

File: 71007

**DRAFT AGENDA**  
**PACIFIC SALMON COMMISSION**  
**FRASER RIVER PANEL**  
**Tuesday July 25, 2023 at 11:00 am.**  
**Via Zoom Webinar**  
<https://psc-org.zoom.us/j/88416242194>

- 1) Roll Call (Panel and Tech members, others please email [Julie, ehrmantraut@psc.org](mailto:Julie_ehrmantraut@psc.org))
- 2) Webinar Etiquette:
  - a) Mute Phone: Please mute phone unless you are asking a question
  - b) Chat feature: Please use for questions regarding the distribution only
- 3) Agenda
- 4) Run status of Fraser River sockeye salmon relative to forecasts and adopted run sizes PSC Staff
- 5) In-season data flow for updating objectives PSC staff
  - a) Test fishing catches and acoustics
  - b) Mission projected sockeye vs. Qualark sockeye estimates
  - c) Stock proportions
  - d) Environmental conditions
  - e) Big Bar update DFO/PSC staff
- 6) Assessments and recommendations PSC Staff
  - a) Migration graphs, escapement projections, run size assessments
- 7) Review any decisions on staff recommendations Panel
- 8) Other Business Panel
  - a) Marine gillnet end dates: Area 12(July 28) and Area 20 (July 29)
- 9) Next FRP Meeting, Friday July 28, 11:00 a.m. via Zoom Webinar Panel  
 Next Technical Committee meeting, Thursday July 27, 1:00 p.m. via Zoom TC

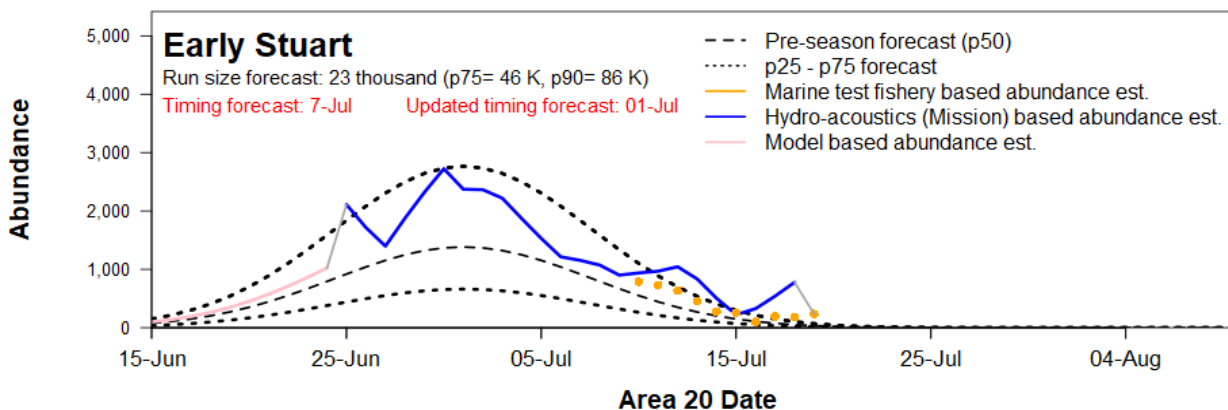
### 2023 Run status of Fraser sockeye and pink salmon

Date: Jul. 25, 2023

The information presented in this distribution has been prepared by PSC Secretariat staff and should be considered preliminary until reviewed by the Fraser River Panel

Week of: Jul. 23 - Jul. 29, 2023	Sockeye				Pink	
	Management Group				Total Fraser	Total Fraser
	E.Stuart	E.Summer	Summer	Late		
Mission passage (incls Pitt, Alouette, Coquitlam)	37,500	85,600	1,900	100	125,100	0
Catch downstream of Mission	200	1,500	300	0	2,000	100
Accounted Run To Date	37,700	87,100	2,200	100	127,100	100
Run size adopted in-season <sup>2</sup>	na	na	na	na	na	na
Run size forecasted pre-season	23,000	186,000	1,167,000	188,000	1,564,000	6,135,000
Area 20 timing adopted in-season	na	na	na	na	na	na
Area 20 timing expected pre-season	7/Jul	6/Aug	17/Aug	24/Aug	16/Aug	24/Aug
<b>Johnstone Str. Diversion Rate</b>	In-season 5-day average				<b>26%</b>	<b>na</b>
	Preseason forecast of annual rate:				67%	53%

<sup>2</sup> Run sizes are usually not adopted until after the peak of the run has passed through marine test fishery areas in Juan de Fuca and Johnstone straits.



