

West Coast of Vancouver Island

2024 Southern Salmon Post-Season

Dec 11, 2024

Outline

1. Sockeye

- a) Stock Status
- b) Catch Estimates

2. Chinook

- a) Stock Status
- b) Catch Estimates

3. Chum

- a) Stock Status
- b) Catch Estimates

4. Coho

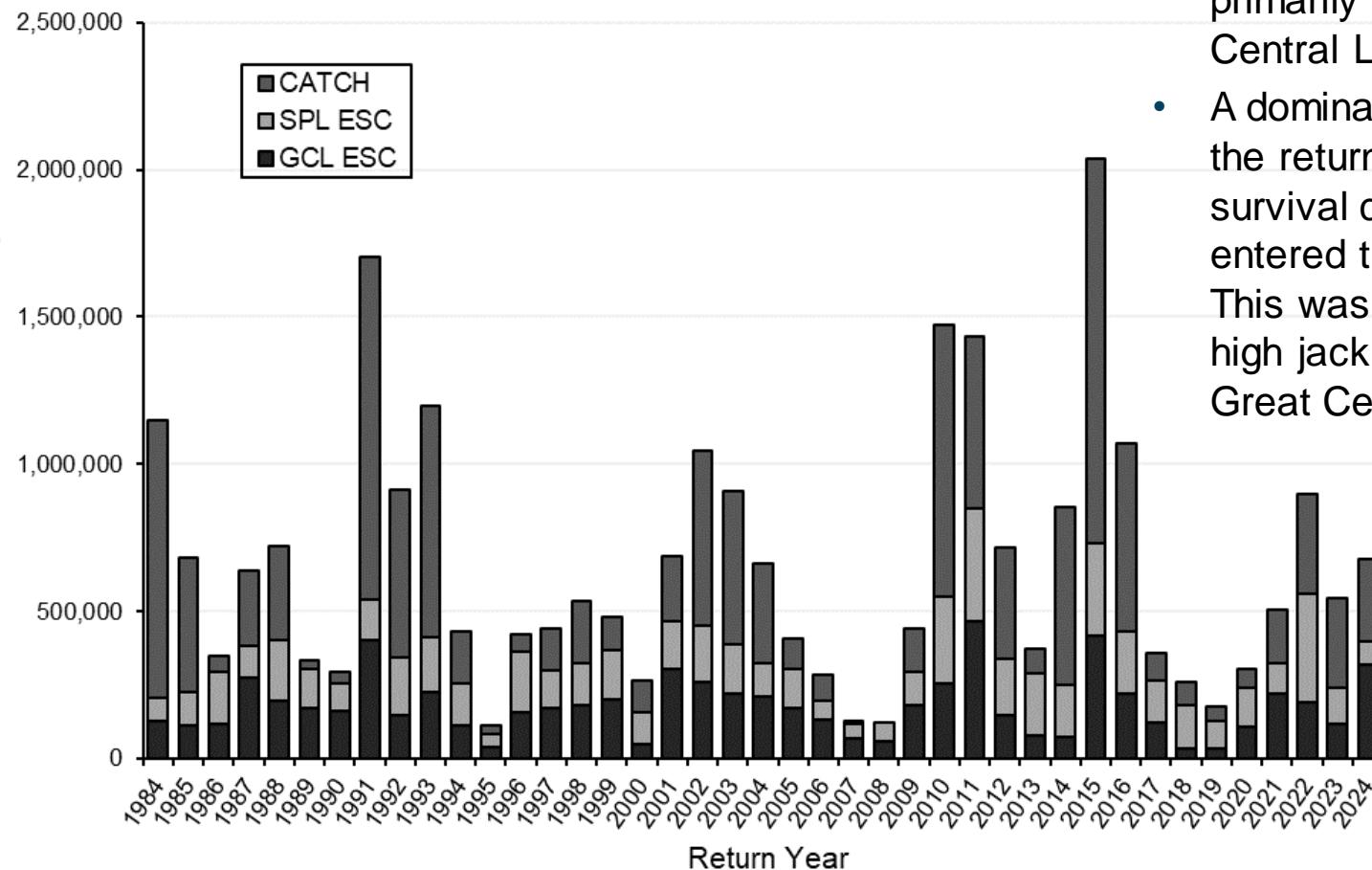
- a) Stock Status
- b) Catch Estimates



WCVI Sockeye – Stock Status Overview

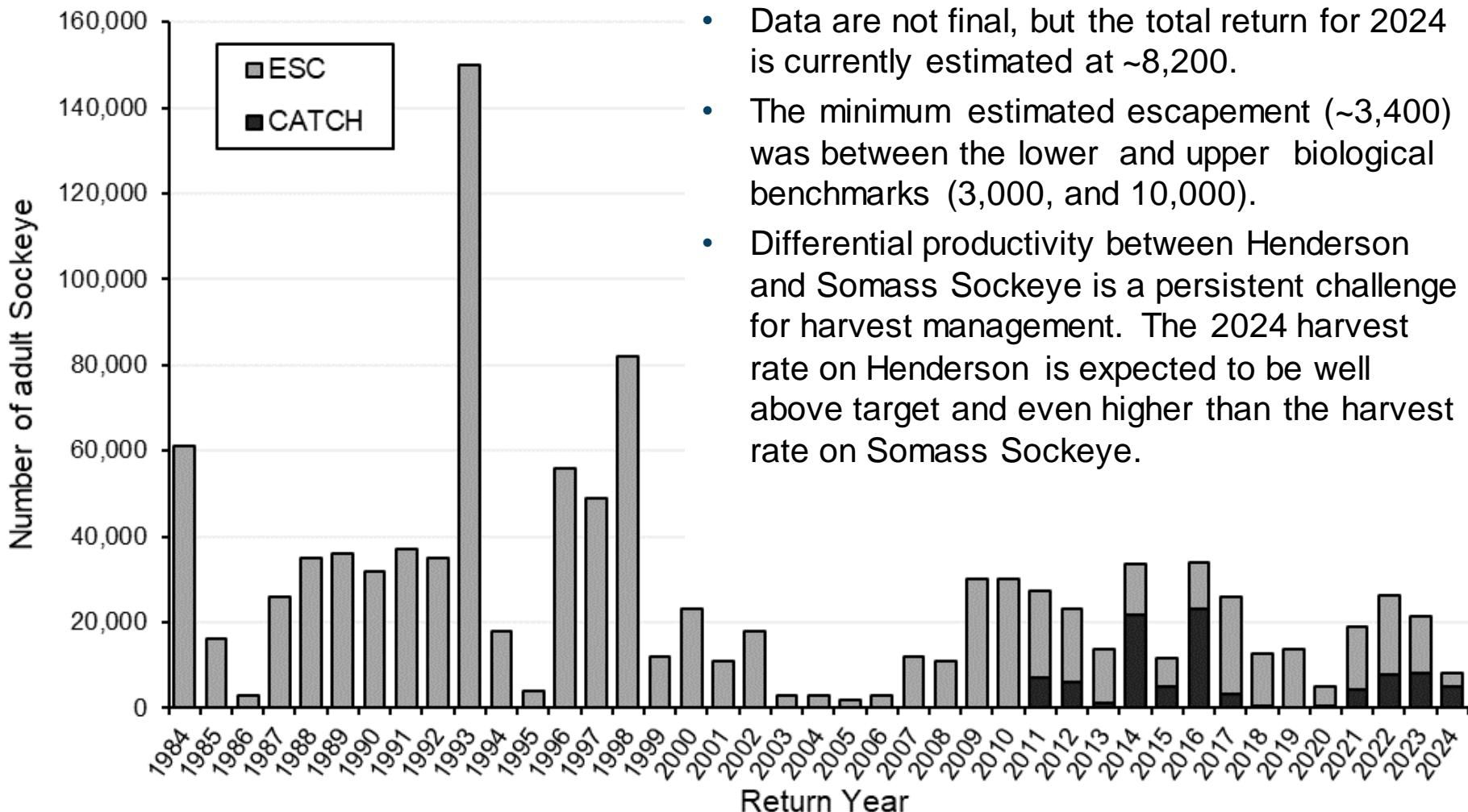
- **Somass** Sockeye stocks (Great Central and Sproat Lakes) returned within the pre-season forecast abundance of 500,000-700,000, and escapement to both lakes exceeded the upper biological reference points.
- **Henderson** Sockeye estimated escapement was in the bottom 12th percentile of historic values and above lower biological benchmark but below upper biological benchmark.
- **Other WCVI** Sockeye stocks lack sufficient data and monitoring efforts to support status assessments. However, anecdotal information indicates a moderate to poor status: some populations have received near-average returns in recent years while others are very depleted (e.g. Kennedy Lake Sockeye).

