

U.S. Commissioners and Shadows Meeting
August 30, 2018 9AM – 5PM PDT
CRITFC Offices – Celilo Room, 5th Floor
888-283-0166 Passcode: 4432591

Please conclude initial caucuses, if any, by 9AM

**United States Section – Pacific Salmon Commission
U.S. Commissioners Fund Meeting
Portland, OR
Thursday, August 30, 2018**

INFORMATION SHEET

HOTEL INFORMATION:

Hotel Eastlund
1021 NE Grand Avenue
Portland, OR 97232
(503) 235-2100
<http://hoteleastlund.com/>

Rate: \$182.00 per night plus 15.3% taxes and includes complimentary wireless Internet.
Room Type: California King (*walk-in shower*) - no bathtubs. The Eastlund Hotel is a 100% non-smoking hotel.

The hotel only offers Valet parking. The parking rate is \$25.00 per vehicle for overnight parking plus applicable taxes. **Hotel Cancellation:** Any reservation not cancelled by 3:00PM, 48 hours prior to scheduled arrival date will be subject to a cancellation fee of one night's room and tax.

Hotel Check-In: 4:00PM / Hotel Check-out: 12:00PM
The hotel has a luggage storage area at the front desk area.

TRAVEL INFORMATION:

As previously advised, upon completing travel send all travel related documents to Rita Hawkins by email, fax or mail (address and contact information below).

Rita Hawkins
NOAA Fisheries, 510 Desmond Drive SE, Suite 103
Lacey, WA 98503
Phone: [\(360\) 534-9337](tel:3605349337) Fax: [\(360\) 753-9517](tel:3607539517)
Email: Rita.Hawkins@noaa.gov

MEETING LOCATION INFORMATION:

The meeting will take place at the offices of:
Columbia River Inter-Tribal Fish Commission (CRITFC)
700 NE Multnomah Street
Suite 1200
Portland, OR 97232
[503-238-0667](tel:5032380667)

Logistics to/from the hotel and CRITFC:

CRITFC is approximately a 10 – 15 minute walk from the hotel. Contact the hotel front desk if you require a taxi.

Parking at CRITFC:

Underground parking is available at the CRITFC. Those who wish to drive and park at the office would need to enter the underground parking garage and pull a ticket. These tickets are available for a "1 Hour Free" validation. The one-hour charge is \$3.00. If parking for a full day, this validation would take \$3.00 off the full day charge of \$12.00, which makes daily parking \$9.00. *The validation machine is located at the security desk on the first floor of the CRITFC building.* All parking rates are subject to change.

CRITFC Conference Room:

The U.S. Commissioners Fund Meeting will take place in the CRITFC Meeting Room located on the 5th floor of the building. The conference room will have a spider phone, projection screens and/or a wall to project on. Wi-Fi is free and accessible in each conference room. *The main photocopiers are located on the 12th floor in the CRITFC mailroom.*

U.S. Commissioners Conference Room:

5th Floor – Celilo Room (Available 7:30AM – 5:00PM)

The U.S. meeting will start at 9AM. Please complete any caucus meetings before 9AM.

Building Access:

Each attendee needs sign in at the CRITFC front desk, which is located on the 12th floor. After signing in, each attendee will receive a guest badge that they will wear throughout the day. The badge will help CRITFC staff identify attendees that are here for the meeting and allows for access between floors. Access to the 5th and 12th floors is available from 7:30AM to 5:00PM

CONFERENCE PHONE NUMBER for participants attending by conference call.

(888)-283-0166 Passcode: 4432591

1. Today's Agenda and Logistics

August 27, 2018

Draft Agenda – U.S. Commissioners and Shadows Meeting
Portland, OR at CRITFC – Celilo Room, 5th floor
(888)-283-0166 Passcode: 4432591
August 30, 2018 9AM – 5PM PDT
Please conclude initial caucuses, if any, by 9:00.

1. Today's Agenda and Logistics
2. Updates
 - a. Letter of transmittal/press release
 - b. Related management entity activities/feedback.
 - c. Approval steps (Hogan memo)
3. CYER Implementation
 - a. Draft PSC response to CTC regarding assignment on CYER data needs.
(Attachment)
 - b. Communication to Management Entities re: CYER information inventory.
4. Funding Package
 - a. Review materials
 - b. Discussion
 - c. Direction on development of additional materials and messages
 - d. Management entity coordination
 - e. Stakeholder coordination
 - f. Actions and Next Steps
5. Fall Meeting
 - a. Draft U.S. and Bilateral Agendas
 - b. Completion of the final 2017 post-season report for U.S. fisheries
 - c. Initial draft agenda for the management entities meeting (to be held Feb 2019)
 - d. Proposed Fraser Chapter schedule
 1. Interim steps or direction to Panel
6. Other

2. Updates



PACIFIC SALMON COMMISSION

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

600 – 1155 ROBSON STREET
VANCOUVER, B.C. V6E 1B5
TELEPHONE: (604) 684-8081
FAX: (604) 666-8707
www.psc.org

August 23, 2018

The Honorable Michael Pompeo
Secretary of State
U.S. Department of State
2201 C Street, N.W.
Washington, D.C. 20520

Dear Secretary Pompeo,

We have the honor to report to you that an agreement has been reached within the Pacific Salmon Commission and to recommend acceptance by the Government of Canada and the Government of the United States of America of amendments to Chapters 1, 2, 3, 5, 6, and Attachment E of Chapter 7 of Annex IV of the *Treaty between the Government of Canada and the Government of the United States of America concerning Pacific Salmon*, done at Ottawa on 28 January 1985 (the "Treaty"). These amended Chapters would replace the existing Chapters that expire on 31 December 2018, and would be in force for the period 2019 through 2028. Please note that Chapter 4 of Annex IV regarding Fraser River Sockeye and Pink salmon currently in force does not expire until the end of December 2019.

The Commission proposes that implementation of this Agreement constitutes compliance by the Parties with their obligations under Article III of the Treaty.

It is understood that fulfillment of certain obligations under this Agreement is contingent upon and requires the provision of funding by the governments of the United States and Canada. Funding from the United States is subject to obtaining specific appropriations from the United States Congress. Such Congressional action (i.e., appropriations) lies within the discretion of the Congress. Nevertheless, the Commission recommends that the Government of the United States undertakes to seek such appropriations at an early date. Similarly, the Commission recommends the approval of this Agreement and obtaining necessary funding by the Minister of Foreign Affairs and the Minister of Fisheries, and Oceans and the Canadian Coast Guard on behalf of the Government of Canada. The Commission emphasizes its view that funding by each of the Parties is essential to the fulfillment of the obligations in this Agreement.

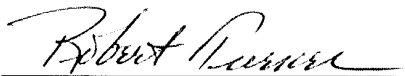
The Commission recommends and respectfully requests that each government takes the necessary internal steps to implement the obligations pursuant to this Agreement and consistent with its national laws.

In particular, the Commission understands that implementation of this Agreement by the Government of the United States may require determination that conservation needs under the United States' Endangered Species Act are satisfied. The Commission requests that the Government of the United States seeks such determination as expeditiously as possible, consistent with U.S. law, and keeps the Government of Canada informed regarding this matter and advise it of the date on which the U.S. statutory requirements have been met. In the event that the Government of the United States is impeded from implementing fisheries consistent with this Agreement because of determinations under the Endangered Species Act, the Commission understands that implementation of this Agreement could be suspended pending resolution of the impediments by agreement of the Parties.

The Commission wishes to inform the Parties that it has recommended this Agreement with the understanding that all management entities can voluntarily implement or provisionally apply them, if necessary, pending completion of procedures of the Parties to bring the Agreement formally into force, should the Parties so agree.

The Commission recommends that the Parties take the actions necessary to conclude this Agreement as expeditiously as possible.

Yours truly,



Robert Turner
Chair, Pacific Salmon Commission



Rebecca Reid
Vice Chair, Pacific Salmon Commission

cc.

The Honourable Chrystia Freeland
Secretary Wilbur Ross
The Honourable Jonathan Wilkinson



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August 23, 2018

The Honorable Wilbur Ross
Secretary of Commerce
U.S. Department of Commerce
1401 Constitution Ave NW
Washington, D.C. 20230

Dear Secretary Ross,

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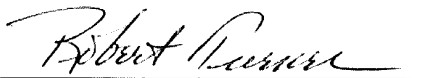
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Robert Turner
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Rebecca Reid
Vice Chair, Pacific Salmon Commission

cc.

The Honourable Chrystia Freeland
The Honourable Michael Pompeo
The Honourable Jonathan Wilkinson



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August 23, 2018

The Honourable Chrystia Freeland
Minister of Foreign Affairs
House of Commons
Ottawa, Ontario
K1A 0A6

Dear Minister Freeland,

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Minister of Fisheries, Oceans and the Canadian Coast Guard
House of Commons
Ottawa, Ontario
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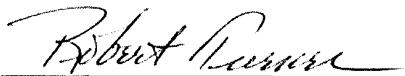
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Rebecca Reid
Vice Chair, Pacific Salmon Commission

cc.

The Honourable Chrystia Freeland
The Honorable Michael Pompeo
Secretary Wilbur Ross

**Transboundary Panel Bilateral Recommendation
Pacific Salmon Treaty - Chapter 1 (Transboundary Rivers) and Appendix
Presentation to Commissioners**

February 17, 2017

CONFIDENTIAL

Chapter 1: Transboundary Rivers

This Chapter shall apply to the period from 2019 through 2028 (“Chapter Period”). **(Subject to the availability of funds, the United States (U.S.) shall make \$2.4 million dollars available on an annual basis to U.S. management agencies for the specific purposes identified in this Chapter. Every year, Canada is responsible for adequately resourcing implementation of its responsibilities as specified in this Chapter within this Chapter Period).**

1. Recognizing the desirability of accurately determining exploitation rates and spawning escapement requirements of salmon originating in the Canadian portions of transboundary rivers, the Parties shall maintain a joint Transboundary Technical Committee (the “Committee”) that is composed of their respective representatives. The Committee shall report, unless the Parties otherwise decide, to the Transboundary Panel (the “Panel”) and to the Commission. The Committee shall operate in a bilateral manner and provide all reports and recommendations to the Panel and to the Commission. If the Committee is unable to reach a decision, it shall refer the matter to the Panel or Commission, with supporting information, for decision. The Committee shall, *inter alia*:
 - (a) assemble and refine available information on migratory patterns, extent of exploitation, and spawning escapement requirements of the stocks. It is paramount that the Parties are transparent and share available information;
 - (b) examine past and current management regimes and recommend how they may be better suited to achieving escapement goals;
 - (c) identify existing and future enhancement projects 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,
 - (ii) have an impact on natural transboundary rivers salmon production;
 - (d) review, develop, design, implement, report on, and explore expanded joint U.S. / Canada salmon assessment programs for Stikine, Taku, and Alsek River salmon stocks;
 - (e) work cooperatively and share available information in order to develop bilaterally agreed-to in-season salmon abundance estimates based on the best available information;
 - (f) provide the Panel by February 1 of each year for Canadian-origin Stikine, Taku, and Alsek River salmon stocks the following information:
 - (i) number of salmon harvested in U.S. and Canadian fisheries in the preceding season,
 - (ii) estimated spawning escapement for the preceding season,
 - (iii) post-season run reconstruction for the preceding season,
 - (iv) pre-season forecasts of abundance for the upcoming season,
 - (v) assessment programs to determine in-season run abundance or escapement estimates for the upcoming season;
 - (g) ensure that an exchange of information required to complete post-season run reconstruction of transboundary salmon stocks occurs by December 1 of each year;
 - (h) complete joint stock assessment and fishery management plans by April 15 of each year that include a list of escapement objectives bilaterally approved by the Parties for Canadian-origin salmon stocks in the Stikine, Taku, and Alsek Rivers.
2. The Parties intend to improve procedures for coordinated and cooperative management. To this end, the Parties affirm their intent to continue to implement and refine abundance-based management regimes for Chinook salmon in the Taku and Stikine Rivers, sockeye salmon in the Taku and Stikine Rivers, and coho salmon in the Taku River. Further, the Parties affirm their intent to continue to develop and implement abundance-based management regimes for Chinook and sockeye salmon in the Alsek River and coho salmon in the Stikine River. Both Parties shall take the appropriate management actions to ensure that the necessary escapement objectives defined in the annual management plan are achieved.
 - (a) To determine in-season abundance of salmon stocks, assessment fisheries may be implemented as a component of any bilateral U.S. / Canada assessment program. The Parties shall complete the accounting of the harvest in assessment fisheries as follows:
 - (i) Any expected salmon mortality shall be accounted for prior to the determination of the Total Allowable Catch (TAC) for assessment fisheries undertaken as recommended by the Committee and endorsed by the Panel,
 - (ii) Any salmon mortality of target species shall not count towards either Parties’ Allowable Catch (AC) for assessment fisheries undertaken as recommended by the Committee and endorsed by the Panel,
 - (iii) The non-target species of salmon captured and retained shall not be included in determination of TAC or either Parties AC for assessment fisheries undertaken as recommended by the Committee and endorsed by the Panel,

- (iv) Salmon captured and retained in an assessment fishery undertaken in absence of a recommendation from the Committee and endorsement from the Panel shall be considered as directed harvest and count towards a Party's AC.
3. Recognizing the objectives of each Party to have viable fisheries, the Parties agree that the following arrangements shall apply to the U.S. and Canadian fisheries harvesting salmon stocks originating in the Canadian portion of:
- (a) the Stikine River:
 - (i) Sockeye Salmon: the following provisions apply to U.S. in-river, subsistence, and District 106 and 108 drift gillnet fisheries, and Canadian in-river fisheries:
 - A. The Parties shall assess the annual run of Stikine River sockeye salmon as follows:
 - (i) the Committee shall produce a pre-season forecast of the Stikine River sockeye salmon run prior to February 1 of each year. The Committee may modify this forecast prior to the opening of the fishing season;
 - (ii) in-season estimates of the Stikine River sockeye salmon run and the TAC shall be made under the guidelines of the annual management plan, 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 approved 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;
 - (iii) modifications to the annual management plan and forecast model may be made prior to June 1 of each year upon approval of the Parties. If the Parties are unable to approve modifications, the model and parameters applied the previous year shall be used;
 - (iv) estimates of the TAC may be adjusted in-season only by concurrence of both Parties' respective managers. Reasons for the adjustments shall be provided to the Committee.
 - B. The Parties desire to maximize the harvest of Tahltan Lake, Tuya Lake and other enhanced sockeye salmon in their existing fisheries, while considering the conservation needs of wild salmon runs. The Parties shall manage the returns of Stikine River sockeye salmon to ensure that each country obtains 50% of the TAC in their existing fisheries. Canada shall endeavour to harvest all of the fish surplus to escapement objectives and broodstock needs returning to the Stikine River as defined in the annual management plan.
 - C. The Parties shall continue to develop and implement joint enhancement programs:
 - (i) The Committee shall prepare an annual Stikine Enhancement Production Plan (SEPP), designed to produce 100,000 returning sockeye salmon per year by February 1. The SEPP shall summarize planned projects for the coming year and expected production of identifiable enhanced sockeye salmon from all planned enhancement activities, including expected production from site specific egg takes and fry releases, access improvements, and all other enhancement activities outlined in the annual SEPP. The Committee shall use these data to prepare an enhancement production forecast based on the best available information.
 - (ii) The Panel shall review the annual SEPP and make recommendations to the Parties concerning the SEPP by February 28.
 - (iii) The Committee shall annually review and document joint enhancement projects and activities undertaken by the Parties, including returns, and present the results to the Panel during the annual post-season review.
 - (iv) The Parties' performance relative to a SEPP shall be evaluated by the Panel two years after adoption of that SEPP.
 - (v) An annual SEPP becomes final upon the Panel's approval two years after its initial adoption.
 - (vi) The Parties affirm their intent to renew or develop new enhancement projects (comparable to the Tuya Lake enhancement project) in the Stikine River drainage, as identified in the SEPP, designed to annually produce 100,000 returning sockeye salmon by 2024.
 - (vii) Harvest shares shall be 53% U.S. / 47% Canada from 2019 through 2023. If the final 2017 or 2018 SEPP provides an expected production of 100,000 returning sockeye salmon, the harvest shares shall be 50% U.S. / 50% Canada in 2022 or 2023.
 - (viii) Beginning with the final 2019 SEPP and subsequent years, if expected production is 100,000 returning sockeye salmon, the harvest shares three years later shall be 50% U.S. / 50% Canada. Otherwise, the harvest share for the Party that failed to implement enhancement projects designed

- to annually produce 100,000 returning sockeye salmon shall be reduced by 7.5% and reallocated to the other Party.
- (ix) If either Party fully terminates or does not continue its participation in the joint enhancement program, that Party's harvest share shall be reduced to 35%, and the harvest share adjustment shall be reallocated to the other Party for the subsequent fishing season(s).
- D. Harvest of sockeye salmon in the Stikine River U.S. subsistence fishery shall be managed as a component of the U.S. directed fishery for Stikine River sockeye salmon. All sockeye salmon harvested in the U.S. Stikine River subsistence fishery shall count towards the U.S. AC.
- (ii) Coho salmon: the following provisions apply to U.S. in-river, subsistence, and Districts 106 and 108 drift gillnet fisheries, and Canadian in-river fisheries:
- A. The Parties shall develop and implement an abundance-based approach to managing coho salmon on the Stikine River. Assessment programs need to be further developed before a biologically based escapement goal can be established. By 2024, the Parties shall review the progress on this obligation.
- B. In the interim, the U.S. 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 5,000 coho salmon in a directed coho salmon fishery.
- (i) The catch limit of 5,000 coho salmon for the Canadian fishery in the Stikine River may be exceeded provided that in-season run assessments indicate that salmon passage into Canada exceeds or is projected to exceed the specified 5,000 fish Canadian harvest limit plus the agreed spawning objective.
- C. Harvest of coho salmon in the Stikine River U.S. subsistence fishery shall be managed as a component of the U.S. directed fishery for Stikine River coho salmon. All coho salmon harvested in the U.S. Stikine River subsistence fishery shall count towards the U.S. AC.
- (iii) Chinook salmon: the following provisions apply to Chinook salmon that originate from the Canadian portion of the Stikine River ("Stikine River Chinook") with a mid-eye to fork length of 660 mm or greater ("large"):
- A. Both Parties shall take the appropriate management actions to ensure that the escapement objectives for Chinook salmon bound for the Canadian portion of the Stikine River are achieved. The Parties agree to share the responsibility for conservation. Fishing arrangements must take biodiversity and eco-system requirements into account.
- B. Consistent with paragraph 2, management of directed fisheries shall be abundance-based through an approach developed by the Committee. The Parties shall implement assessment programs in support of the abundance-based management regime.
- C. Unless otherwise approved by the Parties, directed fisheries on Stikine River Chinook salmon shall occur only in the Stikine River drainage in Canada and in District 108 in the U.S.
- D. Harvest of Chinook salmon in the Stikine River U.S. subsistence fishery shall be managed as a component of the U.S. directed fishery for Stikine River Chinook salmon. All Chinook salmon harvested in the U.S. Stikine River subsistence fishery shall count towards the U.S. AC.
- E. Management of Stikine River Chinook salmon shall take into account the conservation of specific stocks or conservation units when planning and prosecuting the Parties' respective fisheries. To avoid over-harvesting of specific components of the run, the Committee shall develop weekly harvest guidelines or other management measures by apportioning the allowable harvest of each Party over the Chinook salmon run based on historical weekly run timing.
- F. The Parties reaffirm their interest in continued monitoring of Little Tahltan River Chinook salmon to investigate factors that may be influencing productivity and long-term health.
- G. The Parties shall implement, through the Committee, a Chinook salmon genetic stock identification (GSI) program approved by the Parties to assist the management of Stikine River Chinook salmon. The Parties agree to continue the development of joint GSI baselines.
- H. The Parties shall periodically review the above-border Stikine River Chinook salmon spawning escapement goal that is expressed in terms of large fish.
- I. The Committee shall produce a pre-season forecast of the Stikine River Chinook salmon terminal run¹ size by December 1 of each year.

¹ Terminal run = total Stikine Chinook run size minus the U.S. troll catch of Stikine Chinook salmon outside of District 108.

