

# Pre-Season Run Size Forecast for Fraser River Sockeye Salmon in 2026



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**Presented to the Fraser Forum**

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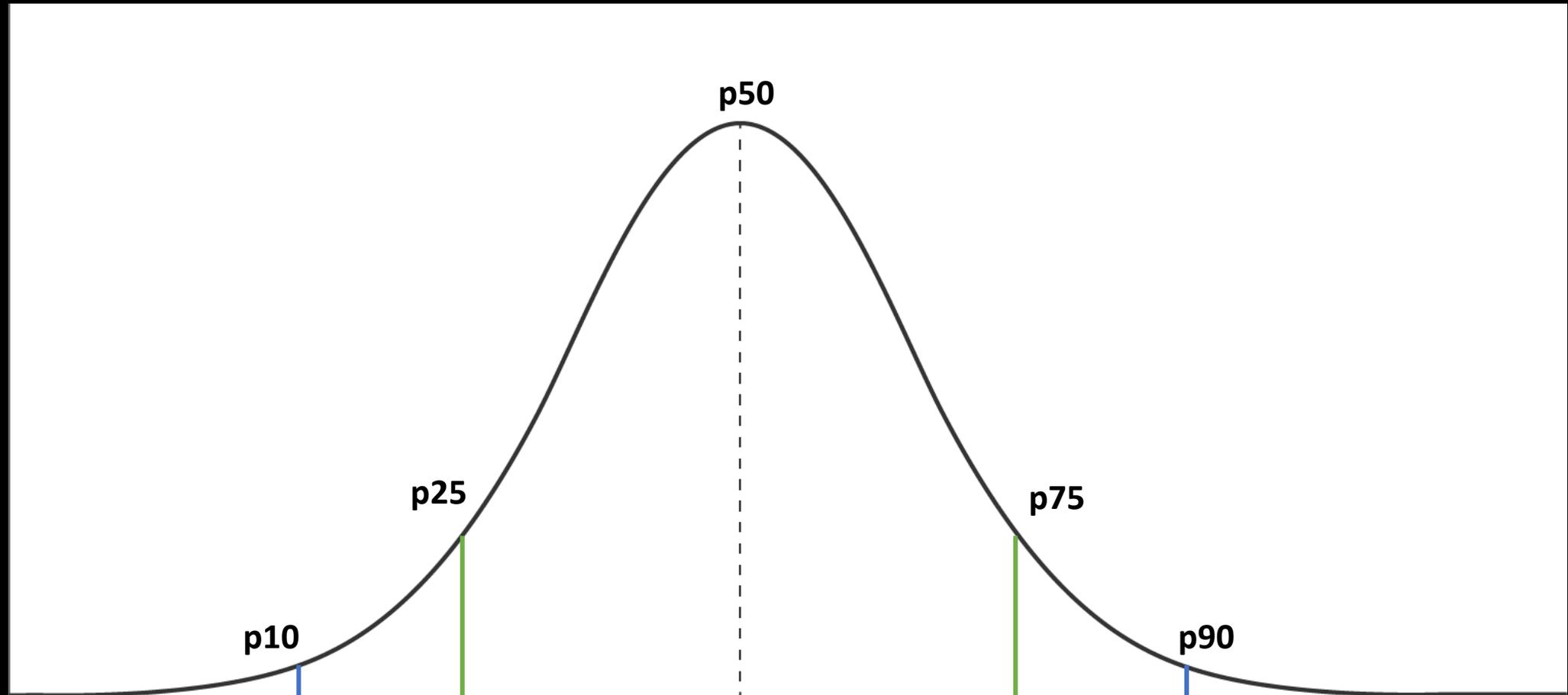
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# Outline

- Summary of 2025 Forecast: Pink and Sockeye
- 2026 SK Run Size Forecast
- Highlights for 2026: Stocks of interest
- Key messages

# How to Interpret Forecast Tables



# 2025 Pink Forecast Summary

- We had very high forecasts regardless of the model → Models are fit with a fry to adult relationship and fry abundance in 2024 was the highest on record

	Rank	10%	25%	50%	75%	90%
Power (fry)-SSS	1	14,425,000	21,695,000	32,370,000	48,543,000	75,328,000
Power(fry)	3	12,585,000	17,738,000	26,965,000	39,168,000	57,854,000
MRJ	3	19,729,000	26,689,000	37,337,000	52,233,000	70,660,000

