Pacific Salmon Commission

1995/96 Eleventh Annual Report

Pacific Salmon Commission

Established by Treaty between Canada and the United States March 18, 1985 for the conservation, management and optimum production of Pacific salmon

Eleventh Annual Report 1995/96

Vancouver, B.C.
Canada

PACIFIC SALMON COMMISSION

ESTABLISHED BY TREATY BETWEEN CANADA
AND THE UNITED STATES OF AMERICA
MARCH 18, 1985

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Our File:

Your File:

Letter of Transmittal

In compliance with Article II, Paragraph 14 of the Treaty between the Government of Canada and the Government of the United States of America concerning Pacific salmon, it is my pleasure as Chair of the Pacific Salmon Commission to present my compliments to the Parties and to transmit herewith the Eleventh Annual Report of the Commission.

This report summarizes the activities of the Commission for the fiscal year April 1, 1995 to March 31, 1996.

Negotiations during the 1994/95 cycle, both within the Commission and on a government-to-government basis, were unsuccessful in producing agreement on fishery regimes or the equity issue. At a meeting in Bellingham July 27, 1995, however, officials of the Parties were successful in reaching agreement on interim fishing arrangements for the balance of the 1995 season for Fraser River sockeye and pink salmon, including comittments by managers and for southern chum and coho fisheries.

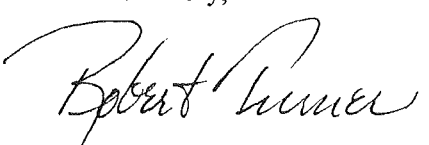
The Parties agreed to a mediation approach on equity which was conducted during the period October 1995 to January 1996. Resolution of this issue was not achieved through this process.

Negotiations conducted by the Commission at its 1995/96 meetings were focused on chinook management questions. Agreement on a fishery regime for chinook was not reached. As negotiations on other fishery regimes were deferred pending resolution of the chinook issue, no agreed fishery regimes are in place at this time for the 1996 season.

Reports on the results of the 1995 fishing season, meetings of the Standing Committee on Finance and Administration, and the activities of the Northern, Southern and Fraser River Panels are presented in summary. Executive summaries of documents prepared by the Joint Technical Committees during the period covered by this report are also presented.

The Auditors' report on financial activities of the Commission during the fiscal year April 1, 1995 to March 31, 1996, as approved by the Commission, is also included in this report.

Yours truly,



R. A. Turner
Chair

PACIFIC SALMON COMMISSION

OFFICERS for 1995/96

Chair	Mr. P.S. Chamut (to January 24, 1996) Mr. R.A. Turner (from January 24, 1996)
Vice-Chair	Mr. G.I. James (to January 24, 1996) Mr. P.S. Chamut (from January 24, 1996)

COMMISSIONERS

United States

Mr. Robert Turner (Chair)
Mr. G.I. James (to January 24, 1996)
Mr. W. Ron Allen (from January 24, 1996)
Mr. James Pipkin
Mr. David Benton
Mr. Jev Shelton
Mr. Henry R. Beasley
Mr. Rollie Rousseau
Ms. N. Kathryn Brigham

Canada

Mr. Patrick Chamut (Vice-Chair)
Mr. Dennis Brown
Mr. Nelson Keitlah (to January 30, 1996)
Mr. Robert Wright
Mr. C.C. (Bud) Graham
Mr. Hubert Haldane
Mr. Michael Hunter
Mr. Bill Valentine

SECRETARIAT STAFF

Executive Secretary	Mr. Ian Todd
Administrative Officer	Mr. Ken Medlock
Chief Biologist	Dr. Jim C. Woodey

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INTRODUCTION

Interception of Pacific salmon bound for rivers of one country in fisheries of the other has been the subject of discussion between the Governments of Canada and the United States of America since the early part of this century. Intercepting fisheries were identified through research conducted by the two countries on species and stocks originating from Alaska, British Columbia, Washington and Oregon. The results of this research identified that Alaskan fishers were catching salmon bound for British Columbia, Oregon and Washington. Canadian fishers off the west coast of Vancouver Island were capturing salmon bound for rivers of Washington and Oregon. Fishers in northern British Columbia were intercepting salmon returning to Alaska, Washington and Oregon, and United States fishers were catching Fraser River salmon as they travelled through the Strait of Juan de Fuca and the San Juan Islands towards the Fraser River.

Management of stocks subject to interception became a matter of common concern to both Canada and the United States. A mechanism to enable the countries to reap the benefits of their respective management and enhancement efforts was required. That mechanism is now provided through the Pacific Salmon Treaty, which entered into force upon the exchange of instruments of ratification by the President of the United States of America and the Prime Minister of Canada on March 18, 1985.

The Pacific Salmon Commission, guided by principles and provisions of the Treaty, establishes general fishery management regimes for international conservation and harvest sharing of intermingling salmon stocks. Each country retains jurisdictional management authority but must manage its fisheries in a manner consistent with the provisions of the Treaty. Implementation of the principles of the Treaty should enable the United States and Canada, through better conservation and enhancement, to prevent overfishing, increase production of salmon, and ensure that each country receives benefits equivalent to its own production. The Commission also serves as a forum for consultation between the Parties on their salmonid enhancement operations and research programs.

The organizational structure of the Commission is focused on three geographically oriented panels. The Northern Panel's stocks of concern are those which originate in rivers situated between Cape Suckling in Alaska and Cape Caution in British Columbia, including the transboundary rivers. The Southern Panel's stocks of concern are those which originate in rivers located south of Cape Caution, other than Fraser River sockeye and pink salmon. The Fraser River Panel has special regulatory responsibilities for stocks of sockeye and pink salmon originating from the Fraser River.

The functions of panels are to review annual post-season reports, annual pre-season fishing plans, and ongoing and planned salmonid enhancement programs of each country and to provide recommendations to the Commission for development of annual fishery regimes in accordance with the objectives of the Treaty. These plans, once adopted by the Commission and the governments, are implemented by the management agencies in each country.

The Fraser River Panel, in addition, has been accorded special responsibility for in-season regulation of Fraser River sockeye and pink fisheries of Canada and the United States in southern British Columbia and northern Puget Sound, in an area designated as Fraser River Panel Area Waters. Scientific and technical work is conducted for the Panel by the Fishery Management Division of the Commission's Secretariat staff.

The Commission meets at least once annually and conducts its business between meetings through its permanent Secretariat located in Vancouver, British Columbia. In the period April 1, 1995 to March 31, 1996, the Commission planned to meet on four occasions:

1. Commission Executive Session
   October 10-12, 1995 - Ketchikan, Alaska

2. Post-1995 Fishing Season Meeting of the Commission
   November 27-December 1, 1995 - Vancouver, B.C.

3. Panels' Negotiating Session
   January 22-26, 1996 - Bellevue, Washington

4. Eleventh Annual Meeting of the Commission
   February 12-16, 1996 - Vancouver, B.C.

This schedule was modified extensively. First, a special executive session was held August 29, 1995 to discuss Alaska's chinook management plan. Second, in view of the Parties' agreement to enter into a mediation process on the "equity" issue in the fall of 1995, the Commission decided to cancel its fall executive session and postpone its post-season meeting. Thus, the actual meeting schedule conducted during the 1995/96 fiscal year was as follows:

1. Commission Executive Session
   August 29, 1995 - Bellevue, Washington

2. Post-Season Meeting of the Commission and Panels' Negotiating Session
   January 22-26, 1996 - Bellevue, Washington

3. Eleventh Annual Meeting of the Commission
   February 12-16, 1996 - Vancouver, B.C.

4. Commission Executive Session
   March 27-28, 1996 - Victoria, B.C.

The Commission faced the beginning of the 1995 fishing season without having any agreed fishery regimes in place. At a meeting of officials held in Bellingham, Washington, July 27, 1995, however, agreement on interim arrangements for Fraser River sockeye and pink salmon was reached for the balance of the 1995 season. In addition, the Parties agreed to conduct fisheries on southern chum and coho in a manner that reflects past Treaty arrangements (Appendix A). Chinook management, however, remained an unresolved and contentious issue.

For the purpose of continuity with past Annual Reports, the last fully negotiated Annex IV from 1991 is included here as Appendix B, and the Pacific Salmon Treaty as amended in 1995 to include the Yukon River interim agreement, is included as Appendix C.

The challenges facing the Commission in 1996 and beyond remain difficult. Prodigious efforts will have to be advanced by all concerned to ensure that the cornerstone principles of the Treaty are developed and implemented to their full potential to provide security for the future of the combined fisheries resources of the two countries, as well as improved opportunities for the many diverse groups who rely on Pacific salmon for sustenance, pleasure, and profit.

This, the Eleventh Annual Report of the Pacific Salmon Commission, provides a synopsis of the activities of the Commission and its subsidiary bodies during its eleventh fiscal year of operation, April 1, 1995 to March 31, 1996.

Activities of the Commission

PART I
ACTIVITIES OF THE COMMISSION

A. EXECUTIVE SESSION OF THE PACIFIC SALMON COMMISSION
August 29, 1995 – Bellevue, Washington

An extraordinary executive session of the Pacific Salmon Commission was held August 29, 1995 in Bellevue, Washington, to review Alaska's proposed 1995 chinook management plan, in response to a United States Federal Court decision which had closed Southeast Alaska's fishery.

The Commission reviewed extensive work conducted by the Joint Chinook Technical Committee over the preceding three weeks to analyze the potential impact of Alaska's abundance-based approach on the re-building schedule in comparison with the Commission's previously adopted catch ceiling approach. Consensus on the results of the analyses was not achieved by the Committee.

The Commission conducted a thorough discussion of Alaska's proposal. No decision was reached as the United States section was unable to table a motion on Alaska's proposal. The decision regarding continuation of the court-imposed closure of Alaska's fishery was thus left to the outcome of a further Federal Court hearing which was held August 30 and 31, 1995. Alaska's fishery was not re-opened in 1995.

B. PANELS' NEGOTIATING SESSION AND MEETING OF THE COMMISSION
January 22-26, 1996 – Bellevue, Washington

The Commission met once in executive session during the course of this meeting. Items discussed and actions taken were:

1. Administrative Items

(a) The office of Chair of the Commission was transferred to Mr. R.A. Turner of the United States.

(b) A consolidated list of Pacific Salmon Commission officers for 1996 was exchanged (Appendix D).

(c) The Commission discussed and adopted a report of the Standing Committee on Finance and Administration which included the budget for FY 1996/97 (Appendix E).

(d) The Commission established a working group to review the annual schedule of meetings and report back during the February 12-16, 1996, Annual Meeting.

2. Discussion Items

(a) Selective Fisheries:

The United States reported that legislation in Washington and Oregon now requires introduction of mass marking and selective fisheries on hatchery stocks. The goal is to introduce selective fisheries in areas not of concern to the Commission. Canada expressed continuing concern that the Commission's vitally important CWT program could be undermined by a mass marking approach. A full technical review is to be conducted through a workshop scheduled in conjunction with this meeting of the Commission.

(b) Fishing Arrangements for 1996:

Both national sections expressed desire to enter into negotiation of fishery arrangements for 1996, and in view of the fact that the mediation process had not been completed, agreed to defer negotiations to the scheduled February 1996 Annual Meeting.

(c) Chinook Conservation:

Canada presented a detailed review of the current status of British Columbia chinook stocks. Canada has identified a serious conservation concern for WCVI wild and hatchery chinook stocks that cannot be overcome without the assistance of the U.S. Canada's assessments will be provided to the CTC for bilateral examination. Discussion will be continued in the Chinook Working Group.

3. Other Business

(a) Status of Joint Interceptions Committee update assignment:

The Commission received a summary of the status of JIC's assignment to update interception estimates to incorporate figures for 1993. Based upon the status of this assignment, the Commission approved a recommendation from JIC to include estimates for 1994 in its updated report.

Note: In accordance with provisions of the Pacific Salmon Treaty, the Parties exchanged 1995 post-season fishery reports and salmonid enhancement updates. These documents were exchanged through the offices of the Secretariat by correspondence, rather than at the post-season section of this meeting.

C. ELEVENTH ANNUAL MEETING OF THE COMMISSION February 12-16, 1996 – Vancouver, B.C.

The Commission met in executive session twice during the Eleventh Annual Meeting. Items discussed and actions taken at the first session, February 13, 1996, were:

1. Administrative Items

(a) The minutes of the January 1995 meeting of the Commission were adopted.

(b) The Commission received a report from the working group on meeting schedules. The working group did not reach a consensus on adjustments to the annual

(b) The Commission received a report from the working group on meeting schedules. The working group did not reach a consensus on adjustments to the annual meeting schedule, but did propose an amended schedule for 1996/97 which was adopted by the Commission (Appendix F).

2. Chinook Conservation

The Commission reviewed the status of CTC assignments which included: finalization of the 1994 Annual Report; finalization of 1995 catch and escapement data; model calibration; and evaluation of a new in-season abundance index for Southeast Alaska fisheries. These assignments are expected to be completed during the course of this meeting.

Canada presented an oral description of a report on abundance forecasts for WCVI stocks for 1996 and 1997. The written detailed report was provided to the CTC and the CWG today.

The Commission discussed the potential impact on survival by the premature release of chinook fry into the Columbia River by the Bonneville Power Administration. The releases occurred too quickly to allow conduct of a detailed impact analysis.

3. Fisheries Arrangements for 1996

It is expected that the Panels will be empowered to proceed with negotiations on fishery regimes for 1996.

The second executive session took place February 16, 1996. Items discussed and action taken were:

1) Fisheries arrangements for 1996

Canada presented a comprehensive working paper designed to serve as a basis for further discussion. The Commission scheduled a further meeting in an effort to reach agreement on fishery arrangements for 1996, and provided specific assignments to the Chinook Technical Committee. The focus of the meeting, scheduled for March 27-29, 1996, will be an effort to resolve the chinook issue, with southern and Fraser River issues also on the agenda. It was agreed that northern issues would be dealt with at a meeting to be scheduled at a later date, but prior to the 1996 fishing season.

D. EXECUTIVE SESSION OF THE PACIFIC SALMON COMMISSION March 27-28, 1996 – Victoria, B.C.

The Commission met twice in executive session to engage in discussion of coastwide chinook concerns, Southern Panel and Fraser River issues. The CTC had been unable to complete its assignments prior to the meeting, which hampered the Commission's efforts to reach agreement on this important issue.

The meeting was adjourned without the Commission having been able to negotiate fishery regimes for 1996. Canada indicated that further discussion of fishing regimes was dependent upon obtaining a U.S. position on chinook salmon. Discussion could resume at a later date pending presentation of a written chinook proposal to Canada by the United States.

Activities of the Standing Committees

PART II
ACTIVITIES OF THE STANDING COMMITTEES

A. MEETINGS OF THE STANDING COMMITTEE ON FINANCE AND ADMINISTRATION

1. Committee Activities

(a) Meeting of November 27, 1995 - Vancouver, B.C.

The Committee met on November 27, 1995 to consider a range of financial and administrative issues. The Committee's deliberations were focused primarily on a review of the Commission's current financial status, budget proposals for FY 1996/97, and a budget forecast for FY 1997/98.

The financial review and projections prepared by staff for the current fiscal year indicates that expenditures by the end of March will be lower than budgeted. This situation will occur as a result of reduced biological field programs stemming from lower than forecast Fraser River sockeye and pink salmon runs, from cancellation of two Commission meetings, and lower than forecast costs for the Mission special hydroacoustic research program. Staff has forecast an unexpended operating balance by the end of the current fiscal year of approximately $320,400. The Committee recommends that these funds be carried over for application against program costs in FY 1996/97.

The Committee reviewed the budget proposed by staff for FY 1996/97. Application of the forecast operating balance from FY 1995/96 against program costs for FY 1996/97, coupled with the Parties' agreement to maintain regular contributions at the current level of $800,000 each, would result in an unencumbered operating balance of approximately $55,500 at the end of FY 1996/97. Addition of the special contribution of $100,000 from each Party for continuation of the Mission hydroacoustic research program, when offset by the forecast costs of that program in 1996, result in a forecast total unencumbered balance of approximately $102,000. The Committee recommends that this unencumbered balance be retained for carryover into FY 1997/98 for application against program costs in that year.

The Committee reviewed the fiscal impact of the special hydroacoustic research program which was implemented at Mission in 1995 as a result of recommendations which arose from the Fraser River Sockeye Public Review Board's examination of Fraser River sockeye management in 1994. This program involves a co-operative Department of Fisheries and Oceans/Pacific Salmon Commission effort to quantify potential biases inherent in the methodology used by staff in its regular hydroacoustic program.

Budgeting for the FY 1995/96 segment of this program was finalized in May of 1995, and projections were made for continuation in 1996/97. Staff reported to the Committee that the impact of this program on the Commission's financial situation in FY 1996/97 could create an operational deficit of over $200,000. Staff recommended that the Parties provide $100,000 each in addition to normal contributions for FY 1996/97 so that this important special research program might be continued. The Parties subsequently agreed to provide the funds requested for FY 1996/97 only.

The Committee reviewed staff projections for FY 1997/98 which include continuation of the special hydroacoustic research program for a third year. Increased program costs on the one hand, when combined with anticipated reduced revenues from test fishing on the other, result in a projected deficit for FY 1997/98 of $545,000. The Committee is not able at this time to accept

a projected deficit for FY 1997/98 of $545,000. The Committee is not able at this time to accept the staff's recommendation that regular contribution levels be increased but did recognize the serious situation likely to arise. The Committee plans to meet in Washington, D.C. in May of 1996 to review the Commission's financial picture following finalization of current fiscal year expenditures.

The Committee recommended adoption of the budget for FY 1996/97.

The Committee reviewed the schedule proposed for Commission meetings over the next two years. The Committee recognizes that given the space requirements for full Commission meetings, staff requires significant lead time in order to ensure that cost effective arrangements can be made at the approved locations. At the same time, the Committee considers that the traditional meeting schedule of past years may not continue to serve the Commission's needs in the future. The Committee noted that a contract has been signed for the 1997 Annual Meeting in Portland, and authorized staff to enter into a contract with the Four Seasons Hotel in Vancouver for a post-season meeting in 1996. The Committee also concluded that if a fall executive session is deemed desirable for 1996, it will be held in Ketchikan. Staff was instructed not to proceed on other meetings at this time. The Committee recommended that the Commission review its meeting schedule in January 1996.

The Committee discussed the Commission's current policy of penalty cost allocation between the Parties arising from unilateral meeting cancellations. The United States Section advanced two policy options for discussion, which Canada has taken under advisement and the matter will be discussed at a future meeting. The Executive Secretary received clarification that the existing policy of sharing penalty costs in proportion to delegation size would apply to cancellation of the 1995 post-season meeting, inasmuch as the decision had been jointly agreed upon.

The Commission adopted the recommendations of the Standing Committee on Finance and Administration.

2. Secretariat Staffing Activities

Dr. Yunbo Xie was hired in June 1995 to conduct the Mission hydroacoustic research program.

Ms. Valerie Craig resigned her position as test fishing biologist in September 1995 to pursue courses which will lead to a degree in physiotherapy.

Mrs. Carol Lidstone announced her intention to resign her position as head of the Scale Laboratory in the spring of 1996 due to health reasons. Mrs. Jullie Andersen was promoted to the position of Head, Scale Laboratory. Ms. Cherri McGarvie was hired as a scale reader.

A list of employees as of March 31, 1996 is presented in Appendix G.

An updated membership list for panels, standing committees, joint technical committees, and ad hoc working groups as of March 31, 1996, is presented in Appendix H.

B. MEETINGS OF THE STANDING COMMITTEE ON RESEARCH AND STATISTICS

The Standing Committee on Research and Statistics did not meet in 1995/96.

Activities of the Panels

PART III
ACTIVITIES OF THE PANELS

A. FRASER RIVER PANEL

The Fraser River Panel met to develop a fishing plan for the 1995 Fraser River sockeye and pink salmon season July 28, 1995, as catch sharing provisions were not agreed upon by the Parties until July 27, 1995. The Panel, at its July 28, 1995 meeting, designed a fishing plan which was adopted for the balance of the 1995 season. The Panel met frequently in bilateral session through the August to mid-October period in the conduct of its responsibilities for in-season management of Fraser River sockeye and pink salmon in the Fraser River Panel area.

The Panel conducted a post-season meeting and met in conjunction with Commission meetings during the 1995/96 negotiating cycle. Resolution of catch sharing provisions for 1996 was not achieved by the end of this reporting period.

B. NORTHERN PANEL

The Northern Panel met in bilateral session to review 1995 fishing results and to exchange views of fishery regimes for 1996. No negotiations occurred at the Panel level.

C. SOUTHERN PANEL

No full bilateral meetings of the Southern Panel took place during the period covered by this report. Views of the two national sections on appropriate fishery regimes for 1996 were exchanged during Commission executive sessions, but negotiated recommendations were not reached by the end of this reporting period.

Review of 1995 Fisheries and Treaty-Related Performance

PART IV
REVIEW OF 1995 FISHERIES AND TREATY-RELATED PERFORMANCE

The following review has been drawn from a number of reports prepared by Commission staff, joint technical committees, and domestic agencies for presentation to the Commission. Source documents are referenced for each part of this review. All figures are preliminary and will be updated in future reports as more complete tabulations become available.

A. FRASER RIVER SOCKEYE AND PINK SALMON

Under the Pacific Salmon Treaty, the Fraser River Panel is responsible for in-season management of fisheries that target on Fraser River sockeye and pink salmon within the Panel Area. Prior to the onset of the fishing season, the Panel recommends a fishery regime and a management plan for Panel Area fisheries to the Pacific Salmon Commission. The plan is based on abundance forecasts and escapement goals for Fraser River sockeye and pink salmon stocks provided by Canada Department of Fisheries and Oceans, international allocation goals set by the agreements between the Parties, domestic allocation goals set by each country, and management concerns for other stocks and species also identified by each country.

The Panel uses commercial and test fishing data and various analyses from Pacific Salmon Commission staff in-season to modify the fishing times in the management plan to achieve the objectives of the management plan approved by the Pacific Salmon Commission.

Achievement of the domestic allocation goals of Canada and the United States has been a major focus of in-season management and, in general, has been met successfully by the Panel. Resource conservation and international allocation goals take precedence over domestic allocation objectives, when trade-offs among these three objectives are necessary.

In 1995, international agreement on catch sharing of Fraser River sockeye and pink salmon was not reached until July 27, 1995. On July 28, 1995 the Panel met to develop a management plan for the balance of the season, and conducted its normal operations after that date.

Prior to July 27, 1995, Pacific Salmon Commission staff initiated its normal field programs designed to assess abundance, timing, and diversion rate by major stock group. The national sections of the Fraser River Panel met on a regular basis to obtain the results of Pacific Salmon Commission staff analyses, which they used to develop domestic regulations for fisheries in the Panel Area prior to July 28, 1995.

The agreement reached July 27, 1995 limited United States catches of Fraser River sockeye and pink salmon to shares of the Total Allowable Catches (TACs) following defined formulas. United States fisheries would not target on Early Stuart fish, while United States catches of early summer-run, summer-run, and late-run sockeye were to be in proportion to the TAC of these stocks. Alaskan catches of Fraser sockeye were excluded from the sharing formula but were to be included in overall accounting.

Pre-season forecasts were for a run size of 10,700,000 Fraser River sockeye salmon and a TAC of 7,300,000 sockeye. Forecasts of run size and TAC of Fraser River pink salmon were 18,000,000 and 12,000,000 fish, respectively.

Canada set pre-season net escapement goals of 2,900,000 adult Fraser sockeye and 6,000,000 pink salmon. Gross escapement goals, provided on July 27 during the in-season period and incorporating the lower observed Early Stuart abundance, were 230,000 Early Stuart, 499,000 early summer-run, 1,743,000 summer-run, and 1,461,000 late-run sockeye, for a total of 3,933,000 adult sockeye. These gross escapement goals included agreed numbers of fish, in excess of spawning and catch requirements, to ensure spawning escapement goals would be met. The gross escapement goal for Fraser pinks was the same as the net escapement goal since small Fraser River Indian fishery catches were anticipated.

Expected United States shares, based on forecast run sizes and TACs (as of July 27, 1995), were 1,393,000 Fraser sockeye and 3,080,000 Fraser pinks. A tiered plan allocated Washington fishers 20.55% of the sockeye TAC when the TAC was below 7,300,000; 1,500,000 plus, 10% of the TAC between 7,300,000-10,000,000; and 1,770,000 plus 5% of the TAC above 10,000,000, to a maximum of 1,850,000 Fraser sockeye. The allocation of Fraser pinks was 25.7% of the TAC, to a maximum of 3,600,000 fish.

The Canadian share of the forecast run (as of July 27, 1995) was 5,387,000 Fraser sockeye. The estimated Canadian share of Fraser River pink salmon was 8,880,000 fish.

The Fraser River Panel established regulations and a management plan based on forecast run sizes and migration timing; a Johnstone Strait diversion rate of 68% was used for planning purposes; the goals for catch and escapement; and conservation concerns for other species and stocks of salmon identified by the Parties. The expected peak Juan de Fuca Strait (Area 20) migration of the major sockeye stocks was mid-August: Chilko on August 13 and Adams on August 14.

To ensure that the various goals were achieved, the Panel met frequently throughout August and mid-September to enact regulations. Numerous meetings were necessary because of the complex allocation goals and because in-season estimates of run parameters deviated widely from pre-season forecasts and, in some cases, varied considerably from week to week.

The total return of Fraser River sockeye salmon was 3,860,000 fish, 6,840,000 fish less than forecast. All stock groups (Early Stuart, early Summer run, Summer run, and Late run) returned substantially below forecast. For Fraser River pink salmon, the in-season estimate of 12,500,000 fish (Table 2) was somewhat smaller than the average since 1979, (16,300,000) and 31% below the forecast 18,000,000 fish.

Catches of Fraser sockeye totalled 2,109,000 fish, 1,236,000 in commercial fisheries, 775,000 in Canadian First Nations fisheries, and 98,000 in other fisheries. Canadian commercial fishers caught 798,000 sockeye while United States fishers caught 410,000 in Washington and 28,000 in Alaska fisheries. Fraser pink catches were 5,755,000 fish. Commercial catches in Canada and the United States were 3,404,000 and 1,984,000 pinks, respectively. Included in the non-commercial catch were recreational catches of 161,000 pinks in Canada and 2,000 in Washington, Fraser River First Nation catches of 154,000 fish, and test fishing catches of 50,000 pinks.

Hydroacoustic and test fishing catch-per-unit-effort estimates of gross escapement past Mission totalled 2,803,000 sockeye. This estimate is much higher than Canada Department of Fisheries and Oceans' estimate of 2,237,000 adults. In-season estimates of all summer run sockeye stock-group abundances were substantially higher than the combined total of upriver catches and spawning escapement estimates. Late-run escapement estimates derived from test fishing catch-per-unit-effort estimates were lower than the combined total of preliminary upriver catches and spawning escapement estimates provided by the Department of Fisheries and Oceans. Spawning escapements for all stock groups fell short of Canada's stated requirements.

Because of the substantial discrepancy between Mission hydroacoustic estimates and upriver estimates of catch and escapement, amounting to approximately 560,000 sockeye, Pacific Salmon Commission staff initiated an in-depth post-season analysis of Mission hydroacoustic procedures. This analysis identified that a change made to operating procedures in 1995 that was designed to improve the precision of Mission estimates inadvertently introduced an over-estimation bias. The results of this study, which were reported to the Fraser River Panel and the Pacific Salmon Commission on April 3, 1996, concluded that of the 560,000 difference between estimates, 390,000 was attributable to the change in procedures made in the Mission hydroacoustic program.

Commission staff in 1995 also initiated, with participation by Department of Fisheries and Oceans hydroacoustic experts, a research program utilizing split-beam hydroacoustic technology designed to quantify potential biases in the Commission's standard hydroacoustic program. This research effort arose out of recommendations contained in the Fraser River Sockeye Public Review Board's report presented to the Government of Canada in the spring of 1995. Preliminary results of the first year of study indicate that no significant bias occurred for the factors studied in 1995 relating to estimates of sockeye passage. It was determined, however, that the standard Mission hydroacoustic program substantially under-estimated the passage of pink salmon in 1995. This work will be continued in 1996.

Table 1. Preliminary estimates of fishery catches and total run of Fraser River sockeye salmon during the 1995 fishing season, by country and area.

	Number of Fish	% of Run
COMMERCIAL CATCH		
CANADA		
Fraser River Panel Area		
Areas 121-124 Troll *	9,000	
Area 20 Net	63,000	
Areas 17-18 and 29 Troll	2,000	
Area 29 Net	188,000	
Total	262,000	6.8%
Non-Panel Areas		
Areas 1-10 Troll and Net	48,000	
Areas 11-16 Troll and Net	462,000	
Areas 124-127 Troll *	26,000	
Total	536,000	13.9%
CANADA TOTAL	798,000	20.7%
UNITED STATES		
Fraser River Panel Area		
Areas 4B, 5 and 6C Net	40,000	
Areas 6 and 7 Net	145,000	
Area 7A Net	225,000	
Total	410,000	10.6%
Non-Panel Areas		
Alaska Net	28,000	0.7%
UNITED STATES TOTAL	438,000	11.3%
COMMERCIAL TOTAL	1,236,000	32.0%
NON-COMMERCIAL CATCH		
CANADA		
Areas 12-13, 18, 20, 29, 123-124 Indian Fishery	32,000	
Area 12 Test Fishing	26,000	
Other Catches (Charters, etc.)	0	
Fraser River Indian Fishery **	743,000	
Recreational Fishery	12,000	
Total	813,000	21.1%
UNITED STATES		
Ceremonial and Test Fishing	0	0.0%
COMMISSION		
Areas 123-127, 20 and 29 Test Fishing	58,000	
Areas 7 and 7A Test Fishing	2,000	
Total	60,000	1.6%
NON-COMMERCIAL TOTAL	873,000	22.6%
TOTAL CATCH	2,109,000	54.6%
SPAWNING ESCAPEMENT	1,751,000	45.4%
TOTAL RUN	3,860,000	100.0%

* Troll catches in Area 124 are divided between Panel and non-Panel Areas.

** Mixed commercial and non-commercial catches in accordance with Canada's Aboriginal Fishing Strategy.

Table 2. Preliminary estimates of fishery catches and total run of Fraser River pink salmon during the 1995 fishing season, by country and area.

	Number of Fish	% of Run
COMMERCIAL CATCH		
CANADA		
Fraser River Panel Area		
Areas 121-124 Troll *	255,000	
Area 20 Net	660,000	
Areas 17-18 and 29 Troll	40,000	
Area 29 Net	39,000	
Total	994,000	8.0%
Non-Panel Areas		
Areas 1-10 Troll and Net	310,000	
Areas 11-16 Troll and Net	1,750,000	
Areas 124-127 Troll *	350,000	
Total	2,410,000	19.3%
CANADA TOTAL	3,404,000	27.2%
UNITED STATES		
Fraser River Panel Area		
Areas 4B, 5 and 6C Net	23,000	
Areas 6 and 7 Net	1,531,000	
Area 7A Net	412,000	
Washington Troll	18,000	
Total	1,984,000	15.9%
Non-Panel Areas		
California / Oregon / Washington Troll	0	
Alaska Net	0	
Total	0	0.0%
UNITED STATES TOTAL	1,984,000	15.9%
COMMERCIAL TOTAL	5,388,000	43.1%
NON-COMMERCIAL CATCH		
CANADA		
Areas 12-13, 18, 20, 29, 123-124 Indian Fishery	0	
Area 12 Test Fishing	9,000	
Other Catches (Charters, etc.)	N/A	
Fraser River Indian Fishery **	154,000	
Recreational Fishery	161,000	
Total	324,000	2.6%
UNITED STATES		
Recreational Fishing	2,000	0.0%
COMMISSION		
Areas 123-127, 20 and 29 Test Fishing	41,000	
Areas 7 and 7A Test Fishing	Nil	
Total	41,000	0.3%
NON-COMMERCIAL TOTAL	367,000	2.9%
TOTAL CATCH	5,755,000	46.0%
ESCAPEMENT (TOTAL RUN - CATCH)	6,745,000	54.0%
TOTAL RUN	12,500,000	100.0%

* Troll catches in Area 124 are divided between Panel and non-Panel Areas.

