



2021 Fraser River Stock Assessment and Fishery Summary



Coho and Chum Salmon

Outline

Background & Stock Assessment

- Coho
- Chum
 - Fraser River
 - Johnstone Strait
 - Strait of Georgia

2021 Fraser River Fisheries

- Recreational
- Commercial
- First Nations

Questions

Photo by: Shane Kalyn



Background and Stock Assessment



Photo by: Shane Kalyn

Fraser River Chinook, Chum, Coho

- Detailed background information on life history, spawning areas, and management groupings (CU/DU/MU) is provided in an additional handout:

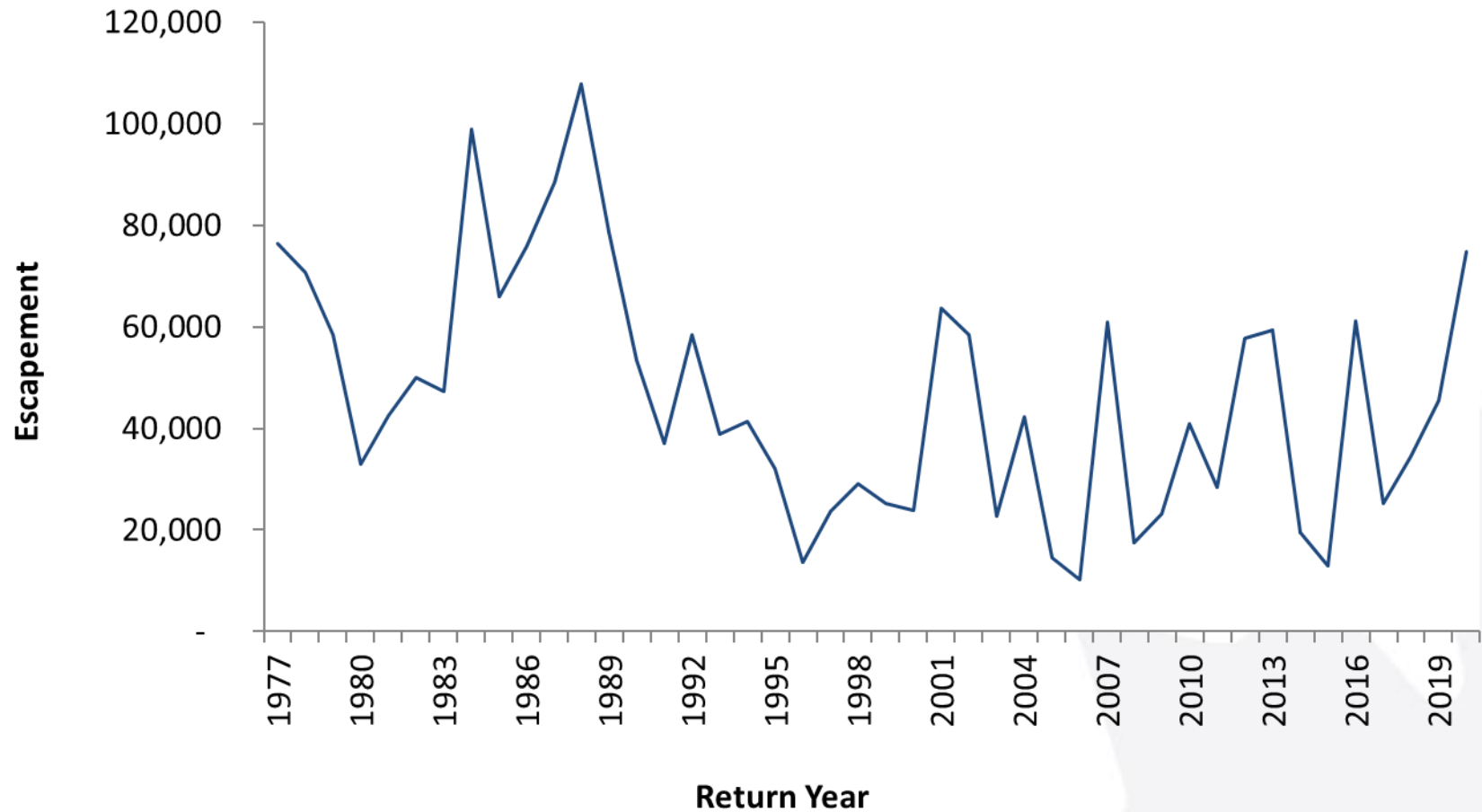
Fraser River CN-CO-CM Background.pdf

Interior Fraser River Coho - Status

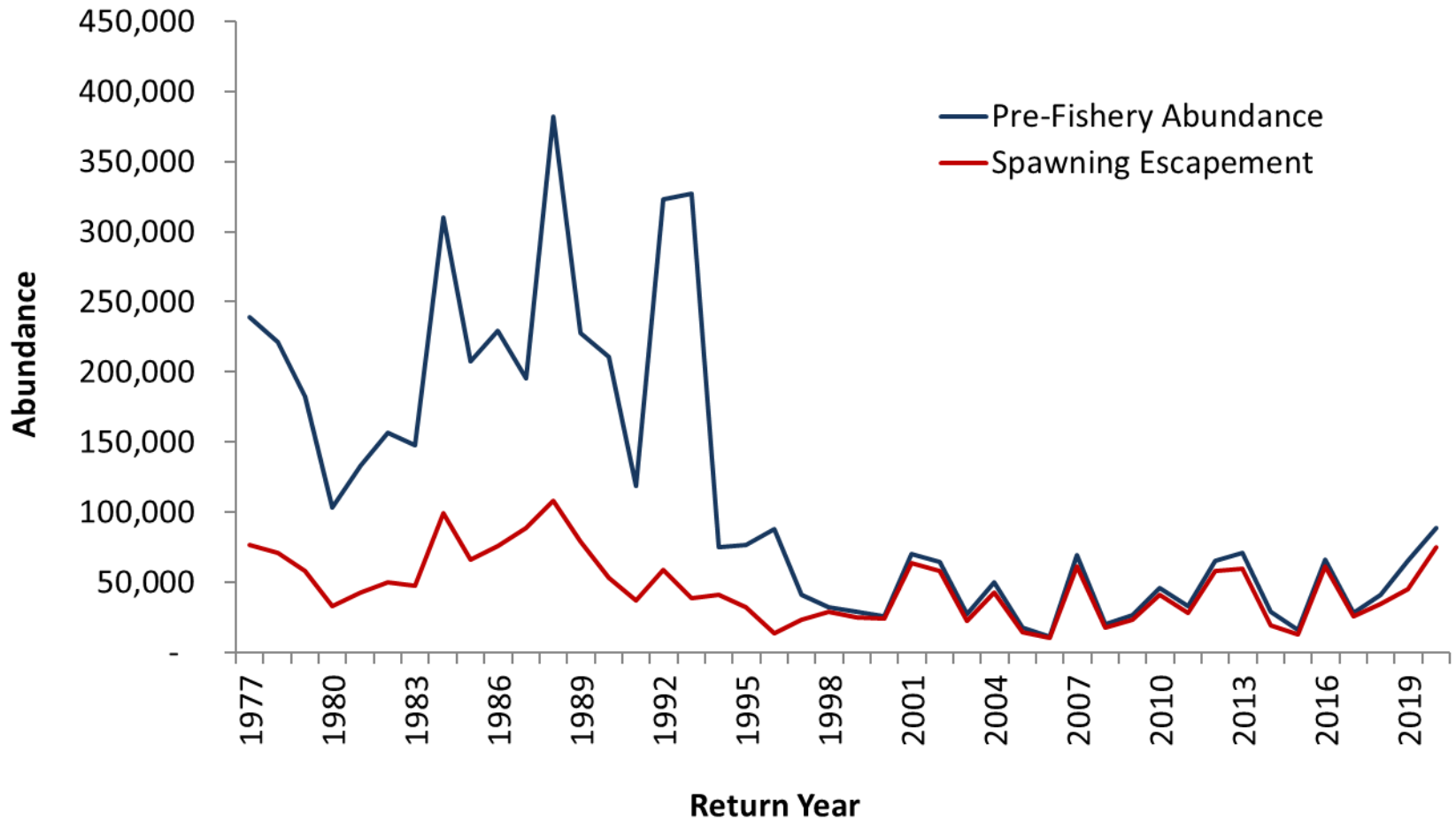
Pacific Salmon Treaty reference points and exploitation rate caps:

	Low	Moderate	Abundant
Survival (CWT Indicator Programs)	$S \leq 0.03$	Three consecutive years $0.03 < S \leq 0.06$	Three consecutive years $S > 0.06$
		and	and
Escapement	Monitored in CU's and subpops but no thresholds	Three consecutive years: · Half of subpops in each CU > 1000; or · Moderate Aggregate MU esc. objective	Three consecutive years: · All IFR subpops in each CU > 1000; or · Abundant Aggregate MU esc. objective
ER cap (US/Can)	0.20 (0.10/0.10)	0.30 (0.12/0.18)	0.45 (0.15/0.30)

Interior Fraser River Coho - Escapement



Interior Fraser River Coho – Total Abundance



Interior Fraser River Coho - Status

Escapement:

Return Year	Short Term Sub Pop Goal*		Short Term Escapement Proxy Goal	Natural Origin Escapement	Goal Met in Three Consecutive Years
2014	No	or	17,501	17,980	No
2015	No		23,953	11,576	No
2016	Yes		26,807	59,013	No
2017	No		30,032	24,024	No
2018	Yes		29,716	32,885	No
2019	Yes		29,324	41,500	No
2020	Yes		29,303	69,101	Yes

*three consecutive years of greater than 1000 in half the sub populations

2021 assessment for Interior Fraser River Coho is not yet available

Interior Fraser River Coho - Status

Smolt-to-adult survival:

Return Year	CWT Survival	Moderate PST Survival Goal Met in 3 Years?
2014	1.1%	No
2015	0.7%	No
2016	1.3%	No
2017	1.0%	No
2018	1.4%	No
2019	1.6%	No
2020	1.6%	No

2021 assessment for Interior Fraser River Coho is not yet available

Interior Fraser River Coho - Status

Status for 2021:

	Low	Moderate	Abundant
Survival (CWT Indicator Programs)	S ≤ 0.03	Three consecutive years 0.03 < S ≤ 0.06	Three consecutive years S > 0.06
		and	and
Escapement	Monitored in CU's and subpops but no thresholds	Three consecutive years: · Half of subpops in each CU > 1000; or · Moderate Aggregate MU esc. objective	Three consecutive years: · All IFR subpops in each CU > 1000; or · Abundant Aggregate MU esc. objective
ER cap (US/Can)	0.20 (0.10/0.10)	0.30 (0.12/0.18)	0.45 (0.15/0.30)