- J. Directed fisheries may be implemented based on pre-season forecasts only if the pre-season forecast terminal run size equals or exceeds the spawning objective as defined in the annual management plan in addition to the combined Canada and U.S. base level catches (BLCs) and assessment fishery catches of Stikine River Chinook salmon. The pre-season forecast shall only be used for management until bilaterally approved in-season projections become available.
 - K. For the purposes of determining whether to allow directed fisheries using in-season information, such fisheries shall not be implemented unless the projected terminal run size exceeds the spawning objective as defined in the annual management plan in addition to the combined Canada and U.S. BLCs and assessment fishery catches of Stikine River Chinook salmon. The Committee shall determine when in-season projections can be used for management purposes and establish the methodology for in-season projections and update them weekly or at other approved intervals.
 - L. The Total Allowable Catch (TAC) for directed fisheries shall be calculated as follows:
 - (i) Base Terminal Run (BTR) = Spawning Objective + Assessment Fishery + U.S. BLC + Canadian BLC;
 - (ii) Terminal Run – BTR = TAC.
 - M. Definitions include the following:
 - (i) U.S. BLC: 3,400 large Chinook salmon²;
 - (ii) Canadian BLC: 2,300 large Chinook salmon³;
 - (iii) Assessment fishery: up to 1,400 large Chinook salmon.
 - N. Harvest sharing and accounting of the TAC shall be as follows:
 - (i) 50% is allocated to the U.S.;
 - (ii) 50% is allocated to Canada;
 - (iii) If the pre-season TAC forecast exceeds 30,000 Chinook salmon, the Panel shall review and recommend potential harvest share adjustments to the Parties.
 - O. With consideration for the Southeast Alaska (SEAK) Chinook salmon terminal exclusion and provisions of Chapter 3, U.S. harvest of Stikine River Chinook salmon up to 3,400 fish and non-Stikine River Chinook salmon harvested in District 108 will be accounted for in Chapter 3.
 - P. The Parties shall determine the domestic allocation of their respective harvest shares.
 - Q. When the terminal run is insufficient to provide for the Parties' Stikine River Chinook salmon BLC and the lower end of the escapement goal range, the reductions in each Party's base level fisheries, i.e. the fisheries that contributed to the BLCs, shall be proportional to the Stikine BLC shares. In this situation, the Committee may recommend details for an alternate assessment program. Following the Panel's approval, an assessment fishery may be implemented which fully considers the conservation needs of the stock.
 - R. If the escapement of Stikine River Chinook salmon is below the lower end of the agreed escapement goal range for three consecutive years, the Parties shall examine the management of base level fisheries and of any other fishery that harvests Stikine River Chinook salmon stocks, with a view to rebuilding the escapement.
- (b) the Taku River:
- (i) Sockeye salmon: the following provisions apply to the U.S. District 111 drift gillnet fishery and to Canadian in-river fisheries. Directed fisheries on Taku River sockeye salmon will occur only in the Taku River drainage in Canada and in District 111 in the U.S.:
 - A. Annual abundance of wild Taku River sockeye salmon shall be estimated by adding the catch of wild Taku River sockeye salmon in U.S. District 111 to the estimated above-border abundance of wild sockeye salmon. The annual TAC of wild Taku River sockeye salmon shall be estimated by subtracting the agreed escapement objective as defined in the annual management plan from the annual terminal run abundance estimate.
 - B. The Parties shall develop a joint technical report and submit it through the Parties' respective review mechanisms with the aim of establishing a bilaterally approved maximum sustainable yield (MSY) goal for Taku River sockeye salmon prior to the 2020 fishing season.

² Includes average combined U.S. gillnet, troll and sport catches of Stikine Chinook salmon in District 108.

³ Includes average combined Canadian Aboriginal, commercial, and sport catches of Stikine Chinook salmon.

- C. The Taku River sockeye salmon assessment program will be reviewed by two experts (one selected by each Party) in mark-recovery estimation techniques. The Parties shall instruct these experts to make a joint recommendation to the Parties concerning improvements to the existing program including how to address inherent mark-recovery assumptions with an aim to minimize potential bias prior to the 2020 fishing season.
- D. The management of U.S. and Canadian fisheries shall be based on weekly estimates of the TAC of wild sockeye salmon.
- E. For in-season management purposes, identifiable enhanced Taku River origin sockeye salmon shall not be included in the calculations of the annual TAC. Enhanced sockeye salmon are harvested in existing fisheries incidentally to the harvest of wild Taku River sockeye salmon.
- F. The Parties' primary management objective is to achieve the agreed spawning objective as defined in the annual management plan. As a result, the following apply:
 - (i) To the end of 2019, Canada may, in addition to its share of the TAC, harvest any projected sockeye salmon escapement in excess of 80,000 fish apportioned by run timing.
 - (ii) For the remainder of the Chapter Period beyond 2019, the Parties shall manage fisheries in accordance with spawning objectives and the resulting ACs unless otherwise indicated in sub-paragraph (iii).
 - (iii) Upon acceptance of a revised Taku River sockeye salmon escapement goal by the Parties and upon adoption by the Committee of recommendations from the experts as deemed critical by the Panel, Canada may, in addition to its share of the TAC, harvest any projected sockeye salmon in excess of spawning objectives and broodstock needs apportioned by run timing returning to the Taku River.
 - (iv) In absence of establishing a bilaterally approved MSY escapement goal for Taku River sockeye salmon prior to the 2020 fishing season, the Panel shall recommend an interim spawning objective.
- G. Notwithstanding paragraph (E), the Parties recognize that not all surplus enhanced sockeye salmon are harvested in existing commercial fisheries due to management actions required to ensure the wild spawning escapement. Canada may implement additional fisheries upstream of the existing commercial fishery to harvest surplus enhanced sockeye salmon.
- H. The Parties agree to the objective of increasing sockeye salmon runs in the Taku River. The United States long-term objective is to maintain the 82% U.S. harvest share of wild Taku River sockeye salmon only adjusted based on documented enhanced sockeye salmon returns. Canada's long-term objective is to achieve an equal sharing arrangement for sockeye salmon. The Parties shall continue to develop and implement a joint Taku River sockeye salmon enhancement program intended to eventually annually produce 100,000 returning enhanced sockeye salmon.
- I. The Parties annual TAC share of Taku River sockeye salmon shall be as follows:

Enhanced Production	U.S. TAC Share	Canadian TAC Share
0	82%	18%
1 – 5,000	80%	20%
5,001 – 15,000	77%	23%
15,001 – 25,000	75%	25%
25,001 – 50,000	72%	28%
50,001 – 75,000	68%	32%
75,001 – 100,000+	65%	35%

The Parties' performance relative to these TAC shares shall be based on the post-season analysis of documented production of enhanced sockeye salmon.

- J. The Committee shall prepare an annual Taku Enhancement Production Plan (TEPP) by February 1. The TEPP will detail the planned enhancement activities to be undertaken by the Parties and the expected production from site-specific egg takes and fry releases, access improvements and all other enhancement activities outlined in the annual TEPP. The Committee shall use these data to prepare an initial enhancement production forecast based on the best available information.

- K. The Panel shall review the annual TEPP and make recommendations to the Parties concerning the TEPP by February 28.
 - L. The Committee shall annually review and document joint enhancement projects and activities undertaken by the Parties, including the estimated returns of identifiable and unidentifiable enhanced sockeye salmon, and present the results to the Panel during the annual post-season review.
- (ii) Coho salmon: the following provisions apply to the U.S. District 111 drift gillnet fishery and the Canadian in-river fisheries:
- A. The Parties agree to implement an abundance-based approach to managing coho salmon on the Taku River.
 - B. The following applies to the management and allocation of terminal run Canadian-origin Taku River coho salmon:
 - (i) the calculation of terminal abundance shall include harvest prior to statistical week 34;
 - (ii) the following applies to the assessment of the terminal run of Taku River coho salmon after accounting for the harvest prior to statistical week 34:
 - (1) If the pre-season terminal abundance forecast is less than the lower end of the escapement goal range plus 5,000 fish, the Committee may recommend an alternate assessment program. Following the Panel’s approval, an assessment fishery may be implemented which fully considers the conservation needs of the stock.
 - (2) When the terminal abundance exceeds the lower end of the escapement goal range, plus 5,000 coho salmon, and up to the MSY point goal plus 5,000 fish, Canada may harvest 5,000 coho salmon apportioned by bilaterally approved run timing;
 - (iii) The Parties’ annual terminal and in-river TAC share of Taku River coho salmon shall be as follows:
 - (1) For terminal abundances in excess of 75,000 coho salmon, AC accumulates as follows:

Terminal Run Size		Allowable Catch Range		Harvest Share	
Lower	Upper	Lower	Upper	U.S.	Canada
75,001	80,000	1	5,000	100%	0%
80,001	100,000	5,001	25,000	50%	50%
Greater than 100,000		25,001+		90%	10%

Note: the harvest shares associated with the above terminal run sizes are based on an escapement goal range of 50,000 to 90,000 coho salmon with an MSY Point goal of 70,000 fish.

- (iv) The Parties’ primary management objective is to achieve the agreed spawning escapement goal. If the projected spawning escapement of Canadian-origin Taku River coho salmon is greater than the agreed spawning escapement point goal, Canada may, in addition to its AC, harvest the projected surplus to spawning escapement apportioned by run timing.
- (v) The performance of coho salmon fisheries shall be evaluated on an annual basis as follows:
 - (1) no new directed terminal or in-river fisheries for Taku River coho salmon shall be undertaken prior to statistical week 34;
 - (2) coho salmon harvested incidentally in terminal, in-river, and assessment fisheries that occur prior to statistical week 34 are not included in paragraph 4 Trigger 2 considerations;
 - (3) if a Party does not fully harvest its AC to the extent that spawning escapement exceeds the upper end of the spawning escapement goal range in 3 consecutive years, the Panel shall review the Party’s harvest and allocation and the factors contributing to fishery performance, and may recommend the adjustment of allocations to terminal or in-river fishery AC for the following year;

- (4) determination of the terminal abundance of Taku River coho salmon shall occur through the administration of a bilateral assessment program. When a mark-recapture program is employed to determine abundance, the program shall be designed to ensure that tag recovery (mark evaluation) is apportioned by run timing.
- A. (iii) Chinook salmon: the following provisions apply to Chinook salmon that originate from the Canadian portion of the Taku River (“Taku River Chinook”) with a mid-eye to fork length of 660 mm or greater (“large”):
- B. Both Parties shall take the appropriate management actions to ensure that the escapement objectives for Chinook salmon bound for the Canadian portion of the Taku River are achieved. The Parties agree to share the responsibility for conservation. Fishing arrangements must take biodiversity and eco-system requirements into account.
- C. Consistent with paragraph 2, management of directed fisheries shall be abundance-based through an approach developed by the Committee. The Parties shall implement assessment programs in support of the abundance-based management regime.
- D. Unless otherwise approved by the Parties, directed fisheries on Taku River Chinook salmon shall occur only in the Taku River drainage in Canada, and in District 111 in the U.S.
- E. Management of Taku River Chinook salmon shall take into account the conservation of specific stocks or conservation units when planning and prosecuting the Parties’ respective fisheries. To avoid over-harvesting of specific components of the run, the Committee shall develop weekly harvest guidelines, or other agreed management measures, by apportioning the allowable harvest of each Party over the Chinook salmon run based on historical weekly run timing.
- F. The Parties shall implement through the Committee a Chinook salmon genetic stock identification (GSI) program approved by the Parties to assist the management of Taku River Chinook salmon. The Parties agree to continue the development of joint GSI baselines.
- G. The Parties shall periodically review the above-border Taku River Chinook salmon spawning escapement goal that is expressed in terms of large fish.
- H. The Committee shall produce a pre-season forecast of the Taku River Chinook salmon terminal run⁴ size by December 1 of each year.
- I. Directed fisheries may be implemented based on pre-season forecasts only if the pre-season forecast terminal run size equals or exceeds the spawning objective as defined in the annual management plan plus the combined Canada and U.S. base level catches (BLCs) and assessment fishery catches of Taku River Chinook salmon. The pre-season forecast shall only be used for management until bilaterally approved in-season projections become available.
- J. For the purposes of determining whether to allow directed fisheries using in-season information, such fisheries shall not be implemented unless the projected terminal run size exceeds the spawning objective as defined in the annual management plan in addition to the combined Canada and U.S. BLCs and assessment fishery catches of Taku River Chinook salmon. The Committee shall determine when in-season projections can be used for management purposes and establish the methodology for in-season projections and update them weekly or at other approved intervals.
- K. The Total Allowable Catch (TAC) for directed fisheries shall be calculated as follows:
- (i) Base Terminal Run (BTR) = Spawning Objective + Assessment Fishery + U.S. BLC + Canadian BLC;
- (ii) Terminal Run – BTR = TAC.
- L. Definitions include the following:
- (i) U.S. BLC: 3,500 large Chinook salmon⁵;
- (ii) Canadian BLC: 1,500 large Chinook salmon⁶;
- (iii) Assessment fishery: up to 1,400 large Chinook salmon.
- M. Harvest sharing and accounting of the TAC shall be as follows:
- (i) 50% is allocated to the U.S.;
- (ii) 50% is allocated to Canada;
- (iii) If the pre-season TAC forecast exceeds 30,000 Chinook salmon, the Panel shall review and recommend potential harvest share adjustments to the Parties.

⁴ Terminal run = total Taku Chinook run size minus the U.S. troll catch of Taku Chinook salmon outside District 111.

⁵ Includes average combined U.S. gillnet and sport catches of Taku Chinook salmon in District 111.

⁶ Includes average combined Canadian Aboriginal, commercial, and estimated sport catch of Taku Chinook salmon.

- N. With consideration for the SEAK Chinook salmon terminal exclusion and provisions of Chapter 3, U.S. harvest of Taku River Chinook salmon up to 3,500 fish and non-Taku River Chinook salmon harvested in District 111 will be accounted for in Chapter 3.
- O. The Parties shall determine the domestic allocation of their respective harvest shares.
- P. When the terminal run is insufficient to provide for the Parties' Taku River Chinook salmon BLC and the lower end of the escapement goal range, the reductions in each Party's base level fisheries, i.e. the fisheries that contributed to the BLCs, shall be proportional to the Taku BLC shares. In this situation, the Committee may recommend details for an alternate assessment program. Following the Panel's approval, an assessment fishery may be implemented which fully considers the conservation needs of the stock.
- Q. If the escapement of Taku River Chinook salmon is below the lower end of the agreed escapement range for three consecutive years, the Parties shall examine the management of base level fisheries and of any other fishery that harvests Taku River Chinook salmon stocks, with a view to rebuilding the escapement.

- (c) the Alsek River: The following provisions apply to the U.S. Subdistrict 182-30 commercial and subsistence fisheries and to Canadian in-river fisheries.

The Parties agree to continue to exchange information on Canadian-origin Alsek River salmon stocks to facilitate a complete understanding of life history and productivity of the stocks.

The Parties shall continue to develop and implement cooperative abundance-based management programs for Alsek River salmon, including agreed above-border spawning escapement and management goals for Chinook and sockeye salmon.

During the Chapter Period, either Party may bring proposals to the Panel for new commercial fisheries to harvest Alsek River drainage salmon. The Party making such a proposal is responsible for defining the specifics of the proposed fishery in terms of location, timing, and gear type to be used. That Party is responsible for recommending a set of fishery management measures for the proposed fishery or fisheries. Implementation of any such fishery shall not proceed without the consent of both Parties and until an approved abundance-based management regime has been developed.

- (i) Chinook salmon:
 - A. on an annual basis, weekly tissue samples shall be collected from incidentally caught Chinook salmon in the Dry Bay commercial fishery in addition to the normal sampling program;
 - B. on an annual basis, the Committee shall produce an in-river abundance estimate of Alsek River Chinook salmon. The Parties shall maintain, through the Committee, a Chinook genetic stock identification (GSI) program approved by the Parties to assist the management of Alsek River Chinook salmon. The Parties agree to continue the development of joint GSI baselines.
- (ii) Sockeye salmon:
 - A. on an annual basis, the Committee shall refine and implement in-season abundance-based management. The Parties shall endeavour to continue to explore methods for determining in-river abundance (such as GSI);
 - B. on an annual basis, weekly tissue samples shall be collected from the Dry Bay commercial fishery in addition to the normal sampling program;
 - C. the interim management intent of the U.S. is to pass sufficient sockeye salmon into Canada to achieve the agreed Klukshu River spawning escapement goal range plus 3,000 sockeye salmon.
 - (i) If the MSY point goal plus 3,000 sockeye salmon is not achieved for three of five consecutive years, the U.S. shall examine the management of their fisheries and shall take corrective action to ensure future catches are in line with this Treaty.
 - D. the U.S. shall manage fisheries with the intent of providing improved Canadian access to early season Alsek River stocks by enabling a greater proportion of sockeye salmon to pass upstream of the international border up to and including statistical week 27.

4. The Parties agree to manage their fisheries to the best of their abilities and to achieve approved spawning objectives and harvest sharing provisions of this Chapter. On an annual basis, the Committee shall review the performance of the fisheries, including the ability to meet spawning objectives and the relationship between actual harvests versus TAC allocations, and

present the results to the Panel. The Committee shall develop these assessments based on bilaterally approved post-season run reconstructions:

- (a) (Trigger 1) Deviations from target escapements and harvests are anticipated to occur as a result of imprecision in management, pre-season forecast errors, in-season run projection errors, and other factors such as environmental conditions. Notwithstanding annual review and subsequent modification to address conservation concerns, the Parties shall review the overall management regime and recommend adjustments commencing the following year to better address conservation requirements if the lower end of agreed escapement goal ranges in three consecutive years is not achieved.
 - (b) (Trigger 2) If in any three of five consecutive years either Party exceeds its allocation by more than 10% or if post-season it is determined there is no allocation and directed harvest is more than 1% of the point goal, that Party shall take corrective action to ensure future catches are in line with this Treaty commencing the following year. By the end of the Annual meeting of the Panel, proposals regarding what actions shall be taken and the expected outcomes thereof shall be discussed with the other Party prior to implementation.
 - (c) (Trigger 3) The Parties agree that if the TAC of one Party is not attained due to management actions by the other, 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. At the beginning and mid-point in the Chapter Period, the Parties agree that the harvest sharing performance over the previous five years shall be evaluated and adjustments made over the next five year period, if necessary. At the end of the Chapter period, cumulative overages and underages shall be carried forward to the next Chapter Period.
5. The Parties shall review midway through the Chapter Period, or other time mutually decided by the Parties, the current Chapter and determine if they want to renew this Chapter for an additional period of time.
 6. The Parties shall consider cooperative enhancement possibilities and undertake, as soon as possible, studies on the feasibility of new enhancement projects on the Stikine and Taku rivers and adjacent areas for the purpose of increasing productivity of salmon stocks and providing greater harvests to the fishermen of Canada and the U.S.
 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 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. Any such arrangement is intended to *inter alia*:
 - (a) ensure effective conservation of the stocks;
 - (b) facilitate future enhancement of the stocks as jointly approved by the Parties;
 - (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 recognizing the desire of Canada and the United States to continue a joint enhancement program for the transboundary rivers that is carefully planned and coordinated:

1. The Parties agree to:
 - (a) implement an enhancement program that is consistent with the protection of existing wild salmon stocks and the habitat upon which they depend;
 - (b) implement an enhancement program that is diverse, involves a variety of approaches to increasing production, and builds upon a good knowledge base of existing wild stocks of salmon;
 - (c) implement an enhancement program that includes comprehensive planning, assessment, and review;
 - (d) develop strategies for management of enhanced stocks prior to the return of adult fish;
 - (e) share the costs of jointly approved enhancement projects proportionally to the distribution of benefits, unless external funding can be found. The Parties shall recommend a plan, when required, for funding of projects, including:
 - (i) cost sharing arrangement between the Parties;
 - (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) seek to identify diverse enhancement opportunities and to develop preliminary summaries of projects which may assist in meeting enhancement goals established by Annex IV, Chapter 1 of this Treaty;
 - (b) communicate identified enhancement opportunities to the Panel and the Parties along with technical recommendations concerning these opportunities;
 - (c) develop detailed feasibility studies for projects recommended by either Party or by the Panel, including:
 - (i) estimation of costs;
 - (ii) estimation of benefits to users and communities;
 - (iii) likelihood of success;
 - (iv) risk analysis;
 - (v) schedules for implementation;
 - (vi) specified timelines and thresholds for major decisions;
 - (vii) procedures for evaluation; and
 - (viii) recommend harvest opportunities of enhanced stocks;
 - (d) monitor implementation of ongoing enhancement projects and annually report progress to the Parties and the Panel;
 - (e) periodically provide detailed technical reviews pertaining to biological aspects and items listed in paragraph 2(c) of implemented projects as requested by either Party, with the concurrence of the other Party;
 - (f) produce an annual Stikine Enhancement Production Plan (SEPP) and a Taku Enhancement Production Plan (TEPP) that detail:
 - (i) enhancement projects and activities to be undertaken by the Parties;
 - (ii) expected enhanced production from those projects and activities; and
 - (iii) assessment techniques that will be used to document enhanced production;
 - (g) annually review and document the joint enhancement projects and activities undertaken by the Parties and assess enhanced returns; the Enhancement Subcommittee shall assess the enhancement activities each year against the appropriate SEPP and TEPP and provide explanations for any discrepancies.
3. The Panel shall consider technical input from the Enhancement Subcommittee, in addition to its knowledge of local economic, social, and cultural conditions and values, to communicate recommendations to the Parties concerning enhancement project selection, implementation, assessment and termination.
4. General Guidelines:
 - (a) stock identification techniques shall be available to estimate the contribution of enhanced sockeye in mixed stock fisheries in order for large scale enhancement projects to proceed. The Committee shall recommend the most appropriate stock identification techniques for each project;
 - (b) egg collection is limited to a maximum of 30% of the system specific escapement (where possible this limit should be applied to the female component of the escapement);
 - (c) unless otherwise approved by the Parties, the overall objective is not to exceed a 1:1 ratio of enhanced: wild smolt.
5. the Stikine River:

The Parties shall pursue a diverse program to enhance sockeye salmon production in the Stikine River to meet the annual SEPP goal of 100,000 enhanced sockeye salmon. The existing enhancement program may be expanded to include new activities such as barrier removal, habitat improvement or other approved enhancement projects. The annual egg-take goal for the Stikine sockeye enhancement program reflects what is required to meet the annual enhancement goal taking into account the expected production from all other Stikine sockeye salmon enhancement projects. Eggs are incubated at the Port Snettisham central incubation facility (CIF), unless otherwise approved by the Parties. Fry are released into Tahltan Lake, Tuya Lake or other sites in the following manner, subject to review by the Committee:

- (a) if the count of sockeye salmon through the Tahltan Lake weir is less than 15,000 fish or an alternate threshold approved by the Parties, all Tahltan origin fry will be returned to Tahltan Lake;
 - (b) if the count of sockeye salmon through the Tahltan Lake weir is greater than 15,000 fish or an alternate threshold approved by the Parties, subject to paragraph (c), the Tahltan origin fry will be distributed to Tahltan Lake, Tuya Lake or other sites in a manner that is identified in the SEPP;
 - (c) egg takes may take place in locations other than at Tahltan Lake; fry outplants may take place in locations other than Tahltan and Tuya lakes.
6. the Taku River:
The Parties shall pursue a diverse Taku sockeye salmon enhancement program intended eventually to meet the annual goal of 100,000 enhanced sockeye salmon. The Parties shall expand the existing enhancement program to include new activities and may include:
- (a) continuation of the Trapper Lake enhancement project;
 - (b) other barrier removal projects;
 - (c) continuation of the Tatsamenie Lake enhancement efforts;
 - (d) other projects focusing on salmon passage and habitat improvement. The Tatsamenie Lake salmon stock is used as a source of eggs unless alternate or additional egg sources are identified and approved by the Parties. The annual egg-take goal for the Taku sockeye salmon enhancement program is defined in the TEPP. Eggs taken as part of this enhancement effort are incubated at the Port Snettisham CIF unless otherwise approved by the Parties. Fry may be released into Tatsamenie Lake, Trapper Lake, or other sites in the Taku drainage, subject to review by the Committee.
7. Harvest principles:
- (a) the Parties desire to maximize the harvest of enhanced sockeye salmon in their existing fisheries while considering the conservation needs of wild salmon stocks;
 - (b) to avoid impacts on co-migrating salmon stocks and species, exploitation rates applied to Taku and Stikine river sockeye salmon in existing mixed stock fisheries in Canada and the U.S., shall be at levels compatible with the maintenance of wild stocks and based on returns of identifiable enhanced fish.
8. Cost sharing for the continuation of existing enhancement projects: the costs of producing Taku and Stikine origin enhanced sockeye salmon shall be shared as follows:
- (i) Canada shall pay for:
 - a. egg takes;
 - b. egg transports;
 - c. sampling and numerical analysis necessary to determine the contribution of enhanced sockeye salmon to Canadian fisheries;
 - d. limnological assessments;
 - e. processing of sockeye otolith samples collected from spawning escapement, broodstock and juveniles;
 - (ii) The United States shall pay for:
 - a. operations and improvements of that portion of the Port Snettisham CIF that is dedicated to enhancement projects on the transboundary rivers;
 - b. transports of fry to the enhancement sites;
 - c. sampling and analysis necessary to determine the contribution of enhanced transboundary river sockeye salmon to United States fisheries; and
 - d. processing of all other sockeye otolith samples;
 - (iii) Projects that are conducted and paid for jointly by the Parties:
 - a. disease sampling and analysis;
 - b. identification and evaluation of alternative sockeye salmon enhancement opportunities;
 - c. assessments of unforeseen issues that arise from joint enhancement activities; and
 - d. projects that investigate why outcomes differ from expected outcomes.

Chapter 2: Northern British Columbia and Southeastern Alaska

The provisions of this Chapter shall apply for the period 2019 through 2028, unless both parties agree that modifications are required to the existing chapter after 2023 to support conservation of Nass and Skeena River sockeye salmon or avoid undue disruption of existing pink fisheries in the District 104 fishery. By the Commission post season meeting in January 2022, the Parties will have completed a review of the performance of the provisions in this Chapter. The review will identify management actions taken to support conservation of Nass River and Skeena River sockeye, evaluate the consistency of those actions with Chapter 2 obligations and outline, where feasible, the benefit of those actions for those populations.

Subject to the provision of funding by the United States, \$1.1 million will be made available on an annual basis to United States management agencies for the specific purpose of implementing the United States obligations as identified in this Chapter.

The Parties agree that:

1. With respect to the Portland Canal chum salmon fishery, a Party must not conduct net fisheries in Alaskan Section 1A and Canadian sub-areas 3-15 and 3-16 nor conduct directed chum fisheries in Alaskan Section 1B north and east of Akeku Point or in Canadian sub-areas 3-11 and 3-13 unless these chum fisheries are approved by the Parties.
2. With respect to sockeye salmon, the Parties will develop a coordinated approach to management that reflects both Parties' commitment to apply appropriate management measure for Nass River and Skeena River sockeye salmon, as described below.

Canada will provide the Northern Boundary Technical Committee (NBTC) with pre-season run-size forecasts for Skeena River and Nass River sockeye salmon prior to the January post-season meeting of the Northern Panel, as well as updated weekly run size estimates as in-season information becomes available. The Parties agree that the 50% probability (p50) may be used when making management decisions regarding fishing plans for both Canada and the United States.

The data and information from the current in-season management regime at both the Tyee test fishery and the Nass River assessments will continue to be exchanged to facilitate understanding of run-size estimation.

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.

Based on run size estimates for Nass River and Skeena River sockeye, the Parties shall undertake additional management actions prior to statistical week 31 in District 104 as follows:

(a) Skeena River

(i) Expected total run is below 900,000 sockeye salmon. At this level, there are no Canadian commercial marine harvests. The United States shall undertake measures to reduce the impact of the D104 purse seine fishery, which may include delaying the start date and duration of the fishery.

(ii) Expected total run is below 600,000 sockeye salmon. At this level, there are no Canadian marine or in-river commercial harvests with the exception of terminal fisheries adjacent to enhancement spawning channels. The United States shall undertake additional measures to reduce the impact of the D104 purse seine fishery, which may include delaying the start date and duration of the fishery, and/or reducing the fishing area.

(b) Nass River

(i) Expected total run is below 200,000 sockeye salmon. At this level, there are no Canadian commercial marine harvests. The United States shall undertake measures to reduce the impact of D101 drift gillnet and D104 purse seine fisheries, which may include delaying the start date and duration of these fisheries.

(ii) Expected total run is below 180,000 sockeye salmon. At this level, there are no Canadian marine or in-river commercial harvests. The United States shall undertake measures to reduce the impact of D101 drift gillnet and D104 purse seine fisheries, which may include delaying the start date and reducing the duration, reducing the area, and/or implementing mesh restrictions (District 1 drift gillnet fishery only) for these fisheries.

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, each Party must not 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) Canada agrees to complete a comprehensive escapement goal analysis (prior to the 2023 fishing season) for Nass and Skeena river sockeye salmon that will be peer-reviewed by an independent contractor and then submitted to the joint Northern Boundary Technical Committee and Northern Panel for further review.

The Terms of Reference for the (biological or MSY-based) escapement goal analysis will be co-developed by the Northern Panel and the Northern Boundary Technical Committee and will include a review of:

- long-term run timing patterns,
- short-term anomalies,
- the potential influence of stock-specific abundance changes on perceived run timing shifts,
- data limitations in regards to modeling timing through the District 4 fishery, and

- any other related information that could be relevant to management of Boundary Area fisheries.

USA agrees to complete an analysis of the pink salmon fishery in District 4 salmon that will be peer-reviewed by an independent contractor, and report to the joint Northern Boundary Technical Committee and the Northern Panel for further review.

The Terms of Reference for the harvest pattern analysis will be co-developed by the Northern Panel and the Northern Boundary Technical Committee and will include a review of:

- long-term changes in abundance of the various pink salmon stocks in the Boundary Area,
- changes in the timing, and location, of pink salmon harvest in District 4,
- Impact of pink salmon harvest in District 4 on Skeena River and Nass River sockeye, and
- evaluate the efficacy of assessing pink salmon run timing through District 4 using currently available data.

(e) The existing sockeye run reconstruction model will be reviewed by the joint Northern Boundary Technical Committee with the primary goal of providing recommendations to the joint Northern Panel, at or before the January 2022 PSC Post Season meeting, regarding creating a simpler run reconstruction model using genetic data and provide recommendations on any improvements to the program if needed.

(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.

(i) The Parties will continue to collect sockeye salmon genetic samples from appropriate marine fisheries for use in the annual run reconstruction including Alaska districts 1, 2, 3, and 4 purse seine and districts 1 and 6 drift gillnet fisheries. Likewise, sockeye salmon genetic samples will continue to be taken in Canadian Area 3 and 4 gillnet and seine fisheries for use in the annual run reconstruction and/or other fisheries as agreed to by both Parties.

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 finalized.

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 must be to harvest salmon at the allowable percentage AAH, it is recognized 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 must 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.

4. 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.

5. 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.

Chapter 3: Chinook Salmon

The provisions of this Chapter shall apply for the period 2019 through 2028.

1. The Parties agree that:

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- (a) Chinook stocks subject to the Pacific Salmon Treaty have varying levels of status with many being healthy and meeting goals for long-term production while others have been identified as conservation concerns, including some in the U.S. Pacific Northwest that have been listed under the U.S. Endangered Species Act (ESA) and some in Canada that have been assessed to be at increasing risk of extinction;
 - (b) fishery management measures implemented under the Treaty are intended to be appropriate for recovering, sustaining and protecting salmon stocks in Canada and the United States and are responsive to changes in productivity of Chinook salmon stocks associated with environmental conditions;
 - (c) while fishing has contributed to the decline of some stocks, the continued status of stocks considered depressed generally reflects the long-term cumulative effects of other factors, particularly chronic habitat degradation, in some instances deleterious hatchery practices, cyclic natural phenomena and large scale environmental variability affecting both marine and freshwater habitats;
 - (d) successful Chinook conservation, restoration and harvest management depends on a sustained and bilaterally coordinated program of resource protection, restoration, enhancement, and utilization based upon:
 - (i) science-based fishery management regimes that foster healthy and abundant Chinook stocks by contributing to the restoration and rebuilding of depressed natural stocks while providing sustainable harvest opportunities on abundant natural stocks as well as on abundant hatchery produced fish;
 - (ii) implementation of protective and remedial actions identified in local and regional recovery planning processes that address non-fishing factors limiting the abundance, productivity, genetic diversity or spatial structure of natural salmon stocks;
 - (iii) scientifically sound enhancement activities that provide mitigation to fisheries for habitat loss or degradation and/or improve productivity through the appropriate use of artificial propagation and supplementation techniques; and
 - (iv) continued modification of fisheries, to maintain or increase the overall harvest rates exerted on hatchery-origin Chinook, where desirable, while simultaneously decreasing or maintaining limits on the overall mortality rates exerted on natural-origin Chinook;
 - (e) a healthy and productive Chinook resource will impart sustainable benefits for the fisheries of both Parties, contribute other social, economic, and cultural benefits to the people of both Parties, and provide ecosystem benefits to other species;
 - (f) the harvest levels and other fishery management approaches to target healthy natural and hatchery stocks while constraining impacts on depressed natural stocks, including various spatial and temporal fishery shaping measures that are bilaterally coordinated as necessary, coupled with improvements in fishery management programs prescribed or referenced in this Chapter, are intended to complement recovery actions being undertaken in the fishing and non-fishing sectors in each country; and
 - (g) changes in ocean and freshwater conditions, stock-specific cohort survivals, stock abundances and stock distribution have been observed. To the extent practical, account for this type of uncertainty to avoid unwarranted escalation of chinook mortalities.

*PMH**Sp 5 July 2018*

2. The Parties shall:

- (a) implement a comprehensive and coordinated Chinook fishery management program that:
 - (i) utilizes an abundance-based framework for managing all Chinook fisheries subject to the Treaty;
 - (ii) is responsive to significant changes in the productivity of Chinook salmon stocks associated with environmental conditions;
 - (iii) continues harvest regimes based on annual indices of abundance that are responsive to changes in production, take into account all fishery induced mortalities and are designed to meet MSY or other agreed biologically-based numeric escapement and/or exploitation rate objectives, including those in Attachment I;
 - (iv) contributes to the improvement in trends in spawning escapements of depressed Chinook salmon stocks and is consistent with improved salmon production;
 - (v) considers the limitations of regulatory systems, including the need for timely Commission decisions necessary for the Parties to cooperate in management;
 - (vi) seeks to preserve biological diversity of the Chinook resource and contributes to restoration of currently depressed stocks by improving the abundance, productivity, genetic diversity and spatial structure of stocks over time;
 - (vii) specifies fishery management obligations for maintaining healthy stocks, rebuilding depressed naturally spawning stocks and providing a means for sharing the harvest and the conservation responsibility for Chinook stocks coast-wide among the Parties;
 - (viii) develops additional biological information pursuant to an agreed program of work and incorporates that information into the coastwide management regime, and considers the latest scientific information developed in each country's recovery planning processes;
 - (ix) includes a commitment to discuss within the Commission significant management changes¹ that a Party is considering that may alter the stock or age composition and incidental mortality of a fishery regime's catch;
- (b) maintain a joint Chinook Technical Committee (the "CTC") reporting, unless otherwise agreed, to the Pacific Salmon Commission, which shall, *inter alia*:
 - (i) upon request of the Commission, evaluate management actions and report:
 - a. if there is a concern about their consistency with measures set out in this Chapter, or
 - b. on their effectiveness in attaining the specified objectives;
 - (ii) report annually on catches, terminal exclusions, hatchery add-ons, harvest rate indices, estimates of incidental mortality and exploitation rates that apply best available information to account for mark-selective fishery impacts for all Chinook fisheries and stocks harvested within the Treaty area;
 - (iii) report annually on naturally spawning Chinook stocks in relation to the agreed MSY or other agreed biologically-based escapement objectives, rebuilding exploitation rate metrics, or other metrics 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

¹ The model configuration existing in March 2018 (CLB1804) will be used to establish a baseline run. The Parties will document specific concerns or inconsistencies between this configuration and the current management regime in 2018.

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- and, when requested, recommend goals for naturally spawning Chinook stocks that are consistent with the intent of this Chapter;
- (v) recommend to the Commission standards for the minimum assessment program required to effectively implement this Chapter together with an estimate of the costs and effectiveness of meeting the standards, provide information on stock assessments relative to these standards adopted by the Commission and periodically recommend to the Commission any improvements in stock assessments needed to meet adopted standards;
 - (vi) recommend research projects, and their associated costs, intended to improve implementation of this Chapter;
 - vii) provide an annual report to the Commission regarding stock specific impacts of mark-selective fisheries for Chinook in the Treaty area;
 - viii) provide annual calibrations of the PSC Chinook model² with pre-season and post-season abundance indexes by April 1 of each year;
 - ix) provide to the Commission an annual summary concerning the Catch and Escapement Indicator Improvement (CEII) and Coded-Wire Tag and Recovery (CWT&R) programs; and
 - x) undertake specific assignments as determined by the Commission relating to implementation of Chapter 3, including those described in Appendix A to this Chapter;
- (c) to implement through their respective domestic management authorities, a 10-year Chinook salmon CWT&R program beginning in 2019 that provides timely data to implement Chapter 3 via improvements and studies designed to achieve CTC and CWT work group data standards and guidelines³. The purpose of the CWT&R program shall be to:
- (i) maintain and improve the precision and accuracy of critical CWT-based statistics used by the CTC and SFEC in support of this Chapter;
 - (ii) accelerate the processing of CWT data to provide CWT data for the preseason planning process;
 - (iii) increase the number of exploitation rate indicator stocks to represent Chinook production and fishery exploitation rates for escapement indicator stocks;
 - (iv) examine the representativeness of exploitation indicator stocks for escapement indicator stocks and CWT model stocks; and
 - (v) develop analytical tools that involve the analysis of CWT data in the implementation of Chapter 3;
- (d) to implement through their respective domestic management authorities, a 10-year Chinook salmon CEII program beginning in 2019 that provides timely data to implement Chapter 3 via objective and repeatable methodologies in data limited situations and in others via improvements and studies designed to achieve CTC data standards, guidelines, and analysis schedules. The purpose of the program includes the development of analytical tools that involve catch and escapement data in the implementation of Chapter 3; and
- (e) relative to the programs initiated in subparagraphs c and d above, the Commission shall create by 2020 a workgroup to:
- (i) create opportunities for exchange of project results and conclusions; advancements in knowledge; and discussion of future direction of these programs among the Parties, management entities, and knowledgeable individuals;

² TCCHINOOK (18) 1 – 2017 Exploitation Rate Analysis and Model Calibration (May 2018).

³ Guidelines in TCCHINOOK(13)-2 and PSC Technical Report 25.

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- (ii) review project results and conclusions from these programs and provide these reviews to the project proponents and the Commission; and
 - (iii) identify for the Commission changes to projects or new projects to fill gaps in knowledge.
3. The Parties agree to implement, beginning in 2019 and extending through 2028, an abundance-based coast-wide Chinook salmon management regime to meet the objectives set forth in paragraph 2(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 mortality to a numerical limit computed from either a pre-season forecast or an in-season estimate of abundance, from which a harvest rate index can be calculated, expressed as a proportion of the 1979 to 1982 base period. The following regimes will be managed under an AABM regime:
 - (i) southeast Alaska (SEAK) sport, net and troll;
 - (ii) Northern British Columbia (NBC) troll (Pacific Fishery Management Areas 1-5, 101-105 and 142) and Haida Gwaii sport (Pacific Fishery Management Areas 1-2, 101, 102 and 142)⁴; and
 - (iii) west coast of Vancouver Island (WCVI) troll (Pacific Fishery Management Areas 21, 23-27, and PFMA 121, 123-127) and outside sport (also Pacific Fishery Management Areas 21, 23-27, and 121, 123-127 but with additional time and area specifications which distinguish WCVI outside sport from inside sport)⁵;
 - (b) an ISBM fishery is a regime that constrains the annual impacts within the fisheries of a jurisdiction for a naturally spawning Chinook salmon stock or stock group. ISBM management regimes apply to all Chinook salmon fisheries subject to the Treaty that are not AABM fisheries. The obligations applicable to ISBM fisheries are:
 - (i) stock-specific limits as set out in paragraph 5(a) for all ISBM fisheries which include, but are not necessarily limited to: northern British Columbia marine net and coastal sport (excluding Haida Gwaii), 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, and freshwater sport; Idaho (Snake River Basin) freshwater sport and net.
4. The Parties agree:
- (a) to monitor and manage incidental fishing mortality in AABM fisheries with the intent of not exceeding levels over the term of the agreement, that were experienced during the 1999-2016 timeframe and/or as specified in paragraph 4(f);
 - (b) landed catch and incidental mortalities in ISBM fisheries are limited by the provisions of paragraph 5;

⁴ The NBC AABM Chinook salmon fishery includes portions of Aboriginal rights based fisheries.

⁵ The West Coast Vancouver Island AABM Chinook salmon fishery includes:

- Sport fishery in Pacific Fishery Management Areas (PFMA) 21, 23, 24 inside the Canadian “surflines” and PFMA 121, 123, 124 during the period October 16 through July 31, plus that portion of PFMA 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.
- Sport fishery in PFMA 25, 26, 27 inside the Canadian “surflines” and PFMA 125, 126, 127 during the period October 16 through June 30, plus that portion of PFMA 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.
- Portions of Aboriginal rights based fisheries.