## 2023 Fraser Sockeye Test Fishing &amp; Escapement Summary

Area/Gear Location From A20	Johnstone Strait		Juan de Fuca Strait		Fraser River								
	A12 GN Round Is (-2 days)	A12 PS Blinkhorn (-1 day)	A20 GN* Port Renfrew (0 days)	A20 PS Port Renfrew (0 days)	A29-17 GN Brownsville Bar <sup>1</sup>	A29-16 GN Whonnock (+6 days)	Whon CPUE Estimate (+6 days)	Qualark GN Catch (+8 days)	Qualark Estimate <sup>2</sup>	Method <sup>3</sup>	Mission Hydroacoustics Estimate <sup>4</sup> (+6 days)	Mission Hydroacoustics Method <sup>5</sup>	Hells Gate Estimates <sup>6</sup> (+10 days)
4-Jul						1	0.09	7			2,100	S1+M+A2	
5-Jul						2	0.20	6	1,860	RB x 2	5,000	S1+M+A2	0
6-Jul						0	0.00	9	2,941	RB x 2	3,700	S1+M+A2	No Count
7-Jul						0	0.00	8	2,845	RB x 2	4,600	S1+M+A2	No Count
8-Jul						0	0.00	3 **	1,256	RB + LB	4,500	S1+M+A2	No Count
9-Jul						0	0.00	1 **	1,715	RB + LB	5,000	S1+M+A2	0
10-Jul			57			0	0.00	2 **	2,253	RB + LB	5,400	S1+M+A2	0
11-Jul	1		129			3	0.28	4 **	3,372	RB + LB	3,600	S1+M+A2	0
12-Jul	6		90		20	0	0.00	5 (Two sets)	4,078	RB + LB	3,800	S1+M+A2	170
13-Jul	2		39		14	3	0.29	14 **	4,082	RB + LB	4,600	S1+M+A2	300
14-Jul	17		48		12	13	1.17	9 **	4,777	RB + LB	3,400	S1+M+A2	370
15-Jul	9		146		19	13	1.17	8 **	3,765	RB + LB	3,200	S1+M+A2	530
16-Jul	2		26		25	29	2.45	11 **	4,754	RB + LB	4,100	S1+M+A2	580
17-Jul	10		15		21	29	2.37	4 **	3,245	RB + LB	7,000	S1+M+A2	620
18-Jul	11		194		12	40	3.03	5 **	5,724	RB + LB	6,100	S1+M+A2	670
19-Jul	18		73		7	28	2.18	9 **	6,009	RB + LB	5,400	S1+M+A2	900
20-Jul	10	67	72		7	18	1.48	10 **	7,528	RB + LB	3,700	S1+M+A2	560
21-Jul	6	31	28	167	13	1	0.09	15 **	7,162	RB + LB	3,800	S1+M+A2	1,580
22-Jul	3	62	69	28	50	0	0.00	6	4,652	RB + LB	6,600	S1+M+A2	No Count
23-Jul	1	349	53	62 (5 sets)	48	2	0.17	12	7,054	RB + LB	9,600	S1+M+A2	1,880
24-Jul	30	7 (4 Sets)	10	70	18	5	0.48	27 (5 sets)			8,600	S1+M+A2	730
25-Jul													
26-Jul													

<sup>1</sup> Alternative Lower River Test Fishery - Southern Endowment Fund Project<sup>2</sup> Qualark escapement estimate - does not include Chilliwack, Pitt, Harrison, Birkenhead, Big Silver, Weaver, and Cultus<sup>3</sup> Qualark source:

RB x 2 = Right-bank (RB) x 2

RB + LB = Right-bank (RB) + Left-bank (LB)

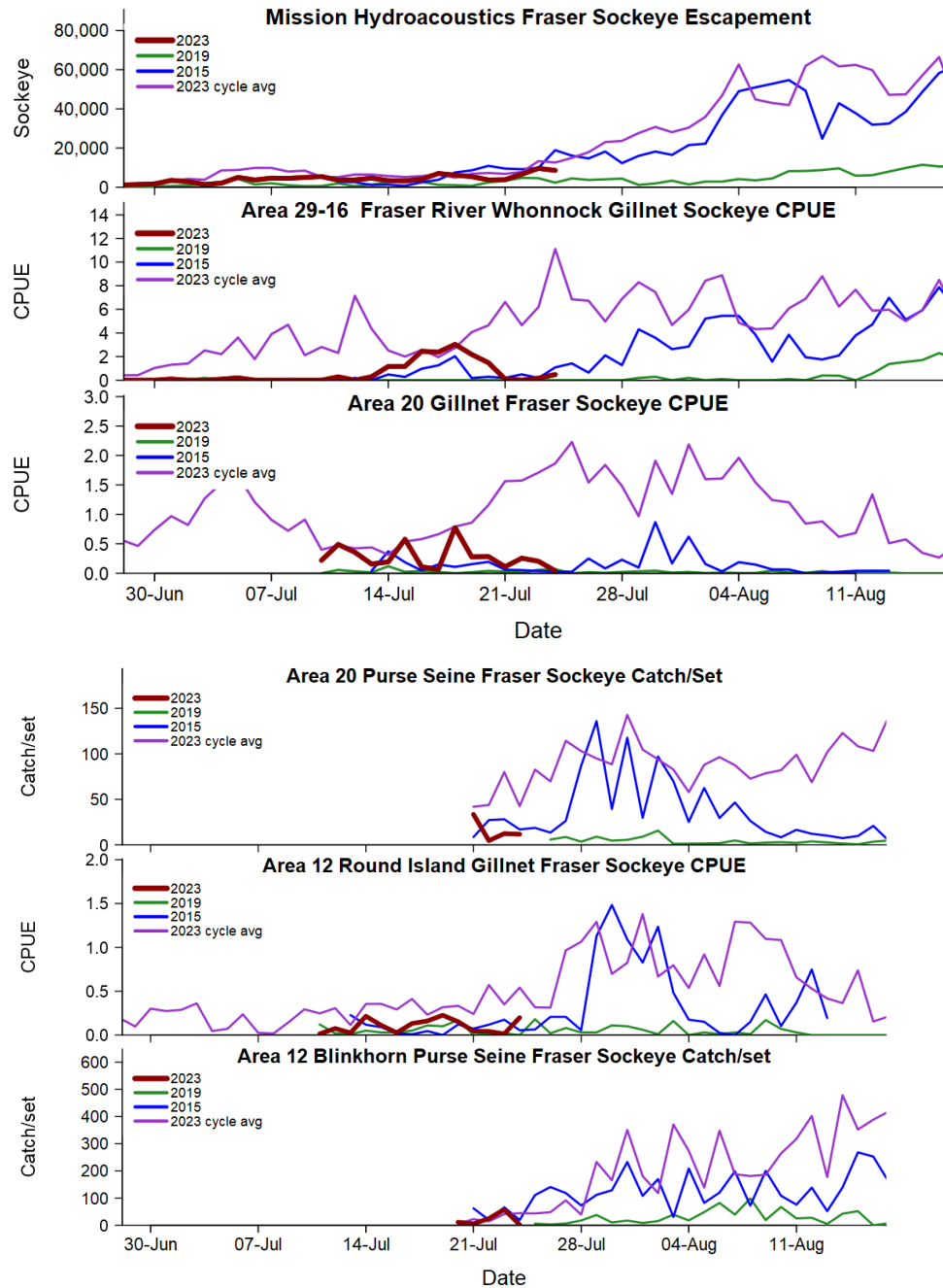
<sup>4</sup> Mission escapement estimate - does not include Pitt<sup>5</sup> Mission source:

S1+M+A2 = Left bank split-beam (S1) + Mobile split-beam (M) + Right bank ARIS (A2)

<sup>6</sup> Daily Hells Gate abundance estimate; actual daily count has been expanded.

\* Area 20 Gillnet - two boats fishing each day, unless specified otherwise. One boat is fishing with a 5" Alaska twist net, while the other is fishing a 5 1/8" multistrand net.

\*\* Three sets performed for Qualark Gillnet



Fraser Sockeye: Qualark Passage Estimate and Mission-based Projection

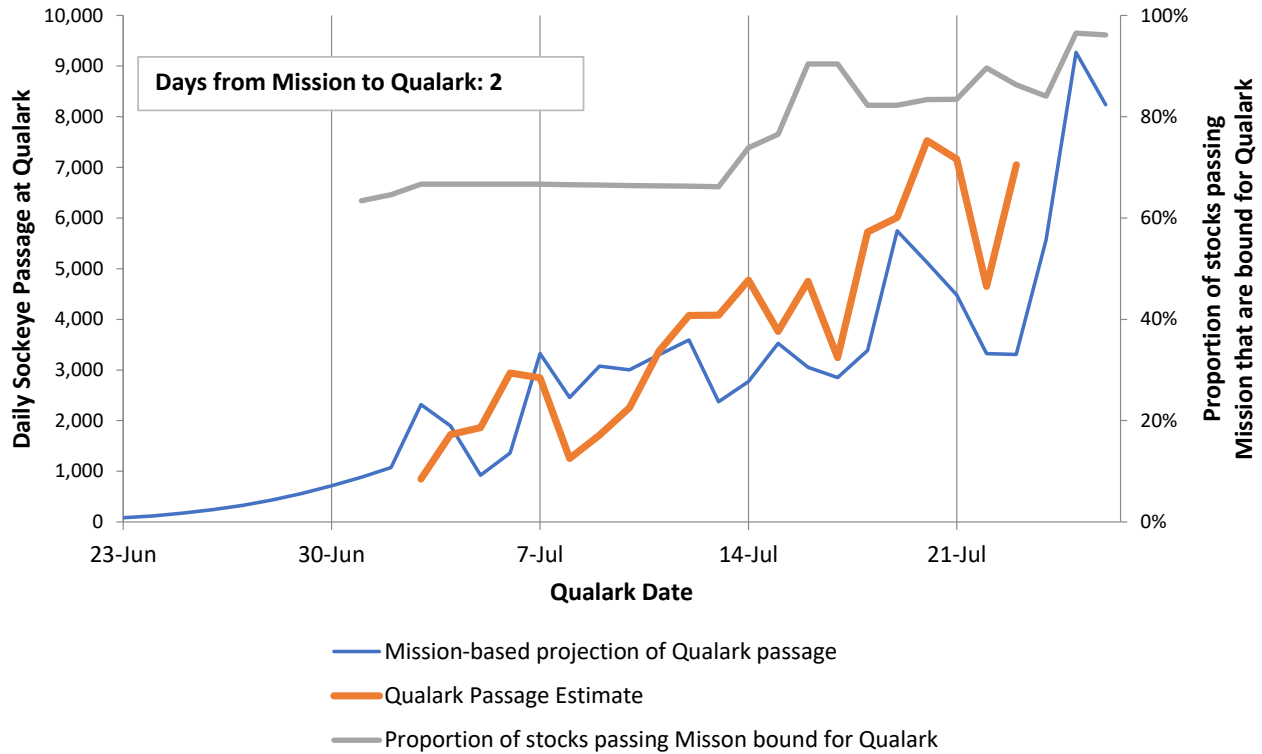
Year: **2023**

Date: 25/Jul/23

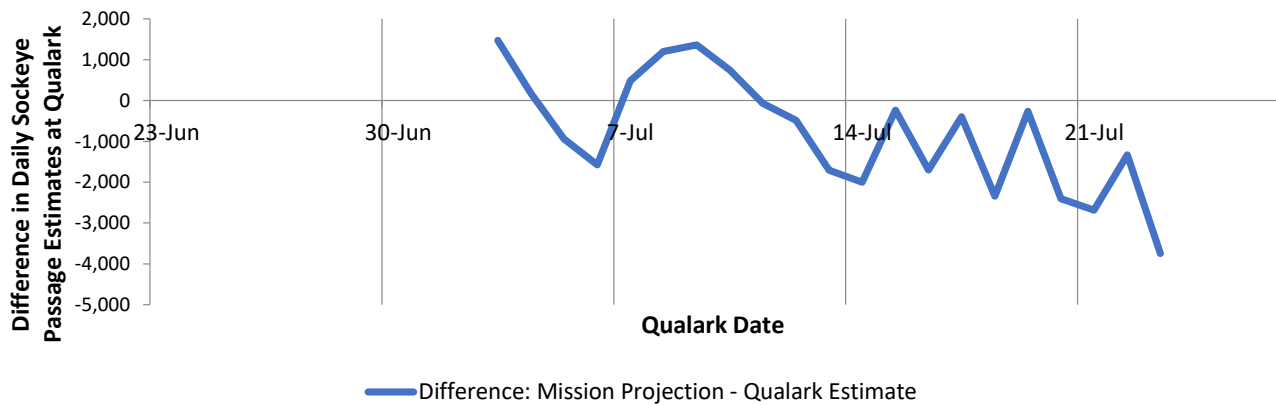
Time: 10:36 AM

	All Days	Common Days
Mission projection	92,883	65,192
Qualark estimate	81,643	81,643
	<b>Difference</b>	<b>-16,451</b>