Somass Sockeye (A23) – Stock Status



- Return abundance was primarily driven by the Great Central Lake stock (78%).
- A dominance of age 4₂ fish in the return indicates good survival conditions for fish that entered the ocean in 2022. This was consistent with the high jack return (ages 3₂) to Great Central Lake last year.

Henderson Sockeye (A23) – Stock Status



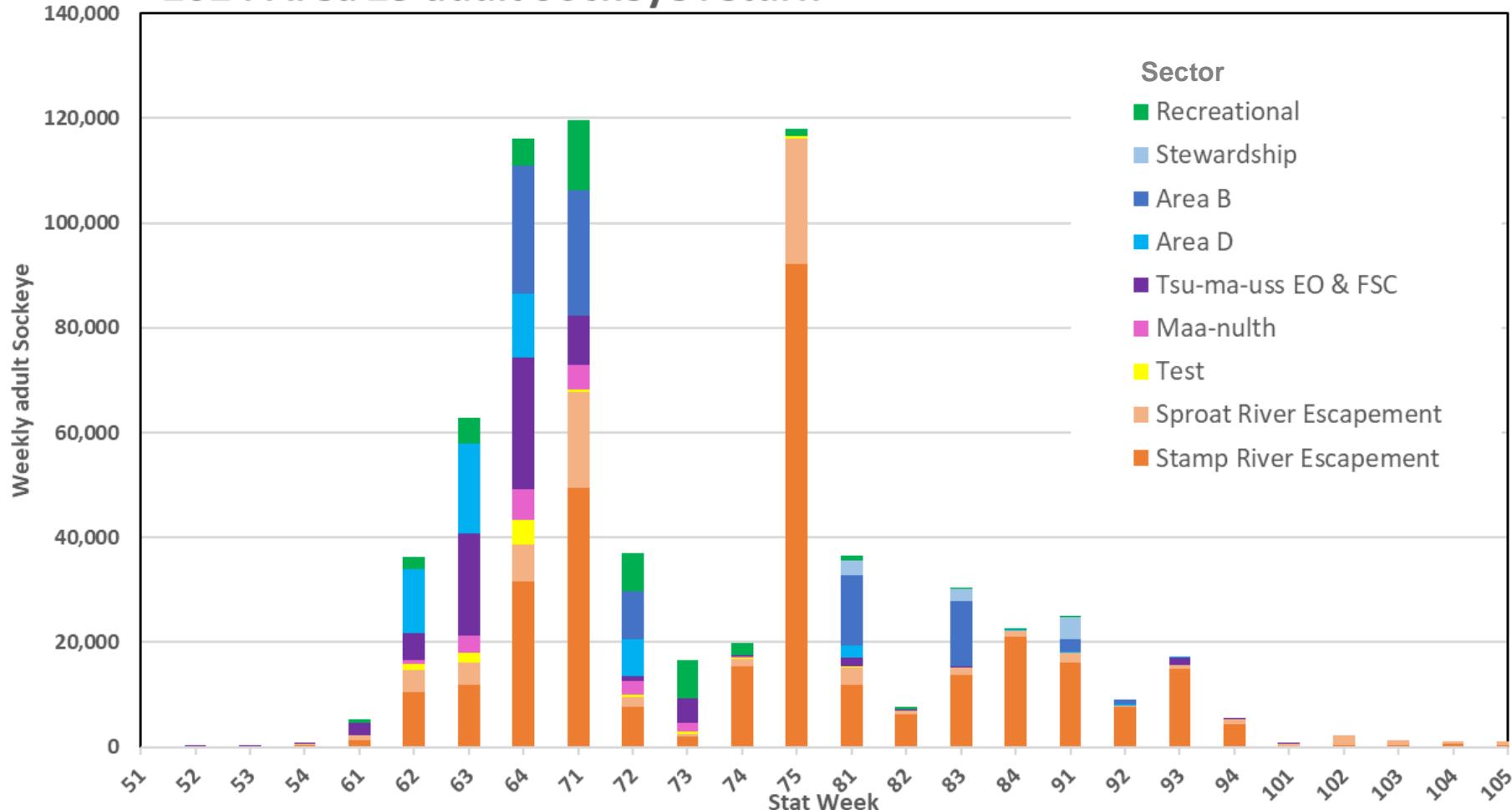
Somass Sockeye – Catch Estimates

ASSESSMENT (TEST FISHERY)		9,185
STEWARDSHIP		9,022
FIRST NATION FSC/TREATY	Tsu-ma-uss	8,448
	Maa-nulth (Somass)	18,582
	Maa-nulth (Henderson)	236
	Total	27,266
COMMERCIAL CATCH	Area D Gillnet	51,046
	Area B Seine	82,083
	Somass FN EO	61,930
	Total	195,059
RECREATIONAL	Inlet + River (Somass)	45,785
TOTAL CATCH*		286,317
ESCAPEMENT	GCL adults	319,952
	SPR adults	77,955
	HED	3,392
	Total Adult Esc*	401,299
TOTAL ADULT RETURN (Somass + Henderson)		687,616
*Estimated HED Catch (included in catch totals above)		4,854

