



Executive Secretary's Summary of Decisions 35th Annual Meeting

The Pacific Salmon Commission held its 35th Annual Meeting from February 18-21, 2020 at the Hyatt Regency Downtown (Vancouver, B.C.), and discussed a number of topics (see attached agenda).

The Commission AGREED:

1. The minutes from January 2020 are approved as edited.
2. The report from the Chinook Interface Group (CIG) is adopted, noting:
 - a. that future agendas will follow previous arrangements whereby a draft agenda is developed by the CIG co-chair of the country hosting the meeting and provided to the other country's co-chair for review prior to being sent to the Secretariat for inclusion in the Commission agenda;
 - b. succession planning will be on the CIG forward agenda and that, on an annual basis, CIG will be informed of changes to CTC membership and plans by management agencies, where these are available, to address membership changes;
 - c. the Okanagan Chinook Work Group workplan is adopted, noting Item 3 in the workplan has been revised by the workgroup (as shown in the CIG report), and subsequently approved by CIG co-chairs, and Item 4 is to be delayed for potential consideration at a later date.
 - d. the CTC is directed to address incidental mortality as follows:
 - i. Part 1. Conduct a literature review and confirm or update existing assumed mortality rates for use in assessments and modeling. The CTC anticipates providing the results of this review and any recommendations at the October 2020 meeting; and
 - ii. Part 2. Conduct an assessment of current methods used to estimate the number of Chinook encountered and released in fisheries and the desired levels of precision and accuracy in these estimates. The CTC anticipates that it could provide recommendations on data collection standards and desired levels of precision and accuracy of encounter estimates at or before the February 2021 PSC Annual Meeting.
 - e. the Calendar Year Exploitation Rate (CYER) Work Group should continue to develop annual work plans, noting: 1) the workplan should be reviewed by CTC, SFEC, and other relevant committees to ensure coordination of efforts; and 2) that the CYER results are reviewed by the relevant committees prior to being reported to CIG and the Commission.
 - f. Terms of Reference (TOR) for the Catch and Escapement Indicator Improvement (CEII) and Coded Wire Tag and Recovery (CWT&R) workgroup plus the Mark-Selective Fishery (MSF) Fund Work Group shall be constructed as follows:

- i. the CEII and CWT&R work group TOR will be based on the U.S. matrix and the objectives stated in Chapter 3 for this group. Work group membership will be technical staff. These will be as stated in the chapter. Canada will take on this task.
 - ii. the TOR and responsibilities for the MSF fund process will be based on the U.S. matrix. The U.S. will take on this task. Membership will be discussed further.
 - iii. CIG will receive the draft Terms of Reference for the two committees by September 1, 2020 prior to a telephone conference of the CIG to take place in September 2020 and to be organized by the Secretariat.
 - iv. An updated draft of Terms of Reference will be reviewed in the CIG meeting during the October 2020 Fall Meeting. It is intended that CIG will recommend Terms of Reference for both work groups to the Commission in October 2020.
- 3. The new process for approving the Committee on Scientific Cooperation (CSC) annual work plan is approved as submitted at this meeting by the CSC small work group (Commissioners Auger, Riddell, Thomson, and Turner).
- 4. A work group of Commissioners (Auger, Reid, Riddell, Thomson, Vincent-Lang) shall strive to resolve the Transboundary River Panel's disagreements over implications of Annex IV, Chapter 1, paragraphs 3(b)(i)(B-H) (and other issues that may arise) by May 1, 2020. The Executive Secretary shall participate and provide support for this group.
- 5. The report from the Standing Committee on Finance and Administration (F&A Committee) is adopted as submitted, including approval of the FY2020/21 budget for the Secretariat and associated staffing considerations.

ATTENDANCE

PACIFIC SALMON COMMISSION
ANNUAL MEETING
FEBRUARY 18-21, 2020
HYATT REGENCY VANCOUVER
VANCOUVER, BRITISH COLUMBIA

COMMISSIONERS

UNITED STATES

P. Anderson (Chair)
W.R. Allen
W. Auger
R. Klumph
S. MacCorkle
M. Oatman
R. Turner
D. Vincent-Lang

CANADA

R. Reid (Vice Chair)
R. Jones
J. McCulloch
M. Ned
B. Rezansoff
B. Riddell
P. Sprout
A. Thomson



**Draft Agenda
35th Annual Meeting
February 18-21, 2020
Vancouver, B.C.**

1. Adoption of agenda
2. Approval of minutes: January 2020 Post-Season Meeting
3. Executive Secretary's report

Chinook issues

4. CIG report
 - a. Okanagan Chinook Work Group: work plan for January – October 2020
 - b. CWT&R/CEII work group
 - c. Recommended standards for the desired level of precision and accuracy of data for estimating incidental mortality task
 - d. CYER work group
 - e. Mark-selective fishery fund procedures

Other action items pending

5. Committee on Scientific Cooperation
6. Reports from Panels and Committees
 - a. Work plan progress
 - b. F&A Committee
7. Big Bar Slide update
8. Post-Season Report Template
9. Public comment

Annotated agenda
35th Annual Meeting

(Executive Secretary's annotations in *italics*)

1. Adoption of Agenda

- *Consistent with PSC bylaws, an agenda shall be adopted by the Commission at the start of each meeting. The Commission shall not ordinarily take a decision on any item that has not been included in the draft agenda for the meeting. Where circumstances warrant, supplementary decision items may be added to the agenda with the concurrence of the Chair and Vice Chair.*

2. Approval of minutes

- *The Parties received draft minutes from the January 2020 Post-Season Meeting for review prior to the present meeting.*

3. Executive Secretary's Report

- *The Executive Secretary will provide a short report on significant events since the last Commission meeting, "housekeeping" items for the current meeting, and other issues needing attention. These will include an update on the International Year of the Salmon (from North Pacific Director Mark Saunders), details of the Larry Rutter Award presentation, recognition of Paul Sprout's service to the PSC, and modified timelines for the Fund Committees' annual report to the Commission.*

Chinook issues

4. CIG report

- a) *Okanagan Work Group work plan: At the 2020 Post-Season Meeting, the CIG reported that it would deliberate further on the updated Okanagan work plan for January to October 2020.*
- b) *CWT&R/CEII work group: Chapter 3, para 2(e) states that the Parties shall by 2020 create and maintain a work group to discuss the CWT&R and CEII programs. The CIG is considering lessons learned from the former Coded-Wire Tag Improvement Program and former Sentinel Stocks Program to guide formation of the group and will discuss in relation to other relevant Commission processes.*
- c) *Recommended standards for precision and accuracy in estimating incidental mortality task: Chapter 3, paragraph 4(c)(i) states "The CTC shall recommend standards for the desired level of precision and accuracy of data required to estimate incidental fishing mortality by February 2020. The Commission will consider the recommendation of the CTC regarding standards for the desired level of precision and accuracy of data required to estimate incidental fishing mortality." By the end of the annual meeting, the CIG is expected to receive an*

update on the CTC literature review on incidental mortality and discuss if and how standards may be applied to past and future data.

- d) *CYER work group: CYER additions to CTC report adopted at January 2020 Post-Season meeting. The CIG will further consider the CYER work group, its status and connection to the CTC.*
- e) *Mark-selective fishery fund procedures: Annex IV, Chapter 3, paragraph 4(g)(v) states “subject to the availability of funds, the U.S. shall establish a Mark-Selective Fishery Fund (Fund). [...] The Commission shall adopt procedures to solicit proposal 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.” At the 2019 Fall Meeting, the Commission agreed the Executive Secretary would provide a list of guidance questions to each section regarding the future Mark Selective Fishery Fund, ahead of bilateral discussion of the issue in January 2020. The Executive Secretary provided such guidance questions via email to the PSC Chair and Vice-Chair on October 30, 2019. The CIG is also considering lessons learned from the former Coded-Wire Tag Improvement Program and former Sentinel Stocks Program. The CIG will review the purpose of the fund, connection to other Commission processes and timing, and consider the guidance questions provided by the Secretariat.*

Other action items pending

- 5. *Report from work group on the Committee on Scientific Cooperation (CSC): A work group comprising four Commissioners (Auger, Riddell, Thomson, Turner) and the Executive Secretary will recommend a process for prioritizing CSC tasks each year. This group convened at the January 2020 Post-Season meeting and exchanged initial ideas. A final proposal will be presented to the CSC for discussion at the annual meeting, with a view to finalizing a 2019/2020 CSC work plan.*
- 6. *Reports from Panels and Committees: As per PSC bylaws and past practice, Panel and Committee leadership shall provide written summaries of their work to implement their current work plan. For the Fraser River Panel, this shall include any new tasks arising from the revised Annex IV, Chapter 4.*
- 7. *Big Bar slide update: The Canadian section will provide updates on the work completed at the Big Bar site since January 2020.*
- 8. *Post-Season Report Template: At the January 2020 Post-Season meeting, the Canadian section reported it was still considering changes to the existing PSC template. Any relevant updates will be provided at this meeting, and Commissioners are invited to take action as appropriate.*
- 9. *Public comments as needed*
 - *When appropriate, and with the concurrence of the Vice-Chair, the chair may provide time for public visitors to speak during the meeting.*

DRAFT PROCESS FOR CSC WORK PLAN DEVELOPMENT AND IMPLEMENTATION

1: During development of annual work plans, Panels and Committees should identify significant scientific or technical needs or propose investigations for potential assignment to the Committee on Scientific Cooperation (CSC). Also, the Commission may periodically accept proposals for investigations, solicited or otherwise, from other sources. These submissions will be collated by the PSC and submitted to the bilateral Steering Committee (two commissioners *per* Party, assisted by the Executive Secretary) and CSC for review before the end of October.

2: The Steering Committee and CSC will meet by teleconference prior to the post-season PSC meeting to discuss and consider which of these requests could best support PST objectives. The representatives of the Steering Committee, in consultation with CSC, may seek additional input from their national sections to inform the discussion.

Among other things, the Steering Committee, in consultation with the CSC, will consider the merit and feasibility of, resources needed for, improvements or modifications to, or any other attributes of each proposal in formulating a recommendation on the disposition of that proposal.

3: At the Post Season meeting, Steering Committee members will, if appropriate and in consultation with members of the CSC, seek additional input about the proposed projects from their respective national sections. The Steering Committee will then meet bilaterally to develop final recommendations for submission to and consideration by the Commission at the Annual Meeting.

4: The Commission is expected to determine whether to adopt, modify and adopt, or not adopt recommendations of the Steering Committee and formulate from its decisions an appropriate work plan for the CSC.

5: The CSC is expected to implement the Work Plan, periodically report to the Commission on the status of implementation, and submit final reports with recommended action items as appropriate.

6: The Commission is expected to receive ~~the final~~s report and determines appropriate action(s).

Big Bar Landslide Response: Update



Pacific Salmon Commission

February 18-19, 2020 ▪ Vancouver, BC

Gwil Roberts

Director, Big Bar Landslide Response
Dept. of Fisheries and Oceans (DFO)

Gord Sterritt

Executive Director, Upper Fraser Fisheries
Conservation Alliance (UFFCA)



Canada

Presentation Overview

- Review 2019: key events
- Winter Works Package
- Fish passage and monitoring
- Current planning
- Spring Works Package
- Funding & outreach



Incident Response – Summer and Fall Work

- **June 23, 2019** – Rock slide was discovered
- **June 28, 2019** – Monitoring begun
- **June 29, 2019** – ICS - Trilateral Unified Command was established, including First Nation Leadership Panel
- **Mid July 2019** – Work onsite commenced with initial focus on safe site access (scaling)
- **July 20, 2019** – Fish trapping and transport operations begin
- **Sept 1, 2019** – 30,000 fish/day monitored passing unassisted through slide
- **Sept 4, 2019** – Fish transport operations finished
- **Sept 27, 2019** – Transition to Project Management
- **Nov 20, 2019** – Monitoring suspended