	<b>%Difference</b>	<b>(25%)</b>

Compare Qualark Passage Estimate and Mission-based Projection



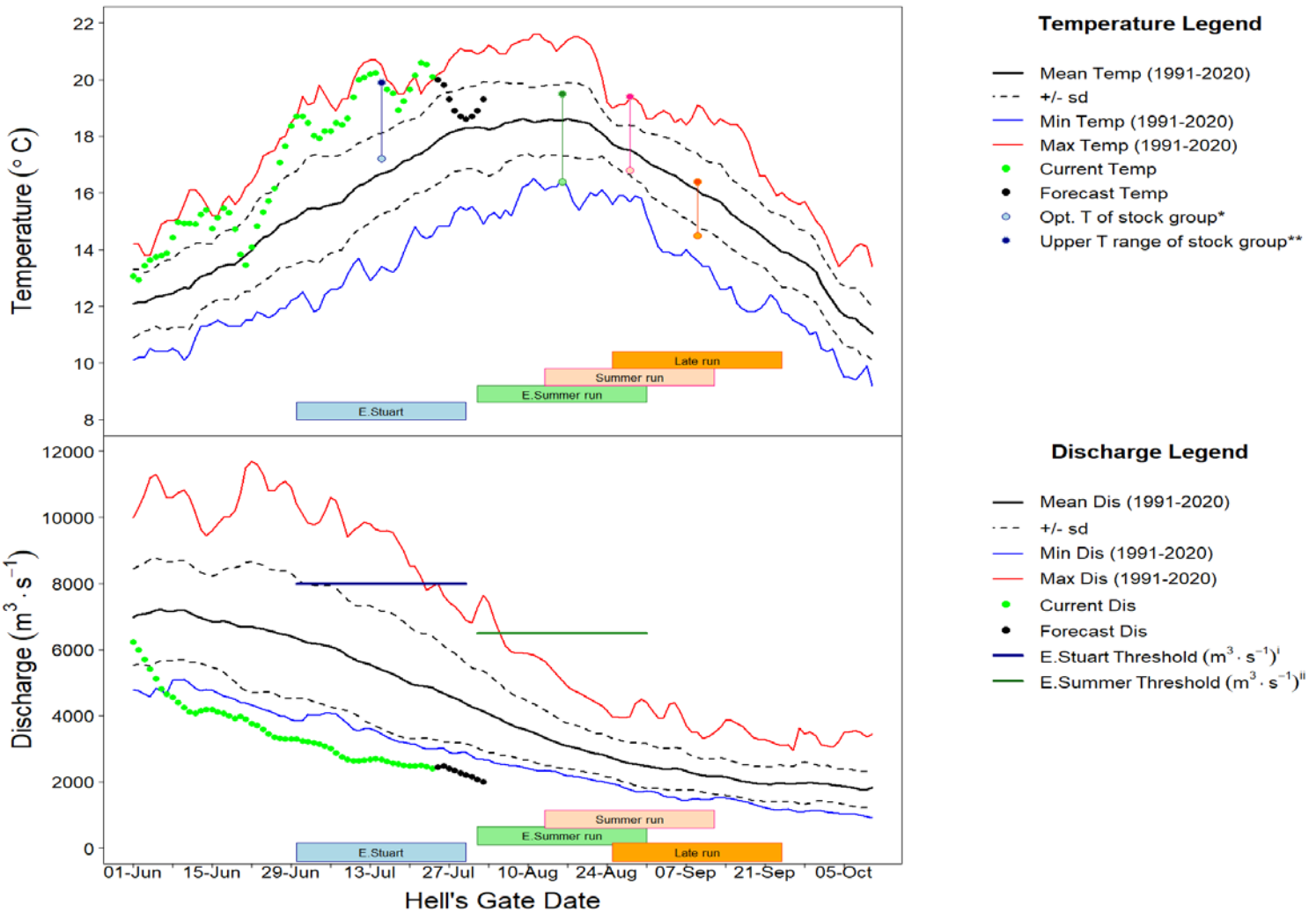
Difference between Qualark Passage Estimate and Mission-based Projection





<b>Observed Fraser River Temperature at Qualark for 24-Jul</b>	20.1°C
<b>Average (1991-2020) Historical Temperature on this day</b>	17.7°C
<b>Deviation from Average</b>	2.4°C
<b>Forecast Temperature for 30-Jul-23</b>	18.6°C
The forecast in Kamloops is for below average air temperatures until July 29 and above average temperature for the rest of the forecast period. The forecast for Prince George is for below average air temperature until July 27 and above average temperature for the rest of the forecast period.	

