



IFMP Planning: 2022 Salmon Fisheries

PRE-SEASON IFMP PLANNING

FIRST NATIONS FORUM

MARCH 1-3, 2022



Outline

A. IFMP Planning:

1. First Nations Food, Social and Ceremonial Fisheries
2. Chinook Management
3. Interior Fraser Steelhead/Chum
4. Fraser River Sockeye
5. Interior Fraser Coho
6. Commercial Salmon Allocation Framework
7. Proposed Longer Term Commercial Closures
8. Salmonid Enhancement Program

B. IFMP process timelines



1. First Nations Food, Social and Ceremonial Fisheries

Departmental staff will consult with First Nations on fishing plans that achieve conservation objectives and provide FSC fishery harvest opportunities.

Restrictions in commercial and recreational fisheries may be required to provide for First Nations harvest opportunities.

Meetings planned with First Nations Forum to discuss Fraser salmon fishing plans as part of the IFMP process.

The Department signed the Fraser Salmon Collaborative Management Agreement and will be working via the Fraser Salmon Management Board (FSMB) to advance key FSMB work plan items. The FSMB will work to reach consensus and make joint recommendations on items in the annual work plan related to Fraser River salmon.



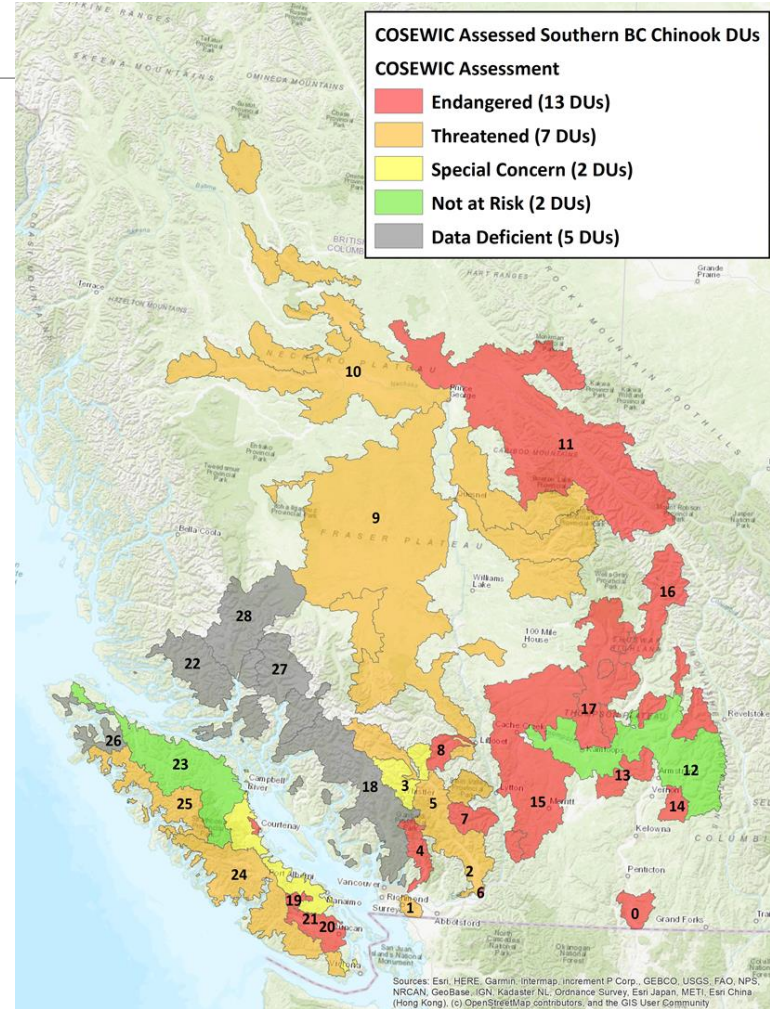
2. Chinook Management – Status

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assessed southern BC Chinook in two batches in November 2018 and November 2020.

29 Southern BC Chinook DUs assessed by COSEWIC; nearly all of these DUs were assessed to be at risk (13 endangered; 7 threatened; 2 special concern; 5 data deficient and 2 not at risk).

2021 Management objective for Spring 4₂, Spring 5₂ and Summer 5₂ Chinook to manage Canadian fisheries in highly precautionary manner to allow as many fish to pass through to spawning grounds as possible.

Restrictions for Fraser Chinook covering wide times/areas of southern BC and parts of northern BC also benefit other co-migrating Chinook; additional stock specific measures are identified in IFMPs.





2. Chinook Management Approach

Continued need for ongoing precautionary fishery management measures to support conservation of stocks of concern;

Plan for continued restrictions and/or closures to fisheries in times and area where these stocks are encountered in Northern and Southern BC

While conservation of at-risk Chinook is the primary objective in managing the resource, the Department is committed to respecting Constitutional and Treaty obligations to provide priority for First Nations harvest opportunities for Food, Social and Ceremonial and Treaty obligations after conservation.

In 2019, 2020 and 2021, additional commercial and recreational fishery restrictions implemented to support increased availability of not-at-risk Summer 4₁ Chinook for First Nations fisheries harvest opportunities during August and September.



2. Chinook Measures- 2021

Provision of priority access for First Nations FSC harvests in South Coast and Fraser River.

- South Coast FSC fisheries opportunities on mixed stocks were permitted in marine areas with the exception of the approaches to Fraser River (Subareas 29-6, 29-7, 29-9 and 29-10).
- Very limited Fraser River FSC fisheries opportunities were permitted into July to limit impacts on at-risk Fraser Chinook, with opportunities to target healthy Summer 4₁ Chinook in August.

Commercial troll fisheries delayed into August to avoid Fraser Chinook encounters.

- Area F (Northern BC) – Chinook non-retention until August 12 (directed Coho fishery also closed)
- Area G (WCVI) – Delayed start until August 1

Recreational measures

- summarized on following slide
- A small number of terminal and non-Fraser Chinook retention MSF opportunities also provided;
- Additional details to be provided by Fishery Notice and maps on DFO web-site: <https://www.pac.dfo-mpo.gc.ca/fm-gp/salmon-saumon/fraser-chin-mgmt-gest-quin-eng.html> .

Area-based fishery closures and other measures designed to support Southern Resident Killer Whales in their critical habitat.



2. Fraser Chinook Management and Data Review

Fishery evaluation data for Chinook available in Winter/Spring of following year includes:

1. Spawner abundance – [some updates since post-season review](#)
2. Big Bar impacts
3. Terminal return / Run size
4. Fishing impacts on Fraser stocks of conservation concern:
 - a) Coded-wire tag (CWT) recoveries
 - b) Exploitation rate analysis (ERA) results
 - c) Estimated fishing mortalities via genetic stock identification (GSI) analysis and run reconstruction; focus on Fraser Chinook but potential future expansion to other southern Chinook populations



2. 2021 Fraser Chinook Escapement Summary

Management Unit	2021 Escapement Estimate*	Brood Year Escapement*	2021 Comparisons
Spring 4 ₂	~6,000	5,000	Well below S_{MSY}
Spring 5 ₂	~15,100	13,500	Below S_{MSY}
Summer 5 ₂	~13,900	9,500	Below S_{MSY}
Summer 4 ₁	~175,700	84,500	Above S_{MSY}
Fall 4 ₁ (Harrison)	~36,000	30,000	Below escapement goal