** Mixed commercial and non-commercial catches in accordance with Canada's Aboriginal Fishing Strategy.

B. PRELIMINARY 1995 POST-SEASON REPORT FOR UNITED STATES FISHERIES OF RELEVANCE TO THE PACIFIC SALMON TREATY

Northern Boundary Area Fisheries

District 104 Purse Seine Fishery

For the 1995 purse seine fishing season, no formal agreement had been reached with Canada on the conduct of the District 104 fishery. The pre-season management plan for the district was to conduct the fishery in a manner which would limit the harvest of sockeye salmon prior to Statistical Week 31 to levels similar to the 1990 to 1993 period. That would allow for a harvest of approximately 120,000 sockeye salmon. In 1995, there were four potential weeks of fishing prior to Statistical Week 31.

By State of Alaska regulation the District 104 purse seine season began in District 104 on July 2 (Statistical Week 27) with a 10-hour opening. During this opening only 1,897 sockeye and 11,638 pink salmon were harvested by 36 purse seine boats. No additional fishing took place in the district that week. On July 9 (Week 28) the district was reopened for another 10 hour fishing period. Effort had dropped to 17 boats and catches remained low with 1,682 sockeye and 941 pink salmon harvested. There was no other fishing in the district for the remainder of Week 28. On July 16 (Week 29) the district was opened for 15 hours. Twenty purse seine boats harvested 20,680 sockeye and 14,666 pink salmon. Again, due to low early season abundance of pink and sockeye salmon, the district was not reopened during that week. Through Statistical Week 29, approximately 24,260 sockeye had been harvested in the district. District 104 was opened on July 23 (Week 30) for 15 hours. Catches still remained low for sockeye salmon with 21,315 fish harvested. The pink salmon harvest increased to 76,379 fish but was still below the harvest levels observed in recent years. Effort levels had increased to 90 boats for the opening. An additional 8-hour fishing period was allowed on July 26 (Week 30) and 78 boats caught 25,800 sockeye and 74,210 pink salmon. Thus, in 1995, in District 104 pre-Statistical Week 31, approximately 71,376 sockeye and 177,834 pink salmon were harvested during the 58 total hours that the district was opened.

Beginning on July 30 (Week 31) and continuing through the final day of fishing on September 4, the District 104 fishery was managed based on the strength of pink salmon returns to southern Southeast Alaska. In Week 31, the fishery was opened for two 15-hour fishing periods. The catch of pink salmon remained relatively low, and it was thought that a poor return of pink salmon was developing. However, beginning with the 39-hour fishing period on August 6 (Week 32) and continuing through late August, pink salmon returns to southern Southeast Alaska increased dramatically. Beginning on August 6 the district, along with the rest of the purse seine fishery in southern Southeast Alaska, was managed on a 2-day-on/2-day-off fishing schedule. During Weeks 32, 33, and 34 approximately 10 million pink salmon were caught in 12 days of fishing. The peak weeks for catches occurred in Statistical Weeks 33 and 34, seven to ten days later than normal.

The total season's harvest in District 104 of 13.3 million pink salmon (Table 1) was slightly above the 1985-1994 average of 12.0 million. The total sockeye harvest of 497,000 was well below recent year's catches. The harvest of chum salmon (645,000) and coho salmon (225,000) were also above average.

The average number of hours, days, and boats fished pre-Week 31 in years 1985-1995 is down 31 to 51% compared to the 1980-1994 period (Table 2). The sockeye harvest is also down 31% despite an increase in sockeye availability in recent years; the average sockeye catch-per-boat-day has increased 70% since 1984.

Table 1. Catch and effort in the Alaska District 104 purse seine fishery by opening, 1995.

Week/ Opening	Start Date	Chinook	Sockeye	Coho	Pink	Chum	Total	Boats	Hours
27	2-Jul	0	1,897	584	11,638	8,489	22,608	36	10
28	9-Jul	0	1,682	42	941	1,174	3,839	17	10
29	16-Jul	0	20,680	589	14,666	5,635	41,570	20	15
30	23-Jul	0	21,315	4,496	76,379	19,457	121,647	90	15
30B	26-Jul	0	25,802	3,742	74,210	7,667	111,421	78	8
31	30-Jul	0	82,948	21,862	246,058	27,360	378,228	102	15
31B	2-Aug	0	63,816	25,591	539,966	33,910	663,283	122	15
32	6-Aug	0	57,227	25,914	1,014,963	86,058	1,184,162	121	39
32B	10-Aug	0	45,531	21,539	1,400,787	74,752	1,542,609	96	39
33	14-Aug	0	36,689	19,998	1,608,366	79,481	1,744,534	89	39
33B	18-Aug	0	53,384	18,496	2,057,291	75,681	2,204,852	84	39
34	22-Aug	0	40,474	27,009	3,045,838	79,798	3,193,119	105	39
34B	26-Aug	0	23,597	26,413	1,824,230	61,118	1,935,358	101	39
35B	30-Aug	0	13,462	16,338	822,721	50,092	902,613	77	39
36	3-Sep	0	8,641	11,884	517,609	33,817	571,951	49	39
Total Wks 27-30		0	71,376	9,453	177,834	42,422	301,085	241	58
Total Wks 31-36		0	425,769	215,044	13,077,829	602,067	14,320,709	946	342
Total Season		0	497,145	224,497	13,255,663	644,489	14,621,794	1,187	400

Table 2. Fishing opportunity, effort, and sockeye harvests prior to Week 31 in the District 104 purse seine fishery, 1980 to 1995.

Year	Hours Fished	Days Fished	Boats Fished	Boat Hours Fished	Boat-Days Fished	Sockeye Harvest	Sockeye Catch/ Boat-Hour	Sockeye Catch Boat-Day
1980	207	10	601	124,407	6,010	266,198	2	44
1981	132	7	400	52,800	2,800	185,188	4	66
1982	117	6	554	64,818	3,324	212,851	3	64
1983	108	6	502	54,216	3,012	168,806	3	56
1984	108	6	369	39,852	2,214	103,319	3	47
1985	84	5	247	20,748	1,235	100,590	5	81
1986	108	6	337	36,396	2,022	91,320	3	45
1987	75	5	227	17,025	1,135	72,385	4	64
1988	108	6	430	46,440	2,580	248,759	5	96
1989	84	5	291	24,444	1,455	157,034	6	108
1990	42	4	374	15,708	1,496	169,943	11	114
1991	41	4	232	9,512	928	98,583	10	106
1992	29	3	201	5,829	603	79,643	14	132
1993	45	4	370	16,650	1,480	163,189	10	110
1994	55	6	223	12,265	1,338	158,524	13	118
1995	58	5	241	13,978	1,205	71,376	5	59
Ave. 80-84	134	7	485	67,219	3,472	187,272	3	55
Ave. 85-95	67	5	288	19,909	1,407	128,304	8	94
% Change	-51%	-31%	-41%	-70%	-59%	-31%	167%	70%

Tree Point Drift Gillnet Fishery

The Tree Point drift gillnet fishery opens by regulation on the third Sunday of June. During the early stages of the fishery, management is based on the run strength of the Alaskan wild stock chum and sockeye salmon and on the strength of the Nass River sockeye salmon. Beginning in the third week of July, when pink salmon stocks begin to enter the fishery in large numbers, management emphasis shifts to that species. The District 101 Pink Salmon Management Plan sets gillnet fishing time at Tree Point in relation to the District 101 purse seine fishing time when both fleets are concurrently harvesting the same pink salmon stocks. By regulation, the District 101 purse seine fishery begins on the third Sunday of July. The U.S./Canada Pacific Salmon Treaty calls for an average annual harvest of 130,000 sockeye salmon.

In 1995, the gillnet fishery at Tree Point was opened for a 4-day fishing week on June 18 (Statistical Week 25). Catches of chum salmon during the early weeks of the fishery were well above long term averages. Sockeye catches were slightly below average although escapements of sockeye salmon into the Nass River were at or above goal levels. Effort during the early season, and in fact for the entire season, was below average. With good chum catches and good sockeye escapements, the Tree Point fishery was allowed four days of fishing during the first four weeks of the 1995 season. The Portland Canal area (Section 1-A) was opened to gillnetting for the season starting on June 25 due to the good chum catches. Adjacent Canadian waters in Portland Canal were opened at the same time.

The fishery was managed according to the Pink Salmon Management Plan from Week 29 through Week 36. In Week 29, the fishery was only opened for 48 hours due to poor harvests and escapements of pink salmon in inside waters. However, starting in Week 30 and continuing through Week 36, the pink return was quite strong and the Tree Point gillnet fishery was opened either four or five days per week. During those weeks pink salmon catches were above recent year's averages and the chum catch remained at high levels. Sockeye catches were close to average and coho catches were below average until the final four weeks of the season when they rose dramatically.

Starting in Week 37 and continuing through the close of the fishery on September 26 (Week 39), the fishery was managed on the strength of the fall chum and coho salmon returns. Both fall chum and coho came in at above average strength. The fishery was opened for three, three, and two days, respectively, in Weeks 37, 38, and 39.

The total harvest of 789,507 pink salmon was the third largest on record, the chum harvest of 633,903 chum was the largest on record, the sockeye harvest of 164,277 was the fifth largest, and the harvest of 53,674 coho salmon was the third largest on record (Table 3). The harvest of 164,277 sockeye salmon brings the annual average harvest since the signing of the Treaty to 164,352 fish (Table 4).

Table 3. Weekly catch and effort in the Alaska District 101 commercial drift gillnet fishery, 1995.

Week/ Opening	Start Date	Chinook	Sockeye	Coho	Pink	Chum	Total	Boats	Hours
25	18-Jun	378	12,030	225	175	34,215	47,023	101	96
26	25-Jun	364	22,847	930	6,573	36,970	67,684	99	96
27	2-Jul	154	10,608	837	39,473	47,558	98,630	94	96
28	9-Jul	60	20,058	323	23,507	34,896	78,844	79	96
29	16-Jul	18	12,470	226	29,544	20,675	62,933	79	48
30	23-Jul	27	28,772	605	57,017	60,448	146,869	82	96
31	30-Jul	16	20,081	660	89,890	26,852	137,499	86	96
32	6-Aug	5	15,843	1,781	158,986	30,492	207,107	90	120
33	13-Aug	0	11,112	2,090	154,984	43,518	211,704	76	120
34	20-Aug	0	6,485	3,295	75,732	38,188	123,700	68	120
35	27-Aug	0	2,838	5,975	91,183	88,722	188,718	70	120
36	3-Sep	0	544	7,960	50,098	76,287	134,889	81	96
37	10-Sep	0	139	9,821	11,945	43,994	65,899	64	72
38	17-Sep	0	198	9,753	380	39,806	50,137	73	72
39	24-Sep	0	252	9,193	20	11,282	20,747	42	48
Total		1,022	164,277	53,674	789,507	633,903	1,642,383	1,184	1,392

Table 4. Annual harvest, and average annual harvest, of sockeye salmon in the Alaska District 101 drift gillnet fishery, 1985-1995.

Year	Annual Harvest	Average Annual Harvest	Deviation from 130,000 Annex Average
1985	172,863	172,863	42,863
1986	145,657	159,260	29,260
1987	107,595	142,038	12,038
1988	116,240	135,589	5,589
1989	144,936	137,458	7,458
1990	85,690	128,830	(1,170)
1991	131,492	129,210	(790)
1992	244,649	143,640	13,640
1993	394,098	171,469	41,469
1994	100,377	164,360	34,360
1995	164,277	164,352	34,352

Pink salmon escapements were well distributed throughout southern Southeast Alaska in 1995. Index escapement goals were met or exceeded in all districts with the exception of District 107. Escapement indices totalled 9.4 million, or 3.4 million above the base line goal of 6.0 million. Although the drought conditions in the 1993 brood year had produced severe pre-spawning mortalities in several Prince of Wales Island streams, all of those streams received good escapements this year.

Escapements of summer and fall run chum salmon were generally good throughout southern Southeast Alaska, as has been the case in recent years. However, the escapement of chum to Fish Creek at the head of Portland Canal was poor. The Alaska Department of Fish and Game (ADF&G) had operated a weir on Fish Creek in years 1991 to 1995. The 1995 weir count totalled 9,742 chum salmon compared to 9,916 in 1991, 46,771 in 1992, 60,447 in 1993, and 32,322 in 1994.

Programs to estimate sockeye salmon escapements are only in place for two systems in southern Southeast Alaska, Hugh Smith and McDonald Lakes. The sockeye escapement to Hugh Smith Lake was approximately 3,415, based on weir counts and the results of a mark-recapture study. The informal escapement goal for Hugh Smith is 27,000 sockeye salmon. The escapement of sockeye salmon into McDonald Lake was estimated to be 43,899 based on expanded foot survey counts. The informal goal range is 70,000 to 85,000 salmon.

Transboundary Area Fisheries

Stikine River Area Fisheries

The 1995 harvest in the District 106 commercial gillnet fishery included 950 chinook, 207,363 sockeye, 170,605 coho, 448,296 pink, and 300,105 chum salmon (Table 5). The District 106 catch of chinook was below the 1985-1994 average, while the catches of all other species were above the average. The chum salmon catch was the highest on record, and the sockeye catch was the third highest. An estimated 16% of the coho catch was of Alaskan hatchery origin. The U.S./Canada joint Tahltan Lake enhancement project contributed an estimated 7,719 sockeye to the catch.

Table 5. Weekly salmon catch in the Alaskan District 106 commercial drift gillnet fisheries, 1995. Catches do not include Blind Slough terminal area harvests.

		Catch					Effort		
Week	Start Date	Chinook	Sockeye	Coho	Pink	Chum	Permits	Days	Permit Days
25	18-Jun	286	6,725	815	396	15,603	67	2	134
26	25-Jun	208	12,223	2,559	7,739	19,772	88	2	176
27	2-Jul	142	14,111	3,884	14,675	29,601	95	2	190
28	9-Jul	176	22,761	3,905	13,885	29,192	114	2	228
29	16-Jul	51	18,500	3,803	11,212	32,100	122	2	244
30	23-Jul	42	39,631	7,669	24,996	35,586	116	3	348
31	30-Jul	18	28,030	9,581	40,571	29,268	131	2	262
32	6-Aug	27	24,862	11,373	88,236	27,606	121	2	242
33	13-Aug	0	23,860	20,276	97,063	31,508	127	3	381
34	20-Aug	0	11,828	21,234	88,430	17,998	143	3	429
35	27-Aug	0	4,016	33,630	45,848	12,661	126	3	378
36	3-Sep	0	712	34,678	14,454	11,865	121	3	363
37	10-Sep	0	56	10,550	696	3,582	70	2	140
38	17-Sep	0	47	6,435	94	3,642	66	2	132
39	24-Sep	0	1	213	1	121	10	1	10
Total		950	207,363	170,605	448,296	300,105	1,517	34	3,657

In the District 108 fishery, 1,702 chinook, 76,855 sockeye, 17,981 coho, 38,066 pink, and 54,475 chum salmon were harvested (Table 6). Catches of all salmon species were above the 1985-1994

average with the chum catch being the highest on record and the sockeye catch being the third highest on record following 1993 and 1994. An estimated 6% of the coho catch was of Alaskan hatchery origin. The U.S./Canada joint Tahltan Lake enhancement project contributed and estimated 19,679 sockeye to the catch.

Table 6. Weekly salmon catch and effort in the Alaskan District 108 commercial drift gillnet fishery, 1995. Catches do not include Ohmer Creek terminal area harvests. The permit days are adjusted for boats which did not fish the entire opening and are less than the sum of the permits times days open.

		Catch					Effort		
Week	Start Date	Chinook	Sockeye	Coho	Pink	Chum	Permits	Days	Permit Days
24	11-Jun	73	219	6	0	50	17	1.0	17
25	18-Jun	273	6,373	351	31	945	46	4.0	83
26	25-Jun	379	23,976	348	1,897	7,356	87	5.5	212
27	2-Jul	365	19,426	895	4,562	11,194	114	5.5	168
28	9-Jul	285	12,819	329	2,890	7,168	78	5.5	177
29	16-Jul	194	6,896	732	8,423	14,629	75	4.0	135
30	23-Jul	74	4,871	508	7,770	6,794	59	4.0	114
31	30-Jul	25	871	329	4,875	1,980	13	2.0	26
32	6-Aug	34	321	670	2,623	1,800	9	2.0	18
33	13-Aug	0	344	1,394	3,169	1,143	15	3.0	45
34	20-Aug	0	309	1,264	911	463	11	3.0	33
35	27-Aug	0	368	5,079	446	396	23	3.0	69
36	3-Sep	0	59	5,507	461	476	27	3.0	81
37	10-Sep	0	1	358	8	23	12	2.0	24
38	17-Sep	0	2	211	0	58	7	2.0	14
Total		1,702	76,855	17,981	38,066	54,475	593	49.5	1,214

Harvest sharing of Stikine sockeye stocks is based on in-season abundance forecasts produced by the Stikine Management Model (SMM) (Table 7). Average stock proportions from the post-season analysis in previous years were assumed for weekly catches; the averages used each week depended upon whether the run was judged to be below average, average, or above average. Based on average stock compositions in years of large Stikine River sockeye runs, the Sumner Strait fishery (Subdistricts 106-41 & 42) harvested 19,737 Stikine sockeye salmon, 14.8% of the total sockeye harvest in that subdistrict; the Clarence Strait fishery (Subdistrict 106-30) took 3,631 Stikine fish, 4.9% of the catch in that subdistrict; and the District 108 fishery, near the mouth of the Stikine River, harvested 51,710 Stikine fish, 67.3% of the District 108 catch. An estimated 75,078 Stikine sockeye salmon were harvested in commercial gillnet fisheries from both districts, representing 20% of the total sockeye catch. Of these 75,078 Stikine sockeye salmon, 27,398 fish were estimated to be produced by the joint U.S./Canada transboundary enhancement projects.

Table 7. Weekly forecasts of run size and total allowable catch for Stikine River sockeye salmon as determined in-season by the Stikine Management Model, 1995.

	Forecasts					Cumulative	
Week	Start Date	Run Size	TAC	U.S. TAC	Canada TAC	Catch U.S.	Canada
Model Runs Generated by the U.S.							
24	11-Jun	170,816	116,816	58,408	58,408	0	0
25	18-Jun	170,816	116,816	58,408	58,408	6,059	0
26	25-Jun	170,816	116,816	58,408	58,408	12,155	3,524
27	02-Jul	170,816	116,816	58,408	58,408	20,272	4,338
28	9-Jul	241,577	187,577	93,788	93,788	49,900	18,650
29	16-Jul	265,899	211,899	105,949	105,949	63,047	33,372
30	23-Jul	252,421	198,421	99,210	99,210	69,998	42,204
31	30-Jul	232,514	178,514	89,257	89,257	73,482	47,096
32	06-Aug	226,259	172,259	86,129	86,129	74,609	48,868
33	13-Aug	214,728	160,728	80,364	80,364		

[a] U.S. forecast were as follows: the pre-season forecast was used for weeks 24, 25, 26, and 27; and the forecast based on in-river commercial fishery CPUE was used for the remainder of the sockeye season. (Canada independently generates forecasts that may use different criteria in some weeks.)

The estimated Stikine sockeye run was 193,689 fish (Table 8); the estimated spawning escapements of 26,727 Tahltan and 20,257 non-Tahltan sockeye, were within the respective escapement goal ranges.

Table 8. Preliminary run reconstruction for Stikine sockeye salmon, 1995.

	Tahltan	non-Tahltan	Total
Escapement	42,317	20,257	62,574
Brood stock	4,850		
ESSR	10,740		
Spawning	26,727	20,257	46,984
Canadian Harvest			
Indian Food	4,941	549	5,490
Upper Commercial	2,120	236	2,355
Lower Commercial	31,149	14,473	45,622
Total	38,210	15,258	53,467
% of Harvest	40.5%	44.5%	41.6%
Test Fishery Catch	2,100	470	2,570
In-river Run	82,627	35,984	118,611

Table 8. Continued.

	Tahltan	non-Tahltan	Total
U.S. Harvest			
106-41&42	17,676	2,061	19,737
106-30	2,984	647	3,631
108	35,368	16,342	51,710
Total	56,028	19,050	75,078
% of Harvest	59.5%	55.5%	58.4%
Test Fishery Catch	0	0	0
Total Run	138,655	55,034	193,689
Escapement Goal	24,000	30,000	54,000
TAC	114,655	25,034	139,689
Canada TAC	57,327	12,517	69,844
Actual Catch	38,210	15,258	53,467
% of TAC	33.3%	60.9%	38.3%
U.S. TAC	57,327	12,517	69,844
Actual Catch	56,028	19,050	75,078
% of TAC	48.9%	76.1%	53.7%

In-season run size and catch estimates showed that the U.S. catch was within the 50:50 share allocation while the preliminary post-season estimates indicate the U.S. being close to but slightly above 50%. The post-season estimates are likely to change somewhat as stock identification analyses are completed

Taku River Area Fisheries

The 1995 commercial gillnet harvest totalled 4,648 chinook, 103,377 sockeye, 83,626 coho, 41,269 pink, and 350,098 chum salmon (Table 9). The catch of summer chum salmon was an all-time record, and chinook and sockeye salmon catches were above average. The harvest of coho salmon was average, while catches of pink and fall chum salmon were below average. Enhanced stocks contributed significantly to catches of chinook, sockeye, coho, and summer chum salmon. The harvest of enhanced sockeye returning to U.S. systems totalled an estimated 2,305 fish, primarily 5- and 6-year old returns from fry releases into Sweetheart Lake. The first 5-year-old returns from the joint Taku River fry stocking projects occurred in 1995; estimated totals of 1,106 Trapper Lake and 2,934 Tatsamenie Lake enhanced sockeye were harvested in the District 111 gillnet fishery this year. An estimated 16% of the coho catch was of Alaska hatchery origin. Alaska hatchery chum salmon contributed the majority of the summer chum catch. The fall chum salmon harvest (i.e., chum salmon caught after August 15, statistical week 34) was 10,920 fish. This is 35% of the 1985-1994 average of 30,789 fish. Chum salmon that are taken in the fall in District 111 are exclusively wild chum stocks from the Taku River and Port Snettisham. The pink salmon catch of 41,269 in the District 111 gillnet fishery was just 21% of the 1985-1994 average of 198,995 fish. This was a result of the very poor returns to Taku River and Stephens Passage pink salmon systems, which were expected because of extremely poor escapements in the 1993 parent year. A total of 55% (22,800 fish) of the harvest came from Stephens Passage. Returns of DIPAC enhanced pink salmon were greatly reduced because the

last large production release of pink salmon was in 1992; contribution rates of enhanced pink salmon is unknown.

Several other fisheries in the Juneau area harvested transboundary river stocks in 1995. Preliminary estimates of harvest in the U.S. personal use fishery in the lower Taku River are 20 chinook, 1,000 sockeye, 100 coho, 50 pink, and 5 chum. The spring Juneau-area sport fishery harvested an estimated 3,988 chinook salmon. An estimated 1,920 (48%) were mature wild spawners, an additional 2,011 (50%) were of Alaskan hatchery origin (coded-wire-tag estimate). The July Hawk Inlet purse seine fishery in northern Chatham Strait was not opened this year due to very poor returns of pink salmon to the Taku River and the Stephens Passage and Lynn Canal systems.

Table 9. Weekly catch and effort in the Alaskan District 111 commercial drift gillnet fishery, 1995.

		Catch					Effort		
Week	Start Date	Chinook	Sockeye	Coho	Pink	Chum	Boats	Days Open	Boat Days
District 111 catches									
25	18-Jun	1,350	6,289	23	11	2,884	81	3.0	243
26	2-Jul	987	8,633	136	305	8,831	77	3.0	231
27	9-Jul	715	11,877	409	1,638	33,478	79	4.0	316
28	16-Jul	768	18,017	1,060	3,817	75,108	94	4.0	376
29	23-Jul	372	14,961	1,685	6,008	90,528	98	4.0	392
30	30-Jul	298	11,765	2,141	12,347	88,288	131	4.0	524
31	6-Aug	108	10,699	2,356	6,971	23,351	110	3.0	330
32	13-Aug	50	12,899	5,586	4,952	11,125	77	3.0	231
33	20-Aug	0	3,280	5,117	4,460	5,585	77	3.0	231
34	27-Aug	0	3,031	11,659	649	3,143	63	3.0	189
35	3-Sep	0	1,176	12,483	88	2,441	62	3.0	186
36	10-Sep	0	403	13,005	21	3,185	83	3.0	249
37	17-Sep	0	135	4,319	2	722	58	3.0	174
38	24-Sep	0	134	15,283	0	814	52	3.0	156
39	1-Oct	0	78	8,364	0	615	70	3.0	210
Total		4,648	103,377	83,626	41,269	350,098		49.0	4,038

Efforts to re-negotiate harvest shares of Taku River salmon during the Pacific Salmon Commission and government-to-government negotiations prior to the 1995 season were not successful. As a result, the Parties unilaterally developed fishing plans for Taku River salmon stocks. The U.S. management plan reflected the provisions that were in effect for 1993, namely to provide for Canadian harvests of 18% of the TAC of wild Taku River sockeye, 50% of the enhanced sockeye TAC, and 3,000 coho.

The total Taku River sockeye run was an estimated 231,425 fish, which was 13% above the 1984-1994 average run size of 205,479 fish. Based on the escapement goal range of 71,000 to 80,000 fish, the TAC was 151,425 to 160,425 sockeye salmon of which the U.S. harvested 53.5% to 56.7%. The estimated escapement of 112,821 sockeye salmon in 1995 was above the escapement goal range.

Taku River sockeye salmon have comprised an average of 82% of the District 111 sockeye catch from 1983 to 1994. This average was used in the preliminary run reconstruction (Table 10).

Table 10. Preliminary Taku sockeye salmon run reconstruction, 1995. Estimates do not include spawning escapements below the U.S./Canada border.

	Taku	Snettisham Stocks
Escapement	112,821	Not Available
Canadian Harvest		
Commercial	32,640	
Food Fishery	71	
Total	32,711	
% of Harvest	27.6%	
Test Fishery Catch	0	
Above Border Run	145,532	
U.S. Harvest		
District 111	84,893	16,179
Sweetheart Lake		2,305
Personal Use	1,000	
Total	85,893	
% of Harvest	72.4%	
Test Fishery Catch	0	
Total Run	231,425	
Taku Harvest Plan	Minimum	Maximum
Escapement Goal	71,000	80,000
TAC	160,425	151,425
Canadian take of TAC	20.4%	21.6%
U.S. take of TAC	53.5%	56.7%

Alsek River Area Fisheries

Although catch sharing of Alsek salmon stocks between Canada and the U.S. has not been specified, Annex IV of the Pacific Salmon Treaty does call for a co-operative attempt to rebuild depressed chinook and early-run sockeye stocks. Pre-season expectations were for an average return of early sockeye salmon, a below average return of late run sockeye and an average run of chinook salmon. These expectations were based on parent-year escapements to the Klukshu River. The Alsek River was opened to commercial fishing on the first Monday in June. This marked the second time since 1987 that the Alsek was opened on the earliest date allowed by regulations. The initial opening was limited to 12 hours in order to evaluate the effectiveness of chinook conservation measures. Fishery performance indicated that the early segment of the sockeye run was not strong and the chinook harvest was above expected levels. As the season progressed it became apparent that the late run of sockeye was strong and the fishery was managed accordingly.

The U.S. Dry Bay commercial gillnet fishery harvested 670 chinook, 33,112 sockeye, 14,184 coho, 13 pink, and 347 chum (Table 11). The sockeye harvest of 33,112 fish was 113% above the

1985-1994 average of 15,532, and was the highest catch since 1979. The catch of chinook salmon was more than double the 1985-1994 average of 308, but was slightly below the 1964-1994 average. The coho harvest was the highest since 1959 and was almost four times the 1985-1994 average of 3,641; the pink and chum catches were below average. Numbers of boats remained high into September as a result of the two week closure of the East Alsek River and generally weak returns to that system.

Table 11. Weekly catch and effort in the U.S. commercial fishery in the Alsek River, 1995.

Week	Start Date	Catch					Effort		
		Chinook	Sockeye	Coho	Pink	Chum	Boats	Days Open	Boat Days
23	4-Jun	297	918	0	0	0	28	0.5	14.0
24	11-Jun	214	2,371	0	0	0	32	2.0	64.0
25	18-Jun	73	1,092	0	0	0	28	1.0	28.0
26	25-Jun	60	4,348	0	0	0	32	3.0	96.0
27	2-Jul	7	1,511	0	0	0	31	2.0	62.0
28	9-Jul	2	691	3	0	0	22	2.0	44.0
29	16-Jul	11	9,167	1	0	0	31	3.0	93.0
30	23-Jul	4	8,329	1	0	3	32	4.0	128.0
31	30-Jul	0	1,881	8	0	3	26	2.0	52.0
32	6-Aug	0	246	5	0	1	5	1.0	5.0
33	13-Aug	1	1,491	453	7	8	29	3.0	87.0
34	20-Aug	0	689	1,792	5	11	22	3.0	66.0
35	27-Aug	0	261	4,471	0	36	12	4.0	48.0
36	3-Sep	1	70	2,491	1	57	10	4.0	40.0
37	10-Sep	0	11	1,340	0	64	6	4.0	24.0
38	17-Sep	0	26	1,831	0	96	8	4.0	32.0
39	24-Sep	0	10	1,503	0	67	9	4.0	36.0
40	1-Oct	0	0	227	0	1	[a]	4.0	[a]
41	8-Oct	0	0	58	0	0	[a]	3.0	[a]
Total		670	33,112	14,184	13	347		54	926

[a] Effort is not listed by week, but is included in the season total.

Transboundary River Joint Enhancement Activities

In 1995, fry were outplanted to Trapper, Tahltan, Tuya, and Tatsamenie Lakes over the periods June 21 to July 3, June 26 to July 3, June 21 to July 3, and July 18 to July 21, respectively. Egg survivals and numbers of fry outplanted are summarized in Table 12.

Table 12. Green egg to outplanted fry survival rates for 1994 brood year transboundary river sockeye salmon enhancement projects.

Lake	Green Eggs	Eyed Eggs	Fry Planted	Survival
Tahltan	1,418,000	1,317,000	1,143,000	80.6%
Tuya	2,765,000	2,405,000	2,267,000	82.0%
Tatsamenie	1,229,000	984,000	898,000	73.1%
Trapper	1,117,000	837,000	773,000	69.2%

Green egg to fry survivals for all outplant groups was below average, (possibly due to initiation of the chilled water at too early a development stage); no eggs were lost due to the IHN virus.

Eggs were collected from the 1995 sockeye escapements to Tahltan and Tatsamenie Lakes. A total of 6.3 million eggs was collected at Tahltan Lake, slightly above the 6.0 million egg-take goal. The Tatsamenie Lake egg-take goal of 2.5 million was met for the first time. No eggs were collected at Trapper in 1995 due to concerns over low production and egg takes have been suspended pending evaluation of adult returns.

The Snettisham Hatchery Central Incubation Facility operated very well during the last year. The hatchery staff has undergone some changes and there is a new manager. The Canadian egg-take crews reported that this was the best year ever for feedback on the quality of eggs shipped to Snettisham. The one short coming occurred with timing of fry plants. Fry releases were up to a month late for Canadian lakes due to a protracted chilled water regime. There was no IHN virus detected in any of the fish sampled at the hatchery.

Alaska Department of Fish and Game's Otolith Processing Laboratory was able to meet the objectives identified as part of the U.S./Canada agreement in enhancing sockeye production. The lab provided managers with an in-season estimate of the proportion of enhanced sockeye in 67 commercial openings over a ten week period. In 1995, 8,353 otoliths were extracted from the District 106 and 108 fisheries near the Stikine River and 3,381 otoliths were taken from the District 111 fisheries near the Taku River. On a weekly basis for each fishery, a portion of the otoliths collected were immediately processed to provide fisheries managers an estimate of stock composition. Most of the remaining otoliths were processed later to increase precision around the initial estimates. Numerous other juvenile and adult sockeye salmon samples were processed by the lab in 1995 in connection with assessment of outplant survivals in transboundary river lakes and domestic projects.

Southeast Alaska Chinook Salmon Fishery

All Gear Harvest

The preliminary estimate of the 1995 chinook salmon catch by all Southeast Alaska fisheries was 231,100 (Table 13). The base catch (total minus the add-on) was 174,500. The base catch was initially reduced 33,000 below the quota of 263,000 as part of an abundance-based management approach introduced by the Alaska Dept. of Fish and Game. The Confederated Tribes and Bands of the Yakima Nation, et al., filed suit in federal court to halt chinook fishing for the remainder to the 1995 summer season, and a temporary injunction halting chinook fishing was invoked on August 11 by United States District Judge Barbara Rothstein. The injunction was subsequently sustained on September 7, and the Chinook fishery did not reopen for the remainder of the 1995 summer season, except for a recreational exemption of 2,000 chinook salmon. The 1995 catch brought the cumulative deviation to -71,000 (below zero based on 240,000 in 1994, and 230,000 in 1995).