<b>Observed Fraser River Discharge at Hope for 24-Jul</b>	2416 m <sup>3</sup> ·s <sup>-1</sup>
<b>Average (1991-2020) Historical Discharge on this day</b>	4852 m <sup>3</sup> ·s <sup>-1</sup>
<b>% above or below Historical Discharge</b>	-50%
<b>Forecast Discharge for 30-Jul-23</b>	2213 m <sup>3</sup> ·s <sup>-1</sup>
The forecast in Kamloops is for minimal precipitation. The forecast in Prince George is for 31 mm of precipitation.	



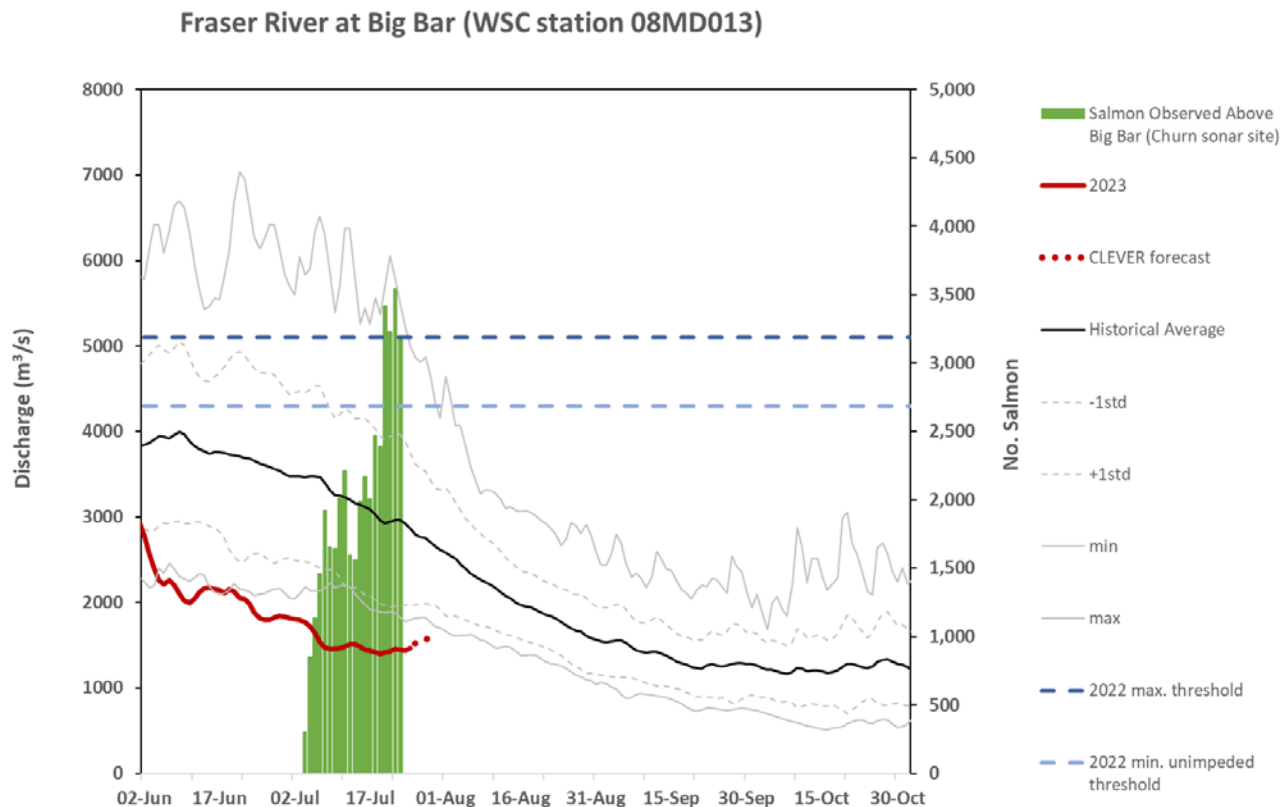
Run timing bars represent a 31 day spread of the run centered around the Hell's Gate date. Hell's gate timing is 5 days from Mission for Early Stuart and Late run; and 4 days from Mission for Early Summer and Summer run. <sup>i</sup>pMA is the proportional increase to spawning escapement targets to help ensure targets are achieved. <sup>ii</sup>%DBE is %difference between estimates of potential spawning escapement and spawning escapement. \*This is the optimum temp for aerobic swimming - T<sub>opt</sub> (Eliason et al. (2011). Science 332: 109-112)\*\*This is the upper range of the optimum temp for aerobic swimming - T<sub>pejus</sub>. <sup>i</sup>Discharge threshold of 8000cms for Early Stuart from Macdonald (2000). Can. Tech. Rep. Fish. Aquat. Sci. 2315: 120p. <sup>ii</sup>Discharge threshold of 6500cms for Early Summer run from Macdonald et al. (2010). Trans. Am. Fish. Soc. 139: 768-782. 19 days of T & Q data are required to calculate a pMA - 15 days before the Hell's Gate Date and 3 days after. MA estimates can be calculated 4 days after the Area 20 date.