*Estimates are **preliminary** and subject to change

** Estimates are subject to change due to infilling and calibration methods

Productivity near replacement levels for most management units



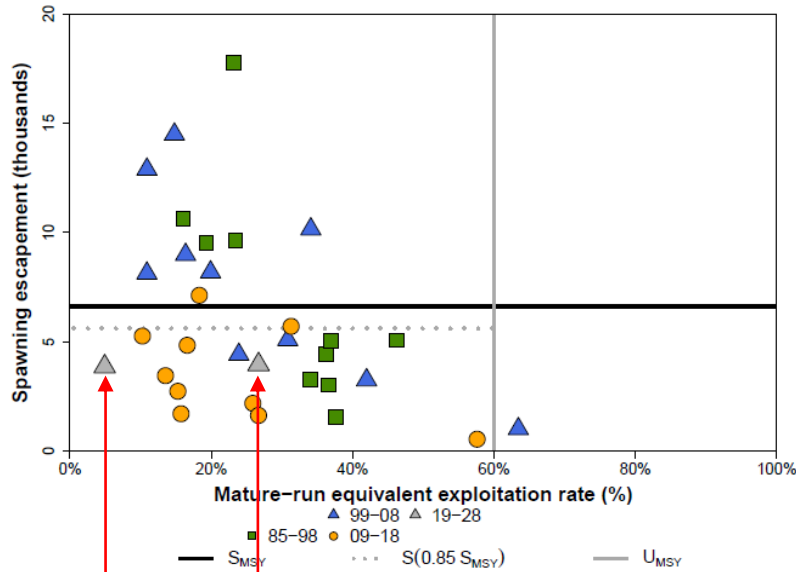
2. Fraser Chinook 2019 and 2020 Results – Fishery Mortalities

Management Unit (indicator)	2014-2018 Avg. CDN Fishery Mortalities (CWT)	2019 CDN Fishery Mortalities (CWT)	2019 CDN Fishery Mortality Index (Recon + GSI)*	2020 CDN Fishery Mortalities (CWT)	2020 CDN Fishery Mortality Index (Recon + GSI)*
Spring 4 ₂ (Nicola)	18.2%	3.5%	6.0%	23.1%	4.5%
Spring 5 ₂	n/a	n/a	6.6%	n/a	2.6%
Summer 5 ₂	n/a	n/a	14.9%	n/a	12.8%
Summer 4 ₁ (L. Shuswap)	27.6%	13.5%	32%	13.8%	24%
Fall 4 ₁ (Harrison)	22.5%	22.2%	18.0%	14.9%	19%

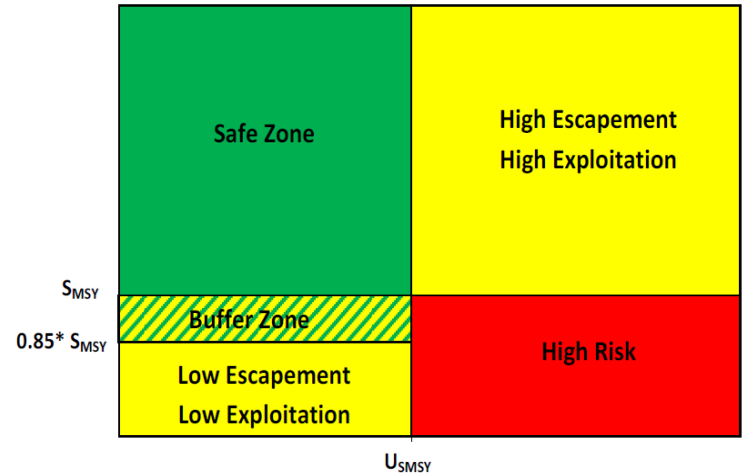
* A memo is available with detailed results.



Nicola (Spring 4₂) Chinook Escapement and Exploitation rate



2019 2020



Source: CTC (2021) Annual Report of Catch and Escapement for 2020

Nicola Chinook are in the low escapement, low exploitation rate zone.



Lower Shuswap (Summer 4₁) Chinook Escapement and Exploitation rate

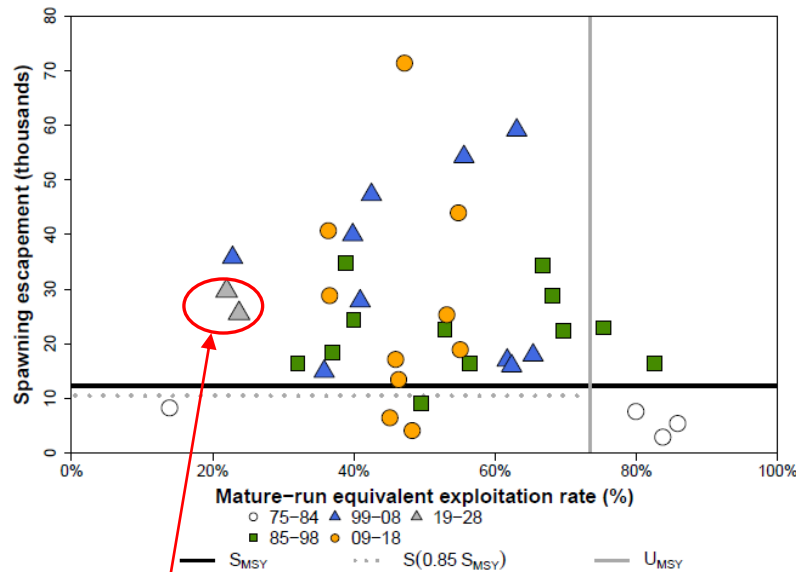
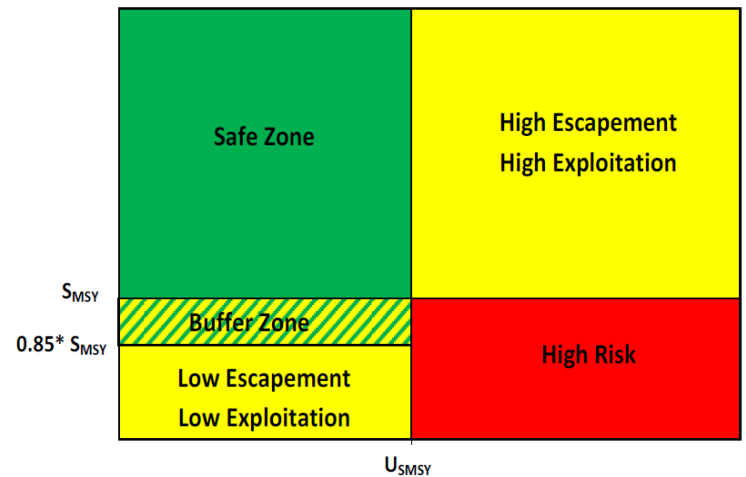


Figure 15.—Mature-run equivalent exploitation rate (%), spawning escapement, and threshold reference lines for exploitation rate and spawning escapement by CY for the L.Shuswap stock of Chinook salmon, 1979-2020. Cumulative mature-run equivalent exploitation rate calculated from the SHU CWT exploitation rate indicator stock.

2019 and 2020



Source: CTC (2021) Annual Report of Catch and Escapement for 2020

Lower Shuswap are in the
safe zone.