- Fishing opportunities for all sectors.
- The Tsu-ma-uss Economic Opportunity Agreements were in place for Sockeye in 2024.
- Delayed entry into freshwater due to high temperatures
 - ~40% of Sockeye catch in Area B Seine fishery caught Aug-Sept.
- Management escapement goals to Sproat Lake not met.
 - Return dominated by GCL & a higher harvest rate on SPL.
 - Fisheries curtailed & rec daily quota downgraded in July due to low SPL escapement.
- High harvest rate on Henderson
 - Majority of catch from Area B seine fisheries (~59%) and recreational fleet (~27%).
- ESSR: 298

Somass Sockeye – Catch Estimates

2024 Area 23 adult Sockeye return



WCVI Chinook – Preliminary Stock Status Overview

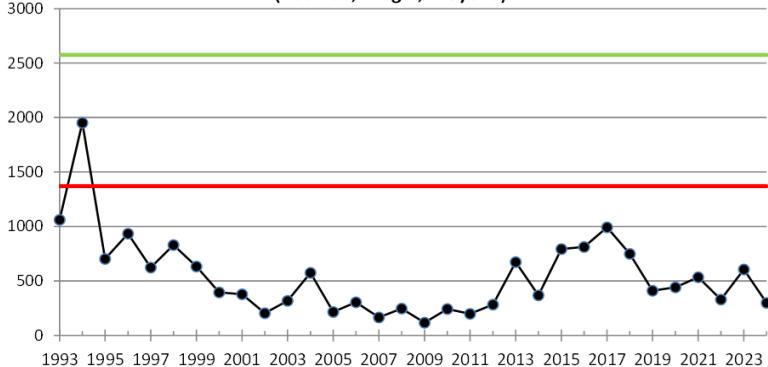
Major Enhanced Populations

- Robertson Creek Hatchery / Stamp River return (~106K) was similar to the pre-season forecast (107K), higher than the long-term average (90K).
- The Nitinat Hatchery / River return (~21K) was less than the long-term average (24K) and the 2024 pre-season forecast (35K).
- The Conuma Hatchery / River return (~62K*) was above the long-term average (37K) and was higher than the pre-season forecast (48K)

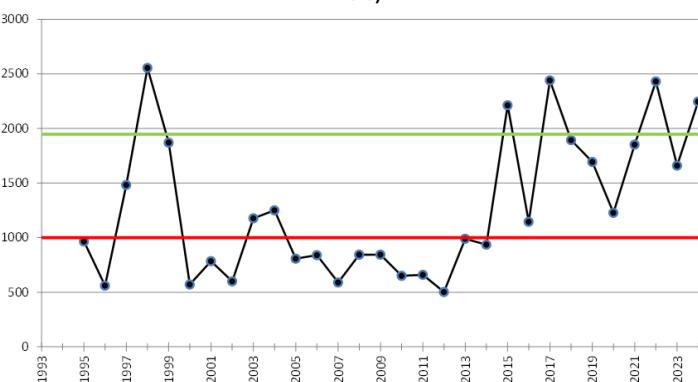
- Includes a portion of non-Conuma recreational catch

Chinook – Wild/Natural Populations

Clayoquot (Area 24) Spawner Index
(Bedwell, Megin, Moyeha)



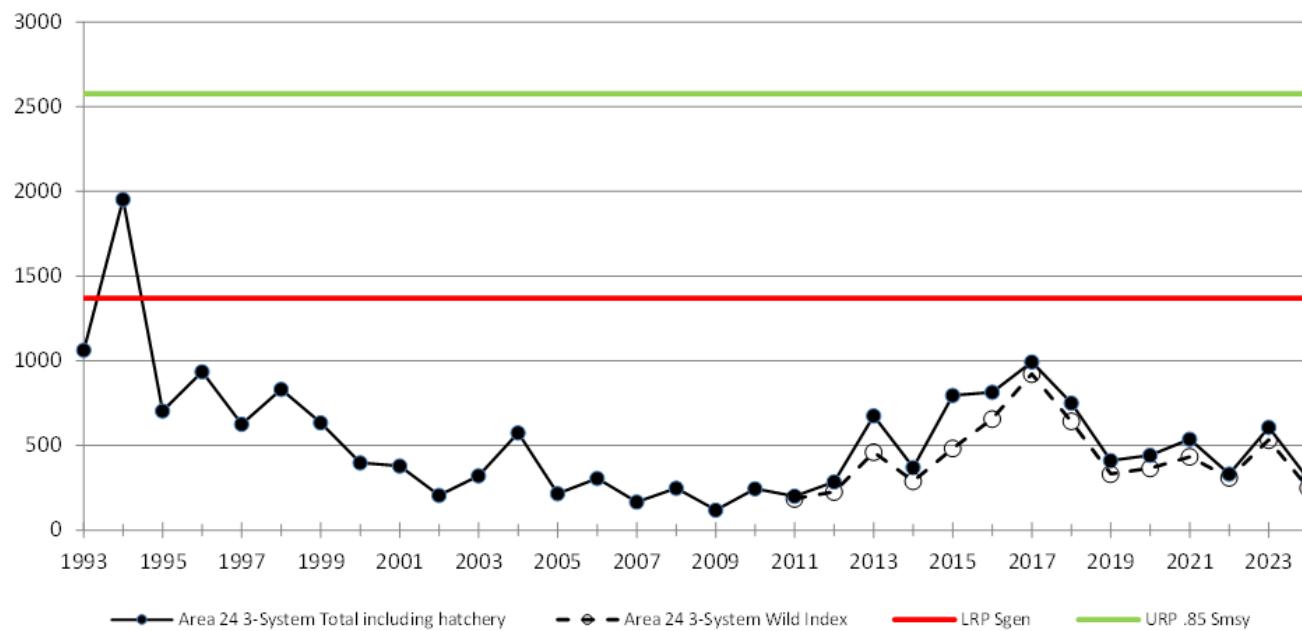
NWVI Wild Spawner Index. Kyuquot Sound (Kaouk, Artlish, Tashish rivers)



- **Wild/Natural WCVI Chinook remain a stock of concern.**
 - SWVI: These stocks have been consistently below their lower biological benchmark for 30 years with few signs of improvement.
 - NWVI: These stocks have seen an improving trend in escapement and have remained above their lower biological benchmark since a period of low returns in the early 2000's through 2012.
- 2024 escapement estimates are preliminary:
 - The biological benchmarks have been updated to S_{gen} and 85% of S_{msy} based on updated accessible watershed area estimates