Table 13. Chinook all-gear catches in Southeast Alaska, 1987 to 1995, and deviation from the ceiling each year. Catches in thousands.

Year	Total Catch	Add-On Catch	Ceiling	Base Catch	Deviation Number	Deviation Percent
1987	281.9	16.7	263	265.2	2.2	0.8%
1988	278.9	23.7	263	255.2	-7.8	-3.0%
1989	291.1	26.7	263	264.4	1.4	0.5%
1990	366.9	53.7	302	313.2	11.2	3.7%
1991	357.0	61.4	273	295.6	22.6	8.3%
1992	260.0	38.3	263	221.7	-41.3	-15.7%
1993	301.9	33.7	263	268.2	5.2	2.0%
1994	261.9	30.9	263[a]	231.0	-9.0	-3.4%
1995	231.1	56.6	263[b]	174.5	-55.5	-21.1%
Cumulative	2,630.7	341.7	2,416[c]	2287.9	-71.0[d]	-27.0%

[a] Actual target was 240,000.
[b] Actual target was 230,000.
[c] Based on 263,000 for 1994 and 1995, when no PST ceiling was in effect.
[d] Calculated with 240,000 for 1994 and 230,000 for 1995.

Troll Fishery

The winter troll fishery harvested 17,900 chinook salmon from October 11, 1994 through April 14, 1995. A total of 2,100 fish were from Alaska hatcheries.

Terminal and experimental fisheries were conducted prior to the July general summer opening. The experimental fisheries are designed to increase the harvest of Alaskan hatchery-produced chinook salmon by allowing trolling in small areas of the migratory path close to the hatchery. Terminal fisheries occurred directly in front of hatcheries or at remote release sites.

There is no limit on the number of chinook salmon harvested in the terminal and experimental fisheries. However, the experimental fisheries limit the take of Treaty chinook salmon according to the percentage of Alaskan hatchery fish taken in the fishery. The catches in 1995 were: 1,300 in the terminal fishery and 21,700 in the experimental fishery. A total of 64% of the chinook salmon landed in these fisheries were from Alaska hatcheries.

The summer fishery began on July 1 and continued through July 10. According to the management plan, the target for this opening was 70% of the number of fish remaining to be harvested. A total of 75,800 chinook salmon were harvested during this opening. Beginning July 11, the areas of high chinook salmon abundance were closed for the remainder of the season. A second opening occurred on July 31 through August 5. The chinook catch during this period was 21,200 fish. A total of 8,100 Alaskan hatchery chinook salmon were harvested during the first opening and 1,300 fish during the second.

The total troll harvest was 138,000 chinook salmon.

Net Fisheries

Net fisheries have a guideline harvest of 20,000 chinook salmon plus Alaska hatchery add-on chinook. Catches of chinook salmon in the net fisheries are incidental to the harvest of other species and only constitute a small fraction (<1.0%) of the total net harvest. In 1995, the net fisheries harvested 47,700 chinook salmon of which 19,700 were from Alaska hatcheries. The catch included an unusually large harvest of 9,400 chinook caught by in-river set gillnet fishermen in the Yakutat district.

Recreational Fisheries

The recreational fishery had a harvest of 45,000 chinook salmon of which 14,000 were from Alaska hatcheries.

Coho Salmon Fisheries

Southeast Alaska Coho Salmon Fisheries

There are no specific provisions in the Annex IV chapter on coho salmon that apply to Southeast Alaska fisheries. These fisheries are managed by the Alaska Department of Fish and Game to achieve gear allocation objectives established by the Alaska Board of Fisheries and general coho salmon conservation objectives. The 1995 fisheries were managed in a manner similar to that used since 1980. No catch ceilings are used, rather fisheries are managed based on in-season assessment of run strength.

In 1995, coho salmon abundance was in the order of the 1990 and 1991 runs. Wild runs accounted for 84% of the catch. The season opened by regulation June 15. Based on assessed in-season run strength, the total wild run was projected to be greater than 1.12 million in mid-July, and no July closure occurred. The troll fishery was closed from August 12 - 22 to allow for catch allocation among inside waters user groups, and to provide adequate escapement. By mid-September, escapements to all indicator streams were projected to meet escapement goals, the troll season was extended for 10-days past the usual September 20 closing date (except for offshore and boundary areas) to harvest surplus coho salmon.

The 1995 total coho harvest of 3,118,000 fish (Table 14) was the fifth highest catch since 1960. The distribution of the harvest among commercial users was close to Alaska Board of Fisheries allocation objectives (based on the 1969-1988 average), although the troll fleet took slightly under their allocation and the set gillnet fleet slightly over their allocation.

Table 14. Coho salmon harvest in Southeast Alaska in 1995 by gear type.

Gear Type	Harvest
Troll	1,741,000
Purse Seine	618,000
Drift Gillnet	415,000
Set Gillnet	295,000
Recreational	49,000
Total	3,118,000

The biological escapement goals were met for all four wild CWT indicator stocks. In addition, surveys and estimates for other systems indicated that escapements were very strong throughout the region.

Southern U.S. Chinook and Coho Fisheries

Ocean Fisheries off Central Oregon

Ocean fisheries off Oregon's coast harvest predominately a mixture of southern chinook stocks not involved in the Pacific Salmon Commission rebuilding program; these stocks do not migrate north into Pacific Salmon Commission jurisdiction to any great extent. Some chinook stocks originating in Oregon coastal streams, including the Northern Oregon Coastal (NOC) and Mid Oregon Coast (MOC) stock aggregates, do migrate into Pacific Salmon Commission fisheries. The NOC stocks are harvested only incidentally in Oregon fisheries (probably <5% exploitation rate), while the catch contribution of MOC stocks in Oregon fisheries is thought to be much greater. Catch statistics are readily available for only one population of the MOC group in a pre-terminal troll fishery. Recreational catch of these two stock groups occurs primarily in estuary and freshwater areas as mature fish return to spawn and are reported through a "punch card" accounting system.

In 1994, the recreational chinook catch for the NOC and MOC groups was 28,400 and 8,600, respectively. The 1995 recreational fishery is currently underway and no in-season estimates of chinook catch are made. The 1995 troll catch for the MOC group in the late season pre-terminal Elk River Fishery was less than 400 chinook, compared to 371 chinook in 1994.

Columbia River

Endangered Species Act (ESA) constraints for Columbia and Snake River chinook severely limited in-river fisheries in 1995. Record low spring chinook forecasts and ESA concerns for Snake River spring chinook in 1995 prompted a closure of the Columbia River sport fishery and precluded any non-tribal commercial fishing. The only winter season commercial fishing that occurred was in the treaty Indian fishery in February and March targeting primarily steelhead and sturgeon. Less than ten spring chinook were harvested during this fishery. Tribal Ceremonial and Subsistence fisheries did occur in 1995, but at a reduced level. There have been no directed summer chinook commercial fisheries since 1964. Fall season commercial fisheries in the Columbia River consisted of a tribal fishery and an extremely limited non-tribal fishery. Non-tribal fall chinook-directed commercial fisheries were eliminated in 1995, due both to concerns for escapement of the lower river hatchery tule fall chinook stock and ESA constraints for Snake River fall chinook. The non-tribal commercial fishery consisted of two 12-hour periods in mid-October to target late coho. The late coho return in 1995 was a record low of less than 15,000 fish. The non-tribal commercial fishery harvested about 200 coho and less than 50 chinook. This is the shortest fall season on record (the recent 5-year average fall season is 23 days). The catch of 200 coho compares with the recent 5-year average fall season coho catch of 88,000. The tribal fall season catch of 44,300 fall chinook compares with the recent 5-year average of 45,600 fish.

The total 1995 mainstem Columbia River sport catch below Bonneville Dam was 3,700 chinook and 5,100 coho. There was no spring fishery in 1995. There have been no directed summer chinook recreational fisheries since 1973. Fall sport fisheries in the Columbia River were managed to reduce harvest of lower river hatchery tule chinook and limit harvest of Snake River wild fall chinook to minimum levels. The catch of 3,700 chinook consisted of 200 caught at Buoy 10 and 3,500 caught in the mainstem below Bonneville Dam. Chinook retention was not allowed until early September, which eliminated almost all chinook harvest in the Buoy 10 fishery. The coho catch of 5,100 in 1995 was the second lowest on record, the lowest being 1994, when Buoy 10 was mostly closed.

Ocean Fisheries North of Cape Falcon

The U.S. ocean fisheries operating north of Cape Falcon, OR are typically constrained by coho and chinook ceilings developed through the domestic regulatory process of the Pacific Fisheries Management Council (PFMC). In 1995, pre-season forecasts indicated that lower Columbia River hatchery chinook stocks were projected to return below egg-take goal levels, even in the absence of any 1995 fishing. In response to this situation, extensive chinook fishery closures were implemented in both pre-terminal and terminal areas to ensure the maximum return of these Columbia River stocks to hatchery facilities.

In 1995, the PFMC adopted seasons that did not allow non-tribal retention of chinook in the area north of Cape Falcon. This represents the second consecutive year that the chinook harvest was prohibited to protect depressed stocks in the non-tribal North of Falcon fishery. The ocean commercial and recreational fisheries operating in the PFMC region north of Cape Falcon were constrained by domestic quotas for coho salmon. In 1995, coho quotas were set based on concerns for Oregon coastal, Hood Canal, Queets and Skagit natural coho and Quillayute fall coho stocks. Separate quotas were established for the tribal troll and non-tribal fisheries.

The 1995 North of Falcon non-tribal troll coho catch is estimated at 25,107, slightly above the quota of 25,000 coho. This harvest represents only 54% of the average harvest seen during the previous 5-year period in which coho retention was allowed in the North of Falcon non-tribal troll fishery (1989-1993). Preliminary recreational catch is estimated at 74,994 (11,760 Oregon and 63,234 Washington) coho on a quota of 75,000. This catch represents only about 40% of the average coho catch taken in the North of Cape Falcon recreational fishery over the last 5-years in which harvests of coho were allowed (1989-1993).

The preliminary estimate of 1995 North of Falcon tribal troll chinook catch is 9,690 on a quota of 12,000. The tribal troll catch of coho is estimated at 31,300 on a quota of 30,000. These catch levels represent 38% and 40% of the average chinook and coho harvests taken during the previous five years in which these species were harvested (i.e., 1990-1994 for chinook and 1989-1993 for coho) in the North of Falcon tribal troll fishery.

Washington Coast

Ocean escapements of northern Washington coastal chinook stocks were predicted above minimum spawning levels, allowing both commercial and recreational fisheries. Although coastal fisheries are incomplete, preliminary 1995 estimates of Grays Harbor and Willapa Bay net catch total 37,400 chinook, compared to 34,200 in 1994. The 1995 commercial net fisheries in north coastal rivers have harvested an estimated 6,800 chinook, compared to 7,600 in 1994. Catches for the Humptulips and Chehalis rivers are included in the Grays Harbor marine net totals.
The preliminary estimate of the non-tribal 1995 Willapa Bay and Grays Harbor coho net fisheries harvest is 41,800 compared to a catch of 17,800 in 1994. Tribal fisheries in Grays Harbor landed an estimated 33,100 coho in 1995 compared to 9,500 coho in 1994. There is no tribal catch in Willapa Bay. Although the terminal net coho catch was substantially higher in 1995 than in 1994, 1995 catch levels are slightly lower than recent year averages.

The 1995 tribal net fisheries in Washington's north coastal rivers have harvested approximately 21,300 coho compared to 6,100 in 1994. The coastal river net harvest includes catch for the Waatch, Sooes, Quillayute, Hoh, Queets, Quinault, Moclips, and Copalis Rivers. Catch for the Humptulips and Chehalis Rivers are included in the Grays Harbor tribal coastal marine net totals.

Strait of Juan de Fuca

Net Fishery

The preliminary estimate of the 1995 incidental chinook and coho catch in the Strait of Juan de Fuca net fishery is 4,700 chinook and 13,300 coho, compared to 5,700 chinook and 13,200 coho in 1994. Through November 8, the Strait of Juan de Fuca tribal troll fishery has harvested an estimated 4,500 chinook, compared to 3,300 chinook caught in 1994. Tribal troll catch during 1993 in this area was 9,800.

Recreational Fishery

In 1995, the Area 4B state waters recreational fishery, which occurs after the PFMC fishery, was open on August 5 and 6 for all species except chinook. It also remained open for species other than chinook and coho from August 7 through September 4, but it was closed thereafter due to poor status of numerous coho stocks. No chinook were harvested in the Area 4B state waters recreational fishery over the years 1993-1995. The 1995 Area 4B coho harvest totalled 4,700. No coho were harvested in 1994 due to a complete closure of the fishery. Recreational coho harvest in this area in 1993 was 8,200.

The 1995 recreational catch estimates for Area 5 and 6 are not available at this time. However, chinook catch will likely be very low and may be similar to the 1994 catch because chinook retention was not allowed during the period May through October in both 1994 and 1995. This period encompasses the period of peak chinook harvest in this fishery. Preliminary estimates of 1994 recreational chinook catch for Areas 5 and 6 total 1,700, compared to 32,200 in 1993. The five-year-average (1989-1993) chinook harvest for Areas 5 and 6 is 42,700. A short recreational season was set for coho in Areas 5 and 6 for the period September 11 through September 27 in 1995. Recreational coho catch estimates for Areas 5 and 6 in this fishery are currently not available. Areas 5 and 6 were closed May through October in 1994, and the harvest for the remainder of the year was fewer than 50 coho. The 1995 harvest will be much lower than the 1989-1993 five-year-average coho catch of 145,055 in these two areas.

Troll Fishery

The 1995 Strait of Juan de Fuca tribal troll fishery harvested an estimated 4,500 chinook and 200 coho through November 8, compared to 2,600 chinook and 0 coho caught through November 8, 1994. Tribal troll catch from January 1 through December 31, 1994 in this area was 2,700 chinook and 0 coho. The tribal troll catch estimates from this area do not include tribal catches in Area 4B during the May 1-September 30 PFMC management period; catches during this period have been included in the North of Cape Falcon troll summary.

San Juan Islands

Net Fisheries

Preliminary 1995 estimates of the incidental chinook catch in the San Juan Islands net fisheries total 4,700, compared to 13,700 in 1994, and 14,000 in 1993. There have been no coho directed fisheries in the San Juan Islands (Areas 6, 6A, 7, and 7A) over the period 1993-1995. The preliminary estimate of tribal net fishery catches in Areas 6, 7, and 7A is 1,400 coho during 1995, and 1,800 in 1994, compared to 8,600 in 1993; no harvest occurred in Area 6A during these years. The non-tribal net fisheries are estimated to have harvested 700 coho in both 1995 and 1994, compared to 5,300 in 1993. All of the non-tribal harvest was taken in 7/7A in these years. In 1995, Area 6 accounted for fewer than 50 coho, Area 7 accounted for 1,300 (62%), and Area 7A accounted for 800 (32%) of the combined tribal and non-tribal total catch of 2,100.

Recreational

As is the case with all Washington inside recreational fishing areas, 1995 recreational catch estimates for Area 7 are not available at this time. Preliminary estimates of recreational harvest for 1994 in Area 7 total 5,800 chinook and 2,500 coho, compared to 6,900 chinook and 18,600 coho in 1993. Average recreational catches over the years 1989-1993 are 7,300 chinook and 7,800 coho.

Puget Sound

Recreational and commercial fisheries in Puget Sound were regulated by time and area closures to protect depressed spring and fall chinook and coho stocks. These restrictions or closures placed on mixed stock fisheries produced some terminal runs that contained hatchery surpluses or harvestable returns of wild fish.

Puget Sound Marine Net

Preliminary estimates of the 1995 tribal net fishery harvests in Puget Sound marine areas other than 4B, 5, 6, 6A, 7, and 7A are 32,900 chinook and 167,800 coho. This compares to a tribal harvest of 31,400 chinook and 297,100 coho in 1994. The non-tribal net fishery harvested 3,600 chinook and 18,600 coho. 1994 harvests were 10,700 chinook and 19,400 coho in this fishery. Commercial marine chinook landings in 1995 represent approximately 41% of the previous five year average (1989-93). Coho catches decreased substantially from 1994 levels in fisheries in Areas 7B (-20%), 8A and 8D (-41%), all of Area 9 (-67%), all of Area 10 (-35%), all of Area 12 (-76%), and all of Area 13 (-45%). None of the areas showed a substantial increase. The five-year-average (1989-1993) tribal catch in combined Puget Sound areas marine net fisheries is 297,300 coho, the non-tribal average is 188,400, and the average total catch is 485,700.

River Net

Preliminary harvest estimates for tribal river net fisheries in Puget Sound are 21,700 chinook and 84,400 coho in 1995, compared to 17,000 chinook and 116,900 coho in 1994, and 12,300 chinook and 19,500 coho in 1993. Coho catches decreased substantially from 1994 levels in fisheries on the Duwamish/Green, Puyallup, and Nisqually rivers. Coho harvest levels increased slightly from 1994 on the Elwha, Skagit, and Stillaguamish rivers. Five-year-average tribal river net catch for the period 1989-1993 is 20,500 chinook and 55,700 coho.

Recreational

As identified previously, Puget Sound recreational catch estimates for 1995 are not available at the present time. Preliminary estimates of 1994 recreational chinook harvest for Areas 8-13 total 40,600, compared to 41,000 in 1993. The 1994 coho catch estimate of 29,500 in Areas 8-13 is down substantially from a catch of 61,500 in 1993. The 1994 harvest represents 73% and 42% of the previous five-year-average (1989-1993) sport catch of chinook and coho, respectively, for Areas 8-13.

Chum Salmon Fisheries

Preliminary Review of 1995 Washington Chum Fisheries of Interest to the Pacific Salmon Commission

This summary report provides a preliminary review of the 1995 chum fishing season and is subject to correction and revision as additional information becomes available. Many

Washington chum fisheries are still underway, and catch and run size information provided are preliminary data reported through late November. This report addresses in detail only those fisheries of concern under the Pacific Salmon Treaty. The mixed-stock fisheries in United States (U.S.) waters that are addressed in the Chum annex of the Pacific Salmon Treaty are those in the western Strait of Juan de Fuca (Areas 4B, 5, and 6C), the San Juan Islands (Area 7) and Point Roberts (Area 7A). Other chum fisheries in Washington waters are primarily terminal fisheries which harvest runs of local origin.

Mixed Stock Fisheries

Areas 4B, 5, 6C

As in previous years, the chum fishery in Areas 4B, 5, 6C was restricted to Treaty Indian gillnet gear only. Chum fishing in these areas was delayed until the week of October 15 due to domestic coho conservation concerns. Test fisheries were conducted during the two weeks prior to the commercial fishery opening to collect GSI samples. The commercial fishery was initially opened for five days from noon on October 15 to noon on October 20. Due to very low catches, the fishery was extended, prior to closing on October 20, and remained open continuously until November 11.

Incidental chum catches in fisheries prior to October 1 totalled only 69 fish. Fall chum catches in the Strait of Juan de Fuca commercial fishery were considerably less than expected given the forecast abundance of Puget Sound and Canadian chum runs. The total commercial harvest during the fall chum management period was 20,811 chum. There were an additional 263 chum harvested in test fisheries for GSI collection, bringing the total chum catch in Areas 4B, 5, 6C, reported through November 22, to 21,143.

Areas 7 and 7A

Prior to the fall chum management period, relatively few summer chum (72 fish) were harvested incidental to fisheries targeting on other species (sockeye and pink salmon). Pre-season forecasts were for strong fall chum returns to both southern B.C. and Puget Sound. Early in-season indications of chum abundance were inconsistent and confusing. The Johnstone Strait chum run size was originally updated in-season to only 1,800,000 from a pre-season forecast of approximately 4,200,000. Test fishing results in both B.C. and Washington fisheries remained quite variable maintaining the uncertainty as to run strength.

By mid-October the Johnstone Strait run size was updated to 2,200,000 and by October 25th to 2,600,000. On October 27, Department of Fisheries and Oceans staff notified U.S. managers that the Johnstone Strait run size was updated to 3,000,000 and fisheries were scheduled for the following week in Johnstone Strait. It was anticipated that these fisheries would likely bring the catch in Johnstone Strait to a total exceeding 225,000 chum. Pursuant to the Chum annex of the PST, this allowed the U.S. a quota of 120,000 to be taken in Areas 7 and 7A, plus an hour add-on for the shortfall of approximately 6,700 from the 1993 season, for a total target of 126,700. Based on this information, the U.S. managers immediately opened fisheries in catch Areas 7 and 7A. Given the lateness of the run size update and the openings, as well as the poor catches in test and reef net fisheries in U.S. waters, very low catches were expected.

Given the low abundance forecast in the first in-season updates, the first fishery in U.S. Areas 7 and 7A was a reef net fishery designed to remain well within the 20,000 catch limit provided in the chum annex for run sizes below 3,000,000 and Johnstone Strait catches of less than 225,000 chum. Reef net fishing began on October 1 and was open continuously until October 21, with a limitation of retaining only chum salmon. The total harvest for the reef net gear in Areas 7 and 7A is reported at 1,306 chum.

Test fisheries to collect chum GSI samples were conducted in Area 7A the weeks of October 8, October 15 and October 22. However, due to poor catches only partial samples were obtained. The first Treaty Indian commercial fishery was for 36 hours beginning on October 29 and closing on October 30. The estimated chum catch from this opening is 12,546.

A non-Indian commercial fishery followed the Treaty Indian fishery, opening on November 2nd and 3rd from 6:00 a.m. to 6:00 p.m. for both gillnets and purse seines. The reported catch for this opening is 18,876 chum salmon. Another Treaty Indian opening followed immediately after the non-Indian opening for two and a half days, November 4 through November 6, with catches of only 5,098 chum.

Following this opening, the fishery was open continuously for either Treaty Indian or non-Indian fisheries or both, open simultaneously (11/13 - 11/17). Due to poor catch levels, the effort for the latter two weeks of the fishery was extremely low. The fishery closed for the season on November 17 with a total catch of only 46,104 chum, leaving approximately 80,600 of the 126,700 quota un-harvested.

Catches for each area and week are outlined in Table 15.

Table 15. Preliminary 1995 chum harvested in selected Puget Sound catch reporting areas..

Week	Areas 4B, 5, 6C Treaty Indian	Area 7 Treaty Indian	Area 7 Non-Indian	Area 7A Treaty Indian	Area 7A Non-Indian	Areas 7 and 7A Total
Prior to 10/1*	69	9	49	9	5	72
10/1-10/7	18	0	552	0	0	552
10/8-10/14	206	0	530	228	0	758
10/15-10/21	6,549	0	217	98	0	315
10/22-10/28	11,308	0	0	49	0	49
10/29-11/4	2,344	12,220	10,396	1,379	8,307	32,302
11/5-11/11	649	3,358	2,006	786	2,872	9,022
11/12-11/18	0	340	1,492	180	1,022	3,034
Season Totals	21,143	15,927	15,242	2,729	12,206	46,104

*chum harvested incidentally in fisheries for sockeye and pink salmon

Puget Sound Terminal Area Fisheries and Run Strength

Pre-season forecasts for chum returns to Puget Sound were for a fall chum run of about 1,400,000, which is an above average return. Most Puget Sound chum runs have been updated in-season at levels close to the pre-season forecasts, with the total Puget Sound return still estimated at about 1,400,000 as of the middle of November. Many Puget Sound chum fisheries are still underway and additional in-season estimates of abundance will be made in the coming weeks. At this time, it is far too early to assess spawning escapement.

Fraser River Sockeye Fisheries

1995 U.S. Fraser Panel Sockeye and Pink Fisheries Management Preliminary Post-Season Overview

The 1995 season began without a bilateral agreement on U.S. shares of Fraser River sockeye and pink salmon. A harvest sharing agreement was reached between the U.S. and Canada on July 27 and a pre-season fishing plan was developed on July 28. The Fraser River Panel assumed

regulatory control of Panel Area waters on August 2. Between late June and August 2, when the Panel was not functioning, each country unilaterally managed its respective fisheries. During this period, the two countries agreed to operate as in 1992 and 1994. The Pacific Salmon Commission staff communicated all information to both countries at the same time by telephone conference calls but did not provide fishery recommendations. Each country then communicated its fishing plans to the other country and the Pacific Salmon Commission staff by telephone.

Prior to the bilateral agreement, each country conducted limited fisheries directed at Early Stuart and Early Summer run sockeye. The U.S. announced plans to conduct a fishery directed at the Early Stuart run based on the pre-season forecast that there would be a harvestable surplus. Although in-season information indicated that the run was much smaller than forecast, there were fish estimated to be surplus to Canada's identified spawning escapement goal. On July 11, after most of the Early Stuart run had passed U.S. waters, the U.S. Treaty Indian tribes decided to open a short duration (12 hours) fishery that was predicted to harvest no more than 5,000 sockeye. The actual catch was approximately 2,000 sockeye. Also, the U.S. opened the Treaty Indian fishery in Areas 4B, 5, 6C on July 24, consistent with the plan to begin this fishery with fishing directed toward Early Summer run sockeye after the passage of Early Stuart and Lake Washington sockeye stocks.

Following the July 27 agreement between the Parties on 1995 fishery regimes, a Fraser Panel pre-season fishing plan was developed to conduct the majority of the sockeye fishing on the Summer (primarily Chilko) and Late (primarily sub-dominate Adams/Lower Shuswap) stock groupings. Pink fisheries were planned to provide adequate escapement for late sockeye runs which have overlapping run timing with pink salmon. Forecasts of sockeye run timing and diversion rate indicated that the runs might be later than normal, and that a majority of the run would migrate by way of Johntone Strait rather than the normal Strait of Juan de Fuca route. The U.S. fisheries were planned so as to distribute the sockeye harvest proportionately across the major stock groupings to the extent possible.

The Fraser River sockeye and pink runs were forecast pre-season to be 10,700,000 and 18,000,000, respectively. The sockeye TAC included agreed escapement buffers to account for possible natural, environmental and stock assessment factors that might affect the achievement of desired spawning escapement objectives. The U.S. sockeye share for Washington fisheries was 20.55% of the TAC up to the forecast level of 7,300,000 fish; 1,500,000 plus 10% of the TAC between 7,300,000 and 10,000,000; and 1,770,000 plus 5% of the TAC greater than 10,000,000, except that the share in 1995 could not exceed 1,850,000 fish. The U.S. pink share for Washington fisheries was 25.7% of the TAC, not to exceed 3,600,000. The domestic sockeye sharing arrangement provided for a 60% Treaty Indian and 40% non-Treaty split up to a total U.S. share of 1,000,000, and the maintenance of a 200,000 differential whenever the U.S. share exceeded 1,000,000. The pink sharing arrangement provided for a 50/50 split between the Treaty and non-Treaty fishers.

After the bilateral agreement on U.S. shares and a pre-season fishing plan was released on July 27, the bilateral Panel began meeting on a regular basis to conduct the normal business of in-season management. The sockeye fishery began with slow catches in late July and early August. It soon become evident that the Early Summer and Summer sockeye run sizes were significantly less than forecast, and, thus, management of all fisheries proceeded conservatively. By mid-August the extremely low Summer run size had been confirmed and indications were that the Late run would also be less than forecast. These poor returns combined with the desire of the Parties to manage conservatively to assure achievement of spawning escapement objectives caused many difficulties throughout the season. Because of the low sockeye run size across all stock groupings, the fisheries wee severely restricted throughout the season such that the total exploitation rate in all commercial fisheries was the lowest on record. The need to maintain low

harvest rates in all sockeye fisheries severely hampered the Panel's ability to fully harvest the pink salmon run.

The preliminary post-season estimate of the 1995 Fraser River sockeye run is 4,498,000 fish compared to the pre-season forecast of 10,700,000. The 1995 Fraser River pink run is currently estimated to have been 12,500,000 fish compared to the forecast of 18,000,000. All stocks in the 1995 Fraser River sockeye run experienced lower than forecast returns, which was probably due to poor marine survival. The total return was only 42% of the forecast, with the dominate four year old component of the return being particularly poor, returning at only 35% of the forecast. This low sockeye return occurred in spite of the record spawning escapement of 3,300,000 achieved on this brood cycle in 1991. The pink salmon run also returned at less than the forecast level, at 69% of the forecast. The final in-season estimates of spawning escapement were 2,341,000 sockeye and 6,565,000 pink salmon. In general, adequate escapements were achieved as a result of the severely restricted fisheries by the Fraser River Panel.

The total catch of Fraser River sockeye in 1995 by Washington fisheries was 387,000, with the Treaty Indian fishery catching 219,000 (56.6%) and the non-Treaty fishery catching 168,000 (43.4%). This is the lowest catch in Washington since 1983 when a major "El Nino" caused most of the run to bypass Washington fishing areas. An estimated additional 28,000 Fraser sockeye were caught by Alaska fisheries in District 104. The Treaty Indian sockeye catch in Areas 4B, 5, 6C was 40,000 and in Areas 6, 7, 7A the catch was 179,000. The non-Treaty catch was distributed by gear type as follows: purse seine - 101,000; gillnet - 47,000; and reef net - 15,000. An additional 5,000 sockeye were caught in an experimental non-Treaty gillnet fishery. The total catch of Fraser River pink salmon in 1995 by Washington fisheries was 1,919,000, with the Treaty Indian fishery catching 730,000 and the non-Treaty fishery catching 1,189,000. Based on preliminary estimates of TAC, the Washington catch exceeded its share by 43,000 sockeye and 401,000 pink salmon.

(Source document) *Preliminary 1995 Post-Season Report for United States Fisheries of Relevance to the Pacific Salmon Treaty.* United States Section of the Pacific Salmon Commission. December, 1995.

C. 1995 POST-SEASON REPORT FOR CANADIAN TREATY LIMIT FISHERIES

Catches reported below are based on in-season estimates (hailed statistics), on-the-grounds counts by Department of Fisheries and Oceans management staff, sales slip data (commercial troll and net), and creel surveys (sport). The preliminary 1995 commercial catches were obtained from sales slips to October 1 (Transboundary), November 2 (North/Central), October 17 (Fraser River), October 24 (WCVI), November 10 (Area 20) and in-season hails; sport catches are from creel survey data to October 31. Annex fisheries are reported in the order of the Chapters of Annex IV. Comments are provided in point form, starting with expectations and management objectives, followed by catch results by species, and where available and appropriate, escapements. The expectations, management objectives, catches and escapements are only for those stocks and fisheries covered by the Pacific Salmon Treaty (PST); domestic catch allocations have been excluded. The attached table summarizes 1985-1995 catches in Canadian fisheries that have been under limits imposed by the Pacific Salmon Treaty.

Transboundary Rivers

Stikine River

No progress was made with respect to re-negotiating harvest shares of Stikine salmon during the Pacific Salmon Commission and Government/Government negotiations prior to/during the 1995 fishing season. As a result, Canada developed a fishing plan for the Stikine River which adopted the arrangements for chinook and sockeye (which had not expired) but excluded the catch ceiling for coho salmon which had expired in 1992 (4,000 pieces). Accordingly, the objectives of the 1995 management plan were: to harvest 50% of the total allowable catch (TAC) of Stikine River sockeye salmon; to allow Canadian fishers reasonable access to coho salmon subject to conservation requirements; and, to allow chinook salmon to be taken only as an incidental catch in the directed fishery for sockeye salmon. This plan was the same as that implemented in 1994.

The Transboundary Chapter of Annex IV requires the Transboundary Rivers Technical Committee (TRTC) to prepare a pre-season forecast to guide initial fishing patterns of both countries. A meeting to discuss the general fishing plans for 1995 and to exchange the data necessary to develop the pre-season forecast was held in Whitehorse in May. Canada's expectation was for an above average run of approximately 169,000 sockeye in 1995: a record 155,000 sockeye of Tahltan Lake origin, but only 14,000 non-Tahltan sockeye. For comparison, the previous ten-year average Tahltan sockeye run size was approximately 70,800 fish and the non-Tahltan stock aggregate averaged approximately 77,500 sockeye.

A total of 53,467 sockeye was caught in the combined Canadian commercial and Aboriginal fishery; 89.7% of the catch occurred in the commercial fishery. The total catch was the largest sockeye catch on record (the previous record was 47,197 sockeye taken in 1993), exceeding the 1985-1994 average of 24,720 sockeye by 116%. An additional 10,740 sockeye salmon was taken by the Tahltan First Nation under an "Excess Salmon to Spawning Requirements Licence (ESSR)" which permitted the terminal harvest of sockeye at Tahltan Lake once it was determined the escapement goal would be achieved.

