988	19/60	31.70%	54/60	90.00%	28/54	51.90%
1989	7/151	4.60%	3/159	1.90%	1/3	33.30%
1990	9/150	6.00%	5/150	3.30%	0/5	0.00%
1991	11/148	7.40%	144/152	94.70%	65/144	45.10%
1992	9/154	5.80%	141/154	91.60%	82/141	58.20%
1993	11/150	7.30%	107/149	71.80%	45/107	42.10%
1994	4/150	2.70%	75/150	50.00%	21/75	28.00%
1995	7/150	4.70%	93/150	62.00%	45/93	48.40%
1996	12/151	7.95%	87/151	57.62%	29/87	33.33%
1997	14/253	5.53%	159/252	63.10%	63/159	39.62%
1998	1/163	0.61%	70/163	42.94%	19/70	27.14%
1999	2/152	1.32%	26/152	17.11%	6/26	23.08%
2000	7/150	4.67%	55/149	36.91%	6/66	10.91%
2001	21/153	13.73%	143/154	92.86%	63/143	44.06%
2002	22/150	14.67%	121/150	80.67%	34/121	28.10%
Average		7.91%		57.10%		34.22%
2003	7/150	4.70%	68/148	45.90%	37/68	54.40%
Tatsamenie Lake						
1988	3/67	4.50%	25/65	38.50%	4/25	16.00%
1989	no egg take					
1990	12/150	8.00%	96/150	64.00%	50/96	52.10%
1991	9/150	6.00%	5/150	3.30%	0/5	0.00%
1992	5/151	3.30%	95/150	63.30%	49/95	51.60%
1993	24/111	21.60%	94/149	63.10%	57/94	60.60%
1994	10/150	6.70%	1/103	1.00%	0/1	0.00%
1995	15/150	10.00%	1/149	0.70%	1/1	100.00%
1996	5/150	3.33%	39/150	26.00%	24/39	61.54%
1997	17/150	11.33%	14/150	9.33%	10/14	71.43%
1998	5/149	3.36%	0/143	0.00%	0/0	0.00%
1999	2/120	1.67%	0/92	0.00%	0/0	0.00%
2000	4/150	2.67%	3/150	2.00%	0/3	0.00%
2001	6/151	3.97%	140/150	93.33%	84/140	60.00%
2002	1/151	0.66%	53/150	35.33%	16/53	30.19%
Average		6.22%		28.56%		35.96%
2003	5/138	3.60%	0/150	0.00%	0/0	0.00%
Little Trapper Lake						
1988	2/60	3.30%	52/60	86.70%	23/52	44.20%
1989	no egg take					
1990	20/150	13.30%	146/152	96.10%	113/146l	77.40%
1991	9/150	6.00%	20/150	13.30%	5/20	25.00%
1992	1/153	0.70%	146/150	97.30%	126/146	86.30%
1993	10/150	6.70%	90/150	60.00%	47/90	52.20%
1994	10/150	6.70%	50/148	33.80%	16/50	32.00%
1995	no egg take					
Average		6.12%		64.53%		52.85%

[a]For IHNV, a titer greater than or equal to 10^4 plague forming units (pfu), is the point at which the probability of vertical (parent to offspring) transmission of IHNV is believed to greatly increase.

Appendix F.20. Adult returns and catches of enhanced and wild sockeye for the Stikine River.

Table 20 (a). Run size, catches[a], and exploitation rates for wild and enhanced Stikine River sockeye.

	Run					
	Enhanced					Percent
Year	Tahltan	Tuya	All	Wild	Total	Enhanced
1993	1,167	0	1,167	279,563	280,730	0.004
1994	27,073	2	27,075	180,961	208,036	0.130
1995	54,936	2,802	57,738	160,990	218,728	0.264
1996	28,176	38,600	66,776	306,009	372,785	0.179
1997	20,633	66,258	86,891	140,024	226,915	0.383
1998	2,260	47,383	49,643	71,806	121,448	0.409
1999	2,959	31,382	34,341	90,273	124,614	0.276
2000	3,229	34,034	37,263	41,241	78,504	0.475
2001	8,619	40,751	49,370	77,885	127,255	0.388
2002	6,637	14,136	20,773	58,559	79,332	0.257
Average	15,569	27,498	43,104	140,731	183,835	0.234
2003	40,009	39,535	79,583	161,394	240,977	0.330

Table 20 (b). Total Canadian and U.S. catches and exploitation rates of enhanced Stikine River sockeye.