Harrison River (Fall 4₁) Chinook Escapement and Exploitation rate

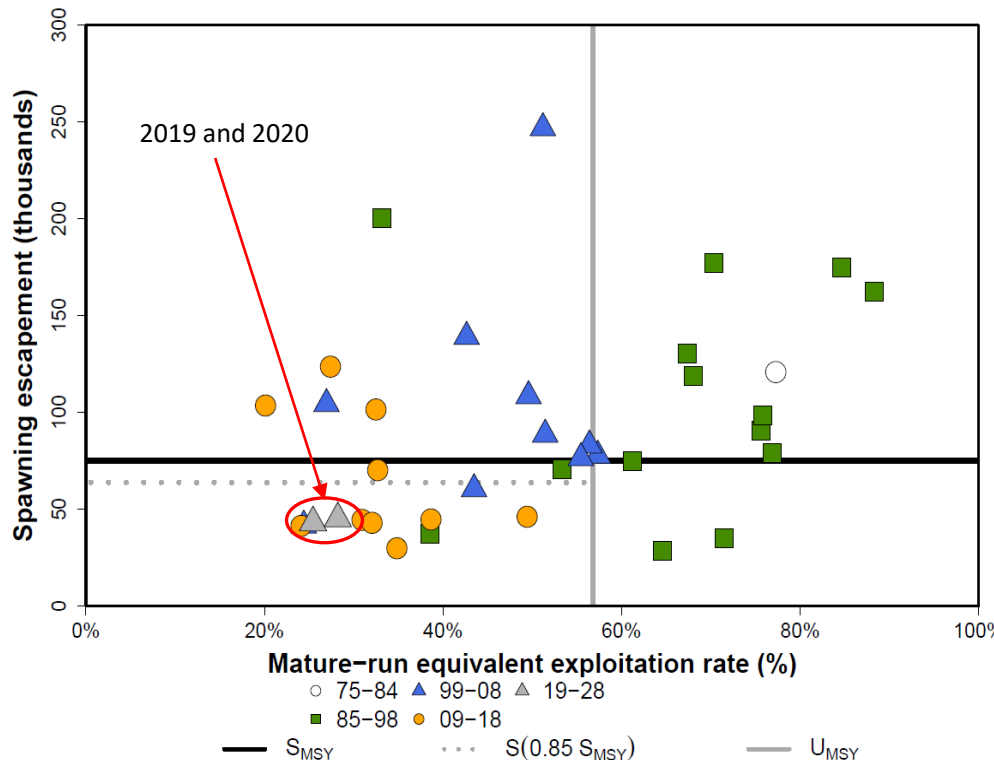
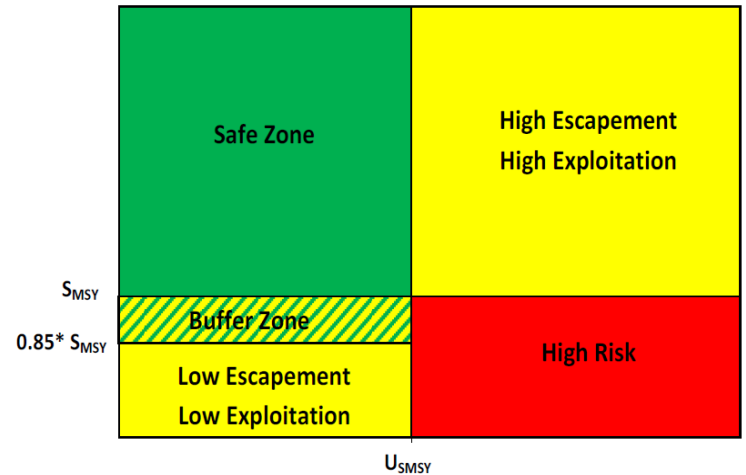


Figure 16. - Mature-run equivalent exploitation rate (%), spawning escapement, and threshold reference lines for exploitation rate and spawning escapement by CY for the Harrison stock of Chinook salmon, 1979-2020. Cumulative mature-run equivalent exploitation rate calculated from the HAR CWT exploitation rate indicator stock.



Source: CTC (2021) Annual Report of Catch and Escapement for 2020

Harrison Chinook are in the low escapement, low exploitation rate zone.



2. 2022 Chinook Management Measures

- Management measures are anticipated to be required for many years to rebuild Southern BC / Fraser Chinook.
- Draft IFMP identifies continuation of measures in times/areas- similar to recent years; and
- Potential adjustments to current fishery management measures based on 2021 CWT information in April 2022 and feedback from IFMP consultations
- As part of PSSI, DFO developing a discussion paper to help inform future decision making around the use of mass marking (MM) and mark selective fisheries (MSF); details on opportunities for engagement on this work will be provided in early 2022.
- Current plans for MM (e.g. Conuma) and MSF pilots are identified in the current IFMP (in effect June 1, 2021 to May 31, 2022).
 - MSF pilots in Areas 12, 13, 15, 16 and Beecher Bay (Area 20) starting April 1 pending post-season review of 2021 information (page 267 of 2021/22 IFMP)



2. 2022 Chinook Management Initial Planning Considerations

1. Are there additional opportunities to further reduce impacts on Fraser Summer 5₂ and Harrison Chinook?
2. Additional measures for other southern BC Chinook stocks?
 - E.g. Puntledge Summer Chinook (Area 14)
3. Potential opportunities to target terminal surpluses of enhanced or abundant wild Chinook?
4. How should DFO consider potential MM/MSF in 2022/23 IFMP (i.e. plans for Spring 2023) subject to completion of consultations on discussion paper and implementation plans in 2022? (e.g. Updated fishery evaluation framework)
5. Key priorities for longer term (>1 year) planning horizon (e.g. management strategy evaluation process)?
6. Other considerations?



3. Interior Fraser River Steelhead Update

- In January 2018, COSEWIC assessed Steelhead Trout (Thompson River and Chilcotin River populations) as *endangered* on an emergency basis. Government of Canada (GoC) did not list these populations under the *Species at Risk Act (SARA)* in July 2019.
- In lieu of listing under SARA, GoC is implementing a joint Steelhead Action Plan with the Province of British Columbia to protect the populations.
- COSEWIC confirmed *endangered* status for the Thompson and Chilcotin Steelhead populations in their October 2021 Annual Report. This assessment has triggered a regular SARA listing process by DFO to provide advice to Governor in Council on listing these populations.
- DFO is working with the Province of British Columbia on how to jointly approach the new listing process.



3. Interior Fraser River Steelhead 2022 Fisheries Planning

- The Department will be consulting with First Nations and stakeholders on conservation measures to protect IFR Steelhead from incidental impacts occurring in salmon fisheries as part of IFMP planning process.
- The starting point for these discussions will be the IFR Steelhead conservation measures implemented in 2021.
- Any modifications to the 2021 approach are expected to be consistent with the precautionary approach and the requirement to provide additional protection to stocks of conservation concern.
- Feedback on these measures will be sought throughout the IFMP planning process.



3. Inside Southern Chum

2022 Marine Recreational Fisheries Planning

To address harvest concerns and issues identified during the 2021 season, DFO is considering options for implementing an **in-season management approach** for Chum salmon in **marine recreational fisheries**.

- Potential sources of data for in-season decisions:
 - Johnstone Strait Chum purse seine test fishery (1M Critical Threshold)
 - Fraser River Albion test fishery (In-season run size)
 - Stock Assessment information (returns to many Strait of Georgia systems)
- In-season information will be used to inform management measures:
 - retention (full limits), reduced limits, or non-retention



3. Inside Southern Chum

2022 Marine Recreational Fisheries Planning

JST Chum Abundance	Fraser River Run Size	ECVI Monitored Systems*	Marine Recreational Fishery
<1 Million Critical Threshold not achieved	<500,000	Greater than 50% of currently assessed ECVI systems tracking below escapement	Chum non-retention
		50% or less of currently assessed ECVI systems tracking below escapement	
	500,000 to 800,000	Greater than 50% of currently assessed ECVI systems tracking below escapement	Chum non-retention
		50% or less of currently assessed ECVI systems tracking below escapement	Consider reduced Chum retention limits
	800,000 to 916,000	Greater than 50% of currently assessed ECVI systems tracking below escapement	Consider reduced Chum retention limits
		50% or less of currently assessed ECVI systems tracking below escapement	
	916,000 to 1,050,000	Greater than 50% of currently assessed ECVI systems tracking below escapement	Open full limits
		50% or less of currently assessed ECVI systems tracking below escapement	

*Systems: Puntledge, Big Qualicum, Little Qualicum, Nanaimo, Cowichan, Goldstream Rivers



3. Fraser River Chum 2022 Fisheries Planning

- Management of Fraser River Chum fisheries in 2022 is expected to be consistent with the precautionary approach and requirements to provide ongoing protection to stocks of conservation concern, including Interior Fraser River (IFR) Steelhead and IFR Coho.
- In addition, the Department will consult on the implementation of the following measures to improve manageability and to maintain equitable harvest across all portions of the Fraser River Chum return:
 - Identifying fishery end dates
 - Reducing the proportion of TAC released to commercial fisheries
 - Delaying the initiation of Chum-directed recreational opportunities in the Fraser and approach areas (including tributaries) until the in-season terminal run size estimate is available



4. Fraser River Sockeye Management

- 2022 is the dominant cycle line for Late run Fraser Sockeye.
- Quantitative forecasts provided in the draft IFMP.
- Escapement plan options available for review in draft IFMP, including outcomes for various returns.
- Planning to consider potential for a range of returns.
 - In recent years, generally, Fraser Sockeye returned well below forecast (i.e., less than p25).
 - Escapement Planning has been moving towards more precautionary management.
 - 2022 returns expected to be below average compared to the cycle-line and fishing opportunities will heavily depend on run size.