The preliminary estimate of the terminal sockeye run size[1] is 193,689 fish including 138,655 Tahltan Lake sockeye and 55,304 sockeye of the non-Tahltan stock aggregate. A Stikine run size

[1] the terminal run size excludes any allowance for U.S. interceptions that occur outside Alaska District 106 and 108 gillnet fisheries

of this magnitude is 47% above the 1985-1994 average terminal run size of 131,647 sockeye salmon. The preliminary estimate of the TAC for 1995 is 139,689 sockeye and of this, Canada was entitled to catch 69,845 sockeye (i.e. 50% of the TAC). The total Canadian harvest, excluding the ESSR catch, represents 38% of the preliminary TAC estimate. The total escapement is estimated to be approximately 51,834 sockeye, slightly below the target of 54,000 fish.

The sockeye weir count at Tahltan Lake was 42,317 fish which was approximately 28% above the previous ten-year average of 33,011 sockeye. Of the total number of fish counted at the lake, 4,850 sockeye were taken for hatchery brood stock and 10,740 were harvested under the ESSR. This left a spawning escapement of 26,727 which was 34% above the spawning escapement goal of 20,000 sockeye for Tahltan Lake.

The total coho catch for the season was 3,418 fish, 4% above the 1985-1994 average of 3,293 coho. All of the coho were taken in the lower Stikine commercial fishery. Coho escapement surveys indicated an above average return; however, preliminary analysis of test fishery catch per unit of effort (CPUE) suggested the total escapement of 16,999 coho was below average and below the interim spawning escapement goal range of 30,000 to 50,000 coho. Aerial survey counts of six coho spawning index areas totalled 3,752 fish, approximately 28% above the previous ten-year average of 2,940 coho salmon.

The total 1995 gillnet catch of chinook consisted of 1,646 adults and 860 jacks compared to 1985-1994 ten-year averages of 1,947 large chinook and 485 jacks. The adult chinook count of 3,072 fish (43% female) at the Little Tahltan weir was 45% below the 1985-94 average of 5,616 fish and was below the escapement goal 5,300 large chinook. The count of 135 jacks was 52% below the 1985-94 average of 282 jacks. Aerial surveys of most of the other Stikine chinook index spawning areas were below average.

Joint Canada/U.S. enhancement activities continued in 1995 with approximately 6.3 million sockeye eggs taken at Tahltan Lake and flown to the Port Snettisham hatchery for incubation. The egg take target was 6.0 million eggs. Approximately 1.14 million fry were out-planted into Tahltan Lake and 2.27 million fry into Tuya Lake in June and July of 1995. The fry originated from the 1994 egg-take and were mass-marked in the hatchery with a thermally-induced otolith mark.

A total of 822,284 sockeye smolts were enumerated emigrating from Tahltan Lake in 1995.

Taku River

As with Stikine River issues, no progress was made with respect to re-negotiating harvest shares of Taku River salmon prior to the 1995 season. As a result, Canada developed a fishing plan which did not numerically constrain harvests of sockeye and coho; the basic objective of the management plan for each species was to manage according to the conservation requirements, i.e. escapement goals, for each species. This was similar to the plan implemented in 1994. As in the Stikine River, and in agreement with Annex IV, Canada did not target on chinook salmon in the Taku River; both Parties had previously agreed to rebuild chinook by 1995.

The Canadian pre-season forecast was for an average return of approximately 211,300 sockeye, close to the previous ten-year average run size of approximately 212,100 sockeye.

In-season projections of the total run size, TAC and total escapement were made frequently throughout the season based on the joint Canada/U.S. mark-recapture program, the estimated interception of Taku sockeye in the U.S. fisheries, the catch in the Canadian in-river fishery, and historical run timing information. The final in-season forecast was a total run of 248,800

sockeye, 17% above the previous 10-year average of 212,100 sockeye. The preliminary post season estimate of the terminal run size[2] is 231,425 sockeye with a TAC of 151,425 to 160,425 sockeye.

The 1995 Canadian sockeye catch was approximately 32,711 fish, 32,640 of which were caught in the commercial fishery. The commercial catch was 55% above the 1985-1994 average of 21,071 sockeye. Preliminary analysis indicates that the total Canadian sockeye catch in 1995 represented about 21% of the TAC.

The estimated total escapement of 112,821 sockeye, derived from the Canada/U.S.-mark-recapture program, was well above the interim escapement goal of 71,000 to 80,000 fish. Based on weir counts, escapement estimates at Little Trapper and Little Tatsamenie lakes were 11,524 and 8,000 sockeye, respectively. Both estimates were above the respective principal brood year escapements in 1990. The sockeye weir count at Kuthai Lake was an above average 3,310 fish; this program was conducted by the Taku River Tlingits as one of their Aboriginal Fisheries Strategy projects.

The commercial coho catch of 13,629 fish was the second highest recorded and was 3.1 times the 1985-1994 average catch of 4,341 coho salmon; however, the average has been depressed by Treaty imposed limits during most years in the 1985-1994 period. Preliminary mark-recapture data indicated a spawning escapement of 55,623 fish in 1995; this estimate exceeds the interim escapement goal of 27,500 to 35,000 coho.

The commercial catch of large chinook, 1,577 fish, was roughly 1.7 times the 1985-1994 average of 974 fish; the catch of 298 chinook jacks was 83% above the average of 163 jack chinook. Chinook aerial escapement counts were above average in one half of the six Taku chinook index streams. However, the combined index count of 8,757 chinook was 8% below the previous ten-year average of 9,515 fish. The chinook index escapement goal is 13,200 fish.

Joint Canada/U.S. enhancement activities continued in 1995 with 2.5 million sockeye eggs taken from the Tatsamenie stock. The eggs were flown to the Port Snettisham hatchery in Alaska for incubation. Approximately 0.898 million sockeye fry were out-planted into Tatsamenie Lake, and 0.773 million fry into Trapper Lake, in June/July of 1995 from the 1994 egg-takes. The fry were mass-marked with a thermally-induced otolith mark. Egg-takes from Little Trapper Lake were suspended in 1995 because juvenile production from the fry plants into Trapper Lake appears to have been well below expectations.

Alsek River

Although catch sharing between Canada and the U.S. has not been specified for Alsek River salmon stocks, both countries have agreed to attempt to rebuild depressed chinook and early sockeye stocks.

Canada does not yet commercially fish in the Alsek drainage, but does conduct important Aboriginal and sport fisheries. In keeping with Annex provisions, Canadian catches of Alsek chinook and early sockeye continued to be restricted.

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[2] terminal run size estimate excludes U.S. interceptions that occur outside of the District 111 gillnet fishery

The Aboriginal fishery harvested an estimated 340 chinook, 1,510 sockeye and 65 coho salmon. The Aboriginal catch of chinook was approximately 72% above the 1985-1994 average of 198 fish. The sockeye catch was 21% below the 1985-1994 average of 1,901 sockeye. The 1985-94 average coho catch is six fish.

The recreational fishery harvested an estimated 196 chinook, 278 sockeye and 235 coho salmon. Compared to 1985-1994 average sport catches, the chinook catch was 28% below average, the sockeye catch was 16% below average, and the coho catch was 96% above respective averages.

At the Klukshu River, an Alsek River tributary, total weir counts included: 5,678 chinook, the highest on record and 136% above the 1985-1994 average of 2,408 fish; 20,696 sockeye consisting of 2,289 early run sockeye which was 27% below the 1985-1994 average of 3,140 fish, and 18,407 late run sockeye, 21% above the 1985-1994 average of 15,196 sockeye; and 3,614 coho, 105% above the 1985-1994 average of 1,764 fish. The estimated Village Creek sockeye escapement was 4,041, 19% below the 1985-1994 average of 5,018 fish. Aerial surveys were conducted one week later than normal. The surveys indicated a below average chinook escapement in other Alsek drainage tributaries in Canada.

Northern British Columbia Pink Salmon

Areas 3-1 to 3-4 and 5-11 Pink Catch by Nets

An average return was anticipated for Canadian northern boundary stocks. The actual return was much larger than forecast, producing an Area 3 to 5 pink catch of 4.6 million.

The Canadian pink catch in 1995, based on in-season hailed data, was 2,493,982 in sub-areas 3(1-4); the 1985-95 average catch is 1,885,765. The percentage of the 1995 Area 3 net catch taken in subareas (1-4) was 84 %, which is above both the 1985-95 average of 64% and the pre-Treaty average of 74%.

Pink escapements to rivers and streams in Area 3 were at or near target levels for all streams inspected. Area 4 pink escapements are well above the minimum escapement target of one million pinks.

Area 1 Pink Catch by Troll

Based on in-season estimates, the Canadian troll catch in the A-B line strip in 1995 was 500,000.

The Area 1 troll fishery for pink salmon was closed on September 10. Based on sales slip data to November 2, the Area 1 pink troll catch was 1,348,915.

Chinook Salmon

North and Central Coasts (Areas 1 to 10, 101 to 111, 30-3, and 142 for Net and Sport; Troll includes above Areas plus 11 and 111)

Chinook fisheries were conservatively managed again in 1995 in anticipation of reduced chinook stock abundance over 1994 levels and conservation concerns for WCVI chinook stocks.

The 1995 troll catch was 61,158 based on sales slips to November 2, 1995. This troll catch plus the net estimate of 22,818 from saleslip data and the preliminary sport catch estimate of 29,355 gives a total North/Central coast catch of 113,331. Terminal net catches of 2,720 chinook have been included in this total. The north coast total is 53% below the total catch of 241,000 in 1994.

The troll fishery was open to chinook from July 1 to July 15, July 27 to August 4 and August 20 to August 31, when it was closed to chinook retention for the season. There was a total of 36 days of chinook non-retention (July 16 to July 26, August 5 to August 19 and September 1 to September 10).

Based on preliminary information, chinook escapements in all but a few systems in the North and Central coasts were well below average for recent years.

West Coast Vancouver Island Troll (Areas 21 to 27, 121 to 127 and 130-1)

There was no Pacific Salmon Treaty ceiling for chinook in 1995, however Canada's principle management objective was to address WCVI stock concerns by implementing time and area closures.

The troll fishery opened coastwide on July 1 with Conservation Area S (Swiftsure), G, H and F1, closed.

Retention of chinook salmon was permitted above Estevan Pt. from July 1-16 and below Estevan Pt. from July 1 to July 27.

The preliminary estimate of the 1995 WCVI troll catch is 77,700 chinook based on sales slips to October 24, 1995. This is 47% below the 1994 WCVI troll catch of 146,000.

Strait of Georgia Troll and Sport (Areas 13 to 19, 20-5 to 20-7, 28 and 29)

In response to conservation concerns for the Lower Georgia Strait (LGS) chinook stocks, Canada continued a series of area and gear-specific management actions to reduce the LGS harvest rate by 20 percent. Therefore the Canadian management objectives in the Strait of Georgia for 1995 were to manage sport and troll fisheries for catches below the Treaty ceiling.

The objective for the troll fishery was to manage for a complete closure for chinook (non-retention/non- possession).

In the sport fishery, the chinook management plan implemented in 1989 in Georgia and Johnstone Straits, was continued in 1995. This plan included an annual bag limit of 15, a daily bag limit of two and a size limit of 62 cm for Johnstone Strait and the Strait of Georgia north of Cadboro Point. For the Canadian portion of Juan de Fuca Strait (Sheringham Point to Cadboro Point), the size limit was 45 cm and the annual bag was 20.

The 1995 sport catch for the Strait of Georgia to the end of October was 61,469 based on creel survey results. Sport effort in 1995 was 31% below the 1994 level.

Fraser River Sockeye and Pink Salmon

Canada established pre-season forecasts of 10,673,000 sockeye and 18,000,000 pink salmon and set spawning escapement targets of 2,820,000 sockeye and 6,000,000 pink salmon. The commercial TAC for Canadian and U.S. fisheries combined was expected to total approximately 6,000,000 sockeye and 11,800,000 pink salmon.

A risk averse management plan was established following recommendations made by the Fraser River Sockeye Public Review Board. The Area 2W seine fishery at Rennel Sound remained closed; the outside troll season was based on two openings separated by an interim closure; the seine fishing area in Johnstone Strait was reduced in length; the Johnstone Strait gillnet weekly

openings were shortened in duration; and the gross escapement to the Fraser River included anticipated Aboriginal catch and escapement buffers.

The Fraser River Panel managed Panel Area fisheries in 1995 under the terms of an Annex IV, Chapter 4 agreement reached on July 27, 1995 between Canada and the United States. The agreement was for 1995 only, without prejudice for future years, and took effect on August 2.

The agreement limited the U.S. share of the TAC of Fraser River sockeye and pink salmon to defined formulas at specified TAC levels up to caps set at 1.85 million for sockeye and 3.6 million for pinks. Alaskan interceptions of Fraser River sockeye were excluded from this allocation but were taken into account in the U.S. catch.

The U.S. TAC share was 1,300,000 (20.55% of the TAC) and the Canadian commercial share was 3,900,000 at a sockeye return of 9,700,000. Included in this total was the escapement target of 2,700,000, a risk averse escapement adjustment of 144,000, and non-commercial catch allocations and test fisheries of 1,300,000. For pink salmon, the U.S. share was 3,084,000 (25.7% of the TAC) and the Canadian share was 8,916,000.

The first TAC calculations for the season under the agreement were provided to the Panel on August 4. By then, the TAC was calculated on the basis of reduced in-season run sizes and escapement targets for the Early Stuart and Early Summer runs, and pre-season forecasts and escapement targets for the Summer and Late runs.

In response to significantly reduced estimates of returns of 3.3 million sockeye made by the Pacific Salmon Commission staff in-season, the Minister of Fisheries and Oceans announced on August 10 a closure of commercial, sport and aboriginal fisheries. Fisheries were later re-opened as returns increased, under a fishing plan that provided an equitable sharing of catch in Area 29 between Aboriginal groups involved in pilot sales and the commercial and recreational sectors.

Based on preliminary estimates, the sockeye return was 4.7 million, which was 56% below forecast and the pink return was 12.5 million, 31% below forecast.

The commercial sockeye catch was 1,318,000, of which 903,000 (68.5%) were caught in Canada and 415,000 (31.5%) were caught in the U.S. (including 28,000 caught in Alaska). The non-commercial sockeye catch was 839,000.

The commercial pink catch was 5,696,000, of which 3,777,000 (66.3%) were caught in Canada and 1,919,000 (33.7%) were caught in the U.S. The non-commercial pink catch was 239,000.

Fraser River spawning escapement estimates are currently incomplete and under review.

Coho Salmon

Area 20 Net Catch

There were no targeted coho fisheries in Area 20 in 1995. Due to conservation concerns, coho, chinook and steelhead catches were monitored and controlled during the 1995 sockeye and pink salmon fishery. Monitoring of purse seine catches of coho, chinook and steelhead was conducted by the use of two teams of observers being transported to the fishing vessels by inflatable boats. The Area 20 net fishing plan for purse seines called for mandatory release of chinook and steelhead salmon and a harvest rate reduction for coho salmon.

Based on sales slip information to November 10, 1995, incidental catches during three weeks of Fraser River sockeye and pink fishing in August and September totalled 27,585 coho, 621

chinook and 1,623 chum salmon. There was a total of five seine fishing days and no gillnet fishing days in 1995. The last day of purse seining on September 6 was closed prior to the scheduled closing time due to low catch rates for the target species, pink salmon, and conservation concerns for domestic coho. The low number of days fishing in Area 20 was due to the high diversion of Fraser River sockeye through Johnstone Strait and the lower than expected abundance of both Fraser River sockeye and pink salmon.

West Coast Vancouver Island Troll (Areas 21 to 27, 121 to 127 and 130-1)

Salmon management plans for 1995 included provisions by Canada for coho conservation in a number of fisheries. Canada's goal was to achieve an exploitation rate of less than 65% on Strait of Georgia coho stocks. Various sampling data indicated that Strait of Georgia coho were largely resident outside the Strait in 1995. Canada managed for a WCVI catch ceiling of 1.2 million coho in 1995.

The troll fishery opened coastwide on July 1 with Conservation Area S (Swiftsure), G, H and F1 closed. Conservation areas H and F1 opened for 4 days July 18 to 21 to provide some opportunity for coho harvest.

Trolling for coho continued until 2359 hours September 4 when all WCVI troll Areas closed for the season.

The preliminary estimate of the 1995 WCVI troll catch is 1,303,800 coho based on sales slips to October 24, 1995.

Southern British Columbia Chum Salmon

Inside Net (Areas 11 to 19, 28 and 29)

Johnstone Strait

Pre-season expectations indicated a total inside run size of 4.2 million chum salmon, including 100,000 destined for Puget Sound streams. This run size would allow for a 30% harvest rate under the Canadian clockwork management plan.

There were two directed commercial chum fisheries in Johnstone Strait in 1995. The first occurred on September 25 - 26 (seines and gillnets 24 hours). The catch for this assessment fishery was 64,600. The assessment fishery catch combined with earlier test fishing results, indicated a run size of 1.8 million, which would allow for a harvest rate of up to 10% under the clockwork management plan. Test fishing continued to be poor through to October 8. A reassessment of run size was done October 8 and the run size was increased to 2.2 million. Test fishing generally improved after October 8 and the chum run size was reassessed again on October 27. Using test fishing information and the September assessment fishery the chum run size was determined to be 3.0 million. This allowed for a second commercial opening to be held October 31 to November 2 (seines 8 hours, gillnets 42 hours) which harvested a further 109,500 chum salmon. Test fishing continued following the second commercial fishery and low abundances of chum salmon were observed.

Under the clockwork management plan the allowable harvest rate in 1995 was 20% with a commercial Johnstone Strait TAC of 454,000 compared to the pre-season TAC of 1.05 million at a run size of 4.2 million. As of November 10 the Johnstone Strait commercial clockwork catch totalled 260,000 (including a troll catch of 48,500). In addition, it was anticipated that a further 40,000 would be taken by Indian Food Fisheries and test fisheries in Areas 12 -13. As a result of

catches exceeding 225,000 in Johnstone Strait, the U.S. commenced fishing November 5 with a total ceiling of 120,000.

Post season run size assessment will be completed once escapement enumeration is finished. Escapement counts are lower than expected for this time of year.

Strait of Georgia

To date there have been no terminal chum fisheries at Jervis Inlet, Nanaimo, or Cowichan due to low escapement counts and poor test fishing results. The only terminal fishery to date was a one day gillnet fishery in Area 14 for a catch of 21,000. Recent assessment in the Qualicum area indicates low abundance of chum salmon at this time. Escapement estimates to date for the Big and Little Qualicum and Puntledge Rivers total 30-35,000 with a target escapement of 290,000 for the three systems. Assessments are continuing in these areas.

Fraser River

The Fraser River test fishery began on September 1 and will continue until mid-December. Fraser River chum are assessed based on two timing components, early run which is prior to November 12 and late run which is after November 12. Early run size, based on test fishing, is estimated at 510,000 chum. The minimum escapement goal for early run chum is 365,000. At this run size, according to the Fraser River Chum Management Plan, one commercial fishery was permitted on October 31. The total catch in this fishery is estimated to be 30,000.

Late run assessments continue with poor test catches to date. Late run strength is not expected to exceed 200,000. Based on a minimum escapement goal of 335,000, no further commercial fisheries are anticipated. Test fishing will continue until mid-December.

The native fishery in the lower Fraser River was allocated 39,000 chum. The total catch to date is 37,000 chum, primarily of early run fish. No further fisheries are planned for 1995.

West Coast Vancouver Island Net (Areas 21 and 22)

Chum salmon returning to Area 22 (Nitinat Lake) are caught in Area 21, parts of Area 121 and potentially also in Area 20-1. In 1995, pre-season forecasts were for a harvestable surplus of between 400,000 and 1,100,000. The wide range reflected uncertainty in survival rates for chum salmon from the 1991 brood year, which went to sea in the spring of 1992 (an El Nino year). The escapement objective to Nitinat Lake is 250,000 to a maximum of 350,000. The additional 100,000 above the 250,000 target are required for hatchery broodstock requirements, improved distribution of spawners in Nitinat River, and payment to a gillnetter in the lake for test fishing and broodstock collection.

The fishing plan is based on providing early opportunities for a gillnet followed by a seine fishery to balance allocation and then a seine/gillnet fishery at the peak of the run. Early season opportunities are constrained by concerns about by-catch of Thompson River steelhead. Subsequent fisheries are dependent on reaching weekly escapement milestone levels into Nitinat Lake.

The 1995 season commenced October 2, with a 4 day gillnet fishery (Oct. 2-5). Gillnets reopened October 9 for 3 days (Oct. 9-11). Gillnets reopened October 16 for 4 days (Oct. 16-19). A final one day gillnet fishery was held October 23. There were no seine fisheries in 1995, except for test fisheries.

All 1995 fisheries were limited to waters inside a line two nautical miles true south of Pachena Point to two nautical miles true south of Bonilla Point.

Gillnets fished 12 days for a total of 144,000 chum salmon (in-season estimate of catch). The fishery was curtailed due to insufficient weekly escapement into Nitinat Lake. Escapement into Nitinat Lake was difficult to assess in 1995 due to high water levels, but likely will be no higher than 200,000, once estimates have been finalized. The hatchery collected approximately 28 million chum eggs; 7,000,000 eggs short of their target of 35,000,000 eggs.

Preliminary 1995 Catches in Canadian Treaty Limit Fisheries and 1985-94 Catches for Comparison. Prepared for the Nov 29, 1995 meeting of the Canadian National Section of the Pacific Salmon Commission

Fisheries/Stocks	Species	1995	1994**	1993	1992	1991	1990	1989	1988	1987	1986	1985
Stikine River (all gears)	Sockeye	53,467	45,095	47,197	26,284	22,763	18,024	20,032	15,291	9,615	17,434	25,464
	Coho	3,418	3,381	2,616	1,855	2,648	4,037	6,098	2,117	5,731	2,280	2,175
	Chinook-lge	1,646	1,790	1,803	1,840	1,511	2,250	2,669	2,360	2,201	1,936	1,111
	Chinook-jak	860	350	308	239	660	959	289	444	444	975	185
	Pink	48	90	29	122	394	496	825	418	646	107	2,356
	Chum	263	173	395	231	208	499	674	733	459	307	536
	Steelhead	270	84	67	132	71	199	127	261	219	194	240
Taku River (commercial gillnet)	Sockeye	32,640	28,762	33,217	29,472	25,067	21,100	18,545	12,014	13,554	14,739	14,244
	Coho	13,629	14,531	3,033	4,077	3,415	3,207	2,876	3,123	5,599	1,783	1,770
	Chinook-lge	1,577	2,065	1,619	1,445	1,177	1,258	895	555	127	275	326
	Chinook-jak	298	235	171	147	432	128	139	186	106	77	24
	Pink	2	168	16	0	296	378	695	1,030	6,250	58	3,373
	Chum	1	18	15	7	2	12	42	733	2,270	110	136
	Steelhead	205	232	11	15	5	22	24	86	223	48	32
Areas 3 (1-4) and 5-11 ++ (commercial net)	Pink	2,494,000	250,000	1,242,000	1,099,000	6,961,000	831,000	2,259,000	425,000	1,851,000	1,983,000	1,277,000
Area 1 (commercial troll)	Pink	1,349,000	221,000	890,000	760,000	1,647,000	1,165,000	1,377,000	1,630,000	495,000	416,000	6,870,000
North/Central Coast* (commercial/sport)	Chinook	113,331	241,000	258,300	262,000	303,200	253,000	301,200	245,600	282,800	261,000	275,000
West Coast Vancouver Island Area 12 (com. troll)	Chinook	77,700	146,000	275,000	345,500	202,900	298,000	203,700	408,700	379,000	342,000	358,000
	Chinook	0	2,200	4,200	2,600	1,000	2,000	2,000	2,000	2,000	4,000	4,000
Georgia Strait (sport)	Chinook	61,469	70,800	118,800	116,600	112,700	112,000	133,000	119,000	121,000	182,000	235,000
(troll)	Chinook	0	13,000	33,300	37,300	32,000	34,000	29,000	20,000	39,000	44,000	56,000
	Total	61,469	83,800	152,100	153,900	144,700	146,000	162,000	139,000	160,000	226,000	291,000
Fraser River stocks (total Canadian catch)	Sockeye	903,000	9,800,000	13,428,000	3,906,000	6,947,000	13,411,000	12,776,000	1,615,000	3,776,000	9,372,000	8,754,000
	Pink	3,777,000	-	3,731,000	-	6,405,000	-	7,181,000	-	2,579,000	-	8,725,000
Fraser River stocks (total U.S. catch)	Sockeye	415,000	2,100,000	2,876,000	700,000	1,881,000	2,427,000	2,439,000	679,000	1,932,000	2,755,000	2,925,000
	Pink	1,919,000	-	1,725,000	-	2,789,000	-	2,260,000	-	1,339,000	-	3,834,000
West Coast Vancouver Island (commercial troll)	Coho	1,304,000	1,251,000	954,000	1,664,000	1,890,000	1,864,000	1,953,000	1,596,000	1,821,000	2,157,000	1,389,000
Johnstone Strait clockwork catch#	Chum	269,000	1,295,572	1,271,707	1,368,283	174,269	1,183,901	481,803	1,111,559	90,668	1,060,903	529,100

+ 1995 catches are based on in-season hails, sales slips data to Oct 1 (Transboundary), November 2 (North/Central), October 17 (Fraser River), October 24 (WCVI), November 10 (Area 20) ; and creel survey sport catch estimates to October 31.

** 1994 catches are preliminary.

++ Area 5-11 catches excluded in 1995.

* North Coast catch includes terminal catches of 2,720 in 1995, and for remaining years excludes terminal catches of 6,400 in 1994, 7,400 in 1993, 6,100 in 1992, 6,000 in 1991, 5,500 in 1990 and 4,800 in 1989.

Canadian clockwork catch includes commercial, IFF and test fish catches in Areas 11-13 and 29 for 1985-87 and in Areas 11-13 for 1988-92, 93, 94 and in Areas 12-13 for 1995.

West Coast Vancouver Island Troll (Areas 21 to 27, 121 to 127 and 130-1)

The 1995 troll catch of chum is 30,300 based on sales slips to October 24, 1995. The catch was taken predominantly in the northwest region of WCVI.

G.S.I. Sample Collection

There was no electrophoretic sampling for stock composition in 1995.

(Source Document) *1995 Post-Season Report for Canadian Treaty Limit Fisheries.* Canada Department of Fisheries and Oceans. December 6, 1995.

D. 1995 UPDATE REPORTS FOR SALMONID ENHANCEMENT PROGRAMS IN CANADA AND THE UNITED STATES

The Pacific Salmon Treaty between Canada and the United States requires that information be exchanged annually regarding operatings of and plans for existing enhancement projects, plans for new projects, and views concerning the other country's enhancement projects. In 1988, a committee was formed to develop recommendations for the pre- and post-season and enhancement report formats. In summary, the committee proposed that:

- detailed reports on existing enhancement facilities of the type produced in 1987 be prepared every four years;

- the Parties will annually update information on eggs taken, fry or smolt released and adults back to the facility; significant changes in facility mission or production will be highlighted in narratives; and

- the Parties will provide periodic reports through the appropriate panels on new enhancement plans.

1. 1995 Annual Report on the Salmonid Enhancement Activities of the United States

The Pacific Salmon Treaty provides that, "2. Each year each Party shall provide to the other Party and to the Commission information pertaining, inter alia, to: (a) operations of and plans for existing projects; (b) plans for new projects;..." (Article V). The United States provided a report dated January 31, 1990 to Canada that combined under one cover all pertinent biological data for United States enhancement projects with a detailed account of plans for new projects. The 1995 Annual Report, the sixth in the series, incorporates updated information, including projections for releases from the 1993 brood year, as well as preliminary data on numbers of adults returning to hatcheries, and the number of eggs taken during 1994. Final information and projections current through the end of the 1994 calendar year are contained in this report.

Southeast Alaska

New Production

In 1994, the following hatcheries either added additional incubation or rearing capacity by increasing their physical plants, increasing their water flow, or otherwise altering their permitted capacities:

Beaver Falls
Deer Mountain
Klawock
Gastineau
Gunnuk Creek
Port Armstrong

Loss of Production

There were no significant losses of production.

Trends in Production

Most private non-profit hatcheries are still in the process of brood stock development and, consequently, have not reached their capacities. Potential eggtakes, releases and returns should increase over the next few years until the hatcheries reach their physical and legally permitted capacities.

Washington Department of Fisheries

Production Changes

During the 91-93 biennium, production decreases at state funded facilities were implemented in response to budgetary shortfalls.

For the 93-95 biennium, production changes have been proposed in response to budgetary shortfalls and are to be implemented unless alternate funding or operating entity can be arranged.

Trends in Production

Trends in production are depicted in Table 1.

Table 1. Thousands of pounds of salmon released by the Washington Department of Fisheries, 1983-1994.

Release Year	Fall Chinook	Spring Chinook	Coho	Chum	Pink	Annual Total
1983	1,532	466	2,121	119	0	4,238
1984	1,514	697	2,414	92	1	4,718
1985	1,609	605	2,373	131	0	4,718
1986	2,014	583	2,576	119	3	5,295
1987	1,856	495	2,695	115	0	5,161
1988	1,843	707	2,605	99	7	5,261
1989	1,958	613	2,619	102	0	5,292
1990	1,910	874	2,439	93	3	5,319
1991	1,686	1,179	2,234	71	0	5,170
1992	1,753	1,052	2,549	82	5	5,441
1993	1,699	1,061	2,253	89	0	5,102
1994	2,058	1,366	2,661	113	7	6,205

Treaty Tribes of Western Washington

New Facilities and Production

The Muckleshoot and Suquamish Tribes are now operating the Elliot Bay marine net pen facility near Seattle. This facility was used to produce 183,000 yearling coho in 1994 and has a future annual production goal of 950,000 yearling coho.

The Muckleshoot Tribe also assumed operation of the Crisp Creek Rearing Pond in 1994. The facility provides coho for the Elliot Bay facility and has an additional annual production of approximately 350,000 yearling coho. The facility was previously operated by the Washington Department of Fisheries, so this does not represent new production for the region.

The Quinault Indian Nation has expanded its Salmon River Acclimation Pond facility on the Queets system. The new Salmon River Fish Culture Facility began operation in the spring of 1994 and includes incubation and full-term rearing of all current Queets production programs. This consolidation of production does not represent a net increase in production for the region.

Loss of Production

No significant losses of production occurred for tribal facilities in 1994.

Overall Production Trends

Trends in tribal fish production are listed in Table 2. Beginning in 1985, annual releases increased substantially. From 1982 to 1984, total annual releases averaged approximately 33,000,000 fish. From 1985 to 1994, total annual releases increased to an average of approximately 45,000,000 fish. Moderate increases in fall chinook, and yearling coho production are planned for future years. Production of other species are expected to remain similar in recent

years. Beginning in 1989, releases from the Quinault National Fish Hatchery have been reported by the USFWS. Although this involves no net loss in production for the region, an annual decrease of approximately 2,000,000 fish is reflected in the tribal release numbers.

Table 2. Hatchery Releases for Western Washington Tribes (1,000's of fish). Release numbers include tribal co-operative projects with state, federal and private organizations.

Release Year	Fall Chinook	Spring/ Summer Chinook	Sub-Yearling Coho	Yearling Coho	Chum	Pink	Sockeye	Sub-Yearling Steelhead	Yearling Steelhead	Total
1982	10,871	100	2,683	6,249	13,119	105	469	683	572	34,858
1983	9,836	130	3,162	5,136	12,892	0	476	320	730	32,682
1984	8,721	110	2,766	5,815	11,266	737	10	766	948	31,141
1985	9,686	422	9,512	6,598	25,190	0	200	1,402	1,252	54,262
1986	11,632	237	2,893	7,536	22,380	0	240	1,159	1,242	47,319
1987	11,080	133	2,584	6,957	23,470	0	12	932	978	46,246
1988	13,094	476	1,699	8,150	21,092	882	133	577	905	47,008
1989	12,102	682	2,364	8,033	20,221	0	200	398	872	44,872
1990	14,212	659	1,269	7,693	14,981	110	0	353	821	40,098
1991	17,237	446	2,194	9,458	14,887	0	12	769	903	45,906
1992	12,847	1,105	3,800	11,589	12,417	46	48	339	686	42,877
1993	10,459	900	2,781	8,635	14,167	0	46	144	1,190	38,322
1994	12,125	1,282	1,385	8,444	14,257	0	171	159	847	38,670

Oregon Department of Fish and Wildlife

New Production

No new production is planned for the 1994 brood year.

Major Trends

Mitchell Act funding continues to be appropriated in an untimely manner and is insufficient to maintain existing fish hatchery programs. If funding shortfalls continue, hatchery closures and reductions in various programs can be expected in the future.