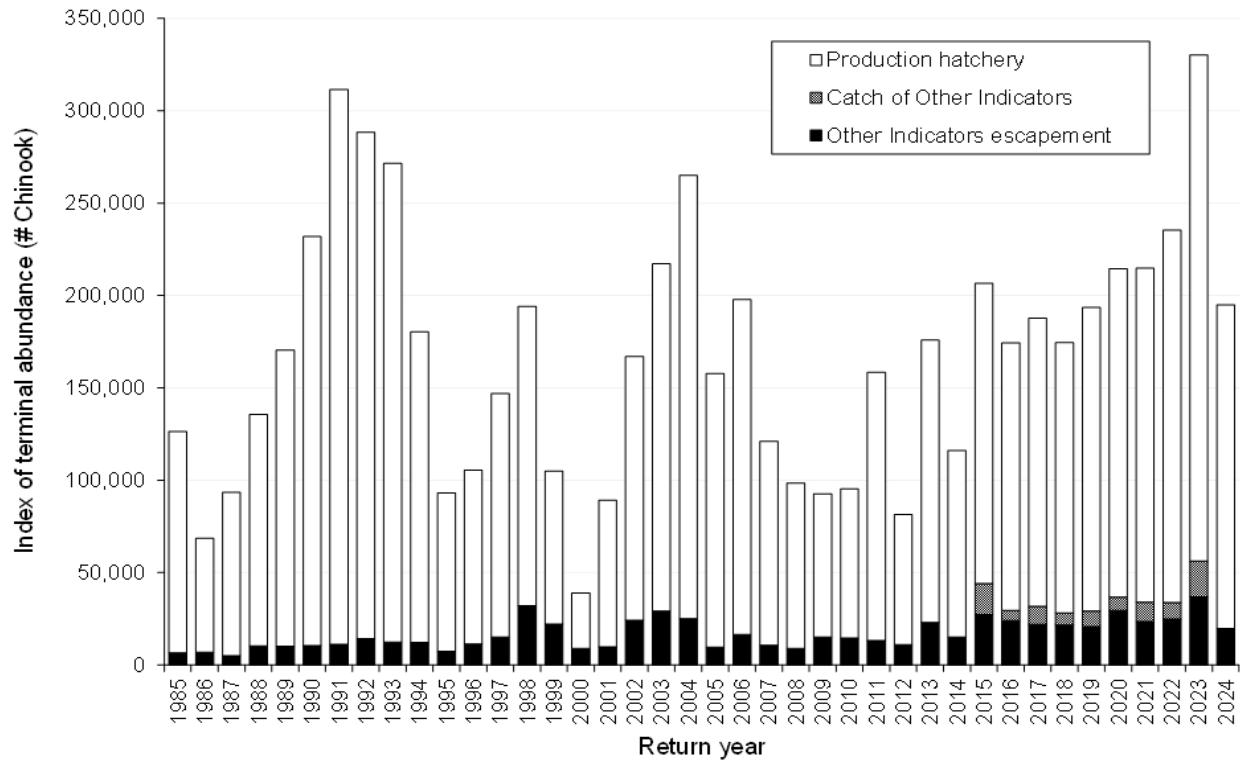
WCVI Wild Chinook Status – Clayoquot Sound

SWVI Wild Spawner Index (Bedwell, Megin, Moyeha)



- Contributions from small hatcheries in Clayoquot have improved returns while remaining a relatively small proportion of the total return.
- Some of these contributions may be from Conuma Hatchery. Genetics will have to be run before it can be analyzed for 2024.

WCVI Chinook - Hatchery Contribution to Total Production



- Graph shows indexed terminal return. Hatchery origin fish are the main component (RCH, CON, NIT).
- "Other" = "natural" abundance & production from smaller hatcheries included from 2015
- Estimates for 2024 are preliminary and will change with terminal reconstructions (e.g. catch of "Other indicators" not currently included for 2024)

Robertson Chinook – Catch Estimates

ASSESSMENT (TEST FISHERY)		983
SCIENCE		0
SPECIAL USE		0
FIRST NATION FSC/TREATY	Tsu-ma-us	1,465
	Maa-nulth	1,217
	Total FN Treaty/FSC Catch	2,682
COMMERCIAL CATCH	Area D Gillnet	10,594
	Area B Seine	8,463
	Somass FN EO	26,956
	Total Comm Catch	46,013
RECREATIONAL	Inlet + River (Somass)	11,800
TOTAL CATCH*		61,478
ESCAPEMENT	GCL adults	44,652
	SPR adults	139
	Total Adult Esc*	44,791
TOTAL ADULT RETURN		106,269

- Relatively large return similar to pre-season expectations
 - Higher management forecast due to missing 2020 CWTs from the 2019 brood year and the abundant returns from this year class.
- Low CPUE's for the recreational sector and low commercial catch rates for Area D.
- ~55% of escapement through the Stamp counters occurred in October
- Concerns for Henderson & Sproat Sockeye bycatch due to delayed migration.
- ESSR: 21,311 adults 4,173 jacks

Conuma Chinook (A25) – Catch Estimates

Fishery	TAC	Preliminary Catch
FSC	2,250	TBD
Five Nations Nearshore /Terminal	12,949 ^a	2,942
Marine Recreational	15,600 ^b	16,000 ^{c,d}
Area D	10,201 ^a	11,103
Brood Stock		1,960
Spawning	11,000	27,000 ^d
Five Nations Surplus to Escapement		3,208
Total	52,000	62,000^d

a. TAC reflects a 2,450 piece swap between Five Nations and Area D

b. Expected catch

c. Includes a portion of non-Conuma catch

d. Preliminary estimate

Muchalat Chinook (A25) – Catch Estimates

Fishery	TAC	Preliminary Catch
FSC	500	TBD
Five Nations Nearshore /terminal	6,300 ^a	1,802
Marine Recreational	1,400 ^b	92 ^c
Area D	0 ^a	0
Brood Stock	7,900	724
Spawning		6,700 ^c
Total	14,000	9,300^c