4. Fraser River Sockeye Management

- Specific management measures for protecting and rebuilding stocks of concern also need to be considered, including:
 - Measures to protect weak stocks (window closures, escapement planning, bycatch);
 - Additional management measures to mitigate passage challenges (i.e., Big Bar slide) and adverse environmental conditions during migration; and
 - Precautionary approach to managing stocks of conservation concern.



5. Interior Fraser River (IFR) Coho – 2022 Planning

- Interior Fraser River (IFR) Coho is managed using an abundance-based framework that identifies status based on a combination of marine survival rates and spawner abundance. IFR Coho and has been in LOW status for many years.

Low status: 20% ER cap for US and Canada. Each country's share of the 20% ER cap (10% each) may be managed to lower ERs based on domestic planning. Canada implemented 3-5% ER on Interior Fraser River MU in 2021.

- The 2021 escapement estimate for IFR Coho will be available shortly.
- Low status is expected to continue in 2022, and domestic fisheries will be managed to remain within the 3-5% ER.
- Additional work is required to develop status determination frameworks for Strait of Georgia and Lower Fraser Coho management units. New stock assessment projects are currently underway to address data limitations.



5. Strait of Georgia Coho - Assessment

The development of status determination frameworks for Strait of Georgia and Lower Fraser Coho management units will require significant improvements to existing assessment programs. New stock assessment projects are currently underway to address existing data limitations.

Strait of Georgia Coho Assessment – Fishery Sampling Pilot

- Lack of information on the status of Georgia Basin Coho is one reason for the precautionary approach to management of Southern BC Coho fisheries.
- A proposed approach to providing escapement estimates for this Coho management unit combines genetic sampling of Coho from fisheries in the northern Strait of Georgia area with escapement information from ECVI hatcheries.
- Pilot projects were implemented in 2020 and 2021 to acquire genetic samples for wild and hatchery Coho during September fisheries. The number of samples obtained has been limited, but DFO plans to work with First Nations and recreational fisheries to increase sample rates.



6. 2022 NEW CSAF Proposals – Updated

Year	First Nations	Commercial
	Northern BC	Northern BC
2022	Area 3 Sockeye (Revised) – Gitanyow Fisheries Authority	
2022	Area 4 Sockeye (Revised) – Gitksan Nation	
2022	Area 3 Pink (Revised) – NCSFNSS	
2022	Area 4 Sockeye (Revised) – NCSFNSS	
2022	Areas 4 Coho – Wet’suwet’en Nation	
	Southern BC	Southern BC
2022		Inside Fishery – Chinook (Spring 2023) – Area G



6. CSAF Next Steps

Assessment of CSAF proposals for 2022:

- New CSAF demonstration fishery proposals will be assessed using evaluation framework developed in 2016.
- New CSAF proposals received which appeared consistent with principles, objectives and criteria outlined in the Evaluation Framework were included in draft IFMP for further discussion and analysis prior to being approved.
- In consideration of feedback on proposals through the draft IFMP, the Department will include successful proposals (and all those proposals previously evaluated and included within the final IFMP for the previous year) within the final 2022 Salmon IFMP with the intent that they be implemented SUBJECT to a final fishing plan being approved within the local area and sufficient returns.



7. Proposed Longer Term Commercial Closures

- Department continuing to take a more precautionary approach to managing fisheries that interact with stocks of conservation concern
- Commercial fishery closures were implemented to further protect stocks of conservation concern in 2021 on an interim basis
- For 2022 and beyond, consultation with affected groups to review longer term closures
- Table in Appendix 8 of IFMP identifies commercial fisheries where there is a high risk of interception of stocks of concern in targeted fisheries and/or by-catch
- Feedback sought on Options for managing the stocks of concern:
 1. Longer term closure; or
 2. No longer term closure and implementation of additional mitigation measures (e.g. selective gear, time/area closures, more terminal location, etc.)



7. Proposed Longer Term Commercial Closures – Southern BC

IFMP	Species	Target stock	Gear	Fleet
Southern	Chinook	Fraser Chinook (Summer 41) - Riverfresh	GN	FN Sale
Southern	Chinook	Fraser Chinook (Summer 41)	GN	Area E
Southern	Chum	Barkley Wild	GN	Area D
Southern	Chum	Clayoquot Wild	GN	Area D
Southern	Chum	Fraser Chum - Tsawwassen EO	GN	FN Sale
Southern	Chum	Fraser Chum - Musqueam EO	GN	FN Sale
Southern	Chum	Fraser Chum - Sto:lo EO	GN	FN Sale
Southern	Chum	Fraser Chum	GN	Area E
Southern	Chum	Johnstone Strait mixed stock	GN	Area D
Southern	Chum	Nitinat	GN	Area E
Southern	Chum	Nitinat	SN	Area B
Southern	Sockeye	Fraser Sockeye - Musqueam EO	GN	FN Sale
Southern	Sockeye	Fraser Sockeye - Tsawwassen EO	GN	FN Sale
Southern	Sockeye	Fraser Sockeye - Sto:lo EO	GN	FN Sale
Southern	Sockeye	Fraser Sockeye - HFA EO	GN	FN Sale
Southern	Sockeye	Fraser Sockeye - UFISH	GN	FN Sale
Southern	Sockeye	Fraser Sockeye - Riverfresh	GN	FN Sale
Southern	Sockeye	Fraser Sockeye	GN	Area E
Southern	Sockeye	Fraser Sockeye	GN	Area D
Southern	Sockeye	Fraser Sockeye	Troll	Area H
Southern	Sockeye	Fraser Sockeye	SN	Area B



7. Proposed Longer Term Commercial Closures

Example: implementation of additional mitigation measures.

Southern IFMP		Options for 2022/23		Additional considerations
Fishery	Stocks of Conservation Concern (SoC) present in fishery	A) Longer Term Commercial Fishery Closure	B) No Longer Term Closure and Additional Mitigation Measures	
Fraser Sockeye Area E Gillnet	<p>Target SoC (incl. incidental): Some incidental catch of weaker stocks while targeting abundant stocks.</p> <p>By-catch SoC: Fraser Chinook, Interior Fraser Steelhead, Interior Fraser Coho, White Sturgeon.</p>	Option A) Consider longer term closure on non-dominant return years (except 2022, 2026, 2030).	Option B) Abundance Based Management and a more cautious escapement plan to decrease overall exploitation rates on Sockeye stocks of concern.	<p>The Fraser system is unique in that some stocks are very cyclic and may be abundant in some years. Large returns may occur in dominant and non-dominant years and can have substantial negative impact on future productivity if over-escapement occurs.</p> <p>Fishery occurs in the mainstem Fraser.</p>



7. Proposed Longer Term Commercial Closures

Example: implementation of additional mitigation measures.