Total Fraser Pinks	26,965,000	18,690,000	-31%
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# 2025 F

Return Year	Forecast Probability Level						Actual Returns
	<10%	10%	25%	50%	75%	90%	
1998	NA	4,391,000	6,040,000	6,822,000	11,218,000	18,801,000	10,870,000
1999	NA	3,067,000	4,267,000	4,843,000	8,248,000	14,587,000	3,640,000
2000	NA	1,487,000	2,449,000	4,304,000	7,752,000	NA	5,200,000
2001	NA	3,869,000	6,797,000	12,864,000	24,660,000	NA	7,190,000
2002	NA	4,859,000	7,694,400	12,915,900	22,308,500	NA	15,130,000
2003	NA	1,908,000	2,742,000	3,141,000	5,502,000	9,744,000	4,890,000
2004	NA	1,858,000	2,615,000	2,980,000	5,139,000	9,107,000	4,180,000
2005	NA	5,149,000	8,734,000	16,160,000	30,085,000	53,191,000	7,020,000
2006	NA	5,683,000	9,530,000	17,357,000	31,902,000	56,546,000	12,980,000
2007	NA	2,242,500	3,602,000	6,247,000	11,257,000	19,706,000	1,510,000
2008	NA	1,258,000	1,854,000	2,899,000	4,480,000	7,057,000	1,740,000
2009	NA	3,556,000	6,039,000	10,578,000	19,451,000	37,617,000	1,590,000
2010	NA	5,360,000	8,351,000	13,989,000	23,541,000	40,924,000	28,250,000
2011	NA	1,700,000	2,693,000	4,627,000	9,074,000	15,086,000	5,110,000
2012	NA	743,000	1,203,000	2,119,000	3,763,000	6,634,000	2,050,000
2013	NA	1,554,000	2,655,000	4,765,000	8,595,000	15,608,000	4,130,000
2014	NA	7,237,000	12,788,000	22,854,000	41,121,000	72,014,000	20,000,000
2015	NA	2,364,000	3,824,000	6,778,000	12,635,000	23,580,000	2,120,000
2016	NA	814,000	1,296,000	2,271,000	4,227,000	8,181,000	853,000
2017	NA	1,315,000 <sup>H</sup>	2,338,000	4,432,000	8,873,000	17,633,000	1,641,000
2018	NA	5,265,000	8,423,000	13,981,000	22,937,000	36,893,000	10,675,000
2019	NA	1,832,000	2,979,000	5,056,000	9,133,000	15,313,000	564,000
2020	NA	275,000	486,000	924,000	1,834,000	3,573,000	288,000
2021	NA	313,000	624,000	1,330,000	2,775,000	5,496,000	2,549,000
2022	NA	2,374,000	4,662,000	9,775,000	20,395,000	41,707,000	6,886,000
2023	NA	453,000	800,000	1,564,000	3,185,000	5,952,000	1,653,000
2024	NA	167,000	299,000	567,000	1,121,000	2,173,000	474,000
2025	NA	736,000	1,404,000	2,947,000	6,392,000	13,140,000	9,100,000*