Year	Total Stikine Catch			Ratio of U.S. to Canada	Catch		Harvest Rate	
	U.S.	Canada	Total		Wild	Enhanced	Enhanced	Wild
1993	104,411	52,698	157,109	n/a	157,071	38	0.033	0.562
1994	80,506	53,380	133,886	1.51	113,562	20,324	0.751	0.628
1995	76,420	66,777	143,197	1.14	99,249	43,948	0.761	0.616
1996	188,385	90,148	278,533	2.09	226,669	51,864	0.777	0.741
1997	101,258	68,197	169,455	1.48	93,003	76,452	0.880	0.664
1998	27,848	50,486	78,334	0.55	39,696	38,638	0.778	0.553
1999	54,799	47,202	102,001	1.16	73,878	28,123	0.819	0.818
2000	21,733	31,535	53,268	0.69	25,834	27,434	0.736	0.626
2001	23,500	29,341	52,841	0.80	29,162	23,679	0.480	0.374
2002	8,076	22,607	30,683	0.36	18,673	12,010	0.589	0.317
Total	686,936	512,371	1,199,307		876,798	322,509		
Average	68,694	51,237	119,931	1.09	87,680	32,251	0.66	0.59
2003	46,552	69,571	116,123	0.67	74,111	42,012	0.528	0.459

[a] All catches including, commercial, aboriginal, test fisheries, and ESSR.

Appendix F.21. Catches and production of enhanced Taku River sockeye salmon.

Table 21 (a). Canadian and U.S. catches of enhanced Taku River sockeye.

	U.S. Commercial Catch			Canada Commercial Catch			Ratio of U.S. to	Total Enhanced
Year	Trapper	Tatsamenie	Total	Trapper	Tatsamenie	Total	Canada	Catch
1995	1,017	3,049	4,066	331	1,003	1,334	3.05	5,400
1996	1,920	2,859	4,779	331	401	732	6.53	5,511
1997	1,031	1,006	2,037	456	201	657	3.10	2,694
1998	570	250	820	533	56	589	1.39	1,409
1999	858	367	1,225	171	126	297	4.12	1,522
2000	211	1,301	1,512	0	436	436	3.47	1,948
2001	0	9,057	9,057	0	1,868	1,868	4.85	10,925
2002	0	660	660	0	49	49	13.47	709
Total	5,607	18,549	24,156	1,822	4,140	5,962	4.05	30,118
Average	701	2,319	3,020	228	518	745	5.00	3,765
2003	0	773	773	0	271	271	2.85	1,044

Table 21 (b). Estimates of enhanced Taku River sockeye production.

	Catch		Total	Harvest	Total Enhanced	Ratio of Enhanced
Year	Enhanced	Total	Run	Rate	Production	to Wild
1995	5,400	124,709	238,448	0.523	10,325	0.043
1996	5,511	230,421	323,047	0.713	7,726	0.024
1997	2,694	103,693	174,779	0.593	4,541	0.026
1998	1,409	69,923	140,638	0.497	2,834	0.020
1999	1,522	85,732	178,287	0.481	3,165	0.018
2000	1,948	161,314	248,539	0.649	2,657	0.011
2001	10,925	256,428	400,715	0.640	18,156	0.045
2002	709	149,725	253,232	0.591	1,178	0.005
Total	30,118	1,032,220	1,957,685		49,404	0.025
Average	3,765	147,460	244,711	0.586	7,058	0.027
2003	1,044	178,473	338,839	0.527	2,490	0.007

Appendix F.22. Acoustic estimates of limnetic fry populations in transboundary lakes.