Southern IFMP		Options for 2022/23		Additional considerations
Fishery	Stocks of Conservation Concern (SoC) present in fishery	A) Longer Term Commercial Fishery Closure	B) No Longer Term Closure and Additional Mitigation Measures	
Fraser Sockeye Sto:lo EO Gillnet	<p>Target SoC: Some incidental catch of weaker stocks while targeting abundant stocks.</p> <p>By-catch SoC: Fraser Chinook, Interior Fraser Steelhead, Interior Fraser Coho, White Sturgeon.</p>	Option A) Consider longer term closure on non-dominant return years (except 2022, 2026, 2030).	<p>Option B) For target species, implement Abundance Based Management and a more cautious escapement plan to decrease overall exploitation rates on Sockeye stocks of concern on all cycles.</p> <p>Consider more selective gear for non-target bycatch (non GN).</p>	<p>The Fraser system is unique in that some stocks are very cyclic and may be abundant in some years. Large returns for some stocks may occur in dominant and non-dominant years and can have substantial negative impact on future productivity if over-escapement occurs.</p> <p>This fishery occurs mainly in the Fraser River mainstem.</p>



7. Proposed Longer Term Commercial Closures

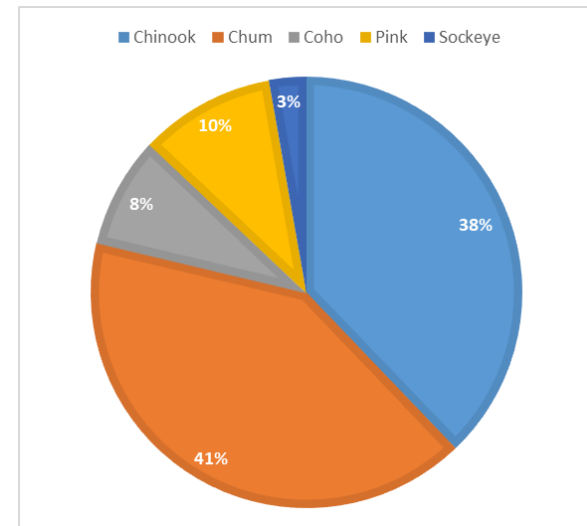
- Department proposing initial 5 to 10 year period to support recovery of salmon stocks of concern
- Consideration for review of closures at the end of one salmon cycle (2026) with intent to continue until such time as science advice indicates that stocks of concern intercepted in the fishery have recovered to healthy zone
- Other commercial fisheries not identified in Appendix 8 will remain closed unless conditions met for an opening based on harvest decision rules and conservation criteria outlined in IFMP
- Planned mitigation program includes commercial licence retirement and First Nations communal commercial licence alternation programs
- Additional initiatives also planned to support transformation of the commercial fishery



8. Salmonid Enhancement Program

2022 Draft Production Plan: **Species**

Total Target Release*	114,863,815
Chinook	43,473,700
Chum	46,920,685
Coho	9,591,430
Pink	11,680,000
Sockeye	3,198,000



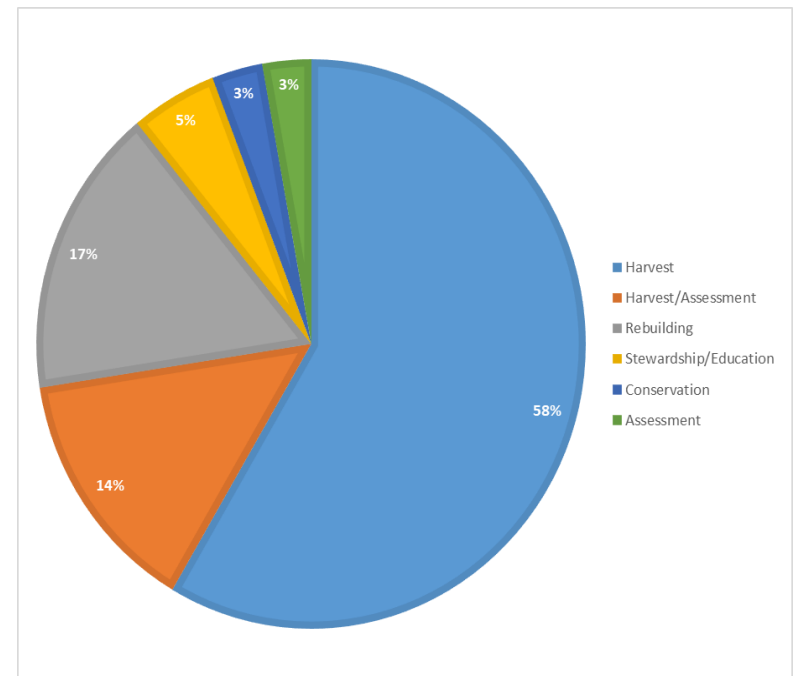
* does not include spawning channel releases



8. Salmonid Enhancement Program

2022 Draft Production Plan: Objectives

Total Target Release*	114,863,815
Harvest	67,121,400
Harvest/Assessment	16,200,000
Rebuilding	19,016,000
Stewardship/Education	5,841,415
Conservation	3,420,000
Assessment	3,265,000



* does not include spawning channel releases



8. Salmonid Enhancement Program

2022 Big Bar Response Conservation/Rebuilding Enhancement

Sockeye: 3 stocks ~1.1M Total Release Target

- Early Stuart, Bowron, Taseko

Chinook: 15 stocks ~500K Total Release Target

- Bowron, Endako, Chilako, Salmon River, Upper Chilcotin, Upper Caribou, Westroad/Blackwater, McGregor, Horsefly, Willow, Torpy, Slim, Swift



8. Salmonid Enhancement Program

Fraser Area

- Conservation/Rebuilding: 11 stocks: Spius, Coldwater, Portage, Salmon, Bridge, Nahatlatch, Nechako and Maria Chinook; Salmon, Dunn Coho and Cultus Sockeye
- PST Indicator continued development: Chilko Chinook (Summer 5-2) and Lower Chilcotin Chinook (Spring 5-2)
- Gates and Horsefly sockeye channels not operating in 2022



8. Salmonid Enhancement Program

South Coast Area

- Conservation: Sakinaw SK
- Rebuilding: 38 stocks
- Alberni Inlet seapen projects continuing
- Genetic broodstock screening: Puntledge Summers, Nahmint and Burman Chinook
- Delayed release groups continuing: Quinsam CO & CN, Big Qualicum CN
- Ongoing discussions surrounding Bute Inlet stock assessment and recovery



8. Salmonid Enhancement Program

Mass-Marking

Pilot projects continue: Conuma, Burman, Sarita

- **Conuma project:** exploring ability of genetic Parental-Based Tagging in combination with mass-marking to assess exploitation and survival rate calculations
- **Burman/Sarita projects:** mass-marking to support hatchery genetic management

PST Autofish marking trailer pilot operations

- **Fraser:** Shuswap, Spius, Chilliwack, Chehalis, Inch
- **South Coast:** Big Q, Robertson, Quinsam



8. Salmonid Enhancement Program

Harvest Production Re-alignment Analysis

Reduced catch may generate large numbers of hatchery fish returning to spawning grounds or hatchery facilities and creating increased biological risk and inconsistent with the Wild Salmon Policy, SEP guidelines, DFO fishery policy, and Science Branch advice;

Inefficient public expenditures resulting from an activity that no longer achieves its intended outcome; and

Opportunity cost: inability to shift or re-orient hatchery capacity to address more stock rebuilding or stock conservation initiatives.