# 2025 Forecast Summary

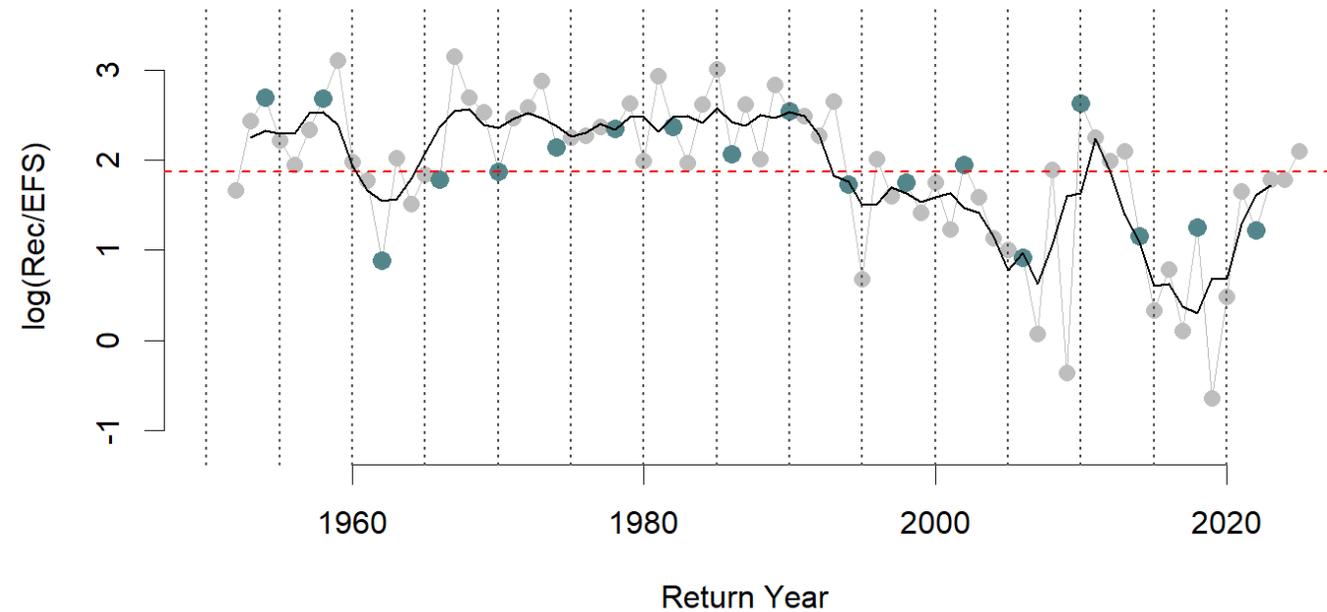
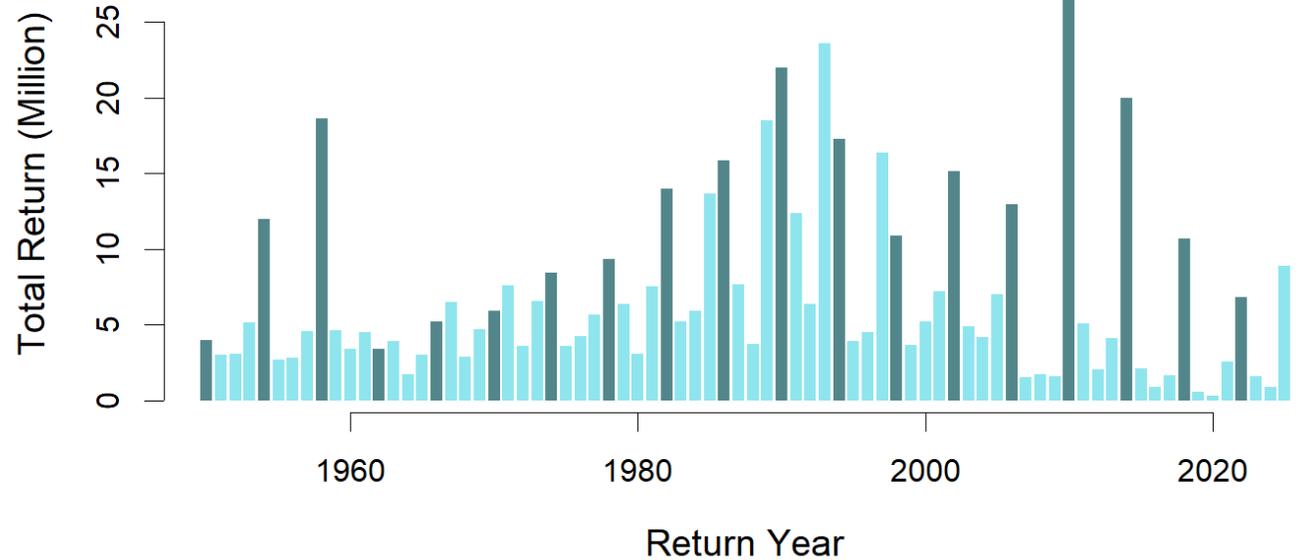
	Area	Pre-season Forecast	Run Size Estimate	Return Relative to Forecast	Date of Last Update
Alaska	Bristol Bay	54.1 Million	59.4 Million	+9.8%	July 24
British Columbia	Nass River (TRTC)	476,000	355,000	-25%	August 31
	Skeena River	2.7 Million	1.7 Million	-38%	Sept 20
	Barkley Sound	500,000 – 700,000	675,650	-	July 31
	<b>Fraser River</b>	<b>2.9 Million</b>	<b>9.1 Million *</b>	<b>+214%</b>	<b>Nov 24*</b>
Washington	Baker Lake	60,200	90,000	+50%	Sept 10
	Lake Washington	35,400	-		Sept 9
	Columbia River	350,000	167,500	-53%	Sept 21

