

File: 71007

**DRAFT AGENDA
PACIFIC SALMON COMMISSION
FRASER RIVER PANEL
Friday August 4, 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 comparison
 - c) Stock proportions
 - d) Environmental conditions
 - e) Big Bar – final update PSC/DFO
 - f) Observations from the watershed DFO
- 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) Pink DNA samples from Area 7, 7A
 - b) Matsqui Fishwheel
 - c) Weekly report
 - d) First in-person meeting
- 9) Next FRP Meeting, Tuesday August 8, 10:30 a.m. in person at Vancouver Airport Marriott Hotel and via Zoom Webinar Panel
 Next Technical Committee meeting, Thursday August 10, 1:00 p.m. via Zoom TC

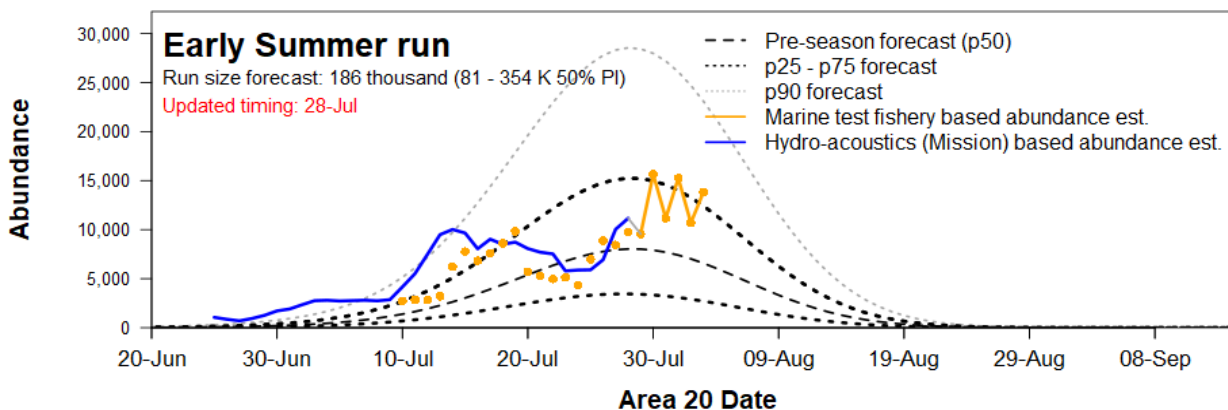
2023 Run status of Fraser sockeye and pink salmon

Date: Aug. 4, 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. 30 - Aug. 5, 2023	Sockeye				Pink	
	Management Group				Total Fraser	Total Fraser
	E.Stuart	E.Summer	Summer	Late		
Mission passage (incls Pitt, Alouette, Coquitlam)	40,900	181,700	34,000	700	257,300	0
Catch downstream of Mission	200	2,700	1,800	100	4,800	300
Accounted Run To Date	41,100	184,400	35,800	800	262,100	300
Run size adopted in-season ²	43,000	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	2/Jul	na	na	na	na	na
Area 20 timing expected pre-season	7/Jul	6/Aug	17/Aug	24/Aug	16/Aug	24/Aug
Johnstone Str. Diversion Rate	In-season 5-day average				53%	28%
	Preseason forecast of annual rate:				67%	53%