B. 2022 IFMP Timelines

Activity	Proposed Timelines
Release of DFO IFMP Planning Letter Letter Identifying key planning and timelines for 2022/23 season	December 3, 2021
Deadline for new CSAF proposals	February 4, 2022
Meetings to review and discuss potential changes to IFMPs and opportunity for focussed discussion on key IFMP issues.	January 18-20 Northern IHPC – February 2, 2022 Southern IHPC - February 8, 2022
Draft IFMPs released for public review & comment	Last week of February 2022
Meetings to review draft IFMP	FN Forum - March 1-3, 2022 Northern IHPC – March 9, 2022 Southern IHPC - March 10, 2022
2021 Revised Salmon Outlook	April 5, 2022
Deadline to submit comments on draft IFMP (minimum 30 day comment period).	April 15, 2022
Final Meetings for discussion on IFMP feedback.	FN Forum - Apr 12-14, 2022 Full IHPC – May 4-5, 2022
Target for public release of salmon IFMP	June 30, 2022



Appendix



COSEWIC Assessments - Salmon

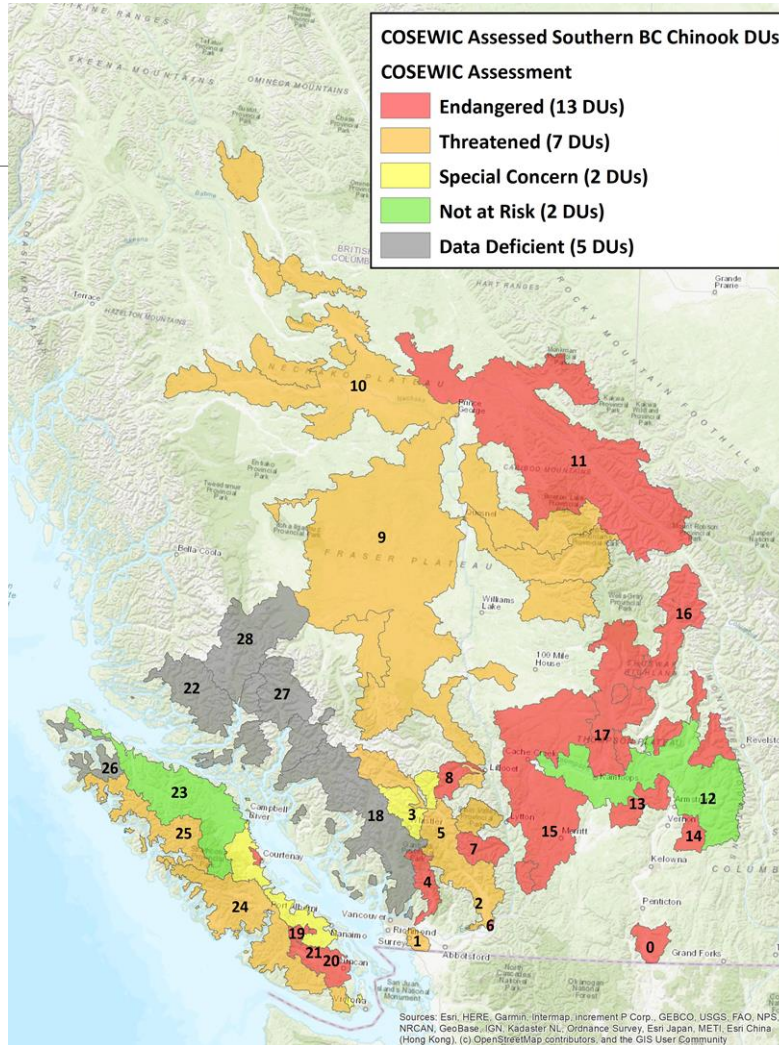
Listing processes are underway for 41 designatable units (*E*, *TH* and *SC*) Pacific Salmon and Trout

Species	# of DUs*	COSEWIC Assessment Date	COSEWIC Status	COSEWIC Annual Report Date
Sakinaw Sockeye	1	2016 (April)	E	Oct 2016
Interior Fraser Coho	1	2016 (November)	T	Oct 2017
Okanagan Chinook	1	2017 (April)	E	Oct 2017
Fraser Sockeye (Group I)	24	2017 (November)	8 E, 2 T, 5 SC, 9 NAR	Oct 2018
Southern BC Chinook (Group I)	16	2018 (November)	8 E, 4 T, 1 SC, 1 NAR, 2 DD	Oct 2019
Southern BC Chinook (Group II)	12	2020 (November)	4 E, 3 T, 1 SC, 1 NAR, 3 DD	Oct 2021
Steelhead Trout (Thompson & Chilcotin) Regular re-assessment**	2	2020 (November)	2 E	Oct 2021
Fraser Sockeye (Group II)	7	2021 (November)	3 X, 2 E, 2 SC	Anticipated Oct 2022

X – Extinct, EN – Endangered, TH – Threatened, SC – Special Concern, NAR – Not at Risk, DD – Data Deficient



COSEWIC Status of Southern BC Chinook DUs



DU #	Name	Status
0	Okanagan Chinook	EN
1	Mainland Boundary Bay, Ocean, Fall	TH
2	Lower Fraser, Ocean, Fall	TH
3	Lower Fraser, Stream, Spring	SC
4	Lower Fraser, Stream, Summer (U.Pitt)	EN
5	Lower Fraser, Stream, Summer	TH
6	Lower Fraser, Ocean, Summer	EN
7	Mid Fraser, Stream, Spring	EN
8	Mid Fraser, Stream, Fall	EN
9	Mid Fraser, Stream, Spring (MFR+GStr)	TH
10	Mid Fraser, Stream, Summer	TH
11	Upper Fraser, Stream, Spring	EN
12	South Thompson, Ocean, Summer	NAR
13	South Thompson, Stream, Summer 1.3	EN
14	South Thompson, Stream, Summer 1.2	EN
15	Lower Thompson, Stream, Spring	EN
16	North Thompson, Stream, Spring	EN
17	North Thompson, Stream, Summer	EN
18	SC - Georgia Strait, Ocean, Fall	DD
19	East Vancouver Island, Stream, Spring	EN
20	East Vancouver Island, Ocean, Summer	EN
21	East Vancouver Island, Ocean, Fall	SC
22	SC – Southern Fjords, Ocean, Fall	DD
23	East Van. I., Ocean, Fall (EVI + SFj)	NAR
24	West Van. I., Ocean, Fall (South)	TH
25	West Van. I., Ocean, Fall (Nootka & Kyuc)	TH
26	West Van. I., Ocean, Fall (WVI + WQCI)	DD
27	Southern Mainland, Ocean, Summer	DD
28	Southern Mainland, Stream, Summer	DD



2. Chinook PST Indicators with Defined Objectives

Stock Country	CWT Indicator	Escapement Indicator	Management Objective	Preliminary 2021 Escapement
CAN	COW	Cowichan	6,500	15,926
CAN	SHU	Lower Shuswap	12,300	29,500**
CAN	HAR	Harrison	75,100	36,000 ⁺

*Hatchery + Wild escapement = 14, 751 Chinook. Wild component not yet available but hatchery component in recent years was approx. 50-60%.

**Preliminary estimate not yet available; but expected to exceed escapement goal.

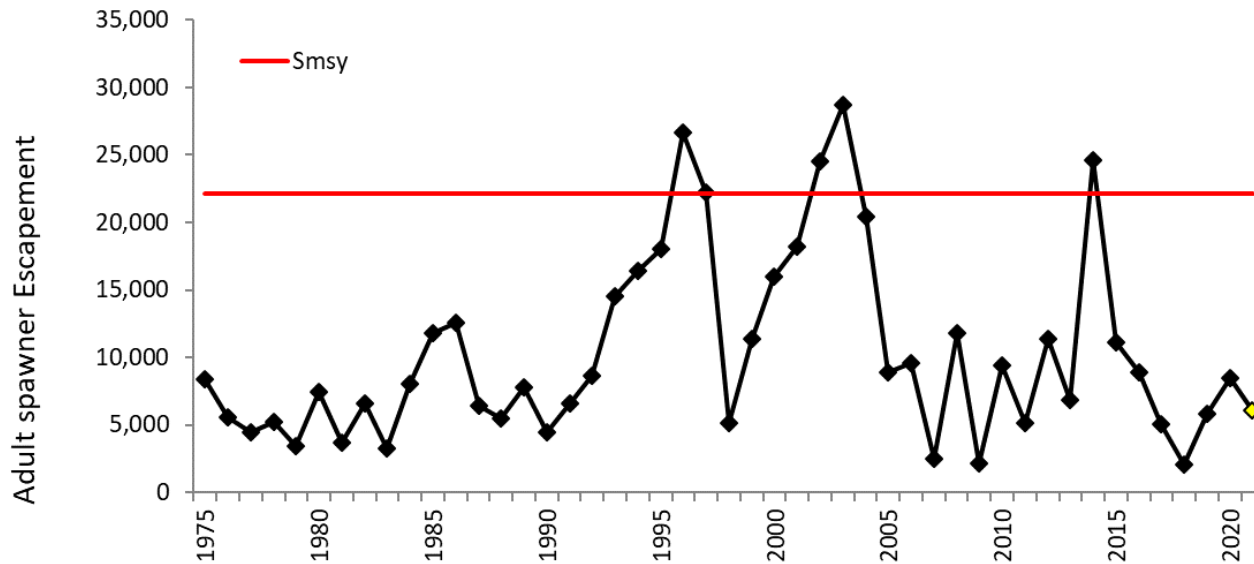
+ Preliminary estimate, subject to change.