General Fund reductions as a result of Measure Five, a property tax reduction measure, have resulted in some program reductions.

The implementation of Oregon's Wild Fish Policy will change programs in some areas emphasizing natural production, habitat improvement and acclimation over increased production.

Endangered species act and possible listing of some species may have an impact on future releases and adult collections.

United States Fish and Wildlife Service

Fish and Wildlife Service production continues to be stable at around 50,000,000 fish released. Production levels of individual species change somewhat due to changes in production programs. More advanced rearing programs are being pursued in lieu of fry and pre-smolt release programs.

- Fall chinook production is up due to achievement of full production levels at Spring Creek and Makah National Fish Hatcheries.

- Spring chinook numbers are down due to lowered rearing densities at some stations and reduction of sub-yearling release programs.

- Coho release numbers are down due to reduced levels of fry releases and sub-yearling releases.

Idaho Department of Fish and Game

New Production

No new production was undertaken in Idaho during 1993. Experimental captive brood or rearing programs are being done to determine if spring chinook salmon genetics may be preserved in this manner.

Losses in Production

The 1991, 1992, and 1993 spring and summer chinook salmon brood escapements and egg takes were below potential hatchery capacities. Smolt releases below hatchery capacity in 1993 will be followed by even lower numbers in 1994 and 1995 brood years.

Trends in Production

Hatchery production, as well as natural production continues to suffer due to low numbers of returning adult fish to Idaho. Spring run off has improved over the last year or two, and time will tell if this is enough to demonstrate an increase in survival of adult fish back to the spawning areas. A trend of diminishing wild/natural redd counts continue over this period.

(Source Document) *1995 Annual Report on the Salmonid Enhancement Activities of the United States.* United States Section of the Pacific Salmon Commission. February 8, 1996.

2. 1995 Update Report for the Salmonid Enhancement Program in British Columbia

The Pacific Salmon Treaty between Canada and the United States requires that information be exchanged annually regarding: operations of and plans for existing enhancement projects, plans for new projects, and views concerning the other country's enhancement projects. The formats for regarding enhancement information are:

1) Detailed reports on existing enhancement facilities of the type produced in 1991 every four years.

2) Annual updates to the information in (1) with information on eggs taken, fry or smolts released, and adults back to the facility. Significant changes in facility mission or production will be highlighted in narratives.
3) Periodic reports through the appropriate panels on new enhancement plans.

This report addresses item (1), the detailed report, and describes significant changes to the enhancement program since the previous detailed report in 1991 and the summary report in 1994. Also included are a series of appendices containing:

1) Year-end status for facilities showing eggs taken, fry and smolt releases during 1995 and fish presently on hand (Appendices 1 and 2),
2) releases by species and stage from facilities for the brood years 1985 through 1994 (Appendix 3),
3) catch and escapement numbers for facilities for the return years 1985 through 1994 (Appendices 4 and 5),
4) descriptions of the Community Programs Division facilities (Appendix 6).

Program Adjustments

In 1995 the Salmonid Enhancement Program was combined with Habitat Management to form the Habitat and Enhancement Branch. The purpose is to integrate habitat protection and restoration, fish production, resource management planning and public education activities under a single organization, and to improve delivery of programs and services.

Federal funding for Pacific Salmonid enhancement peaked at $38,000,000 in 1990. Over the last six years, budget cuts have reduced the current funding level to $27,000,000. A further planned cut of $3,000,000 in 1997/98 has been deferred by the Minister to allow for an opportunity to further review the effectiveness of the program over the next one to two years.

Activities and projects that were reduced or discontinued in order to meet budget cuts since 1990 are generally comprised of reductions to facility and lake enrichment operations for $3,800,000 of the total $11,000,000 and reductions to headquarters staff and support functions for the remaining $7,200,000. Given the magnitude of these budget cuts during the 1990's, the focus throughout this period was to maintain high performing benefit/cost facilities as well as taking into account conservation concerns, public involvement, stock assessment and aboriginal benefits from these facilities.

Significant Changes in Program

Coastal Division

Big Qualicum Hatchery -- is meeting target escapements with the exception of 1995 chum escapements. This facility is experiencing some problems with sand and sediment degrading the spawning gravel in the channels.

Little Qualicum Hatchery -- has been experiencing similar returns and problems.

Puntledge Hatchery -- chum returns have been excellent for 1993 and 1994 and adequate in 1995. The summer run chinook are holding their own though fall run chinook have experienced very poor returns. Coho have shown poor returns but with some improvement in 1995. Seals have been identified as a significant predator on both juvenile and adult salmon of all species

within the Puntledge system. Puntledge hatchery and the hatchery program have undergone several modifications in the past two years to improve salmon productivity. Some examples are: the initiation of a sea cager program for chinook, the use of the upper watershed for coho and summer run chinook colonization, pond and water distribution modifications within the hatchery and ongoing co-operation with B.C. Hydro regarding water flow management.

Quinsalm Hatchery -- chinook adult returns have been below escapement targets for the past several years. Coho returns have been weak. The hatchery has undertaken several programs with the community and B.C. Hydro to improve the productivity of the Campbell River system. Several spawning and rearing channels have been created to improve spawning success. Also a gravel placement program is underway to improve gravel recruitment to the system. An inventory and study of the estuary has been started to identify management options for joint use by the various interest groups. A chinook sea cage program has been underway for several years with the support of community groups and the hatchery.

West Coast of Vancouver Island

The chinook returns have been excellent for 1993 and 1994. The returns in 1995 were weak in comparison. The coho escapements in 1994 were a fraction of expected and well below escapement goals; in comparison, 1995 coho escapements were an improvement. Chum escapements have been good with a decrease in escapement in 1995. A special initiative to enhance selected wild chinook stocks on the west coast of Vancouver Island to assist rebuilding was hampered by low escapement and poor weather conditions.

Nitinat Hatchery -- continues to support a strong chum fishery. Chinook productivity has improved with the use of lake pens for rearing and release. Coho returns were very weak in 1994 but have shown a marked improvement in 1995.

Robertson Creek Hatchery -- chinook returns in 1995 were below target escapements. Poor returns are being predicted for 1996. Coho returns for 1994 were exceptionally poor with some improvement in 1995, though not a dramatic improvement.

Conuma Hatchery -- after several years of good returns for chum the 1995 escapement was poor. The lack of age three chum in the hatchery returns indicates a weak return can be expected in 1996. The chinook returns have been very good for the past years though somewhat lower for 1995. The coho have been similar to Nitinat.

Central Coast

Snootli Hatchery -- good returns for chum and chinook. The chinook have returned in greater numbers than previously observed. The coho runs are weak but are still maintaining themselves. The Hatchery has installed new coho ponds to be operated in conjunction with community groups to rear lower Bella Coola coho stocks to smolt size. This is part of an ongoing program to assess the lower river coho stocks and their contribution. The lack of age three chums in the hatchery returns may indicate poor returns in the future.

Kitimat Hatchery -- steelhead program continues to be a success, with Kitimat River being the number three steelhead river in B.C. (from MELP reports). The chum and chinook returned again in record numbers to the Kitimat River. Escapements to some of the other river systems do not appear to be as strong. Plans are being made to put a chinook adult enumeration fence on the Kildala River. The information will be used as an indicator for other chinook stocks in the area. Coho returns were average.

Fraser River and Northern B.C. Operations

Lower Fraser

Capilano Hatchery -- adult chinook capture at river mouth increased broodstock numbers, but eggs were still imported from Chilliwack to meet targets. Chilliwack fall run chinook are the preferred egg source as the hatchery is attempting to establish a chinook run with later timing than the existing run. It is anticipated that later timing fish will be able to return to the hatchery more easily when water levels are more suitable for fish passage. There is a threat that when the Greater Vancouver Regional District finishes upgrading the dam, the spring water supply will dry up, which will have a devastating impact on chinook incubation and rearing. Coho continue to survive well, although in-hatchery survival during incubation is poor by SEP standards.

Chehalis River Hatchery -- chinook returns to the Harrison were extremely low. This, coupled with high water levels, left Chehalis only able to take some 400,000 eggs, representing about 10% of their egg target. The hatchery compensated to a small extent by increasing chum egg take from 9,000,000 to 11,000,000. Coho returns were average.

Chilliwack Hatchery -- although the return of fall chinook was greater than 1994, high water levels in the fall made adult chinook capture difficult and reduced the availability of chinook for Chilliwack production and transplant to other facilities. The egg take for fall run chinook was slightly below target. Fall run chinook were marked with a thermal otolith mark for identification in the escapement. Coho and chum returns were average. High water levels also affected dead pitch programs for chum and chinook in that carcass availability was reduced.

Inch Creek Hatchery -- save for some nuisance bacterial and fungal infections, both coho and chum of all stocks do very well at the hatchery and survive well post-release. Most stocks are rebuilt and very productive. Coho returns for 1995 were average while chum returns were lower than last year but ample to meet egg targets and seed natural spawning areas.

Jones Creek -- due to the ongoing impacts of the June of 1993 headwater landslide, virtually no adults showed up at the channel this year. Eggs from the few pinks that returned were incubated in chilled water at Cultus Lake Laboratory.

Tenderfoot Creek Hatchery -- continued high survival from chinook sea cage release in Howe Sound. A high incidence of bacterial kidney disease in adult coho occurred in 1995 brood, reducing egg take numbers. Recirculation of chinook incubation water allowed higher temperatures, earlier ponding and larger release size. Releases for this coming year will test direct release of smolts into the estuary and the seacage site to determine if seacage rearing is necessary.

Upper Pitt Hatchery -- poor escapement in fall of 1995 (est. 5.5K) resulted in only 2,700,000 of 5,000,000 egg target being attained. Review of recent data has determined that adult production now appears to be heavily dependent on the hatchery, as wild survivals have dropped significantly.

Weaver Hatchery -- in fall of 1995, first outbreak of parasite Ich (*Ichthyophthirius multifilis*) in 30 year history of channel. Of 11.5K females loaded, approximately 30% died pre-spawning. Provisions of a new well will help with future low fall flows and winter freezing events.

Middle Fraser

Shuswap -- very high survivals of brood year 1990 releases to Lower and Middle Shuswap. Ongoing emphasis on enhancement of "lower" stock given continuing strong "middle" river escapements.

Spius -- very strong return of fall of 1995 Nicola chinook, high hatchery contribution of 1991 brood yearling releases. From brood year 1993 onward, all chinook production will be done as yearlings. Salmon River chinook and coho now enhanced out of Spius due to recent closure of Eagle River Hatchery.

Upper Fraser

Horsefly -- poor survivals in spring of 1995 prompted operational review that identified numerous points of concern. Channel 80% loaded in fall of 1995 ("weak" year); survival to eyed stage looks good.

Nadina -- poor dominant year return of 11.4K adults (56K in 1991). Ich, also noted in '78 and '87, resulted in some pre-spawn mortality. After gravel replacement/turning work in summer of 1994, fry survival was as high as initial operating years (70%).

Upper Skeena

Fulton -- second consecutive year of high pre-spawning mortality caused by Ich. Fall of 1994 outbreak resulted in approximate 40% decrease in fry production from historic average.

Pinkut -- second year of Ich occurrence. Pumping of cool lake water limited its detrimental impact. Spring of 1995 downstream program resulted in an approximate 8,000,000 fry decrease from historic production average of 49,000,000.

Northern

Transboundary -- strong return to Tatsamenie Lake (Taku system) allowed for attainment of 2,500,000 egg target for first time in five years. Due to poor smolt captures, the other Taku drainage program, Trapper Lake, has been dropped until adult return data can be reviewed.

Development Division

Fraser River Fish Passage -- maintenance work (e.g. cleaning, structural repairs, etc.) has been ongoing on the fishways at Yale, Saddle Rock, Little Hells Gate, Hells Gate and Bridge River. Permanent lighting was installed in 1992 on passage areas at Little Hells Gate, Hells Gate and China Bar.

At Hells Gate, rock cliff stablization and fishway repairs were performed in 1993 following a disastrous rock fall, and additional low-level fishway was installed in 1994. In 1995, water level and temperature instrumentation were installed. Modifications and additions to improve access and safety were also done.

Since 1992, ongoing studies have been conducted on Black Canyon on the Thompson River due to the massive slide and passage blockage potential of the area. Stability reviews as well as hydraulic flow and fish passage analyses of potential post-slide conditions have been performed. A contingency plan is being developed.

Nekite Channel -- approximately 10,500 summer chums and 500 pink spawned in the channel in 1995.

Phillips Channel -- no observations were made as 1995 is an off-year for pink.

Chilko Channel -- approximately 8,570 sockeye spawned in the channel in 1995.

Community Involvement Division

Level of Involvement

During the period from 1992 to 1995 the level of community involvement in salmonid enhancement activities increased. Community organizations throughout B.C. and the Yukon participated in 164 projects in 1992 which focused primarily on fish production activities. In 1995, the number of these projects grew to 184.

A new program, called the Streamkeepers Program was initiated on a pilot basis in 1994 and launched officially in 1995. The program provides training and technical support to community groups wanting to become involved in stream habitat assessment, monitoring and rehabilitation activities. In addition to the traditional fish production project noted above, 125 new Streamkeepers projects were initiated by community groups in 1995.

The number of schools participating in Salmonids in the Classroom, classroom incubation, storm-drain marking and other salmonid education activities grew from 674 in 1992 to 743 in 1995.

Fish Production

During the four-year period, the number of juvenile salmonids released annually by community groups increased for chinook, chum and odd-year pink, and decreased for coho, even-year pink, steelhead and cutthroat. The largest variation was an increase in chinook production as a result of the Nanaimo River and Cowichan River expansion projects (funded in part by Canada/U.S.). Other significant changes were a decrease in coho production as a result of diminishing coho escapements and increased difficulty in obtaining brood stock. Cutbacks in the level of Provincial funding for community projects resulted in decreases in steelhead and cutthroat production.

Budget and Staff

The budget decreased from $7,600,000 in 1992 to $6,800,000 in 1995. One biologist, whose primary responsibility was to develop and implement the Streamkeepers Program, was added to the complement of Community Involvement Division staff during this period. The Pacific Salmon Foundation's direct funding contributions to community groups grew from $60,000 in 1992 to $218,000 in 1995.

Other

Five CEDP facilities were closed, or had funding withdrawn, between 1992 and 1995. SEP withdrew all but $20,000 from the Terrace Salmon Enhancement Society, operating the Deep Creek project in the Kitsumkalum River. Canada/U.S. funds have since kept the Kitsumkalum chinook key stream operating. In 1994/95, funding from the Skidegate, Oweekeno, Necoslie and Kispiox facilities was withdrawn due to further SEP cuts.

Resource Restoration Division

The Resource Restoration Division continues to focus the majority of its resources on habitat restoration opportunities throughout B.C. During the 1995/96 fiscal year, the Division participated in the development of over 36 projects, while providing technical advise to many environmental "roundtables" so they could meet their program objectives. Much of our funding is derived from the Fraser River Greenplan and Forrest Renewal B.C. We are involved extensively with regional committees focusing on the provincial Watershed Restoration Program. Partnerships continue to play an important role in our daily activities. They provide an opportunity for cost sharing as well as meeting community environmental objectives.

Lake Enrichment Program

Four sockeye salmon nursery lakes on Vancouver Island (Great Central, Henderson, Hobiton) and on the central coast (Long) were fertilized weekly from mid-June to mid-September 1995. A twin-engine fixed wing aircraft was used for the last few years. Despite a late start of the season due to delays in contracting and an unusually early spring, the plankton communities in the lakes responded well to the nutrient additions, significantly increasing the zooplankton food available to the young sockeye. Major studies to evaluate the relationship between sockeye smolt size and ocean survival will be completed in 1996.

Program Coordination and Assessment Division

Using high quality data from index projects, estimates of escapement of enhanced salmon now include fish that spawn naturally. Survival and catch distribution biostandards used to estimate project production and economic benefits have also been updated. Work is continuing on a database designed to capture data in a standardized manner at the project level at different projects. This database will complement the existing assessment database. The Division also co-ordinated SEP juvenile marking, adult spawner enumeration and sampling activities, and production targets.

(Source Document) *1995 Update Report for the Salmonid Enhancement Program in British Columbia*. Department of Fisheries and Oceans, Canada. May 17, 1996.

Reports of the Joint Technical Committees

PART V
REPORTS OF THE JOINT TECHNICAL COMMITTEES

Executive summaries of reports submitted to the Commission by the joint technical committees during the period April 1, 1995 to March 31, 1996 are presented in this section. Copies of the complete reports are available on request from the library of the Pacific Salmon Commission.

A. JOINT CHINOOK TECHNICAL COMMITTEE

Joint Chinook Technical Committee. 1994 Annual Report. TCCHINOOK (96)-1. February 15, 1996.

This report contains a partial assessment of the chinook rebuilding program through 1994. As directed by PSC Commissioners, the Chinook Technical Committee was to complete the first three chapters of the Annual Report summarizing catch, escapements, and exploitation rates through 1994.

Key Points in the 1994 Annual Report

1. 1994 Chinook Catch (Chapter 1)

In 1994, the Pacific Salmon Commission did not agree on catch ceilings. Therefore, the Chinook Technical Committee compared catches in each fishery with 1985 base-level ceilings. For all Pacific Salmon Commission ceiling fisheries in 1994, catches were below the base-level ceilings and substantially lower in the WCVI troll and Strait of Georgia troll and sport fisheries (Table 1-1). Cumulative deviations could not be calculated for 1993 and 1994, since Pacific Salmon Commission ceilings were not agreed on and some agencies set catch targets below the base ceiling levels due to reductions in chinook abundance or U.S. Endangered Species Act restrictions. Instead, cumulative deviations were calculated for 1987 through 1992 only (Table 1-3).

2. Escapement Assessment (Chapter 2)

This year's assessment of escapement trends included 44 naturally spawning escapement indicator stocks and the procedures used in last year's report (TCCHINOOK (94)-1). For the 36 stocks with escapement goals, 14 (39%) were assessed as Above Goal or Rebuilding and 22 (61%) were classified as Indeterminate or Not Rebuilding. Declines in escapement have not been halted for eight of the 22 stocks classified as Interminate or Not Rebuilding. For the 36 stocks with escapement goals, the assessment shows an increasing proportion of stocks classified as Not Rebuilding since 1989 (Figure 2-2). For the eight stocks without escapement goals, declines in escapement have been halted for seven, and for one, it could not be determined whether or not the decline had been halted.

The Chinook Technical Committee recognizes limitations to assessing rebuilding based solely on escapement values and trends. Due to these concerns, some Chinook Technical Committee members proposed an additional rebuilding assessment criterion based on the proportion of the maximum surplus production expected from recent escapements for each escapement indicator stock. The Chinook Technical Committee agrees with the development and evaluation of production criteria to determine if one should be incorporated in future rebuilding assessments, but could not, at this time, evaluate the merit of any particular production criterion.

3. Exploitation Rate Assessment (Chapter 3)

The Chinook Technical Committee conducted an extensive evaluation of alternative estimators of fishery indices. In recent years, concerns have been raised regarding limitations of the current Chinook Technical Committee Fishery Index (FI), in particular regarding the inability to incorporate CWT data for stocks lacking base period data and potential difficulty in assessing stock exploitation due to changes in the conduct of fisheries (e.g., changes in seasonal patterns of fishing). The Chinook Technical Committee examined time-area stratification of the SEAK troll fishery and different estimators for a fishery index. The Chinook Technical Committee recommended the use of a new stratified estimator in the SEAK troll fishery and the continued use of the Chinook Technical Committee FI in other fisheries. The performance of alternative indices in these other fisheries can be evaluated but could not be completed in the time available. Details of the Chinook Technical Committee evaluation are included in Chapter 3 and the new Stratified Proportional Fishery Index (SPFI) and the Chinook Technical Committee FI values are presented for the SEAK troll fishery in Figure 3-3.

Examination of coded-wire tag data for 18 of the 35 exploitation rate indicator stocks (identified in Table 3-5) indicated that:

a) In 1994, fishery indices were below base levels in each Pacific Salmon Commission ceiling fishery (Table 3-6). Fishery indices for 1994 were reduced from base period levels by 24% in the SEAK troll, 30% in NCBC troll, and 43% in WCVI troll. For the Strait of Georgia troll and sport fishery, the 1994 fishery index was 9% below base period levels and near the 1985-1994 average index value. The 1994 fishery indices for SEAK troll, NCBC troll, and GS troll and sport are higher than the projected indices from the 1984 Chinook Technical Committee chinook model. The 1994 fishery indices for WCVI are lower than the 1984 projections (see Figures 3-4 through 3-7).

b) In 1994 non-ceiling fisheries, harvest rates were consistent with pass through (as estimated by applying the non-ceiling index described in Chapter 3). The non-ceiling index described in this report adjusts for the problem of differential exploitation on hatchery and wild stocks in terminal areas. Non-ceiling indices previously reported for the North Puget Sound summer/fall stock group are now reported for each stock. When evaluated in this way, harvest rates for each stock are now consistent with passthrough in 1993 and 1994 (as estimated by applying the non-ceiling index).

c) Total mortality and reported catch brood exploitation rates declined in 1994 for all of the stock groups examined except LGS. Changes in brood exploitation rate indices relative to the base period varied widely between the seven stock groups examined. In four groups, exploitation rates based on total fishing mortalities presently indicate no reductions from the base period values (SEAK/TBR-I, WCVI, LGS, NPS-S/F). The three other groups (UGS, SPS-S/F, WACO) indicate about a 30% to 40% reduction in ocean exploitation rates relative to the base period. For three stocks, there are brood year exploitation rate projections from the 1984 Chinook Technical Committee chinook model. The 1994 brood year exploitation rates for WCVI (Figure 3-18) exploitation rates for WACO (Figure 3-23) are lower than the 1984 projections.

4. Appendices

Due to the limited scope of this report, stock catch distributions are not discussed in the text, but are only presented in Appendix D. Additional information on escapements, terminal runs, and the methods and data used to calculate the exploitation rate indices can be found in Appendices A, B, C and E.

Recommendations

Given the limited time available for this assessment and the partial evaluation conducted, the Chinook Technical Committee did not discuss recommendations following from this report.

B. JOINT CHUM TECHNICAL COMMITTEE

No reports were finalized for publication by this Committee during this reporting period.

C. JOINT COHO TECHNICAL COMMITTEE

No reports were finalized for publication by this Committee during this reporting period.

D. JOINT NORTHERN BOUNDARY TECHNICAL COMMITTEE

Joint Northern Boundary Technical Committee. U.S./Canada Northern Boundary Area 1995 Salmon Fisheries Management Report and 1996 Preliminary Expectations. TCNB (96)-1. January, 1996.

This report reviews: 1) catch, effort, and management actions in the 1995 Northern Boundary Area pink, chum, sockeye, coho, and chinook salmon fisheries of southern Southeast Alaska Districts 101 to 106 and northern British Columbia Areas 1, 3, 4, and 5; 2) management performance relative to Treaty requirements; 3) historical catches by area, gear (purse seine, gillnet, troll, trap), year, week, and species (sockeye, pink, chum, coho, and chinook); 4) historical escapements; and 5) preliminary expectations and fishing plans for 1996.

In southern Southeast Alaska, the all-gear salmon harvest was 48,400,000 which is 70% above the 1980 to 1994 average of 28,600,000. The harvest was comprised of 41,300,000 (85.4%) pink, 4,600,000 (9.5%) chum, 1,400,000 (2.8%) sockeye, 1,100,000 (2.2%) coho, and 32,000 (0.1%) chinook salmon. Pink salmon escapements were reasonably well distributed and near index goals in all southern Southeast Alaska districts. Escapement indices totalled 9,500,000 or 1,900,00 above the 7,600,000 mid-range escapement target and 500,000 over the 9,000,000 upper-range escapement target. Escapements of sockeye, chum and coho salmon were generally strong throughout the region.

In northern British Columbia, pink returns were much larger than expected; 2,965,544 pink salmon were harvested in Canadian Area 3 and 1,333,954 in the Area 4 fishery. Pink escapements to most areas were good. Sockeye returns were above average; 1,209,663 were harvested in Area 3 and 1,526,595 in Area 4. Escapement levels for sockeye were above target for the Nass and Skeena Rivers. Escapements of summer chum salmon were quite good in Area 3.

For the 1995 purse seine fishing season no formal agreement had been reached with Canada on the conduct of the District 104 fishery. However, the management plan for this fishery was to limit fishing time and sockeye harvest to levels similar to the 1990 to 1993 annex arrangement

under the Pacific Salmon Treaty. Early in the season the abundance of both pink and sockeye salmon in the fishery was low. The total sockeye salmon harvest prior to Statistical Week 31 was 71,376 fish.

In the Alaska District 101-11 (Tree Point) gillnet fishery the Pacific Salmon Treaty calls for an average annual harvest, beginning in 1985, of 130,000 sockeye salmon. The 1995 harvest of sockeye salmon at Tree Point was 164,277 fish. This brings the 1985 to 1995 average to 164,352 sockeye.

Under the Pacific Salmon Treaty the outside portions of Canada's Statistical Areas 3 and 5 are to be managed such that an average annual pink harvest of 900,000 is achieved. In 1995, 2,493,982 pinks were harvested in Management Units 3(1-4). The catch in the outer sub-areas of Area 5 was not monitored in 1995; in recent years, this catch has been very low. The current average annual pink harvest from 1985-1995 in the Treaty area is 1,885,765.

As for Alaska's District 104 seine fishery, there were no specific annex arrangements under the Pacific Salmon Treaty governing the conduct of the Canadian Area 1 troll fishery for pink salmon. Preliminary saleslips indicate the Area 1 troll catch was 1,350,050 fish with 500,000 taken in the A-B line strip.

Excellent harvests are forecast for Southeast Alaska pink salmon in 1996. The Alaska Department of Fish and Game forecasts a harvest of between 44,000,000 and 77,000,000 pink salmon in all of Southeast Alaska in 1996. Separate forecasts for northern and southern Southeast Alaska are no longer made. Returns of coho, sockeye, and chum salmon are projected to be good, comparable to the levels observed in recent years.

In Canada, average to good sockeye fisheries are anticipated in Areas 3, 4, and 5 in 1996, while very low pink catches are predicted.

E. JOINT TRANSBOUNDARY TECHNICAL COMMITTEE

No reports were finalized for publication by this Committee during this reporting period.

F. JOINT TECHNICAL COMMITTEE ON DATA SHARING

No reports were finalized for publication by this Committee during this reporting period.

G. JOINT INTERCEPTIONS COMMITTEE

No reports were finalized for publication by this Committee during this reporting period.

Publications of the Pacific Salmon Commission

PART VI
PUBLICATIONS OF THE PACIFIC SALMON COMMISSION

Documents listed herein are available to domestic fishery agencies of Canada and the United States, research organizations, libraries, scientists and others interested in the activities of the Commission, through the offices of the Secretariat, 600 - 1155 Robson Street, Vancouver, B.C., V6E 1B5. Photocopying charges may be levied for documents which are out of print.

Documents listed here are those which were published during the period covered by this report. For previous publications, please refer to the Pacific Salmon Commission 1989/90 Fifth Annual Report and 1994/95 Tenth Annual Report, or contact the Pacific Salmon Commission Library.

A. ANNUAL REPORTS

10. Pacific Salmon Commission 1994/95 Tenth Annual Report. November 1995.

This report contains a summary account of the Commission's tenth year of operation.

B. REPORTS OF JOINT TECHNICAL COMMITTEES

i. Joint Chinook Technical Committee

28. TCCHINOOK (96)-1 - *1994 Annual Report.* February 15, 1996.

ii. Joint Chum Technical Committee

No reports were finalized for publication during this reporting period.

iii. Joint Coho Technical Committee

No reports were finalized for publication during this reporting period.

iv. Joint Northern Boundary Technical Committee

17. TCNB (96)-1 - *U.S./Canada Northern Boundary Area 1995 Salmon Fisheries Management Report and 1996 Preliminary Expectations.* January, 1996.

v. Joint Transboundary Technical Committee

No reports were finalized for publication during this reporting period.

vi. Joint Technical Committee on Data Sharing

No reports were finalized for publication during this reporting period.

vii. Joint Interceptions Committee

No reports were finalized for publication during this reporting period.

C. REPORTS OF THE FRASER RIVER PANEL

No reports were finalized for publication during this reporting period.

D. TECHNICAL REPORT SERIES OF THE PACIFIC SALMON COMMISSION

6. Pacific Salmon Commission. *Pacific Salmon Commission Run-size Estimation Procedures: An Analysis of the 1994 Shortfall in Escapement of Late-run Fraser River Sockeye Salmon.* PSC Tech. Rep. No. 6, May, 1995.

7. White, B. *Genetic Stock Identification of Fraser River Pink Salmon: Methodology and Management Application.* PSC Tech. Rep. No. 7, May, 1996.

E. PUBLICATIONS BY PACIFIC SALMON COMMISSION SECRETARIAT STAFF

11. White, B.A. and J. Gable. 1991. *In-Season Management of Fraser River Pink Salmon Using GSI Techniques.* In B.A. White and I.C. Guthrie (eds.) Proceedings of the 15th Northeast Pacific Pink and Chum Salmon Workshop. Pacific Salmon Commission, p.p. 194-200.

12. Shaklee, J.B., D.C. Klaybor, S. Young and B.A. White. 1991. *Genetic stock structure of odd-year pink salmon, O. gorbuscha (Walbaum), from Washington and British Columbia and potential mixed-stock applications.* Journal of Fish Biology (1991) 39 (Supp. A), 21-34.

13. Walters, C. and J.C. Woodey. 1992. *Genetic Models for cyclic dominance in sockeye salmon (O. nerka).* CJFAS v. 49(2), 281-292.

14. Cave, J.D. and W.J. Gazey. 1994. *A Pre-Season Simulation Model for Fisheries on Fraser River Sockeye Salmon (O. nerka).* CJFAS v. 51(7), 1535-1549.

15. Benneheka, S.G., R.D. Routledge, I.G. Guthrie and J.C. Woodey. 1995. Estimation of in-river fish passage using a combination of transect and stationary hydroacoustic sampling. CJFAS v. 52(2), 335-343.

F. REPORTS OF THE INTERNATIONAL PACIFIC SALMON FISHERIES COMMISSION

Responsibility for maintenance of the library of the International Pacific Salmon Fisheries Commission, on its termination December 31, 1985, was transferred to the Pacific Salmon Commission. Documents in the library include historical archival papers which are available to researchers and other interested parties through contact with the Pacific Salmon Commission's librarian.

Publication of John F. Roos' History of the International Pacific Salmon Fisheries Commission, and P. Gilhousen's Estimation of Fraser River Sockeye Escapements ended all publication series

of the International Pacific Salmon Fisheries Commission. Copies of all in-print Progress Reports and Bulletins of the International Pacific Salmon Fisheries Commission are available free of charge through the Library of the Pacific Salmon Commission. Copies of the History of the International Pacific Salmon Fisheries Commission may also be ordered through the Library of the Pacific Salmon Commission.

G. DOCUMENTS SUBMITTED BY THE PARTIES

In compliance with provisions of the Treaty, the Parties provide annual post-season fishery reports and updates on their respective salmonid enhancement programs to the Commission. Documents received during 1995/96 were:

1. *Preliminary 1995 Post-Season Report for United States Fisheries of Relevance to the Pacific Salmon Treaty.* United States Section, Pacific Salmon Commission. December, 1995.

2. *1995 Post-Season Report for Canadian Treaty Limit Fisheries.* Canada Department of Fisheries and Oceans. December 6, 1995.

3. *1995 Annual Report on the Salmonid Enhancement Activities of the United States in the Areas of the Pacific Salmon Treaty.* United States Section, Pacific Salmon Commission. February 8, 1996.

4. *1995 Update Report for the Salmonid Enhancement Program in British Columbia.* Canada Department of Fisheries and Oceans. May 17, 1996.

Report of the Auditors for 1995/96

PART VII
AUDITORS' REPORT AND FINANCIAL STATEMENTS FOR THE PERIOD APRIL 1, 1995 TO MARCH 31, 1996

AUDITORS' REPORT TO THE COMMISSIONERS

We have audited the balance sheet of Pacific Salmon Commission as at March 31, 1996 and the statements of revenue and expenditures and fund balances for the year then ended. These financial statements are the responsibility of the Commission's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the Commission, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Commission as at March 31, 1996 and the results of its operations for the year then ended in accordance with the Financial Regulations of the Commission applied on a basis consistent with that of the preceding year.

