

Annex IV

Chapter 1 Transboundary Rivers

The provisions of this Chapter shall apply for the period 1999 through 2008.

1. Recognising 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 (the "Committee") reporting, unless otherwise agreed, to the Transboundary Panel and to the Commission. The Committee shall, *inter alia*,:

(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; and

(c) identify enhancement opportunities that:

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

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

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

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:

(1) Sockeye Salmon:

(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 Committee prior to April 1 of each year. This forecast may be modified by the Committee prior to the opening of the fishing season;

b. 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 forecast model developed by the Committee. Both U.S. and Canadian fishing patterns shall be based on current weekly estimates of the TAC. At the beginning of the season and up to an agreed date, the weekly estimates of the TAC shall be determined from the pre-season forecast of the run strength. After that date, the TAC shall be determined from the 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; and

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 Committee.

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

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

(2) Coho salmon:

(i) Consistent with paragraph 2 above, the Parties agree to develop and implement an abundance-based approach to managing coho salmon on the Stikine River. Assessment programs need to be further developed before a MSY escapement goal can be established.

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

(3) Chinook salmon:

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

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

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

(b) the Taku River:

(1) Sockeye salmon:

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

(ii) If the projected in-river escapement is greater than 100,000 sockeye, Canada may, in addition, harvest 20% of the projected in-river escapement above 100,000 sockeye.

(iii) The Parties agree to manage the returns of Taku River sockeye to ensure that each country obtains catches in their existing fisheries equivalent to each country's share of wild sockeye and a 50% share of enhanced sockeye.

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

(2) Coho salmon:

(i) Consistent with paragraph 2 above, the Parties agree to develop and implement an abundance-based approach to managing coho salmon on the Taku River. The Parties commit to developing a revised MSY escapement goal to be implemented no later than May 1, 2004.

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

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

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

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

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

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

(3) Chinook salmon:

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

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

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

(c) the Alsek River:

(i) Consistent with paragraph 2 above, the Parties will develop and implement cooperative abundance-based management programs for Alsek River chinook, sockeye and coho salmon, including MSY escapement and management goals for chinook and sockeye salmon.

(ii) The Committee will be responsible for developing and reporting to the Commission by May 1, an annual pre-season fishery management plan for Alsek River fisheries.

4. The Parties agree that if catch allocations set out for transboundary river salmon are not attained due to management actions by either Party in any one year, compensatory adjustment 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. The Parties agree that midway through the Chapter period, the harvest sharing performance will be evaluated and adjustments made over the remainder of the Chapter period, if necessary. At the end of the Chapter period, cumulative overages or underages will be carried forward to the next Chapter period.

5. The Parties agree that midway through the Chapter period, or other agreed time, they will review the current Chapter and may determine if they want to renew the Chapter for an additional period of time.

6. Consistent with paragraph 2 above, the Parties agree to develop and implement abundance-based fishery regimes for Taku and Stikine River chinook and coho salmon. Once bilaterally agreed MSY escapement objectives and in-season stock assessment programs are established, the Parties agree to examine their respective abilities to access enhanced sockeye salmon and re-examine harvest sharing arrangements for chinook, sockeye and coho salmon.

7. The Parties agree to consider cooperative 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 fishermen of both countries.

8. 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, 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; and

(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.

Appendix to Annex IV, Chapter 1
Understanding on the Joint Enhancement of Transboundary River Sockeye Stocks

Pursuant to Annex IV of the Pacific Salmon Treaty, and recognising the desire of Canada and the United States to continue a joint enhancement program for the transboundary rivers that is carefully planned and co-ordinated:

1. The Parties agree:

(a) to continue to develop strategies for management of the enhanced stocks prior to the return of adult fish;

(b) to continue to develop an agreed process for conducting periodic review of implemented projects to identify and recommend action regarding, *inter alia*:

(i) success or failure of a project in a given year or series of years;

(ii) a distribution of benefits that is substantially different than expected; and

(iii) costs which are substantially greater than expected; and

(c) to recommend a plan, when required, for funding of projects including:

(i) cost sharing arrangements between the Parties; and

(ii) long term funding obligations.

2. The Parties agree to maintain an Enhancement Subcommittee of the joint Transboundary Technical Committee whose Terms of Reference shall be, *inter alia*, to:

(a) develop preliminary summaries of various projects which meet the enhancement goals established by the Transboundary Panel;

(b) develop detailed feasibility studies for projects selected by the Transboundary Panel, including:

(i) estimation of costs and benefits;

(ii) likelihood of success;

(iii) schedules for implementation;

(iv) procedures for evaluation; and

(v) fisheries management plans for the enhanced stocks; and

(c) monitor implementation of projects and report progress to the Transboundary Panel.

3. Project Selection:

(a) General Guidelines:

(i) If broodstock is not available to provide the agreed number of eggs, up to 30% of the available adults will be taken, provided that a minimum of 600,000 eggs are available; if this minimum number is not available, no eggs will be taken;

(ii) A reasonable expectation that a stock identification technique will be available to estimate the contribution of enhanced sockeye in mixed stock fisheries is required in order for these projects to proceed. The appropriate stock identification technique for each fishery will be determined by the joint Transboundary Technical Committee.

(b) Stikine River:

For the duration of this Chapter, the eggtake goal for the Stikine sockeye enhancement program will be six million eggs. The Tahltan Lake sockeye salmon stock will be used as the source of eggs. Eggs will be incubated at the Port Snettisham central incubation facility (CIF). Fry will be planted into Tahltan and Tuya Lakes in the following manner, subject to review by the joint Transboundary Technical Committee:

a. When the sockeye escapement through the Tahltan Lake weir is less than 15,000 fish or an agreed alternate threshold, all fry will be returned to Tahltan Lake;

b. When the sockeye escapement through the Tahltan Lake weir is greater than 15,000 fish or an agreed alternate threshold, the fry will be distributed to Tahltan and Tuya Lakes in a manner which maximises harvestable production and provides information on the potential production capacity of Tuya Lake.

(c) Taku River:

For the duration of this Chapter, the eggtake goal for the Taku sockeye enhancement program will be five million eggs. The Tatsamenie Lake salmon stock will be used as the source of eggs. Eggs will be incubated at the Port Snettisham central incubation facility (CIF). Fry will be planted into Tatsamenie Lake.

4. Harvest principles and cost sharing:

(a) The Parties desire to maximise the harvest of enhanced sockeye salmon in their existing fisheries while considering the conservation needs of wild salmon runs. To avoid impacts on co-migrating stocks and species, exploitation rates applied to Taku and Stikine river sockeye salmon in existing mixed stock fisheries in Canada and the United States shall be at levels compatible with the maintenance of wild stocks.

(b) Harvest sharing arrangements for enhanced stocks will be determined prior to the time eggs are taken to initiate production level enhancement.

5. Cost sharing:

(a) In carrying out joint enhancement projects, capital construction and on-site operating costs shall be borne by the country on whose soil the project components are located.

(b) The costs of producing Stikine River enhanced sockeye salmon shall be shared as follows:

- (i) To be paid by Canada:
 - a. Egg take;
 - b. Egg transport;
 - c. Smolt sampling;
 - d. Sampling and numerical analysis necessary to determine the contribution of enhanced transboundary river sockeye salmon to Canadian fisheries; and
 - e. Limnology sampling and hydroacoustics.
- (ii) To be paid by the United States:
 - a. Construction and operation of that portion of the Port Snettisham CIF that is dedicated to enhancement projects on the transboundary rivers.
 - b. Transport of fry to enhancement site; and
 - c. Sampling and analysis necessary to determine the contribution of enhanced transboundary river sockeye salmon to United States fisheries.
- (iii) Projects to be conducted jointly:
 - a. Disease sampling and analysis.