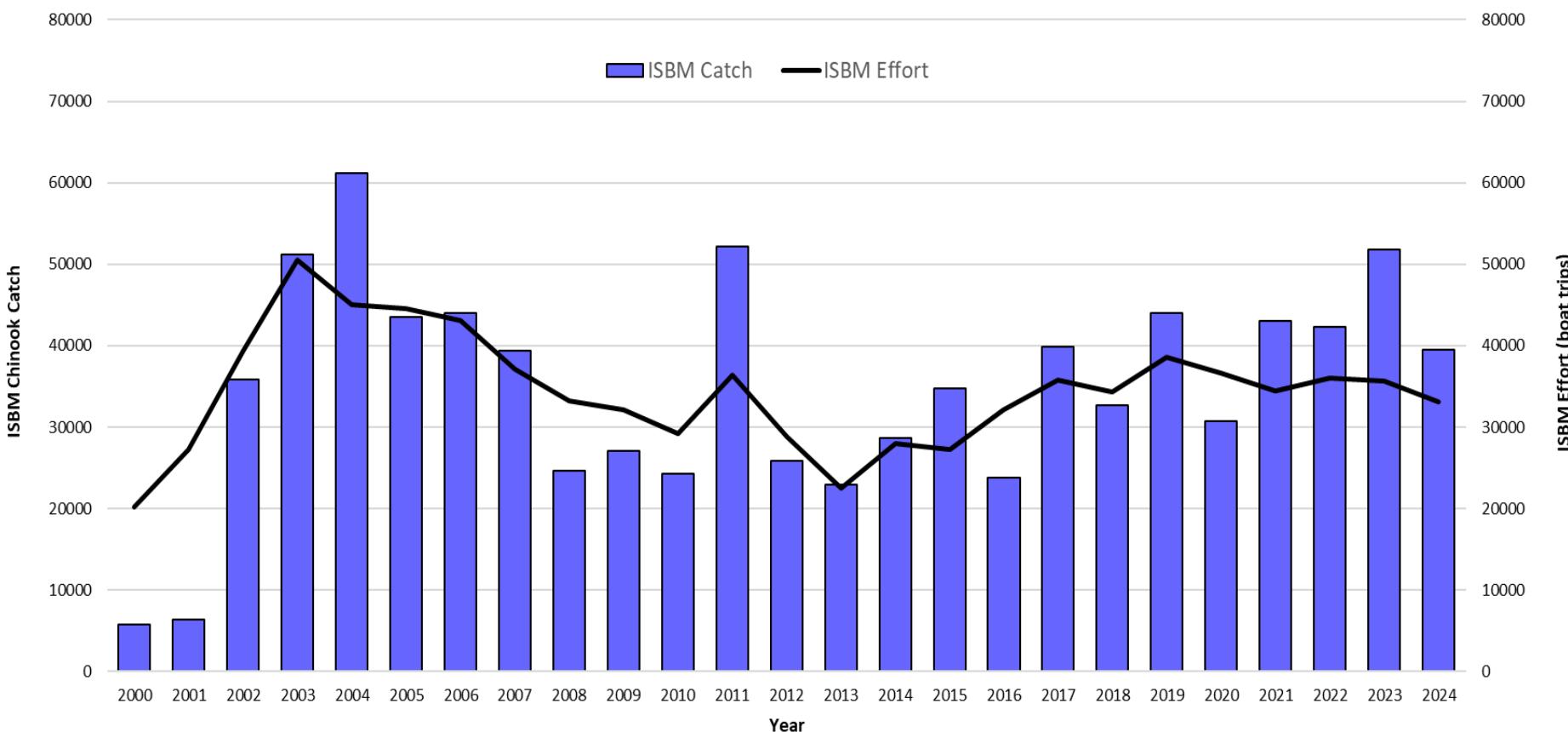
a. TAC reflects a 2,450 piece swap between Five Nations and Area D

b. Expected catch

c. Preliminary estimate

WCVI Chinook - Recreational ISBM Catch/Effort

ISBM Chinook Catch and Effort



Note: Effort does not represent species directed effort per se, rather total estimated recreational effort for all species.

AABM Chinook

Pre-Season Total Allowable Catch and Preliminary Catch Estimates for October 2023-September 2024 WCVI AABM Chinook

	Pre-Season TAC	In-Season TAC	Preliminary Catch
First Nations (FSC)	10,000 ^a	10,000 ^a	10,000 ^b
Maa-nulth Treaty	3,744	3,744	4,137 ^b
Five Nations	15,431	19,645 ^c	17,278
AABM Recreational	35,000 ^a	35,000 ^a	38,683
Science	n/a	n/a	n/a
Area G Troll	40,825	36,611	24,154
Total AABM Chinook	105,000	105,000	94,200

- a. Expected catch
- b. FSC catch is being compiled
- c. Maa-nulth Treaty catch is preliminary
- d. Includes 4,214 transfer of Area G uncaught TAC to Five Nations

Commercial – AABM Chinook Fisheries

- Area G Troll:
 - Delayed opening until Aug. 16 for Fraser Chinook
- Five Nations "Offshore Integrated Hook and Line" Fishery:
 - Restricted to inshore AABM areas before July 15 for Fraser Chinook
 - Maximum 80cm size limit July 15-31

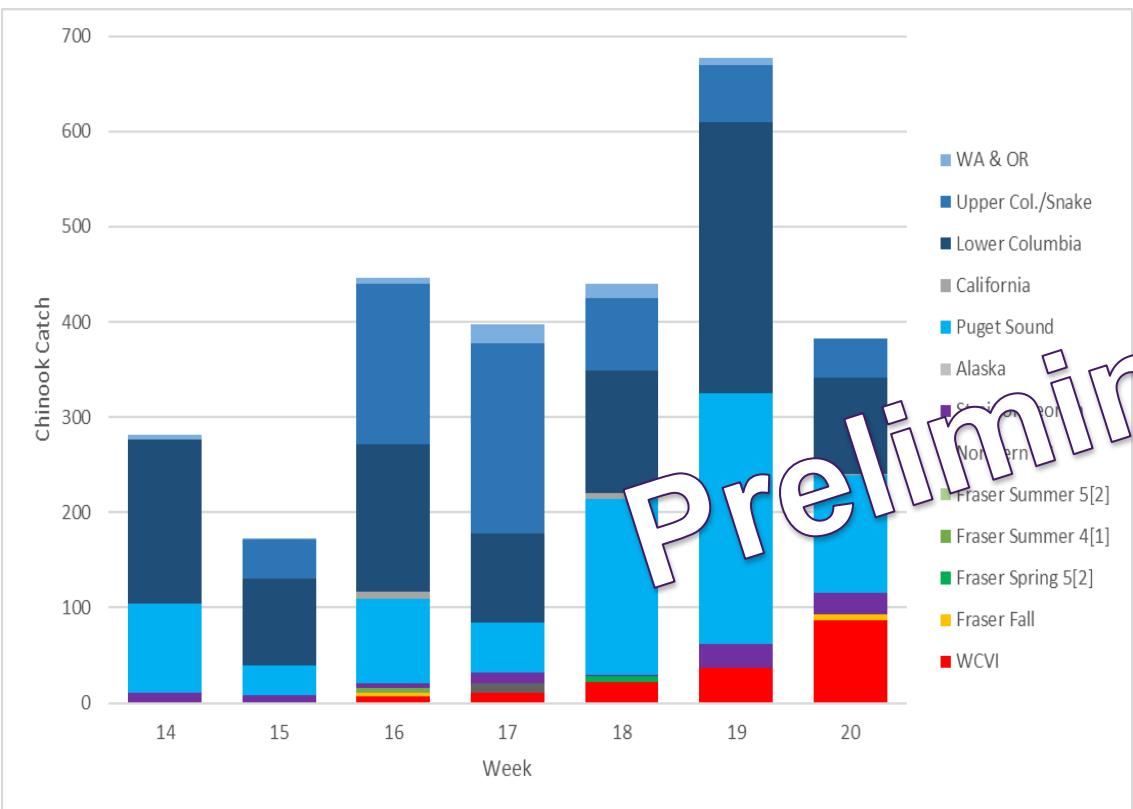
MTH-YR	CHINOOK	
	AREA G	FIVE NATIONS
Jan-Mar 24	1,281	208
Apr-May 24	2,859	865
Jun-24		2,195
Jul-24		11,302
Aug-24	19,022	2,666*
Sep-24	992	42**
Total	24,154	17,278