KPMG Peat Marwick Thorne

Chartered Accountants

New Westminster, Canada

May 27, 1996

PACIFIC SALMON COMMISSION

Balance Sheet

March 31, 1996, with comparative figures for 1995

	1996	1995
Assets		
General fund:		
Current assets:		
Cash and term deposits	$ 1,411,402	$ 1,087,591
Accounts receivable	55,320	17,378
Interest receivable	8,016	14,766
Prepaid expenses	29,588	32,321
	1,504,326	1,152,056
	$ 1,504,326	$ 1,152,056
Working capital fund:		
Cash and term deposit	$ 66,515	$ 62,886
Capital asset fund:		
Capital assets	$ 194,028	$ 165,379
Yukon River Fund:		
Cash	$ 195,722	$ –
Mediation Fund:		
Cash	$ 30,690	$ –
Liabilities and Fund Balances		
General fund:		
Current liabilities:		
Accounts payable and accrued liabilities	$ 199,907	$ 72,810
Deferred revenue (note 3)	780,463	342,048
Fund balance (note 4)	523,956	737,198
	$ 1,504,326	$ 1,152,056
Working capital fund:		
Fund balance	$ 66,515	$ 62,886
Capital asset fund:		
Equity in capital assets	$ 194,028	$ 165,379
Yukon River Fund:		
Fund balance	$ 195,722	$ –
Mediation Fund:		
Fund balance	$ 30,690	$ –

On behalf of the Commission:

Chair, Standing Committee on Finance and Administration

Vice-Chair, Standing Committee on Finance and Administration

See accompanying notes to financial statements.

PACIFIC SALMON COMMISSION

General Fund

Statement of Revenue and Expenditures and Fund Balances

Year ended March 31, 1996, with comparative figures for 1995

	1996	1995
Fund balance, beginning of year	$ 737,198	$ 615,663
Revenue:		
Contributions from contracting parties	1,600,000	1,641,000
Interest	65,028	55,961
Other	691	–
Test fishing	761,174	562,767
	2,426,893	2,259,728
Expenditures:		
Salaries and employee benefits	1,380,805	1,345,097
Travel and transportation	80,560	44,565
Rents and communication	96,659	81,194
Printing and reproductions	15,568	10,521
Contract services	223,270	104,980
Materials and supplies	42,577	35,450
Gain on disposal of capital assets	–	2,391
Test fishing	669,723	435,841
	2,509,162	2,060,039
Excess (deficiency) of revenue over expenditures	(82,269)	199,689
Transfer to capital asset fund	(130,973)	(78,154)
Fund balance, end of year	$ 523,956	$ 737,198

See accompanying notes to financial statements.

PACIFIC SALMON COMMISSION

Working Capital Fund

Statement of Revenue and Expenditures and Fund Balances

Year ended March 31, 1996, with comparative figures for 1995

	1996	1995
Fund balance, beginning of year	$ 62,886	$ 90,012
Revenue:		
Interest	3,731	4,149
Expenditures:		
Inquiry	102	20,763
Program costs	–	10,512
	102	31,275
Excess (deficiency) of revenue over expenditures	3,629	(27,126)
Fund balance, end of year	$ 66,515	$ 62,886

See accompanying notes to financial statements.

PACIFIC SALMON COMMISSION

Capital Asset Fund

Statement of Revenue and Expenditures and Fund Balances

Year ended March 31, 1996, with comparative figures for 1995

	1996	1995
Fund balance, beginning of year	$ 165,379	$ 181,880
Net additions during the year funded by transfer from the General Fund	130,973	78,154
Amortization	(102,324)	(94,655)
Fund balance, end of year	$ 194,028	$ 165,379

See accompanying notes to financial statements.

PACIFIC SALMON COMMISSION

Yukon River Fund

Statement of Revenue and Expenditures and Fund Balances

Year ended March 31, 1996, with comparative figures for 1995

	1996	1995
Fund balance, beginning of year	$ –	$ –
Revenue:		
Contributions	188,426	–
Interest earned on term deposit	7,296	–
	195,722	–
Expenditures	–	–
Excess of revenue over expenditures	195,722	–
Fund balance, end of year	$ 195,722	$ –

See accompanying notes to financial statements.

PACIFIC SALMON COMMISSION

Mediation Fund

Statement of Revenue and Expenditures and Fund Balances

Year ended March 31, 1996, with comparative figures for 1995

	1996	1995
Fund balance, beginning of year	$ –	$ –
Revenue:		
Contributions	135,158	–
	135,158	–
Expenditures:		
Mediation fees	68,812	–
Travel and other	35,656	–
	104,468	
Excess of revenue over expenditures	30,690	–
Fund balance, end of year	$ 30,690	$ –

See accompanying notes to financial statements.

Nature of organization:

The Pacific Salmon Commission was established by Treaty between the Governments of Canada and the United States of America to promote cooperation in the management, research and enhancement of Pacific salmon stocks. The Treaty was ratified on March 18, 1985 and the Commission commenced operations on September 26, 1985.

1. Significant accounting policies:

(a) Fund accounting:

The General Fund includes funds provided annually through contributions from the Contracting Parties. Any unappropriated balance remaining at the end of one fiscal year is used to offset the contributions by the Parties in the following year.

The Capital Assets Fund reflects the Commission's capital asset transactions. Amortization is charged to the Capital Fund.

The Working Capital Fund represents monies contributed by the Parties to be used temporarily pending receipt of new contributions from the Parties at the beginning of a fiscal year, or for special programs not contained in the regular budget but approved during the fiscal year. Any surplus above a pre-determined fixed limit in the account at the end of the fiscal year is transferred to the General fund and is treated as income.

The Yukon River Fund reflects funding provided on the creation of a Special Yukon River Salmon Restoration and Enhancement Fund.

The Mediation Fund reflects funding received from the contracting parties and expenditures made to mediate certain sections of the treaty.

(b) Basis of accounting:

The operations of the Commission are generally accounted for on an accrual basis except that purchase order expenditures are recognized at the time that the commitment for goods and services are made, rather than at the time that the goods or services are delivered.

(c) Capital assets:

Capital assets are stated at cost. Costs of repairs and replacements of a routine nature are charged as a current expenditure while those expenditures which improve or extend the useful life of the assets are capitalized . Amortization is provided using the straight-line method of rates sufficient to amortize the costs over the estimated useful lives of the assets. The rates of amortization used on a annual basis are:

Automobiles	20%
Boats	20%
Computer equipment and software	30%
Equipment	20%
Films	33%
Furniture and fixtures	10%
Leasehold improvements	10%

1. Significant accounting policies: (continued)

(d) Income taxes:

The Commission is a non-taxable organization under the Privileges and Immunities (International Organizations) Act (Canada).

(e) Foreign exchange translation:

Transactions originating in foreign currencies are translated at the exchange rate prevailing at the transaction dates. Assets and liabilities denominated in foreign currency at the balance sheet date are translated to equivalent Canadian amounts at the current rate of exchange.

(f) Statement of Changes in Financial Position:

A statement of changes in financial position has not been provided as it would not provide any additional meaningful information.

2. Capital assets:

	Cost	Accumulated amortization	1996 Net book value	1995 Net book value
Automobiles	$ 99,535	$ 87,161	$ 12,374	$ 18,198
Boats	82,661	76,841	5,820	7,760
Computer equipment	381,226	336,972	44,254	27,262
Equipment	408,069	314,475	93,594	52,327
Films	1,800	1,800	–	–
Furniture and fixtures	233,189	204,991	28,198	51,326
Computer software	83,823	75,988	7,835	4,600
Leasehold improvements	19,532	17,579	1,953	3,906
	$ 1,309,835	$ 1,115,807	$ 194,028	$ 165,379

3. Deferred revenue:

Deferred revenue consists of cash contributions received from a contracting party in the current year that represent funding for programs and services to be carried out in the following year. Deferred revenue includes accrued interest on the contributions up to March 31, 1996.

4. General balance:

The Commission has approved a carryover of the unexpended funds in the General Fund to be utilized as follows:

		1996	1995
(a)	Continuing operations	$ 494,368	$ 704,877
(b)	Reserve for prepaid expenses	29,588	32,321
		$ 523,956	$ 737,198

5. Pension plan:

The Commission maintains a defined benefit pension plan for its employees. Actuarial valuations of this pension plan are carried out triennially and provide estimates of present value of accrued pension benefits at a point in time, calculated on the basis of various assumptions with respect to pension plan costs and rates of return on investments.

At the date of the most recent actuarial valuation as amended, January 1, 1993, the present value of accrued benefits exceeds the market value of related assets available to provide these benefits by $110,567. It is intended to fund this deficiency from normal operations within the next 15 years. As at March 31, 1996, $50,000 has been paid towards the unfunded liability.

Appendices

Appendix A

Letter of Transmittal to Governments regarding fishery regimes for 1995

The Honorable Warren M. Christopher
Secretary of State
U.S. Department of State
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The Honourable Brian Tobin, P.C., M.P.
Minister of Fisheries and Oceans
Ottawa, Ontario
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The Honorable Ronald H. Brown
Secretary of Commerce
U.S. Department of Commerce
14th Street and Constitution Avenue N.W.
Washington, D.C. 20230

The Honourable Andre Ouellet, P.C., M.P.
Secretary of State for External Affairs
Ottawa, Ontario
K1A 0G2

July 27, 1995

Dear Sir:

I have the honour to report to you understandings reached by representatives of the Governments of Canada and the United States regarding certain of the fishery regimes in Annex IV of the Pacific Salmon Treaty, and agreed to by the Chair and Vice-Chair of the Commission.

This interim agreement is for 1995 only, and reflects the Commission's interest in conservation and stable fisheries. It is hoped that this interim agreement will facilitate achievement of the Parties' long term objectives. The Commission is aware that the Governments of the United States and Canada are committed to a mediation process to assist them to address certain issues related to the Pacific Salmon Treaty. The agreement set forth herein was reached without prejudice to any position to be taken by either Party in the mediation process or further negotiations, and shall not be construed as an indication of an acceptable long-term approach toward either Parties' objectives.

With regards to coho and chum management regimes (Annex IV, Chapters 5 and 6), Canada and the United States intend to fish in a manner that reflects past Treaty arrangements. Canada has agreed, in recognition of conservation concerns, it will manage the west coast troll fishery to a ceiling of 1,200,000 coho.

With regard to Fraser sockeye and pink salmon (Annex IV, Chapter 4), Canada and the United States considered a "status quo" agreement in 1995 which would have resulted in a total U.S. harvest of approximately 1,900,000 Fraser sockeye at the pre-season forecast Total Allowable Catch (TAC). However, in consideration of the desirability of stable fishing regimes, and acknowledging the conservation actions taken by Canada on chinook and coho salmon, the Parties have agreed for 1995, on an interim basis only, and without prejudice for future years, to adopt harvest sharing approaches for Fraser River sockeye and pink salmon, as described below.

In accordance with Article XIII, Paragraph 2 of the Treaty, the Parties recommended implementation of the following agreement for 1995:

A. The U.S. share of the 1995 Fraser River sockeye and pink salmon TACs, as defined in paragraph B, to be harvested in the Panel area will be as follows:

1) For sockeye salmon:

a) When the estimated TAC is less than 7.3 million, the U.S. catch in the Panel area will not exceed 20.55 percent of the TAC;

b) When the estimated TAC is between 7.3 and 10.0 million, the U.S. catch in the Panel area will not exceed 1.50 million plus 10 percent of the TAC between 7.3 and 10.0 million fish;

c) When the estimated TAC is greater than 10.0 million, the U.S. catch in the Panel area will not exceed 1.77 million plus 5 percent of the TAC above 10.0 million fish, except that the total U.S. catch will not exceed 1.850 million fish in the Panel area.

2) For pink salmon:

a) The U.S. catch in the Panel area will not exceed 25.7% of the TAC, up to a maximum of 3.6 million fish.

B. Total Allowable Catch (TAC) is defined as the remaining portion of the annual aggregate Fraser River sockeye and pink runs after the spawning escapements, the Fraser Indian Fishery exemption, and the catch in Panel authorized test fisheries have been deducted. TAC will be computed separately for Fraser River sockeye and pink salmon. The following definitions apply to TAC calculation:

1) For the purposes of in-season management in 1995, the spawning escapement objective is the target set by Canada including any extra requirements that may be determined by Canada, for natural, environmental or stock assessment factors agreed to in the Fraser Panel, to ensure the fish reach the spawning grounds at target levels. Any additional escapement amounts believed necessary by Canada for reasons other than the foregoing will not affect the U.S. catch.

2) The Fraser Indian Fishery exemption is the amount up to 400,000 Fraser River sockeye, which is harvested by Fraser River Indian fisheries. Any Fraser River Indian fishery harvests in excess of 400,000 Fraser River sockeye will be part of the TAC upon which U.S. shares are calculated.

3) For computing TAC by stock management groupings, the Fraser River Indian fishery exemptions will be allocated to management groups using the average proportional distribution of this harvest for the three cycles prior to 1995, unless otherwise agreed.

C. The U.S. catches specified in paragraph A, above, will be distributed proportionately across the major sockeye stock groupings to the extent possible, taking into account the objectives specified in paragraph B. The Fraser Panel is instructed to manage the Fraser River sockeye and pink fisheries so as not to jeopardize the escapement and harvest goals for late run Fraser River sockeye stocks.

D. The U.S. share of Fraser sockeye to be harvested in waters south of the Washington State/Canadian border, as calculated above, takes into account the total U.S. harvest of Fraser River sockeye.

E. The dispute referred to in Canada's Note 189 of November 24, 1992 and the Department of State's Note of December 8, 1992 remains unresolved and will be addressed in connection with negotiations on arrangements for 1996 and beyond;

F. Based on these arrangements, the Fraser Panel will develop fishery management plans for the Fraser Panel area at the earliest available date after the signing of this agreement. These plans will be based on the attached clauses for Annex IV, Chapter 4 of the Treaty which were previously agreed to by the Fraser Panel and will also take into account the recommendations made by the Pacific Salmon Commission staff in May 1995 with respect to improved management of Fraser sockeye.

The Commission expects that the relevant management agencies will manage fisheries under their responsibility consistent with these understandings.

The Commission respectfully requests your early approval of these recommendations.

Yours truly,

PACIFIC SALMON COMMISSION

P.S. Chamut
Chair

Attachment:

Clauses pursuant to Annex IV, Chapter 4, agreed to by the Fraser Panel in January 1994 (as modified for a one year interim arrangement) to replace previous clauses and Panel agreements which have become outdated:

Canada and the U.S. agree:

(a) Pursuant to Article IV, paragraph 3, Canada shall establish the Fraser River sockeye and pink salmon spawning escapement goals for the purpose of calculating the annual TAC. In addition, Canada shall provide the Commission, through the Fraser Panel, with run size forecasts and spawning escapement goals for 1995.

(b) The Fraser River Panel shall manage the U.S. fishery to spread the U.S. harvest proportionately to the TAC's across all Fraser River sockeye stock management groupings (Early Stuart, Early Summer, Mid Summer, and Late Run), except as otherwise agreed.

(c) The Parties shall establish and maintain data-sharing principles and processes which ensure that the Parties, the Commission and the Fraser River Panel are able to manage their fisheries in a timely manner consistent with this Chapter. They shall conduct their responsibilities consistent with the August 13, 1985 diplomatic note between the Parties.

(d) Canada shall provide to the Commission, through the Fraser Panel, for the purposes of pre-season planning, forecasts of run timing, migration patterns, and gross escapement goals by stock management groupings.

(e) The Fraser River Panel shall direct the Pacific Salmon Commission Executive Secretary as necessary consistent with the fishery management responsibilities delegated to the Fraser River Panel as set forth in Chapter VI of the Treaty and paragraph A.1. of the August 13, 1985 diplomatic note.

(f) Fraser River Panel pre-season planning meetings that do not occur simultaneously with Pacific Salmon Commission meetings shall be held alternately in Canada and the U.S. Scheduled in-season management meetings shall be held weekly at Richmond, B.C., unless the Panel agrees otherwise. As agreed, Panel meetings may be held by telephone conference call.

(g) The Parties may agree to adjust the definition of the Area as necessary to simplify domestic fishery management and ensure adequate consideration of the effect on other stocks and species harvested in the Area.

(h) The Parties shall establish a technical committee for the Fraser River Panel:

(i) the members shall co-ordinate the technical aspects of Fraser River Panel activities with and between the Commission staff and the national sections of the Fraser River Panel, and shall report, unless otherwise agreed, to their respective national sections of the Panel. The committee may receive assignments of a technical nature from the Fraser River Panel and will report results directly to the Panel.

(ii) membership of the committee shall consist of up to 5 such technical representatives as may be designated by each national section of the Commission.

(iii) members of the technical committee shall analyze proposed management regimes, provide technical assistance in the development of proposals for management plans, explain technical reports and provide information and technical advice to the respective national sections of the Panel.

(iv) the technical committee shall work with the Commission staff during pre-season development of the fishery regime and management plan and during in-season consideration of regulatory options for the sockeye and pink salmon fisheries of Fraser River Panel Area waters to ensure that:

(a) domestic allocation objectives of both Parties are given full consideration;

(b) conservation requirements and management objectives of the Parties for species and stocks other than Fraser River sockeye and pink salmon in the Fraser River Panel Area during periods of Panel regulatory control are given full consideration; and,

(c) the Commission staff is informed in a timely manner of management actions being taken by the Parties in fisheries outside of the Fraser River Panel Area that may harvest sockeye and pink salmon of Fraser River origin.

(v) the staff of the Commission shall consult regularly in-season with the technical committee to ensure that its members are fully informed in a timely manner on the status of Fraser River sockeye and pink salmon stocks, and the expectations of abundance, migration routes and proposed regulatory options, so the members of the technical committee can brief their respective national sections prior to each in-season panel meeting.

(i) The Fraser River Panel shall manage its fisheries consistent with the provisions of the other chapters of Annex IV to ensure that the conservation needs and management requirements for other salmon species and other sockeye and pink salmon stocks are taken into account.

(j) The Parties agreed to develop regulations to give effect to the provisions of the preceding paragraphs. Upon approval of the pre-season plan and during the period of Panel regulatory control, all sockeye and pink fisheries under the Panel's jurisdiction are closed unless opened for fishing by in-season order of the Panel.

(k) In managing the fisheries in the Area, the Parties, the Commission, and the Fraser River Panel shall take into account fisheries inside and outside the Area that harvest Fraser River sockeye and pink salmon. The Parties, the Commission, and the Fraser River Panel shall consider the need to exercise flexibility in management of fisheries outside the Area which harvest Fraser River sockeye and pink salmon.

Appendix B

Revised Annex IV
to the Pacific Salmon Treaty
effective May 17, 1991

Annex IV

Chapter 1

TRANSBOUNDARY RIVERS

1. Recognizing the desirability of accurately determining exploitation rates and spawning escapement requirements of salmon originating in the Transboundary Rivers, the Parties shall maintain a Joint Transboundary Technical Committee (Committee) reporting, unless otherwise agreed, to the Northern Panel and to the Commission. The Committee, inter alia, shall

(a) assemble and refine available information on migratory patterns, extent of exploitation and spawning escapement requirements of the stocks;

(b) examine past and current management regimes and recommend how they may be better suited to achieving preliminary escapement goals;

(c) identify enhancement opportunities that:

(i) assist the devising of harvest management strategies to increase benefits to fishers with a view to permitting additional salmon to return to Canadian waters;

(ii) have an impact on natural Transboundary river salmon production.

2. The Parties shall improve procedures of co-ordinated or co-operative management of the fisheries on Transboundary River stocks.

3. Recognizing the objectives of each Party to have viable fisheries, the Parties agree that the following arrangements shall apply to the United States and Canadian fisheries harvesting salmon stocks originating in the Canadian portion of

(a) the Stikine River:

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

a. A pre-season forecast of the Stikine River sockeye run will be made by the Transboundary Technical Committee prior to March 1 of each year. This forecast may be modified by the Transboundary Technical Committee prior to the opening of the fishing season.

b. In-season estimates of the Stikine River sockeye run and the Total Allowable Catch (TAC) shall be made under the guidelines of an agreed Stikine Management Plan and using a mathematical forecast model developed by the Transboundary Technical 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 in-season 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.

d. Estimates of the TAC may be adjusted in-season only by concurrence of both Parties' respective managers. Reasons for such adjustments must be provided to the Transboundary Technical Committee.

(ii) Harvest sharing of naturally occurring Stikine River sockeye salmon for the period 1988 to 1992, contingent upon activities specified in the February 1988 Understanding between the United States and the Canadian Section of the Pacific Salmon Commission concerning Joint Enhancement of Transboundary River Salmon Stocks (Understanding) shall be as follows:

a. When the estimated TAC of Stikine River sockeye salmon is zero or less:

1. Canada may conduct its native food fishery but the catch shall not exceed 4,000 fish, there will be no commercial fishing;

2. The United States shall not direct commercial fisheries at Stikine River sockeye salmon in District 108;

3. The United States may fish in the commercial gillnet fisheries in the Sumner Strait portion of District 106 so long as the in-season estimate of the contribution of Stikine River sockeye salmon is less than 20 percent of the total catch to date of sockeye salmon in Sumner Strait.

b. When the estimated TAC of Stikine River sockeye salmon is between 1 and 20,000 fish:

1. Canada shall conduct its commercial and native food fisheries so that the all gear catch is at least 10,000 fish and may increase its catch to include any surplus available in-river total allowable catch but not to exceed 15,000 fish;

2. The United States shall not direct commercial fisheries at Stikine sockeye salmon in District 108;

3. The United States may fish in the commercial gillnet fisheries in the Sumner Strait portion of District 106 so long as the in-season estimate of the contribution of Stikine River sockeye salmon is less than 25 percent of the total catch to date of sockeye salmon in Sumner Strait. If the contribution of Stikine River sockeye salmon is greater than 20 percent but less than 25 percent only one day of fishing per week will be permitted, if greater than 25 percent, no fishing will be permitted in Sumner Strait.

c. When the estimated TAC of Stikine River sockeye salmon is between 20,001 and 60,000 fish:

1. Canada shall conduct its commercial and native food fisheries so that the all gear catch is at least 15,000 fish and may increase its catch to include any surplus total allowable catch but not to exceed 20,000 fish;

2. The United States may direct commercial fisheries at Stikine River sockeye salmon in District 108 if the total TAC of Stikine River sockeye salmon is greater than the actual catch of Stikine River sockeye salmon in District 106 plus 20,000.

d. When the estimated TAC of Stikine River sockeye salmon is greater than 60,000 fish:

1. Canada shall conduct its commercial and native food fisheries so that the all gear catch is at least 20,000 fish and may increase its catch to include any surplus total allowable catch but not to exceed 30,000 fish;

2. The United States may direct commercial fisheries at Stikine River sockeye salmon in District 108 if the total TAC of Stikine River sockeye salmon is greater than the actual catch of Stikine River sockeye salmon in District 106 plus 30,000.

e. United States incidental catches of Stikine River sockeye salmon in District 108 shall not be counted when computing TAC available for the Canadian fishery. For the purpose of calculation, the Canadian in-river allowable catch of sockeye salmon will be based on a 10 percent harvest rate of Stikine River sockeye salmon in the District 106 drift gillnet fishery.

(iii) Canada shall harvest no more than 4,000 coho salmon annually in the Stikine River from 1988 through 1992.

(iv) Canadian harvests of chinook, pink, and chum salmon may be taken as an incidental harvest in the directed fishery for sockeye and coho salmon.

(v) Both Parties shall take the appropriate management action to ensure that the necessary escapement goals for the chinook salmon bound for the Canadian portions of the Stikine River are achieved by 1995.

(vi) If the United States unilaterally withdraws from mutually agreed enhancement goals and activities as specified in the Understanding, then the harvest sharing of naturally occurring Stikine River salmon as stated in sections (ii) through (iv) above shall remain in effect.

(vii) If Canada unilaterally withdraws from mutually agreed enhancement goals and activities as specified in the Understanding, then the harvest sharing of naturally occurring Stikine River sockeye salmon shall be as follows:

a. When the estimated TAC of Stikine River sockeye salmon is zero or less:

1. Canada may conduct its native food fishery but the catch shall not exceed 4,000 fish, there will be no commercial fishing;

2. The United States shall not direct commercial fisheries at Stikine River sockeye salmon in District 108;

3. The United States may fish in the commercial gillnet fisheries in the Sumner Strait portion of District 106 so long as the in-season estimate of the contribution of Stikine River sockeye salmon is less than 20 percent of the total catch to date of sockeye salmon in Sumner Strait.

b. When the estimated TAC of Stikine River sockeye salmon is between 1 and 20,000 fish:

1. Canada shall conduct its commercial and native food fisheries so that the all gear catch is at least 4,000 fish and may increase its catch to include any surplus available in-river total allowable catch but not to exceed 7,000 fish;

2. The United States may direct commercial fisheries at Stikine sockeye salmon in District 108 if the total TAC of Stikine River sockeye salmon is greater than the actual catch of Stikine River sockeye salmon in District 106 plus 7,000;

3. The United States may fish in the commercial gillnet fisheries in the Sumner Strait portion of District 106 so long as the in-season estimate of the contribution of Stikine River sockeye salmon is less than 25 percent of the total catch to date of sockeye salmon in Sumner Strait.

c. When the estimated TAC of Stikine River sockeye salmon is between 20,001 and 60,000 fish:

1. Canada shall conduct its commercial and native food fisheries so that the all gear catch is at least 7,000 fish and may increase its catch to include any surplus total allowable catch but not to exceed 15,000 fish;

2. The United States may direct commercial fisheries at Stikine River sockeye salmon in District 108 if the total TAC of Stikine River sockeye salmon is greater than the actual catch of Stikine River sockeye salmon in District 106 plus 15,000.

d. When the estimated TAC of Stikine River sockeye salmon is greater than 60,000 fish:

1. Canada shall conduct its commercial and native food fisheries so that the all gear catch is at least 15,000 fish and may increase its catch to include any surplus total allowable catch but not to exceed 25,000 fish;

2. The United States may direct commercial fisheries at Stikine River sockeye salmon in District 108 if the total TAC of Stikine River sockeye salmon is greater than the actual catch of Stikine River sockeye salmon in District 106 plus 25,000.

e. United States incidental catches of Stikine River sockeye salmon in District 108 shall not be counted when computing TAC available for the Canadian fishery. For the purpose of calculation, the Canadian in-river allowable catch of sockeye salmon will be based on a 10 percent harvest rate of Stikine River sockeye salmon in the District 106 drift gillnet fishery.

f. Canada shall harvest no more than 2,000 coho salmon annually.

g. Canadian harvest of chinook, pink, and chum salmon may be taken as an incidental harvest in the directed fishery for sockeye and coho salmon.

(b) the Taku River:

(i) Harvest sharing of naturally occurring Taku River sockeye salmon for the period 1988 to 1992, contingent upon activities specified in the February 1988 Understanding concerning Joint Enhancement of Transboundary River Salmon Stocks (Understanding), shall be as follows:

a. Canada shall harvest no more than 18 percent of the TAC of the sockeye salmon originating in the Canadian portion of the Taku River each year.

b. Canada shall harvest no more than 3,000 coho salmon each year.

(ii) Canadian harvests of chinook, pink and chum salmon may be taken as an incidental harvest in the directed fishery for sockeye and coho salmon.

(iii) 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 by 1995.

(iv) If the United States unilaterally withdraws from mutually agreed enhancement goals and activities as specified in the Understanding, then the harvest sharing of naturally occurring Taku River salmon as stated in sections (i) and (ii) above shall remain in effect.

(v) If Canada unilaterally withdraws from mutually agreed enhancement goals and activities as specified in the Understanding, then Canada's share of naturally occurring Taku River sockeye salmon shall be 15 percent of the TAC. Furthermore, Canada shall commercially harvest coho, chinook, pink, and chum salmon only incidentally during a directed sockeye salmon fishery.

4. The Parties agree that if the catch allocations set out in paragraph 3 are not attained due to management actions by either Party in any one year, compensatory adjustments shall be made in subsequent years. If a shortfall in the actual catch of a Party is caused by management action of that Party, no compensation shall be made.

5. The Parties agree that the following arrangements shall apply to United States and Canadian fisheries harvesting salmon stocks originating in Canadian portions of the Alsek River: Recognizing that chinook and early run sockeye stocks originating in the Alsek River are depressed and require special protection, and in the interest of conserving and rebuilding these stocks, the necessary management actions shall continue until escapement targets are achieved.

6. The Parties agree to consider co-operative enhancement possibilities and to undertake as soon as possible studies on the feasibility of new enhancement projects on the Transboundary Rivers and adjacent areas for the purpose of increasing productivity of stocks and providing greater harvests to the fishers of both countries.

7. Recognizing that stocks of salmon originating in Canadian sections of the Columbia River constitute a small portion of the total populations of Columbia River salmon, and that the arrangements for consultation and recommendation of escapement targets and approval of enhancement activities set out in Article VII are not appropriate to the Columbia River system as a whole, the Parties consider it important to ensure effective conservation of up-river stocks which extend into Canada and to explore the development of mutually beneficial enhancement activities. Therefore, notwithstanding Article VII, paragraphs 2, 3, and 4, during 1985, the Parties shall consult with a view to developing, for the transboundary sections of the Columbia River, a more practicable arrangement for consultation and setting escapement targets than those specified in Article VII, paragraphs 2 and 3. Such arrangements will seek to, inter alia,

(a) ensure effective conservation of the stocks;

(b) facilitate future enhancement of the stocks on an agreed basis;

(c) avoid interference with United States management programs on the salmon stocks existing in the non-transboundary tributaries and the main stem of the Columbia River.

NORTHERN BRITISH COLUMBIA
SOUTHEASTERN ALASKA

1. Considering that the chum salmon stocks originating in streams in the Portland Canal require rebuilding, the Parties agree in 1990 and 1991 to jointly reduce interceptions of these stocks to the extent practicable and to undertake assessments to identify possible measures to restore and enhance these stocks. On the basis of such assessments, the Parties shall instruct the Commission to identify long-term plans to rebuild these stocks.

2. With respect to sockeye salmon, the United States shall

   (a) with respect to District 4 purse seine fishery:

      (i) for the four year period, 1990 through 1993, limit its fishery in a manner that will result in a maximum four-year total catch of 480,000 sockeye salmon prior to United States Statistical Week 31;

      (ii) when the annual catch reaches 160,000 sockeye salmon, no further daily fishing periods in District 4 will be allowed prior to Statistical Week 31;

      (iii) all underages not to exceed 20% of the Annex ceiling will add to, and overages will subtract from, the subsequent four-year period.

   (b) limit its drift gillnet fishery in Districts 1A and 1B in a manner that will result in an average annual harvest of 130,000 sockeye salmon.

3. With respect to pink salmon, Canada shall

   (a) limit its net fishery in Areas 3-1, 3-2, 3-3, 3-4, and 5-11 in a manner that will result in an average annual harvest of 900,000 pink salmon;

   (b) with respect to the Area 1 troll fishery:

      (i) for the four year period, 1990-1993, limit its Area 1 pink salmon troll catch to a total of 5.125 million;

      (ii) during the period 1990 through 1993, close the pink salmon troll fishery in the most northerly portion of Area 1 in management units 101-4, 101-8, 101-3 north of 54 degrees 37 minutes N. and 103 north of 54 degrees 37 minutes N to pink salmon trolling when the pink salmon fishery has lasted 22 days starting with the beginning of the troll season in Area 1, but no earlier than July 22, except that the most northerly portion of the area shall close to pink salmon trolling whenever the catch in that area reaches 300,000 pinks.

      (iii) limit the maximum harvest in the entire Area 1 in any one year to 1.95 million pink salmon; and,

      (iv) all underages, not to exceed 20% of the Annex ceiling, will add to, and overages will subtract from, the subsequent four-year period.

4. In 1987 and thereafter, in order to ensure that catch limits specified in paragraphs 2 and 3 are not exceeded, the Parties shall implement appropriate management measures which take into account the expected run sizes and permit each country to harvest its own stocks.

5. In setting pink salmon fisheries regimes for 1987 and thereafter, the Parties agree to take into account information from the northern pink tagging program.

6. The Parties shall at the earliest possible date exchange management plans for the fisheries described herein.

7. In order to accomplish the objectives of this Chapter, neither Party shall initiate new intercepting fisheries, nor conduct or redirect fisheries in a manner that intentionally increases interceptions.