(c) The costs of producing Taku River enhanced sockeye salmon shall be shared as follows:

- (i) To be paid by Canada:
 - a. Egg take;
 - b. Egg transport;
 - c. Smolt sampling;
 - d. Sampling and numerical analysis necessary to determine the contribution of enhanced Taku River sockeye stocks to Canadian fisheries;
 - e. Limnology sampling and hydroacoustics; and
 - f. Investigations to determine the feasibility of using sockeye from terminal areas, surplus to brood stock and spawning requirements in enhanced systems, for cost recovery.
- (ii) To be paid by the United States:
 - a. Construction and operation of that portion of the Port Snettisham CIF that is dedicated to enhancement projects on the transboundary rivers;
 - b. Transport of fry to the enhancement site;
 - c. Sampling and analysis necessary to determine the contribution of enhanced transboundary river sockeye salmon to United States fisheries; and
 - d. Processing of sockeye otolith samples collected in the Taku River.
- (iii) Projects to be conducted jointly:
 - a. Disease sampling and analysis; and
 - b. Identification and evaluation of alternative sockeye salmon enhancement opportunities in the Taku River.

Chapter 2 Northern British Columbia and Southeastern Alaska

The provisions of this Chapter shall apply for the period 1999 through 2008.

1. With respect to the Portland Canal chum salmon fishery, neither Party shall conduct net fisheries in U.S. District 1A and Canadian sub-areas 3-15 and 3-16 nor conduct directed chum fisheries in U.S. District 1B north and east of Akeku Point or in Canadian sub-areas 3-11 and 3-13 unless agreed otherwise by the Parties.

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

(a) manage the Alaskan District 104 purse seine fishery prior to statistical week 31 to:

(i) achieve an annual catch share of Nass and Skeena sockeye of 2.45 percent of the Annual Allowable Harvest (AAH) of the Nass and Skeena sockeye stocks in that year. The methodology for AAH calculations is provided in the Appendix to this Chapter.

(ii) carry forward from year to year annual deviations from the prescribed catch share arrangement in (i). Details of the procedure are outlined in the Appendix to this Chapter.

(b) manage the Alaskan District 101 drift gillnet fishery to:

(i) achieve an annual catch share of Nass sockeye of 13.8 percent of the AAH of the Nass sockeye stocks in that year. The methodology for AAH calculations is provided in the Appendix to this Chapter.

(ii) carry forward from year to year annual deviations from the prescribed catch share arrangement in (i). Details of the procedure are outlined in the Appendix to this Chapter.

3. With respect to pink salmon, Canada shall

(a) manage the Canadian Area 3-1, 3-2, 3-3 and 3-4 net fishery to:

(i) achieve an annual catch share of 2.49 percent of the AAH of Alaskan Districts 101, 102 and 103 pink salmon in that year. The methodology for AAH calculations is provided in the Appendix to this Chapter.

(ii) carry forward from year to year annual deviations from the prescribed catch share arrangement in (i). Details of the procedure are outlined in the Appendix to this Chapter.

(b) manage the Canadian Area 1 troll fishery to:

(i) achieve an annual catch share of 2.57 percent of the AAH of Alaskan Districts 101, 102 and 103 pink salmon in that year. The methodology for AAH calculations is provided in the Appendix to this Chapter.

(ii) carry forward from year to year annual deviations from the prescribed catch share arrangement in (i). Details of the procedure are outlined in the Appendix to this Chapter.

4. 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.

5. The Parties shall maintain a joint Northern Boundary Technical Committee (the “Committee”) reporting, unless otherwise agreed, to the Northern Panel and the Commission. The Committee shall, *inter alia*,

- (a) evaluate the effectiveness of management actions;
- (b) identify and review the status of pink, chum, sockeye and coho stocks;
- (c) present the most current information on harvest rates and patterns 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.

Appendix to Annex IV, Chapter 2
Understanding on the Application of Annex IV, Chapter 2
(Northern British Columbia and Southeastern Alaska)

1. Annual Allowable Harvest (“AAH”)

(a) Combined Nass and Skeena Sockeye AAH for Alaska District 104 Purse Seine Fishery

The AAH each year will be calculated as the combined total run of adult Nass and Skeena sockeye salmon in that year less the combined Nass and Skeena escapement target of 1.1 million fish. In the event that the actual Nass and Skeena spawning escapement for the season is below the target level, the actual spawning escapement will be used in the AAH calculation.

The total run calculation includes the catches of Nass and Skeena sockeye salmon in the principal boundary area fisheries and the spawning escapements to the Nass and Skeena watersheds. This includes the catch of Nass and Skeena sockeye salmon in: Alaskan Districts 101, 102, 103, 104 and 106 net fisheries; Canadian Areas 1, 3, 4 and 5 net fisheries; and Canadian Nass and Skeena in-river fisheries. Catches in other boundary area fisheries may be included as jointly agreed by the Northern Boundary Technical Committee.

(b) Nass Sockeye AAH for Alaska District 101 Drift Gillnet Fishery

The AAH each year will be calculated as the total run of adult Nass sockeye in that year less the escapement target of 0.2 million fish. In the event that the actual Nass spawning escapement for the season is below the target level, the actual spawning escapement will be used in the AAH calculation.

The total run calculation includes the catches of Nass sockeye salmon in the principal boundary area fisheries and the spawning escapement to the Nass watershed. This includes the catch of Nass sockeye salmon in: Alaskan Districts 101, 102, 103, 104 and 106 net fisheries; Canadian Areas 1, 3, 4, and 5 net fisheries; and Canadian Nass in-river fisheries. Catches in other boundary area fisheries may be included as jointly agreed by the Northern Boundary Technical Committee.

(c) Districts 101, 102 and 103 Pink Salmon AAH for Canadian Area 3(1-4) Net and Area 1 Troll Fisheries

The AAH in each year will be calculated as the total run of adult pink salmon to Alaskan Districts 101, 102 and 103 in that year less the minimum escapement target of 10.75 million fish. In the event that the actual escapement for the season is below the target level, the actual escapement will be used in the AAH calculation.

The total pink salmon run to Alaskan Districts 101, 102 and 103 will be calculated as the catch of Alaskan pink salmon in: Canadian Areas 1, 3, 4 and 5 net and troll fisheries; Alaskan Districts 101, 102, 103 and 104 net and troll fisheries; and in the escapements to Districts 101, 102 and 103.

2. Exchange of Management and Stock Assessment Information

(a) Pre-season

Pre-season estimates of the AAHs will be provided through the Northern Boundary Technical Committee by May 1 of each year.

(b) In-season

The Parties will exchange management and assessment information in-season. The exchange will occur weekly (or more often if required) and include (but not be limited to) catch, catch per unit effort, escapement and run size estimations.

(c) Post-season

The calculation of the allowable and actual harvests of salmon, as specified in Annex IV, Chapter 2, shall be determined by the Northern Boundary Technical Committee (prior to January 31 of the following year unless otherwise agreed) using the current agreed post-season accounting methodology. These methods are expected to change as improved techniques or assessments become available. Any new jointly agreed method will be used from that point onward in Northern Boundary Technical Committee post-season accounting. These new techniques or assessments could include (but would not be limited to) changes to escapement targets, stock identification methods and reconstruction models. Any new techniques or assessments will not be used to alter the Annex IV, Chapter 2, AAH shares, or to recalculate previous years where the accounting has been finalised.

3. Overage and underage provisions for the Annex IV, Chapter 2, paragraphs 2 and 3 (sockeye and pink salmon).

(a) The intent of the overage/underage provision is to provide an arrangement where the Parties are accountable for catch shares but have flexibility in their management of fisheries subject to the Treaty.

(b) Although the management intent shall be to harvest salmon at the allowable percentage AAH, it is recognised that overages and underages will occur and an accounting mechanism is required.

(c) The payback mechanism for each fishery will be based on the number of fish and use the agreed-upon accounting method.

(d) After each season, the calculation of the allowable and actual harvests of salmon as specified in Annex IV, Chapter 2, shall be determined by the agreed post-season accounting methodology. If the actual harvest deviates from the allowable harvest as stipulated in the Annex, the deviation is added to any cumulative deviation.