*1,347 from Area G transfer

**42 from Area G Transfer

Area G Troll – Springtime Chinook Demo

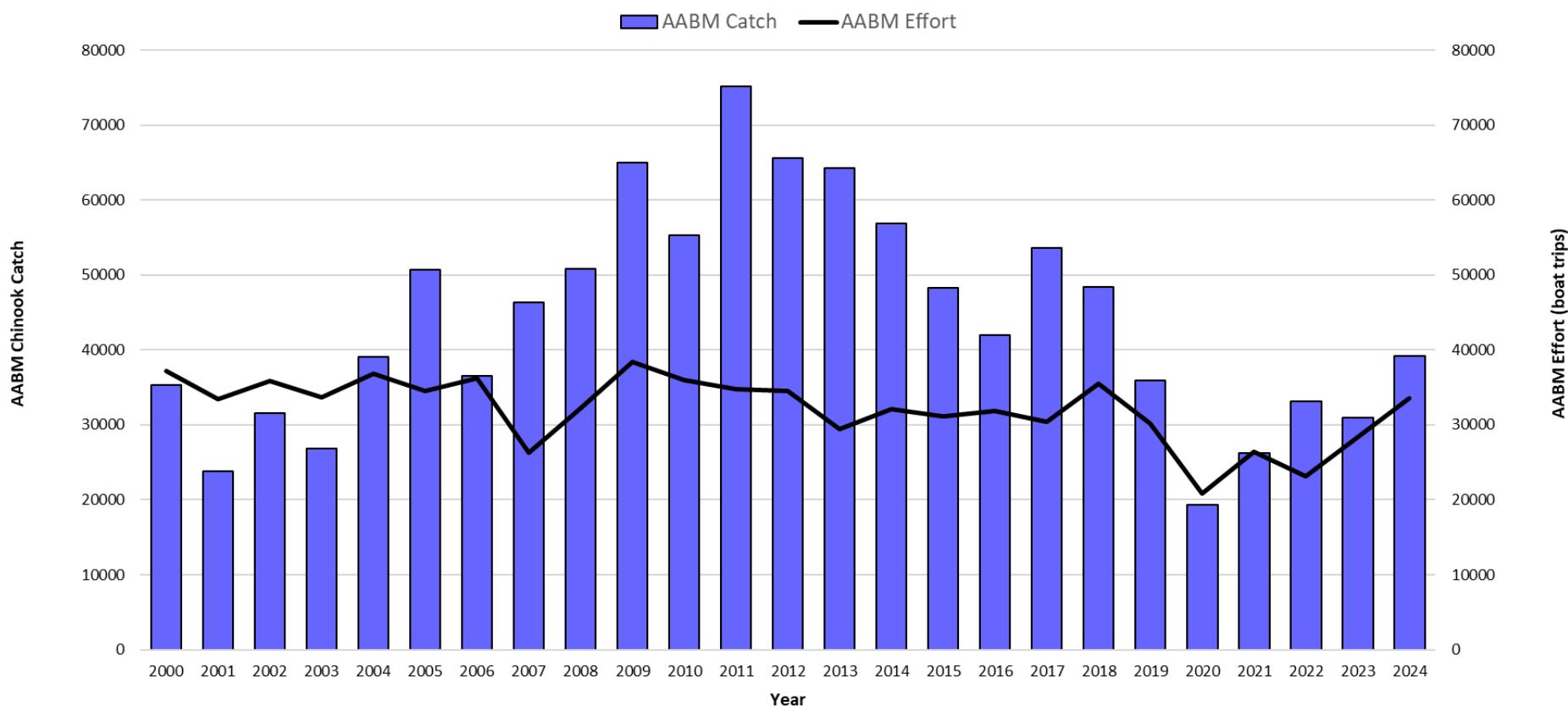
- 3,000 limit (2,859 catch)
- Open April 1 to May 16
- Inshore areas only
- Included in 2024/25 IFMP
- Memo with detailed 2024 results available soon



Alaska	-	0.0%
California	15	0.5%
Fraser Fall	10	0.3%
Fraser Spring 5[2]	7	0.2%
Fraser Summer 4[1]	6	0.2%
Fraser Summer 5[2]	0	0.0%
Lower Columbia	1,027	35.9%
Northern BC	10	0.4%
Puget Sound	837	29.3%
Strait of Georgia	82	2.9%
Upper Col./Snake	585	20.5%
WA & OR	55	1.9%
WCVI	163	5.7%
Unassigned	62	2.2%
Total	2,859	100%