8. The Parties shall maintain a Joint Northern Boundary Technical Committee (Committee) reporting, unless otherwise agreed, to the Northern Panel and the Commission. The Committee, inter alia, shall

(a) evaluate the effectiveness of management actions;

(b) identify and review the status of stocks;

(c) present the most current information on harvest rates and pattern on these stocks, and develop a joint data base for assessments;

(d) collate available information on the productivity of stocks in order to identify escapements which produce maximum sustainable harvests and allowable harvest rates;

(e) present historical catch data, associated fishing regimes, and information on stock composition in fisheries harvesting these stocks;

(f) devise analytical methods for the development of alternative regulatory and production strategies;

(g) identify information and research needs, including future monitoring programs for stock assessments; and,

(h) for each season, make stock and fishery assessments and recommend to the Northern Panel conservation measures consistent with the principles of the Treaty.

CHINOOK SALMON

1. Considering the escapements of many naturally spawning chinook stocks originating from the Columbia River northward to southeastern Alaska have declined in recent years and are now substantially below goals set to achieve maximum sustainable yields, and recognizing the desirability of stabilizing trends in escapements and rebuilding stocks of naturally spawning chinook salmon, the Parties shall

(a) instruct their respective management agencies to establish a chinook salmon management program designed to meet the following objectives:

(i) halt the decline in spawning escapements in depressed chinook salmon stocks; and,

(ii) attain by 1998, escapement goals established in order to restore production of naturally spawning chinook stocks, as represented by indicator stocks identified by the Parties, based on a rebuilding program begun in 1984;

(b) continue the chinook working group to clarify policy issues relating to the execution of this Chapter; for example, the definition of pass-through, and the development of common procedures for adjusting catch ceilings in response to changes in abundance, positive incentives and enhancement add-ons; the chinook working group will develop options for consideration by the Commission and Panels as appropriate;

(c) jointly initiate and develop a co-ordinated chinook management program;

(d) maintain a Joint Chinook Technical Committee (Committee) reporting, unless otherwise agreed, to the Northern and Southern Panels and to the Commission, which inter alia, shall

(i) evaluate management actions for their consistency with measures set out in this Chapter and for their potential effectiveness in attaining these specified objectives;

(ii) evaluate annually the status of chinook stocks in relation to objectives set out in this Chapter and, consistent with paragraph (d) (v) beginning in 1986, make recommendations for adjustments to the management measures set out in this Chapter;

(iii) develop procedures to evaluate progress in the rebuilding of naturally spawning chinook stocks;

(iv) recommend strategies for the effective utilization of enhanced stocks;

(v) recommend research required to implement this rebuilding program effectively; and,

(vi) exchange information necessary to analyze the effectiveness of alternative fishery regulatory measures to satisfy conservation objectives;

(e) ensure that

(i) in 1991, the all-gear catch in Southeast Alaska shall not exceed the base ceiling of 263,000 chinook salmon plus 10,000; in 1992, the all-gear catch in Southeast Alaska shall not exceed 263,000 chinook salmon; these catches exclude the Alaska hatchery add-on as described in the letter of transmittal; in 1991 and 1992 Alaska shall open its general summer troll fishery on July 1; the June fishery shall not exceed 40,000 chinook salmon (excluding the Alaska hatchery add-on) taken in a manner similar to

1989 and 1990; and areas of high chinook abundance shall be closed during chinook non-retention periods to reduce incidental mortalities;

(ii) in 1991, the all-gear catch in Northern and Central B.C. shall not exceed the base ceiling of 263,000 chinook salmon plus 10,000; in 1992, the all-gear catch in Northern and Central B.C. shall not exceed 263,000 chinook salmon; these catches exclude a portion of the catch in extreme terminal areas as described in the letter of transmittal;

(iii) in 1991 and 1992, the annual troll catch off the west coast of Vancouver Island shall not exceed 360,000 chinook salmon;

(iv) in 1991 and 1992, the total annual catch by the sport and troll fisheries in the Strait of Georgia shall not exceed 275,000 chinook salmon; Canada will undertake management measures to achieve the target of rebuilding Lower Georgia Strait and Fraser River chinook stocks by 1998;

(v) adjustments to the ceilings may be made in response to reductions in chinook abundance so that the indicator stocks are rebuilt by 1998;

(vi) fishing regimes are reviewed by the Committee and structured so as not to affect unduly or to concentrate disproportionately on stocks in need of conservation;

(vii) starting with the 1987 season, a 7.5 percent management range is established above and below a catch ceiling. On a continuing basis, the cumulative deviation (in numbers of fish) shall not exceed the management range. In the event that the cumulative deviation exceeds the range, the responsible Party shall be required in the succeeding year, to take appropriate management actions to return the cumulative deviation, plus any penalty assessed, to a level within the established management range. Negative cumulative deviations shall not accumulate below the management range. It is the intent of this section to insure that, on average, the annual catch in ceilinged fisheries is equal to the agreed target ceiling; and,

(viii) in 1987 and thereafter, the United States will continue to monitor fisheries in Juan de Fuca Strait (Areas 4B, 5, 6A, 6C) and the outer portions of Puget Sound (6B, 7, 7A, 9) so as to assess the levels and trends in the interceptions of Canadian chinook salmon;

(f) maintain the following program, recognizing that associated fishing mortalities can affect the rebuilding schedule. The Parties shall

(i) minimize the effects of such mortalities;

(ii) monitor, assess, and report associated fishing mortalities;

(iii) provide the information required by the Chinook Technical Committee to estimate the magnitude and assess the impacts of associated mortalities on an on-going basis;

(iv) beginning in 1989, the Chinook Technical Committee shall

a. review reports provided by the Parties on an annual basis, unless directed by the Commission, and estimate the magnitude of all quantifiable sources of associated fishing mortalities;

b. evaluate their impact on the rebuilding schedule and recommend management actions that will achieve the objectives of the chinook rebuilding program, taking into account the effects of all fishing mortalities; and

c. develop technical procedures and standardize methodologies to quantify the magnitude of associated fishing mortalities, including savings of fish, and assess their impacts upon the rebuilding program, including pass-through commitments;

(v) the Commission shall annually take into account, starting in 1988, the impacts of fishing mortalities, as determined by the Chinook Technical Committee, in establishing regional fishing regimes and may adjust allowable catches accordingly, to assure rebuilding by 1998;

(g) manage all salmon fisheries in Alaska, British Columbia, Washington and Oregon, so that the bulk of depressed stocks preserved by the conservation program set out herein principally accrue to the spawning escapement;

(h) establish, at the conclusion of the chinook rebuilding program, fishery regimes to maintain the stocks at optimum productivity and provide fair internal allocation determinations. It is recognized that the Parties are to share the benefits of coastwide rebuilding and enhancement, consistent with such internal allocation determinations and this Treaty; and,

(i) exchange annual management plans prior to each season.

2. The Parties agree that enhancement efforts designed to increase production of chinook salmon would benefit the rebuilding program. They agree to consider utilizing and redirecting enhancement programs to assist, if needed, in the chinook rebuilding program. They agree that each region's catches will be allowed to increase above established ceilings based on demonstrations to the Commission and assessment by it of the specific contributions of each region's new enhancement activities, provided that the rebuilding schedule is not extended beyond 1998, and provisions of Subsection 1(e)(vi) of this Chapter are adhered to.

3. The Parties shall submit a report to the Commission by December 1991 which presents

(a) joint recommendations for chinook salmon escapement goals in the transboundary rivers;

(b) given the goals recommended in 3(a), a jointly accepted assessment of progress toward rebuilding chinook stocks in these transboundary rivers based on escapement data available through 1991, and the likelihood of achievement of these goals by 1995; and,

(c) co-operatively developed management options to be identified by December 1991 and initiated in 1992 and following seasons to ensure rebuilding of chinook stocks in the transboundary rivers which are identified in 3(b) as requiring further management actions.

FRASER RIVER SOCKEYE AND PINK SALMON

1. In order to increase the effectiveness of the management of fisheries in the Fraser River Area (hereinafter the Area) and in fisheries outside the Area which harvest Fraser River sockeye and pink salmon, the Parties agree

(a) that the preliminary expectations of the total allowable catches of Fraser River sockeye and pink are:

	Sockeye	Pink
1985	6.6 million	11.0 million
1986	12.5 million	
1987	3.1 million	12.0 million
1988	3.6 million	
1989	7.1 million	14.0 million
1990	13.0 million	
1991	3.1 million	14.0 million
1992	3.6 million	

(b) that

(i) based on these preliminary expectations, the United States shall harvest as follows:

	Sockeye	Pink
1985	1.78 million	3.6 million
1986	3.0 million	
1987	1.06 million	3.6 million
1988	1.16 million	

(ii) the United States catches referred to in paragraph 1(b)(i) herein shall be adjusted in proportion to any adjustments in the total allowable catches set out in paragraph 1(a) herein that are due to any agreed adjustments in pre-season or in-season expectations of run-size. When considering such adjustment, the Parties shall take into account all fisheries that harvest Fraser River sockeye and pink salmon including annual Fraser River Indian food fish harvests in excess of 400,000 sockeye. The United States catches shall not be adjusted to any adjustments in the total allowable catch that may be caused by changes in escapement goals that form the basis for the agreed total allowable catches set out in paragraph 1(a) herein;

(iii) notwithstanding the agreed United States and Canadian catch levels for Fraser River sockeye and for coho off the west coast of Vancouver Island, as provided in paragraph 1(b)(i) herein and in Chapter 5, respectively, and subject to paragraph 1(b)(ii), in 1985 the United States catch of Fraser River sockeye shall be 1.73 million and the Canadian catch of coho off the west coast of Vancouver Island shall not exceed 1.75 million; and in 1986, the United States catch of Fraser River sockeye shall be 2.95 million and the Canadian catch of coho off the west coast of Vancouver Island shall not exceed 1.75 million;

(c) in 1985, to instruct the International Pacific Salmon Fisheries Commission to develop regulatory programs in the Area to give effect to the provisions of paragraph 1(b);

(d) to instruct the Fraser River Panel for 1986 through 1992 to develop regulations to give effect to the provisions of paragraphs 1(b) and 1(f);

(e) to instruct the Fraser River Panel that if management measures fail to achieve such sockeye and pink catches, any difference shall be compensated by adjustments to the Fraser fishery in subsequent years;

(f) in the period 1989 to 1992, the Fraser River Panel shall determine the annual United States catch level so that the total United States catch in this period shall not exceed 7 million sockeye in the aggregate. In the years 1989 and 1991, the United States harvest shall not exceed 7.2 million pink salmon, in the aggregate. Notwithstanding the foregoing, these levels shall be reduced in proportion to any decreases in the total allowable catches set out in paragraph 1(a) herein that are due to any agreed decreases in pre-season or in-season expectations of run size. When considering such reductions, the Parties shall take into account all fisheries that harvest Fraser River sockeye and pink salmon including annual Fraser River Indian food fish harvests in excess of 400,000 sockeye. The United States catches shall not be reduced due to any decreases in the total allowable catch that may be caused by changes in escapement goals that form the basis for the agreed total allowable catches set out in paragraph 1(a) herein;

(g) to consider no sooner than 1989 adjusting the regime in accordance with the principles of Article III;

(h) to instruct the Fraser River Panel that in managing Fraser River sockeye and pink salmon, it shall take into account the management requirements of other stocks in the Area.

2. Notwithstanding the provisions of Paragraphs 1(b) and 1(f), and to ensure that Canada receives the benefits of any Canadian-funded enhancement activities undertaken following entry into force of this Treaty, any changes in the total allowable catch due to such activities shall not result in adjustment of the United States catch.

3. The Parties shall establish data-sharing principles and processes which ensure that the Parties, the International Pacific Salmon Fisheries Commission, the Commission and the Fraser River Panel are able to manage their fisheries in a timely manner consistent with this Chapter.

4. The Parties may agree to adjust the definition of the Area as necessary to simplify domestic fishery management and ensure adequate consideration of the effect on other stocks and species harvested in the Area.

5. In managing the fisheries in the Area, the Parties, the Commission, and the Fraser River Panel shall take into account fisheries inside and outside the Area that harvest Fraser River sockeye and pink salmon. The Parties, the Commission, and the Fraser River Panel shall consider the need to exercise flexibility in management of fisheries outside the Area which harvest Fraser River sockeye and pink salmon.

6. The Parties shall establish a technical committee for the Fraser River Panel:

(a) the members shall co-ordinate the technical aspects of Fraser River Panel activities with and between the Commission staff and the national sections of the Fraser River Panel, and shall report to their respective national sections of the Panel. The committee may receive assignments of a technical nature from the Fraser River Panel and will report results directly to the Panel.

(b) membership of the committee shall consist of up to three such technical representatives as may be designated by each national section of the Commission.

(c) members of the technical committee shall analyze proposed management regimes, provide technical assistance in the development of proposals for management plans, explain technical reports and provide information and technical advice to the respective national sections of the Panel.

(d) the technical committee shall work with the Commission staff during pre-season development of the fishery regime and management plan and during in-season consideration of regulatory options for the sockeye and pink salmon fisheries of Fraser Panel Area waters to ensure that:

(i) domestic allocation objectives of both Parties are given full consideration;

(ii) conservation requirements and management objectives of the Parties for species and stocks other than Fraser River sockeye and pink salmon in the Fraser River Panel Area during periods of Panel regulatory control are given full consideration; and,

(iii) the Commission staff is timely informed of management actions being taken by the Parties in fisheries outside of the Fraser River Panel Area that may harvest sockeye and pink salmon of Fraser River origin.

(e) the staff of the Commission shall consult regularly in-season with the technical committee to ensure that its members are fully and timely informed on the status of Fraser River sockeye and pink salmon stocks, and the expectations of abundance, migration routes and proposed regulatory options, so the members of the technical committee can brief their respective national sections prior to each in-season Panel meeting.

Chapter 5

COHO SALMON

1. Recognizing that for the past several years some coho stocks have been below levels necessary to sustain maximum harvest and that recent fishing patterns have contributed to a decline in some Canadian and United States coho stocks, and in order to prevent further decline in spawning escapements, adjust fishing patterns, and initiate, develop, or improve management programs for coho stocks, the Parties shall

(a) instruct their respective management agencies to continue to develop coho salmon management programs designed to meet the following objectives

(i) prevent overfishing; and,

(ii) provide for optimum production;

(b) maintain a Joint Coho Technical Committee (Committee), reporting, unless otherwise agreed, to the Panels and the Commission. The membership of the Committee shall include representation from the Northern and Southern Panel Areas. The Committee, inter alia, shall, at the direction of the Commission and relevant Panels

(i) evaluate management actions for their consistency with measures set out in this Chapter and for their potential effectiveness in attaining the objectives established by the Commission;

(ii) annually identify, review, and evaluate the status of coho stocks in relation to the objectives set out in this Chapter and make recommendations for adjustments to the management measures consistent with those objectives;

(iii) present the most current information on exploitation rates and patterns on these stocks, and develop a joint data base for assessments;

(iv) collate available information on the productivity of coho stocks in order to identify the management objectives necessary to prevent overfishing;

(v) present historical catch data and associated fishing regimes;

(vi) estimate stock composition in fisheries of concern to the Commission and Panels;

(vii) devise analytical methods for the development of alternative regulatory and production strategies;

(viii) identify information and research needs, including future monitoring programs for stock assessments;

(ix) investigate the feasibility of alternative methodologies for implementing indicator stock programs in all areas;

(x) for each season, make stock and fishery assessments and recommend to the Commission conservation measures consistent with the principles of the Treaty;

(xi) develop programs to assure the attainment of spawning escapement goals and prevent overfishing;

(xii) exchange information necessary to analyze the effectiveness of alternative fishery regulatory measures in achieving conservation objectives; and,

(xiii) work to develop, under the direction of the Joint Northern and Southern Panels, standard methodologies for coho stock and fishery assessment; and,

(c) unless otherwise agreed, in any area where fisheries of one Party may intercept coho stocks originating in the rivers of the other which require conservation action or such other action as the Commission may determine, that Party will endeavour to limit incidental coho catches in fisheries targeting on other species.

2. For coho stocks shared by fisheries of the United States and Canada, recommendations for fishery regimes shall be made by the Northern Panel for coho salmon originating in rivers with mouths situated between Cape Caution and Cape Suckling and by the Southern Panel for coho salmon originating in rivers with mouths situated south of Cape Caution, as provided in Annex I. At the direction of the Commission, each Party shall establish regimes for its troll, sport, and net fisheries consistent with management objectives approved by the Commission.

3. The Parties agree

(a) for 1991 and 1992, the west coast of Vancouver Island (Canadian Management Areas 21, 23, 24, 25, 26, 27, 121, 123, 124, 125, 126, 127, and 130-1) annual troll harvest shall not exceed 1.8 million Coho;

(b) for 1991 and 1992, the Swiftsure Bank area will be closed to chinook and coho salmon trolling in order to address conservation concerns expressed by both Parties. Troll fishing for sockeye and pink salmon shall, upon appropriate prior notice, be permitted only in order to attain Canadian domestic troll allocation objectives on sockeye and pink;

(c) to avoid any alterations in coho fisheries along the west coast of Vancouver Island that would increase the proportional interception of U.S. coho stocks;

(d) that in 1991 and 1992, for Canadian Area 20, and U.S. Areas 7 and 7A, fisheries directed at coho salmon will be permitted. Notwithstanding this agreement, if the Commission determines that conservation concerns expressed by either Party warrant further restrictions, then the Parties shall limit their catch of coho salmon to that taken incidentally during fisheries under the control of the Fraser Panel and those permitted under the provisions of Annex IV, Chapter 6. Both Parties agree that in 1987, due to conservation concerns expressed by both Parties and agreed to by the Commission, coho fisheries in Canadian Area 20 and U.S. Areas 7 and 7A shall be limited by the levels of incidental coho catch anticipated during fisheries conducted under the control of the Fraser Panel and provisions of Annex IV, Chapter 6;

(e) for 1991 and 1992, the United States shall adhere to presently agreed management objectives in Strait of Juan de Fuca Areas 4B, 5, and 6C; and,

(f) to develop in 1993 and thereafter, troll fishery regimes for the west coast of Vancouver Island that

(i) implement conservation measures approved by the Commission and take into account any increased contributions by the Parties to the fishery; and,

(ii) provide for the sharing of benefits of coho production of each Party consistent with the principles of Article III.

4. Notwithstanding any other provisions of this Chapter, the Commission, for 1993 and thereafter, may set specific fishery regimes as appropriate, which may include troll harvest ceilings, for coho salmon in the intercepting fisheries restricted under this Chapter that

(a) implement conservation measures approved by the Commission;

(b) take into account increased production;

(c) provide for the recognition of benefits of coho production of each Party consistent with the principles of Article III;

(d) take into account actions taken by each Party to address its conservation concerns; and,

(e) take into account time and area management measures which will assist either Party in meeting its conservation objectives while avoiding undue disruption of fisheries.

5. Starting with the 1987 season, a 7.5 percent management range is established above and below a catch ceiling. On a continuing basis, the cumulative deviation (in numbers of fish) shall not exceed that management range. In the event that the cumulative deviation exceeds the range, the responsible Party shall be required, in the succeeding year, to take appropriate management actions to return the cumulative deviation, plus any penalty assessed, to a level within the established management range. Negative cumulative deviations shall not accumulate below the management range. It is the intent of this section to insure that, on average, the annual catch in ceilinged fisheries is equal to the agreed target ceiling.

6. The Parties agree that enhancement efforts designed to increase production of coho salmon would, when combined with catch ceilings and/or time/area management measures, aid in rebuilding depressed natural stocks by reducing the exploitation rates on these stocks. They agree that utilizing this opportunity in the future to rebuild natural stocks is, in most cases preferable to reductions in fishing levels. A major objective of enhancement is to lay the foundation for improved fisheries in Annex areas in the future.

SOUTHERN BRITISH COLUMBIA AND WASHINGTON STATE CHUM SALMON

1. The Parties shall maintain a Joint Chum Technical Committee (Committee) reporting, unless otherwise agreed, to the Southern Panel and the Commission. The Committee, inter alia, will undertake to

(a) identify and review the status of stocks of primary concern;

(b) present the most current information on harvest rates and patterns on these stocks, and develop a joint data base for assessments;

(c) collate available information on the productivity of chum stocks to identify escapements which produce maximum sustainable harvests and allowable harvest rates;

(d) present historical catch data, associated fishing regimes, and information on stock composition in fisheries harvesting those stocks;

(e) devise analytical methods for the development of alternative regulatory and production strategies;

(f) identify information and research needs, to include future monitoring programs for stock assessment; and,

(g) for each season, make stock and fishery assessments and evaluate the effectiveness of management.

2. In 1991 and 1992, Canada will manage its Johnstone Strait, Strait of Georgia, and Fraser River chum fisheries to provide continued rebuilding of depressed naturally spawning chum stocks, and, to the extent practicable, minimize increased interceptions of United States origin chum. Terminal fisheries conducted on specific stocks with identified surpluses will be managed to minimize interception of non-targeted stocks.

3. In each of 1991 and 1992,

(a) for Johnstone Strait run sizes less than 3.0 million

(i) Canada, taking into account the catch of Canadian chum in United States Areas 7 and 7A, will limit its harvest rate in Johnstone Strait to less than 10 percent, resulting in a Johnstone Strait catch level of up to 225,000 chum; and,

(ii) when the catch in Johnstone Strait is 225,000 chum or less, the United States catch of chum in Areas 7 and 7A shall be limited to chum taken incidentally to other species and in other minor fisheries, but shall not exceed 20,000, provided, however, that catches for the purposes of electrophoretic sampling shall not be included in the aforementioned limit;

(b) for Johnstone Strait run sizes from 3.0 million to 3.7 million

(i) Canada, taking into account the catch of Canadian chum in United States Areas 7 and 7A, will limit its harvest rate in Johnstone Strait to 20 percent, resulting in a Johnstone Strait catch level of 225,000 to 640,000 chum; and,

(ii) when the catch in Johnstone Strait is from 225,000 to 640,000 chum, the United States catch of chum in Areas 7 and 7A shall not exceed 120,000;

(c) for Johnstone Strait run sizes of 3.7 million and greater

(i) Canada, taking into account the catch of Canadian chum in United States Areas 7 and 7A, will harvest at a rate in Johnstone Strait of 30 percent or greater, resulting in a Johnstone Strait catch level of 640,000 chum or greater; and,

(ii) when the catch in Johnstone Strait is 640,000 chum or greater, the United States catch of chum in Areas 7 and 7A shall not exceed 140,000;

(d) it is understood that the Johnstone Strait run sizes, harvest rates, and catch levels referred to in 3(a), 3(b), and 3(c) are those determined in season, in Johnstone Strait, by Canada; and,

(e) the United States shall manage in a manner that, as far as practicable, maintains a traditional proportion of effort and catch between United States Areas 7 and 7A, and avoids concentrations of effort along the boundary in Area 7A.

4. In 1991 and 1992, the United States shall conduct its chum fishery in the Strait of Juan de Fuca (United States Areas 4B, 5 and 6C) so as to maintain the limited effort nature of this fishery, and, to the extent practicable, minimize increased interceptions of Canadian origin chum. The United States shall continue to monitor this fishery to determine if recent catch levels indicate an increasing level of interception.

5. If the United States chum fishery in Areas 7 and 7A fails to achieve the 1991 and 1992 catch levels specified in paragraphs 3(a)(ii), 3(b)(ii), and 3(c)(ii), any differences shall be compensated by adjustments to the Areas 7 and 7A fishery in subsequent years, except that chum catches below the level specified in paragraph 3(a)(ii) shall not be compensated.

6. Catch compositions in fisheries covered by this chapter will be estimated by post-season analysis using methods agreed upon by the Joint Chum Technical Committee.

7. Canada will manage the Nitinat net chum fishery to minimize the harvest of non-targeted stocks.

8. In 1991 and 1992, Canada shall conduct electrophoretic sampling of chum taken in the West Coast Vancouver Island troll fishery if early-season catch information indicates that catch totals for the season may reach levels similar to 1985 and 1986. Sampling, should it occur, will include catches taken from the southern areas (Canadian Areas 121-124).

Chapter 7

GENERAL OBLIGATION

With respect to intercepting fisheries not dealt with elsewhere in this Annex, unless otherwise agreed, neither Party shall initiate new intercepting fisheries, nor conduct or redirect fisheries in a manner that intentionally increases interceptions.

Appendix C

Revised Pacific Salmon Treaty

Canadian Embassy  Ambassade du Canada

The Honourable Warren M. Christopher,
Secretary of State of the
United States of America,
Washington

Washington, February 3, 1995

Excellency,

I have the honour to refer to your Note, dated February 3 1995, the text of which reads as follow:

I have the honor to refer to negotiations that have been underway since 1985 on a long-term agreement for the conservation of salmon stocks originating from the Yukon River in Canada.

I have the honor to propose that our two Governments conclude an interim Agreement incorporating relevant provisions agreed in the negotiations to date in order to allow institutional arrangements to commence functioning while negotiations continue on a long-term agreement which would incorporate the relevant provisions of the interim Agreement.

To this end, I propose that Annex I to the Treaty between Canada and the United States of America concerning Pacific Salmon, signed at Ottawa on January 28, 1985 ("the Treaty") be amended by adding a new paragraph (d) to establish a Yukon River Panel for salmon originating in the Yukon River. I further propose that Annex IV to the Treaty be amended by adding a new chapter 8 as set forth in Attachment A to this note. Attachment B to this note contains provisions that have been developed in the negotiations to date and that are deferred for the long-term agreement.

I further propose that in the event that the Treaty terminates prior to the termination of this Interim Agreement:

(a) this Interim Agreement shall remain in force;

(b) *the functions of the Yukon River Panel shall be assumed by a new commission, the "Yukon River Salmon Commission", and the Panel shall thereupon cease to exist;*

(c) *other provisions of the Treaty, to the extent they apply to the Yukon River, shall remain in effect as part of this Agreement, mutatis mutandis; and*

(d) *the Parties shall seek to agree on other measures necessary for the continuation and application of this Agreement.*

If this proposal is acceptable to the Government of Canada, I have the further honor to propose that this note, with Attachment A, together with your Excellency's note in reply, shall constitute an Agreement between our two Governments, which will enter into force on the date of your Excellency's note and remain in force until December 31, 1997, unless the Parties agree in writing to extend it.

Accept, Excellency, the renewed assurances of my highest consideration.

I have the honour to inform you that the proposals contained in the above note are acceptable to the Government of Canada and to confirm that that Note and the present note in reply, which is equally authentic in English and French, shall constitute an interim agreement between our two Governments for the conservation of salmon stocks originating from the Yukon River in Canada.

Please accept, Excellency, the renewed assurances of my highest consideration.

Raymond A. J. Chrétien
Ambassador of Canada

Yukon River

Definitions

1. For the purposes of this Chapter,

   (a) "Restoration" means returning a wild salmon stock to its natural production level;

   (b) "Enhancement" means expanding a wild salmon stock beyond its natural production level;

   (c) "Yukon River" means the entire Yukon River drainage in Canada and the United States;

   (d) "Yukon River in Canada" means the entire Yukon River drainage in Canada, including the Porcupine River drainage; and

   (e) "Mainstem Yukon River in Canada" means the Yukon River drainage in Canada, excluding the Porcupine River drainage.

Administration

2. This Chapter applies to salmon originating in the Yukon River.

3. The Parties shall seek to ensure the effective conservation of stocks originating in the Yukon River. The Parties shall implement agreed research and management programs, as provided for in memoranda of understanding and this Chapter, further develop co-operative research and management programs, and shall identify potential restoration and enhancement opportunities.

4. Article II, paragraphs 7, 8, 18, 19, and 20, Article IV, Article V, Article VII, and Article XIII, paragraph 2, shall not apply to salmon referred to in paragraph 2. With regard to Article XII, for matters related to the Yukon River, the Yukon River Panel shall substitute for the Commission.

5. Subject to the approval of the Parties, the Yukon River Panel shall make such by-laws and procedural rules, for itself, as may be necessary for the exercise of its functions and the conduct of its meetings.

6. Each Party shall designate the responsible management entity for the harvest of salmon referred to in paragraph 2.

7. The Yukon River Panel shall make recommendations to the management entities concerning the conservation and management of salmon originating in the Yukon River in Canada.

8. The responsible management entities shall take into account the proposals of the Yukon River Panel in the adoption of regulations, and shall ensure the enforcement of these regulations.

9. The Parties shall maintain the Yukon River Joint Technical Committee ("JTC") established by paragraph C.2 of the Memorandum of Understanding dated 28 January 1985, reporting to the Yukon River Panel. The JTC shall meet at least once a year to, inter alia:

   (a) assemble and refine information on migratory patterns and the extent of exploitation in fisheries harvesting Yukon River origin salmon;

   (b) review existing assessment techniques and investigate new ways for determining total return and escapement and make recommendations on optimum spawning escapement objectives;

   (c) examine past and current management regimes and recommend how they may be better formulated to achieve escapement objectives;

   (d) exchange information on proposed and existing restoration and enhancement programs, identify restoration and enhancement opportunities and evaluate the management consequences of harvests of restored or enhanced fish;

   (e) develop and recommend restoration and enhancement programs to be funded by the Yukon River Salmon Restoration and Enhancement Fund;

   (f) monitor and coordinate agreed research programs and recommend research required in order of priority to enable the Parties to effectively implement this Chapter;

   (g) evaluate annually the status of Canadian origin chum and chinook salmon stocks and make recommendations for adjustments to the rebuilding programs set out in this Chapter;

   (h) use existing procedures and investigate new ways to evaluate progress in rebuilding salmon stocks where necessary;

   (i) investigate and recommend stock separation studies that would assist in developing specific fishery management programs for individual salmon stocks;

(j) review and analyze the effectiveness of alternate fishery regulatory measures to satisfy conservation objectives;

(k) submit an annual report to the Yukon River Panel on fishery performance, including harvests and fishing effort of all user groups, fish values made available by either side and biological status of stocks;

(l) review information available on coho salmon originating in the Yukon River, and undertake assessments of such stocks;

(m) report on the condition of salmon habitat and measures to be taken to protect or enhance salmon habitat; and

(n) undertake other assignments as agreed by the Yukon River Panel, which may include analysis of socioeconomic characteristics of the fishery.

10. The Yukon River Panel shall make recommendations to the responsible management entities to coordinate management of the Yukon River fisheries that affect Canadian-origin salmon stocks. These entities shall exchange annual fishery management plans prior to each season. It is understood that coordinated management of coho salmon is not being considered at this time.

Mainstem Yukon River

Chum Salmon

11. With respect to chum salmon originating in the Yukon River in Canada, the Parties agree that spawning escapements have declined in recent years and are now substantially below levels necessary to achieve optimum sustained yield. Recognizing the desirability of rebuilding the stock, the Parties shall, through their respective management entities, implement a brood year rebuilding program for the Canadian mainstem chum stock to attain by 2001 the agreed escapement objective of more than 80,000 chum salmon for each brood year. The rebuilding program shall take into account the relative health of the brood years and endeavour to rebuild the stronger brood years in one cycle and the weaker brood years in three cycles in equal increments. The Yukon River Panel shall establish and modify as necessary the escapement objectives based on recommendations of the JTC.

12. During the rebuilding program for the Canadian mainstem chum stock, Canada will endeavour to manage the harvest of chum salmon in the mainstem Yukon River in Canada within a guideline harvest range of 23,600 in years of weak returns and 32,600 in years of strong returns. The United States will endeavour to deliver to the Canadian border on the mainstem Yukon River the number of chum salmon necessary to meet the spawning escapement objective for that year in the rebuilding program, and provide for a Canadian harvest within the agreed Canadian guideline harvest range. For the years 1992-1995, the United States will endeavour to deliver to the Canadian border on the mainstem Yukon River numbers of chum salmon within the following ranges:

1992	74,600 -	112,600
1993	74,600 -	112,600
1994	84,600 -	112,600
1995	103,600 -	112,600

If spawning escapements from 1992 to 1995 reach the levels anticipated, the United States will, for the remainder of the rebuilding period, endeavour to deliver annually between 88,600 and 112,600 chum salmon to the Canadian border on the mainstem Yukon River. However, if the spawning escapement objective is not achieved for any brood year, the Panel shall establish a new rebuilding program for that brood year to complete the rebuilding program by 2001.

13. During the rebuilding program, for any year when a strong return is anticipated, the Yukon River Panel shall consider recommending a spawning escapement objective substantially above 80,000. If the Panel makes such a recommendation for that year, the United States will endeavour, for that year, to deliver to the Canadian border on the mainstem Yukon River the number of chum salmon necessary to meet the spawning escapement objective recommended by the Panel, plus the Canadian harvest range for the rebuilding program.

14. These arrangements regarding border escapement and Canadian guideline harvest range set out above for the rebuilding period will terminate not later than the end of 2001.

