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# 2024 Post-season Review Fraser Sockeye Salmon

Southern BC Salmon Post Season Review  
11 December 2024



# Pre-season forecast

- Fraser Sockeye p50 level: 567,000 salmon
  - 167,000 - 2,173,000 (p10-p90)
  - p50 forecast was the lowest on record and 85% below the historical cycle-line return (3.1M)
  - 20% above the 2020 brood year return (400k)
- Run timing forecasts by Management Unit were:
  - Early Stuart: July 7
  - Early Summer: July 19
  - Summer: July 30
  - Lates: August 7

# Escapement Plan and Harvest Rule

- Proportion of a stock that may be harvested depends on abundance from 0%, up to a maximum rate of 50%.
- Total Allowable Mortality (TAM) cap is the maximum harvest rate
  - Applied when the number of spawners is greater than the Upper Reference Point.
- When the number of spawners is less than the Lower Reference Point, no directed fisheries occur and the harvest rate is the Low Abundance Exploitation Rate (LAER).
- The LAER is a threshold to stay below, allowing for only incidental harvest in fisheries on co-migrating stocks and species.

Stock Management Group	Low Abundance Exploitation Rate (LAER)	Total Allowable Mortality (TAM) Cap	Lower Fishery Reference Point	Upper Fishery Reference Point
Early Stuart	5%	20%	108,000	135,000
Early Summer	7%	50%	100,000	200,000
Summer	10%	50%	640,000	1,280,000
Late Run	10%	50%	300,000	600,000

# Fishery Planning

- Fraser River sockeye salmon projected number spawning adults (spawners) and total allowable harvest (the sum of Test Fisheries (TF), United States harvest (US), and Canadian harvest (CDN)) at 10%, 25%, 50%, 75% and 90% probability distribution (p) of forecast run abundance.

Probable Run Abundance – Projected Spawners (p%)	p10	p25	p50	p75	p90
Max Allowable Harvest Rate	9%	9%	9%	13%	20%
Allowable Harvest (TF, US, CDN)	14,961	27,201	51,999	145,884	445,217
Total projected spawners	120,100	215,500	406,500	766,900	1,328,000

- At the median run size forecast, no Fraser Sockeye TAC is available. No directed harvest of Sockeye was planned, with the only planned sources of mortality being test fisheries and incidental catch.
- No Fraser Pink return in 2024

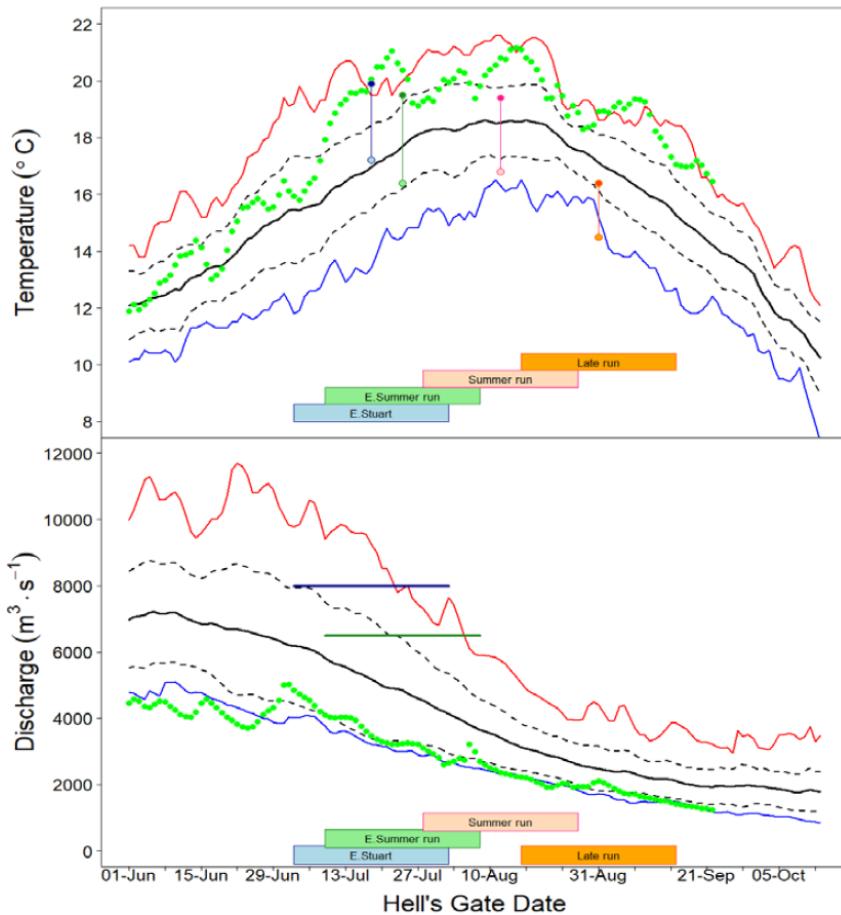
# Preliminary post-season estimate of retained catch