# 2025 Forecast Summary – Stock Specific Performance

Stock Group	2021 Spawning escapement	Pre-season Run Size	In-season Run Size	Difference
Early Stuart	54,000	116,000	736,000	NA
Early Summer Run	105,000	221,000	411,000	86%
Chilliwack	2,000	15,000	4,000	-72%
Pitt/Alouette/Coquitlam	19,000	46,000	18,000	-61%
Nadina/Bowron/Gates/ Nahatlatch/Taseko	55,000	80,000	221,000	178%
Early Thompson, North Barriere	28,000	80,000	167,000	109%
Summer Run	1,562,000	2,136,000	6,911,000	224%
Harrison/Widgeon	56,000	46,000	92,000	102%
Late Stuart/Stellako	498,000	889,000	2,017,000	127%
Chilko	900,000	928,000	4,069,000	338%
Quesnel	102,000	260,000	509,000	96%
Raft/North Thompson	5,000	14,000	224,000	1502%
Late Run	163,000	468,000	816,000	74%
Birkenhead group	50,000	97,000	507,000	423%
L.Shuswap/Portage	33,000	73,000	178,000	144%
Weaver/Cultus	81,000	298,000	131,000	-56%
<b>Total Fraser Sockeye</b>	<b>1,884,000</b>	<b>2,941,000</b>	<b>8,874,000</b>	<b>202%</b>

# Fraser Sockeye Returns and Productivity

- See the return of productivity to ~ average
- Trends in abundance and productivity have been more variable for this cycle line



# Environmental Conditions

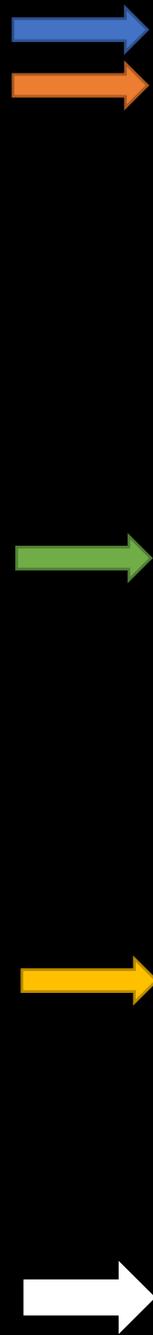
- Environmental conditions included in models are incorporated during the early marine phase of their life cycle.
- Environmental signals are mixed.

ENVIRONMENTAL VARIABLE	CONDITION RELATIVE TO AVERAGE	POSITIVE OR NEGATIVE FOR FRASER SALMON
Nearshore Sea Surface Temperature		
Pacific Decadal Oscillation (PDO)		
Fraser River Discharge Mean		
Fraser River Discharge Peak		

# 2026 Fraser Sockeye Forecast Primer

- Unusual forecast for a dominant cycle line for the following reasons:
  - 1) The Summer MU is expected to be nearly double the Late MU
  - 2) Early Summer abundances are projected to be dominated by Nadina and not Early Shuswap stocks
  - 3) The Late Shuswap forecast is lower than the individual forecasts for Chilko and Quesnel

# 2026 Fraser Sockeye Forecast Table



- Total Sockeye: 7.74M  
[1.95M, 30.6 M]
- Early Stuart: 63K  
[17K, 228K]
- Early Summer: 1.16M  
[54K, 820K]
- Summer: 4.31M  
[1.26M, 16.48M]
- Late: 2.21M  
[354K, 10.69M]