15. The responsible management entities shall consult closely and where possible coordinate pre-season management planning and in-season responses to run assessments. If during pre-season discussion within the Yukon River Panel consideration is being given to not conducting a directed commercial fishery in Alaska because of serious conservation concerns, Canada will also consider taking such a measure. If it is determined in-season that pre-season management measures agreed to by the Panel are insufficient to achieve agreed spawning escapement levels, the Parties agree to consider taking further conservation measures to meet the escapement objectives.

Chinook Salmon

16. With respect to chinook salmon originating in the Yukon River in Canada, the Parties agreed that spawning escapements declined substantially below levels necessary to achieve optimum sustainable yields. Recognizing the desirability of arresting the decline, the Parties agree to a minimum spawning escapement objective of 18,000 for the Canadian mainstem chinook stock for six years beginning in 1990. Recognizing the difficulty of managing selectively Yukon River chinook salmon stocks, the Parties will endeavour to meet the spawning escapement objective. During this six-year period, the Panel shall develop a rebuilding program that will result in optimum sustained yields from the stock and recommend measures to implement this program.

17. During the period of 1990 to 1995 inclusive for the Canadian mainstem chinook stocks, the United States will endeavour to deliver annually between 34,800 and 37,800 chinook salmon to the Canadian border on the mainstem Yukon River and Canada will endeavour to manage the harvest of chinook salmon in the mainstem Yukon River in Canada within a guideline harvest range of 16,800 in years of weak returns and 19,800 in years of strong returns.

18. In years of very strong returns the United States agrees to consider, with a view to increasing, the border escapement in order to allow spawning escapement above the stabilization level.

19. The responsible management entities shall consult closely and where possible coordinate pre-season management planning and in-season responses to run assessments. If during pre-season discussion within the Yukon River Panel, consideration is being given to not conducting a directed commercial fishery in Alaska because of serious conservation concerns, Canada will also consider taking such a measure. If it is determined in-season that pre-season management measures agreed to by the Panel are insufficient to achieve agreed spawning escapement levels, the Parties agree to consider taking further conservation measures to meet the escapement objectives.

Porcupine River

20. The Parties recognize that limited information currently exists for salmon stocks spawned in the Porcupine River drainage in Canada. Information available for the Fishing Branch fall chum salmon stock indicates that spawning escapements for this stock are below interim escapement objectives.

21. The Parties further recognize that the agreed rebuilding program for salmon spawned in the mainstem Yukon River in Canada is expected to contribute increased escapements to Porcupine River stocks.

22. To ensure that maximum benefits accrue to Porcupine River spawning escapements from the rebuilding program for mainstem stocks, the Parties agree:

    (a) not to initiate new fisheries on Canadian-origin stocks within the Porcupine River drainage before December 31, 1999; and

    (b) if after this period either Party intends to initiate a new fishery on the Porcupine River, that Party shall inform the Yukon River Panel, which shall have the authority to make recommendations for management arrangements to the Parties.

23. The JTC shall compile existing information on the status of Porcupine River salmon stocks and on management and research tools available for management of these stocks. Based on this information, the JTC shall:

    (a) advise the Yukon River Panel regarding the status of these stocks and the benefits accruing to Porcupine River salmon spawning escapements from the mainstem rebuilding program;

    (b) prepare a range of potential rebuilding options for the Fishing Branch River fall chum salmon, including the option of allowing these stocks to rebuild as a result of the rebuilding program agreed to for the Yukon River mainstem fall chum salmon stock; and

    (c) recommend to the Yukon River Panel ways to improve and expand information needed to better manage these stocks for optimum production.

24. Based on information and recommendations provided by the JTC, the Yukon River Panel shall consider making recommendations to the Parties regarding rebuilding, restoration and improved management of these Porcupine River stocks.

General

25. If information becomes available that indicates that the catch records that provided the basis for the Canadian guideline harvest range in paragraphs 12 (Chum Salmon) and 17 (Chinook Salmon) are erroneously low, at Canada's request the Yukon River Panel may recommend increasing the ranges set out in these paragraphs to reflect the adjusted figures for the Aboriginal Fishery and the sport fishery catch.

26. With respect to coho salmon originating in the Yukon River in Canada, the Parties agree that the status of these stocks is not known with certainty.

27. The Parties agree that efforts designed to increase the in-river return of Yukon River origin salmon by reducing the marine catches and by-catches of Yukon River salmon would benefit the status of the Yukon River stocks. The Parties agree to identify, quantify and undertake efforts to reduce these catches and by-catches.

28. The Parties agree that the numbers of Canadian-origin Yukon River salmon in U.S. marine catches are presently unknown.

29. The Parties agree that, in light of their respective receipt of benefits from the salmon originating in their territories:

    (a) salmon should be afforded unobstructed access to and from, and use of, existing migration, spawning and rearing habitats;

    (b) water quality standards should be maintained and enforced;

    (c) it is essential to maintain the productive capacity of the salmon habitat on both sides of the boundary in order to achieve the objectives of this Chapter; and

    (d) should access be obstructed, water quality standards be degraded or productive capacity of the salmon habitat be diminished to a degree that affects the objectives of this Chapter, the Panel may recommend corrective actions which may include adjustments to fishing patterns, border escapement objectives and guideline harvest ranges.

30. The Parties agree to endeavour, subject to budgetary limitations, to implement the fisheries research and management programs recommended by the JTC for coordinated management of the Yukon River chinook and chum salmon stocks.

Restoration and Enhancement Fund

31. It is understood that the Parties' implementation of Article III(l)(b) as it pertains to the Yukon River must recognize factors unique to the Yukon River drainage system.

32. The Parties agree that further discussion is required regarding Article III (1)(b) and the percentage of the U.S. harvest of each species of salmon originating in Canadian sections of the river that shall be deemed to be of U.S. origin in order to conclude a long-term agreement. Pending resolution the Parties agree that:

(a) there shall be established a Yukon River Salmon Restoration and enhancement Fund, hereinafter referred to as "the Fund", to be managed by the Yukon River Panel;

(b) the Fund shall be used for programs and directly associated research and management activities on either side of the border which are based on recommendations by the JTC and are directed at the restoration and enhancement of Canadian origin salmon stocks;

(c) the United States shall seek to provide annually to the Fund by December 31 of each year beginning in 1995 a financial contribution, subject to the availability of appropriated funds. In the event that the annual contribution is not made this agreement shall be suspended until the contribution for that year is made;

(d) the Parties shall assist the Yukon River Panel in the development and implementation of these programs and shall, in particular, provide from their own budgetary resources, essential support as required for programs in their territories;

(e) during rebuilding as specified in this Chapter, unless the Parties jointly decide otherwise on the basis of recommendations by the Yukon River Panel:

(1) the Parties shall endeavour to allow spawning escapements to increase as a result of the fish produced from restoration activities, taking into account the desirability of avoiding disruption of existing fisheries;

(2) the agreed Canadian guideline harvest levels during rebuilding will not change; and

(3) harvest shares for salmon produced by enhancement activities will be recommended by the Yukon River Panel, taking into account the objectives of the rebuilding programs and the desire to avoid disruptions of existing fisheries.

Following the rebuilding period the catch shares for the fish produced through these programs shall be recommended by the Yukon River Panel; and

(f) the Fund shall be open for additional financial contributions from any source.

33. The Parties shall jointly develop and implement policies and procedures for planning, feasibility studies and operational methods. As a first step, the Parties shall undertake comprehensive cooperative regional planning and field surveys for possible salmon restoration and enhancement programs, the results of which shall be provided to the JTC. As part of this planning process, both Parties should incorporate fish genetic and health guidelines developed by the JTC.

34. The Parties understand that the financial contributions to the Fund shall be used for the programs described in Paragraph 32(b) to provide benefits for U.S. and Canadian fishermen on the Yukon River.

Principles and Guidelines for the Restoration and Enhancement Fund

Principles

35. Restoration and enhancement activities shall be consistent with the protection of the existing wild salmon stocks and the habitats upon which they depend.

36. Given the wild nature of the Yukon River and its salmon stocks, and the substantial risks associated with large scale enhancement through artificial propagation, these enhancement activities are inappropriate at this time.

37. Artificial propagation shall not be used as a substitute for effective fishery regulation, stock and habitat management or protection.

Guidelines

38. The priorities for implementing projects with the Fund shall be in this order: (a) restoring habitat and wild stocks; (b) enhancing habitat; and (c) enhancing wild stocks.

39. Careful planning is necessary before undertaking any restoration or enhancement projects that might impact any wild stock. Projects shall be evaluated by the Yukon River Panel based on a Yukon River basin wide stock rebuilding and restoration plan. A careful assessment and inventory of wild stocks and their health, habitat, and life history must be an integral part of restoration and enhancement planning.

40. The most stringent of the fish genetics and fish disease policies in place by the responsible management entity of either Party will be applied to salmon restoration or enhancement projects.

41. The JTC shall develop a standard proposal format and implement a procedure for reviewing project proposals for use of the Fund. The JTC shall also develop and implement standard procedures for evaluating proposals for use of the Fund. When appropriate, the JTC will provide an evaluation of the ecological and genetic risks, and socioeconomic impacts, and will identify alternative actions including but not restricted to fishery management actions. The JTC shall establish levels for restored stocks consistent with natural habitat capacity.

42. Following JTC evaluation of proposed projects, each Party shall provide an opportunity for public comment and review of the proposed projects, along with the JTC evaluation.

43. The Yukon River Panel shall then decide which projects to fund, based on these guidelines, the JTC evaluation and any public comments received.

Deferred Elements

1. Regarding preambular statements:

Recognizing that salmon stocks originating from the Yukon River in Canada are harvested by fishermen of both Canada and the United States and that effective conservation and management of these resources are of mutual interest,

Recognizing the uniqueness of the Yukon River and its salmon fisheries,

Having as their principal goal in adapting the Pacific Salmon Treaty to the Yukon River drainage system to rebuild and conserve stocks and provide benefits to the fisheries of both countries on this river system, which means the maintenance in both countries of viable fisheries on the Yukon River,

Recognizing that considerable work needs to be done to understand the composition of stocks in the various Yukon River fisheries and to develop effective management techniques to conserve specific stocks while allowing higher harvest rates on other stocks,

2. Regarding implementation of Article III(1)(b) of the Treaty:

[U.S. proposal: With respect to the implementation of Article III(1)(b) of the Treaty in relation to the Yukon River, the Parties agree that the subsistence and small-scale commercial fishermen of the Yukon River in both countries shall not suffer disruption in the fisheries in which they participate. The Parties agree that the subsistence fisheries in each country are entitled to the highest use. The Parties agree that adjustment of catch allocations shall not be the method through which Article III(1)(b) shall be implemented in relation to the Yukon River.] [Canadian proposal: <u>The Parties agree that further adjustment of catch allocations of wild stocks, beyond catch allocations established in the Yukon River Salmon Protocol to the Pacific Salmon Treaty, shall not be the method through which Article III (1)(b) of the Pacific Salmon Treaty shall be implemented in relation to the Yukon River.</u>]

3. Regarding the application of Article V of the Treaty:
[Article V of the Treaty to be incorporated into the text.]

4. Regarding the sharing of chum salmon after rebuilding:

The shares of total allowable catch (TAC) [U.S. Proposal: in the Yukon River] from the stock of chum salmon which [U.S. Proposal spawns] [Canadian Proposal: originates] in the mainstem Yukon River drainage in Canada specified below shall

apply beginning in 2002. The TAC for this stock shall be determined annually by the Yukon River Panel based upon pre-season projections of run strength by the JTC, and modified as necessary, by the responsible management entities based on in-season assessments. However, these catch shares shall apply at an earlier date if [Canadian Proposal: the weighted average of] spawning escapements of this stock for the two principals brood years exceeds the minimum escapement objective recommended by the JTC, currently 80,000 [Canadian Proposal: and the TAC is 80,000 or more].

[U.S. Proposal:

Canada:

27% of TAC for that portion of TAC up to 120,000 chum salmon, plus _% of TAC for that portion of TAC in excess of 120,000 chum salmon.

U.S.:

73% of TAC for that portion of TAC up to 120,000 chum salmon, plus _% of TAC for that portion of TAC in excess of 120,000 chum salmon.]

[Canadian Proposal:

For TACs of 80,000 or more

Canada: 45% of the TAC

U.S.: 55% of the TAC

For TACs of less than 80,000

A floor of 23,600 for Canada shall apply; the Yukon River Panel will distribute the difference between the floor level and the TAC.]

5. Regarding chum salmon returns substantially below expectations:

[U.S. Proposal: If in any year during the rebuilding program for chum salmon subject to this Section the salmon return in numbers substantially lower than expected due to causes beyond the control of the Parties, the Panel shall recommend to the Parties the adjustment of the border escapement objective and Canadian guideline harvest range so that the resulting burdens of reduced harvest are shared.]

6. Regarding the sharing of chinook salmon after rebuilding:
The shares of total allowable catch (TAC) [U.S. Proposal: in the Yukon River] from the stock of chinook salmon which [U.S. Proposal: spawns] [Canadian Proposal: originates] in the mainstem Yukon River drainage in Canada specified below shall apply beginning in [U.S. Proposal: _____] [Canadian Proposal: 2005]. The TAC for this stock shall be determined annually by the Yukon River Panel based on pre-season projections of run strength by the JTC, and modified as necessary by the responsible management entities based upon in-season assessments. However, these catch shares shall apply at an earlier date [Canadian Proposal: between the end of the stabilization period and 2005] if [Canadian Proposal: the weighted average of] escapement of this stock for the two principal brood years exceeds the minimum escapement objective recommended by the JTC, currently 33,000 [Canadian Proposal: and the TAC is 80,000 or more].

[U.S. Proposal:

Canada:

18% of TAC for that portion of TAC up to 110,000 chinook salmon, plus __% of TAC for that portion of TAC in excess of 110,000 chinook salmon.

U.S.:

82% of TAC for that portion of TAC up to 110,000 chinook salmon, plus __% of TAC for that portion of TAC in excess of 110,000 chinook salmon.]

[Canadian Proposal:

For TACs of 80,000 or more

Canada: 55% of the TAC

U.S.: 45% of the TAC

For TACs less than 80,000

A floor of 16,800 for Canada shall apply; the Yukon River Panel will distribute the difference between the floor level and the TAC.]

7. Regarding chinook salmon returns stronger than expected:

[Canadian Proposal: During the stabilization program or during any rebuilding program implemented by the Panel, for any year when a very strong return is anticipated, the Yukon Panel shall consider recommending a spawning escapement objective substantially above the stabilization/rebuilding escapement level. If the Panel makes such a recommendation for that year, the U.S. will endeavour, for that year, to deliver to the Canadian border on the mainstem Yukon River the number of chinook salmon necessary to meet the spawning escapement objective recommended by the Panel, plus the Canadian harvest range for the stabilization/rebuilding program.]

8. Regarding chinook salmon returns substantially below expectations:

[U.S. Proposal: If in any year during the stabilization and rebuilding programs for chinook salmon subject to this Section the salmon return in numbers substantially lower than expected due to causes beyond the control of the Parties, the Yukon River Panel shall recommend to the Parties the adjustment of the border escapement objective and Canadian guideline harvest range so that the resulting burdens of reduced harvest are shared.]

9. Regarding the Porcupine River:

[Canadian Proposal: Catch shares for the Canadian-origin Porcupine River chum salmon stocks after rebuilding shall be recommended to the Parties by the Yukon River Panel.]

10. Regarding coho salmon:

When sufficient information on coho salmon originating in the Yukon River in Canada becomes available, the Yukon River Panel shall determine the U.S. contribution to the Fund with respect to such salmon using [Canadian Proposal: the same] [U.S. Proposal: a similar] valuation formula as that provided for chinook and chum salmon, unless the Yukon River Panel decides otherwise.

11. Regarding U.S. marine catches:

[Canadian Proposal: when sufficient information on these numbers become available...]

12. Regarding deeming:

The Parties agree that ___% of the United States [U.S. Proposal: Yukon River] harvest of salmon originating in the Yukon River drainage in Canada shall be deemed to be of United States origin.

13. Regarding the U.S. financial contribution to the Fund during the long-term agreement:

The amount of the U.S. financial contribution to the Fund shall be determined by the Yukon River Panel. To determine this contribution the Yukon River Panel shall:

a. estimate, based on the recommendation of the JTC, the number of Canadian-origin chinook and chum salmon in the U.S. harvest for the previous year, using, for the first year, the figure of __% for Canadian-origin chinook salmon and __% for Canadian-origin chum salmon;

b. subtract the number of Canadian origin chinook and chum salmon deemed, in accordance with Paragraph [X], to be of U.S. origin; and

c. multiply the resulting figures by the average commercial [Canadian Proposal: wholesale] [U.S. Proposal: ex-vessel market] values for chinook and chum salmon caught by the Canadian Yukon River commercial fishery in the year for which the calculation is done;

d. in the event that, for any year, the Yukon River Panel cannot by the end of December of the following year agree on the above estimates, and the dispute is submitted for referral to a Technical Dispute Settlement Board, the estimates established for the previous year shall apply for that year until they are replaced by different estimates established by the decision of the Board.

14. Further regarding contributions to the Fund:

The Parties further understand that application of the provisions of Paragraph 32 represents compensation [Canadian Proposal: owed to Canada] for U.S catches of Canadian-origin Yukon River salmon and shall represent full implementation of Article III(1)(b) as it applies to Canadian origin Yukon River salmon.

Appendix D

Appointment of Officers for 1995/96

Effective January 24, 1996, the new slate of officers for the Pacific Salmon Commission was identified as follows:

(a)	Commission Chair	U.S.	R.A. Turner
(b)	Commission Vice-Chair	Can.	P.S. Chamut
(c)	Fraser River Panel Chair	U.S.	L. Loomis
(d)	Fraser River Panel Vice-Chair	Can.	A.F. Lill
(e)	Northern Panel Chair	U.S.	K. Duffy
(f)	Northern Panel Vice-Chair	Can.	C. Dragseth
(g)	Southern Panel Chair	Can.	P. Sprout
(h)	Southern Panel Vice-Chair	U.S.	T.B.A.
(i)	Meetings of the Northern and Southern Panels		
	- Chair	Can.	P. Sprout
	- Vice-Chair	U.S.	T.B.A.
(j)	Meetings of the Fraser and Southern Panels		
	- Chair	U.S.	Terry Williams
	- Vice-Chair	Can.	A.F. Lill
(k)	Stan. Comm. on F&A - Chair	U.S.	R. Rousseau
(l)	Stan. Comm. on F&A - Vice-Chair	Can.	C.C. Graham
(m)	Stan. Comm. on R&S - Chair	Can.	B. Valentine
(n)	Stan. Comm. on R&S - Vice-Chair	U.S.	K. Brigham

Appendix E

Approved Budget FY 1996/97

1.	INCOME		
	A. Contribution from Canada	(a) regular	$800,000
		(b) special	$100,000
	B. Contribution from U.S.	(a) regular	800,000
		(b) special	100,000
	Sub total		$1,800,000
	C. Carry-over from 1995/96		320,401
	D. Interest		22,000
	E. Other income		0
	F. Total Income		$2,142,401
2.	EXPENDITURES		
	A. 1. Permanent Salaries and Benefits		$1,259,933
	2. Temporary Salaries and Benefits		134,380
	3. Total Salaries and Benefits		$1,394,313
	B. Travel		66,412
	C. Rents, Communications, Utilities		115,740
	D. Printing and Publications		21,500
	E. Contractual Services		130,836
	F. Supplies and Materials		39,743
	G. Equipment		118,387
	H. Mission Research - Split Beam		128,364
	I. Mission Research - Scintillometer		25,000
	J. Total Expenditures		$2,040,295
3.	BALANCE (DEFICIT)		$102,106
4.	TEST FISHING PROGRAM		
	A. Forecast Revenues		$252,313
	B. Forecast Expenditures		230,861
	C. Forecast Balance		$21,452
5.	TOTAL BALANCE (DEFICIT)		$123,558

Appendix F

Pacific Salmon Commission
Approved Meeting Schedule for 1996/97

1. Commission Executive Session
   December 10-12, 1996
   Offices of the Pacific Salmon Commission
   Vancouver, B.C.

2. Post-Season Meeting and Panels' Negotiating Session
   January 13-17, 1997
   Four Seasons Hotel
   Vancouver, B.C.

3. Twelfth Annual Meeting of the Pacific Salmon Commission
   February 10-14, 1997
   Hilton Hotel
   Portland, Oregon

Appendix G

Pacific Salmon Commission
Secretariat Staff as of March 31, 1996

EXECUTIVE OFFICE

Ian Todd
Executive Secretary

Teri Tarita
Records Administrator/Librarian

Vicki Ryall
Meeting Planner

Janice Abramson
Secretary

FINANCE & ADMINISTRATION

Kenneth N. Medlock
Finance and Administration

Bonnie Dalziel
Accountant

FISHERY MANAGEMENT

James C. Woodey
Chief Biologist

Jim Gable
Head, Racial Identification Group

Jim Cave
Head, Stock Monitoring Group

Mike Lapointe
Project Biologist, Sockeye

Peter Cheng
Project Biologist, Acoustics

Bruce White
Project Biologist, Pinks

Yunbo Xie
Hydroacoustics Biologist

Keith Forrest
Racial Data Biologist

Ian Guthrie
Head, Biometrics

Carol Lidstone
Scale Analyst

Doug Stelter
Statistician

Jullie Andersen
Scale Analyst

Kathy Mulholland
Computer Systems Manager

Cherri McGarvie
Scale Analyst

Holly Derham
Assistant Scale Analyst

Appendix H

Membership Lists for Standing Committees, Panels, Joint Technical Committees and other Appointments as of March 31, 1996

UNITED STATES	CANADA

1. STANDING COMMITTEE ON FINANCE AND ADMINISTRATION

Mr. Rollie Rousseau (Chair)	Mr. C.C. (Bud) Graham (Vice-Chair)
Mr. David Benton	Mr. Patrick S. Chamut
Mr. Charles K. Walters	Ms. Joyce Quintal-McGrath
Mr. James Heffernan	Ms. Heather James
Mr. W. Ron Allen	Mr. A.W. (Sandy) Argue
Dr. John L. McGruder	

Staff: I. Todd (ex. officio)

Editorial Board

Dr. Norma Jean Sands	Mr. A.W. (Sandy) Argue

Staff: I. Todd

2. STANDING COMMITTEE ON RESEARCH AND STATISTICS

Ms. N. Kathryn Brigham (Chair)	Mr. Bill Valentine (Vice-Chair)
Dr. Norma Jean Sands	Dr. Brian Riddell
Mr. Ben Van Alen	Mr. David Peacock
Dr. Don Bevan	Mr. Ron Kadowaki
Dr. James C. Olsen	Mr. Sandy Johnston
Dr. Gary S. Morishima	Dr. Max Stocker
Mr. Gary R. Graves	Dr. Jake Rice
Mr. Michael Grayum	Ms. Susan Bates
Mr. James B. Scott	Mr. Al Macdonald

Research and Statistics Working Group

Dr. Norma Jean Sands	Mr. A.W. (Sandy) Argue
Mr. Larry Rutter	Ms. Susan Steele
Mr. Thomas D. Cooney	Ms. Frances Dickson
Mr. Lee H. Blankenship	
Mr. Charles K. Walters	
Mr. Mike Matylewich	

Staff: I. Todd (ex. officio)

Ad Hoc Joint Interceptions Committee

Dr. Gary S. Morishima (Co-Chair)
Dr. Richard Moore
Dr. Norma Jean Sands
Mr. A.W. (Sandy) Argue (Co-Chair)
Ms. Barb Snyder
Mr. Ken Wilson

COMMISSIONER REPRESENTATIVES

Mr. Robert Turner
Mr. Patrick S. Chamut

Ad Hoc Joint Objectives and Goals Committee

Mr. Thomas D. Cooney (Co-Chair)
Ms. N. Kathryn Brigham
Mr. Larry Rutter
Mr. Kevin C. Duffy
Mr. C.C. (Bud) Graham (Co-Chair)
Mr. A.W. (Sandy) Argue
Mr. Colin N. MacKinnon

COMMISSIONER REPRESENTATIVES

Mr. Robert Turner
Mr. Patrick S. Chamut

3. FRASER RIVER PANEL

Ms. Lorraine Loomis (Chair)
Mr. William L. Robinson
Mr. A. Dennis Austin
Mr. Jack R. Giard
Mr. Al F. Lill (Vice-Chair)
Mr. Mike Forrest
Mr. Larry Wick
Ms. Diane Bailey
Mr. Mike Griswold
Mr. William Otway

Fraser River Panel Alternates

Mr. Bruce Sanford
Mr. Ronald G. Charles
Mr. Robert Suggs
Mr. Vince Fiamengo
Ms. Kaarina McGivney
Mr. Mike Medenwaldt
Mr. Terry Lubzinski
Mr. Murray Chatwin
Ms. Christine Hunt

4. SOUTHERN PANEL

Mr. Terry R. Williams (Vice-Chair)
Mr. Thomas D. Cooney
Mr. Burnell Bohn
Mr. William L. Robinson
Mr. James E. Harp
Mr. Keith E. Wilkinson
Mr. Paul Sprout (Chair)
Mr. Tom Davis
Mr. Ron Fowler
Mr. John Legate
Mr. Richard Watts
Ms. Geraldine (Danni) Tribe

Southern Panel Alternates

Dr. Donald O. McIsaac
Mr. Eugene Greene Sr.
Mr. Michael A. Peters
Mr. Mark Cedergreen
Ms. Susan Steele
Mr. Roy Alexander
Mr. Basil Ambers
Ms. Patricia Guiguet
Mr. John Sutcliffe
Mr. Ron Parke

5. NORTHERN PANEL

Mr. Kevin C. Duffy (Chair)
Ms. Deborah A. Lyons
Mr. Arnold Enge
Mr. Don W. Collinsworth
Mr. William Foster
Mr. James E. Bacon
Mr. Chris Dragseth (Vice-Chair)
Mr. Mark Forand
Mr. William Kristmanson
Mr. Alan Ronneseth
Mr. Russ Jones

Northern Panel Alternates

Mr. Scott Marshall
Mr. Gerald P. Merrigan
Mr. Robert M. Thorstenson
Mr. James D. Becker
Mr. Rick Haugan
Mr. Ray Kendel
Mr. Robert H. Hill
Ms. Joy Thorkelson
Ms. Lynn Christie
Mr. Burt Hunt

6. JOINT CHINOOK TECHNICAL COMMITTEE

Mr. James B. Scott (Co-Chair)
Dr. Don Bevan
Mr. Gary R. Freitag
Mr. Edward Bowles
Dr. Kenneth A. Henry
Mr. Alex C. Wertheimer
Dr. Richard Moore
Dr. Gary Winans
Dr. Douglas M. Eggers
Mr. Ronald H. Williams
Dr. Gary S. Morishima
Mr. Timothy W. Roth
Dr. Sandra Moore
Mr. Gregg Mauser
Dr. Brian Riddell (Co-Chair)
Ms. Barb Snyder
Mr. Paul Ryall
Mr. Wilf Luedke
Mr. Bill Shaw
Dr. Brent Hargreave
Dr. Jim Irvine
Mr. Ken Wilson

6. JOINT CHINOOK TECHNICAL COMMITTEE CONT.

Mr. Dave Gaudet
Mr. Jim M. Berkson
Mr. John Carlile
Dr. John Burke
Ms. Marianne Johnson
Dr. John H. Clark
Mr. Scott McPherson
Mr. C. Dell Simmons
Dr. Jeff Koenings

Joint Chinook Working Group

Mr. Thomas D. Cooney (Co-Chair)
Ms. N. Kathryn Brigham
Mr. Dave Gaudet
Dr. Jeff Koenings
Mr. Gerald P. Merrigan
Mr. Burnell Bohn
Mr. Terry R. Williams
Ms. Deborah Lyons
Mr. Keith E. Wilkinson
Mr. Don W. Collinsworth

Mr. Ed Lochbaum (Co-Chair)
Mr. A.W. (Sandy) Argue
Mr. C.C. (Bud) Graham
Dr. Brian Riddell
Mr. Ron Fowler
Mr. Tom Davis
Mr. Alan Ronneseth
Mr. Russ Jones
Mr. William Otway
Mr. Dave Einarson
Ms. Frances Dickson
Mr. Bill Shaw

Joint Chinook Working Group - Alternates

Mr. James B. Scott
Dr. Sandra Moore
Mr. Kevin C. Duffy
Mr. James E. Bacon
Mr. William Foster
Dr. Norma Jean Sands

7. JOINT COHO TECHNICAL COMMITTEE

Dr. Gary S. Morishima (Co-Chair)
Mr. James B. Scott
Mr. Robert A. Hayman
Dr. Kenneth A. Henry
Dr. Peter W. Lawson
Dr. Richard Moore
Mr. Gregory C. Volkhardt
Mr. Robert Wunderlich
Mr. George Milner

Mr. Ron Kadowaki (Co-Chair)
Ms. Lynda Orman
Dr. Blair Holtby
Mr. Ken Wilson
Mr. Richard Bailey
Mr. Bill Shaw
Mr. Paul Ryall

Northern Coho

Dr. John H. Clark
Dr. John E. Clark
Ms. Michele Masuda
Mr. Leon D. Shaul
Mr. Dave Gaudet

8. JOINT CHUM TECHNICAL COMMITTEE

Mr. Gary R. Graves (Co-Chair)
Dr. Kenneth A. Henry
Mr. Nick Lampsakis
Mr. Ralph Boomer
Mr. Tim Tynan
Mr. Randy Hatch
Dr. Gary Winans
Dr. Max Stocker (Co-Chair)
Mr. Paul Ryall
Mr. Wilf Luedke
Mr. Leroy Hop Wo
Mr. Ken Wilson
Mr. Clyde Murray

9. JOINT NORTHERN BOUNDARY TECHNICAL COMMITTEE

Mr. Ben Van Alen (Co-Chair)
Dr. Jack H. Helle
Mr. Phillip S. Doherty
Mr. Glen T. Oliver
Dr. Jim Blick
Dr. Jerome J. Pella
Mr. David Peacock (Co-Chair)
Mr. Les Jantz
Ms. Barb Snyder
Mr. R.S. Hooton
Dr. Chris Wood
Mr. Skip McKinnel

10. JOINT TRANSBOUNDARY TECHNICAL COMMITTEE

Dr. Norma Jean Sands (Co-Chair)
Mr. Andrew J. McGregor
Mr. John H. Eiler
Mr. William R. Bergmann
Ms. Kathleen A. Jensen
Mr. Keith Pahlke
Mr. Sandy Johnston (Co-Chair)
Mr. Pat Milligan
Mr. Pete EthertonDr. James C. Olsen
Mr. Brian Lynch
Mr. Joe J. Muir
Mr. Alan Burkholder

Enhancement Sub-Committee

Mr. Ron Josephson (Co-Chair)
Mr. Michael H. Haddix
Mr. Pete Hagen
Mr. Michael Scott Kelley
Mr. David Barto
Mr. Steve Reifenstuhl
Mr. Bruce Morley (Co-Chair)
Mr. Pat Milligan
Dr. Kim Hyatt

11. JOINT TECHNICAL COMMITTEE ON DATA SHARING

Dr. Norma Jean Sands (Co-Chair)
Dr. Kenneth A. Henry
Dr. Ken Johnson
Dr. Gary S. Morishima
Mr. Mike Matylewich
Mr. Joseph Pavel
Dr. Don Bevan

Ms. Susan Bates (Co-Chair)
Ms. Sue Lehmann

Staff: K. Mulholland (ex. officio)

Working Group on Mark-Recovery Statistics

Dr. Ray Hilborn (Co-Chair)
Dr. John E. Clark
Dr. Kenneth A. Henry
Dr. John Skalski
Mr. Rich Comstock
Mr. Robert Conrad
Dr. Peter W. Lawson

Dr. John Schnute (Co-Chair)
Ms. Carol Cross

Working Group on Data Standards

Dr. Ken Johnson
Mr. Ron Olson
Mr. Charles Corrarino
Mr. Dick O'Connor
Ms. Barbara Haar

Ms. Brenda Adkins

Catch Data Exchange Working Group

Mr. Joseph Pavel (Co-Chair)
Mr. Scott Johnson
Dr. Ken Johnson
Ms. Susan Markey
Mr. Gerald Lukas

Ms. Lia Bijsterveld (Co-Chair)
Ms. Susan Bates

12. FRASER RIVER PANEL TECHNICAL COMMITTEE

Mr. Michael Grayum (Co-Chair)
Mr. Tim Tynan
Mr. Dave Cantillon

Mr. Al Macdonald (Co-Chair)
Mr. Paul Ryall
Mr. Al Cass
Mr. Neil Schubert

13. NATIONAL CORRESPONDENTS

Mr. Charles K. Walters

Mr. A.W. (Sandy) Argue
Ms. Heather James