² 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 & Escapement Summary

Area/Gear Location From A20	Johnstone Strait	Juan de Fuca Strait	Fraser River									
	A12 PS Blinkhorn (-1 day)	A20 PS Port Renfrew (0 days)	A29-13 GN Cottonwood (+5 days)	A29-17 GN Brownsville Bar ¹	A29-16 GN Whonnock (+6 days)	Whon CPUE Estimate (+6 days)	Qualark			Mission Hydroacoustics		Hells Gate Estimates ⁶ (+10 days)
							GN Catch (+8 days)	Estimate ²	Method ³	Estimate ⁴ (+6 days)	Method ⁵	
14-Jul				12	13	1.17	9 **	4,777	RB + LB	3,300	S1+M+A2	370
15-Jul				19	13	1.17	8 **	3,765	RB + LB	3,200	S1+M+A2	530
16-Jul				25	29	2.45	11 **	4,754	RB + LB	4,100	S1+M+A2	580
17-Jul				21	29	2.37	4 **	3,245	RB + LB	7,000	S1+M+A2	620
18-Jul				12	40	3.03	5 **	5,724	RB + LB	6,100	S1+M+A2	670
19-Jul				7	27	2.10	9 **	6,009	RB + LB	9,300	S1+M2+A2	900
20-Jul	67			7	18	1.48	10 **	7,528	RB + LB	11,700	S1+M2+A2	560
21-Jul	31	167		13	2	0.19	15 **	7,162	RB + LB	7,800	S1+M2+A2	1,580
22-Jul	62	28		50	0	0.00	6	4,652	RB + LB	9,000	S1+M2+A2	No Count
23-Jul	349	62 (5 sets)		48	2	0.17	12	7,054	RB + LB	8,000	S1+M2+A2	1,880
24-Jul	7 (4 Sets)	70		18	5	0.48	27 (5 sets)	8,566	RB + LB	11,500	S1+M2+A2	730
25-Jul	134	50		43	2	0.19	15	9,079	RB + LB	9,000	S1+M2+A2	1,970
26-Jul	1,390	70	16	42	4	0.37	16	9,408	RB + LB	10,700	S1+M2+A2	1,880
27-Jul	107	127	9	40	2	0.17	9	8,444	RB + LB	8,500	S1+M2+A2	5,000
28-Jul	522	81	20	36	9	0.83	10	6,521	RB + LB	7,000	S1+M2+A2	3,010
29-Jul	13	265	1	17	3	0.27	11	6,965	RB + LB	9,200	S1+M2+A2	2,660
30-Jul	239	384	3	44	5	0.47	11	5,396	RB + LB	6,600	S1+M2+A2	930
31-Jul	99	1,021	8	66	19	1.64	8	6,890	RB + LB	11,000	S1+M2+A2	890
1-Aug	4,592	230	3	36	11	0.93	16	8,067	RB + LB	9,000	S1+M2+A2	930
2-Aug	1,400	143	3	24	20	1.72	10	8,834	RB + LB	7,900	S1+M2+A2	1,080
3-Aug	6,197	147	10	44	21	1.74				17,800	S1+M2+A2	1,960
4-Aug												
5-Aug												

¹ Alternative Lower River Test Fishery - Southern Endowment Fund Project² Qualark escapement estimate - does not include Chilliwack, Pitt, Harrison, Birkenhead, Big Silver, Weaver, and Cultus³ Qualark source:

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

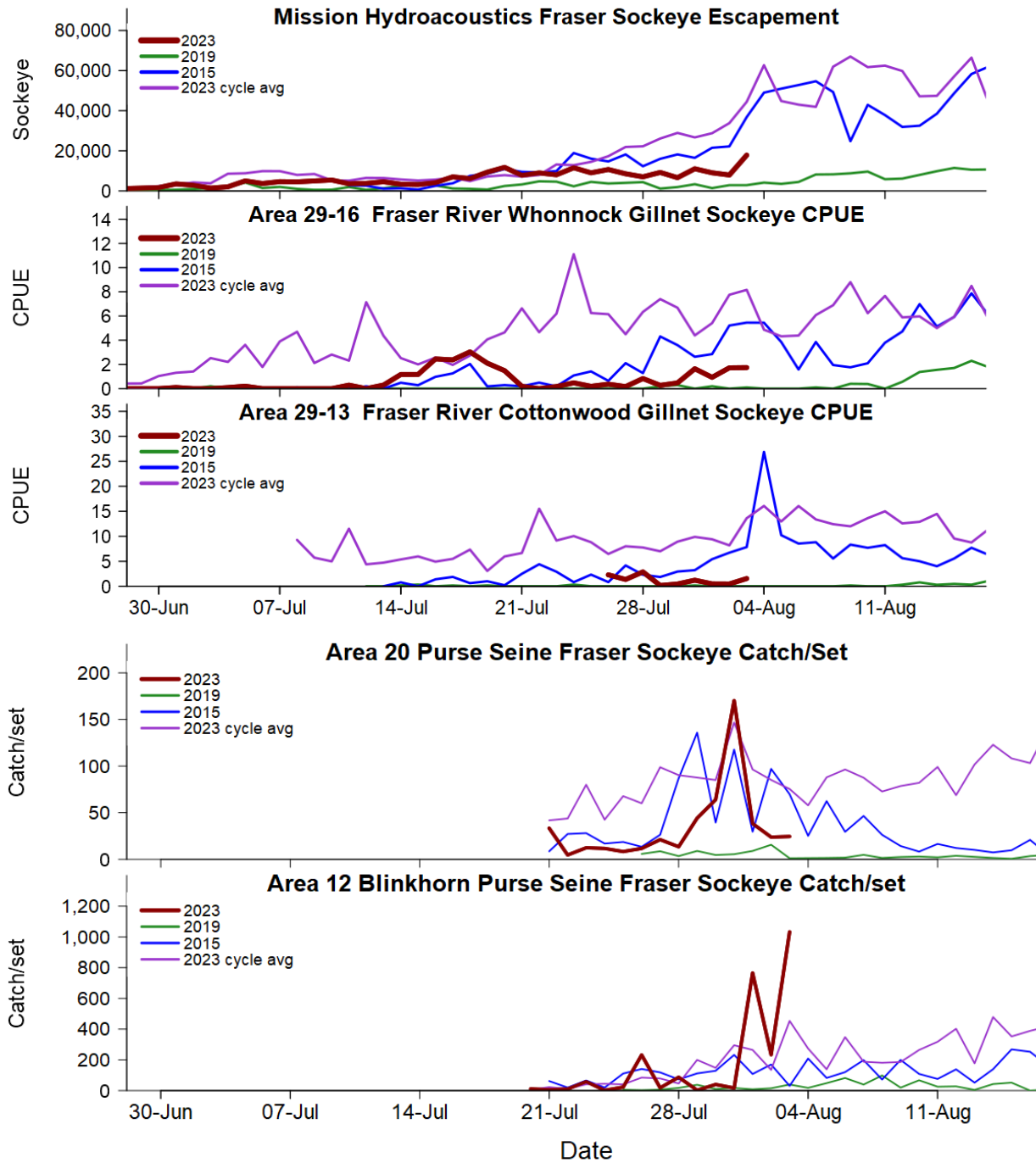
⁴ Mission escapement estimate - does not include Pitt⁵ Mission source:

A1+M+A2 = Left-bank ARIS (A1) + Mobile split-beam (M) + Right-bank ARIS (A2)

A1+M+A2 = Left-bank ARIS (A1) + Mobile ARIS (M2) + Right-bank ARIS (A2)

⁶ Daily Hells Gate abundance estimate; actual daily count has been expanded.