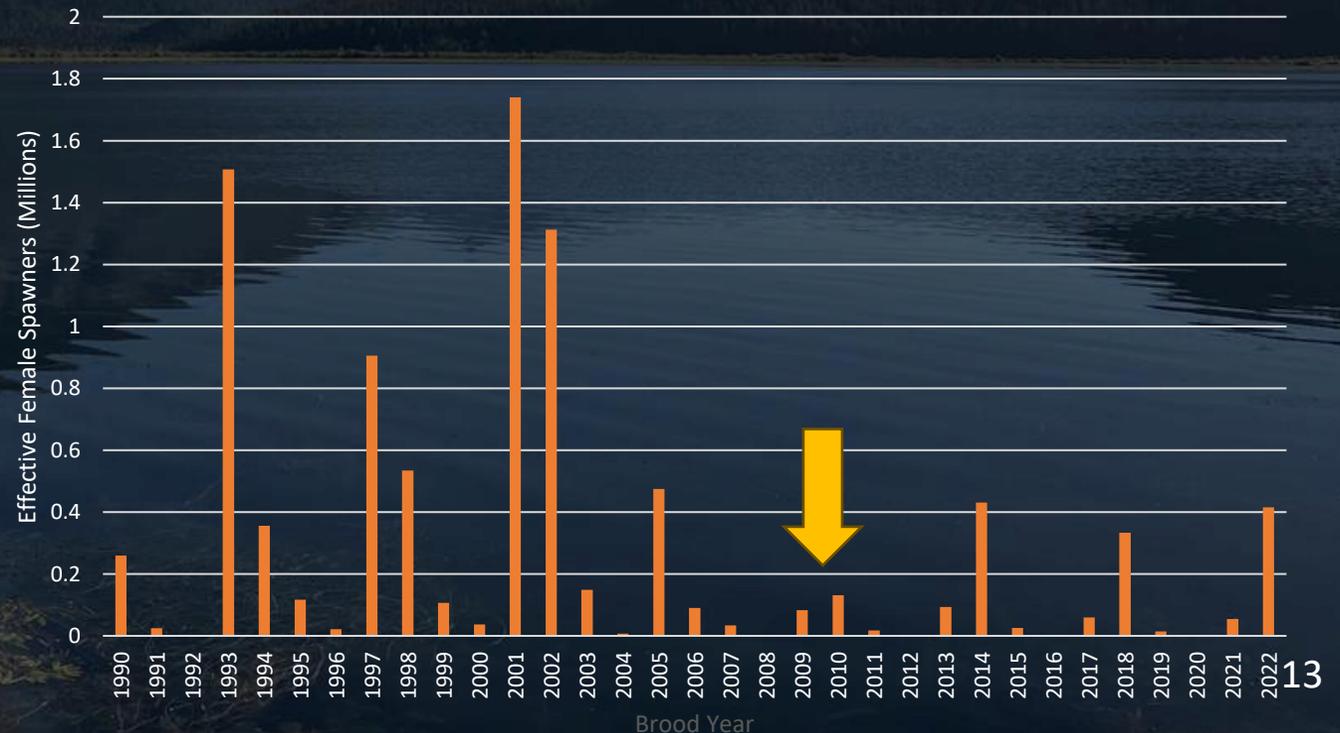
Run timing group	Forecast Model	Probability that Return will be at/or Below Specified Run Size				
		10%	25%	50%	75%	90%
Early Stuart	Ricker(EiW)4Sibling5	17,000	31,000	63,000	122,000	228,000
Early Summer Total		318,000	607,000	1,164,000	2,049,000	3,211,000
Total excluding misc. stocks		299,000	524,000	965,000	1,727,000	2,849,000
Bowron	Ricker(PiW)	3,000	6,000	10,000	20,000	35,000
Upper Barriere (Fennell)	Ricker(PiW)Sibling5	2,000	5,000	10,000	20,000	39,000
Gates	LarkinBasic4Sibling5	5,000	9,000	17,000	33,000	58,000
Nadina	RickerCyc4Sibling5	205,000	348,000	620,000	1,083,000	1,690,000
Pitt	PowerBasicCycAge4Sibling5	15,000	26,000	44,000	76,000	127,000
Scotch	LarkinBasic	42,000	81,000	170,000	325,000	606,000
Seymour	Ricker(Pi)4Sibling5	27,000	50,000	94,000	170,000	294,000
Misc (EShu)	R/S	16,000	76,000	177,000	279,000	289,000
Misc (Taseko)	R/S	500	1,000	4,000	5,000	5,000
Misc (Chilliwack)	R/S	700	2,000	7,000	15,000	26,000
Misc (Nabatlatch)	R/S	1,000	3,000	11,000	24,000	42,000
Summer Total		1,264,000	2,260,000	4,305,000	8,685,000	16,475,000
Total excluding misc. stocks		1,263,000	2,258,000	4,300,000	8,674,000	16,454,000