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- (c) to provide estimates of incidental mortality of Chinook salmon in all ISBM and AABM fisheries. ISBM fisheries have total mortality constraints (catch plus associated incidental mortality) while AABM fisheries have catch limits;
 - (i) the CTC shall recommend standards for the desired level of precision and accuracy of data required to estimate incidental fishing mortality by February 2020;
- (d) to provide estimates of encounters of Chinook released in fisheries which, when multiplied by assumed gear-specific mortality rates, provide estimates of incidental mortality that are used in subparagraph c, above. These estimates will be:
 - (i) developed annually from direct observation of fisheries; or
 - (ii) will result from a predictable relationship reviewed by the CTC between encounters and landed catch based on a time series of direct observations of fisheries;
- (e) the CTC shall complete an annual post-season assessment for fisheries which includes:
 - (i) estimates of encounters and incidental mortalities in all fisheries;
 - (ii) post-season estimates of incidental mortality, which includes incidental mortality from mark selective fisheries, and total mortality; and
 - (iii) a description of the causes (if identifiable) of significant changes in rates or patterns of incidental mortalities in PSC fisheries relative to paragraph 4 (a) and 4(f) for AABM fisheries (1999-2016) and paragraph 5 for ISBM fisheries (1999-2015);
- (f) that, to the extent an AABM fishery is determined through monitoring and evaluation described in sub-paragraph (e), above, to have a level of incidental mortality that exceeds 59,400 for the SEAK AABM fishery or 38,600 for the combined aggregate for the NBC and WCVI AABM fisheries, the Commission will review the information, determine if fishery adjustments are needed during the annex period, and recommend any appropriate remedial action to ensure that the Parties do not exceed incidental mortality limits;
- (g) that mark-selective fisheries occur subject to the following conditions and/or understandings, as applicable:
 - (i) mark-selective fisheries (MSFs) for Chinook will be conducted in a manner that selectively reduces fishery impacts on natural spawning salmon relative to hatchery-origin salmon;
 - (ii) annual post-season reports generated by each Party will contain a summary of the MSFs conducted in that season;
 - (iii) MSFs implemented by either Party that affect stocks subject to the Pacific Salmon Treaty will be sampled, monitored and reported in accordance with applicable protocols reviewed by the Selective Fisheries Evaluation Committee (SFEC) and adopted by the Commission; including estimates of catches and releases of mass-marked and unmarked Chinook for sublegal and legal size categories;
 - (iv) SFEC will report on mark-selective fisheries, assist with developing analytical procedures, and recommend to the Commission approaches that could improve the estimation of impacts on natural Chinook stocks; and
 - (v) that a Mark Selective Fishery Fund shall be established by the U.S. and administered by the Commission to assist fishery management agencies with equipment and operations, as needed, for mass marking of hatchery produced Chinook salmon, estimate incidental mortality, and to maintain and improve the ability to estimate exploitation rates on Chinook salmon indicator stocks that are encountered in mark-selective fisheries, including improvements and development of bilateral analytical tools;

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1. The Commission shall adopt procedures to solicit proposals from U.S. and Canadian management entities for the use of the fund, be advised on the merits of proposals by specialists as it determines appropriate, and make funding decisions.
5. With respect to ISBM fisheries, the Parties agree that for the years 2019 through 2028:
- (a) U.S. and Canadian ISBM fisheries shall be managed to limit the total adult equivalent mortality for stocks listed in Attachment I that are not meeting agreed biologically-based management objectives, or that do not have agreed management objectives, to no more than the limits identified in Attachment I;
 - (b) the Commission will establish a work group to explore issues related to Okanagan Chinook, including the establishment of management objectives, enhancement and the possible use of Okanagan Chinook as an indicator stock⁶. The work group will report to the Commission by October, 2019;
 - (c) either or both Parties may implement domestic policies that constrain their respective fishery impacts on depressed Chinook stocks to a greater extent than is required by this Paragraph;
 - (d) actual ISBM fishery performance relative to the obligations set forth in this paragraph shall be evaluated by the CTC and reported annually to the Commission. Because the performance analysis⁷ is dependent upon recovery of coded wire tags, the CTC shall provide the evaluation for ISBM fisheries on a post-season basis; and
 - (e) the Commission shall use the CYER metric to monitor the total mortality in ISBM fisheries and shall review the CYER metric during 2022 to inform a decision on its continued application or the use of an alternative metric. In the absence of a Commission decision to use an alternative metric, use of the CYER metric would continue. In advance of the review, the CTC shall complete the development of the Data Generation Model, complete the evaluation of alternative metrics for the evaluation of ISBM fisheries and develop data standards for the application of CYER as metric.
6. The Parties agree:
- (a) for the years 2019 to 2028 the SEAK, NBC and WCVI AABM fisheries will be abundance based with annual catch limits specified in Table 1 (catch limits specified for AABM fisheries at levels of the Chinook abundance index) based upon annual calibrations of the version of the PSC Chinook model as configured in March 2018 (CLB 1804) unless otherwise decided by the Commission and Table 2 (catch limits for the SEAK AABM fishery and the CPUE-based tiers);
 - (b) that, subject to the provisions of Paragraph 7(d), the SEAK AABM fishery annual Treaty Chinook catch limits will be defined as follows:
 - (i) the fishing year will start on October 1 and continue through September 30 of the following year;
 - (ii) the U.S. will provide to the Commission by February 1 of each year a proposed annual catch limit based upon the estimated catch per unit effort (CPUE) from the winter power troll fishery in District 113 during statistical weeks 41-48 (calculations and base period data provided in Appendix B) and Table 2:

⁶ The work will be consistent with paragraph 7 in Chapter 1 Transboundary Rivers.

⁷ The parties acknowledge that some stocks identified in Attachment I currently have a small number of CWT recoveries in ISBM fisheries. This circumstance can occur for a number of reasons and may contribute to imprecision in estimates of CYERs which may present challenges in management and compliance with the provisions of paragraph 5. Commission discussions about ISBM fishery performance that may occur as described in paragraph 7(c) can consider this and other circumstances. Implementation of the CEII and CWT&R programs is expected to assist in addressing these challenges.

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- (iii) if for unforeseen circumstances the winter power troll fishery in District 113 during statistical weeks 41-48 does not take place, the PSC Chinook model pre-season estimate of the AI will be used to set the SEAK pre-season Treaty Chinook limit using Table 2;
 - (iv) the SEAK fishery will be managed to the degree possible to achieve agreed escapement goals for the SEAK and TBR Chinook stocks listed in Attachment I;
- (c) that an alternate approach to the PSC Chinook model for the NBC and WCVI fisheries, based upon observational fishery data, may be developed by Canada, reviewed by the Commission and adopted;
- (d) that the graduated harvest rate approach underlying the catch limits associated with the abundance index values for the AABM fisheries is designed to contribute to the achievement of MSY or other agreed biologically-based escapement objectives;
- (e) that the graduated harvest rate approach is based on a relationship between the aggregate abundance of Chinook stocks available to the fishery and a harvest rate index described in Appendix C;
- (f) that AABM fisheries shall be managed annually so as not to exceed the catch limits as designated in paragraphs 6(a) and 6(b);
- (g) that the CTC will determine annually if deviations have occurred between the observed catches and both the pre-season and post-season allowable catches for the SEAK, NBC, and WCVI AABM Treaty Chinook catches;
- (h) to take the following actions in AABM fisheries when the actual catch differs from the pre-season limit (management error);
- i) if the actual catch exceeds the pre-season catch limit (overage) then the overage shall be paid back in the fishing year after the overage occurs; and
 - ii) if the actual catch is lower than the pre-season catch limit (underage) then the underage cannot be accumulated;
- (i) to continue the procedures and accepted exclusions established by the Commission to allow for the exclusion of Chinook salmon catches in selected terminal areas from counting against Treaty AABM catch limitations;
- (j) to continue the procedures established by the Commission to allow for hatchery add-ons harvested in AABM fisheries from not counting against Treaty AABM catch limitations;
- (k) that the CTC will provide detailed information concerning any catches of Chinook associated with paragraphs 6(i) and 6(j), and a summary of information used to determine the allowable exclusion or hatchery add-on, in the annual catch and escapement report; and
- (l) that the CTC will provide the PSC Chinook model first post-season AI estimates for the SEAK, NBC, and WCVI AABM fisheries and compare the following estimates and calculate model error related overages for the annual post-season review:
- i. the CPUE-based tier to the PSC Chinook model first post-season model based tier in the SEAK AABM fishery; and
 - ii. the PSC Chinook model pre-season AI or alternative approach to the PSC Chinook model first post-season AI in the NBC and WCVI AABM fisheries.

7. The Parties agree:

- (a) to manage their fisheries to the best of their ability to achieve agreed-to stock specific management objectives and harvest provisions of this Chapter. The performance of the fisheries in meeting management objectives and harvest provisions will be reviewed and updated annually by the CTC and presented to the Commission during the Annual

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Meeting. The Commission shall take action(s), as needed, based upon this annual review. Specifically, the CTC will provide the Commission with:

- (i) the AABM fisheries pre-season limits, actual catches, and identify the extent, if any, of exceedance (overage) of those limits for the prior fishing season (management error);
 - (ii) the AABM fisheries post-season limits for fisheries that occurred two years prior and any exceedance (overage) between the annual pre- and post-season limits from two years prior (model error);
 - (iii) recommendations concerning minimizing deviations between pre- and post-season fishery limits (model and management tool improvements); and
 - (iv) status concerning achievement of meeting stock specific management objectives; specifically, a table of agreed-to management objectives for each stock included in Attachment I and the annual stock-specific metrics, if available, with the identification of stocks which achieved less than 85% of the point estimate (or lower end range) of the management objective for three consecutive years beginning in 2019⁸;
- (b) that AABM post-season fishery limits will be defined by using the first post-season PSC Chinook model estimate. Deviations between AABM post-season catch limits and actual catches are anticipated to occur. Of particular concern is the situation when overages occur. The Commission encourages agencies to use pre-season models to plan fisheries, but to use in-season indicators and other tools to minimize potential overages as evaluated from post-season catch limits. If, in two consecutive years, in the NBC or WCVI AABM fishery catches exceed post-season limits by more than 10%, or in the SEAK AABM fishery the pre-season tier and catches exceed the post-season tier;
- (i) the management entity responsible for management of that AABM fishery will take necessary actions to minimize variance between the pre-season and post-season catch limits commencing the following year. By the end of the Annual meeting of the Commission, proposals from the management agency regarding what actions will be taken and the expected outcomes thereof will be discussed with the Commission prior to implementation; and
 - (ii) the CTC will recommend to the Commission a plan to improve performance of pre-season, in-season and other management tools such that the deviations between catches and post-season fishery limits to AABM fisheries are narrowed to a target maximum level of 10%;
- (c) for ISBM fisheries, the CTC will annually compute and report the metrics described in paragraphs 5(a), and, using the best available post-season data and analysis, report performance to the Commission relative to those metrics and obligations. If a Party anticipates there is a risk it will exceed its CYER limit in a given year, that Party shall advise the Commission in advance of the fishing season, provide supporting rationale and explain how the CYER limit will be achieved on average over a three year period. Beginning with the 2019-2021 catch years⁹, the CTC shall compute a running three-year average of CYERs for all stocks in ISBM fisheries set out in Attachment I. For stocks in Attachment I without agreed management objectives, all years shall be used to calculate the running three-year average. For each stock with an agreed management objective set out in Attachment I, the running three-year average shall include all years in which the management objective was not achieved, and the years in which the management objective was achieved and the CYER was less than or equal to the ISBM obligation identified in paragraph 5. For

⁸ For stocks with an exploitation rate management objective, the trigger shall be a CYER that exceeded the management objective by more than 15 percent (i.e., estimated CYER is 1.15 of the CYER management objective) on average in three consecutive years.

⁹ The CTC will begin reporting the running average of CYERs for each stock in Attachment I when data from catch years 2019-2021 are available from both Parties' ISBM fisheries. It is anticipated that estimates of CYERs for the 2019-2021 fishing years will be available for all stocks no later than 2023 or by 2022 if the processing of CWTs collected in U.S. ISBM fisheries and escapement is accelerated as identified by the Party's in paragraph 2(c)(ii).

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stocks for which the running three-year average CYER exceeds the limit of paragraph 5 by more than 10% (i.e., estimated CYER is greater than 1.1 of the CYER limit):

- (i) the management entity responsible for management of that ISBM fishery will take necessary actions to minimize the deviation between the three-year CYER average and the CYER limits in Attachment 1. By the end of the Annual meeting of the Commission, proposals from the management entity regarding what actions will be taken and the expected outcomes thereof will be discussed with the Commission prior to implementation; and
 - (ii) the CTC will provide to the Commission a plan to improve performance of pre-season, in-season and other management tools such that the deviations between CYERs and CYER limits are narrowed to a target maximum level of 10% when limits apply (Attachment I);
- (d) to conduct up to two reviews of the CPUE-based approach for the purpose of deciding whether to continue using this method for determining the catch limit for the SEAK AABM fishery, or to return back to use of the PSC Chinook model, or adopt an alternative method as agreed, to determine pre-season estimates of the aggregate AI of Chinook stocks available to the SEAK troll fishery and the relationship between the catch and AIs and Table 1. The first review will occur as soon as practical after the 2022 first post-season AI has been calculated and the second review will occur as soon as practical after the 2025 first post-season AI has been calculated. The Commission decision shall be based on the outcome of:
- (i) a comparison of cumulative actual treaty catch and the cumulative post-season catch limit from the PSC Chinook model;
 - (ii) a comparison of the cumulative performance of the CPUE-based catch limit and the pre-season catch limit from the PSC Chinook model in predicting the catch limit as estimated from the first post-season calibration of the PSC Chinook model (model error); and
 - (iii) a comparison of the abundance tier selected by use of the CPUE method and the abundance tier that would have been selected by use of the pre-season calibration of the PSC Chinook model with the abundance tier selected from the first post-season calibration derived from the PSC Chinook model;
- (e) to consider the results of reviews described in paragraph (d) as soon as practical and decide whether to continue using the CPUE method for the SEAK AABM fishery. Unless the Commission decides to continue using the CPUE-based approach or adopt an alternative method, the PSC Chinook model estimate of the AI and Table 1 will be used to determine the annual pre-season and post-season catch limits;
- (f) that, in the event of extraordinary circumstances, either Party may recommend, for conservation purposes, that the Commission consider developing additional management actions in the relevant fisheries to respond to such circumstances. Such a recommendation must be part of a coordinated management plan that will include actions taken in all marine and freshwater fisheries that significantly affect the stock or stock group;
- (g) that unusual circumstances may arise in the management of ISBM and AABM fisheries. Either Party may request of the Commission certain flexibility in the application of this Chapter to avoid undue disruption of fisheries while maintaining the conservation and allocation principles embodied in this Treaty; and
- (h) by January 2023, the CTC will develop a draft outline for a five-year review to evaluate the effectiveness of harvest reduction measures taken for AABM and ISBM fisheries. The draft outline will include stock status (including spawners, productivity, and abundance indices) and fishery performance (including catches, incidental mortality, and fishery indices such as fishery harvest rates) and seek Commission direction to proceed with preparing a report. In

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January 2025 the Commission will review the report to identify any appropriate modifications to the Chapter to improve implementation.

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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	41,300	32,500	28,100
0.30	46,400	39,000	33,700
0.35	51,500	45,500	39,300
0.40	56,600	52,000	44,900
0.45	61,700	58,500	50,500
0.495	66,300	64,400	55,600
0.50	66,800	65,000	65,500
0.55	71,900	71,500	72,100
0.60	77,100	78,000	78,600
0.65	82,200	84,500	85,200
0.70	87,300	91,000	91,700
0.75	92,400	97,500	98,300
0.80	97,500	104,000	104,800
0.85	102,600	110,500	111,400
0.90	107,700	117,000	117,900
0.95	112,800	123,500	135,400
1.00	117,900	130,000	142,600
1.005	119,100	130,700	163,700
1.05	129,100	136,500	171,100
1.10	140,300	143,000	179,200
1.15	151,500	149,500	192,100
1.20	162,800	156,000	200,400
1.205	184,800	156,700	201,300
1.25	191,200	163,300	208,800
1.30	198,200	170,700	217,100
1.35	205,200	178,000	225,500
1.40	212,200	185,300	233,800
1.45	219,200	192,700	242,200
1.50	226,200	200,000	250,500
1.505	244,500	219,600	251,400
1.55	251,400	226,100	258,900
1.60	259,000	233,400	267,200
1.65	266,600	240,700	275,600
1.70	274,200	248,000	283,900
1.75	281,800	255,300	292,300
1.80	289,400	262,600	300,600
1.805	303,500	263,300	301,500
1.85	310,600	269,900	309,000
1.90	318,600	277,200	317,300
1.95	326,500	284,500	325,700
2.00	334,500	291,800	334,000
2.05	342,400	299,100	342,400
2.10	350,400	306,400	350,700
2.15	358,300	313,700	359,100
2.20	366,300	321,000	367,500
2.25	381,000	328,300	375,800

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Table 2. Catch limits for the SEAK AABM fishery and the CPUE-based tiers.

CPUE-based Tier	AI-based Tier	Catch Limit
Less than 2.0	Less than 0.875	Commission Determination
2.0 to less than 2.6	Between 0.875 and 1.0	111,833
2.6 to less than 3.8	Between 1.005 and 1.2	140,323
3.8 to less than 6.0	Between 1.205 and 1.5	205,165
6.0 to less than 8.7	Between 1.505 and 1.8	266,585
8.7 to less than 20.5	Between 1.805 and 2.2	334,465
20.5 and greater	Greater than 2.2	372,921

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**Appendix A to Annex IV, Chapter 3: Understandings Regarding Chinook Technical Committee Assignments
Relating to Implementation of Chapter 3 of Annex IV**

1. Chinook Technical Committee (the "CTC") shall, *inter alia*:
 - (i) upon request of the Commission, evaluate management actions and report:
 - (a) if there is a concern about their consistency with measures set out in this Chapter, or
 - (b) on their effectiveness in attaining the specified objectives;
 - (ii) report annually on catches, terminal exclusions, hatchery add-ons, harvest rate indices, estimates of incidental mortality and exploitation rates that apply best available information to account for mark-selective fishery impacts for all Chinook fisheries and stocks harvested within the Treaty area;
 - (iii) report annually on naturally spawning Chinook stocks in relation to the agreed MSY or other agreed biologically-based escapement objectives, rebuilding exploitation rate metrics, or other metrics 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, when requested, recommend goals for naturally spawning Chinook stocks that are consistent with the intent of this Chapter;
 - (v) recommend to the Commission standards for the minimum assessment program required to effectively implement this Chapter together with an estimate of the costs and effectiveness of meeting the standards, provide information on stock assessments relative to these standards adopted by the Commission and periodically recommend to the Commission any improvements in stock assessments needed to meet adopted standards;
 - (vi) recommend research projects, and their associated costs, intended to improve implementation of this Chapter;
 - (vii) provide an annual report to the Commission regarding stock specific impacts of mark-selective fisheries for Chinook in the Treaty area;
 - (viii) provide annual calibrations of the PSC Chinook model¹⁰ with pre-season and post-season abundance indexes by April 1 of each year; and
 - (ix) provide to the Commission an annual summary concerning the Catch and Escapement Indicator Improvement (CEII) and Coded-Wire Tag and Recovery (CWT&R) programs.
2. The CTC shall recommend standards for the desired level of precision and accuracy of data required to estimate incidental fishing mortality by February 2020.
3. The CTC shall complete an annual post-season assessment for fisheries which includes:
 - (i) an evaluation of estimates of encounters and incidental mortalities in all fisheries;
 - (ii) post-season estimates of incidental mortality, which includes incidental mortality from mark selective fisheries, and total mortality; and
 - (iii) a description of the causes (if identifiable) of significant changes in rates or patterns of incidental mortalities in PSC fisheries relative to paragraph 4 (a) and 4(f) for AABM fisheries (1999-2016) and paragraph 5 for ISBM fisheries (1999-2015).
4. ISBM fishery performance relative to the obligations set forth in paragraph 5 shall be evaluated by the CTC and reported annually to the Commission. Because the performance analysis is dependent upon recovery of coded wire tags, the CTC shall provide the evaluation for ISBM fisheries on a post-season basis.

¹⁰ TCCHINOOK (18) 1 – 2017 Exploitation Rate Analysis and Model Calibration (May 2018).

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5. The Commission shall use the CYER metric to monitor the total mortality in ISBM fisheries. By 2021, the CTC shall include in the Model Calibration and Exploitation Rate Analysis (ERA) report a description of the procedures used to adjust CYERs in order to represent the effects of Mark Selective Fisheries on the naturally spawning Chinook stocks specified in Attachment I, and describe any adjustments of terminal fishery impacts for the exploitation rate indicator stock in order to represent the impacts on the associated escapement indicator stock specified in Attachment I. The Commission shall review the CYER metric during 2022 to inform a decision on its continued application or the use of an alternative metric. In the absence of a Commission decision to use an alternative metric, use of the CYER metric would continue. In advance of the review, the CTC shall complete the development of the Data Generation Model, complete the evaluation of alternative metrics for the evaluation of ISBM fisheries and develop data standards for the application of CYER as metric.
6. The CTC will determine annually if deviations have occurred between the observed catches and both the pre-season and post-season allowable catches for the SEAK, NBC, and WCVI AABM Treaty Chinook catches.
7. The CTC will provide detailed information concerning any catches of Chinook associated with paragraphs 6(i) and 6(j), and a summary of information used to determine the allowable exclusion or hatchery add-on, in the annual catch and escapement report.
8. The CTC will provide the PSC Chinook model first post-season AI estimates for the SEAK, NBC, and WCVI AABM fisheries and compare the following estimates and calculate model error related overages for the annual post-season review:
 - (i) the CPUE-based tier to the PSC Chinook model first post-season model based tier in the SEAK AABM fishery; and
 - (ii) the PSC Chinook model pre-season AI or alternative approach to the PSC Chinook model first post-season AI in the NBC and WCVI AABM fisheries.
9. The performance of the fisheries in meeting management objectives and harvest provisions will be reviewed and updated annually by the CTC and presented to the Commission during the Annual Meeting. The Commission shall take action(s), as needed, based upon this annual review. Specifically, the CTC will provide the Commission with:
 - (i) the AABM fisheries pre-season limits, actual catches, and identify the extent, if any, of exceedance (overage) of those limits for the prior fishing season (management error);
 - (ii) the AABM fisheries post-season limits for fisheries that occurred two years prior and any exceedance (overage) between the annual pre- and post-season limits from two years prior (model error);
 - (iii) recommendations concerning minimizing deviations between pre- and post-season fishery limits (model and management tool improvements); and
 - (iv) status concerning achievement of meeting stock specific management objectives; specifically, a table of agreed-to management objectives for each stock included in Attachment I and the annual stock-specific metrics, if available, with the identification of stocks which achieved less than 85% of the point estimate (or lower end range) of the management objective for three consecutive years beginning in 2019¹¹;
10. The CTC will annually compute and report AABM post-season fishery limits defined by using the first post-season PSC Chinook model estimate. Deviations between AABM post-season catch limits and actual catches are anticipated to occur. Of particular concern is the situation when overages occur. The Commission encourages agencies to use pre-season models to

¹¹ For stocks with an exploitation rate management objective, the trigger shall be a CYER that exceeded the management objective by more than 15 percent (i.e., estimated CYER is 1.15 of the CYER management objective) on average in three consecutive years.