*** Joint initiative: First Nations – BC – Federal ***



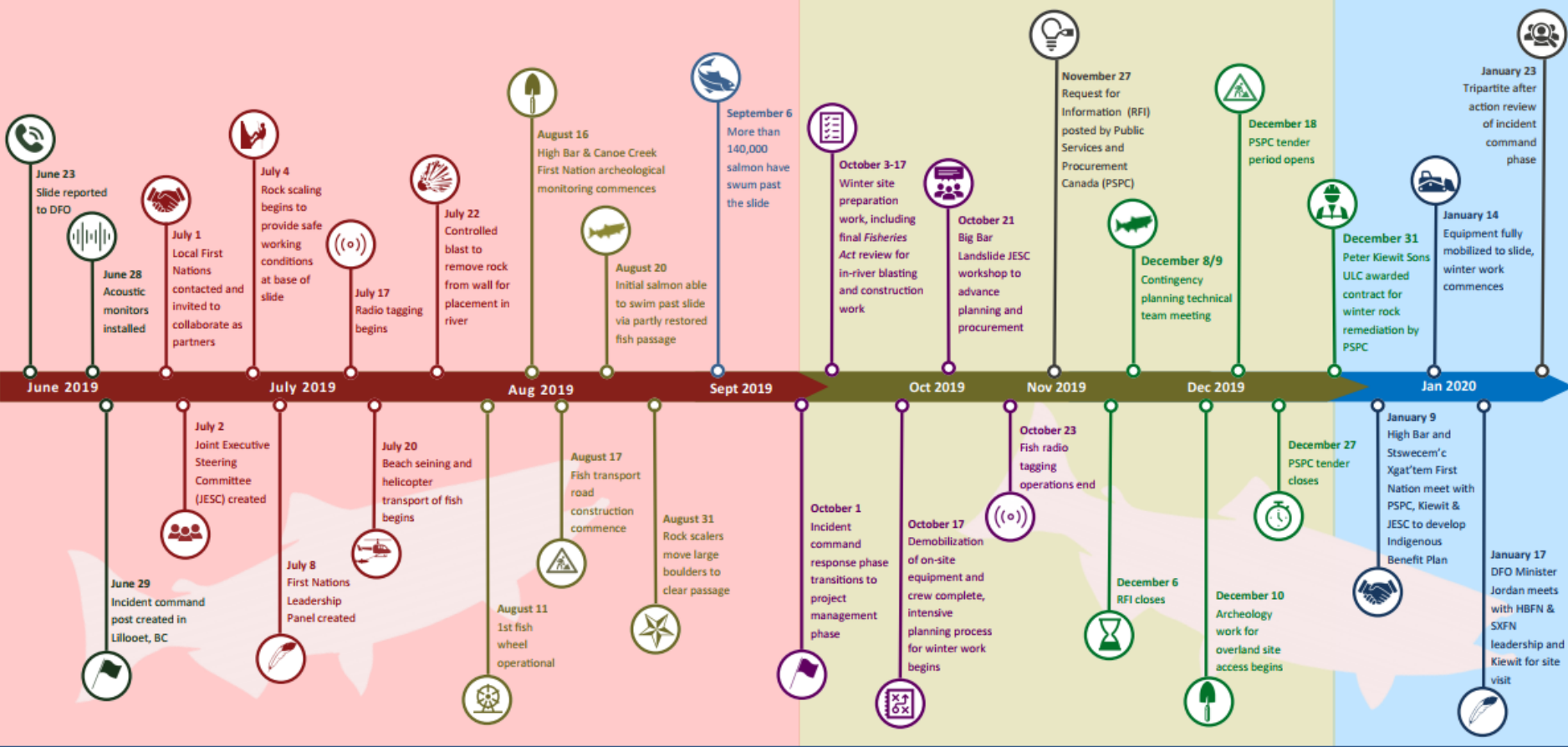
Big Bar Landslide: Timeline of Key Events

Updated Feb. 13, 2020

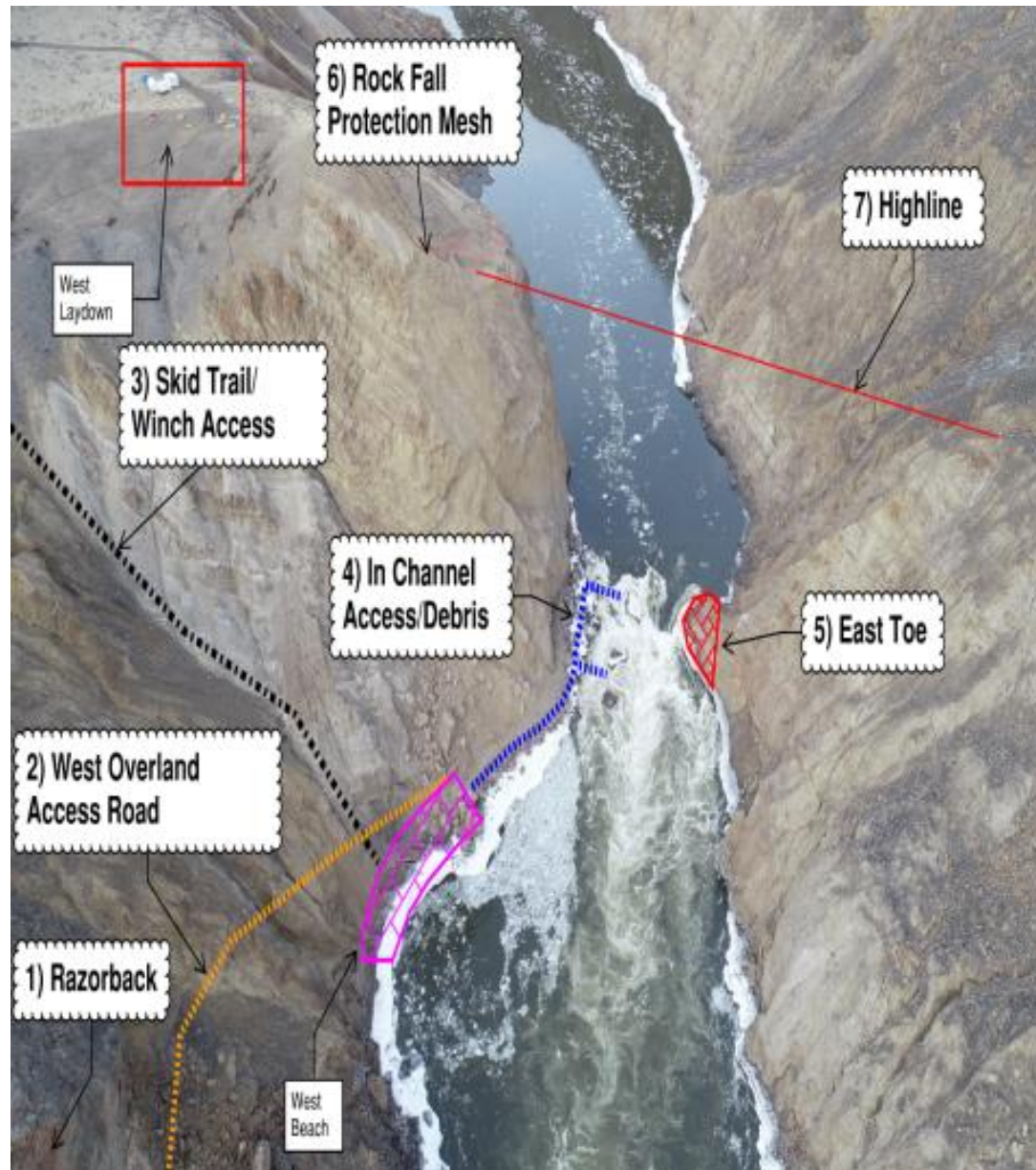
Summer

Fall

Winter



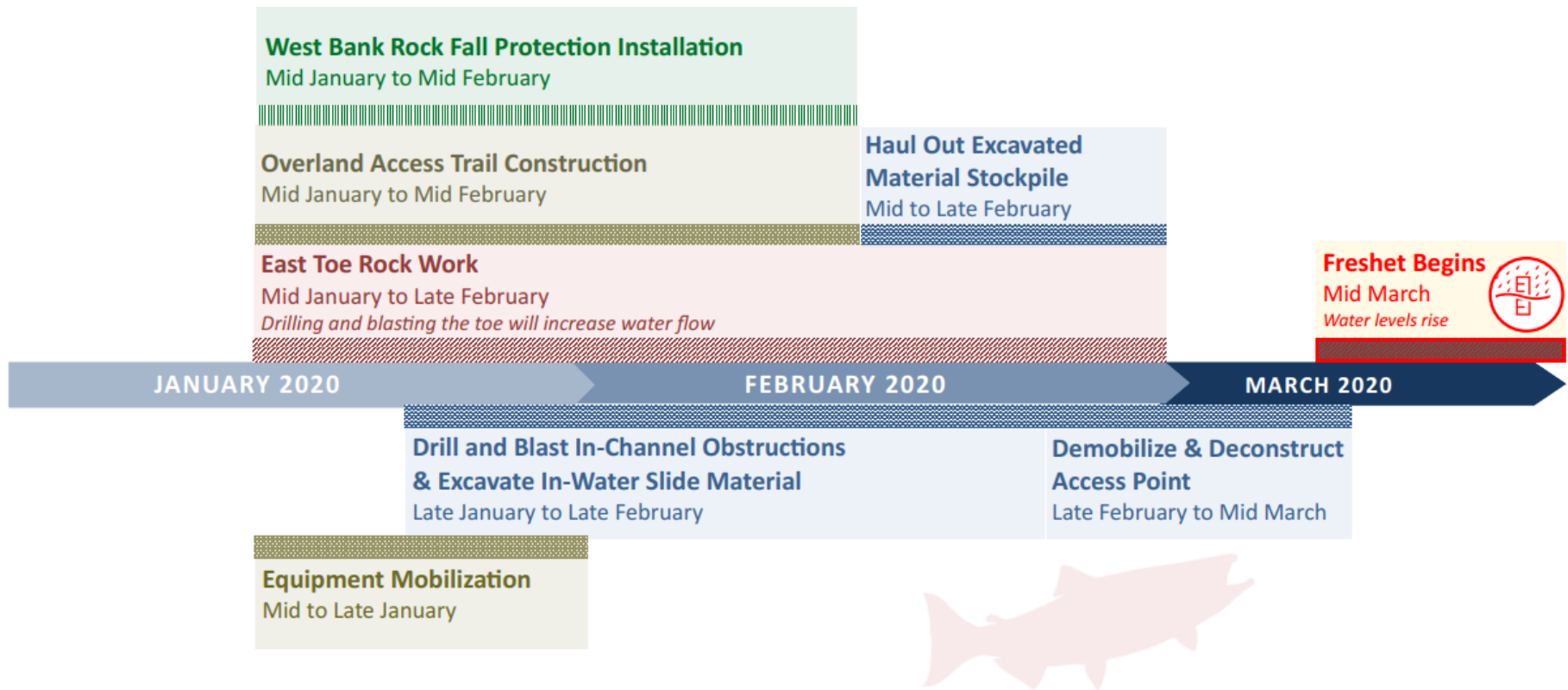
Site Image and Current Work Plan



Big Bar Landslide: Timeline of Winter Work

Updated Feb. 2, 2020

All dates in this timeline are approximate. Exact commencement and completion dates may vary due to weather and environmental conditions onsite.



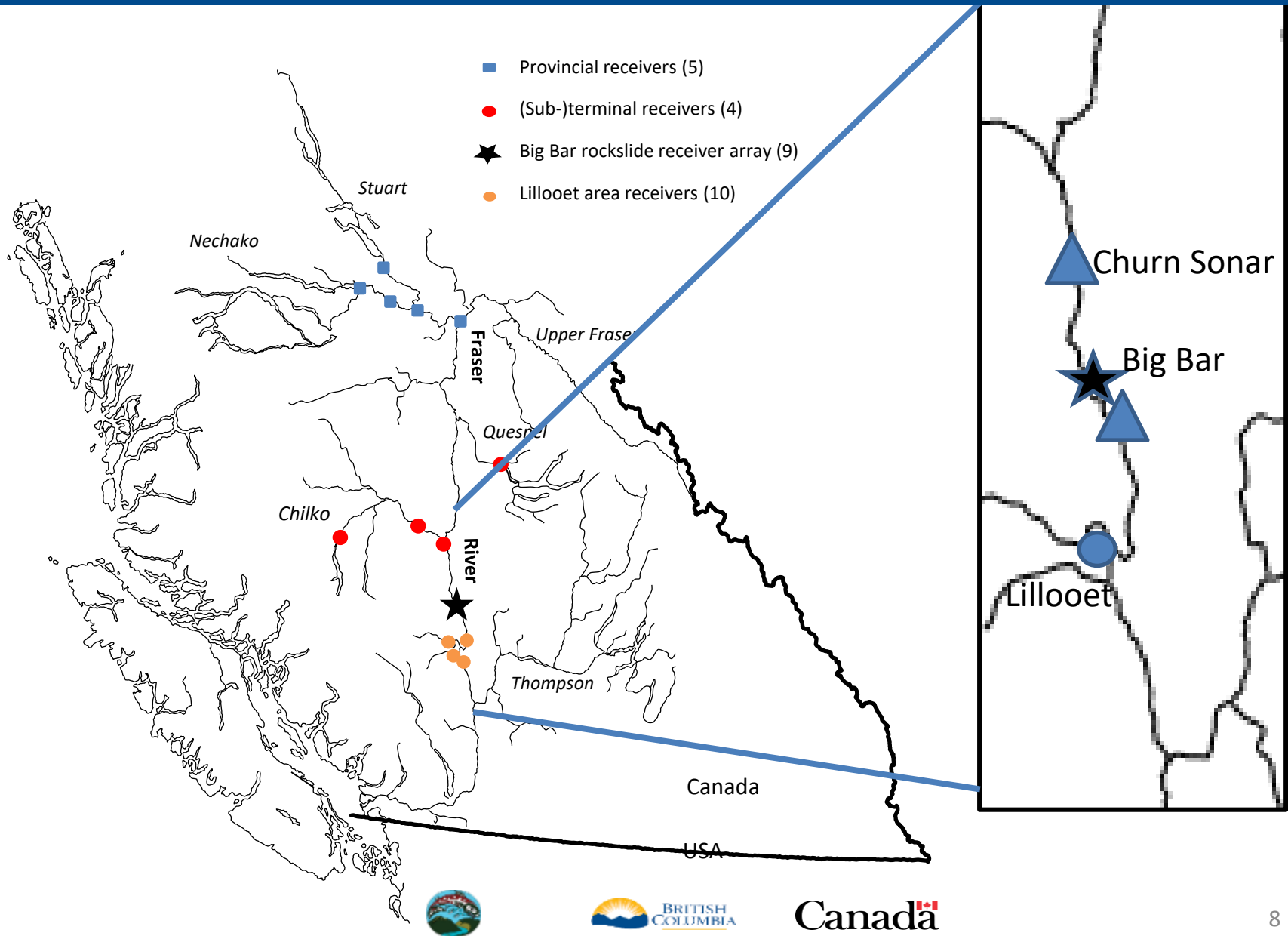
Dec 31, 2019: prime contract issued by PSPC to Peter Kiewit & Sons ULC for Winter Works Package