Chilko	LarkinBasic4Sibling5	604,000	999,000	1,741,000	2,943,000	4,953,000
Late Stuart	RS14Ricker(Pi)5	63,000	163,000	465,000	1,298,000	3,318,000
Quesnel	Ricker(PiW)	414,000	811,000	1,592,000	3,517,000	6,554,000
Stellako	Ricker(EiW)	144,000	208,000	339,000	560,000	884,000
Harrison	LLY3Sibling4	25,000	51,000	118,000	272,000	599,000
Raft	LLY4Sibling5	14,000	25,000	45,000	84,000	147,000
Misc (N. Thomp. Tribs)	R/S	100	200	400	1,000	2,000
Misc (N. Thomp. River)	R/S	900	2,000	3,000	9,000	17,000
Misc (Widgeon)	R/S	10	40	900	1,000	2,000
Late Total		354,000	870,000	2,212,000	5,471,000	10,686,000
Total excluding misc. stocks		354,000	868,000	2,188,000	5,435,000	10,641,000
Cultus	Power.Lux(PiW)	400	700	1,000	3,000	4,000
Late Shuswap	RickerBasic4Sibling5	140,000	469,000	1,415,000	3,890,000	7,748,000
Portage	RickerCyc	31,000	53,000	86,000	149,000	242,000
Weaver	Power.Lux(PiW)4Sibling5	18,000	43,000	95,000	229,000	487,000
Birkenhead	LLY4Sibling5	164,000	302,000	591,000	1,165,000	2,159,000
Misc Harrison/Lilloet	R/S	400	1,000	24,000	36,000	46,000
TOTAL SOCKEYE SALMON		1,953,000	3,767,000	7,743,000	16,328,000	30,600,000
Total Sockeye excluding misc. stocks		1,933,000	3,681,000	7,517,000	15,958,000	30,171,000