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plan fisheries, but to use in-season indicators and other tools to minimize potential overages as evaluated from post-season catch limits. If, in two consecutive years, in the NBC or WCVI AABM fishery catches exceed post-season limits by more than 10%, or in the SEAK AABM fishery the pre-season tier and catches exceed the post-season tier;

- (i) the management entity responsible for management of that AABM fishery will take necessary actions to minimize variance between the pre-season and post-season catch limits commencing the following year. By the end of the Annual meeting of the Commission, proposals from the management agency regarding what actions will be taken and the expected outcomes thereof will be discussed with the Commission prior to implementation; and
- (ii) The CTC will recommend to the Commission a plan to improve performance of pre-season, in-season and other management tools such that the deviations between catches and post-season fishery limits to AABM fisheries are narrowed to a target maximum level of 10%.

11. For ISBM fisheries, the CTC will annually compute and report the metrics described in paragraphs 5(a), and, using the best available post-season data and analysis, report performance to the Commission relative to those metrics and obligations. Beginning with the 2019-2021 catch years¹², the CTC shall compute a running three-year average of CYERs for all stocks in ISBM fisheries set out in Attachment I. For stocks in Attachment I without agreed management objectives, all years shall be used to calculate the running three-year average. For each stock with an agreed management objectives set out in Attachment I, the running three-year average shall include all years in which the management objective was not achieved, and the years in which the management objective was achieved and the CYER was less than or equal to the ISBM obligation identified in paragraph 5. For stocks for which the running three-year average CYER exceeds the limit of paragraph 5 by more than 10% (i.e., estimated CYER is greater than 1.1 of the CYER limit):
- (i) the management entity responsible for management of that ISBM fishery will take necessary actions to minimize the deviation between the three-year CYER average and the CYER limits in Attachment 1. By the end of the Annual meeting of the Commission, proposals from the management entity regarding what actions will be taken and the expected outcomes thereof will be discussed with the Commission prior to implementation; and
 - (ii) the CTC will provide to the Commission a plan to improve performance of pre-season, in-season and other management tools such that the deviations between CYERs and CYER limits are narrowed to a target maximum level of 10% when limits apply (Attachment I);
12. The Commission may request CTC support in conducting up to two reviews of the CPUE-based approach for the purpose of deciding whether to continue using this method for determining the catch limit for the SEAK AABM fishery, or to return back to use of the PSC Chinook model, or adopt an alternative method as agreed, to determine pre-season estimates of the aggregate AI of Chinook stocks available to the SEAK troll fishery and the relationship between the catch and AIs and Table 1.
13. By January 2023, the CTC will develop a draft outline for a five-year review to evaluate the effectiveness of harvest reduction measures taken for AABM and ISBM fisheries. The draft outline will include stock status (including spawners, productivity, and abundance indices) and fishery performance (including catches, incidental mortality, and fishery indices such as fishery harvest rates) and seek Commission direction to proceed with preparing a report. In January 2025, the Commission will review the report to identify any appropriate modifications to the Chapter to improve implementation.

¹² The CTC will begin reporting the running average of CYERs for each stock in Attachment I when data from catch years 2019-2021 are available from both Parties' ISBM fisheries. It is anticipated that estimates of CYERs for the 2019-2021 fishing years will be available for all stocks no later than 2023 or by 2022 if the processing of CWTs collected in U.S. ISBM fisheries and escapement is accelerated as identified by the Party's in paragraph 2(c)(ii).

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14. The CTC will work to complete by February 2019 improvements to the PSC Chinook Model that will result in the addition and refinements to stocks and fisheries (referred to as Phase 2 in CTC 2018 work plan). The Commission will receive the model improvements from Phase 2 and make a decision about their implementation. The CTC will complete its Phase 3 work (e.g., improved capabilities for pre-season abundance forecasts, representation of mark selective fisheries and other types of fisheries regulations, inclusion of release data to estimate incidental mortalities in Chinook fisheries, incorporation of stock-specific growth functions, etc.) in time to support the Five Year Review. The Commission will receive the model improvements from Phase 3 and make a decision about their implementation.

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Appendix B to Annex IV, Chapter 3:

Calculations and Base Period Data Related to Estimated CPUE From the Winter Troll fishery in District 113 During Statistical Weeks 41-48

1. SEAK CPUE is defined as catch divided by effort:

$$CPUE = \frac{Catch}{Effort}$$

Where *catch* is the number of Chinook caught in the power troll fishery and *effort* is the number of power troll fishery boat days, which is the date fishing ended minus date fishing began plus one (e.g., a boat that started and stopped fishing on the same day fished for 1 boat day). Both catch and effort are computed using all fish ticket data collected during the SEAK District 113 early winter power troll fishery (ADF&G statistical weeks 41-48).

2. A table of SEAK CPUE and first postseason AI from the PSC Chinook model for accounting years 2001-2015 are shown below.

Accounting Year	SEAK CPUE	First postseason AI
2001	8.3	1.29
2002	16.9	1.82
2003	20.4	2.17
2004	8.0	2.06
2005	8.3	1.90
2006	10.3	1.73
2007	3.4	1.34
2008	2.3	1.01
2009	3.4	1.20
2010	4.3	1.31
2011	6.1	1.62
2012	4.7	1.24
2013	4.4	1.63
2014	7.4	2.20
2015	13.2	1.95

3. Seven tiers of CPUE-based abundance were defined by: 1) an extremely low CPUE to account for extremely low abundance years; 2) four intermediate abundance CPUE tiers that correspond to the four segments of the broken stick relationship between HRI and AI in the 2009 Agreement; and, 3) two tiers of CPUE that account for high and extremely high abundance years.
4. Results of an allometric power regression of SEAK CPUE on the first postseason AI during 2001-2015 were used to convert AI-based breakpoints to CPUE-based breakpoints between the seven tiers of catch ceiling:

$$\overline{CPUE} = 2.636 \cdot AI^{2.029}$$

The three AI-based breakpoints in the 2009 Agreement were converted as follows:

AI breakpoint = 1.005; CPUE-based breakpoint = 2.6

AI breakpoint = 1.2; CPUE-based breakpoint = 3.8

AI breakpoint = 1.5; CPUE-based breakpoint = 6.0

Two new tiers were added to provide to greater resolution for AIs greater than 1.5. For the highest abundance tier, the highest observed CPUE was paired with the highest AI during 2001-2015. The second tier added was for an AI = 1.80, approximately centered between an AI of 1.5 and 2.2.

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5. The catch ceiling for tiers 2 through 6 was calculated by first determining the midpoint of the corresponding AI-based tier as shown in the table below. The AI corresponding to the seventh tier was set to 2.2, the largest first post-season AI observed during 2001-2015 (an AI of 2.2 in 2014). The catch ceiling for tiers 2 through 7 was then determined from the catch corresponding to the midpoint of the AI-based tier of Table 1 in the 2009 Agreement. The catch ceiling in the lowest abundance tier will be determined by the Commission as needed during conditions of extremely low abundance.
6. The following table shows the correspondence between CPUE-based tier, AI-based tier and midpoint, and corresponding catch ceilings from Table 1 in the 2009 Agreement.

Tier	CPUE-based tier	AI-based tier	Midpoint of AI-based tier	Catch Ceiling
1	Less than 2.0	Less than 0.875	-	Commission Determination
2	2.0 to less than 2.6	Between 0.875 and 1.0	0.94	120,900
3	2.6 to less than 3.8	Between 1.005 and 1.2	1.10	151,700
4	3.8 to less than 6.0	Between 1.205 and 1.5	1.35	221,800
5	6.0 to less than 8.7	Between 1.505 and 1.8	1.65	288,200
6	8.7 to less than 20.5	Between 1.805 and 2.2	2.00	345,700
7	20.5 and greater	Greater than 2.2	2.20	378,600

7. The resultant CPUE-based catch ceilings in item 6 above were then reduced by 7.5% for AI values less than or equal to 1.8, 3.25% for AI values greater than 1.8 but less than or equal to 2.2, and 1.5% for AI values greater than 2.2. The CPUE-based tier, AI-based tier and midpoint, and the corresponding final catch ceilings are shown in the table below.

Tier	CPUE-based tier	AI-based tier	Midpoint of AI-based tier	Catch Ceiling
1	Less than 2.0	Less than 0.875	-	Commission Determination
2	2.0 to less than 2.6	Between 0.875 and 1.0	0.94	111,833
3	2.6 to less than 3.8	Between 1.005 and 1.2	1.10	140,323
4	3.8 to less than 6.0	Between 1.205 and 1.5	1.35	205,165
5	6.0 to less than 8.7	Between 1.505 and 1.8	1.65	266,585
6	8.7 to less than 20.5	Between 1.805 and 2.2	2.00	334,465
7	20.5 and greater	Greater than 2.2	2.20	372,921

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Appendix C to Annex IV, Chapter 3: Relationships between AIs, Catches and HRIs¹³

Southeast Alaska All Gear	North BC Troll & QCI Sport	WCVI Troll & Outside Sport
Proportionality Constant (PC) = 12.38 Harvest Rate Index (HRI) = $\text{EXP}(\text{LN}(\text{Troll Catch} / \text{AI}) - \text{PC})$ Troll Catch = (Total Catch - Net Catch) * 0.8 = $\text{EXP}(\text{PC} + \text{LN}(\text{HRI} * \text{AI}))$ Total Catch = Net Catch + Troll Catch / 0.8	Proportionality Constant (PC) = 11.83 Harvest Rate Index = $\text{EXP}(\text{LN}(\text{Troll Catch} / \text{AI}) - \text{PC})$ Troll Catch = Total Catch * 0.8 = $\text{EXP}(\text{PC} + \text{LN}(\text{HRI} * \text{AI}))$ Total Catch = Troll Catch / 0.8	Proportionality Constant (PC) = 13.10 Harvest Rate Index = $\text{EXP}(\text{LN}(\text{Troll Catch} / \text{AI}) - \text{PC})$ Troll Catch = Total Catch * 0.8 = $\text{EXP}(\text{PC} + \text{LN}(\text{HRI} * \text{AI}))$ Total Catch = Troll Catch / 0.80
<u>Reduction in Total Catch from 2009 Agreement:</u> AIs less than 1.805 - 7.5%, Net Catch = 15,725 AIs between 1.805 and 2.2 - 3.25%, Net Catch = 16,448 AIs greater than 2.2 - 1.5%, Net Catch = 16,745	<u>Reduction in Total Catch from 2009 Agreement: 0%</u>	<u>Reduction in Total Catch from 2009 Agreement:</u> AIs less than 0.93 - 12.5% AIs between 0.93 and 1.12 - 4.8% AIs greater than 1.12 - 2.4%
<u>For AIs less than 1.005</u> Total Catch = 15,725 + 102,213 * AI Troll Catch = (102,213 * AI) * 0.8 HRI = 0.344	<u>For AIs less than 1.205</u> Total Catch = 130,000 * AI Troll Catch = (130,000 * AI) * 0.8 HRI = 0.757	<u>For AIs less than 0.5</u> Total Catch = 112,304 * AI Troll Catch = (112,304 * AI) * 0.8 HRI = 0.184
<u>For AIs between 1.005 and 1.2</u> Total Catch = -106,144 + 224,081 * AI Troll Catch = (-121,869 + 224,081 * AI) * 0.8 HRI increasing from 0.346 to 0.412	<u>For AIs between 1.205 and 1.5</u> Total Catch = -20,000 + 146,667 * AI Troll Catch = (-20,000 + 146,667 * AI) * 0.8 HRI increasing from 0.757 to 0.777	<u>For AIs between 0.5 and 0.925</u> Total Catch = 131,021 * AI Troll Catch = (131,021 * AI) * 0.8 HRI = 0.214
<u>For AIs between 1.205 and 1.5</u> Total Catch = 15,725 + 140,342 * AI Troll Catch = (140,342 * AI) * 0.8 HRI = 0.472	<u>For AIs greater than 1.5</u> Total Catch = 145,892 * AI Troll Catch = (145,892 * AI) * 0.8 HRI = 0.85	<u>For AIs between 0.93 and 1.0</u> Total Catch = 142,551 * AI Troll Catch = (142,551 * AI) * 0.8 HRI = 0.233

¹³ If alternative harvest rate metrics are adopted in any of the AABM fisheries this will necessitate a recalculation of the proportionality constants in the affected fisheries and will in turn lead to an adjustment of the associated HRI values in this appendix. However, the formulas to estimate total catch in this appendix and the catches in Table 1 will remain unaffected.

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For AIs between 1.505 and 1.8
 Total Catch = 15,725 + 152,037 * AI
 Troll Catch = (152,037 * AI) * 0.8
 HRI = 0.511

For AIs between 1.805 and 2.2
 Total Catch = 16,448 + 159,023 * AI
 Troll Catch = (159,023 * AI) * 0.8
 HRI = 0.535

For AIs greater than 2.2
 Total Catch = 16,745 + 161,899 * AI
 Troll Catch = (161,899 * AI) * 0.8
 HRI = 0.544

For AIs between 1.005 and 1.12
 Total Catch = 162,916 * AI
 Troll Catch = (162,916 * AI) * 0.8
 HRI = 0.267

For AIs greater than 1.12
 Total Catch = 167,023 * AI
 Troll Catch = (167,023 * AI) * 0.8
 HRI = 0.273

AJ 5 July 2018.

PAH

Attachment I: Indicator stocks, ISBM fishery limits, and management objectives applicable to obligations specified in paragraphs 1, 5, 6, and 7

Stock Region	Escapement Indicator Stock (CWT Indicator Stock ⁸)	Canadian ISBM CYER Limit	US ISBM CYER Limit	Management Objective
SEAK/ TBR	Situk ¹ (TBD)	NA	NA	500-1,000
	Alsek ^{1,2} (TBD)	NA	NA	3,500-5,300
	Taku ^{1,2} (TAK)	NA	NA	19,000- 36,000
	Chilkat ¹ (CHK)	NA	NA	1,750-3,500
	Stikine ^{1,2} (STI)	NA	NA	14,000- 28,000
	Unuk ¹ (UNU)	NA	NA	1,800-3,800
BC	Nass (TBD)	100% avg 09-15	NA ³	TBD ⁶
	Skeena (KLM)	100% avg 09-15	NA ³	TBD ⁶
	Atnarko (ATN)	100% avg 09-15	NA ³	5,009 ^{4,5}
	NWVI Natural Aggregate (Colonial-Cayeagle, Tashish, Artlish, Kaouk) (RBT adj)	95% avg 09-15	NA ³	TBD ⁶
	SWVI Natural Aggregate (Bedwell-Ursus, Megin, Moyeha) (RBT adj)	95% avg 09-15	NA ³	TBD ⁶
	East Vancouver Island North (TBD) (QUI adj)	95% avg 09-15	NA ³	TBD ⁶
	Phillips (PHI)	100% avg 09-15	NA ³	TBD ⁶
	Cowichan (COW)	95% avg 09-15	95% avg 09-15	6,500
	Nicola (NIC)	95% avg 09-15	95% avg 09-15	TBD ⁶
	Chilcotin (in development)	95% avg 09-15	NA ³	TBD ⁶
	Chilko (CKO in development)	95% avg 09-15	NA ³	TBD ⁶
	Lower Shuswap (SHU)	100% avg 09-15	NA ³	12,300 ⁴
	Harrison (HAR)	95% avg 09-15	95% avg 09-15	75,100
	Canadian Okanagan (SUM adj) ⁹	NA ³	TBD	TBD ⁶
WA/ OR/ID	Nooksack Spring (NSF)	87.5% avg 09-15	100% avg 09-15	TBD ⁶
	Skagit Spring (SKF)	87.5% avg 09-15	95% avg 09-15	690 ⁴
	Skagit Summer/Fall (SSF)	87.5% avg 09-15	95% avg 09-15	9,202 ⁴
	Stillaguamish (STL)	87.5% avg 09-15	100% avg 09-15	TBD ⁶

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Snohomish (SKY)	87.5% avg 09-15	100% avg 09-15	TBD ⁶
Hoko (HOK)	NA ³	10% CYER ⁷	TBD ⁶
Grays Harbor Fall (QUE adj)	NA ³	85% avg 09-15	13,326
Queets Fall (QUE)	NA ³	85% avg 09-15	2,500
Quillayute Fall (QUE adj)	NA ³	85% avg 09-15	3,000
Hoh Fall (QUE adj)	NA ³	85% avg 09-15	1,200
Upriver Brights (HAN, URB)	NA ³	85% avg 09-15	40,000
Lewis (LRW)	NA ³	85% avg 09-15	5,700
Coweeman (CWF)	NA ³	100% avg 09-15	TBD ⁶
Mid-Columbia Summers (SUM)	NA ³	85% avg 09-15	12,143
Nehalem (SRH adj)	NA ³	85% avg 09-15	6,989
Siletz (SRH adj)	NA ³	85% avg 09-15	2,944
Siuslaw (SRH adj)	NA ³	85% avg 09-15	12,925
South Umpqua (ELK adj)	NA ³	85% avg 09-15	TBD ⁶
Coquille (ELK adj)	NA ³	85% avg 09-15	TBD ⁶

¹Identified for management of SEAK fisheries in paragraph 6(b)(iv).

²Stock specific harvest limits specified in Chapter 1.

³Not Applicable since less than 15% of the recent total mortality was in these fisheries.

⁴Agency escapement goal to have the same status as CTC agreed escapement goal for implementation of Chapter 3.

⁵Natural origin spawners.

⁶To Be Determined after CTC review specified in paragraph 2(b) (iv).

⁷ISBM limit set at 10% in recognition of closure of the Hoko River to Chinook salmon fishing in 2009-2015.

⁸CWT indicator stocks and fishery adjustments described in TCCHINOOK (16)-2.

⁹Pending the review specified in paragraph 5(b) and a subsequent Commission decision.

AF 5 July 2018.

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Chapter 5. Coho Salmon

This Chapter shall apply to the period from 2019 through 2028.

1. Recognizing that some coho stocks are below levels necessary to sustain maximum harvest, the Parties shall develop regimes for the sustainable management of coho stocks.
2. The Parties shall establish regimes for their fisheries that are consistent with management objectives described in this Chapter and that are recommended and approved by the Commission:
 - (a) for coho stocks that are shared by the respective fisheries of the U.S. and Canada, the Southern Panel shall recommend fishery regimes for coho salmon that originate in rivers with mouths situated south of Cape Caution, as provided in Annex I to this Treaty; and
 - (b) for coho stocks that are shared by the respective fisheries of the U.S. and Canada, the Northern Panel shall recommend fishery regimes, as provided in Attachment B, for coho salmon that originate in rivers with mouths situated between Cape Caution and Cape Suckling.
3. The Northern Boundary Technical Committee shall carry out technical assignments, at the direction of the Northern Panel and the Commission, for coho salmon that originate in rivers and mouths situated between Cape Caution and Cape Suckling, to:
 - (a) evaluate the effectiveness of management actions;
 - (b) identify and review the stocks' status;
 - (c) provide current information on the stocks' harvest rates and patterns, and develop a database for assessments;
 - (d) collate available information on the stocks' productivity in order to identify escapements and associated exploitation rates that produce maximum sustainable harvests (MSH);
 - (e) provide historical catch data, associated fishing regimes, and information on stock composition in fisheries harvesting these stocks;
 - (f) devise analytical methods to develop alternative regulatory and production strategies to meet the Commission's objectives;
 - (g) identify information and research needs, which include monitoring programs for stock assessments; and
 - (h) for each season, conduct stock and fishery assessments and recommend to the Commission conservation measures that are consistent with the principles of this Chapter.