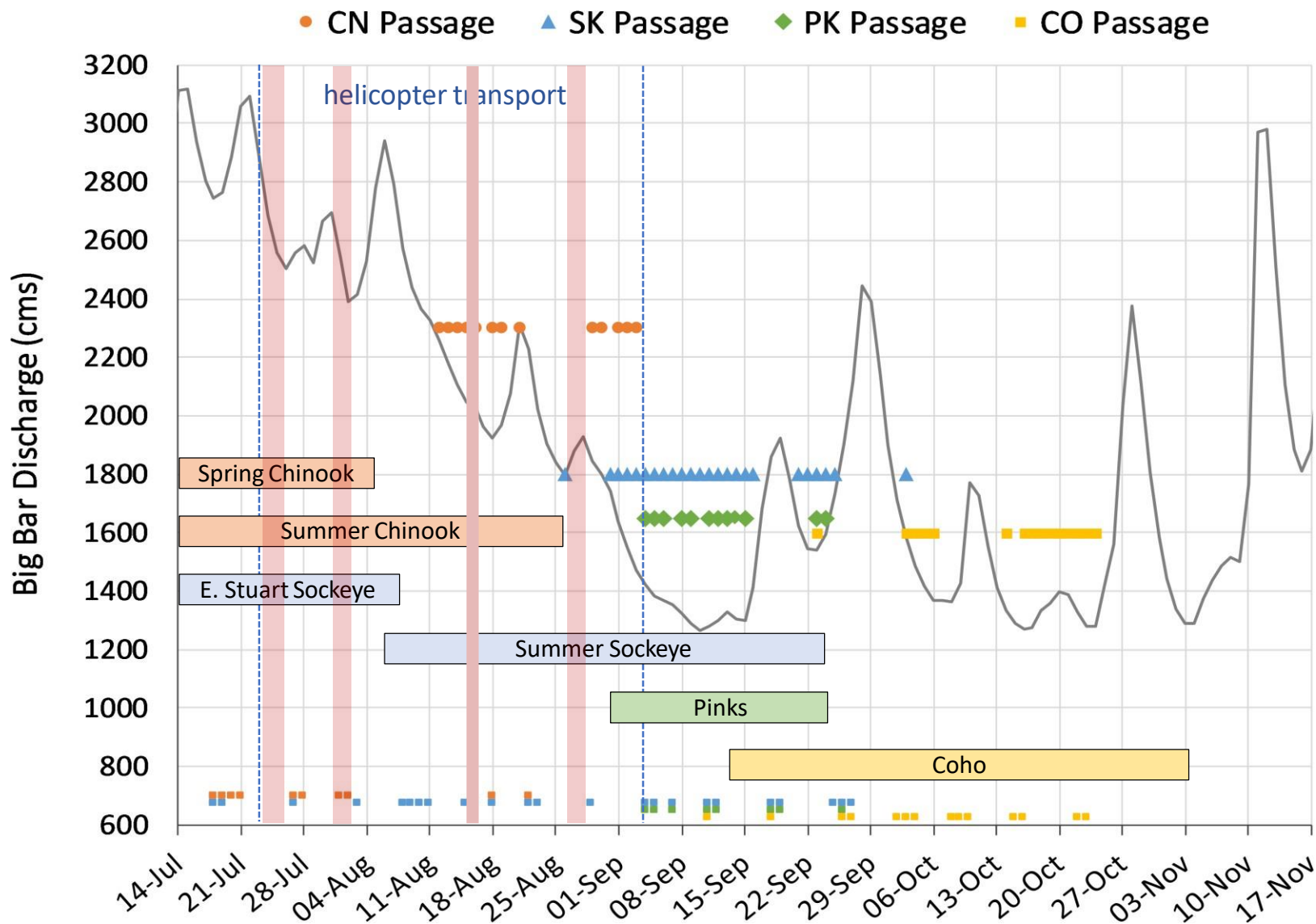
Site Image and Current Work



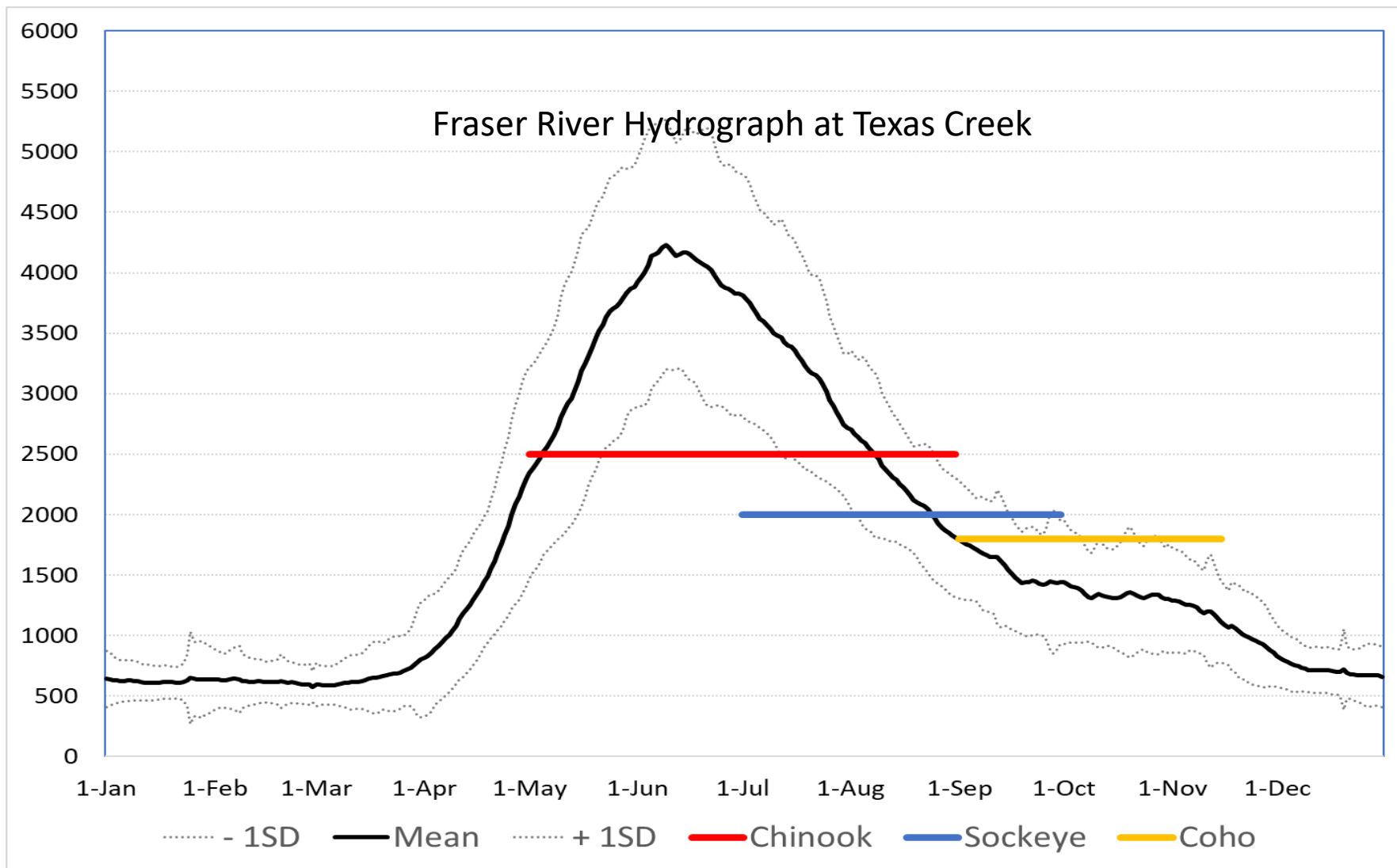
Monitoring Work



Natural Passage of Radio-Tagged Salmon



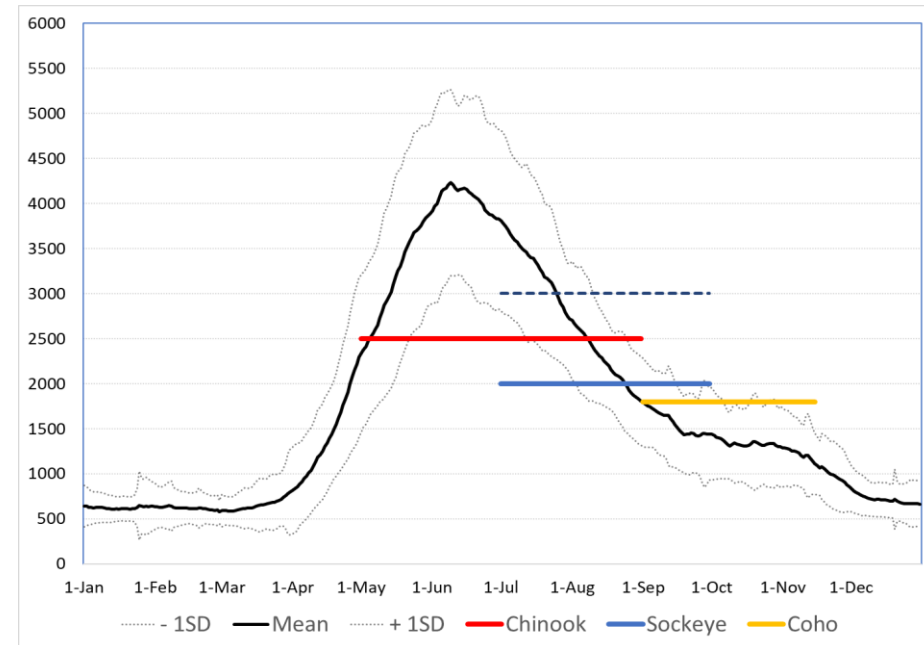
Discharge Considerations





Plans for Fish Passage

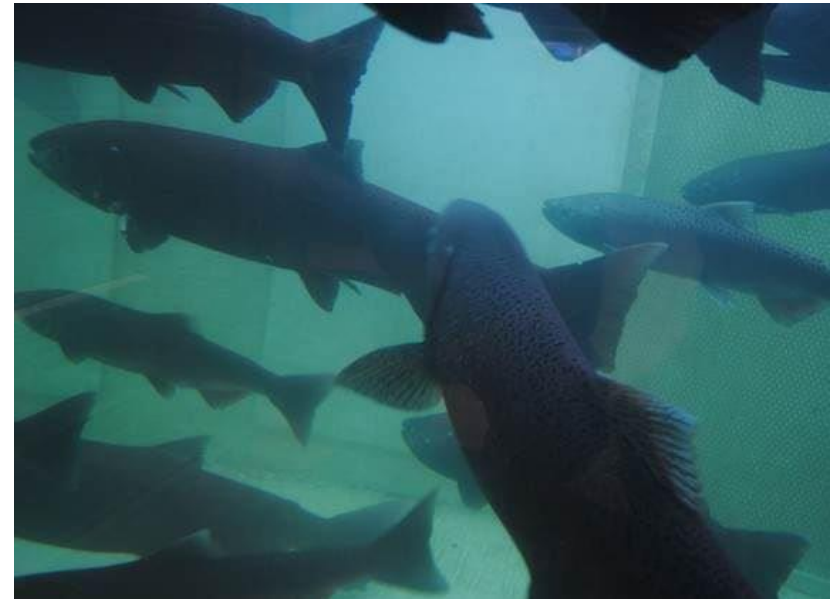
- New river modelling information indicates low probability of fish passing slide site at all flow conditions following Winter Works Package
- Possible that not enough debris will be able to be moved with the limited time available
- Working with province and First Nations on planning a Spring Works Package
- Most likely: escalate the construction of a temporary fishway to move fish over a high range of flows



Contingency Enhancement

Plans for Conservation Fish Culture

- Developed by a team of internal and external experts
- Approach based on response to success of winter work
- Balancing of biological risks
- Additional to planned conservation enhancement



Passage Ability	Transport	Capture Location		Strategy
		Slide	Natal	
Good (Volitional Passage)	No assisted transport	No	Maybe	Stock Specific terminal collection, depending on escapement
Poor (Limited Volitional Passage, similar to 2019)	Assisted transport	Yes	Yes	Collect fish downstream of slide, and if possible in natal streams. Focus on early stocks, and summer if flow/passage conditions do not improve
None (No Volitional Passage, worse than 2019)	Assisted transport	Yes	No	Collect fish downstream of slide, focus on all early and summer stocks



Spring Works Package



Plan for the worst, hope for the best:

- In-river passage assistance (West Bank) engineering work ongoing
- Trap and Truck logistics being worked through (Plan B)



Spring Works Package

- Critical time to complete designs and start procurement of new systems
- Critical monitoring will inform real-time passage and enhancement decisions and actions
- Opportunities to engage and employ First Nations in significant portions of both projects
- External technical teams are engaged in reviewing plans and directions
- There are no certainties



Budget

- Total costs to date for fiscal year 2019-2020 = \$9.6M
- Forecast for the remainder of the fiscal = \$10.3M
- Above costs incurred by DFO
- At this time, 2020/2021 forecast is high
- This forecast is for the development and implementation of alternate fish passage and to continue with 2020-21 rock removal work from river



Communications and Outreach

- Info bulletins – emailed weekly to First Nations and industry partners and tweeted with link to DFO / Province / Fraser River Aboriginal Fisheries Secretariat (FRAFS) websites
- Teleconferences with First Nations and industry every three weeks
- Websites
 - DFO, BC, FRAFS
 - Include all Info Bulletins
 - Will include updated timelines
- Social media
 - Tweets through DFO and FRAFS



Questions?