Current Temperatures						
Upriver of Slide	Map #	23-Jul	Daily Mean	Historic Mean	Deviation from Historical Mean	Historic Year Range
<b><u>Fraser River Mainstem</u></b>						
	1	Fraser River @ Qualark	20.5	17.5	3.0	1991-2020
	2	Fraser River @ Texas Creek	19.8	17.3	2.5	2006-2022
	3	Fraser River @ Big Bar Creek	NA	NA	NA	2019-2022
▶	4	Fraser River @ Marguerite	19.4	16.9	2.5	2015-2022
▶	5	Upper Fraser @ Shelley	17.8	14.5	3.3	1994-2022
<b><u>Fraser River Tributaries</u></b>						
	6	Thompson R. @ Ashcroft	19.4	16.8	2.6	1995-2022
	7	South Thompson @ Chase	20.4	17.7	2.7	1994-2022
	8	North Thompson @ McLure	19.0	14.1	4.9	2006-2022
▶	9	Quesnel R. @ Quesnel	17.5	15.2	2.3	2000-2022
▶	10	Nechako R. @ Isle Pierre	NA	19.1	NA	2006-2022
▶	11	Stuart R. @ Ft. St. James	18.9	18.2	0.7	2000-2022





## Fraser River Discharge at Big Bar



Data made available by:  Environment and Climate Change Canada and  northwest hydraulic consultants

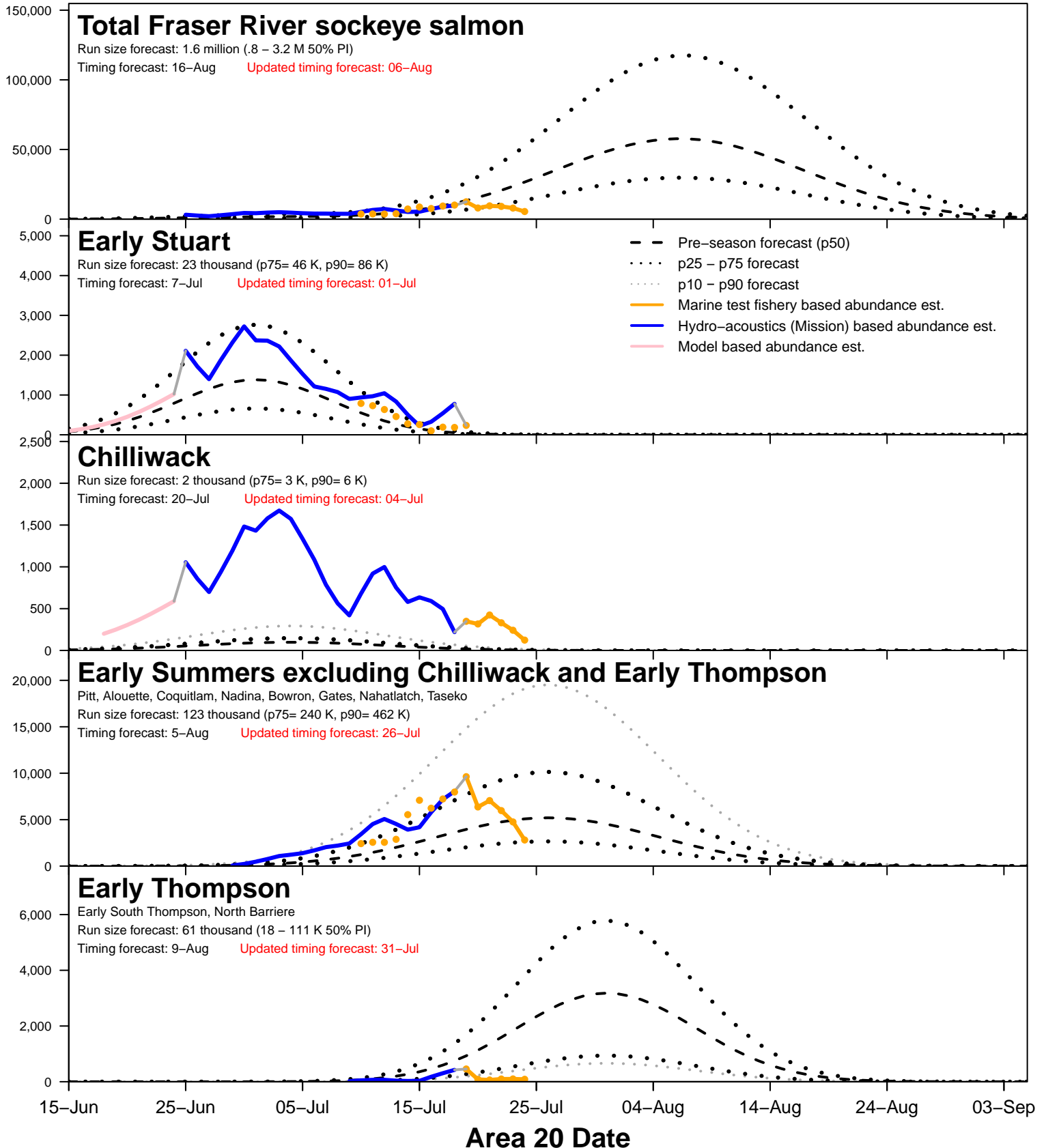
## Migration passage at Big Bar

### Big Bar Update

- There have been no upstream migration problems reported at Big Bar.
- A total of 40,713 salmon have been observed 40 km upstream of Big Bar (Churn Creek).
- Using a length-based estimate (68 cm) to differentiate Chinook and sockeye, 13,349 sockeye have migrated past Churn sonars up until July 20.
- A total of 23,713 sockeye have been observed below Big Bar (Alfalfa).
- Although there is a discrepancy between Alfalfa and Churn Creek sites, no holding fish or mortalities have been observed at the sonar sites below the slide. Work to account for the discrepancy between sites continues.
- A total of 134 Sockeye have been tagged.
- 7 tagged fish that reached the slide were able to pass and migrate from Alfalfa to Churn in under 24 hours which is comparable to previous years.
- Tagging is planned to continue until Friday, July 28.