(e) The management intent for each fishery shall be to return any overages to a neutral or negative balance as soon as possible. After five years of consecutive overages, the Party with the cumulated overage must provide the Northern Panel with specific management actions that will eliminate the overage in that fishery.

6. Unless mutually agreed, the accrual of underages is not intended to allow a Party to modify its fishing behaviour in any given year to harvest the total accrued underage. Parties shall manage with the intent to harvest no more than 150 percent of their AAH in any season.

7. The Parties agree to review Annex IV, Chapter 2, a minimum of two years prior to its expiration with a view to renewing it. If such renewal is not successfully concluded prior to the expiration date, then overages and underages must be carried forward to the next Chapter period.

The provisions of this Chapter shall apply for the period 1999 through 2008.

1) The Parties shall:

(a) establish a chinook management program that meets the following objectives:

(i) provides a long-term abundance-based framework for managing all chinook fisheries subject to the Treaty;

(ii) introduces harvest regimes that are based on estimates of chinook abundance, that are responsive to changes in chinook production, that take into account all fishery induced mortalities and that are designed to meet MSY or other agreed biologically-based escapement objectives;

(iii) halts the decline in spawning escapements in depressed chinook salmon stocks;

(iv) sustains healthy stocks and rebuilds stocks that have yet to achieve MSY or other biologically-based escapement objectives;

(v) defines the specific obligations of all the various fisheries in maintaining healthy chinook salmon stocks, rebuilding depressed naturally spawning chinook stocks that are not meeting escapement objectives and providing a means for sharing the harvest and the conservation responsibility for chinook stocks coastwide among the Parties; and,

(vi) develops biological information pursuant to an agreed program of work and incorporates that information into the coastwide management regime;

(b) maintain a joint Chinook Technical Committee (the "CTC") reporting unless otherwise agreed, to the Pacific Salmon Commission (the "Commission"), which shall, *inter alia*,:

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

(ii) report annually on catches, harvest indices, estimates of incidental mortality and exploitation rates for all chinook fisheries and stocks harvested within the Treaty area;

(iii) report annually on the escapement of naturally spawning chinook stocks in relation to the agreed escapement objectives referred to below, evaluate trends in the status of stocks and report on progress in the rebuilding of naturally spawning chinook stocks;

(iv) evaluate and review existing escapement objectives that fishery management agencies have set for chinook stocks subject to this Chapter for consistency with MSY or other agreed biologically-based escapement goals and, where needed, recommend goals for naturally spawning chinook stocks that are consistent with the intent of this Chapter;

(v) recommend standards for the minimum assessment program required to effectively implement this Chapter, provide information on stock assessments relative to these

standards and recommend to the Commission any needed improvements in stock assessments;

(vi) review effects of enhancement programs on abundance-based management regimes and recommend strategies for the effective utilization of enhanced stocks;

(vii) recommend research projects, and their associated costs, required to implement this Chapter effectively;

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

(ix) undertake specific assignments such as those described in the Appendix to this Chapter.

2. The Parties agree to implement, beginning in 1999 and extending through 2008, an abundance-based coastwide chinook management regime to meet the objectives set forth in paragraph 1 (a) above, under which fishery regimes shall be classified as aggregate abundance-based management regimes (“AABM”) or individual stock-based management regimes (“ISBM”):

(a) an AABM fishery is an abundance-based regime that constrains catch or total adult equivalent mortality to a numerical limit computed from either a pre-season forecast or an in-season estimate of abundance, and the application of a desired harvest rate index expressed as a proportion of the 1979-82 base period. The following regimes will be managed under an AABM regime:

(i) southeast Alaska sport, net and troll;

(ii) Northern British Columbia (NBC) troll (statistical areas 1-5) and Queen Charlotte Islands (QCI) sport (statistical areas 1 and 2); and

(iii) west coast of Vancouver Island (WCVI) troll (statistical areas 21, 23-27, and 121-127) and outside sport.¹

¹ The part of the West Coast Vancouver Island chinook sport fishery included in the WCVI AABM chinook fishery includes:

- Areas 21, 23, 24 inside the Canadian “surflines” and Areas 121, 123, 124 during the period October 16 through July 31, plus that portion of Areas 21, 121, 123, 124 outside of a line generally one nautical mile seaward from the shoreline or existing Department of Fisheries and Oceans surflines, during the period August 1 through October 15.
- Area 25, 26, 27 inside the Canadian “surflines” and Areas 125, 126, 127 during the period October 16 through June 30, plus that portion of Area 125, 126, 127 outside of a line generally one nautical mile seaward from the shoreline or existing Department of Fisheries and Oceans surflines, for the period July 1 through October 15.

(b) an ISBM fishery is an abundance-based regime that constrains to a numerical limit the total catch or the total adult equivalent mortality rate within the fisheries of a jurisdiction for a naturally spawning chinook stock or stock group. ISBM management regimes apply to all chinook fisheries subject to the Treaty that are not AABM fisheries. The obligations applicable to ISBM fisheries are:

(i) a general obligation as set out in paragraph 4 (d) for all ISBM fisheries which include, but are not necessarily limited to: northern British Columbia marine net and coastal sport (excluding Queen Charlotte Islands), and freshwater sport and net; central British Columbia marine net, sport and troll and freshwater sport and net; southern British Columbia marine net, troll and sport and freshwater sport and net; West Coast of Vancouver Island inside marine sport and net and freshwater sport and net; south Puget Sound marine net and sport and freshwater sport and net; north Puget Sound marine net and sport and freshwater sport and net; Juan de Fuca marine net, troll and sport and freshwater sport and net; Washington Coastal marine net, troll and sport and freshwater sport and net; Washington Ocean marine troll and sport; Columbia River net and sport; Oregon marine net, sport and troll; Idaho (Snake River Basin) freshwater sport and net; and

(ii) an additional obligation as set out in paragraph 4 (e) for those stock groups for which the general obligation is insufficient to meet the agreed escapement objectives.

3. The Parties agree:

(a) to adopt a management framework for chinook salmon based on total fishing mortality;

(b) that, because significant uncertainty presently exists in predicting and estimating incidental mortality, the adoption of fishery regimes based on total mortality will require improvements in estimates of incidental mortality based upon direct fishery observations;

(c) that a total fishing mortality approach will be implemented as soon as the required technical improvements in predictions and estimates of incidental mortality can be made. The intent of the Parties is that such an approach be adopted for all fisheries by 2002 if possible;

(d) that during the interim period, enhancements to the catch-based regimes as noted in the CTC Report TCChinook (98)-1 (December 2, 1998) will be adopted as follows:

(i) beginning in 2000, total adult equivalent fishing mortality in each AABM fishery shall be constrained by expressing the fishery management objective as a target catch index and a standardized management regime (e.g., minimum size limit of x , ratio of encounters in chinook retention to chinook non-retention periods not to exceed y). Each fishery will be managed in a manner consistent with the standardized management regime for that fishery;

(ii) beginning in 2000, in those AABM fisheries where the CTC has determined that an accurate, consistent and verifiable relationship exists between the catch index and the total adult equivalent mortality index, total fishing mortality will be constrained by expressing the fishery management objective as a target catch index that has been derived from an agreed fishery harvest rate, where the total adult equivalent mortality index cannot exceed the target catch index by more than the average percentage differences observed during the period 1985-95. Such an amount will be fishery specific;

(e) as an incentive to reduce incidental mortalities, the Parties may submit to the Commission for review, modifications to the standardized fishing regimes pursuant to paragraph 3 (d) believed to result in reductions to incidental mortalities in an AABM fishery. Following review and evaluation by the CTC pursuant to paragraph 3 (d) (ii), 50% of the reductions in the adult equivalent incidental mortalities attributed to the modification can be added to the allowable catch for the AABM fishery.