DFO

<http://dev-public.rhq.pac.dfo-mpo.gc.ca/pacific-smon-pacifique/big-bar-landslide-eboulement/index-eng.html>

Province

<https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/fish/fish-passage/big-bar-landslide-incident>

FRAFS

<http://www.frafs.ca/node/75>



Chinook Interface Committee Report to the Pacific Salmon Commission.

2020 Annual Meeting

The CIG met twice during this week with a focus on agenda items from our last report to the Commission in January 2020. The following reports our work and recommendations for the Commission's consideration.

- 1) **Development of CIG agenda:** Following discussion on preparing CIG agendas, CIG recommends that future agendas follow previous arrangements whereby a draft agenda is developed by the CIG co-chair of the Country hosting the meeting and provided to the other Country's co-chair for review prior to being sent to the secretariat for inclusion in the Commission agenda.
- 2) **Succession Planning for the CTC:** CIG recommends that succession planning be on the CIG forward agenda and that on an annual basis CIG be informed of changes to CTC membership and plans by management agencies, where these are available, to address membership changes. It is anticipated that overtime broader aspects of supporting the CTC, such as mentoring, orientation and training will be considered by CIG in concert with the CTC. This item will be further considered by CIG in the fall session. Canada has advised that it will provide a presentation at the 2020 Fall Executive session on its plan to address succession for Canadian membership in the CTC.
- 3) **Okanagan Chinook Workplan:** CIG reviewed the revised workplan and the U.S. members' concerns over the inclusion of work plan items 3 and 4. After discussion and clarification of the concerns and proposals from both Canada and the United States, it was agreed to recommend a finalized workplan to the Commission with the following changes:
 - Item 3 in the workplan has been revised by the workgroup, and subsequently approved by CIG co chairs,.
 - Item 4 is to be delayed for potential consideration at a later date.

Canada provided clarification on the intent of item 3 in the workplan, specifically, that the workgroup is not intended to address management issues but to provide a baseline to measure change due to subsequent habitat improvements and enhancement. In particular for Canada, measuring this change will hopefully strengthen public support for necessary actions. Canada further clarified that any management issues between the parties would be addressed, if necessary, through the appropriate Commission process and its negotiation process.. The United States expressed appreciation for the clarification.

- 4) **Incidental Mortality Standards.** The CIG asked for further clarification from the CTC in setting out the work and the timelines for the completion of this task. With that clarification in the memo attached and further discussion, CIG recommends that the Commission direct the CTC as follows:

Part 1. Conduct a literature review and confirm or update existing assumed mortality rates for use in assessments and modeling. The CTC anticipates providing the results of this review and any recommendations at the October 2020 meeting.

Part 2. Conduct an assessment of current methods used to estimate the number of Chinook encountered and released in fisheries and the desired levels of precision and accuracy in these estimates. The CTC anticipates that it could provide recommendations on data collection standards and desired levels of precision and accuracy of encounter estimates at or before the February 2021 PSC Annual Meeting.

- 5) **CYER workgroup:** CIG considered options for how the CYER group could best interact with others Commission groups with common interests. CYER co-chairs reported on coordination efforts, including conference calls between CTC, FSEC and CYER chairs; co-scheduled meetings, and calls with the CYER workgroup.

CIG members support the CYER groups approach to coordination and recommends to the Commission:

- That the CYER workplan is reviewed by CTC, SFEC and other relevant committees to ensure coordination of efforts.
- That the CYER results are reviewed by the relevant committees prior to being reported to CIG and the Commission.

The final point relating to the CYER is the need to send the letter to the Management Entities (attached) seeking improvements in the CWT program necessary to implement provisions to the chapter. CIG recommends that the Commission send the Management Entities letter.

- 6) **CEII and CWT&R workgroup and MSF fund process:** The United States presented a matrix comparing several committees and their objectives that was helpful in guiding the conversation.

CIG recommends development of the Terms of Reference for the CEII and CWT workgroup based on the U.S. matrix. Membership will be technical staff. These will be as stated in the chapter. **Canada will take on this task.**

CIG recommends the development of Terms of Reference and responsibilities for the MSF fund process based on the U.S. matrix. **The U.S. will take on this task.** Membership will be discussed further.

CIG will receive the draft Terms of Reference for the two committees by September 1, 2020 prior to a telephone conference of the CIG to take place in September 2020 and to be organized by the secretariat.

An updated draft of Terms of Reference will be reviewed in the CIG meeting during the October 2020 Fall Executive Meeting. It is intended that CIG will recommend Terms of Reference for both committees to the Commission in October.

There will be delays in the implementation of both these groups related to the timing of receipt of implementation funding for the U.S.

- 7) **CTC Coordinator Proposal:** The Finance and Administration Committee will report on the CTC Coordinator position.

PACIFIC SALMON COMMISSION WORK PLAN
[2019-2020]
Updated February 20, 2020

Panel / Committee: *The Okanagan Working Group (OWG) reports to the Pacific Salmon Commission.*

Date: *PSC Post Season Meeting, January 13-17, 2020.*

Update on Bi-lateral Tasks Assigned Under Current PSC Agreement:

The Pacific Salmon Commission assigned 9 tasks to the OWG on February 14, 2019:

- 1) Summarize existing information on the population structure of Chinook spawning in the Okanagan River.
- 2) Summarize existing information on factors limiting the abundance, productivity, and spatial distribution of Chinook spawning in the U.S. and Canadian sections of the Okanagan River.
- 3) Describe existing actions to improve the abundance, productivity, and spatial distribution of Chinook spawning in the U.S. and Canadian sections of the Okanagan River.
- 4) Provide existing fishery management objectives for Chinook spawning in the Okanagan River.
- 5) Compile existing information on opportunities to enhance the productivity and abundance of Chinook salmon spawning in the U.S. and Canadian sections of the Okanagan River (habitat restoration; supplementation; water management).
- 6) Describe the current summer Chinook CWT indicator stock and identify whether any limitations exist in using it to monitor fishery impacts on Chinook salmon spawning in the Okanagan River.
- 7) Discuss new information that could assist the Parties in more effectively implementing Chapter 1, Paragraph 7, which may include a discussion of options for additional management objectives or fishery obligations in U.S. and Canadian fisheries and whether adoption of those measures could benefit the abundance, productivity, and spatial structure of Chinook salmon spawning in the Okanagan River.
- 8) Identify research projects that could promote the mutual, effective conservation of Chinook salmon spawning in the U.S. and Canadian sections of the Okanagan River.
- 9) Recommend annual reporting needs to inform the Commission over time.

The OWG provided a report to the Commission on all 9 of these tasks at the 2019 Fall Meeting. A final report was delivered to the Pacific Salmon Commission office on December 16, 2019 it has been published in the PSC Technical Report series (Technical Report #42).

Obstacles to Completing above Bi-lateral Tasks:

None identified.

Outline of Other Panel / Committee Tasks or Emerging Issues:

At the 2019 Fall Meeting, the Commission identified that it will maintain the ad hoc Bilateral Okanagan Chinook Work Group, which will a) not be constituted under Article II of the Treaty; but will nonetheless b) provide an annual work plan for the Commission (initially in January 2020, and ongoing at the October Fall Meeting).

The OWG work plan tasks for this year are to:

1. Report historical and recent escapement abundance estimates of hatchery- and natural-origin summer Chinook in the U.S. and Canadian sections of the Okanagan River through 2019.
 - a. This task will add another year of data collected by the management entities to the current analysis by the OWG and it would be included with the description of the escapement programs described in #7 below.
2. Conduct an exploitation rate analysis for Okanagan summer Chinook with CWT recovery data through 2018 and report the CWT statistics (e.g. mortality distribution tables, survival rates, maturation rates).
 - a. This task will add another year of data to the current analysis by the OWG.
3. The Parties recognize the value of creating a baseline assessment of the current productivity and capacity of Okanagan River Summer Chinook against which to measure the benefits of future habitat restoration and enhancement actions. The workgroup will coordinate a management entity exploration of alternative approaches to create such a baseline assessment. Alternatives may include a monitoring program for juvenile production, an analysis of spawner and recruit data, the use of habitat-based production models, or other approaches as appropriate.
4. Organize a workshop with the management entities that could be involved in a bilateral supplementation program for Okanagan summer Chinook. Identify U.S. and Canadian supplementation objectives. Review the current supplementation circumstances relative to the objectives. Identify any issues and options to address the issues. Summarize the findings and any recommendations for the Commission.
5. Have a session at the workshop (#5) with the management entities and others about the potential survival issues for juvenile and adult summer Chinook in the U.S. and Canadian sections of the Okanagan River. Examine the current survival monitoring projects relative to these issues and identify any gaps or modifications to existing study designs to learn about locations where the Okanagan summer Chinook may be experiencing poor survival. Summarize findings and recommendations for the Commission.
6. Have a session at the workshop to review the current escapement monitoring programs that the management entities use for summer Chinook in the U.S. and Canadian sections of the Okanagan River. Review the current escapement estimates relative to the CTC bilateral data standards for Chinook escapement indicator stocks. Develop the study design recommendations that could help the management entities achieve these CTC data standards and summarize them for the Commission.
7. At the workshop, have a session about the potential invasion of Northern Pike into the Okanagan River. Review the monitoring and control programs currently happening in the Columbia River upstream of Grand Coulee Dam. Seek advice from the management entities and other experts about the steps and methods to prevent the spread of Northern Pike into the Okanagan River. Summarize the findings and recommendations for the Commission.

Potential Issues for Commissioners, including enhancement activities reported under Article V:

Development and implementation of a bilateral supplementation program involves multiple entities.

Planning for the bilateral supplementation program and the prevention of the Northern Pike spread into the Okanagan could begin during this cycle, and it could involve a workshop(s) among technical experts from both countries. The focus of Northern Pike discussions would be to develop an understanding of the gaps in current control efforts, and what assistance the Commission might usefully provide.

Resources for the workshop could become an issue that comes to the Commission. The OWG requests that funding be provided by the national sections for travel and per diem costs. If the Commission could sponsor this then it would indicate good support to initiate these efforts. A working group meeting can be tacked on to the workshop to facilitate other work tasks (e.g. escapement review, biologically-based management objectives, etc.).

Potential Issues for Committee on Scientific Cooperation

None identified.

Proposed Meeting Dates and Draft Agendas:

Meeting	Dates	Location	Meeting Objectives
OWG-Task List Planning	Feb 10-14	Conference Call & email	Outline more detailed plans to complete prioritized task(s) from Commission
PSC 35 th Annual (& OWG)	Feb 20-21	Vancouver	1-2 day meeting to work on tasks
OWG-workshop planning	Mar/Apr	Conference Call & email	Check in on work tasks, planning for supplementation workshop
Supplementation workshop	Jun 15-19 (TBD)	Wenatchee	Support the development of a bilateral supplementation plan with options (~15-20 people)
OWG Workshop Summary	Jun 22-26	Conference Call & email	OWG to summarize main workshop findings, next steps and prepare report for Commission
OWG-task work	Sep	Conference Call & email	Check in on OWG work task analysis and report preparation for Commission
PSC Fall Session	Oct (TBD)	(TBD)	OWG co-chairs attend and present supplementation plan and options to Commission, results from tasks

Status of Technical or Annual Reports:

The OWG provided a report to the Commission on all 9 of these tasks at the 2019 Fall Meeting. A final report was delivered to the Pacific Salmon Commission office on December 16, 2019 for and published in the PSC Technical Report series.

Comments:

None.

Pacific Salmon Treaty
Northern Panel
Vancouver Session February 18–21, 2020
Summary Report to the Commissioners

The Northern Panel met domestically and bilaterally at the postseason meeting in Portland during the week of January 13–17, 2020. We did not participate in this week's annual meeting.

Session Outcomes:

Northern Panel: Reviewed and accepted the

1. Northern Boundary Technical Committee's 2018 Final Boundary Area sockeye salmon run reconstruction
2. The final 2018 and 2019 pink salmon run reconstructions
3. The preliminary 2019 Boundary Area sockeye salmon run reconstruction
4. The cumulative Annual Allowable Harvest sharing agreements

Received updates and status on

- Post season fishery reports from both parties for 2019.
- Nass & Skeena sockeye salmon escapement goal review; currently on track for the timeline presented in the Chapter workplan following the Terms of Reference document. Final report due to Commission January 2022.
- District 104 pink salmon harvest pattern analysis; currently ahead of schedule for the workplan timeline following the Terms of Reference document. A draft report is currently in bilateral review. Final report due to Commission January 2022.
- NBTC coho assignment from 2017 on stock status, management actions, and recommendations. Due to staff turnover at DFO, and the activation of a Treaty-defined fishery trigger during the 2019 season that affected both the Canadian and Alaskan Troll fisheries, Canada has requested an extension to the assignment deadline for one year to incorporate 2019 fisheries data and an analysis of the performance of the Treaty trigger and subsequent management actions. The deadline for the presentation of the final bilateral report will be extended from "prior to the 2020 fishing season" to the post season meeting in January of 2021.