2021 Fraser River Chum

Managed based on in-season information derived from the Albion test fishery

In-season run size estimates

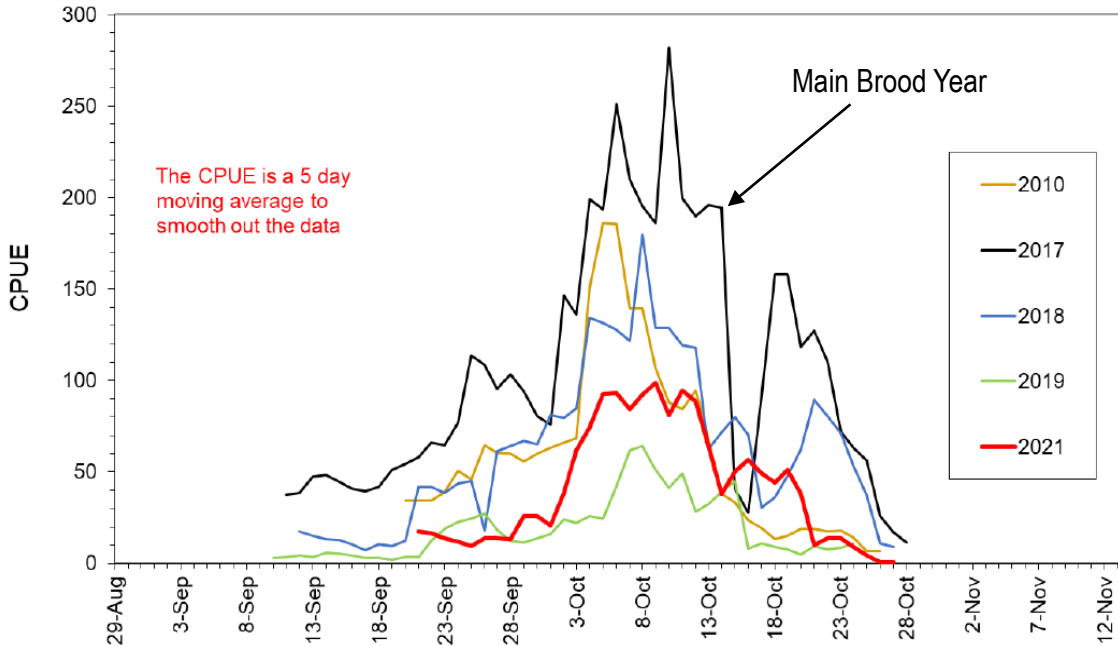
- October 15 preliminary run size: 519,000 (FN1097)
- October 22 final run size: 481,000 (FN1124)

Post-season assessment

- 2021 escapement assessments are still underway
- Escapement estimates not yet available

Inside Southern Chum

Chum Test Fishery CPUE Comparison



Aggregate Mixed Stock

➤ 2021 Chum catch per unit effort (CPUE) in the test fishery tracked much lower than the 2017 brood year but better than the very low returns encountered in 2010 and 2019. We have seen a steady decline in productivity over the last 5 years.

➤ Age composition information showed below average 4_1 age with above average age 3_1 contribution

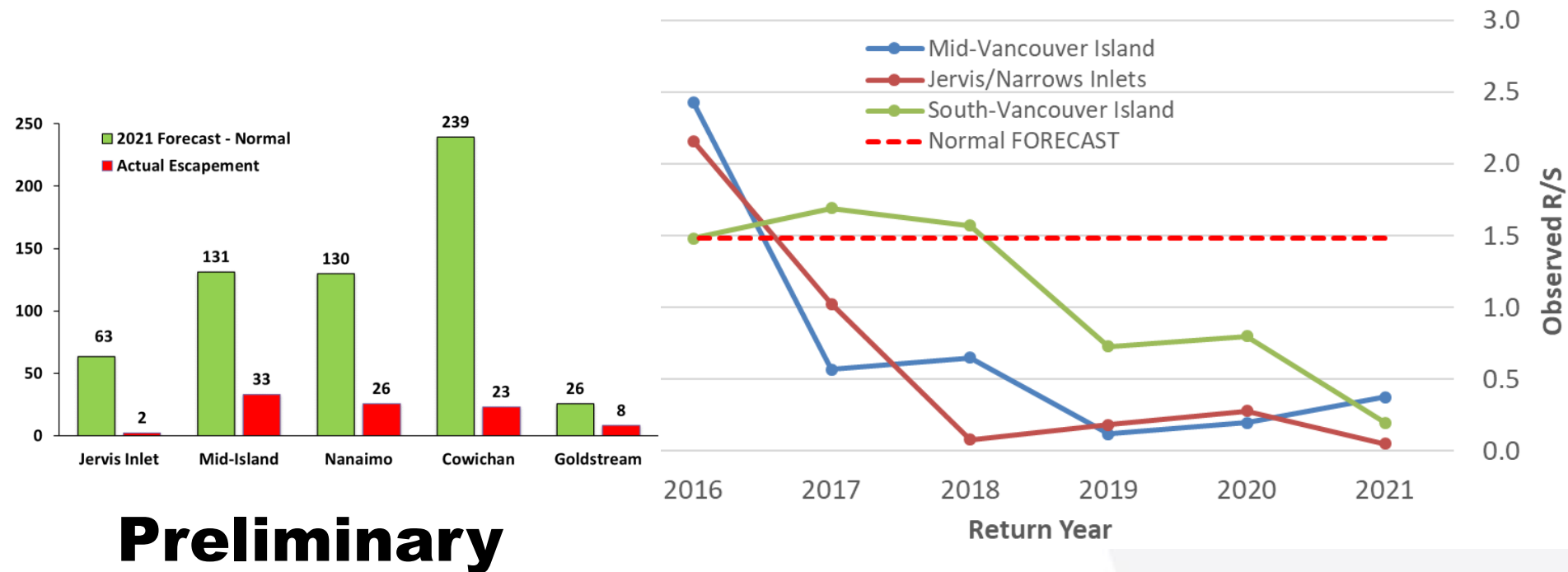
➤ Fish size at age was also lower than average