4. The Parties agree that in respect of ISBM fisheries:

(a) their intent is that the fisheries shall be managed over time to contribute to the achievement of MSY or other agreed biologically-based escapement objectives;

(b) until such times as the ISBM fisheries are managed to meet those escapement objectives, and unless otherwise recommended by the CTC, the non-ceiling index defined in TCChinook (96)-1 (February 15, 1996) will be used to measure performance of ISBM fisheries;

(c) the non-ceiling index for ISBM fisheries will be computed pre-season based on forecasted abundance and fishing plans and evaluated post season for each of the escapement indicator stocks listed in Attachments I to V to this Chapter;

(d) for the purposes of this paragraph, until agreed escapement objectives for the stock groups listed in Attachments I to V to this Chapter have been achieved, Canada and the United States shall reduce by 36.5 percent and 40 percent respectively, the total adult equivalent mortality rate, relative to the 1979-82 base period², in their respective ISBM fisheries that affect those stock groups. The reduction identified in this sub-paragraph shall be referred to as the “general obligation”;

(e) for those stock groups for which the general obligation is insufficient to meet the agreed escapement objectives, the jurisdiction within which the stock group originates shall implement either:

(i) additional reductions as necessary to meet the agreed escapement objectives; or

(ii) additional reductions, which taken together with the general obligation, are at least equivalent to the average of those reductions that occurred for the stock group during the years 1991-96; and

(f) the reductions in ISBM fisheries may be allocated among fisheries within a jurisdiction provided that:

(i) the obligations under sub-paragraphs (d) and (e) above are met;

(ii) the achievement of the agreed escapement objective for other stocks or stock groups is not adversely affected; and

(iii) the harvest impacts are not transferred among fisheries in a manner that results in the additional restrictions, pursuant to paragraph 9, in the ISBM or AABM fisheries in another jurisdiction.

² Assuming size limits in effect during 1991-1996.

5. The Parties agree that:

- (a) the graduated harvest rate approach specified in paragraph 6 shall be used in AABM fisheries and is designed to contribute to the achievement of MSY or other agreed biologically-based escapement objectives;
- (b) the graduated harvest rate approach is based on a relationship between the aggregate abundance of chinook stocks available to the fishery and a specified harvest rate index;
- (c) AABM fisheries shall be managed annually to achieve the fisheries harvest rate index value designated for the applicable abundance index value as described in paragraph 6 below;
- (d) the allowable harvest level in an AABM fishery shall be based upon the best available pre-season predictions of abundance as determined by the CTC; and
- (e) where, as determined by the CTC, in-season predictors provide a more reliable prediction of the abundance than pre-season indicators alone, in-season adjustments of pre-season catch estimates shall be permitted. In such circumstances, pre-season catch estimates shall be adjusted by incorporating in-season estimates of abundance. The CTC has reviewed an in-season predictor for abundance of the chinook salmon in the SEAK troll fishery and concluded that the Bayesian method that incorporates both pre-season and in-season catch estimates based on approved in-season fishery performance data, is permitted.

6. The Parties agree that:

- (a) indices identified in this paragraph are consistent with CTC analyses through May 1999. In the event that subsequent analyses modify these values, the historical relationship between catch and abundance indices will be maintained.
- (b) beginning in 1999, management of the SEAK troll, net, and sport fisheries for chinook salmon shall be based on the relationship between the aggregate abundance of chinook stocks available to the SEAK troll fishery and an appropriate harvest rate index. The combined SEAK troll plus sport and net catch shall be constrained by a specified relation or formula. Unless otherwise agreed, the chinook catch in the SEAK troll, sport, and net fisheries shall be managed annually according to catch and abundance indices stated in Table 1.
- (c) beginning in 1999, management of the NBC troll and QCI sport fisheries for chinook salmon shall be based on the relationship between the aggregate abundance of chinook stocks available to the NBC troll fishery and an appropriate harvest rate index. The combined NBC troll plus QCI sport catch shall be constrained by a specified relation or formula. Unless otherwise agreed, the chinook catch in the NBC troll and QCI sport fisheries shall be managed annually according to catch and abundance indices stated in Table 1.
- (d) beginning in 1999, management of the WCVI troll and outside sport fisheries for chinook salmon shall be based on the relationship between the aggregate abundance of chinook stocks available to the WCVI troll fishery and an appropriate harvest rate index. The combined WCVI troll plus outside sport catch shall be constrained by a specified relation or formula. Unless otherwise agreed, the chinook catch in the WCVI troll and outside sport fisheries shall be managed annually according to catch and abundance indices stated in Table 1.

70 The Parties agree that, beginning in 1999, provisions for overage and underage shall be developed by the CTC as follows:

(a) in AABM fisheries:

(i) the first post-season CTC model calibration will be used to compute the abundance index;

(ii) a cumulative (across years) management range of 7.5 percent (subject to review by the CTC) shall be permitted;

(iii) underages in excess of the management range in sub-paragraph (ii) above cannot be accumulated; and

(iv) total mortality will be incorporated pursuant to paragraph 3.

(b) in ISBM fisheries:

(i) consistency with the index applicable to ISBM fisheries pursuant to paragraph 4 will be assessed when the exploitation rate analysis for that year's fishery is completed;

(ii) a cumulative (across years) overage of 7.5 percent (subject to review by the CTC) of the ISBM index shall be permitted;

(iii) underages in excess of the management range in sub-paragraph (ii) above cannot be accumulated; and

(iv) overages in ISBM fisheries for a stock group are to be assessed in aggregate over all of the Party's ISBM fisheries and any overages shall be adjusted within the jurisdiction's fisheries with the obligation that:

(1) achievement of agreed escapement objectives for other stocks or stock groups is not adversely affected; and

(2) harvest impacts are not transferred among fisheries in a manner that results in additional restrictions pursuant to paragraph 9 in the ISBM or AABM fisheries in another jurisdiction.

80 The Parties agree:

(a) to continue the procedures previously established by the Commission to allow for the exclusion of chinook salmon catches in selected terminal areas from counting against Treaty catch limitations; and

(b) to continue the procedures previously established by the Commission to allow for hatchery add-ons harvested in AABM fisheries.

90 The Parties agree that:

(a) the fishery harvest rate responses or other management actions outlined in sub-paragraphs (b) and (c) below, which are intended to return escapements as expeditiously as possible to MSY or

other agreed biologically-based escapement objectives, and notwithstanding the provisions of paragraphs 4 and 6, shall only be implemented in ISBM and AABM fisheries in respect of those stocks for which the CTC review has been completed and agreed escapement objectives have been determined, when:

- (i) beginning in 1999, if naturally spawning chinook stocks or stock groups listed in Attachments I - V to this Chapter are below the agreed escapement objectives for two consecutive years;
- (ii) escapement of the stock or stock group would be increased by the adjustment;
- (iii) there is a contributing causal relationship between the fishery harvest and the status of the stock or stock group, or the decline in the stock or stock group is due to natural phenomena; and
- (iv) complementary and coordinated management actions are taken in other directed marine and freshwater chinook fisheries affecting the stock or stock group in accordance with (d) and (e) below;

(b) the additional management actions to be taken in relevant fisheries in accordance with this paragraph are as follows:³

Percentage reduction in index¹	Number of stock groups requiring response
10%	2 stock groups
20%	3 stock groups
30%	4+ stock groups

(c) the Parties may take other management actions as may be agreed by the Commission, such as time and area restrictions, which have comparable conservation benefits as identified in sub-paragraph (b) above;

(d) the measures specified in sub-paragraph (b) or (c) above apply to an AABM fishery when the provisions of sub-paragraph (a) above have been met, and:

- (i) the obligation identified in paragraph 4 for ISBM fisheries has been complied with in all ISBM fisheries that affect the stock or stock group for two consecutive years that the stock or stock group has not achieved agreed biologically-based escapement objectives; and

³ A stock group should be considered for additional management action pursuant to this paragraph if a significant loss of production results from escapement less than the agreed escapement objective for an extended period of time. By the end of 2001, the CTC will recommend, for adoption by the Commission, criteria defining the lower bound of escapement for the purposes of taking additional management actions pursuant to this paragraph. Until the end of 2001, the escapement level at which the MSY production is reduced by more than 15% will be defined as the lower bound for escapement.