Transboundary Panel Report to Pacific Salmon Commission

February 21, 2020

The Transboundary Panel (Panel), along with key Transboundary Technical Committee and Enhancement Sub-Committee representatives, met bilaterally during both the 2019 Post-Season and the 2020 Annual meetings of the Pacific Salmon Commission held in Portland (January 13 to 16) and Vancouver (February 18 to 20) respectively.

At the January meeting session post-season reports concerning fisheries performance and stock status of Stikine, Taku and Alsek salmon runs were presented and results reviewed by the Panel. As required in Chapter 1 (Paragraph 4), 2019 U.S. and Canadian fishery management measures were evaluated to confirm if bilateral escapement goals and harvest shares were achieved. Minimum spawning escapement requirements were not achieved for Taku and Stikine River Chinook salmon however harvest was minimal due to conservation efforts implemented by both countries. In addition, Canadian fisheries were identified to have exceeded Stikine River sockeye salmon AC allocations in 3 of the most recent 5 years. The latter requires Canada to implement mitigative fishery management actions in 2020. The Panel also received reports for enhancement activities in 2019 which focused on egg takes and fry stocking levels completed as part of the joint sockeye salmon enhancement programs in the Stikine and Taku watersheds. Draft Stikine and Taku enhancement production plans for 2020 were reviewed by the Panel while the Final 2018 SEPP was reviewed results approved by Panel Co-Chairs. In addition, the Panel received several presentations including: the results of 2019 adult salmon passage monitoring in the Stikine River (Tahltan River 2014 landslide); preliminary evaluation of new “Mainstem” sockeye salmon enhancement concepts on the Stikine and Taku rivers; and, presentation of Technical recommendations on the Taku River sockeye salmon assessment program and escapement goal evaluation.

In February the Panel received bilateral forecasts for Stikine, Taku, and Alsek river stocks for the 2020 season and discussed special management measures to address long-term conservation concerns over Stikine and Taku Chinook salmon. In addition, the Panel reviewed information on: proposed Canadian fishery management measures to address Paragraph 4 actions (Stikine River sockeye); recommendations for test/assessment fisheries for 2020 (with the Panel approving a Stikine River sockeye salmon assessment fishery of up to 1,800 fish), the current status of the northern coho state of knowledge report development; and, the list of Northern Fund project proposals under consideration by the Northern Fund Committee for 2020. The Panel also approved Taku and Stikine River sockeye salmon enhancement production plans for 2020-21 which included a program expansion (increased Taku (Trapper Lake) egg take and associated fry release). The Panel tasked the Transboundary Technical Committee with initiating a review of Stikine River sockeye salmon datasets with the objective of providing a recommendation for a revised spawning escapement goal prior to the 2023 season. In addition the Panel recommended the development and implementation of a new Alsek River Chinook and sockeye salmon assessment program and completed the annual review of the *Chapter 1 Implementation Plan* (noting that the Parties are well positioned to achieve bilateral progress on specific activities for the coming year). A key focus of the Panel’s meeting was the review and development of recommendations for improvements to the bilateral Taku River sockeye assessment program and revised MSY escapement goal, as required in Chapter 1, section 3(b)(i)(B) and (C). Despite extensive efforts the Panel was unable to reach agreement on a bilateral recommendation to Commissioners.

PSC ANNUAL MEETING
February 17-21, 2020

SOUTHERN PANEL MEETING REPORT

Session Activities:

- The US and Canadian Sections of the Southern Panel developed an agenda that enabled bilateral and section time to focus on activities associated with our annual work plans and other related assignments:
 - *Review the implementation plans for new Chum and Coho Chapters of the PST;*
 - *Receiving and discussing reports from Coho and Chum Technical Committees;*
 - *Developing priorities for Endowment Fund proposals for 2021*
 - *Conduct tasks from workplans for 2020.*
 - *Developing the “Pacific Salmon Commission Southern Panel Operating Procedures” document to guide how the Panel conducts its activities*
- The Bilateral Panel met and received presentations on:
 - *Coho and Chum Technical Committee updates on work tasks and progress on current Endowment Fund projects and potential proposals for consideration (TC co-chairs)*
 - *Panel members also attended the Big Bar Landslide Update presentation*
- Chapter Implementation Plans
 - *Both section and bilateral time was spent to review implementation plans for the new Chapters 5 and 6, including assigning tasks to sub-committees, Technical Committees as appropriate, and assigning short-term and longer-term tasks.*
 - *Process to address the development of Southern Panel guidance on how to implement Chapter 5 Coho paragraphs 11(b) and 11(c)*
 - *In Chapter 5, there was discussion about the need to consider environmental uncertainty, data and analytical tools, and Management Unit description, as developed at the 2019 Coho Working Group meeting*
- Update from the Coho Technical Committee
 - *Southern Endowment Fund (SEF) priority proposals and project updates:*
 - *Update on existing projects*
 - *List of SEF priorities from CoTC*
 - *Update on CoTC work towards periodic report (years 2010-2017)*
 - *2018 Coho Annual Summary ER Report*
 - *Other CoTC work items*

- Update from Chum Technical Committee
 - *The US and Canadian co-chairs of the Chum Technical Committee presented the following:*
 - *Southern Endowment Fund (SEF) priority proposals and project updates:*
 - *Joint US/CA DNA sampling and analysis project*
 - *List of SEF priorities for 2021*
 - *Other Chum TC work items*

Preparation for Future Meetings

- Finally, the bilateral Panel worked on a schedule for upcoming meetings, including the timing of the manager-to-manager information exchange in mid-March, and the July Coho Working Group and Coho Technical Committee.

Fraser River Panel Report

20 February 2020

Kirt Hughes, U. S. Section – FRP Chair

Jennifer Nener, Canadian Section – vice Chair

2020 Annual Meeting of the Pacific Salmon Commission**Commission Briefing – Report of the Fraser River Panel****Items addressed in this report:**

- Post-season review of 2019 season
- 2020 pre-season outlook and test fishing plan for 2020
- Update on status of test fishing policy
- Update on status of report on feasibility, cost, and accuracy of a Qualark only hydroacoustic program
- Pre- and In-season management meeting plans

2019 Post-season reviewSockeye and Pink Salmon runsize, harvest, and escapement

As you are aware the 2019 return of sockeye to the Fraser River system was the lowest on record. The total runsize of Fraser sockeye was 485,900 (near the p10 forecast level). While the runsize was significantly lower than the preseason forecast, the Big Bar rockslide also affected about 85% of returning sockeye. Ultimately about 303,000 sockeye (about 62%) were estimated to have made it to the spawning grounds. The table below presents the total estimated escapement by management group in comparison to the in-season estimate of escapement and the pre-season forecast:

Management Group	Estimated escapement	Potential Esc. (est. in-season)	Pre-Season forecast (p50)
Early Stuart	89	26,000	41,000
Early Summer	45,053	94,000	465,000
Summer	246,869	344,000	3,900,000
Late	10,824	22,000	359,000
Total Fraser Sockeye	302,835	486,000	4,765,000

On a positive note, spawning success of these fish was high, ranging from 97 – 99%; spawner success was not estimated for Early Stuart due to small sample size.

The total return of Fraser River pinks was estimated at 8.9 million based on Mission passage; nearly 4 million fish more than pre-season median forecast. The Panel recognized fairly early in the season that the sockeye return was well below the p50 forecast. Conversely, there were widely fluctuating indications regarding the pink salmon return. These spanned a range from well below to significantly greater than the p50 forecast. PSC staff considered various methods of estimating pink salmon returns, eventually recommending a number of about 5 million (6 million is the escapement target) based on a convergence of outcomes from various methods. As the season progressed indicators for pink abundance began to point to a much larger runsize. Given the indicators of sockeye, the small size of the 2017 pink return, and conservative approach with the Big Bar slide in mind, the Panel was cautious in moving to upgrade the run. By the time evidence was clear that the pink runsize was far more abundant

than the adopted run size, neither country was able to take advantage of the harvestable surplus. Specifically, the U.S. fishery harvested just 233K of their 741K share, meanwhile the balance to Canada was 2.1 million and only 294K were harvested.

Test fishing and test fishing revolving fund

In response to an anticipated low sockeye return, the Panel's developed and implemented a reduced test-fishing program. The program was further reduced in-season with some test fisheries being halted early and others not utilized at all. The total expenditures were approximately \$1,077,000, revenue generated from sample fish and those retained in gillnet test fisheries was about \$267,000, resulting in a draw-down of \$810,000 from the Test Fishing Revolving Fund. The current balance remaining in the revolving fund is about \$1.2M.

2020 Pre-season Planning and test fishing plan

The p50 forecast for 2020 is just under 1 million sockeye; at the p75 level a moderate amount of the early Summer sockeye management group may be available to provide some fish for the Aboriginal Fishery Exemption (AFE) but no TAC for international sharing is anticipated. The Panel is planning test fisheries needed to assess the runsize with a reduced program that is anticipated to cost about \$600,000; the test fishing plan will be further refined at our April 2020 meeting. It is expected that the revenue from the program will be relatively small (~\$200K or less) as retained fish will be limited to those taken in gillnet fisheries and biological samples, unlikely to exceed 10,000 fish.

Test Fishing Policy

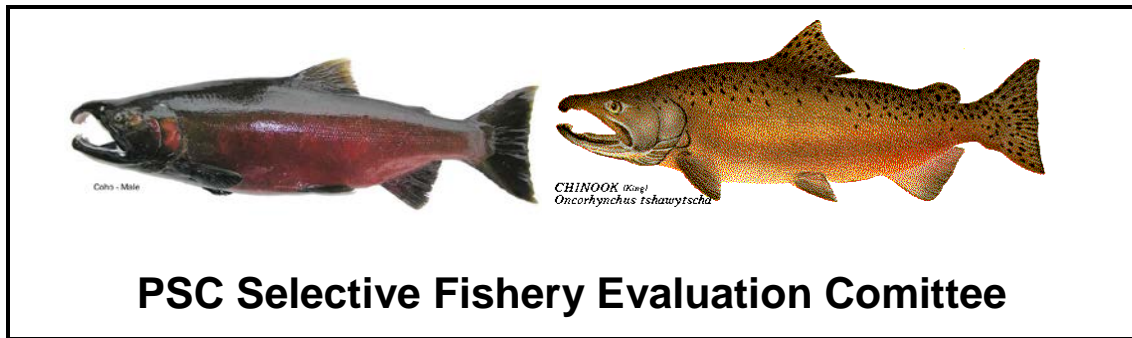
In December 2019, the Canadian Section of the Finance and Administration Committee (F & A) exchanged a draft Test Fishing Policy with the U.S. section and the Secretariat. This draft was passed to the Panel for review, the U.S. section of the Panel was able to provide input to in advance of this meeting. In deliberation this week, the Panel plans to have a bilaterally agreed version to provide back to the full F & A for their final review and approval at their March call.

Update on status of report on feasibility, cost, and accuracy of a Qualark-only hydroacoustic program

A draft report was circulated in advance of the January 2020 meeting. The Canadian section of the Panel provided some edits for review by the U.S. section, but detailed review of costs remains outstanding. Panel leadership met earlier this week to discuss the draft. The Panel agreed that more work is needed to complete this report to the satisfaction of the parties.

Pre- and In-season management meeting plans

Despite the pessimistic forecast, planning is still required for the 2020 season. The Panel anticipates being able to reduce the pre-season meeting schedule by eliminating the March meeting and deferring a round of fishery planning to April. While it is unlikely that there will be fisheries beyond the AFE, there may be TAC for international sharing at the p90 level and consistent with the chapter language the Panel will develop pre-season fishery management plans. In addition, the Panel anticipates reducing its in-person, in-season management meetings from five, to three.



SELECTIVE FISHERY EVALUATION COMMITTEE PROGRESS REPORT TO COMMISSION

The SFEC met in November 2019 to review 2020 Mass Marking (MM) and Mark Selective Fishery (MSF) proposals.

The planned Mass Marking for 2020 included:

- Coho proposals included a region-wide total of approximately 34.4 million MM fish, including production for SRKW prey. This is approximately equal to 2019.
- Chinook proposals included approximately 122 million MM fish. This is approximately 3.6 million less than 2019. This decrease reflects a substantial reduction of Columbia Upriver Brights. However, there were increases in proposed MM in WCVI and WA coast, associated with increasing the prey base for SRKW.

Agency	Coho (in millions)		Chinook (in millions)	
	2019	2020	2019	2020
ADFG	-	-	-	-
CDFO	4.2	3.8	0.3	3.1
USFWS	1.9	1.9	25.1	22.2
WDFW/Tribes	23.3	24.1	76.7	77.1
ODFW/Tribes	4.7	4.7	23.5	19.6
Total	34.2	34.4	125.5	122.0

- Canada has proposed mass marking 3.1 million Chinook in WCVI, building upon the 2019 pilot release of approximately 300,000. The purpose of the marking is for broodstock management in rivers where there is a focus to conserve natural production.
- Chinook and Coho DIT groups are limited to Puget Sound, the Washington Coast and the Columbia River. WDFW, USFWS and NWIFC are the only agencies still tagging DIT groups.