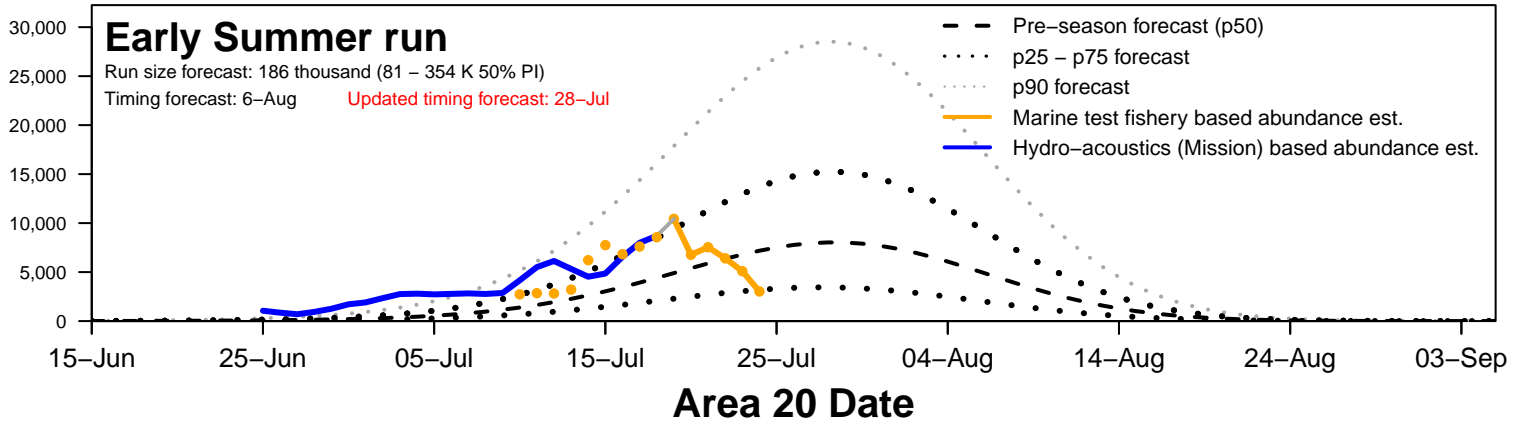
# 2023 Fraser River sockeye salmon daily migration

## Timing updated based on Timing Correlations



# 2023 Fraser River sockeye salmon daily migration

## Timing updated based on Timing Correlations



Abundance

## 2023 Fraser River sockeye abundance en-route to Mission

Current date: 25-Jul

Area 20 date	Escapement past Mission through 24-Jul	Projected abundance en route to Mission based on marine test fishery data <sup>1,2</sup>								Escapement + projections through 30-Jul	
		19-Jul	20-Jul	21-Jul	22-Jul	23-Jul	24-Jul	Total	80% PI <sup>3</sup>		
Mission date		25-Jul	26-Jul	27-Jul	28-Jul	29-Jul	30-Jul		10p	90p	
<b>Total Fraser</b>	<b>125,200</b>	<b>8,300</b>	<b>9,700</b>	<b>5,800</b>	<b>12,800</b>	<b>8,400</b>	<b>2,400</b>	<b>47,400</b>	<b>24,600</b>	<b>90,600</b>	<b>172,600</b>
<b>Early Stuart</b>	<b>37,500</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>200</b>	<b>37,600</b>
<b>Early Summer Run</b>	<b>85,600</b>	<b>7,000</b>	<b>8,000</b>	<b>5,200</b>	<b>9,200</b>	<b>4,500</b>	<b>1,400</b>	<b>35,300</b>	<b>17,300</b>	<b>73,100</b>	<b>120,900</b>
Chilliwack	25,100	200	500	300	500	200	100	1,800	900	3,700	26,900
Pitt/Alouette/Coquitlam	6,400	1,700	2,400	1,700	2,700	1,100	500	10,100	4,900	20,900	16,500
Nadina group <sup>4</sup>	52,900	4,800	5,100	3,200	5,900	3,100	800	22,900	11,200	47,400	75,800
Early Thompson <sup>5</sup>	1,200	300	0	0	100	100	0	500	200	1,000	1,700
<b>Summer Run</b>	<b>2,000</b>	<b>1,000</b>	<b>1,700</b>	<b>600</b>	<b>3,600</b>	<b>3,900</b>	<b>1,000</b>	<b>11,800</b>	<b>7,200</b>	<b>17,000</b>	<b>13,800</b>

<sup>1</sup> En route catches are incomplete: catches from present and future fisheries must be deducted from projections and added to the catches removed

<sup>2</sup> Projected abundances en route to Mission include Harrison and Late runs, an uncertain number of which are expected to delay