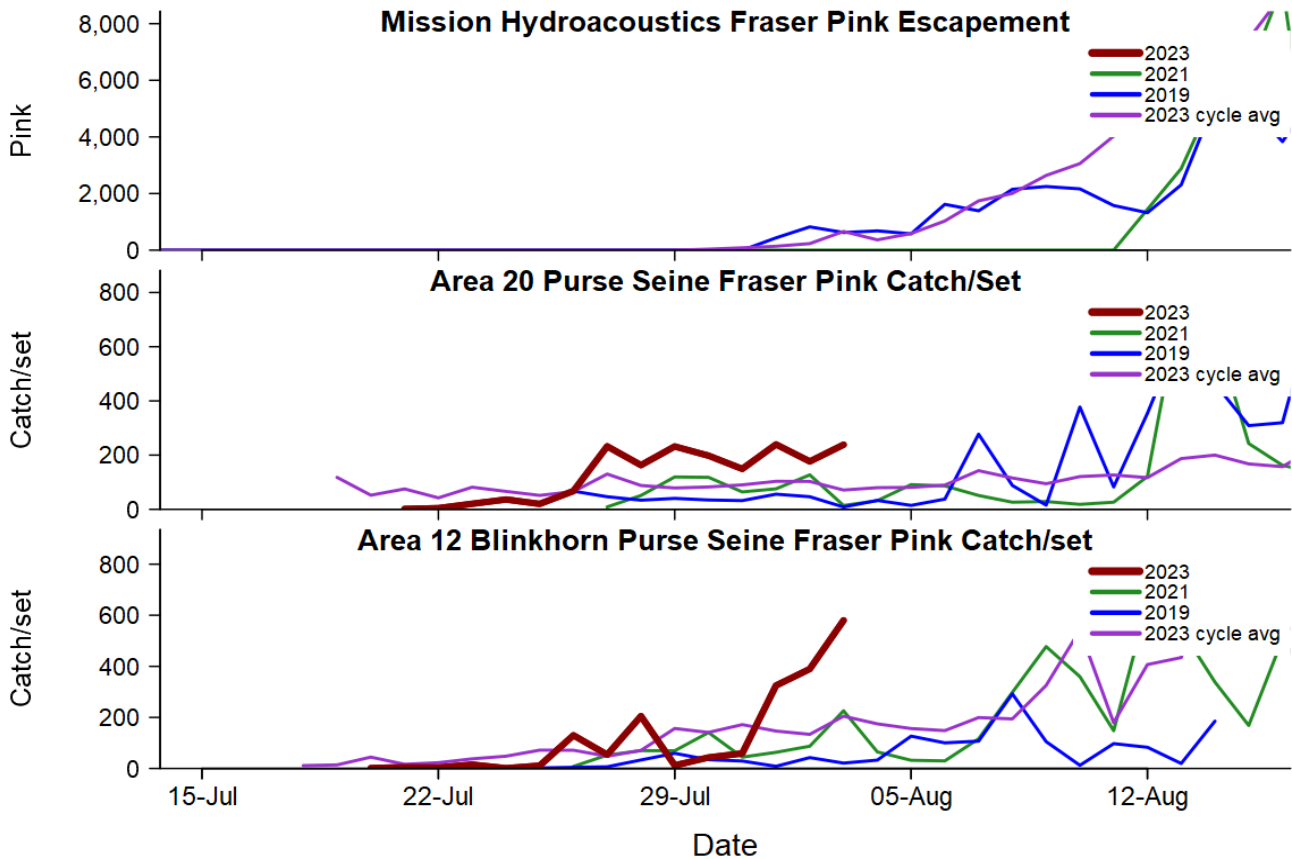
** Three sets performed for Qualark Gillnet