Planned MSFs for 2020 include 30 proposals for Coho fisheries and 42 for Chinook

- Coho MSF proposals included 9 from CDFO, 5 from ODFW and 3 joint ODFW/WDFW proposals for Columbia River fisheries. Thirteen Coho MSF proposals were submitted by WDFW. The number of proposals increased by 4, one is a new proposal for the Dungeness River sport fishery, and the other 4 are for preexisting Canadian proposals that were combined into one proposal and as of the 2020 review are evaluated separately.
- Chinook MSF proposals included 2 from CDFO, 31 from WDFW, 4 from ODFW and 5 joint ODFW/WDFW proposals for Columbia River fisheries. CDFO has resubmitted the proposal for an expanded MSF in the Straits of Georgia, Johnstone, and Juan de Fuca, which did not occur in 2019. Two new proposals were submitted by WDFW for the Okanagan-Similkameen Rivers and Icicle Creek. WDFW discontinued an MSF for the Cathlamet spring Chinook test fishery. Alaska did not submit any proposals for 2020.

Agency	Coho		Chinook	
	2019	2020	2019	2020
ADFG	0	0	3	0
CDFO	5	9	2	2
WDFW	13	13	28	31
ODFW	5	5	4	4
WDFW/ODFW	3	3	5	5
IDFG	0	0	0	0
Lummi	0	0	0	0
Total	26	30	42	42

Potential issues for the Commissioners and obstacles for completing bilateral tasks:

- Post-season MSF fishery reporting.
- Complexity of MSF regulations.
- Lack of electronic CWT sampling in some areas (lack of sampling of unmarked fish).
- Inaccuracies in data, including reporting MSF recoveries and DIT release programs.
- Lack of on-line meeting resources.

Progress on 2019/20 Annual Workplan

- The SFEC finalized and submitted the *Review of Mass Marking and Mark-Selective Fishery Activities Proposed to Occur in 2019*. We anticipate the 2020 report to be submitted by spring.
- The SFEC held its annual meeting in November to review proposals and discuss how SFEC can best support CYER improvement and implementation as outlined in the CYER working group report.
- A successful joint SFEC-AWG and CTC-AWG meeting was held in June 2019. Several joint meetings are planned in 2020 to (1) continue development of analytical methods to evaluate MSF impacts on wild stocks, (2) implement CYER improvements, and (3)

collaborate to improve the accuracy and completeness of MM and MSF related data for PSC Chinook model input.

- The Coho DIT report is in final review with expected publication in mid-2020. A joint meeting with CoTC is planned for discussing the findings of the report.



TO: Pacific Salmon Commission
FROM: Chinook Technical Committee Co-chairs
DATE: February 20, 2020
SUBJECT: Progress report on 2020 CTC work plan

At the 2020 postseason meeting of the Pacific Salmon Commission (PSC), the Chinook Interface Group (CIG) requested some modifications to the 2020 Chinook Technical Committee (CTC) work plan that included recommendations from the Calendar Year Exploitation Rate (CYER) workgroup and a re-ordering of Ad-hoc tasks to reflect priority. Additionally, specificity was added to the 2020 model calibration task to identify that model calibrations will be run with both the new and old models. These updates were incorporated and the revised work plan is being provided along with this update.

Below is a summary of work plan items where progress has occurred since the 2019 PSC fall meeting.

CTC Work Plan Tasks Assigned for 2019

1. 2019 Annual Tasks

- 2018 Calibration and Exploitation Rate Analysis (CLB&ER) report – *Completed.*
- 2019 Calibration and Exploitation Rate Analysis (CLB&ER) report – *Nearing completion.*

2. 2019 Ad Hoc Tasks

- Phase 2 of the base period recalibration of the PSC Chinook Model – *Complete and adopted by the Commission.*
- Documentation of the Phase 2 base period recalibration – *In progress.*
- Translation of Tables 1 and 2 for use with the Phase 2 model – *Complete and adopted by the Commission.*

CTC Work Plan Tasks Proposed for 2020

1. Legacy Annual Tasks

- 2020 Chinook exploitation rate analysis (ERA) – *In progress*

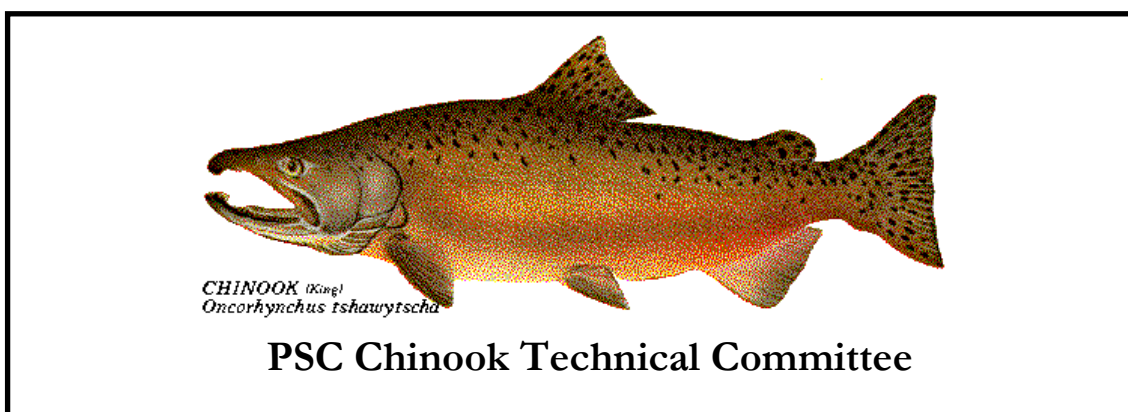
- 2020 Catch and Escapement (C&E) report – *In progress.*
- 2018 and 2019 Calibration and Exploitation Rate Analysis (CLB&ER) reports – *2018 report has been completed and 2019 report is nearing completion.*

2. New Annual Tasks

- Prior to conducting the annual exploitation rate analysis, the CTC will identify at the estimation level (i.e., the area, gear, and time period strata for which recoveries are estimated) the fisheries and escapement for which use of an indirect method would ensure complete inclusion of known fishery impacts or account for the entire escapement. The CTC will summarize the identified situations and apply a preliminary proposal for an indirect method – *In progress.*

3. Ad-hoc Tasks

- Standards for IM data – *In Progress. The CTC has been in communication with the CIG to define the scope of the assignment and identify timelines for completion.*
- Completion and documentation of Phase 2 base period calibration (BPC) of the PSC Chinook Model – *The Phase 2 model has been completed and adopted and will be used in the 2020 preseason management cycle. Documentation of the Phase 2 model is ongoing and substantial progress has been made.*
- Implementation of CYERs – *In progress. The CTC has been working in close coordination with the CYER work group and the SFEC and a work plan has been developed.*
- Investigate and implement MSF algorithms in the annual ERA – *In Progress; this task is also identified in the CYER work plan.*
- Restructuring of Annual Reports – *In Progress; tasks have been identified and assignments have been made to update the annual Catch and Escapement report.*
- Escapement goals presented for review and acceptance will be evaluated by the CTC – *A request has been made for evaluation of escapement goals for Skagit River Chinook.*



CHINOOK TECHNICAL COMMITTEE WORK PLAN 2019-2020

Panel / Committee: The Chinook Technical Committee reports to the Pacific Salmon Commission.

Date: October 15-18, 2019

Update on Bi-lateral Tasks Assigned Under Current PSC Agreement:

CTC Work Plan Tasks Assigned for 2019

1. 2019 Annual Tasks

- 2019 Chinook exploitation rate analysis (ERA) – *Completed*
- 2019 Chinook model calibration – *Completed*
- 2019 Catch and Escapement (C&E) report – *Completed*
- 2018 Calibration and Exploitation Rate Analysis (CLB&ER) report – *Completed*
- 2019 Calibration and Exploitation Rate Analysis (CLB&ER) report – *In Progress*

2. 2019 Ad Hoc Tasks

- Phase 2 of the base period recalibration of the PSC Chinook Model – *Complete, pending Commission adoption*
- Documentation of the Phase 2 base period recalibration – *In progress*
- Translation of Tables 1 and 2 for use with the Phase 2 model– *Completed; The Commission adopted the translated tables in Oct 2019 and they have been incorporated into the Treaty*
- Investigation and implementation of mark-selective fishery algorithms in the annual exploitation rate analysis - *In Progress*
- Escapement goals presented for review and acceptance will be evaluated by the CTC - *None have been brought forward for review*

- Testing and validation of the DGM - *In Progress*
- Selection of maturation rate and environmental variable (EV) assumptions for use in the Phase 2 model projections – *Completed*.
- Review of tasks, analyses, and assignments contained in Appendix A of the 2019 PST Agreement – *Completed; the CTC developed an implementation plan and submitted it to the Commission in January 2019.*

CTC Work Plan Tasks Proposed for 2020 – see Appendix I – Updated CTC Implementation Plan.

1. Legacy Annual Tasks

- 2020 Chinook exploitation rate analysis (ERA) – *Planned for February and March.*
- 2020 Chinook Model Calibration – *New (Phase 2) model calibration planned for March for 2020 preseason planning. Old model calibration planned for May for use in 2019 postseason evaluation.*
- 2020 Catch and Escapement (C&E) report – *Anticipated completion in June*
- 2020 Calibration and Exploitation Rate Analysis (CLB&ER) report – *Anticipated initiation in June.*
- 2019 Calibration and Exploitation Rate Analysis (CLB&ER) reports – *Anticipated completion in April (2019 report).*

2. New Annual Tasks

- Report stock-specific MSF impacts, starting 2020 – *Pending development and implementation of MSF algorithms.*
- Summarize CEII and CWT&R programs, starting 2020 – *Deferred; work on this task cannot occur until funding is secured for the CEII and CWT&R programs.*
- Report on IMs – *Planned for June 2020; the CTC will report annually on IMs in the catch and escapement report, and if necessary, evaluate the causes of significant changes in rates or patterns.*
- Report data underlying the hatchery add-on calculations – *Planned for June 2020; the CTC will provide a summary of information used to determine the allowable exclusion or hatchery add-on, in the annual catch and escapement report.*
- Prior to conducting the annual exploitation rate analysis, the CTC will identify at the estimation level (i.e., the area, gear, and time period strata for which recoveries are estimated) the fisheries and escapement for which use of an indirect method would ensure complete inclusion of known fishery impacts or account for the entire escapement. The CTC will summarize the identified situations and apply a preliminary proposal for an indirect method.

3. Ad-hoc Tasks

- Standards for IM data – *In Progress; the CTC has formed an IM Standards workgroup. Paragraph 4(c) directs the CTC to recommend standards for the desired level of precision and accuracy of data required to estimate incidental fishing mortality. Estimates of incidental fishing mortality will be used in implementing paragraphs 4(f) (incidental mortality in AABM fisheries), 5(a) (ISBM fishery obligations), and provisions related to the PSC Chinook Model. Recognizing the broad use of these estimates, and the many factors that affect incidental mortality, ensure that the CTC recommendations consider likely applications in 2019-2028, and include release mortality rates by gear, the number of Chinook salmon encountered in fisheries not reported as catch, and the types of data necessary to estimate fishery exploitation rates on unmarked Chinook that are present where mark-selective fisheries are implemented..*
- Completion and documentation of Phase 2 base period calibration (BPC) of the PSC Chinook Model – *In progress; the CTC-AWG+ met in December 2019 to work on documentation.*
- Documentation of Selection of Maturation Rate and Environmental Variable (EV) Assumptions for Use in the Phase 2 Model Projections – *Completed; the purpose of this task is to document an analysis that arose in 2019 as part of the Phase 2 base period calibration process.*
- Implementation of CYERs – *Pending; The CTC will describe any adjustments of terminal fishery impacts implemented for each CWT indicator stock in order to represent the impacts on the associated escapement indicator stock in Attachment I, discuss key assumptions, and identify research that could be used to test the assumptions. Where the assumptions are not well supported or verification difficult, the CTC will provide preliminary options for alternative analytical methods, collecting additional data, or establishing a new CWT indicator stock with a fishery exploitation pattern more similar to the associated escapement indicator stock.*
- Investigate and implement MSF algorithms in the annual ERA – *In Progress; this task is a carry-over from the 2019 Workplan, and is a necessary precursor to Appendix A, task 1 (g). The CTC-AWG met with SFEC-AWG in June 2019 to begin developing methods for incorporating MSF algorithms into the exploitation rate analysis. This meeting was productive and the CTC sees value in an additional joint meeting between the two groups in 2020, in either May or October. Because of competing priorities and heavy workloads, work will not resume on this task until late spring 2020.*
- Restructuring of Annual Reports – *In Progress; the CTC is working to (1) restructure existing annual reports to align with new reporting requirements specified in the 2019 PST Agreement; (2) to develop a new summary annual report; and (3) to automate generation of tables and figures where possible to increase the efficiency of report production and reduce the time consumed each year by the CTC. The CTC has formed workgroups to address these tasks. This may require additional resources in the near term to meet CTC obligations under the new PST Agreement.*
- Complete Data Generation Model – *In Progress; the CTC is currently gaining familiarity with the software, parameterizing inputs, and producing and evaluating output.*

- Escapement goals presented for review and acceptance will be evaluated by the CTC – *While none were brought forward in 2019, the CTC anticipates that agencies may submit goals for review in 2020.*

Obstacles to Completing above Bi-lateral Tasks:

Loss of Experienced Membership

The CTC has recently experienced many retirements and departures of long-standing members with substantial institutional knowledge. These include Larrie LaVoy, Marianna Alexandersdottir, John H Clark, Robert Clark, and Robert Kope. This trend is expected to continue with the imminent departure of Gayle Brown, Dawn Lewis, and Richard Bailey. While the CTC continues to be comprised of talented members, there is a concern for loss of institutional knowledge and expertise. These losses are anticipated to delay some annual tasks and anticipated tasks within the new agreement.