WCVI Chinook - Recreational AABM Catch/Effort

AABM Chinook Catch and Effort

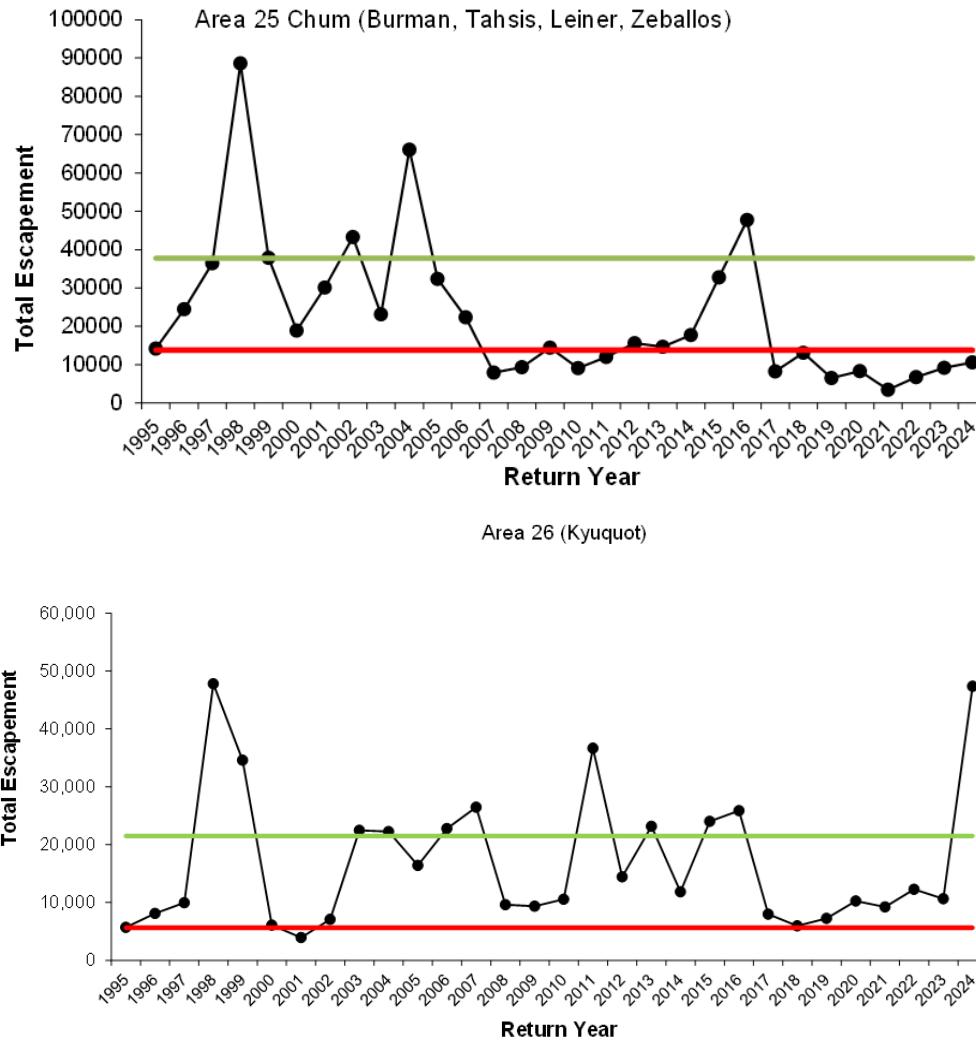


Note: Effort does not represent species directed effort per se, rather total estimated recreational effort for all species.

WCVI Chum – Stock Status Overview

- Stock status has been low in recent years, but has improved across most of the smaller systems from Barkley Sound north to Kyuquot Sound compared to the last few years, though still below what may have been considered "normal" in the mid 90's
- Returns to Nitinat were above both the pre-season forecast and the fishery reference points
- Production levels at the Conuma and Nitinat Hatcheries have declined in recent years. However, Nitinat was able to achieve egg targets for 2024 while Conuma was able to meet it for most stocks.
- Survival rates appear poor for the 2015-2018 (2016-2019 outmigration years) brood years. There are some indications that ocean conditions since 2020 have been improving WCVI Chum survival.

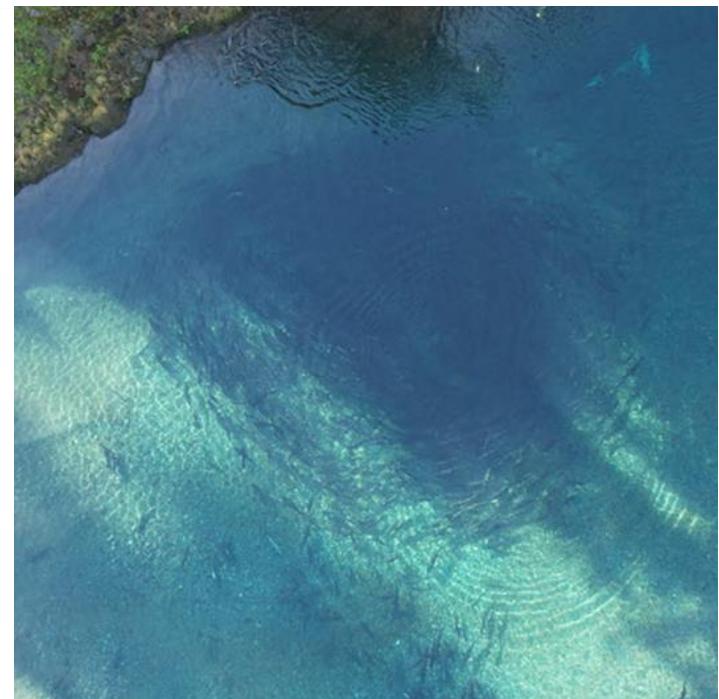
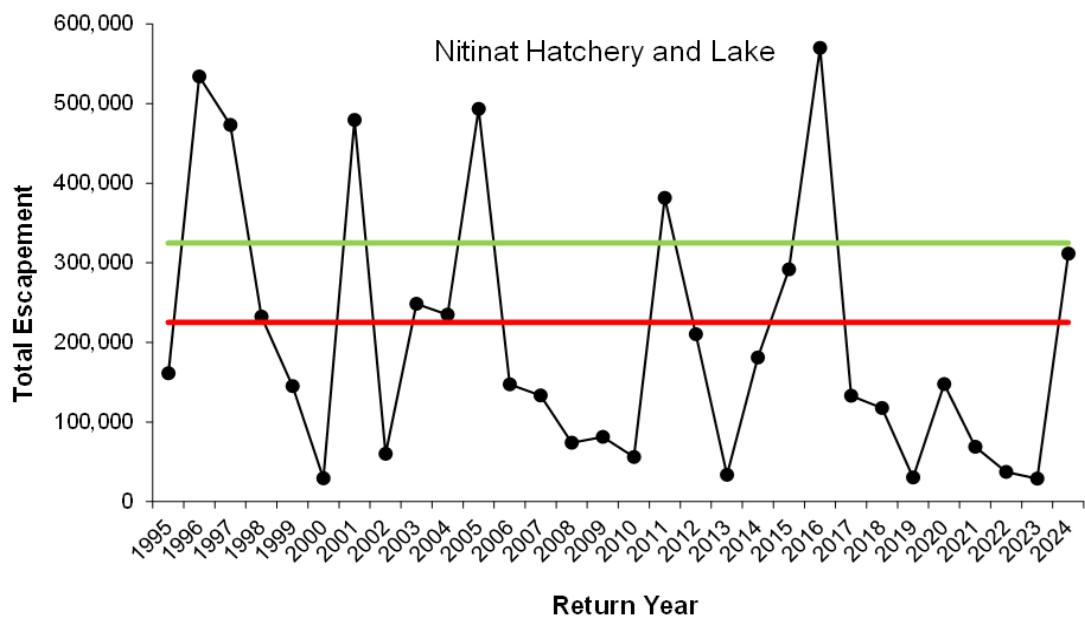
WCVI Chum – Wild Stock Management Units