2023 Fraser Pink Test Fishing & Escapement Summary

Area/Gear Location From A20	Johnstone Strait	Juan de Fuca Strait	Fraser River									
	A12 PS Blinkhorn (-1 day)	A20 PS Port Renfrew (0 days)	A29-13 GN Cottonwood (+5 days)	A29-17 GN Brownsville Bar ¹	A29-16 GN Whonnock (+6 days)	Whon CPUE Estimate (+6 days)	GN Catch (+8 days)	Qualark Estimate ²	Method ³	Mission Hydroacoustics Estimate ⁴ (+6 days)	Method ⁵	Hell's Gate Estimates ⁶ (+10 days)
14-Jul				0	0	0.00	0 **	0	RB+LB	0	S1+M+A2	0
15-Jul				0	0	0.00	0 **	0	RB+LB	0	S1+M+A2	0
16-Jul				0	0	0.00	0 **	0	RB+LB	0	S1+M+A2	0
17-Jul				0	0	0.00	0 **	0	RB+LB	0	S1+M+A2	0
18-Jul				0	0	0.00	0 **	0	RB+LB	0	S1+M+A2	0
19-Jul				0	0	0.00	0 **	0	RB+LB	0	S1+M2+A2	0
20-Jul	302			0	0	0.00	0 **	0	RB+LB	0	S1+M2+A2	0
21-Jul	931	128		0	0	0.00	0 **	0	RB+LB	0	S1+M2+A2	0
22-Jul	549	410		0	0	0.00	0	0	RB+LB	0	S1+M2+A2	No Count
23-Jul	1,782	1344 (5 sets)		0	0	0.00	0	0	RB+LB	0	S1+M2+A2	0
24-Jul	69 (4 sets)	2,440		0	0	0.00	0	0	RB+LB	0	S1+M2+A2	0
25-Jul	927	1,150		0	0	0.00	0	0	RB+LB	0	S1+M2+A2	0
26-Jul	9,305	3,364		0	0	0.00	0	0	RB+LB	0	S1+M2+A2	0
27-Jul	3,334	10,148		0	0	0.00	0	0	RB+LB	0	S1+M2+A2	0
28-Jul	11,055	6,285		0	0	0.00	0	0	RB+LB	0	S1+M2+A2	0
29-Jul	574	7,964		0	0	0.00	0	0	RB+LB	0	S1+M2+A2	0
30-Jul	1,800	6,100		0	0	0.00	0	0	RB+LB	0	S1+M2+A2	0
31-Jul	2,199	4,152		0	0	0.00	0	0	RB+LB	0	S1+M2+A2	0
1-Aug	10,849	6,072		0	0	0.00	0	0	RB+LB	0	S1+M2+A2	0
2-Aug	11,745	4,101		0	0	0.00	0	0	RB+LB	0	S1+M2+A2	0
3-Aug	15,892	5,102		0	0	0.00				#N/A	S1+M2+A2	0
4-Aug												
5-Aug												

¹ Alternative Lower River Test Fishery - Southern Endowment Fund Project
² Qualark escapement estimate - does not include Chilliwack, Pitt, Harrison, Birkenhead, Big Silver, Weaver, or Cultus
³ Qualark source:
 RB+LB = Right Bank (RB) + Left Bank (LB)
⁴ Mission escapement estimate - does not include Pitt
⁵ Mission source:
 S1+M+A2 = Left bank split-beam (S1) + Mobile split-beam (M) + Right bank ARIS (A2)
 S1+M2+A2 = Left bank split-beam (S1) + Mobile ARIS (M2) + Right bank ARIS (A2)
⁶ Daily Hells Gate abundance estimate; actual daily count has been multiplied by 2.
 ** Three sets performed for Qualark