Time Constraints

As in previous years, the primary obstacle is the amount of time and effort required to complete the large number of tasks assigned to the CTC under the 2019 agreement and the technical complexity of those tasks. Although the formation of smaller CTC workgroups to address individual assignments creates some efficiency, the necessity of assigning CTC members to multiple workgroups creates bottlenecks.

Funding Constraints

Meeting costs have the potential to impact the CTC's ability to complete the ERA, PSC Chinook Model calibration, and annual reporting and anticipated tasks within the new agreement.

Policy Issues

The CTC anticipates several new policy issues may emerge with the implementation of the new 2019 PST Agreement.

Outline of Other Panel / Committee Tasks or Emerging Issues:

Highlight issues that have significance to the Treaty and that may have to be considered by this Panel/Committee in future work plans.

Potential Issues for Commissioners, including enhancement activities reported under Article V:

Succession Planning and Training

2019 follows 2018 as another year with retirements of senior CTC members and more departures are expected in 2020. A transition plan to train new CTC members and transfer knowledge and expertise is needed to maintain understanding of the PST management framework for Chinook salmon and of the tools used to implement it. Severe time constraints imposed by ongoing work often interfere with this important activity. Succession planning is another task that needs to be an explicit element of the CTC workplan.

The CTC has identified some activities to improve transfer of knowledge and responsibilities to new CTC members. These would contribute to succession planning and are outlined below:

1. Improve documentation of the quantitative methods, data and host of computer programs employed by the CTC as existing documentation is incomplete or out-of-date.
 - A proposal has been submitted to the NEF and SEF by PSC staff and CTC co-chairs to support CTC programming needs and production of documentation is an element of the proposal.
2. Increase the efficiency of report production and reduce the time consumed each year by the CTC.
 - The CTC is exploring ways to streamline and automate annual reports, by building on recent CoTC experience and new server capacity made available by the PSC.
3. Complete projects currently underway that are aimed at greatly increasing efficiencies in annual work and in carrying out special investigations (i.e., CIS database, ForecastR, and the DGM).
 - Support provided by the Commission through dedicated assistance by Mark MacMillan, the new PSC database programmer hired in May 2018 for a 2-year term, has already enabled significant progress toward completion of the CIS database.
4. Look for training opportunities that could improve the functioning of the CTC and the ability to make the most of time spent in meetings.
 - The course being offered to PSC committee chairs on running successful meetings is an example of a training opportunity that would be useful to make available to all CTC members.
5. Develop an easily accessible description of the PST Chinook management framework, its history and key elements.
 - A plan for development of such a document is not known by the CTC. Has the Commission considered the need for this project?

Development of New Tools

The model currently used by the CTC was initially developed about 30 years ago and relies on base period data that is nearly 40 years old. Chinook populations are experiencing changes in life-history parameters, stock distributions, productivity, and increased environmental variability resulting in degraded performance of the current model. Some of the recently appointed CTC members bring with them skills with innovative analytical tools and applications that could potentially improve the management of Chinook fisheries. The CTC will encourage the development and evaluation of alternative tools and management strategies that may offer better performance than the current management regime.

Development of a Research and Development Team

Given the changing environment and duration of the PST, the modeling approaches used by the CTC need to be continuously tested, updated and new methods (such as MSE) may need to be developed. Ideally, the CTC would like to find time for some members to explore and test new techniques to improve the current methods. This research effort is necessary to ensure better understanding of Chinook populations and that management outcomes are based on the best available science and technology.

Documentation

Due to tight timelines for producing yearly analyses and reports the CTC has been remiss in the past in adequately documenting new computer programs and analyses as well as changes to existing programs and analyses. This has slowed the progress of developing new tools and techniques due to the necessity of retracing our steps to identify the current algorithms in use. The CTC will endeavor to make documentation higher priority going forward.

Potential Issues for Committee on Scientific Cooperation

The CTC has identified two areas where assistance from the Committee on Scientific Cooperation would be beneficial:

1. Under the 2009 PST the CTC has observed an increase in the magnitude of error in the preseason abundance forecasts produced by the PSC Coast Wide Chinook Model compared to the postseason estimates. Recent studies and presentations at workshops have provided evidence of various types of demographic changes in Chinook populations such as declining mean size at age, increasing mean maturation rates, and even decreasing fecundity at age in females. A review of the accumulating evidence for these types of population level changes, the geographic extent of such changes, the occurrence of discernible trends, the possible causal factors such as long-term environmental changes and their influence on output from management models would be helpful to the CTC. The ability of the Chinook Model to generate accurate abundance forecasts is tied to algorithms that generate age compositions of fish vulnerable, by size, in fisheries. It is crucial to understand whether historical methods can no longer be expected to work as they once did and whether alternative methods must be developed or new approaches to generating inputs to forecasting procedures are needed.
2. The PSC should consider establishing a coastwide, multi-species forum under the oversight of the Committee on Scientific Cooperation to share developments and advice regarding adaptation of Pacific salmon management approaches to environmental change. There is strong evidence that environmental change is occurring and accelerating to a degree such that past experience cannot be expected to serve as a reliable basis to forecast the future. Increases in uncertainty, variability and directional change are expected to alter hydrologic, precipitation, temperature and growth patterns which, in turn, are likely to affect the survival, productivity, abundance, distribution, and migration patterns of Pacific salmon. The forum should provide reporting of significant developments in the knowledge base as well as vetting of recommendations for monitoring and reporting systems, and potential adaptation strategies.

Proposed Meeting Dates and Draft Agendas:

Additional CTC meetings may be required, depending on the number and scope of additional tasks assigned.

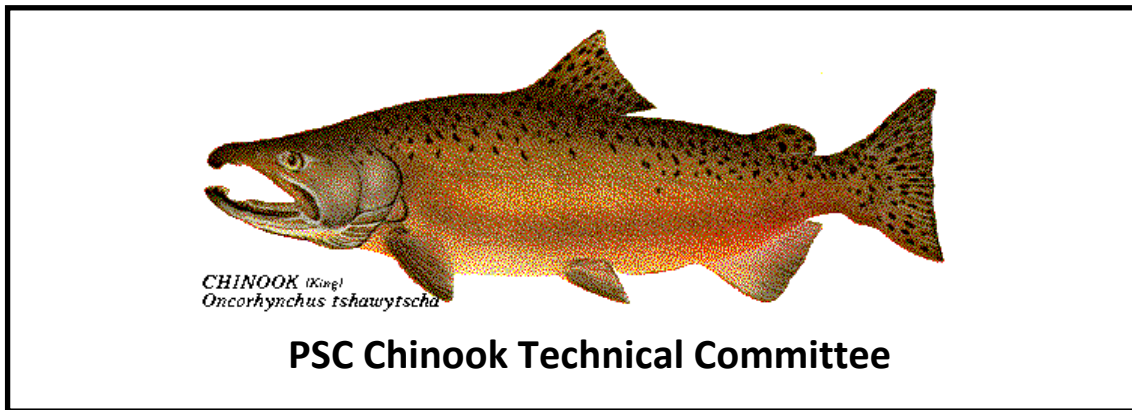
Meeting	Dates	Location	Meeting Objectives
2019			
PSC Fall Session	Oct 15-18	Spokane, WA	CTC co-chairs attend
US CTC LOA	Dec 3-4	Portland, OR	LOA project presentations, RFP
CTC-AWG+	Dec 4-6	Portland, OR	BPC Documentation; IM Standards
2020			
PSC Post-season	Jan 13-17	Portland, OR	IM Standards; Clb & ERA
PSC Annual	Feb 18-21	Vancouver, BC	IM Standards; report restructuring; ERA
CTC-AWG	Feb 21-27	Vancouver, BC	ERA
CTC-AWG	Mar 16-20	Seattle, WA	Model Calibration
CTC Bilateral	Apr 20-24	Olympia, WA	C&E; report restructuring; CYERs
CTC -AWG+/SFEC?	May 10-15	Portland, OR	2 nd model clb; MSFs, coding ERA in R
CTC Bilateral	Jun 1-5	Bend, OR	C&E; CYERs; Clb&ER report; CYERs; IM changes; hatchery add-on
CTC Bilateral	Sept 21-25	Kelowna, BC	Clb&ER report; Workplan;
CTC-AWG/SFEC?	Oct 5-9	Seattle, WA	MSFs, coding Coshak in R
US CTC-LOA	Dec 1-2	Portland, OR	LOA project presentations, RFP
PSC Fall Session	Oct 19-22	Vancouver, BC	CTC co-chairs attend

Status of Technical or Annual Reports:

The 2019 C&E report is complete. The 2018 and 2019 CLB&ER report will be completed in 2020. Obstacles to completing annual reports in a timely manner include workloads, competing priorities, and changeover in CTC membership. An additional obstacle for 2020 reports is the need to incorporate new reporting requirements associated with the 2019 PST Agreement.

Comments:

The CTC has assessed tasks listed in Appendix A of Annex IV, Chapter 3 of the recently completed 2019 PST Agreement to assess timelines and workload. The updated CTC Implementation Plan (Attachment I) represents the CTC's understanding of the timeline for completion of the CTC tasks identified in Appendix A.



CHAPTER 3 IMPLEMENTATION PLAN 2019-2028

The CTC has organized the Chapter 3 Appendix A tasks into 4 categories: legacy annual tasks, new annual tasks, ad-hoc tasks, and conditional tasks. A 10-year plan is also provided.

1. Legacy Annual Tasks.

The CTC will discuss changes to the structure of annual reports to reflect new obligations in the 2019 PST Agreement. We will also strive to reduce the size of annual reports, improve readability, and explore strategies to expedite production.

App A	Task	When
9	Report fishery performance at Annual Meeting	Feb
1(h), 8, 6	Provide annual calibration, post-season AIs, pre-season comparisons, and catch deviations for AABM fisheries	1 Apr
1(b), 3(a), 3(b)	Report on catches, terminal exclusions, hatchery add-ons, HRIs, IMs, and ERs	June
4, 11	Evaluate ISBM fishery performance, and starting in 2023, CYER average, and overages	
1(c)	Report escapements and evaluate stock status	

2. New Annual Tasks

App A	Task	When
1(g)	Report stock-specific MSF impacts, starting 2020	May
1(i)	Summarize CEII and CWT&R programs, starting 2020	June
3(c)	Describe the causes of significant changes in IMs	June
7	Report data underlying the hatchery add-on calculations	June

3. Ad-hoc Tasks

App A	Task	When
14	Complete BPC Phase 2	Feb 2019
2	Standards for IM data	Feb 2020
5	Complete Data Generation Model	2020
5	Evaluate alternative metrics for ISBM	2021
	<i>Investigate and implement MSF algorithms in the annual ERA*</i>	2020

App A	Task	When
	<i>Evaluate representativeness of CWT indicator stocks of wild/hatchery stocks they are intended to represent*</i>	
5	Procedures to adjust CYERS for MSFs by 2021. Add to Annual Report.	2021
5	Describe adjustments of terminal fishery impacts for ER stocks	2021
13	Draft outline for 5-year review	Jan 2023
14	Complete BPC Phase 3	2023
1(e)	Recommend standards for the minimum assessment program required to effectively implement Chapter 3	TBD
1(f)	Recommend research 3(c), 7, and associated costs, to improve implementation of Chapter	TBD

* *Workplan tasks not included in App. A.*

4.

Conditional Tasks

App A	Task
11(b)	If ISBM overage, provide plan to improve performance in meeting objectives
10(b)	If AABM overage, provide plan to improve performance in meeting objectives
1(a)	ID concerns with Chapter or effectiveness of actions in reaching objectives, as requested
1(d)	Evaluate, review or recommend escapement objectives; as requested
12	Up to 2 review(s) of CPUE based approach, if requested

10-Year Implementation Plan:

The CTC has made a preliminary assessment of tasks listed in Appendix A of Annex IV, Chapter 3 of the recently completed 2019 PST Agreement to assess timelines and workload. The table following on the next page is the CTC's understanding of the timeline for completion of CTC tasks identified in Appendix A.