Escapement - Fraser Spring 4₂ Chinook

Brood year escapement (2017) was well below Smsy

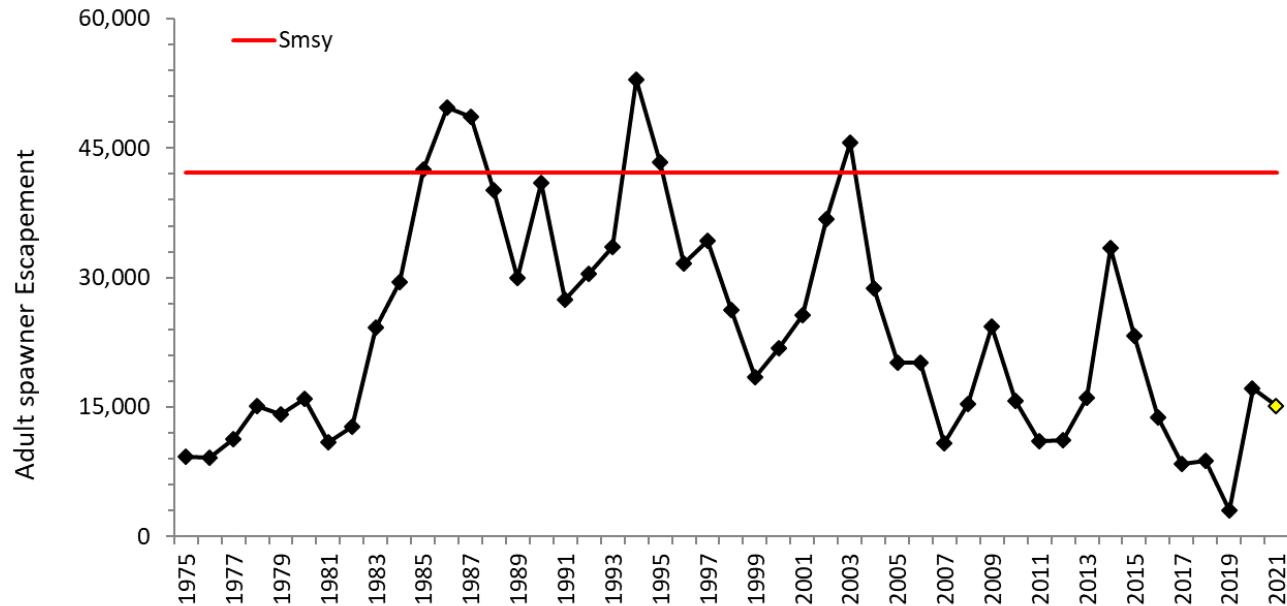
The *preliminary* estimate for 2021 is ~6,000.





Escapement - Fraser Spring 5₂ Chinook

Brood year escapement (2016) was below Smsy.
The *preliminary* estimate for 2021 is ~15,100.

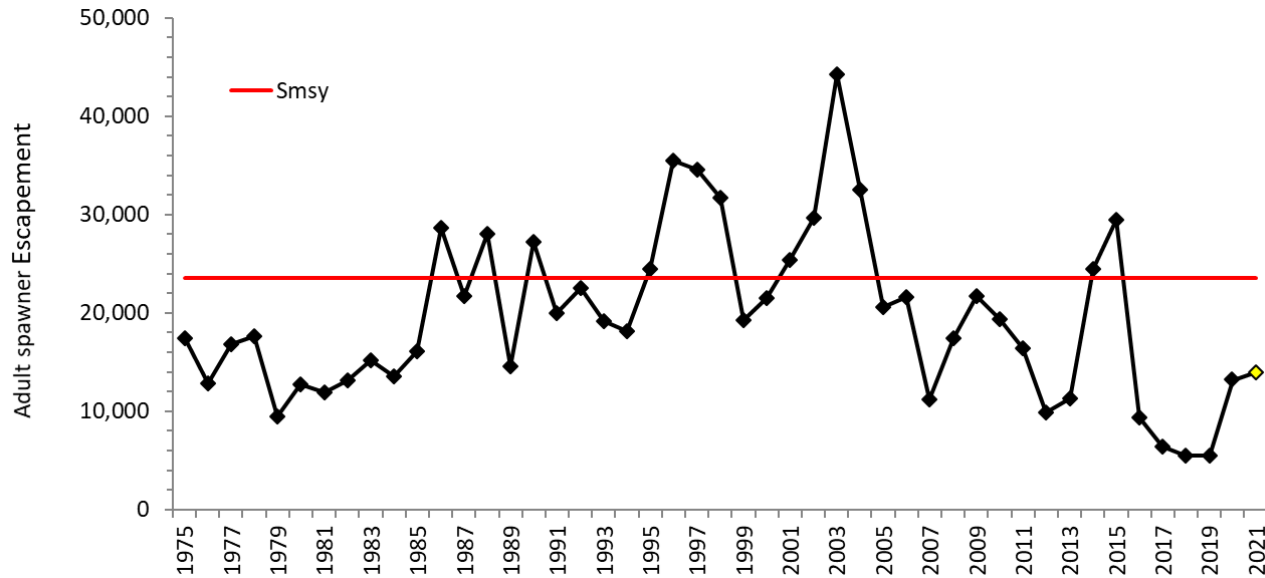




Escapement - Fraser Summer 5₂ Chinook

Brood year escapement (2016) was below Smsy.

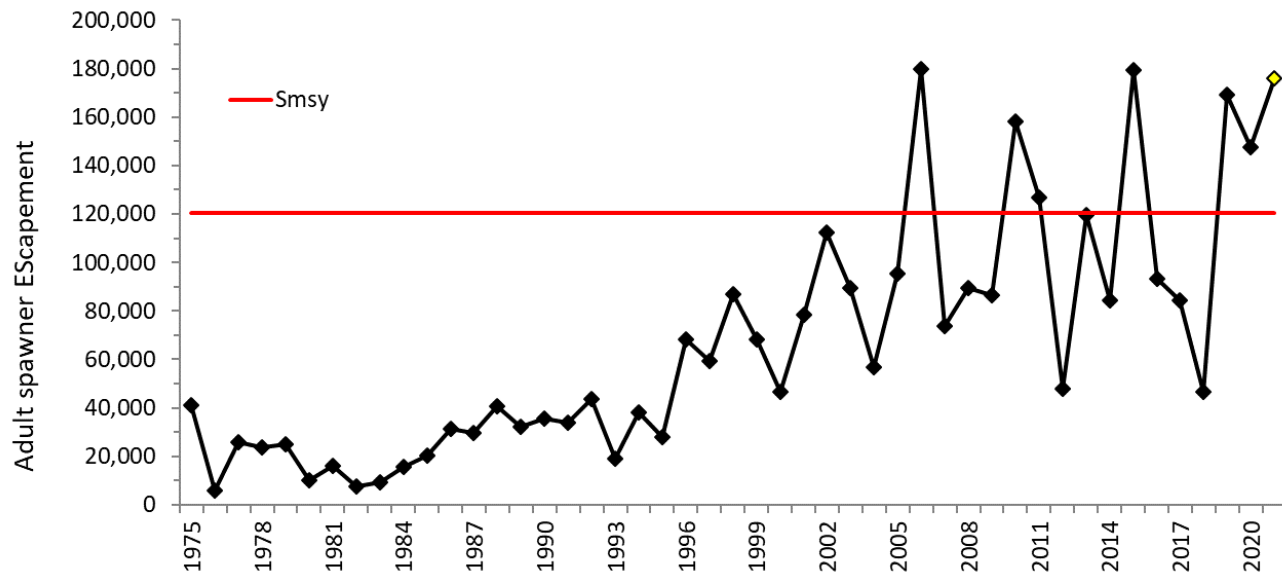
The *preliminary* estimate for 2021 is ~13,900.