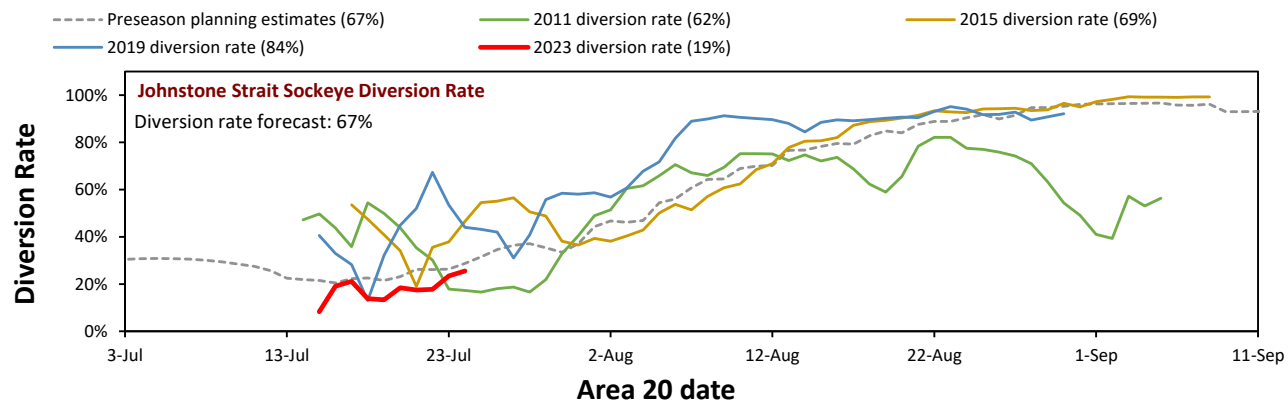
<sup>3</sup> 80% Probability Interval: there exists an 80% chance that the true abundance lies within this interval

<sup>4</sup> Nadina / Bowron / Gates / Nahatlatch / Taseko

<sup>5</sup> Early South Thompson / North Barriere

## 2023 Fraser River sockeye diversion rates through Johnstone Strait

	5-day-average
<b>Diversion rate</b>	<b>26%</b>



# 2023 Fraser River run size and timing estimates

The information presented on this page has been prepared by PSC Secretariat Staff. All in-season estimates of run size and timing should be considered draft preliminary estimates unless adopted by the Fraser River Panel.

Preseason forecasts, inseason estimates, and official estimates of run size and associated timing

	Run Size						Run size components			Run Timing <sup>1</sup>					
	Inseason Adopted	Preseason Forecast	Inseason estimate	Inseason 80% PIs <sup>2</sup>		Method	Catch + Escapement	6-day Projection <sup>3</sup>	Seaward Abundance	Inseason Adopted	Preseason Forecast	Inseason estimate	Inseason 80% PIs <sup>2</sup>		Method
				10% PI	90% PI								10% PI	90% PI	
Early Stuart Run	NA	23,000	✓ 38,000	38,000	38,000	Recon	38,000	0	0	NA	07-Jul	01-Jul	01-Jul	01-Jul	Recon
Early Summer Run	NA	186,000					87,000	36,000		NA	06-Aug				
Chilliwack		2,000	● 27,000	26,000	27,000	Recon	25,000	2,000	0		20-Jul	03-Jul	03-Jul	03-Jul	Recon
Pitt/Nadina Group <sup>4</sup>		123,000					61,000	33,000			05-Aug	26-Jul			Timing Corr.
Early Thompson <sup>5</sup>		61,000					1,000	1,000			09-Aug	31-Jul			Timing Corr.

<sup>1</sup> Run timing refers to the date when 50% of the run migrated past the Area 20 reference point.

<sup>2</sup> 80% Probability Interval: there exists an 80% chance that the true abundance lies within this interval

<sup>3</sup> Normally based on test fishery data. Based on Model if Method = Recon(2).

<sup>4</sup> Pitt / Alouette / Coquitlam / Nadina / Bowron / Gates / Nahatlatch / Taseko

<sup>5</sup> Early South Thompson / North Barriere.

**Methods for run size & timing estimation**

Recon Catch + escapement + 6-day test fish projection + model seaward projection

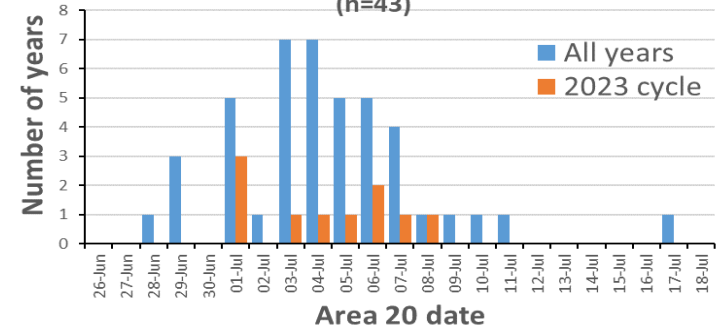
Timing Corr. Correlation model based on in-season run timing estimates of Early Stuart and Chilliwack

**Run Size Uncertainty Legend<sup>†</sup>**

- ✓ ≥ 95% of the run size has been accounted for in catch + escapement. Clear indication of run size; minor run size updates still expected
- ≥ 70% of the run size has been accounted for in catch + escapement. Good indication of run size; peak fo the run has been observed at Mission, uncertainty relates to seaward abundance
- ▲ ≥ 50% of the run size has been accounted for in catch + escapement. Decent indciation of run size; ≥ 50% confirmed at Mission
- ◇ < 50% of the run size has been accounted for in catch + escapement. Uncertain or early indciation of run size based on marine data

<sup>†</sup> The **Run Size Uncertainty Indicator** is a categorical indication of the degree of uncertainty present in the run size estimate. Estimates are categorized quantitatively based on the proportion of the run that has been accounted for with high certainty in catch + escapement.

**Historical 50% migration date for Early Stuart (n=43)**



**Historical 50% migration date for Chilliwack (n=18)**