Johnstone Strait escapements:

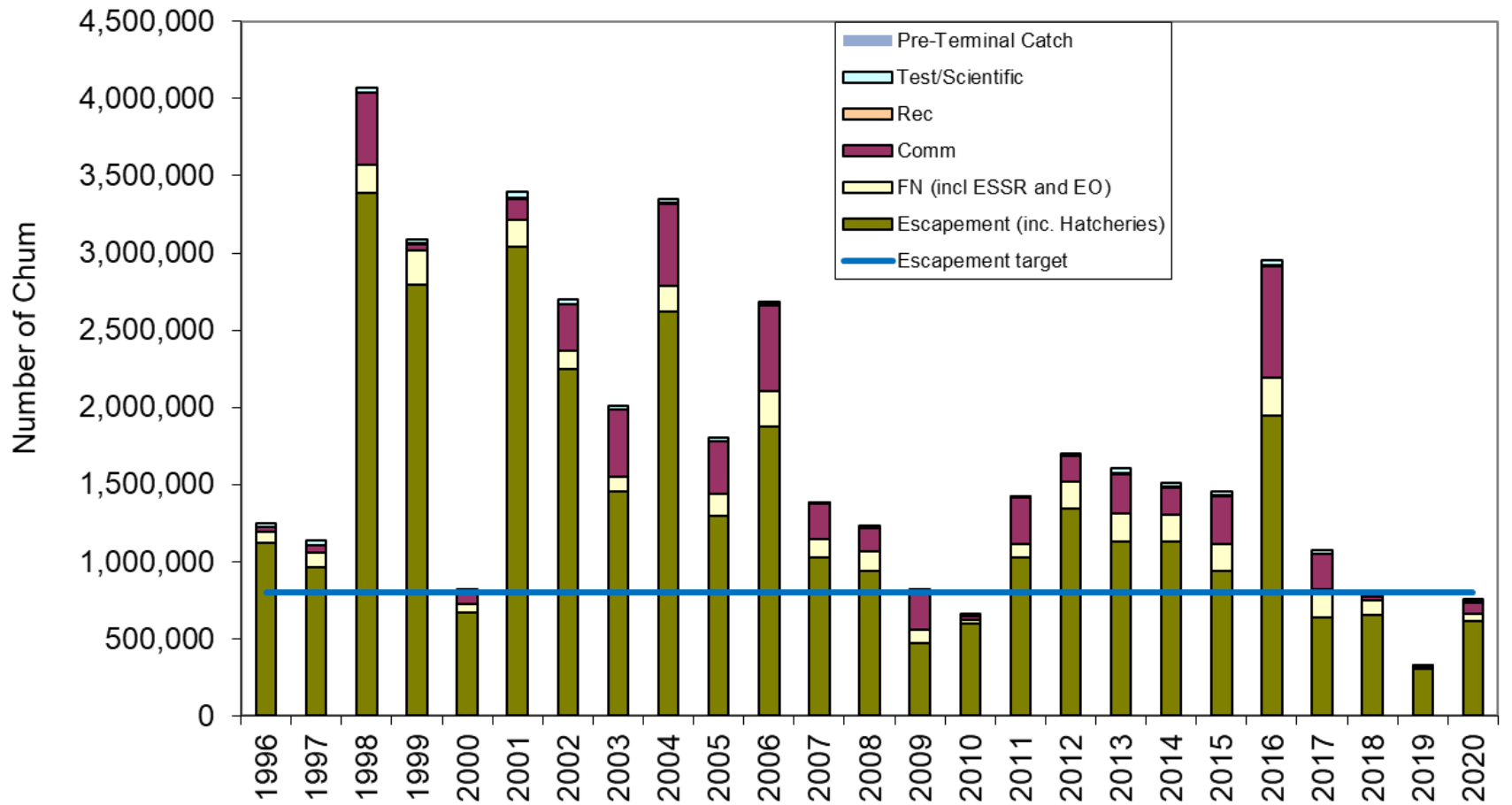
- Summer Chum: **Very poor returns** to many of the mainland inlet systems
- Fall Chum: Returns generally **well below average** (continued concern for stocks like Nimpkish)