(ii) the obligation identified in paragraph 6 for AABM fisheries has been complied with in all other AABM fisheries that affect the stock or stock group for two consecutive years that the stocks or stock groups have not achieved agreed biologically-based escapement objectives;

(e) the measures specified in sub-paragraphs (b) and (c) above apply to an ISBM fishery when the provisions of sub-paragraph (a) have been met, and:

(i) the obligation identified in paragraph 4 for ISBM fisheries has been complied with in all other ISBM fisheries that affect the stock or stock group for two consecutive years that the stock or stock group has not achieved agreed biologically-based escapement objectives; or

(ii) the measures specified in sub-paragraph (b) or (c) are being implemented in an AABM fishery that affects the stock or stock group;

(f) where, on the basis of a pre-season forecast of abundance, it is bilaterally agreed that, due to extraordinary natural circumstances, the continued biological viability of a stock group is seriously threatened, the harvest rate responses in the relevant fisheries set out above will be applied in the same year if management action is part of further complementary and coordinated management actions being taken in other marine and freshwater chinook fisheries affecting the stock group; and

(g) either Party may recommend, for conservation purposes, that the Commission adopt harvest responses in the relevant fisheries that are greater than those identified in sub-paragraphs (b) and (c) above.

Table 1 Catches specified for AABM fisheries at levels of the chinook abundance index
 Values for catch at levels of abundance between those stated may be linearly interpolated between adjacent values.

Abundance Index	SEAK	NBC	WCVI
0.25	52500	32500	45800
0.30	59000	39000	55000
0.35	65500	45500	64200
0.40	72000	52000	73300
0.45	78500	58500	82500
0.495	84350	64350	90760
0.50	85000	65000	107000
0.55	91500	71500	117700
0.60	98000	78000	128300
0.65	104500	84500	139000
0.70	111000	91000	149700
0.75	117500	97500	160400
0.80	124000	104000	171100
0.85	130500	110500	181800
0.90	137000	117000	192500
0.95	143500	123500	203200
1.00	150000	130000	213900
1.005	151425	130650	245694
1.05	164300	136500	256700
1.10	178500	143000	268900
1.15	192800	149500	281100
1.20	207000	156000	293400
1.205	235100	156700	294600
1.25	243100	163300	305600
1.30	252000	170700	317800
1.35	261000	178000	330000
1.40	269900	185300	342300
1.45	278800	192700	354500
1.50	287700	200000	366700
1.505	311022	219568	367929
1.55	319700	226100	378900
1.60	329400	233400	391200
1.65	339100	240700	403400
1.70	348700	248000	415600
1.75	358400	255300	427800
1.80	368100	262600	440000
1.85	377700	269900	452300
1.90	387400	277200	464500
1.95	397100	284500	476700
2.00	406700	291800	488900
2.05	416400	299100	501200
2.10	426100	306400	513400
2.15	435700	313700	525600
2.20	445400	321000	537800
2.25	455100	328300	550100

Attachment I
S.E. Alaska troll, net & sport AABM Fisheries

Stock Group²	Criteria for Stock Group Concern	Escapement Indicator Stocks	Escapement Objective	Criteria for stock status
Upper Strait of Georgia	Below lower bound of aggregate goal	Klinaklini, Kakwiekan, Wakeman, Kingcome, Nimpkish	Escapement goal range for aggregate	Spawning escapement below lower bound of escapement range for 2 consecutive years.
West Coast Vancouver Island Falls	Below lower bound of aggregate goal	Artlish, Burman, Gold, Kauok, Tahsis, Tashish, Marble Rivers	Escapement goal range for aggregate	Spawning escapement below lower bound of escapement range for 2 consecutive years
North/Central British Columbia	Two or more stocks below lower bound of goals	Yakoun, Skeena, Nass Rivers	Escapement goal range by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years
Far North Migrating Oregon Coastal Falls	Two or more stocks below lower bound of goals	Nehalem, Siuslaw, Siletz Rivers	Escapement goal range by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years
Columbia River Falls	Two or more stocks below lower bound of goals	Up-river Brights, Deschutes, Lewis River	Escapement goal range by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years
Columbia River Summers	Below lower bound of goal	Mid-Columbia Summers	Escapement goal range	Spawning escapement below lower bound of escapement range for 2 consecutive years
Washington Coastal Fall naturals	Three or more stocks below goals	Hoko, Grays Harbor, Queets Hoh, Quillayute rivers	Escapement goal range by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years
Fraser Early (Spring & summers)	Two or more stocks below lower bound of goals	Upper Fraser, Mid Fraser, Thompson	Escapement goal range by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years

Attachment II
Northern BC (Areas 1-5) troll &
Queen Charlotte Island sport (Areas 1&2) AABM Fisheries

Stock Group	Criteria for Stock Group Concern	Escapement Indicator Stocks	Escapement Objective	Criteria for stock status
North/Central British Columbia	Two or more stocks below lower bound of goals	Yakoun, Skeena, Nass Rivers	Escapement goal range by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years
Upper Strait of Georgia	Below lower bound of aggregate goal	Klinaklini, Kakwiekan, Wakeman, Kingcome, Nimpkish Rivers	Escapement goal range for aggregate	Spawning escapement below lower bound of escapement range for 2 consecutive years
Far North Migrating Oregon Coastal Falls	Two or more stocks below lower bound of goals	Nehalem, Siletz, Siuslaw Rivers	Escapement goal range by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years
Washington Coastal Fall naturals	Three or more stocks below lower bound of goals	Hoko, Grays Harbor, Queets Hoh, Quillayute Rivers	Escapement goal range by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years.
West Coast Vancouver Island Falls	Below lower bound of aggregate goal	Artlish, Burman, Gold, Kauok, Tahsis, Tashish, Marble Rivers	Escapement goal range for aggregate	Spawning escapement below lower bound of escapement range for 2 consecutive years
Columbia River Falls	Two or more stocks below lower bound of range	Up-river Brights, Deschutes, Lewis Rivers	Escapement goal range by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years
Columbia River Summers	Below lower bound of goal	Mid-Columbia Summers	Escapement goal range	Spawning escapement below lower bound of escapement range for 2 consecutive years
Fraser Early (Spring & summers)	Two or more stocks below lower bound of range	Upper Fraser, Mid Fraser, Thompson	Escapement goal range by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years

Attachment III
West Coast Vancouver Island troll & outside sport AABM Fisheries

Stock Group	Criteria for Stock Group Concern	Escapement Indicator Stocks	Escapement Objective	Criteria for stock status
Columbia River Falls	Two or more stocks below lower bound of goal	Up-river Brights, Deschutes, Lewis River	Escapement goal ranges	Spawning escapement below lower bound of escapement range for 2 consecutive years
Fraser Late	Below lower bound of goal	Harrison River	Escapement Goal range	Spawning escapement below lower bound of escapement range for 2 consecutive years
Puget Sound Natural Summer/Falls	Three or more stocks below lower bound of goals	Skagit group, Stillaguamish, Snohomish, Lake Washington, Green Rivers	Escapement goal ranges by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years
Columbia River Summers	Below lower bound of goal	Mid-Columbia Summers	Escapement goal range	Spawning escapement below lower bound of escapement range for 2 consecutive years