Appx A	Task	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
9	Report to PSC @ Annual meeting on (a) and (b) AABM performance, (c) recommendations for minimizing deviations between pre- and post-season fishery limits, and (d) status towards achieving stock-specific management objectives.	Feb	Feb	Feb	Feb	Feb	Feb	Feb	Feb	Feb	Feb
1 (h)	Provide annual calibrations of the Chinook model with pre-season and post-season abundance indexes by April 1 of each year;	1-Apr	1-Apr	1-Apr	1-Apr	1-Apr	1-Apr	1-Apr	1-Apr	1-Apr	1-Apr
8	Provide the first post-season AI estimates for AABM fisheries using the Chinook model and compare (a) CPUE-based tiers for SEAK and (b) AIs for NBC and WCVI AABM fisheries	X	X	X	X	X	X	X	X	X	X
6	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.	X	X	X	X	X	X	X	X	X	X
1(b)	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 MSF impacts for all Chinook fisheries and stocks harvested within the Treaty area;	X	X	X	X	X	X	X	X	X	X
1(c)	Report annually on naturally spawning Chinook stocks in relation to the agreed MSY or other agreed biologically-based escapement objectives, rebuilding exploitation rate objectives, or other metrics and evaluate trends in the status of stocks and report on progress in the rebuilding of naturally spawning Chinook stocks;	X	X	X	X	X	X	X	X	X	X
1 (g)	Annual report on stock-specific MSF impacts		X	X	X	X	X	X	X	X	X
1 (i)	Annual summary of CEII and CWT&R programs		X	X	X	X	X	X	X	X	X
3 (a)	An evaluation of estimates of encounters and incidental mortalities in all fisheries subject to this Treaty;	X	X	X	X	X	X	X	X	X	X
3 (b)	Post-season estimates of incidental mortality that includes incidental mortality from MSF, and total mortality; and	X	X	X	X	X	X	X	X	X	X
3 (c)	Description of the causes (if identifiable) of significant changes in rates or patterns of incidental mortalities in fisheries relative to paragraph 4(a) and 4(f) of this Chapter for AABM fisheries (1999-2016) and paragraph 5 of this Chapter	X	X	X	X	X	X	X	X	X	X

Appx A	Task	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	for ISBM fisheries (1999-2015).										
4	Evaluate the ISBM fishery performance relative to the obligations set forth in paragraph 5 of this Chapter and report annually to the Commission.	X	X	X	X	X	X	X	X	X	X
7	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.	X	X	X	X	X	X	X	X	X	X
11	For ISBM fisheries, the CTC shall annually compute and report metrics described in paragraph 5 (a) and	X	X	X	X	X	X	X	X	X	X
	Provide 3-year running avg for CYERs and evaluate performance (by 2023)				TBD	X	X	X	X	X	X
11 (b)	If ISBM overage, shall provide to the Commission a plan to improve the performance of pre-season, in-season and other management tools so that the deviations between the CYERs and the CYER limits are narrowed to a maximum level of 10% when limits apply (Attachment I)				TBD	TBD	TBD	TBD	TBD	TBD	TBD
10 (b)	If AABM fisheries have overages for 2 consecutive years, the CTC shall recommend to the Commission a plan to improve the performance of pre-season, in-season and other management tools so that the deviations between catches and post-season fishery limits to AABM fisheries are narrowed to a maximum level of 10%.	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
14	Complete BPC Phase II by February 2019	Feb									
14	Complete BPC Phase III by 2023	X	X	X	X	X					
2	Standards for the desired level of precision and accuracy of data required to estimate IM		Feb								
5	Complete the Data Generation Model		X								
	Complete evaluation of alternative metrics for the evaluation of ISBM fisheries			X							
	Develop data standards for the application of CYER as metric			X							
	Description of procedures used to adjust CYERS in order to capture MSFs (by 2021). Add to Annual Report.			X							

Appx A	Task	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	Describe any adjustments of terminal fishery impacts for the exploitation rate indicator stock			X							
13	By January 2023, develop a draft outline for a five-year review to evaluate the effectiveness of harvest reduction measures that are taken for AABM and ISBM fisheries				X						
1 (a)(i)	Upon request, ID concerns with consistency in Chapter.	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
1 (a)(ii)	Upon request, ID concerns on the effectiveness of the actions in attaining the specified objectives.	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
1 (d)	Evaluate and review existing escapement objectives; when requested, recommend goals	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
1 (e)	Recommend standards for the minimum assessment program required to effectively implement Chapter	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
1 (f)	Recommend research projects, and associated costs, to improve implementation of Chapter	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
12	Up to 2 review(s) of CPUE based approach, if requested	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD



Report of the Standing Committee on Finance and Administration

February 20, 2020

The Standing Committee on Finance and Administration met on December 19, 2019, January 15 & 16, 2020, and February 18 & 19, 2020. The Committee addressed several issues and made recommendations for the Commission's consideration as noted below.

Secretariat staffing considerations

A number of near-term staffing issues for the Secretariat required review by the Committee:

1. Database Manager

In February 2018, the Commission approved a 2-year pilot project for the Secretariat to hire a term database manager to assist the Chinook Technical Committee (CTC) in completing the Chinook Information System (CIS) and other data management tasks for Fraser sockeye assessment. The Secretariat secured funding from the Southern Endowment Fund to offset 75% of the incumbent's salary and benefits from May 2019 through May 2020.

Given the success of the pilot program, as evidenced by the positive feedback received from Parties, the Secretariat recommended that the term database manager position be converted to a permanent/ indeterminate position, with Mark McMillan as the incumbent, effective May 28, 2020 (end of pilot project).

Consistent with the FY2020/21 budget proposal below, the Committee recommends that the Database Manager position be converted to permanent status effective May 28, 2020.

2. CTC Coordinator

The CTC Functions and Operations Group (CTC FOG) issued its final report to the Commission in October 2018, proposing options to assist the CTC and documenting workload issues raised throughout 2017-2018. The Commission considered the CTC FOG report and outlined steps to assist the CTC.

The CTC FOG report prompted the Executive Secretary to work with CTC leadership and Secretariat staff to propose a permanent "Chinook Technical Committee Coordinator Position" to address some of the workload issues identified (i.e. recordkeeping, communication, coordination). The Executive Secretary prepared a position description for the CTC Coordinator, which contemplates a BI-2 classification level with an associated salary, benefits, and travel costs of \$130,000/year.

Consistent with the FY2020/21 budget proposal below, the Committee recommends that the CTC Coordinator position be created for a one-year term as a pilot project, and subsequently evaluated for extension or conversion to full-time status.

3. BI-3 Biologist (post-Lapointe workload distribution)

In March 2019, Fiona Martens and Catherine Michielsens replaced Mike Lapointe as the new Chief of Fisheries Management Programs and Chief of Fisheries Management Science respectively. They were recruited internally and did not seek salary reclassification. As they took on new leadership responsibilities, and as part of a longer-term effort to improve efficiency and enhance scientific support for the Parties, they re-assigned and delegated tasks to subordinates to the extent permitted by the subordinates' job classification and scope.

This effort revealed a need to hire a mid-level biologist to address the resulting workload redistribution. The incumbent's responsibilities would be two-fold: providing in-season support for the Fraser River assessment program, and providing database assistance to the Secretariat, the CTC, and other technical committees as feasible.

The Executive Secretary recommended that the BI-3 biologist's salary and benefits be covered through the BI-5 salary savings realized with the departure of Mike Lapointe.

Consistent with the FY2020/21 budget proposal below, the Committee recommends that the Secretariat proceed with the recruitment of the BI-3 biologist position with the salary and benefits funded as specified above.

Budget proposal for FY 2020/2021

The Committee reviewed the proposed budget for FY 2020/2021 as presented on February 20, 2020 (Table I).

It was agreed that the proposed budget for FY 2020/2021 would incorporate the annual salary and benefits, as well as certain travel costs of the Database Manager and the CTC Coordinator positions. The Committee understood that funding applications totaling over \$156K for FY 2020/2021 were submitted by the Secretariat to the Northern and Southern Endowment Funds for some of these costs, with such potential grant revenue not reflected in the proposed budget. Decisions on these grants will be known on or about February 27, 2020.

The Committee understood that should these grant applications not be successful, the Secretariat is projected to incur a deficit of \$82,081 by the end of FY 2020/2021. The Committee agreed that in this circumstance, the Secretariat may access the Working Capital Fund (current balance \$109K) to cover the deficit. Any such deduction from the Working Capital Fund would be paid back in future years with savings or elevated dues, as determined by the Commission with associated advice from the Committee.

Accordingly, the Committee recommends that the Commission adopt the proposed budget for FY 2020/2021 as shown in Table I.

Test Fishing

Test fishing finances remained a significant issue for the Parties, after record-low return of Fraser River sockeye and pink salmon in 2015, 2016, 2017, and 2019. The low returns have precluded the capture and sale of adequate fish to recover test fishing costs in those years, and the Parties have made supplementary financial contributions to the Test Fishing Revolving Fund (TFRF) to help defray the test fishing costs.

Through a combination of supplementary contributions from the Parties, and a financial surplus generated in 2018 (an Adams-dominant year) due to better-than-projected per pound fish prices, the TFRF balance is projected to be \$1.24M as of March 31, 2020, which would be sufficient to cover the 2020 season test fishing program cost (even without significant sales of test fishery catch).

The Committee considered the following test fishing issues:

1. Draft TFRF financial regulation

The Committee tasked the Executive Secretary with drafting a financial regulation governing the creation and management of the TFRF, and the mechanism through which test fishing deficits would be apportioned to the Parties depending on certain parameters such as abundance, conservation concerns, and First Nations fish allocations. The Committee is currently in the process of reviewing the proposed financial regulation and is expecting to provide a recommendation to the Commission by February 2021.

2. Draft Test Fishing Policy

The Committee reviewed the draft Test Fishing Policy prepared by Canada and asked for feedback on it from the Fraser River Panel. The Committee agreed to revisit the Test Fishing Policy at a March 2020 teleconference. The Committee recommends that in absence of a final test fishing policy, the Parties prepare an ad-hoc test fishing agreement for the 2020 season.

3. Supplemental remuneration for idled test fishers

The Secretariat proposed the partial compensation of Fraser River sockeye and pink salmon test fishers in cases of delayed or cancelled test fisheries, unless such test fishers are (temporarily) released from their obligation to be on standby. The inclusion of such an agreement in future test fishing contracts would increase transparency regarding the rights and responsibilities of the test fishers as well as PSC staff and Fraser River Panel, especially in low-abundance years.

The Committee deferred a recommendation on this issue pending further consultation with the Fraser River Panel.

National dues and projected deficits

The Committee acknowledged that regular annual PSC dues have remained level since FY 2011/2012 at \$1,879,636 CAD per Party, and that the Secretariat has been able to operate at level dues for the past nine years due to budget savings from poor fish returns and low sampling intensity, and having certain large equipment purchases funded by the Southern Endowment Fund (prior to the creation of the Capital Asset Replacement Reserve Fund).

The Committee recognizes that without a significant increase in annual dues, the PSC is poised to exhaust its carryover by the end of FY 2020/2021 and enter a cumulative deficit position thereafter. Without adequate cash flow, the Secretariat would be unable to continue supporting the Parties at current levels of service.

The Committee acknowledged different approaches could be used to prevent budget deficits over different time-scales. One approach is to secure a one-time large increase in dues that would be maintained over the next 10 years and prevent the large cumulative deficit projected by FY2030/31. Another approach is year-on-year incremental funding as determined by the projected budget (i.e. some years may require higher contributions than others).

These two approaches could be implemented simultaneously, with each Party adopting a different one depending on their specific circumstances. The Committee agreed to reconvene by teleconference in March 2020 to discuss the details of the increased funding arrangements and how it would be reflected in the Secretariat's financial reports.

TABLE I

PACIFIC SALMON COMMISSION

FORECAST BUDGETS
(updated February 19, 2020)

	Forecast results 2019/2020	Proposed Budget 2020/2021	Forecast Budget 2021/2022	Forecast Budget 2022/2023
1 INCOME	(pink)	(none)	(pink)	(Adams)
A. Contribution from Canada	1,879,636	1,879,636	1,879,636	1,879,636
B. Special contribution pension CA	162,852	162,852	162,852	162,852
C. Contribution from U.S.A.	1,879,636	1,879,636	1,879,636	1,879,636
D. Special contribution pension U.S.A.	162,852	162,852	162,852	162,852
Sub total	4,084,976	4,084,976	4,084,976	4,084,976
E. Interest	70,000	60,000	60,000	60,000
F. Other income	190,000	180,000	180,000	180,000
G. Carry-over from previous fiscal year	879,137	633,077	(82,081)	(1,033,048)
H. Total Income	5,224,113	4,958,053	4,242,895	3,291,928
2 EXPENDITURES				
A. 1. Permanent Salaries and Benefits	2,776,016	3,240,092	3,328,998	3,403,675
2. Unfunded pension liability payments	325,704	325,704	325,704	325,704
3. Temporary Salaries and Benefits	240,629	203,119	231,704	225,897
4. Total Salaries and Benefits	3,342,349	3,768,915	3,886,405	3,955,276
B. Travel	121,394	155,942	153,634	155,261
C. Rents, Communications, Utilities	257,220	262,073	253,375	263,283
D. Contractual Services	611,880	572,063	713,703	752,078
E. Supplies and Materials	35,193	58,141	45,825	43,744
F. Equipment	223,000	223,000	223,000	223,000
G. Total Expenditures	4,591,036	5,040,134	5,275,943	5,392,642
3 BALANCE (DEFICIT)	633,077	(82,081)	(1,033,048)	(2,100,714)
Carry-over generated (expended) in the year	(\$246,060)	(\$715,158)	(\$950,967)	(\$1,067,666)