Escapement - Fraser Summer 4₁ Chinook

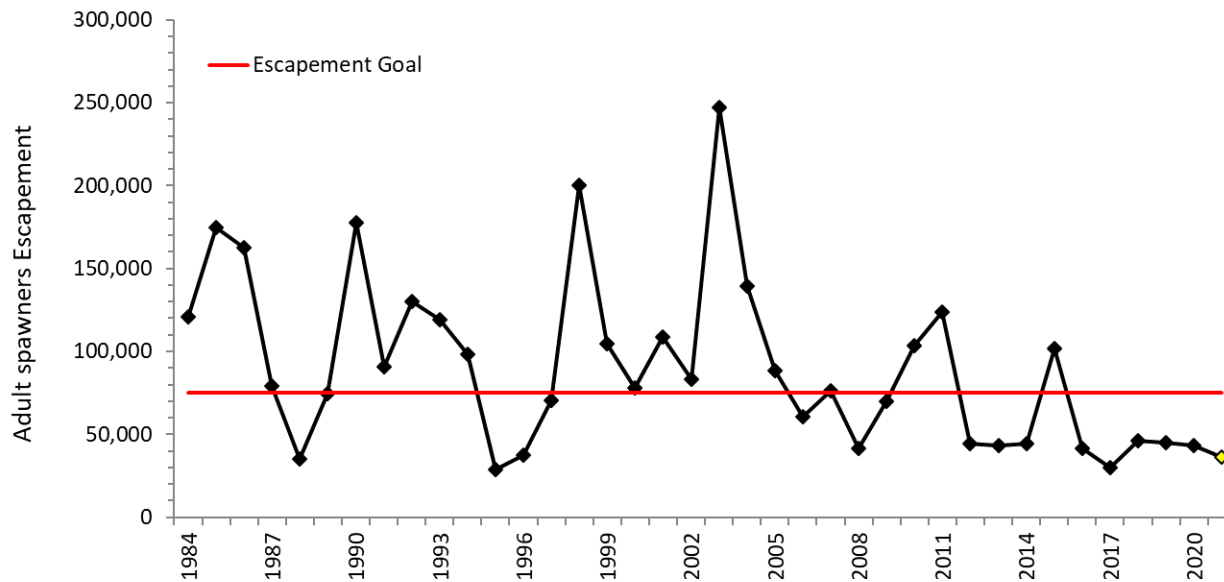
Brood year escapement (2017) was above Smsy
The *preliminary* estimate for 2021 is ~175,700.





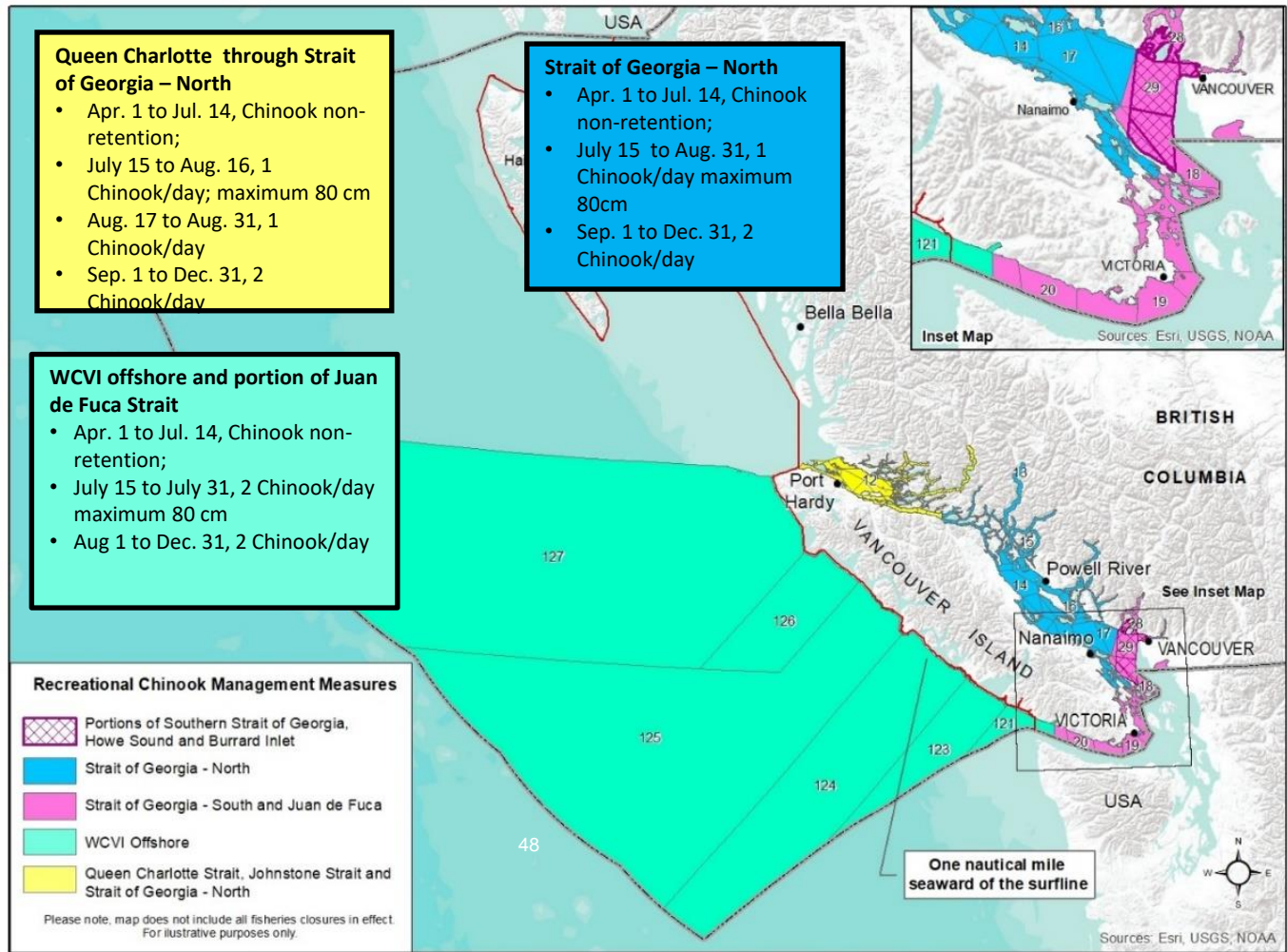
Escapement - Fraser Fall 4₁ Chinook

Brood year escapement (2017) was below escapement goal
The escapement goal (75,100) has only been met once in the last 10 years
The *preliminary* escapement estimate for 2021 is ~36,000.





2021 Recreational Chinook Management Measures





IFR Coho Status Zones

	Low	Moderate	Abundant
Survival	$S \leq 0.03$	Three consecutive years: $0.03 < S \leq 0.06$	Three consecutive years: $S > 0.06$
		and	and
Escapement	Monitored in CU's and sub pops but no thresholds	Three consecutive years: Half of sub pops in each CU > 1000; or Aggregate MU esc. objective (e.g., 27,000)	Three consecutive years: All IFR sub pops in each CU > 1000; or Aggregate MU esc. objective (e.g., revised 40,000)
ER cap (US/Can)	0.20 (0.10/0.10)	0.30 (0.12/0.18)	0.45 (0.15/0.30)

Previous approach included ER caps of 20% for low; 40% for moderate and 65% for abundant