Attachment IV
All British Columbia ISBM Fisheries

Stock Group	Criteria for Stock Group Concern	Escapement Indicator Stocks	Escapement Objective	Criteria for stock status
Lower Strait of Georgia	Below lower bound of aggregate goal for natural spawners	Cowichan, Nanaimo Rivers	Escapement goal range for aggregate	Spawning escapement below lower bound of escapement range for 2 consecutive years
Fraser Late	Below lower bound of goal	Harrison River	Escapement goal range	Spawning escapement below lower bound of escapement range for 2 consecutive years
North Puget Sound Natural Springs	Both stocks below lower bound of goal	Nooksack, Skagit Rivers	Escapement goal range by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years
Upper Strait of Georgia	Below lower bound of aggregate goal	Klinaklini, Kakwiekan, Wakeman, Kingcome Nimpkish Rivers	Escapement goal range for aggregate	Spawning escapement below lower bound of escapement range for 2 consecutive years
Fraser Early (spring & summers)	Two or more stocks below lower bound of goal	Upper Fraser ,Mid Fraser, Thompson	Escapement goal ranges by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years
West Coast Vancouver Island Falls	Below lower bound of aggregate goal	Artlish, Burman, Gold, Kauok, Tahsis, Tashish, Marble Rivers	Escapement goal range for aggregate	Spawning escapement below lower bound of escapement range for 2 consecutive years
Puget Sound Natural Summer/Falls	Three or more stocks below lower bound of goal	Skagit group, Stillaguamish, Snohomish , Lake Washington, Green River	Escapement goal ranges by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years
North/Central British Columbia	Two or more stocks below lower bound of goal	Yakoun, Nass, Skeena, Area 8 (Atnarko, Dean rivers)	Escapement goal range by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years

Attachment V
All Southern U.S. ISBM fisheries

Stock Group	Criteria for Stock Group Concern	Escapement Indicator Stocks	Escapement Objective	Criteria for stock status
Washington Coastal Fall Naturals	Three or more stocks below lower bound of goal	Hoko, Grays Harbor Queets, Hoh Quillayute Rivers	Escapement goal range by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years
Columbia River Falls	Two or more stocks below lower bound of goals	Up-river Brights, Deschutes, Lewis River	Escapement goal range by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years
Puget Sound Natural Summer/Falls	Three or more stocks below lower bound of goal	Skagit group, Stillaguamish, Snohomish, Lake Washington, Green Rivers	Escapement goal range by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years
Fraser Late	Below lower bound of goal	Harrison River	Escapement goal range	Spawning escapement below lower bound of escapement range for 2 consecutive years
Columbia River Summers	Below lower bound of goal	Mid-Columbia Summers	Escapement goal range	Spawning escapement below lower bound of escapement range for 2 consecutive years
Far North Migrating Oregon Coastal Falls	Two or more stocks below lower bound of goal	Nehalem, Siletz, Siuslaw Rivers	Escapement goal range by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years
North Puget Sound Natural Springs	Both stocks below lower bound of goal	Nooksack, Skagit Rivers	Escapement goal range by stock	Spawning escapement below lower bound of escapement range for 2 consecutive years

Appendix to Annex IV, Chapter 3

Understanding on the Application of Annex IV, Chapter 3 relating to assignments for the Chinook Technical Committee

(1) Incidental mortality

Improved estimates of incidental fishing mortality are to be developed based upon direct fishery observations. The CTC will collate and document existing information on the coastwide encounter rates for all sources of incidental mortality on chinook coastwide. The CTC will report on the extent of incidental mortality and on deficiencies in the information coverage and will recommend a work plan to address data deficiencies, including observer programs or other direct sampling procedures, that will enable implementation of a total fishing mortality regime for fisheries in 2002. The Parties will implement the work plan in a timely and comprehensive manner to ensure adoption of a total fishing mortality regime in 2002.

The CTC will also evaluate the capacity to predict incidental mortalities, testing assumptions used in determining predictions and identifying options to improve pre-season predictions and estimates of total mortality in AABM and ISBM fisheries.

(2) Overage/Underage provisions

The CTC will adapt the previous overage/underage annex provisions to reflect changes based on:

- a) catch established through in-season or pre-season abundance indicators;
- b) adjustments for positive deviations from the total mortality index; and
- c) deviations from target reductions in ISBM fisheries. The CTC in carrying out this assignment will be guided by paragraph 7 of this Chapter.

The CTC will review a 7.5 percent management range above and below the management objective and consider whether increased flexibility in the management range is desirable or necessary, taking into consideration management precision, increased risk on affected stock groups and consistency with the objectives noted in paragraph 1 of this Chapter.

(3) Total fishing mortality

Consistent with paragraph 3 of this Chapter, the CTC will:

- a) specify standardized arrangements for all AABM regimes; and
- b) evaluate and identify fisheries where there is a consistent relation between the catch or harvest index and total mortality.

(4) In-season adjustments

Consistent with paragraph 5 of this Chapter, the CTC will evaluate any proposed in-season abundance predictors to determine if these provide reliable and consistent estimates of final abundance over using pre-season predictions.

(5) Model Improvements

The CTC will continue to review and improve the accuracy and precision of the CTC model, including among other things, determining the pre-season forecasts of the aggregate chinook abundance available to the fisheries.

(6) Escapement review

The CTC will evaluate and review existing escapement goals that fishery management agencies have set for chinook stocks subject to this Chapter for consistency with MSY or other agreed biologically-based escapement goals and, where needed, recommend goals for naturally spawning chinook stocks that are consistent with the intent of this Chapter.

(7) Lower escapement bound

For those stocks for which the escapement goals have been recommended by the CTC in accordance with paragraph 6 of this Appendix, the CTC will, prior to end of 2001, review and recommend for adoption to the Commission, criteria defining the lower bound of escapement for the purposes of taking additional management actions pursuant to paragraph 9 of this Chapter.

(8) Description of Technical Components of Chinook Chapter

Members of the CTC involved in the negotiation of this Chapter shall prepare by the autumn 1999 meeting of the Commission a document describing technical components of this Chapter. These components will include, but are not limited to, the following:

- i) a description of the abundance index, adult equivalent harvest rate index for catch used in the management of AABM fisheries;
- ii) methods for the derivation of the catches (including target harvest rate indices) specified in Table 1;
- iii) a description of the procedures associated with adjusting Table 1 in response to revised estimates of abundance and/or harvest rate indices;
- iv) a description of the non-ceiling index, anticipated values for each stock group under the general obligation of sub-paragraphs 4 (d) and (e);
- v) an example for paragraph 9 (weak stock gate), including an explanation for determination of criteria and stock groupings in Attachments I-V to this Chapter and how lower bounds for escapement goals are determined; and
- vi) a retrospective model run for the years 1985 through 1996 incorporating the provisions of this Chapter.

Chapter 4 Fraser River Sockeye and Pink Salmon

1. The provisions of this Chapter shall apply for the period 1999 through 2010.
2. The U.S. share of the annual Fraser River sockeye and pink salmon Total Allowable Catch (the "TAC"), as defined in paragraph 3 to be harvested in the waters of Washington State is as follows:
 - (a) for sockeye salmon in 1999, the U.S. catch in the Fraser Panel Area shall not exceed 22.4 percent of the TAC;
 - (b) for sockeye salmon in 2000, the U.S. catch in the Fraser Panel Area shall not exceed 20.4 percent of the TAC;
 - (c) for sockeye salmon in 2001, the U.S. catch in the Fraser Panel Area shall not exceed 18.4 percent of the TAC;
 - (d) for sockeye salmon in 2002 through 2010, the U.S. catch in the Fraser Panel Area shall not exceed 16.5 percent of the TAC;
 - (e) for pink salmon, the U.S. catch in the Fraser Panel Area shall not exceed 25.7 percent of the TAC.
3. For the purpose of this Chapter, the TAC shall be defined as the remaining portion of the annual aggregate Fraser River sockeye and pink runs after the spawning escapements, the agreed Fraser River Aboriginal Exemption, and the catch in Panel authorized test fisheries have been deducted. TAC shall be computed separately for Fraser River sockeye and pink salmon. The following definitions apply to TAC calculations:
 - (a) The spawning escapement is that escapement which is a direct result of Fraser River Panel management actions, and, therefore, will reflect the results of inadvertent management error by the Fraser River Panel.
 - (b) For the purposes of in-season management by the Fraser River Panel, the spawning escapement objective is the target set by Canada including any extra requirements that may be determined by Canada and agreed to by the Fraser River Panel, for natural, environmental, or stock assessment factors, 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.
 - (c) The agreed Fraser River Aboriginal Fishery Exemption is that number of sockeye which is subtracted from the total run size in determining the TAC upon which the U.S. shares specified in paragraph 2 are calculated. Any Canadian harvests in excess of these amounts count against the TAC, and do not affect the U.S. share. The agreed Fraser River Aboriginal Fishery Exemption is 400,000 sockeye annually from 1999 to the expiration of this Chapter.
 - (d) For computing TAC by stock management groupings, the Fraser River Aboriginal Fishery Exemption shall be allocated to management groups using the average proportional distribution of this harvest for the most recent three cycles unless otherwise agreed.