Southern Coho Management Plan

4. This Southern Coho Management Plan (“Plan”) specifies how the Parties’ fisheries impact on coho salmon that originate in southern British Columbia, Washington and Oregon shall be managed, subject to future approved technical refinements. The Parties shall implement this Plan in their respective fisheries, as well as any technical refinements that are approved.
5. The Parties shall cooperate to develop coho salmon management programs that are designed to:
 - (a) limit total fishery exploitation to enable management units (“MUs”) to produce MSH over the long term and to maintain the genetic and ecological diversity of the component populations; further MSH is interpreted throughout this Chapter to include the concept of maintaining the genetic and ecological diversity of component populations;
 - (b) improve long-term prospects to sustain healthy fisheries for both Parties;
 - (c) establish an approach to fishery resource management that responds to resource status, that is cost-effective, and sufficiently flexible to use technical capability and information as they are developed and approved;
 - (d) provide a predictable framework for planning a fishery’s impact on naturally spawning populations of coho; and
 - (e) establish an objective means to monitor, evaluate and modify the management regimes, as appropriate.
6. The Parties shall establish and maintain a joint Working Group to implement this Plan. The Working Group shall develop assessment tools and resolve technical differences that may arise. The Working Group shall develop mechanisms to address circumstances when annual limits on exploitation rates (ER)¹ for boundary area fisheries are exceeded. These mechanisms may include provisions for management error and adjustments for overages, but shall not create catch entitlements for any fishery or Party.
7. The Parties shall establish and maintain a joint Coho Technical Committee (the “Committee”) that reports, unless otherwise approved by the Parties, to the Southern Panel. The Committee shall, *inter alia*, at the direction of the Panel:
 - (a) evaluate the effectiveness of management actions;
 - (b) identify and review the stocks’ status;
 - (c) provide current information on the stocks’ harvest rates and patterns, and develop a joint database for assessments;
 - (d) review available information on the productivity of coho stocks in order to support identification of escapements and associated ERs, which produce MSH;

¹
$$\frac{\text{TotalFishingMortality}_{\text{allfisheries}}}{\text{TotalFishingMortality}_{\text{allfisheries}} + \text{Escapement}}$$

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- (e) devise analytical methods or recommendations for consideration by the Working Group to develop alternative regulatory and production strategies and to address uncertainties caused by data limitations and variation in environmental conditions, in order to meet the Southern Panel's objectives;
 - (f) identify the information and research needs that are required to implement this Plan;

 - (g) develop and enhance regional coho pre-season and post-season evaluation tools and protocols to provide a consistent means of evaluating the cumulative impact of U.S. and Canadian fisheries on MUs and stocks of conservation concern;

 - (h) oversee the exchange of the Parties' determinations of the status of MUs and information on abundance and distribution of coho that are available for the upcoming season, and review the technical basis for that information;

 - (i) review the ERs that result from the application of this Plan and advise the Southern Panel if impacts on the MUs are excessive, given the status of those affected MUs;

 - (j) oversee the exchange of pre-season expectations and post-season estimates of MU-specific mortalities in the fisheries of each Party;

 - (k) oversee the exchange of information regarding mark-selective fisheries, including estimates of interceptions of mass-marked hatchery coho, if requested by the Southern Panel; and

 - (l) undertake bilateral, technical investigations and recommend methods to address data uncertainty and the impact of environmental change, for consideration by the Working Group.
8. Unless otherwise approved by the Parties, the Parties shall:
- (a) manage their fisheries to limit ERs on the following MUs:

<u>Southern B.C. Inside Management Units</u>	<u>U.S. Inside Management Units</u>
Interior Fraser	Skagit
Lower Fraser	Stillaguamish
Strait of Georgia	Snohomish
	Hood Canal
	Strait of Juan de Fuca
	<u>U.S. Outside Management Units</u>
	Quillayute
	Hoh
	Queets
	Grays Harbor

(b) establish and document the derivation of the following targets for MUs that originate within their respective jurisdictions:

(i) escapement goal or ER that achieves MSH;

(ii) MSH ERs for each MU; and

(iii) ERs for three status categories, *Low*, *Moderate* and *Abundant*. Each Party shall provide maximum ER targets for each MU and status category that originate within its jurisdiction. Until a Party provides the MU ER targets, that Party shall provide maximum ER targets for each MU that originate within its jurisdiction consistent with the attainment of MSH and within the ranges defined below:

Status	Total Exploitation Rate
Low	Up to 20 %
Moderate	21% – 40 %
Abundant	41% – 65 %

(c) manage all fisheries in their respective jurisdictions, whether directed at coho or not, whether mark-selective or not, to ensure that cumulative ERs on MUs described in paragraph 8(a) do not exceed the limits established in paragraph 9, except:

- (i) Until Canada establishes status determination methods for Canadian MUs other than the Interior Fraser MU, the Parties shall implement this Chapter to comply with status and associated ER caps that relate to the Interior Fraser MU and U.S. MUs only. The Parties shall jointly discuss the management for status and ER caps for the other MUs. Timing of implementation of management to the remaining Canadian MUs shall be included in the discussions.
- (ii) The MU status determination methods developed by a Party shall be reviewed by the Committee. The Committee shall provide recommendations to the Parties for consideration in improving the effectiveness of the management regime. When a Party completes or updates the status determination methods, breakpoints, and associated ER caps for any of its MUs, the Parties shall discuss a Party's intention to introduce individual MUs for management via a meeting of the bilateral Working Group.
- (iii) When Canada completes determination of status for Canadian MUs that are not yet implemented under this Chapter, the Parties shall include these MUs in the Plan for the season after completion of their status determination methods, bilateral scientific review, and bilateral implementation talks, as long as Canada provides sufficient notice to the U.S. prior to the Commission's annual management cycle. In most circumstances, this notice is required during or prior to the annual Fall session of the Commission;
- (d) implement additional fishery management measures that are practicable and necessary to conserve component stocks of the MUs that originate within their respective jurisdictions;
- (e) maintain capabilities and programs to conduct stock assessments, evaluate fishery impacts, and meet this Plan's objectives;
- (f) improve coordination between their domestic management processes through regular bilateral preseason planning discussions at regularly scheduled Panel meetings and through timely bilateral information exchange among fishery managers;
- (g) each year, through their respective domestic processes, classify the status of each MU that originates in their rivers as, *Low*, *Moderate* or *Abundant*, and provide any changes in maximum, status-dependent ERs. In mid-March every year, the Parties shall exchange information on the status of each MU, the associated ER that applies to each MU and other factors, including preliminary fishery expectations, that are relevant to the development of plans for their respective fisheries, including those that may result in domestic constraints below the ER caps specified in this Chapter to facilitate domestic fishery planning processes. In any given year, the Parties shall not change the status or associated ER caps for an MU after March 31; and
- (h) By June 30 of each year, through Canadian and U.S. domestic management authorities, exchange information on the implementation of management measures to ensure that the cumulative ERs do not exceed allowable levels for MUs and that total exploitation by all fisheries is consistent with target levels established by the Parties for resource conservation. Specifically:
 - (i) By April 30 of each year, the U.S. shall provide Canada with projected ERs for its fisheries on Interior Fraser MU for the coming season,

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(ii) When methodologies to establish status benchmarks and associated ER caps have been established for other Canadian MUs, the U.S. shall provide Canada with estimates of the impact of its fisheries on the Canadian MUs by April 30 in addition to the Interior Fraser MU,

(iii) By June 30 of each year, Canada shall provide the U.S. with projected ERs for its fisheries on U.S. MUs specified in paragraph 8(a) for the coming season.

9. Each Party shall, in the pre-season, plan its intercepting fisheries so that the total ERs do not exceed the MU-specific ER caps as follows:

(a) The following principles apply to the ER caps in the tables in sub-subparagraphs 9(b) to (d):

(i) For MUs in *Low* status, the Parties shall plan and manage their respective fisheries to reduce the impact on those MUs. The producing Party shall bear a greater share of the conservation responsibility for MUs in *Low* status, and the intercepting Party shall not be required to reduce its impact below a 10% ER, subject to actions that may be taken under paragraph 11(b),

(ii) For MUs in *Moderate* status, the producing Party should receive the majority of the allowable ER; this share should increase for MUs in *Abundant* status, and

(iii) Neither Party should be unduly prevented from accessing its own stocks to achieve its fishery objectives or harvesting other allocations agreed under this Treaty;

(b) Canadian ER cap on U.S. Inside MUs (Table 1):

Condition of U.S. Inside MUs	Canadian ER Caps	MU Applicability
Normal Low (> 1 Inside MU low)	0.11	All MUs with Total ER \leq 0.20
Composite Low (Only 1 Inside MU Low)	0.13	The MU with Total ER \leq 0.20
Normal Moderate (> 1 Inside MU Moderate)	$.124 + .13 \times \text{ER}$	All MUs with $0.20 < \text{Total ER} \leq 0.40$
Composite Moderate (Only 1 Inside MU Moderate)	$.134 + .13 \times \text{ER}$	The MU with $0.20 < \text{Total ER} \leq 0.40$
Abundant	$.084 + .28 \times \text{ER}$	MUs with $0.40 < \text{Total ER} \leq 0.60$
Abundant	$.024 + .38 \times \text{ER}$	MUs with $0.60 < \text{Total ER}$

(c) Canadian ER cap on U.S. Outside MUs (Table 2):

Condition of U.S. Outside MUs	Canadian ER Caps	MU Applicability
-------------------------------	------------------	------------------

Normal Low (> 1 Outside MU low)	0.10	All MUs with Total ER ≤ 0.20
Composite Low (Only 1 Outside MU Low)	0.12	The MU with Total ER ≤ 0.20
Normal Moderate (> 1 MU Outside Moderate)	$.024 + .38 \times \text{ER}$	All MUs with $0.20 < \text{Total ER} \leq 0.40$
Composite Moderate (Only 1 Outside MU Moderate)	$.054 + .33 \times \text{ER}$	The MU with $0.20 < \text{Total ER} \leq 0.40$
Abundant	$.024 + .38 \times \text{ER}$	MUs with $0.40 < \text{Total ER}$

- (d) U.S. status-dependent ER caps for Canadian MUs are specified in this table and shall only be used to manage the impacts of the Parties' respective fisheries on the Interior Fraser MU until Canada develops biological status determination methods for the other Canadian MUs. The Parties agree that the status of the Interior Fraser MU shall be managed at a *Low* status until Canada establishes status determination methods that would provide the basis for a change:

Condition of Canadian MUs	U.S. ER Caps	MU Applicability
Low	0.10	All MUs with Total ER ≤ 0.20
Moderate	0.12	All MUs with $0.20 < \text{Total ER} \leq 0.40$
Abundant	0.15	MUs with $0.40 < \text{Total ER}$

- (e) The Parties recognize that bilateral review of methodologies employed to establish target MU-specific status-dependent ERs is desirable;
- (f) The intercepting ER caps established for each Party under this paragraph are maximums. If, for any MU, the intercepting Party does not require the full ER cap to harvest its own stocks, that Party may implement fishing plans that result in ERs below the caps. If this occurs, the producing Party may plan fisheries to use the unused portion of the cap, if the cumulative ER limit established for that MU is not exceeded;
- (g) If a producing Party identifies concerns about increasing trends in ER on its MU by the intercepting Party over two or more years, the Parties shall initiate a bilateral discussion on an appropriate response for implementation in the following year;
- (h) The Parties shall establish a bilateral technical plan to develop and implement this Chapter. The Parties commit to joint development of pre-season planning and post-season evaluation tools and protocols. If the Parties determine that implementation experience and the bilateral planning tools and protocols indicate that the ER caps specified in paragraphs 9(b) to (d) are inconsistent with the objectives identified in paragraph 5, the Parties shall undertake discussions, which may refer to the work of the Committee described in paragraph 7, to revise these ER caps in a manner that is consistent with those objectives.

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10. Each year, the Committee shall provide post-season estimates of MU ERs for fisheries conducted two years prior, as well as pre-season estimates of MU ERs planned for the upcoming season. The Committee shall review estimates of ERs to determine why ER limits established pursuant to paragraphs 9(b) to (d) were exceeded, or if there are trends identified under paragraph 9(g), including the effects of management error, imprecision or uncertainty of abundance forecasts. The Committee shall report the results to the Southern Panel, and if the ER limits under paragraphs 9(b) to (d) are exceeded, the Parties shall discuss whether the regimes should be adjusted to meet the objectives of this Chapter.

11. Each Party may:
 - (a) plan and manage fisheries to achieve a lower ER than the rates allowed under paragraphs 9(b) to (d) to address domestic management objectives;
 - (b) request additional reductions in ERs determined under paragraphs 9(b) to (d) to meet critical conservation concerns not adequately addressed by the ER caps. The requesting Party shall describe the measures taken in its own fisheries to respond to the conservation concern and make its request in a timely manner relative to pertinent management planning processes. The Southern Panel shall develop bilateral guidance to indicate how this could be implemented in a responsible and timely manner during a Party's domestic preseason planning;
 - (c) request increases in the MU-specific ER caps determined under paragraphs 9(b) to (d) if the Party can demonstrate that the ER caps prevent it from accessing its own stocks to meet its fishery management objectives or from harvesting other allocations provided under this Treaty. The Southern Panel shall develop bilateral guidance to indicate how this could be implemented in a responsible and timely manner during a Party's domestic preseason planning; and
 - (d) request that the Committee evaluate the performance of the management regime described in this Plan and recommend measures to correct for systematic biases and potential improvements to the Southern Panel.

12. The Parties shall review this Plan no later than three years after this Chapter enters into force and every three years after that date, unless otherwise specified by the Southern Panel. The review shall include an assessment of the effectiveness of this Plan in achieving the management objectives of the Parties and any other issues either Party wants to raise, including, but not limited to:
 - (a) whether the ER caps established under paragraphs 9(b) to (d) have prevented either Party from accessing its own stocks to meet its fishery management objectives or from harvesting other allocations that are provided under this Treaty; and
 - (b) issues associated with the procedures and methods employed to estimate and account for total coho mortalities, including those incurred in mark-selective fisheries. The Parties shall modify this Plan, if necessary, based on the review and the need to incorporate results of bilateral technical developments (e.g., to establish criteria to define MUs and to biologically determine allowable ERs, to develop a common

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methodology for measuring ERs in Canadian and U.S. fisheries, development of bilateral management planning tools, etc.).

13. Test fisheries sanctioned by the Fraser Panel of the Commission for the purposes of providing information for the management of Fraser sockeye and pink salmon should be conducted in a manner that minimizes coho by-catch mortalities, unless those mortalities are required to support improvements in scientific or technical information about fish stocks.

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Table 1. Canadian ER Caps on U.S. INSIDE MUs

	Total ER for U.S. MU	Canadian ER Cap		Canadian Share of Total ER	
		Normal	Composite	Normal	Composite
LOW	0.10	0.110	0.130	110%	130%
	0.11	0.110	0.130	100%	118%
	0.12	0.110	0.130	92%	108%
	0.13	0.110	0.130	85%	100%
	0.14	0.110	0.130	79%	93%
	0.15	0.110	0.130	73%	87%
	0.16	0.110	0.130	69%	81%
	0.17	0.110	0.130	65%	76%
	0.18	0.110	0.130	61%	72%
	0.19	0.110	0.130	58%	68%
	0.20	0.110	0.130	55%	65%
MODERATE	0.21	0.151	0.161	72%	77%
	0.22	0.153	0.163	69%	74%
	0.23	0.154	0.164	67%	71%
	0.24	0.155	0.165	65%	69%
	0.25	0.157	0.167	63%	67%
	0.26	0.158	0.168	61%	65%
	0.27	0.159	0.169	59%	63%
	0.28	0.160	0.170	57%	61%
	0.29	0.162	0.172	56%	59%
	0.30	0.163	0.173	54%	58%
	0.31	0.164	0.174	53%	56%
	0.32	0.166	0.176	52%	55%
	0.33	0.167	0.177	51%	54%
	0.34	0.168	0.178	49%	52%
	0.35	0.170	0.180	48%	51%
	0.36	0.171	0.181	47%	50%
	0.37	0.172	0.182	47%	49%
	0.38	0.173	0.183	46%	48%
	0.39	0.175	0.185	45%	47%
	0.40	0.176	0.186	44%	47%

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Table 1 (cont'd)

	Total ER for U.S. MU	Canadian ER Cap		Canadian Share of Total ER	
		Normal	Composite	Normal	Composite
	0.41	0.199		48%	
	0.42	0.202		48%	
	0.43	0.204		48%	
	0.44	0.207		47%	
	0.45	0.210		47%	
	0.46	0.213		46%	
	0.47	0.216		46%	
	0.48	0.218		46%	
	0.49	0.221		45%	
	0.50	0.224		45%	
	0.51	0.227		44%	
	0.52	0.230		44%	
	0.53	0.232		44%	
	0.54	0.235		44%	
ABUNDANT	0.55	0.238		43%	
	0.56	0.241		43%	
	0.57	0.244		43%	
	0.58	0.246		42%	
	0.59	0.249		42%	
	0.60	0.252		42%	
	0.61	0.256		42%	
	0.62	0.260		42%	
	0.63	0.263		42%	
	0.64	0.267		42%	
	0.65	0.271		42%	

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Table 2. Canadian ER Caps on U.S. OUTSIDE MUs

	Total ER for U.S. MU	Canadian ER Cap		Canadian Share of Total ER	
		Normal	Composite	Normal	Composite
LOW	0.10	0.100	0.120	100%	120%
	0.11	0.100	0.120	91%	109%
	0.12	0.100	0.120	83%	100%
	0.13	0.100	0.120	77%	92%
	0.14	0.100	0.120	71%	86%
	0.15	0.100	0.120	67%	80%
	0.16	0.100	0.120	63%	75%
	0.17	0.100	0.120	59%	71%
	0.18	0.100	0.120	56%	67%
	0.19	0.100	0.120	53%	63%
	0.20	0.100	0.120	50%	60%
MODERATE	0.21	0.104	0.123	49%	59%
	0.22	0.108	0.127	49%	58%
	0.23	0.111	0.130	48%	56%
	0.24	0.115	0.133	48%	56%
	0.25	0.119	0.137	48%	55%
	0.26	0.123	0.140	47%	54%
	0.27	0.127	0.143	47%	53%
	0.28	0.130	0.146	47%	52%
	0.29	0.134	0.150	46%	52%
	0.30	0.138	0.153	46%	51%
	0.31	0.142	0.156	46%	50%
	0.32	0.146	0.160	46%	50%
	0.33	0.149	0.163	45%	49%
	0.34	0.153	0.166	45%	49%
	0.35	0.157	0.170	45%	48%
	0.36	0.161	0.173	45%	48%
	0.37	0.165	0.176	44%	48%
	0.38	0.168	0.179	44%	47%
	0.39	0.172	0.183	44%	47%
	0.40	0.176	0.186	44%	47%

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Table 2. (cont'd)

	Total ER for U.S. MU	Canadian ER Cap		Canadian Share of Total ER	
		Normal	Composite	Normal	Composite
	0.41	0.180		44%	
	0.42	0.184		44%	
	0.43	0.187		43%	
	0.44	0.191		43%	
	0.45	0.195		43%	
	0.46	0.199		43%	
	0.47	0.203		43%	
	0.48	0.206		43%	
	0.49	0.210		43%	
	0.50	0.214		42%	
	0.51	0.218		42%	
	0.52	0.222		42%	
	0.53	0.225		42%	
	0.54	0.229		42%	
ABUNDANT	0.55	0.233		42%	
	0.56	0.237		42%	
	0.57	0.241		42%	
	0.58	0.244		42%	
	0.59	0.248		42%	
	0.60	0.252		42%	
	0.61	0.256		42%	
	0.62	0.260		42%	
	0.63	0.263		42%	
	0.64	0.267		42%	
	0.65	0.271		42%	

Chapter 6: Southern British Columbia and Washington State Chum Salmon

This Chapter shall apply to the period from 2019 through 2028.