Fraser Sockeye: Qualark Passage Estimate and Mission-based Projection

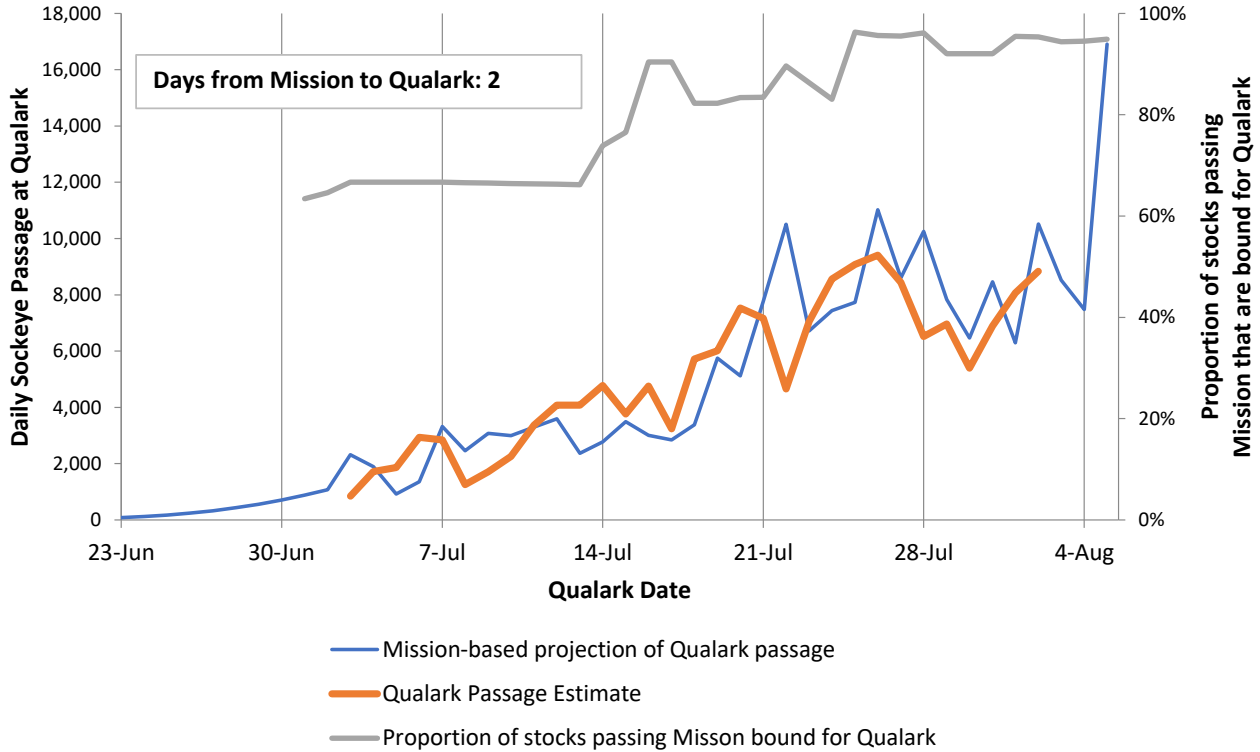
Year: **2023**

Date: 4/Aug/23

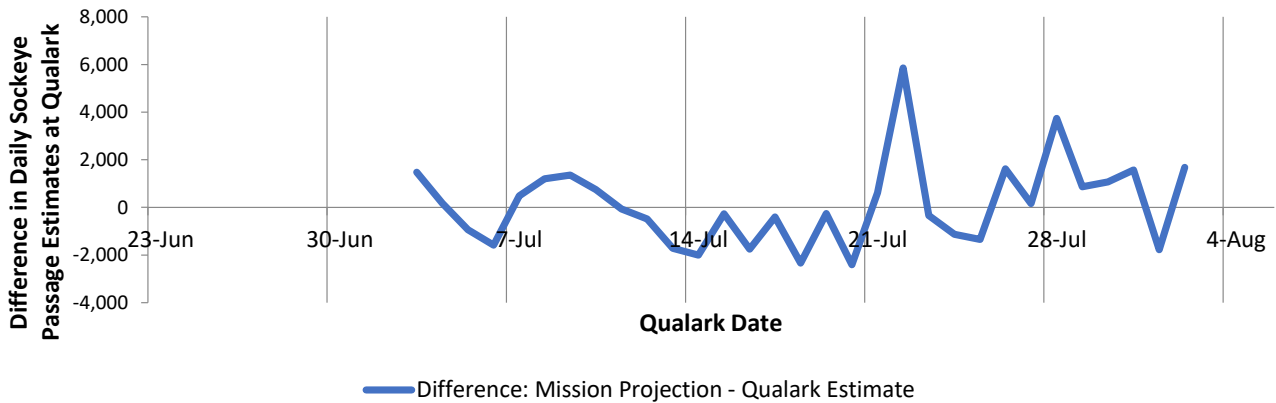
Time: 10:07 AM

	All Days	Common Days
Mission projection	201,142	163,621
Qualark estimate	159,813	159,813
	Difference	3,808
	%Difference	2%