# Highlights for 2026: Shuswap

- Scotch/Seymour: 2022 returns for Scotch were close to the forecast but Seymour was 70% below forecast
- Late Shuswap: 2022 dominant cycle line was 57% below p50 forecast and 2022 was the lowest escapement on record for the dominant cycle line
- Environmental considerations:
  - Prolonged summer and drought in 2022 followed by an early freeze in November
  - Lake survey data from the Lakes Group (Selbie, Pon and Lidin) showed that fry densities were substantially lower than on previous dominant cycle lines and that growth rates were lower than other years

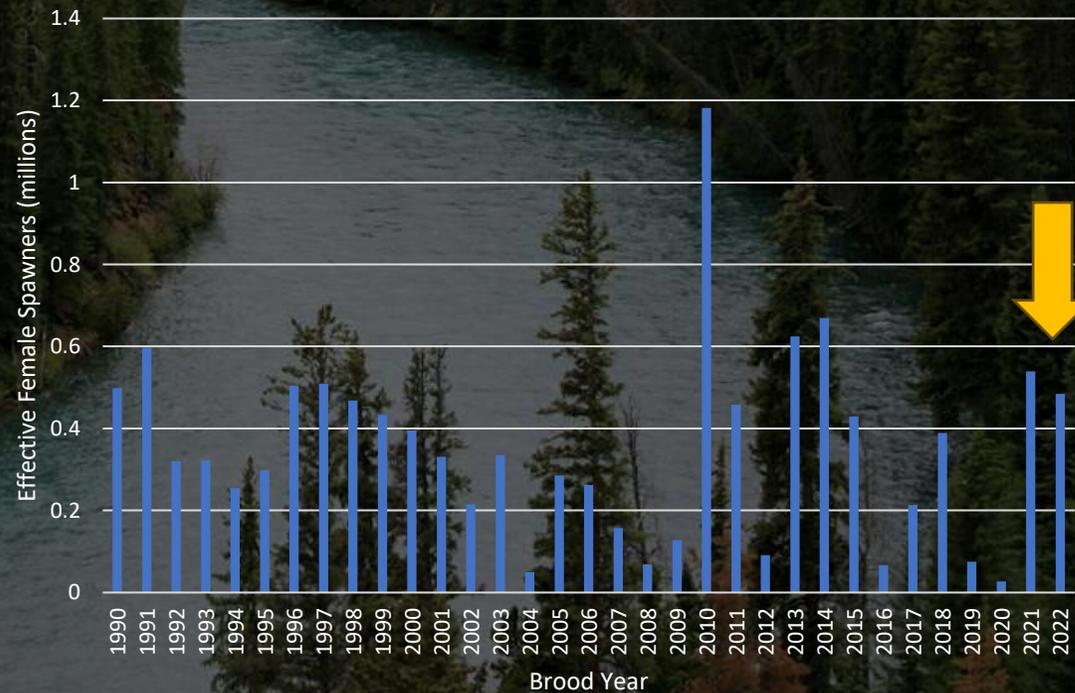
# Highlights for 2026: Quesnel

- 2022 return was ~ as expected and came in 7% below the median
- This is the current dominant cycle line for Quesnel after it switched in 2009/2010



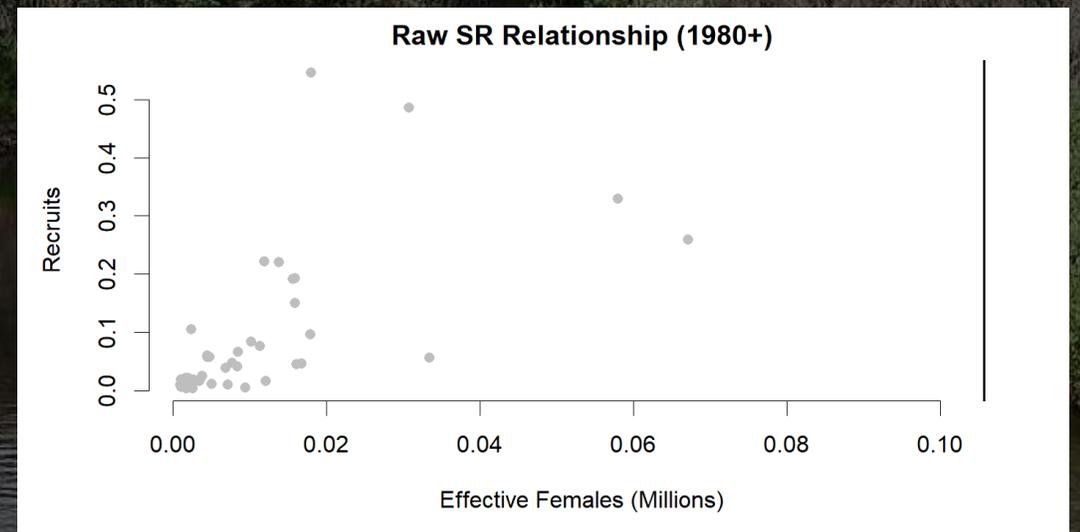
# Highlights for 2026: Chilko

- 2022 return was ~ as expected and came in 5% above the median forecast
- Although this has been the most abundant cycle line historically, that seems to have switched in 2021
- Very little variability among top model forecasts for Chilko in 2022



# Highlights for 2026: Nadina

- 2022 was the highest return and escapement for Nadina on record and came back 40% higher than forecast
- High prespawn mortality event on the early part of the run due to high water temperatures (21 degrees) and a large “ich” outbreak
- Channel capacity is 30,000-40,000



# Key Messages

- The Summer MU is projected to be nearly double the Late MU on the dominant cycle line. Chilko and Quesnel are individually forecasted to be larger than the Late Shuswap at the median forecast.
- The previous dominant cycle line (2022) returned below expectations between the p25 and p50 largely due to over-forecasting Late Shuswap
- Brood for the 2026 return comes from the lowest return on record for the dominant cycle line in 2022.
- Marine conditions nearshore are in a mildly unfavourable state, but the PDO indicates good conditions persisting offshore.
- The forecast has a wide range this year (1.95M to 30.6 M).