1. The Parties shall establish and maintain a Joint Chum Technical Committee (the “Committee”). The Committee shall report, unless the Parties otherwise decide, to the Southern Panel and the Commission. The Committee shall, *inter alia*:
 - (a) maintain and present to the Panel historical catch and escapement information for stocks referred to in this Chapter;
 - (b) use available information to estimate and document stock composition and exploitation rates in fisheries referred to in this Chapter;
 - (c) annually review the Parties’ assessment of stock status and fisheries activities for chum fisheries referred to in this Chapter;
 - (d) identify high priority research and information needs for the Parties, including fishery and escapement monitoring and assessment, stock identification, and enhancement; and
 - (e) periodically or when requested by the Panel;
 - (i) exchange available information on the productivity and escapement requirements of stocks referred to in this this Chapter,
 - (ii) identify and document stocks of concern (with respect to conservation) referred to in this Chapter,
 - (iii) evaluate the effectiveness and performance of management strategies, and
 - (iv) evaluate the effectiveness of alternative regulatory and production strategies recommended by the Parties.
2. When the Parties provide stock composition information for fisheries, the Committee shall evaluate and use bilaterally approved methods to report its conclusions. .
3. The Parties shall assess catch levels and attempt to collect additional genetic samples from any chum salmon caught between July 1 and September 15 in the boundary area fisheries (U.S. Areas 4B, 5, 6C, 7, and 7A; Canadian Areas 18, 19, 20, 21, and 29).
4. From July 1 to September 15, Canada shall 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 (U.S.) shall require the same for the non-Indian seine fisheries in Areas 7 and 7A. By U.S. regulation, purse seine fisheries are not permitted in U.S. Areas 4B, 5, or 6C.
5. Canada shall manage its Johnstone Strait, Strait of Georgia, and Fraser River chum salmon fisheries to provide continued rebuilding of depressed naturally spawning chum salmon stocks, and, to the extent practicable, not increase interceptions of U.S. origin chum salmon. Terminal fisheries conducted on specific stocks with identified surpluses shall be managed to minimize the interception of non-targeted stocks.
6. Canada shall manage its Johnstone Strait mixed stock fishery as follows:

Southern Panel: bilaterally agreed Chum Chapter language, January 11, 2018 (Includes acceptance of Canadian section-proposed edits on Jan 24, 2018)

- (a) The Inside Southern Chum run size estimate by Canada of 1.0 million chum is defined as the Inside Southern Chum Critical Threshold. Inside Southern Chum salmon levels of less than this Threshold are considered critical for the purposes of this Chapter;
 - (b) For run sizes above the Inside Southern Chum Critical Threshold, Canada shall conduct fisheries with an exploitation rate of up to 20% in Johnstone Strait of Inside Southern chum salmon; and
 - (c) When run sizes are expected to be below the Inside Southern Chum Critical Threshold, Canada shall notify the U.S. and shall only conduct assessment fisheries and non-commercial fisheries. Canada shall suspend the operation of commercial fisheries that target chum salmon in Johnstone Strait.
7. Canada shall manage its Fraser River fisheries for chum salmon as follows:
 - (a) For Fraser River terminal area run sizes, identified in-season at abundance levels lower than 900,000 chum salmon, the Canadian commercial chum salmon fisheries within the Fraser River and in associated marine areas (Area 29), shall be suspended; and
 - (b) For Fraser River terminal area run sizes, identified in-season at abundance levels greater than 900,000 chum salmon, the Canadian commercial chum salmon fisheries within the Fraser River shall be guided by the limits of the in-river Total Allowable Catch set by Canada.
8. Canada shall manage the Nitinat gill net and purse seine fisheries for chum salmon to minimize the harvest of non-targeted stocks.
9. The U.S. shall manage its chum salmon fishery in Areas 7 and 7A as follows:
 - (a) Inside Southern chum salmon levels of less than the Inside Southern Chum Critical Threshold of 1.0 million as estimated by Canada are considered critical for purposes of this Chapter;
 - (b) For the run sizes below the Inside Southern Chum Critical Threshold, the U.S. catch of chum salmon in Areas 7 and 7A shall be limited to chum salmon taken incidentally to other species and in other minor fisheries, but shall not exceed 20,000. Catches for the purpose of genetic stock identification sampling shall not be included in this limit;
 - (c) For run sizes above the Inside Southern Chum Critical Threshold, the catch ceiling for the U.S. chum salmon fishery in Areas 7 and 7A shall be 125,000 chum salmon, except as provided in subparagraph (d);
 - (d) Canada shall provide a run size estimate of chum salmon entering the Fraser River no later than October 22 of each year. Canada shall notify the U.S. whenever Canada updates the formal Fraser River chum run size estimate if that update results in a change to the U.S. catch ceiling. If the Fraser run size estimate is less than 1,050,000, the U. S. shall limit its fishery impacts on Fraser River chum salmon by restricting catch in Areas 7 and 7A to not exceed 20,000 additional chum salmon from the day following the date the U.S. is notified. If the Fraser River run size estimate is between 1,050,000 and 1,600,000, the U.S catch ceiling shall remain at 125,000. If the Fraser River run size estimate is above 1,600,000, the U.S. catch ceiling shall be revised to 160,000;
 - (e) U.S. commercial fisheries for chum salmon in Areas 7 and 7A shall not occur prior to October 10 of each year;

Southern Panel: bilaterally agreed Chum Chapter language, January 11, 2018 (Includes acceptance of Canadian section-proposed edits on Jan 24, 2018)

- (f) The U. S. shall manage the Areas 7 and 7A fisheries for chum salmon in order to minimize the harvest of non-target species;
 - (g) U.S. catch shortfalls may not be accrued; however, overages shall be carried forward as indicated in sub-paragraphs (h), (i), and (j);
 - (h) Due to management imprecision:
 - (i) if the U.S. chum catch ceiling is 125,000, a catch in the U.S. of up to 135,000 chum salmon shall not result in an overage calculation. A catch that exceeds 135,000 shall result in an overage, which is calculated by subtracting 125,000 from the total U.S. chum catch; and
 - (ii) if the U.S. chum catch ceiling is 160,000, a catch in the U.S. of up to 170,000 shall not result in an overage calculation. A catch that exceeds 170,000 shall result in an overage, which is calculated by subtracting 160,000 from the total U.S. chum catch;
 - (i) Overages under paragraph 9 (h)(i) or 9 (h)(ii) shall be accounted for by reducing the U.S. annual catch ceilings in up to two subsequent non-critical Inside Southern chum salmon years;
 - (j) From the day following the date the U.S. is notified of a run size below the Inside Southern Chum Critical Threshold as defined in paragraph 9(a) or below a Fraser River chum run size estimate of 1,050,000, any catch that exceeds 20,000 chum salmon results in an overage. Overages shall be accounted for by reducing the U.S. annual catch ceilings in up to two subsequent non-critical Inside Southern chum salmon years;
 - (k) If, subsequent to the revision of the U.S. catch ceiling to 160,000, further in-season run size information changes such that the Fraser River chum run size estimate is revised downward to between 1,050,000 and 1,600,000, the U.S. shall manage their fisheries in Area 7 and 7A to stay below the catch ceiling of 125,000. If the lower catch ceiling has already been reached, the U.S. shall terminate these fisheries; and
 - (l) In the circumstances described in paragraph 9(k), overage calculations shall be based on the highest catch ceiling determined in that season provided the U.S. terminates these fisheries.
10. The U.S. shall conduct its chum salmon fishery in the Strait of Juan de Fuca (U.S. Areas 4B, 5 and 6C) with a view to maintaining the limited effort nature of this fishery, and, to the extent practicable, not increase interceptions of Canadian origin chum salmon. The U.S. shall continue to monitor this fishery to determine if recent catch levels indicate an increasing level of interception.
11. The Parties shall exchange all information concerning non-target catch of other salmon species, including steelhead, from the chum salmon fisheries covered by this Chapter in the annual post-season report.
12. If circumstances arise that are inconsistent with a Party's understanding of the intent of this Chapter, the Southern Panel shall discuss the matter in the post-season and explore options for taking the appropriate corrective action.

Attachment E: Habitat and Restoration

Considering the agreements between the Parties to implement abundance-based management regimes designed to prevent overfishing;

Taking into account the decline in the abundance and productivity of important naturally spawning stocks of Pacific salmon subject to this Treaty;

Recognizing that it is vital to protect and restore the salmon habitat and to maintain adequate water quality and quantity in order to improve spawning, the safe passage of adult and juvenile salmon and, therefore, to optimize the production of important naturally spawning stocks;

Recognizing that the Parties can achieve the principles and objectives of this Treaty only if they maintain and increase the production of natural stocks;

Recognizing that a carefully designed enhancement program would contribute significantly to the restoration of depressed natural stocks and help the Parties optimize production; and

Desiring to cooperate to optimize production of important naturally spawning stocks,

The Parties agree:

1. To use their best efforts, consistent with applicable law, to:
 - (a) protect and restore the habitat to promote the safe passage of adult and juvenile salmon and to achieve high levels of natural production;
 - (b) maintain and, as needed, improve safe passage of salmon to and from their natal streams; and
 - (c) maintain adequate water quality and quantity.
2. To promote these objectives by requesting that the Commission:
 - (a) maintain a page on its web site that documents citations, references, or links to publicly accessible information published by the Parties, management entities, or

others related to the habitat protection and restoration projects and programs that are important to Pacific salmon stocks subject to this Treaty ; and,

- (b) periodically review and discuss information on the habitat of naturally spawning stocks subject to this Treaty that cannot be restored through harvest controls alone, any non-fishing factors that affect the safe passage or survival of salmon, options for addressing non-fishing constraints and restoring optimum production, and progress of the Parties' efforts to achieve the objectives for the stocks under this Treaty.

Press Release: Pacific Salmon Commission recommends new conservation and harvest sharing agreement under the Pacific Salmon Treaty.

The Pacific Salmon Commission has recommended ~~to the governments of Canada and the United States~~ a new 10-year conservation and harvest sharing ~~arrangement agreement~~ under the Pacific Salmon Treaty.

Commented [L/OES1]: Typically, "arrangement" refers to non-binding documents and "agreement" is used for binding instruments. If the goal is just to refer to the management plan, you could use "harvest sharing regime" instead.

Signed by Canada and the United States (U.S.) in 1985, the Pacific Salmon Treaty provides a framework for the two countries to cooperate on the management of Pacific salmon. Pacific salmon are highly-migratory, often spending years at sea and travelling thousands of miles before returning to their native rivers to spawn. A high degree of cooperation is required to prevent over-fishing, provide optimum production and ensure that each country receives benefits that are ~~equal equivalent~~ to the production of salmon in its waters.

With ~~five chapters of the Treaty~~ the current harvest sharing ~~arrangement agreement~~ set to expire on December 31, 2018, Canadian and U.S. representatives on the Commission met ~~extensively regularly~~ over the course of ~~18 months~~ ~~two years to off for~~ ~~extensive negotiations leading to~~ ~~review the current chapters and negotiate proposed amendments~~ ~~the new 10-year proposal~~.

Commented [L/OES2]: See comment above—"regime" would work here, too.

~~"It was gratifying to know throughout the negotiations that conservation of coastwide salmon stocks was the highest priority of every commissioner,"~~ said NOAA Fisheries' Bob Turner, U.S. Commissioner ~~and current Chair of the Commission~~.

"I'm pleased the Commission was able to bring forward this recommendation" said Rebecca Reid, Canadian ~~Co~~Vice-Chair of the Commission ~~and Director General of the Canadian Department of Fisheries and Oceans, Pacific Region~~. "The discussions were challenging, which reflects the complexity of the issues, the range of interests in both countries and the conservation concerns we are facing for many of these salmon populations," she added. "However, both Parties came to the table, made some concessions and were ultimately able to reach an agreement that we feel will support the conservation and long-term sustainability of this important resource."

The proposed agreement covers highly-migratory salmon stocks from ~~Cape Falcon~~, Oregon in the south to Southeast Alaska ~~in the north~~, including ~~Pink~~, ~~Ce~~oho, ~~S~~ockeye, ~~C~~hum and Chinook ~~salmon~~.

~~Insert quote from Bob Turner on behalf of the U.S. Section~~

Among the changes recommended by the Commission are new conservation objectives for several salmon populations, as well as a renewed commitment to science and stock assessment to inform decision-makers in both countries. The proposed agreement also includes ~~targeted~~ harvest reductions for Chinook fisheries in both countries that will help protect stocks ~~of concern~~ while providing sustainable harvest opportunities for First Nations, Indian Tribes, ~~and~~ commercial and recreational ~~harvesters-fishers~~ in both countries.

The agreement has now been referred to the two governments for their ~~legal review and respective~~ ratification ~~through formal diplomatic channels~~ ~~processes~~. ~~For Canada, the ratification process will include further consultation with First Nations, commercial and recreational harvesters and other interests. Given that a number of salmon stocks managed under the Treaty are listed under the United~~

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~~States *Endangered Species Act* (ESA), approval by the United States is contingent on satisfying the legal requirements of that law.~~

If approved, the new ~~chapters conservation and harvest sharing arrangement~~ agreement will come into effect ~~be effective~~ on January 1, 2019, ~~and remain in force~~ through December 31, 2028.

~~Preliminary negotiations for the renewal of Chapter 4 (Fraser River pink and sockeye salmon) have begun and are being led by the Fraser River Panel. The current chapter expires on December 31st, 2019.~~

For further information, please contact John Field, Executive Secretary of the Pacific Salmon Commission at field@psc.org or by phone at 604-684-8081 (ext. 622).

Commented [L/OES3]: Is Canada okay with this language given their concerns that their legislative process may not be completed by this date? One option is to change this to "is intended to" be effective.

August 14, 2018

Bob – With regard to process, in the event it is useful for anyone to understand the steps, here is how we plan for things to proceed from this point.

Right now the attorneys are working to conclude their editorial comments for the remaining chapters (2 and 3) and then they'll finalize as they did for the other chapters. Those other chapters have been or are being translated into French by Canada and then the Fr and Eng versions are being compared by State for certification as saying the same thing. Once all of the chapters are done like that, we will be ready to proceed. While that is all going on, at some point we and Canada will have received the forthcoming Commission's letter of transmittal which will denote that the amendments have formally been handed over to the two governments to carry forward.

The vehicle to approve and authorize State to do that is the C-175 process. State will draft a memo for approval up our chain, as we did at an earlier stage when we developed the C-175 to negotiate, which then allowed the State and Canadian GAC attorneys to begin their editorial review. The new C-175 will look very similar to that previous version, but instead of authority to negotiate it will be requesting authorization to conclude negotiations, and thus will include updates on the result of the Commission's work and the process to finalize the text of the amendments in a form to be inserted into diplomatic notes to effect the amendment of the Treaty. Since we are only amending an annex to the Treaty, as envisioned in the Treaty itself, the amendments do not require advice and consent from the Senate and will instead be concluded as an executive agreement.

The C-175 will undergo a preliminary legal clearance here and then circulated for broader State and inter-agency clearance, specifically to NMFS and probably USFWS. We will only request line agency-level clearance, so I'll send the memo package to you and Pat Moran in Silver Spring, who I believe is the current staff point of contact in NMFS/IASI. We will defer to whatever internal circulation NMFS decides is necessary for agency clearance, including up to Chris as appropriate.

Once we have the C-175 cleared we'll submit up the chain here for approval, which should not take long, and then we'll be ready to schedule the two rounds of dip note exchanges to seal the deal. FYI, the first dip note will address the issue of provisional application given our understanding that Canada will not be able to conclude the second dip note exchange before the end of calendar 2018.

I am happy to answer any questions. I will be off in tuna land from tomorrow through 8/31. Staci, cc'd above, can hold down the fort here in my absence and I'll also be within e-mail range for most of the time so we can correspond as needed.

Thanks, Dave

3. CYER Implementation

Dear CTC:

The Pacific Salmon Commission (Commission) received your June 13 memorandum seeking “more definitive guidance” with which to respond to a work plan addition related to the Parties’ ability to meet data requirements associated with the use of the Calendar Year Exploitation Rate metric.

The Commission has no doubt of the importance of the issues about which the Chinook Technical Committee (CTC) seeks additional guidance. However, the Commission believes that the questions posed in the memo have significant technical underpinnings and that relevant information best would be synthesized by the CTC itself. Further, the Commission believes that policy direction related to these questions, while perhaps not specific, was sufficiently discussed during negotiation of Chapter 3 to give participating CTC co-chairs a good indication of the underlying purpose to be served by the work plan request and sufficient to form recommended responses.

The Commission draws attention to recently adopted bylaw amendments that give CTC co-chairs responsibilities related to determining, when necessary, the predominate and minority technical views of members of the committee in pursuit of its responsibilities. The Commission amended the bylaw provisions in this fashion because co-chair interactions with the Commission put them in the best position to know the intent of the Commission when coordinating CTC responses. With these perspectives in mind, the Commission refers the questions back to the CTC for development of recommended responses. The Commission is mindful that some issues may be more time-sensitive than others and suggests the CTC provide the recommended responses to the Commission as soon as practicable.

We ensure that the Commission will expedite its consideration of the information.

Chair/Vice-Chair

The CTC posed 5 sets of questions to the Commission in a memo on 13 Jun 2018 about the Data Requirements for Calendar Year Exploitation Rates (CYER). Several of these questions can be investigated further by the CTC in time to support the CYER metric review in 2022, or sooner when the Data Generation Model is available. The following guidance is based on information available currently.

QUESTIONS NEED TO BE ANSWERED TO DETERMINE DATA REQUIREMENTS

Both the ISBM (non-ceiling index) and CYER statistics produced by the CTC have similar data requirements, among them, suitable exploitation rate and escapement indicator stocks, CWT recoveries in fisheries and escapements, and other ancillary information required to perform cohort analyses (see background supplement below). Cohort Analysis is central to the capacity to produce estimates of age-specific maturation rates, incidental mortalities, and Adult Equivalent factors (AEQs).

In order to respond to the assignment and provide specific data requirements for computing CYERs, more definitive guidance is needed, including:

1. What are the standards for quality in terms of accuracy and precision of the CYER statistic?

In 2008, the PSC CWT Work Group developed an action plan in response to recommendations from the CWT Expert Panel (PSC Technical Report 25). The Work Group identified several issues that affect the

quality of CWT statistics that are related to the accuracy and precision of exploitation rate measures, and many of these issues were the focus of the recent CWT Improvement Program (PSC Technical Report 33). The CWT Work Group recommended:

“the following guidelines for improving the statistical basis for estimates produced by the CWT program:

- i) achieve ten (10) observed tags within each sampling stratum (defined by fishery or escapement location, time period, and age for Chinook salmon) to provide a 30% percent standard error (PSE) on estimated tags within strata that represent an important proportion of the stocks total exploitation rate (at least 2.5%) or escapement rate (Section 5.3, Figure 5-1);
- ii) establish tagging and sampling rates to achieve these targets in eight of ten brood years (to account for observed variation in marine survival), see Section 6.1;
- iii) recognizing the variability in survival rates over time and between stocks, and for quality assurance, use a model such as the Sampling Guidelines Model presented in this report to establish tagging and sampling rates for annual programs (Figures 6-3 to 6-5, and Appendix C) to achieve the first guideline;
- iv) minimize potential biases by representative sampling of all catches and spawning escapements and achieving minimum sampling targets per strata;
- v) identify sources of harvest impacts that may go unreported; and
- vi) establish quality control measures and periodic reviews of the program’s performance against these new guidelines.”

For the purpose of monitoring ISBM fishery provisions, these recommendations would apply to the combination of all ISBM fisheries within each country and for the exploitation rate indicator stocks that are identified in Attachment I of the new agreement.

2. Are CYER statistics to be computed for all stocks? Just specified stocks? Hatchery or wild stocks? Only stocks with CTC accepted escapement goals? All ages or just adults? (Uncertainties increase for younger-aged fish and are greatest when data for the earliest age at maturity are included, both in numbers and AEQs, due to assumptions required to calculate AEQs). Only when stocks do not meet escapement objectives?

a) *Are CYER statistics to be computed for all stocks?* CYER statistics should continue to be reported by the CTC annually for all the CWT stocks used in the Exploitation Rate Analysis. In addition, CYER statistics for ISBM fisheries will need to be generated for the indicator stocks as specified in Attachment I of the new Agreement to evaluate the ISBM fishery provisions.

b) *Hatchery or wild stocks?* Both, as the metrics may need to be used for multiple purposes. To evaluate the ISBM obligations, a set of CYER values for ISBM fisheries will need to be reported for a naturally spawning stock or stock group.

c) *All ages or just adults?* The answer may vary among stocks and could be informed by CTC technical investigations that examine the role of characteristics such as stock-specific maturation patterns, variability among age-specific exploitation rates, variability in the quality of escapement and fishery sampling programs among ages, and the amount of exploitation that is estimated indirectly for the youngest age. The CTC may choose tools, such as the Data Generation Model, to examine different types of scenarios, and could be informed by a detailed review of the exploitation rate analysis computer program, to help develop some recommendations for the Commission to consider.

d) *Only when stocks do not meet escapement objectives?* The statistics will need to be computed annually regardless of whether a management objective is met. There is a new accountability provision for ISBM fisheries, and only years that meet specific conditions, described in the new Agreement, will be used in the performance evaluation.

3. Are CYER statistics to be computed based on landed catch or total mortality? Total mortality.

4. Are CYER statistics to utilize nominal values or adult equivalents? Adult equivalents.

5. What is the timeframe required for availability of CYERs – what is the desired base period and what is the need for continuous time series? When are annual values for preliminary and “final” CYER statistics needed?

- a. What is the timeframe required for availability of CYERs? The new Agreement specifies that the CTC will annually compute and report the metrics described in the ISBM paragraph. The schedule for the accountability provisions will begin with the 2019-2021 catch years. Also, the new Agreement identifies several reviews which be informed by ISBM CYER data and performance evaluations. The timing of data availability was discussed during the negotiations, and a new Coded Wire Tag & Recovery (CWT&R) Program is intended to provide timely data to implement Chapter 3, among other improvements.
- b. What is the desired base period? The ISBM fishery evaluation will use catch years 2009-2015 as the base period, except for the Hoko River which does not have a base period.
- c. What is the need for continuous time series? During 2009-2015, some stocks may have an incomplete time series. As noted by the CTC, if a continuous time series is not available then proxy values need to be developed to fill gaps using suitable procedures (e.g. out-of-base procedure).
- d. When are annual values for preliminary and “final” CYER statistics needed? Preliminary ISBM CYER values from the previous years are needed to plan the fisheries for the upcoming year. However, preliminary data have not been able to meet this schedule for all the indicator stocks, and the CWT&R program is intended to accelerate the availability of CWT data. Final data are needed after the cohorts contributing to the catch year have matured fully.

September xx, 2018

Kelly Susewind, Director
Washington Department of Fish and Wildlife
PO Box 43200
Olympia, WA 98504-3200

Dear Director Susewind:

The Pacific Salmon Commission (PSC) recently completed an update of the Chinook salmon provisions (Chapter 3) of the Pacific Salmon Treaty. An objective of the update was to clarify the obligations for the management of the Individual Stock Based Management (ISBM) fisheries. To this end, the update identifies an improved metric to monitor the performance of these fisheries, and specifies a list of coded-wire tag (CWT) indicator stocks for monitoring ISBM fishery performance (see Attachment I).

We are asking for your assistance in assessing the ability of your management entity to meet the data requirements to implement these updated provisions, and to identify any gaps in associated stock assessment programs. To minimize the time necessary to complete this assessment, and to ensure a consistent reporting format across management entities, we have provided a questionnaire based on previous PSC-sponsored assessments of CWT programs.

We are hoping that you could return the completed questionnaire to John Field, PSC Executive Secretary, by January 7, 2019. This timing will facilitate review of the information by the PSC during the 2019 meeting cycle. If gaps in assessment programs are identified, funding may be available through PSC or domestic processes to ensure that the updated Chinook salmon provisions can be effectively implemented in 2019 – 2028.