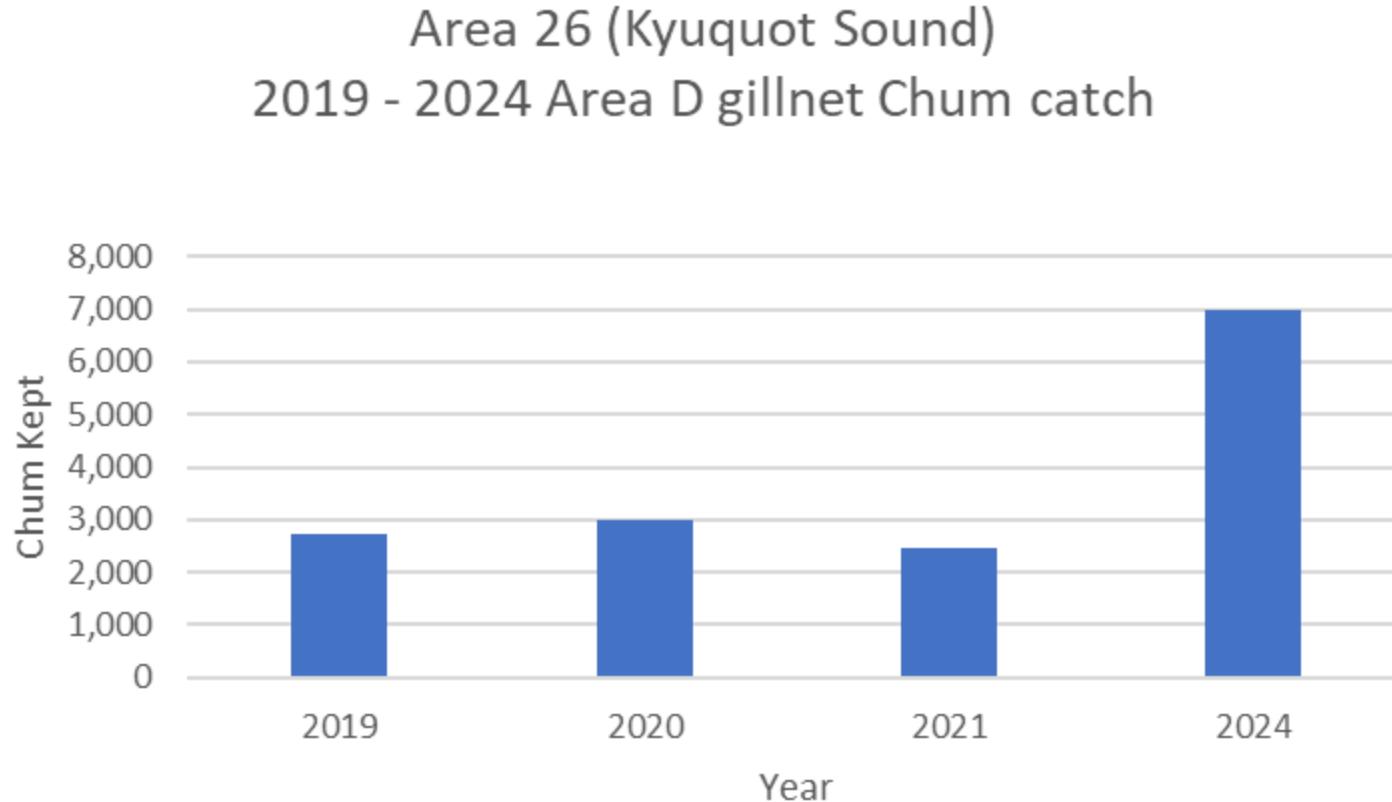
- Graphs show spawner abundances for wild stock index systems in Nootka Sound (portion of Areas 25) and Kyuquot (Area 26).
- 2024 escapement estimates are preliminary

Nitinat Chum – Hatchery Stock Management Unit

- Nitinat is managed as an enhanced system; the fishery reference points of 225,000 and 325,000, are set according to production objectives (plotted in relation to abundance).
- Post 2016, returns have consistently fallen below the forecast and lower fishery reference point.
- The 2024 preliminary return (~350k) was well above the pre-season forecast (~142K) and exceeded the target fishery reference point (325k).
- Egg target was attained in 2024 (12 million target)



Kyuquot Chum (A26) - Area D gillnet



- 2019 – 2024 fisheries had consistent fishing boundaries
- No Area D gillnet Chum fisheries in 2022 and 2023 due to Kyuquot Chum returns forecasted below the LFRP

WCVI Chum – Catch Estimates

FIRST NATION FSC/TREATY	FSC Treaty	Total FN Treaty/FSC Catch	Kept	Released
			*First Nations FSC catch records being compiled	
			623	
FIVE NATIONS RIGHTS-BASED SALE		Total Five Nations Catch	318	0
COMMERCIAL CATCH	Area D Gillnet A25	1,824	5	
	Area D Gillnet A26	6,982	0	
	Area D Gillnet A23	1	994	
	Area B Seine A23	0	34	
	Total Comm Catch	8,807	1,033	
RECREATIONAL	Inshore Areas 21-27	10		
ESSR	Nitinat Chum	54,178		

- Nitinat (21/121), Barkley (23) and Clayoquot (24) subject to longer term closures.
- SWVI Chum rec fisheries closed (except Nitinat) NWVI/Offshore Chum open.
- A Five-Nations rights-based sale fishery opened in Area 25 targeting Conuma (Tlupana Inlet) Chum.
- A limited fleet (2 vessels) Area D fishery opened in Area 25 targeting Conuma (Tlupana Inlet) Chum.
- A limited fleet (4 vessels) Area D fishery opened in Area 26.

All numbers preliminary and subject to change

WCVI Coho – Stock Status Overview

- Returns in 2024 appear variable, with peak counts to date ranging from less than half the 8-year average to just above the 8-year average.
- Harvest rates on WCVI Coho were much higher in the past; current low harvest rates have allowed spawner abundances to remain consistent. However, survival rates have been relatively poor in the last ~15 years compared to historic estimates.
- Preliminary results for 2024 suggest average to below average returns relative to recent years. Escapement through **Stamp Falls** (~15,000 adults; 4,000 jacks) was close to the 2021 brood (~16,000 adults; 2,000 jacks)
- Escapement of the **Carnation Creek** wild indicator stock (97) was an improvement from last year and close to the 12-year average

WCVI Coho – Catch Estimates

FIRST NATION FSC/TREATY*	FSC			Kept	Released
		Offshore	Inshore	*First Nations FSC catch records being compiled	
	Treaty	Offshore		2,830	
		Inshore		172	
Five Nations Right-Based Sale		Offshore		635	779
		Nearshore/Terminal		124	0
				759	779
COMMERCIAL CATCH		Area G Troll		0	4,581
		Area D Gillnet		36	1,092
		Area B Seine		86	4,612
				122	10,285
RECREATIONAL		Offshore		10,814	19,848
		Inshore		28,925	14,663
				39,739	34,511
ESSR		Robertson Creek		4,223	
		Nitinat		328	
				4,551	

- WCVI Coho Outlook: "moderate"
- Rec retention offshore - hatchery marked only
 - Inshore 2/day, some terminal time/areas 4/day
- Five Nations Integrated Hook and Line Fishery:
 - Offshore hatchery marked Coho until Sep 15
 - Offshore 2,000 pieces hatchery marked or unmarked after September 15
 - Nearshore 2,000 pieces (A25) + 1,000 pieces (A24) hatchery marked and unmarked
- Coho non-retention in commercial fisheries