Strait of Georgia Chum

- 2021 inner south coast Chum returns were **well below forecast** and lower than 2020. Trend of stronger returns to southern systems (Nanaimo, Cowichan, Goldstream) fading with very low abundance in Cowichan.



Preliminary Reconstructed Fraser Chum Pre-terminal Run Size



*2020 preliminary

2021 Fraser River Fishery Summary



Photo by: Shane Kalyn

2021 Albion Test Fishery Summary

Dates

Chinook-directed
single panel (8"):
Apr. 19 – Oct. 20

Chinook-directed
multi-panel (6-9"):
Apr. 18 – Aug. 30

Chum-directed
single panel (6.75"):
Sep. 1 – Nov. 23

Catch

Chinook: 1,668

Chum: 2,993

Coho: 253

Sockeye: 519

Pink: 301

Steelhead: 4

2021 Recreational Fishery Management

Approaches to Fraser River - Subareas 29-6, 29-7, 29-9 and 29-10:

- January 1 to December 31 - No fishing for salmon

Tidal Fraser River:

- January 1 to November 1 - No fishing for salmon

Non-tidal waters of the Fraser River from Mission Bridge to the confluence with Sawmill Creek:

- January 1 to November 14 - No fishing for salmon

Freshwater Regions 3, 5, 7, & 8:

- January 1 to December 31 - No fishing for salmon

Limited fishing opportunities for specific salmon stocks occurred in some areas (primarily Pink and Coho salmon). Opportunities on hatchery stocks in some tributaries to the Fraser.

2021 Fraser River Catch - Recreational

- Estimates of Coho and Chum catch are not yet available in the Lower Fraser.
- No Coho or Chum were encountered in the BC Interior recreational fisheries in 2021

2021 Fraser River Fisheries - Commercial

No commercial Chum-directed fisheries were licensed in 2021 in Area 29.

Area E - Gill Net

- As part of PSSI, the Area E gill net Fraser Chum commercial fishery in Area 29 was closed.

Area B - Seine

- At terminal run sizes less than 916,000, no commercial Chum TAC is available.