- Fisheries impacts on Sockeye (between 0% and 7.6 % by stock management group) were **limited to levels below the LAER limit** identified in the escapement plan.
- Estimated Canadian retained catch includes 15,595 pieces from fisheries not authorized by Fisheries and Oceans Canada.

	Early Stuart	Early Summer	Summer	Late	Total Sockeye
Post-Season Run Size	180	142,000	307,000	25,000	474,000
* Kept Catch	0	2,450	19,010	280	21,740
LAER	5%	7%	10%	10%	N/A
Exploitation Rate (incl. FIMs)	0%	1.8%	7.6%	0.9%	5.2%

\* Kept Catch does not include fisheries induced mortalities (FIMs).

# Environmental conditions



High water temperatures and low discharge persisted throughout the freshwater migration period

High temperatures in July and August created difficult migration conditions and triggered increases in enroute loss forecasts for Early Stuarts and Summers

# Chilcotin River Landslide

- A major landslide occurred on the Chilcotin River upstream of Farwell Canyon on July 30, 2024.
- Many salmon populations including Chilko and Taseko Sockeye experienced significant migration delays, due initially to blockage/velocity barrier, and then to ongoing high sediment levels; migration challenges persisted throughout much of August
- 49K Chilko Sockeye reached the spawning grounds (more than expected) of the 115k estimated to have passed Mission; sex ratio was highly skewed to males
- Area remains geomorphologically unstable, potential for additional blockages in 2025 and beyond; Chilko is expected contribute ~50% of 2025 return

# 2024 Fraser Sockeye Fisheries Summary

- No FSC or commercial fisheries directed on Fraser Sockeye in Panel waters
- Retention of Fraser Sockeye was authorized as part of LAER for two small terminal fisheries targeting Nadina/Stellako and Birkenhead
- Impacts to Sockeye were primarily attributed to unauthorized retention in Canada and test fisheries; no reported Fraser Sockeye catch in US southern waters

# Additional slides

# Preliminary Post-Season Kept Catch

## 2024 Catch-to-date by fishery

		Date: Sep. 24, 2024	
		Sockeye	
		Total	Fraser
Canada		15,965	15,946
Commercial		0	0
B Purse Seine		0	0
H Troll		0	0
First Nations		112	112
Food, Social & Ceremonial (FSC)		112	112
Marine		0	0
Fraser R.		112	112
Economic Opportunity (EO) & Demonstration (Demo)		0	0
Escapement Surplus to Spawning Requirements (ESSR)		0	0
Recreational		0	0
Charter (Albion & A12 Chum test fishery)		240	240
Other****		15,613	15,595
United States		0	0
Commercial		0	0
Treaty Tribes (TRB)		0	0
All Citizen (AC)		0	0
Treaty Tribes Ceremonial & Subsistence (C&S)		0	0
All Citizen Recreational		0	0
Other****		0	0
Alaska *		na	na
Panel-approved Test Fisheries		6,005	5,797
Panel Waters		3,478	3,427
Canada		3,478	3,427
U.S.		0	0
Non-Panel Waters**		2,527	2,370
Total		21,970	21,743
Catch Seaward of Mission ***		5,318	5,092
Catch Upstream of Mission		16,652	16,652

\* Alaska data not yet available

\*\* Includes Qualark

\*\*\* All catches in marine areas and in Fraser d/s of Mission

\*\*\*\* May include unauthorized directed retention or unauthorized bycatch retention in fisheries directed at other species, **but**

**FIMs in non-sockeye fisheries are not included in this table**