We recognize and appreciate the work that will be necessary to complete these analyses, but believe it will be a good investment in the management of our fisheries.

Sincerely,

Bob Turner
Chair

Rebecca Reid
Vice-Chair

Attachment I: Indicator stocks, ISBM fishery limits, and management objectives applicable to obligations specified in paragraphs 1, 5, 6, and 7.

Stock Region	Escapement Indicator Stock (CWT Indicator Stock⁸)	Canadian ISBM CYER Limit	US ISBM CYER Limit	Management Objective	
SEAK/ TBR	Situk ¹ (TBD)	NA	NA	500-1,000	
	Alsek ^{1,2} (TBD)	NA	NA	3,500-5,300	
	Taku ^{1,2} (TAK)	NA	NA	19,000-36,000	
	Chilkat ¹ (CHK)	NA	NA	1,750-3,500	
	Stikine ^{1,2} (STI)	NA	NA	14,000-28,000	
	Unuk ¹ (UNU)	NA	NA	1,800-3,800	
BC	Nass (TBD)	100% avg 09-15	NA ³	TBD ⁶	
	Skeena (KLM)	100% avg 09-15	NA ³	TBD ⁶	
	Atnarko (ATN)	100% avg 09-15	NA ³	5,009 ^{4,5}	
	NWVI Natural Aggregate (Colonial-Cayeagle, Tashish, Artlish, Kaouk) (RBT adj)	95% avg 09-15	NA ³	TBD ⁶	
	SWVI Natural Aggregate (Bedwell-Ursus, Megin, Moyeha) (RBT adj)	95% avg 09-15	NA ³	TBD ⁶	
	East Vancouver Island North (TBD) (QUI adj)	95% avg 09-15	NA ³	TBD ⁶	
	Phillips (PHI)	100% avg 09-15	NA ³	TBD ⁶	
	Cowichan (COW)	95% avg 09-15	95% avg 09-15	6,500	
	Nicola (NIC)	95% avg 09-15	95% avg 09-15	TBD ⁶	
	Chilcotin (in development)	95% avg 09-15	NA ³	TBD ⁶	
	Chilko (CKO in development)	95% avg 09-15	NA ³	TBD ⁶	
	Lower Shuswap (SHU)	100% avg 09-15	NA ³	12,300 ⁴	
	Harrison (HAR)	95% avg 09-15	95% avg 09-15	75,100	
	Canadian Okanagan (SUM adj) ⁹	NA ³	TBD	TBD ⁶	
	WA/ OR/ID	Nooksack Spring (NSF)	87.5% avg 09-15	100% avg 09-15	TBD ⁶
		Skagit Spring (SKF)	87.5% avg 09-15	95% avg 09-15	690 ⁴
Skagit Summer/Fall (SSF)		87.5% avg 09-15	95% avg 09-15	9,202 ⁴	

Stillaguamish (STL)	87.5% avg 09-15	100% avg 09-15	TBD ⁶
Snohomish (SKY)	87.5% avg 09-15	100% avg 09-15	TBD ⁶
Hoko (HOK)	NA ³	10% CYER ⁷	TBD ⁶
Grays Harbor Fall (QUE adj)	NA ³	85% avg 09-15	13,326
Queets Fall (QUE)	NA ³	85% avg 09-15	2,500
Quillayute Fall (QUE adj)	NA ³	85% avg 09-15	3,000
Hoh Fall (QUE adj)	NA ³	85% avg 09-15	1,200
Upriver Brights (HAN, URB)	NA ³	85% avg 09-15	40,000
Lewis (LRW)	NA ³	85% avg 09-15	5,700
Coweeman (CWF)	NA ³	100% avg 09-15	TBD ⁶
Mid-Columbia Summers (SUM)	NA ³	85% avg 09-15	12,143
Nehalem (SRH adj)	NA ³	85% avg 09-15	6,989
Siletz (SRH adj)	NA ³	85% avg 09-15	2,944
Siuslaw (SRH adj)	NA ³	85% avg 09-15	12,925
South Umpqua (ELK adj)	NA ³	85% avg 09-15	TBD ⁶
Coquille (ELK adj)	NA ³	85% avg 09-15	TBD ⁶

¹Identified for management of SEAK fisheries in paragraph 6(b)(iv).

²Stock specific harvest limits specified in Chapter 1.

³Not Applicable since less than 15% of the recent total mortality was in these fisheries.

⁴Agency escapement goal to have the same status as CTC agreed escapement goal for implementation of Chapter 3.

⁵Natural origin spawners.

⁶To Be Determined after CTC review specified in paragraph 2(b) (iv).

⁷ISBM limit set at 10% in recognition of closure of the Hoko River to Chinook salmon fishing in 2009-2015.

⁸CWT indicator stocks and fishery adjustments described in TCCHINOOK (16)-2.

⁹Pending the review specified in paragraph 5(b) and a subsequent Commission decision.

**CWT Indicator Stock Assessment
Version 1.0**

Part I. Tagging and Sampling of CWT Indicator Stock in Terminal Fisheries and Escapement

Part I is to be completed for each CWT indicator stock in Attachment I for which your management entity has responsibility.

Date:

Escapement Indicator Stock:

Associated CWT Indicator Stock:

Section A. Status of CWT Indicator Stock

- 1) If Attachment I identifies the CWT Indicator Stock as “in development”, when will estimates of CYERs be available for the 2009-2015 base period?

a) < 12 months b) 12 -24 months c) > 24 months d) NA

If estimates are not anticipated for more than 24 months (answer “c”), what assistance could be provided to accelerate the development process?

Response.

- 2) Do you anticipate that the CWT indicator stock will be tagged for brood years contributing to fisheries in 2019 through 2028?

a) Yes b) No

If “No”, please explain why the CWT indicator stock would not be tagged and, absent tagging, how ISBM fisheries would be monitored for consistency with PST obligations.

Response.

Section B. Representation of Fishery Exploitation on Escapement Indicator Stock

- 3) Which of the following describe the CWT indicator stock program:

- a) CWT indicator stock is from a hatchery located in a different watershed than the escapement indicator stock but is believed to have a similar distribution in fisheries located outside of the terminal area (e.g., RBT Adj, QUI Adj, SUM Adj, Que Adj, SRH Adj, ELK Adj)
- b) CWT indicator stock is from a hatchery program that was initiated with broodstock from the escapement indicator stock
- c) CWT indicator stock is from a hatchery program for which broodstock are collected each year from the escapement indicator stock
- d) CWT indicator stock is comprised of natural-origin juveniles from the escapement indicator stock
- e) None of the above

If answer is “a”, please provide the methods for how terminal area CWT recoveries and spawners will be adjusted to account for potential difference in terminal fisheries.

Response.

- 4) Has a paired tagging study been conducted to assess the similarity of the fishery exploitation rates and distribution between the CWT and escapement indicator stocks?
- a) Yes b) No c) NA – wild stock tagging program

If “Yes”, please briefly describe the paired study and the results. If “No”, what funding or resources would be needed to complete such a study?

Response.

Section C. Sampling at Hatcheries and Estimation of Hatchery Escapement

- 5) Were all (100% of jacks and adults) Chinook salmon checked for CWTs in 2009-2015 at hatcheries where this CWT indicator stock might return?
- a) Yes b) No

If “No”, for each year with incomplete checking for CWTs, please provide the total number of spawners, the number that were not checked for CWTs, and briefly describe how the total return to the hatchery of each CWT code was estimated.

Response.

- 6) Was the total number of spawners enumerated in 2009-2015 at hatcheries where this CWT indicator stock might return?
- a) Yes b) No

If “No”, for each year without an enumeration of the number of spawners, please provide the total number of spawners, the number that were not enumerated, describe how the number of spawners was estimated, and briefly describe any studies have been completed to assess the estimation procedure.

Response.

Section D. Sampling of Spawning Grounds and Estimation of Natural Escapement

- 7) Were all (jacks and adults) Chinook salmon in natural spawning areas where this CWT indicator stock might return sampled at a 20% rate¹ for CWTs in each year from 2009 through 2015?
- a) Yes b) No

¹ See page 29 of Pacific Salmon Commission Technical Report 25 for a discussion of this criterion.

If “No”, please identify the sample rate in each year, any available information on the rate of straying to natural-spawning areas for this CWT indicator stock, and the funding or resources needed to achieve a 20% sampling rate in 2019-2028.

Response.

- 8) Was the total number of natural spawners estimated in 2009-2015 in natural spawning areas where this CWT indicator stock might return?

a) Yes b) No

If “No”, please identify the years that natural escapement was not estimated, how the number of naturally-spawning Chinook salmon from this CWT indicator stock was estimated in those years, and the funding or resources needed to fill this gap in 2019-2028.

Response.

Section E. Precision of Estimates

- 9) This question is only applicable if Appendix I identifies an ISBM obligation for U.S. fisheries for this CWT indicator stock. Based on fishery contribution rates in 1999-2015, will current tagging levels result in a least 20 observed recoveries (across all ages) in eight of ten years² in the U.S. ISBM fishery?

a) Yes b) No

If “No”, discuss why the current tagging level is sufficient, or identify the tagging level and funding necessary to achieve the criterion.

Response.

- 10) This question is only applicable if Appendix I identifies an ISBM obligation for Canadian fisheries for this CWT indicator stock. Based on fishery contribution rates in 1999-2015, will current tagging levels result in a least 20 observed recoveries (across all ages) in eight of ten years in the Canadian ISBM fishery?

b) Yes b) No

If “No”, discuss why the current tagging level is sufficient, or identify the tagging level and funding necessary to achieve the criterion.

Response.

² See page xv of Pacific Salmon Commission Technical Report 25 for discussion of this criterion.

Part II. Catch Estimation and Sampling of Fisheries

Part II is to be completed once by the management entity or entities responsible for PST fisheries in one of the following three areas of interest (AOI): a) Canada; b) Alaska; or c) southern U.S. For the purposes of this analysis, a fishery will be defined as one of the xx fisheries used in the CTC exploitation rate analysis.

Section A. Sampling Landed Catch for Tagged Chinook Salmon Identified by a Clipped Adipose Fin

11) In 2009-2015, were all fisheries within the AOI directly sampled for tagged fish identified by a clipped adipose fin?

- a) Yes b) No

If “No”, for each year and fishery, please provide the total catch and unsampled catch (i.e., not sampled through direct or indirect methods) and/or catch that was sampled indirectly (e.g., through a voluntary program).

Response.

12) If all fisheries were not sampled in 2009-2015, have sampling procedures been modified to ensure each fishery will be sampled in 2019-2028?

- a) Yes b) No

If “No”, please briefly describe why this would not provide improved estimates of CYERs or approximately how much new funding would be needed to conduct such a study.

Response.

13) In 2009-2015, were all fisheries within the AOI directly sampled at a sample rate of at least 20%³?

- a) Yes b) No

If “No”, for each year and fishery, please provide the total catch and sample rate. If sample rates are expected to remain below 20% in 2019-2028, please identify approximately how much new funding would be needed to achieve a 20% sample rate for each fishery.

Response.

14) If it is anticipated that indirect sampling methods will be used in 2019-2028, have studies been conducted to assess the accuracy of the estimation method?

- a) Yes b) No

If “Yes”, please briefly describe the results from the studies. If “No”, approximately how much new funding would be needed to conduct such a study?

³ See page 29 of Pacific Salmon Commission Technical Report 25 for a discussion of this criterion.

Response.

Section B. Sampling Landed Catch for Tagged Chinook Salmon Not Identified by a Clipped Adipose Fin

15) In 2009-2015, were all fisheries within the AOI electronically sampled for tagged fish?

- a) Yes b) No

If "No", please provide the average percentage of the Chinook salmon catch that occurred in fisheries that were not electronically sampled.

Response.

16) If all fisheries were not electronically sampled in 2009-2015, have sampling procedures been modified to ensure each fishery will be electronically sampled in 2019-2028?

- a) Yes b) No

If "No", please briefly describe why this would not provide improved estimates of CYERs or approximately how much new funding would be needed to implement electronic sampling.

Response.

Section C. Catch Estimation

17) In 2009-2015, was the catch within the AOI estimated for all times and areas?

- a) Yes b) No

If "No", for each fishery for which catch was not estimated, please provide the catch by time and area by year.

Response.

18) If the fishery catch was not estimated for all times and areas in 2009-2015, have assessment programs been modified to ensure that catch will be estimated in 2019-2028?

- a) Yes b) No

If "No", please briefly describe why this would not provide improved estimates of CYERs or approximately how much new funding would be needed to implement the necessary assessment programs.

Response.

4. Funding Package

Annual Funding				Onetime Funding
Department of Commerce - NOAA				
Entity/Program	Expenditures, FY17	Proposed Increase, Annual	Total Proposed - Annual	Total Proposed - Onetime
NMFS ¹	2,680,245	3,177,221	5,857,466	
ADFG	3,485,829	5,218,171	8,704,000	
WDFW	1,202,480	8,197,520	9,400,000	
ODFW	759,997	2,525,003	3,285,000	
IDFG	279,552	0	279,552	
International Fisheries Commissions (TBR)	365,657	1,343	367,000	
U.S. Chinook Agreement (LOA)	1,440,947	359,053	1,800,000	
Coded Wire Tagging Improvement Program (paragraph 2.c)	1,500,000	1,000,000	2,500,000	
Puget Sound Critical Chinook Stock Program	1,398,406	3,411,594	4,810,000	27,822,626
Catch and Escapement Improvement Program (paragraph 2.d)		3,500,000	3,500,000	
Southern Resident Killer Whale Program ²		5,000,000	5,000,000	
Mass Mark SEAK Hatchery Chinook Salmon Production				6,000,000
Chinook Salmon Hatchery Production Supplementation				9,500,000
Maintain Little Port Walter Hatchery				4,500,000
Commerce Administrative - Onetime funding ³				5,738,715
Commerce Total	13,113,113	32,389,905	45,503,018	53,561,341
Department of Interior				
Entity/Program	Expenditures, FY17	Proposed Increase, Annual	Total Proposed - Annual	Total Proposed - Onetime
U.S. Fish and Wildlife Service				
U.S. Fish and Wildlife (direct)	372,362	0	372,362	
Pacific States Marine Fisheries Commission	236,000	150,189	386,189	
Bureau of Indian Affairs				
Columbia River Inter-Tribal Fish Commission	1,172,535	231,465	1,404,000	
Northwest Indian Fisheries Commission	2,909,624	574,376	3,484,000	
Metlakatla Indian Community	260,563	51,437	312,000	
Interior Total	4,951,084	1,007,467	5,958,551	0
Department of State				
Entity/Program	Expenditures, FY17	Proposed Increase, Annual	Total Proposed - Annual	Total Proposed - Onetime
U.S. share of PSC Secretariat in Vancouver, B.C.	1,850,315	0	1,850,315	
Inter-Agency Agreement (NOAA Fisheries/WCR) ⁴	1,834,685	0	1,834,685	
Mark Selective Fishery Fund (paragraph 4.g.v) ⁵				3,500,000
State Total	3,685,000	0	3,685,000	3,500,000
GRAND TOTAL, ALL DEPARTMENTS	21,749,197	33,397,372	55,146,569	57,061,341

¹ Estimate based on recent NMFS overhead costs as a percentage of Commerce total in addition to recent program support costs.

² Per July 13 update regarding NOAA's recommended SRKW Program fund level.

³ Estimated at 12% of the one-time total, based on recent NMFS overhead costs as a percent of Commerce total.

⁴ Total based on FY18 budget and includes separate Commission stipend payments of \$555,997. FY19 budget is subject to change until 2018-2019 work plans are approved.

⁵ Per June 28 discussion of the MSF Fund level and department.

In millions

Purpose	Total	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
CWT Program Improvements in United States (annual costs)(Commerce)	25.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Puget Sound Critical Stock Program (one-time and annual) (Commerce)	75.8	32.6	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Mass marking and harvest sampling in United States and Canada (one-time investment) (State)	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alaska hatchery production and marking (one-time investments) (Commerce)	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Estimated Administrative Costs (one-time) (Commerce)	5.7	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chinook Agreement (LOA) program (annual costs) (Commerce)	18.0	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
International Fisheries Commissions - TBR (annual costs) (Commerce)	4.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Base implementation program, States (includes estimated NMFS overhead and program support; annual costs) (Commerce)	275.0	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
Catch and Escapement Improvement Program (annual costs) (Commerce)	35.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Southern Resident Killer Whale Program (annual costs) (Commerce)	50.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Base implementation program, Tribes (annual costs) (Interior)	60.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Pacific Salmon Commission (annual costs) (State)	37.0	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Total funding estimate, draft following July 13, 2018 discussion	609.0	112.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2

5. Fall Meeting

**Draft Agenda - U.S. Section Meeting during PSC Fall Meeting
October 15-19, 2018
Vancouver, B.C.**

1. Adoption of agenda
2. Prepare for Bilateral Sessions of the PSC Fall Meeting (see Fall Meeting agenda / briefing book)
3. U.S. Section budget planning
4. Executive Secretary's Performance Assessment (Commissioners only)



**Draft Agenda - Fall Meeting
October 15-19, 2018
Vancouver, B.C.**

1. Adoption of Agenda
2. Executive Secretary's Report

Action Items Pending

3. Approval of minutes: February 2018
4. Executive Secretary's update on all "special issue" committees
5. Update on Annex IV amendments and transmittal to Parties
6. Adoption of final 2017 post-season reports
7. Fraser Strategic Review Committee: interim report (as agreed January 2018)
8. Chinook issues
 - a. Status of phase 2 model recalibration
 - b. Status of CYER implementation readiness

Panels and Committees

9. Presentation of annual work plans
10. Instructions to Panels and Committees

Other Business

11. Approval of officers for 2018/19
12. Planning for the management entities meeting (to be held February 2019)
13. Public comments as needed



Alison Agness - NOAA Federal <alison.agness@noaa.gov>

Timeline for Completion: Final 2017 Post Season Report, U.S. Fisheries

Alison Agness - NOAA Federal <alison.agness@noaa.gov> Thu, Jun 7, 2018 at 11:29 AM
 To: Craig Bowhay <cbowhay@nwifc.org>, "Jones, Robert" <rjones@nwifc.org>, Mike Matylewich <matm@critfc.org>, "Piston, Andrew W (DFG)" <andrew.piston@alaska.gov>, "Peterson, Laurie L (DFW)" <laurie.peterson@dfw.wa.gov>, "James B Scott (DFW)" <James.Scott@dfw.wa.gov>, Christine Mallette <christine.mallette@state.or.us>
 Cc: Bill Auger <blauger@gci.net>, Charlie Swanton <charles.swanton@alaska.gov>, "Da8id F Hogan (OES)" <HoganDF@state.gov>, McCoy Oatman <mccoyo@nezperce.org>, Phil Anderson <pmand001@comcast.net>, Rick Klumph <Rick.Klumph@gmail.com>, Ron Allen <rallen@jamestowntribe.org>, Bob Turner <bob.turner@noaa.gov>, Chris Kern <j.chris.kern@state.or.us>, "Stohr, Joseph S (DFW)" <joe.stohr@dfw.wa.gov>, "Clark, John H (DFG)" <john.h.clark@alaska.gov>, Peter Dygert - NOAA Federal <Peter.Dygert@noaa.gov>, "Robert A Clark (DFG)" <Bob.Clark@alaska.gov>, Susan Bishop <susan.bishop@noaa.gov>, Lorraine Loomis <lloomis@skagitcoop.org>, Alexis Ortiz <OrtizAJ@state.gov>, "Wintering, Rebecca J" <WinteringRJ@state.gov>

Dear U.S. Post Season Reporters:

As you may be aware, at the post-season meeting last January, the Commission agreed on the following:

"The national post-season reports are adopted provisionally, noting:

- a. Non-final data is labelled as such in the current drafts of the reports, which will be included as attendant documents for this meeting;
- b. The Executive Secretary will set a control date for October 2018 for the Parties to submit data updates for the reports; and
- c. Final versions of the report, incorporating revisions, will be posted on the PSC website prominently."

In anticipation of this, the Executive Secretary has set a control date of no later than October 1, 2018 for receipt of final versions of the 2017 post-season reports.

In order to meet this deadline, **please find below a timeline for completion of the Final 2017 Post Season Report for U.S. Fisheries**. In setting this timeline, it is acknowledged that while updated data may be available, it remains possible that further data changes may still occur for some fisheries beyond the control date of October 1, 2018, and where this is the case, it is appropriate to acknowledge this type of caveat in the final report.

Timeline:

- Please send me revisions to your section(s) of the 2017 Post Season Report (attached) by close of business Friday, September 7, 2018. Please identify all revisions using track changes.
- Following a merge of the received revisions, the revised U.S. report will be circulated for U.S. Section review (allowing two+ weeks for review, coordination with reporters on reviewer feedback, and finalizing the report).
- The U.S. Section approved version of the final report will be submitted to the Secretariat by close of business on October 1, 2018.
- The Secretariat will circulate both the U.S. and Canadian final reports electronically as available and no later than 1 week in advance of the Commission's Fall Meeting, October 15-19, 2018.

Please let me know if you have any questions.

Best regards,
 Alison

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6. Other