2021 Fraser River Fisheries - First Nations

Management Objectives

- Direct harvest toward Summer 4₁ Chinook, Fraser Pink, & Fraser Chum
- Avoid at-risk stocks:
 - Chinook (Spring 4₂, Spring 5₂, Summer 5₂)
 - Sockeye
 - Interior Fraser Coho
 - Interior Fraser Steelhead

Management Actions

- Short communal gill net openings in August (min. 8" mesh), and October to November (min. 6 ¼" mesh).
- Short communal, EO, and demo seine openings in September
- Longer-duration openings to fish wheel, rod & reel and dip net
- Window closures

2021 Fraser River Catch - First Nations

	Coho		Chum		Steelhead	
	rel	kept	rel	kept	rel	kept
FSC						
Lower Fraser	838	417	321	21,583	101	-
BC Interior	-	72	-	-	-	-
FSC Total	838	489	321	21,583	101	0
Economic Opportunity						
Lower Fraser	394	-	215	-	-	-
BC Interior	-	-	-	-	-	-
Ec Opp Total	394	0	215	0	0	0
ESSR						
Lower Fraser	-	27,352	-	1,321	-	-
BC Interior	-	-	-	-	-	-
ESSR Total	0	27,352	0	1,321	0	0
All Catch						
Lower Fraser	1,232	27,769	536	22,904	-	-
BC Interior	-	72	-	-	-	-
All Catch Total	1,232	27,841	536	22,904	101	0

note: Economic Opportunity fisheries include Demonstration fisheries and Tsawwassen Harvest Agreement fisheries

- **Estimates are preliminary and subject to change**
- 100 SH were encountered in fish wheels; 1 encountered in Oct. GN fisheries outside IFR SH window closure
- ESSR opportunities at Chilliwack, Inch Creek, & Capilano hatcheries.

Additional Slides

Chum In-Season Run Size Estimates

Year	In-season run size	Post-season run size	Escapement
2012	2,326,000	1,702,020	1,333,993
2013	1,489,000	1,601,308	1,114,947
2014	1,329,000	1,507,866	1,122,392
2015	1,567,000	1,452,704	923,352
2016	2,000,000	2,944,873	1,930,723
2017	1,320,000	1,075,716	630,055
2018	769,000	789,464	647,251
2019	518,000	326,142	291,379
2020*	1,084,000	757,496	604,107

*Preliminary

2021 IFR Steelhead Window Closure

Fishery Location		27-day window closure (commercial troll fisheries and FSC fisheries occurring in the Fraser River)		42-day window closure (commercial drift and set gillnet, purse seine, beach seine, and shallow seine fisheries and recreational fisheries occurring in the Fraser River)	
		Start	End	Start	End
Fraser River	Area 29: 29-6, 29-7, 29-9, and 29-10	26-Sep	22-Oct	19-Sep	30-Oct
	Mouth to Port Mann Bridge	26-Sep	22-Oct	19-Sep	30-Oct
	Port Mann Bridge to Mission	28-Sep	24-Oct	21-Sep	1-Nov
	Mission to Hope	29-Sep	25-Oct	22-Sep	2-Nov
	Hope to Sawmill Creek	3-Oct	29-Oct	26-Sep	6-Nov
	Sawmill Creek to Lytton (Thompson Confluence)	5-Oct	31-Oct	28-Sep	8-Nov
	Lytton to Texas Creek	8-Oct	3-Nov	1-Oct	11-Nov
	Texas Creek to Kelly Creek	10-Oct	5-Nov	3-Oct	13-Nov
	Kelly Creek to Deadman Creek	13-Oct	8-Nov	6-Oct	16-Nov
	Deadman Creek to Chilcotin River	16-Oct	11-Nov	9-Oct	19-Nov
	Chilcotin River	19-Oct	14-Nov	12-Oct	22-Nov
	Thompson River – Thompson Confluence to Bonaparte	8-Oct	3-Nov	1-Oct	11-Nov
	Thompson River – Bonaparte River to Kamloops Lake	12-Oct	7-Nov	5-Oct	15-Nov