(e) The Fraser River Panel shall manage the United States fishery to spread the United States harvest proportionately to the TACs across all Fraser River sockeye stock management groupings (Early Stuart, Early Summer, Mid-Summer, and Late Run), except as otherwise may be agreed.

4. Pursuant to Article IV, paragraph 3, Canada shall annually establish the Fraser River sockeye and pink salmon spawning escapement targets for the purpose of calculating the annual TAC. For the purposes of pre-season planning, where possible, Canada shall provide forecasts of run timing and spawning escapement requirements by stock management groupings to the Fraser River Panel no later than the annual meeting of the Commission. Forecasts of migration patterns, gross escapement needs, and any in-season adjustments in escapement requirements shall be provided to the Fraser River Panel by Canada as they become available in order to accommodate the management needs of the Panel in a timely manner. In addition, on a timely basis, the United States shall provide forecasts of sockeye and pink salmon run size returns affected by Panel management.

5. The Fraser River Panel will develop fishing plans and in-season decision rules as may be necessary to implement the intent of this Chapter. 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. With respect to management responsibilities, all activities of the Parties and the Fraser River Panel shall be consistent with the August 13, 1985, Memorandum of Understanding between the Parties.

6. Fraser River Panel pre-season planning meetings that do not occur simultaneously with Commission meetings shall be held alternately in Canada and the United States. Scheduled in-season management meetings shall be held at Richmond, B.C. unless the Panel agrees otherwise. As agreed, Panel meetings may be held by telephone conference call.

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

8. The shares, as defined in paragraph 2, shall be adjusted each year in the amount of any harvest overage or underage of that annual share of the same species from the previous year or years. In making this adjustment, the share(s) will be reduced by no more than 5 percent because of the adjustment, unless otherwise agreed. The Fraser River Panel shall attempt to balance the shares of the Parties by the expiration of this Chapter. Any remaining balance from the harvest overage or underage shall be incorporated in the subsequent year's allocation. Any residual overage or underage remaining at the last year of this Chapter shall be carried forward into the next Chapter period.

9. The Parties shall establish a Technical Committee for the Fraser River Panel:

(a) the members shall coordinate 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.

(b) membership of the Technical Committee shall consist of up to five 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 their 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 and during post-season evaluations of the season 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 Panel Area during periods of Panel regulatory control are given full consideration; and

(iii) the Commission staff is informed in a timely manner of management actions being taken by the Parties in fisheries outside of the Fraser 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 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.

10. The Parties agree that Panel management actions should meet the following objectives, listed in order of priority:

(a) obtain spawning escapement goals by stock or stock grouping;

(b) meet Treaty defined international allocation; and

(c) achieve domestic objectives.

11. 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.

12. The Parties agree 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.

Chapter 5 Coho Salmon

The provisions of this Chapter shall apply for the period 1999 through 2008.

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, the Parties agree to develop management measures and programs to prevent further decline in spawning escapements, adjust fishing patterns, and initiate, develop, or improve management programs for coho stocks.

2. The Parties shall

(a) maintain a joint Coho Technical Committee (the "Committee") reporting, unless otherwise agreed, to the Northern and Southern Panels and the Commission. The Committee shall, *inter alia*, at the direction of the Commission and the Panels:

- 1) evaluate the effectiveness of management actions;
- 2) identify and review the status of stocks;
- 3) present the most current information on harvest rates and patterns on these stocks, and develop a joint database for assessments;
- 4) collate available information on the productivity of coho stocks in order to identify escapements and associated exploitation rates which produce maximum sustainable harvests (MSH);
- 5) present historical catch data, associated fishing regimes, and information on stock composition in fisheries harvesting these stocks;
- 6) devise analytical methods for the development of alternative regulatory and production strategies to meet objectives set forth by the Commission;
- 7) identify information and research needs, including future monitoring programs for stock assessments; and
- 8) for each season, make stock and fishery assessments and recommend to the Commission conservation measures consistent with the principles of the Treaty.

(b) establish regimes for troll, sport and net fisheries consistent with management objectives described herein and as may be subsequently recommended and approved by the Commission. 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 to the Treaty.

3. In 1999, the Parties agree to implement management measures for depressed coho stocks shared by Washington and southern British Columbia fisheries which are intended to achieve conservation benefits that are consistent with those produced by the management measures implemented in 1998.

4. For coho stocks shared by Washington and southern British Columbia fisheries, the Parties agree to cooperate in the development of coho salmon management programs designed to meet the following objectives:

(a) constrain total fishery exploitation to enable key management units of natural coho stocks to produce maximum sustainable harvests over the long term while maintaining the genetic and

ecological diversity of the component populations;

(b) improve long-term prospects for sustaining healthy fisheries in both countries;

(c) establish an approach to fishery resource management which is responsive to resource status, cost-effective, and sufficiently flexible to utilize technical capabilities and information as they are developed and approved;

(d) provide a predictable framework for planning fishery impacts on natural stocks; and

(e) establish an objective basis for monitoring, evaluating and modifying the management regimes as appropriate.

5. Consistent with the objectives set forth in paragraph 4, the Parties agree to develop and implement, beginning in 2000 and extending through 2008, an abundance-based coho management regime for Washington and southern British Columbia fisheries. The components of the regime shall include:

(a) pre-defined rules for determining, in response to the status of affected key management units, maximum allowable annual exploitation rates on key management units for agreed boundary area fisheries (Canadian - WCVI troll/outside sport (that portion of Canadian statistical areas 21, 121, 123, 124, 125, 126 and 127 outside of a line generally one nautical mile seaward from the shoreline or existing Department of Fisheries and Oceans surflines); Nitinat net (Canadian statistical area 21); Strait of Juan de Fuca net (Canadian statistical area 20) and sport fisheries (Canadian statistical areas 20 and 19-1 through 19-4); U.S. ocean troll and sport fisheries North of Cape Falcon (Washington statistical areas 1-4 and 4B; Oregon statistical area 2); Strait of Juan de Fuca troll, net, and sport (Washington statistical areas 5, 6 and 6c); San Juan Islands/Point Roberts net and sport fisheries (Washington statistical areas 6A, 7 and 7A)).

(b) an agreed list of criteria to establish the key management units (i.e., those used to determine annual allowable exploitation rate levels) for naturally spawning coho. Examples of these units are identified in the list below:

Southern B.C. Management Units	U.S. Management Units
Thompson	Skagit
Lower Fraser	Stillaguamish
Strait of Georgia Mainland	Snohomish
Strait of Georgia Vancouver Island	Hood Canal
Johnstone Strait	Eastern Strait of Juan de Fuca
NW Vancouver Island	Western Strait of Juan de Fuca
SW Vancouver Island	Quillayute Summer
Strait of Juan de Fuca	Quillayute Fall
	Hoh
	Queets
	Grays Harbor
	Oregon Coastal Natural

(c) commitments by both Parties to manage all fisheries under their jurisdiction, whether directed at coho or not, to ensure that cumulative exploitation rates by boundary area fisheries on

key management units do not exceed the limits established pursuant to the rules developed under paragraph 5(a).

(d) commitments by both Parties to ensure that the level of exploitation is consistent with achieving maximum sustainable harvest for a set of agreed key natural stock management units while maintaining genetic and ecological diversity. If maximum sustainable harvest escapement levels would not be achieved under a fishery regime, the target exploitation rate must not exceed the MSH level and should be below the maximum sustainable harvest exploitation rate to promote rebuilding. The Parties are encouraged to pursue selective fishery practices where critical stock problems are identified within the constraints on allowable impacts on key management units or critical stocks, provided that such selective fisheries do not compromise capabilities to meet conservation objectives for natural stocks, complete stock assessments, or evaluate fishery impacts.