Tatsamenie Lake

Survey		Hydroacoustic Estimates			
Year	Date	Total	95% CI	Wild	Enhanced
1990	no survey	n/a	n/a	n/a	n/a
1991	13-Sep	821,688	289,562	767,347	32,653
1992	1-Aug	1,795,965	772,015	n/a	n/a
	28-Sep			n/a	n/a
1993	14-Sep	1,146,100	409,859	1,000,409	145,691
1994	15-Sep	1,053,200	358,658	1,034,393	18,807
1995	19-Sep	940,100	366,896	852,649	87,451
1996	19-Sep	831,900	324,400	772,479	59,421
1997	4-Sep	2,695,092	869,666	1,132,906	127,293
	1-Oct	1,260,199	488,833	2,411,398	283,694
Average		1,977,646		1,773,765	203,881
1998	2-Sep	689,376	263,792	n/a	n/a
	22-Sep	754,923	281,627	697,653	57,270
	12-Oct	504,397	286,169	425,585	78,812
Average		629,660		561,619	68,041
1999	36815	352,000	94,000	321,376	30,624
2000	24-Aug	683,000	298,000	635,190	47,810
	11-Oct	151,000	46,000	141,940	9,060
Average		417,000		388,565	28,435
2001	18-Aug	558,000	165,000	334,800	223,200
	19-Sep	975,000	449,000	936,000	39,000
	8-Oct	807,000	158,000	790,860	16,140
Average		780,000		687,220	92,780
2002	19-Jul	2,210,000	523,000	1,834,717	375,283
	3-Oct	1,913,000	302,000	1,904,265	8,735
Average		2,061,500		1,869,491	192,009
2003	4-Oct	1,076,000	187,000		

Trapper Lake

Survey		Hydroacoustic Estimates		
Year	Date	Total	95% CI	Enhanced
1990				
1991				
1992	3-Aug	196,037	55,203	
1993	10-Sep	125,459	64,774	94,847
1994	11-Sep	64,554	25,446	64,554
1995				
Average		128,683		79,701

Tuya Lake

Survey		Hydroacoustic Estimates			
Year	Date	Total	95% CI	Enhanced	Sculpins
1990	no survey	n/a	n/a	n/a	n/a
1991	no survey	n/a	n/a	n/a	n/a
1992	18-Sep	596,537	196,156		
1993	2-Sep	437,304	228,578		
1994	5-Sep	1,995,119	1,114,417		
1995	9-Sep	1,526,065	1,429,780		
1996	12-Sep	2,109,019	498,881		
1997	25-Sep	2,066,449	550,088		
1998	19-Sep	659,606	280,102	n/a	n/a
1999	14-Sep	1,026,517	314,830	n/a	n/a
2000	no survey				
2001	no survey				
2002	no survey				
Averag	13-Sep	1,302,077			
2003	7-Aug	360,000	223,000	352800	

Tahltan Lake

Survey		Hydroacoustic Estimates			
Year	Date	Total	95% CI	Wild	Enhance
1990	3-Oct	272,330	77,016	n/a	n/a
1991	9-Sep	995,918	182,411	513,618	482,300
1992	29-Jul	no estimate due to technical problems			
	3-Oct	no estimate due to technical problems			
1993	19-Sep	817,400	158,828	417,489	294,440
1994	19-Sep	377,408	154,969	355,200	22,200
1995	no survey	n/a	n/a	n/a	n/a
1996	19-Sep	615,321	95,940	396,055	219,252
1997	29-Sep	298,773	47,232	96,404	189,097
1998	no survey	n/a	n/a	n/a	n/a
1999	12-Oct	220,000	61,500	n/a	n/a
2000	no survey	n/a	n/a	n/a	n/a
2001	no survey	n/a	n/a	n/a	n/a
2002	no survey	n/a	n/a	n/a	n/a
Averag		513,879		355,753	241,458
2003	no survey	n/a	n/a	n/a	n/a