(e) an obligation for each Party to implement such additional management measures for their own fisheries as may be practicable and necessary to address conservation needs for critical stocks within key management units originating within their respective jurisdictions. If additional constraints on fisheries conducted by the other Party are required or desired to meet conservation needs for critical stocks, the proposing Party shall be required to inform the other Party, provide the basis for its determination that additional measures are necessary, and identify the actions taken within its jurisdiction to address conservation needs. This information is to be provided on a schedule sufficient to permit timely consideration by the other Party.

6. To assist the Southern Panel in achieving the objectives set forth in paragraph 4, the Committee shall:

(a) evaluate management actions for the effectiveness of management measures in attaining the objectives established by the Commission;

(b) perform stock and fishery assessments and recommend limits on exploitation rates for key management units of natural coho stocks that are consistent with the objectives set forth in paragraph 4 of this Chapter;

(c) evaluate compliance with the provisions of this Chapter for management of specified fisheries;

(d) apply existing methodologies or develop new methodologies for coho stock and fishery assessment including:

- 1) estimating exploitation rates relative to total allowable impact levels;
- 2) evaluating the reliability and accuracy of analytical tools (forecasts, impact models, etc.);
- 3) estimating by-catch, encounter rates, release mortalities by gear, etc.; and
- 4) estimating fishing mortality and spawning escapements with desired levels of precision and accuracy;

(e) in February of each year,

- 1) oversee the exchange of the Parties' determinations of the status of key management units and information on abundance and distributions of coho as available for the upcoming season;
- 2) review exploitation rates which result from application of pre-defined rules to determine if impacts for agreed boundary area fisheries are excessive given the status of

affected management units;

3) review target total exploitation rates provided by the Parties for key management units and stocks of conservation concern which originate within their respective jurisdictions;

4) oversee the timely exchange of the technical basis underlying identification of critical stocks;

5) review any requests for additional constraints on fisheries conducted by another Party in response to conservation needs for those critical stocks pursuant to paragraph 5(e);

6) oversee the exchange of information regarding the conduct of selective fisheries and interceptions of mass marked hatchery fish;

(f) beginning in the year 2001, complete an annual post-season assessment by February 1 for the most recent year for which necessary data are available to:

(1) estimate exploitation rates on key management units for the agreed boundary area fisheries;

(2) determine the accuracy of pre-season expectations of status for key management units; and

(3) estimate total exploitation rates (by all fisheries combined) experienced by natural stocks; and

(g) undertake specific assignments as described in the Appendix to this Chapter.

7. The Parties shall appoint a Working Group to facilitate collaborative development of the coho management regime and assessment tools associated with the development and initial implementation of the fishery regime established by paragraphs 4 and 5. The Working Group shall develop mechanisms to address circumstances where annual limits on exploitation rates for boundary area fisheries are exceeded. Such mechanisms may include provisions for management error and penalties for overages, but shall not create catch entitlements for any fishery or Party.

8. Technical disputes which may arise relating to paragraphs 3 through 7 above shall be resolved in accordance with Article XII of the Treaty. Policy disputes regarding implementation of this regime will be referred to the full Southern Panel for resolution. Such issues, if unresolved by the Southern Panel or the technical dispute resolution mechanism, will be referred to the Commission, which may elect to resolve the matter itself, or refer the issue to appropriate processes to ensure timely and expeditious resolution.

9. During initial development of the coho regime established by paragraphs 4 through 6, the Southern Panel will annually review performance and recommend modifications as necessary to accomplish the management objectives set forth in paragraph 4. In response to recommendations resulting from the annual reviews, the Parties agree to develop modifications for implementation as soon as practicable thereafter.

10. Beginning in 2003 and every 3 years thereafter, the Southern Panel will review the performance of the coho regime established by this Chapter and may recommend modifications as necessary to accomplish the management objectives set forth in paragraph 4. The reviews shall include recommendations as to whether or not limitations on fisheries in the Strait of Georgia or the interception of hatchery fish should be incorporated into bilateral fishing arrangements. In response to recommendations resulting from the periodic reviews, the Parties agree to develop modifications for implementation as soon as practicable thereafter.

11. Between April and June of each year, Canadian and U.S. domestic management authorities will

exchange information on the management measures under paragraphs 4 to 6 that are to be implemented to ensure that the cumulative exploitation rates by agreed boundary area fisheries do not exceed allowable levels for key management units and that total exploitation by all fisheries is consistent with target levels established by the Parties for resource conservation.

12. Unless otherwise agreed by the Parties for the duration of this Chapter, the Northern Boundary Technical Committee shall undertake the technical assignments described in paragraph 2 for coho salmon originating in rivers and mouths situated between Cape Caution and Cape Suckling.

Appendix to Annex IV, Chapter 5
Understanding on the Application of Annex IV, Chapter 5 (Coho Salmon)

The joint Coho Technical Committee shall;

1. complete, no later than December of 1999, the following specific assignments with respect to stocks in the Southern Panel Area:

(a) develop pre-defined rules for agreed boundary area fisheries that establish maximum limits on exploitation rates on key management units in response to the status of those units;

(b) review the methods that each Party uses to determine the status of key management units, MSH escapement targets and sustainable exploitation rates;

(c) conduct workshops or working sessions on topics that are central to the task of developing the management framework:

1) criteria and standards for identifying management units;

2) review methods for stock assessment (including estimation of escapements and exploitation rates);

3) identification of MSH escapement levels and sustainable exploitation rates under varying survivals;

4) methods of incorporating risk in protection of genetic and ecological diversity; and

5) standards for emerging methods for estimating stock composition (DNA); and

(d) develop a regional coho model to provide a consistent means of evaluating the cumulative impact of U.S. and Canadian fisheries on key management units and stocks of conservation concern;

2. complete, no later than January of 2001, the following specific assignments:

(a) make recommendations for monitoring and evaluation systems relating to fishery performance and stock exploitation rates and productivities; and

(b) make recommendations to improve the efficiency and cost effectiveness of bilateral coho management systems.

Chapter 6 Southern British Columbia and Washington State Chum Salmon

The provisions of this Chapter shall apply for the period 1999 through 2008.

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

- (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 database 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 the years 1999 through 2008, 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 the years 1999 through 2008,

- 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 280,000 chum; and
 - (ii) when the catch in Johnstone Strait is 280,000 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 3.9 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 280,000 to 745,000 chum; and

(ii) when the catch in Johnstone Strait is from 280,000 to 745,000 chum, the United States catch of chum in Areas 7 and 7A shall not exceed 120,000;

(c) for Johnstone Strait run sizes of 3.9 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 745,000 chum or greater; and

(ii) when the catch in Johnstone Strait is 745,000 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 the years 1999 through 2008, 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, in any year, the United States chum fishery in Areas 7 and 7A fails to achieve the 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 Committee.

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

8. In the years 1999 through 2008, 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).

9. During the period of August 1 through September 15 of each year, Canada will require the live release of chum salmon from all purse seine gear fishing in the Strait of Juan de Fuca (Canadian Area 20) and the United States will require the same for non-Indian seine fisheries in Areas 7 and 7A. Note: purse seine fisheries are not permitted in U.S. Areas 4B, 5 and 6C.

10. Canada and the United States shall assess catch levels and make attempts to collect additional genetic samples from any chum salmon caught during the August 1 through September 15 time period in the boundary area fisheries (U.S. Areas 4B, 5, 6C, 7 and 7A; Canadian Areas 18, 19, 20, 21 and 29).

Chapter 7 General Obligations

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.

¹ The index that applies to ISBM fisheries is described in paragraph 4; the index that applies to AABM fisheries is described in paragraph 6.

² SEAK fisheries will be managed to achieve escapement objectives for Southeast Alaska and Transboundary River chinook stocks.