Compare Qualark Passage Estimate and Mission-based Projection



Difference between Qualark Passage Estimate and Mission-based Projection



2023 Fraser River Sockeye Salmon Stock identification Review

Recent stock composition estimates for sockeye salmon

Fishing						Fraser-only Stock Proportions by Reporting Group ⁴ (%)														Age (%)	
						Early Stuart	Early Summer					Summer					Late				Overall Stocks
						Early Stuart	Chilli-wack	Pitt Alouette	Nadina Bowron Gates Nahat-latch	Early Thompson	Early Summer sub-total	Harri-son	Late Stuart	Chilko Ques-nel	Raft North Thompson	Summer sub-total	Birken-head	Late Shuswap	Weaver	Late sub-total	Age-4 ₂
								Coquit-lam	Taseko	Wid-geon		Stellako	Thomp-son	Big Silver	Portage		Cultus				
Area/Gear ¹	Sector ²	Date	Type ³	Size (n)	%Fraser																
Johnstone Strait & Queen Charlotte Strait																					
A12 ps	tf	Jul 26	DNA	95	91%	0%	1%	2%	35%	9%	47%		27%	22%		49%		3%	3%	54%	
A12 ps	tf	Jul 29	DNA	13	77%	10%			9%		9%		51%	30%		81%			0%	60%	
A12 ps	tf	Jul30-31	DNA	98	91%	0%	1%	2%	14%	2%	20%		40%	35%	1%	77%	1%	1%	1%	4%	53%
A12 ps	tf	Aug 2	DNA	100	94%	0%		1%	5%	6%	12%		31%	43%	4%	77%	3%	4%	4%	11%	55%
A12 ps		Aug 7	Prediction	1	96%	0%	0%	1%	5%	3%	8%		23%	58%	2%	83%	2%	3%	4%	9%	NA
Juan de Fuca Strait & Washington & Other																					
A20 at	tf	Jul 29	DNA	94	96%	0%	1%	18%	25%	10%	54%	3%	7%	30%		40%	5%		1%	6%	NA
A20 gn	tf	Jul 29	DNA	47	98%	0%	2%	20%	28%	1%	51%		13%	29%	4%	45%	2%		2%	4%	45%
A20 ps	tf	Jul 29	DNA	95	95%	0%	1%	8%	32%	9%	50%	4%	22%	20%		47%	1%		1%	2%	47%
A20 ps	tf	Aug 1	DNA	96	96%	0%		1%	12%	6%	19%	3%	26%	45%	2%	76%	4%		1%	5%	63%
A20 ps		Aug 6	Prediction	1	98%	0%	0%	2%	5%	4%	11%	3%	25%	51%	1%	81%	2%		6%	8%	NA
In-river																					
AB gn	tf	Jul30-31	DNA	20	100%	0%	10%		36%	5%	51%	1%	23%	25%		49%				0%	53%
AB gn	tf	Aug1-2	DNA	25	100%	4%	4%	4%	46%		54%	5%	1%	24%	12%	42%				0%	61%
BB gn Bro	tf	Jul29-30	DNA	58	100%	0%		7%	39%	8%	54%	3%	27%	14%	1%	46%				0%	32%
BB gn Bro	tf	Jul31-Aug2	DNA	110	100%	1%	3%	18%	40%	6%	66%	2%	17%	11%	1%	31%	2%			2%	49%

2023 Fraser River Pink Salmon Stock identification Review

Recent stock composition estimates for pink salmon

Fishing					DNA % Estimates by Group		
Sample					Canada		
Area/Gear ¹	Sector ²	Date	Type ³	Size (n)	Fraser River	Washington	South Coast
Johnstone Strait							
A12 PS	TF	Jul28	DNA	94	8%	25%	67%
A12 PS	TF	Jul31	DNA	95	12%	15%	73%
A12		Aug07	Prediction	1	30%	23%	46%
Juan de Fuca Strait							
A20 PS	TF	Jul27	DNA	96	24%	36%	40%
A20 PS	TF	Jul31	DNA	94	9%	30%	61%
A20		Aug07	Prediction	1	37%	33%	30%
Washington							

Notes for sockeye and pink tables:

¹ BB GN=29_13 (Cottonwood,Brownsville), AT = Alaska Twist, AB GN= 29_16 (Whonnock), MA FW=Matsqui Fish Wheel, QU GN=Qualark

² TF=sample from test fishery catch, CM=sample from commercial catch, C&S=ceremonial & subsistence catch, FSC=food, social, & ceremonial catch, rec= recreational catch

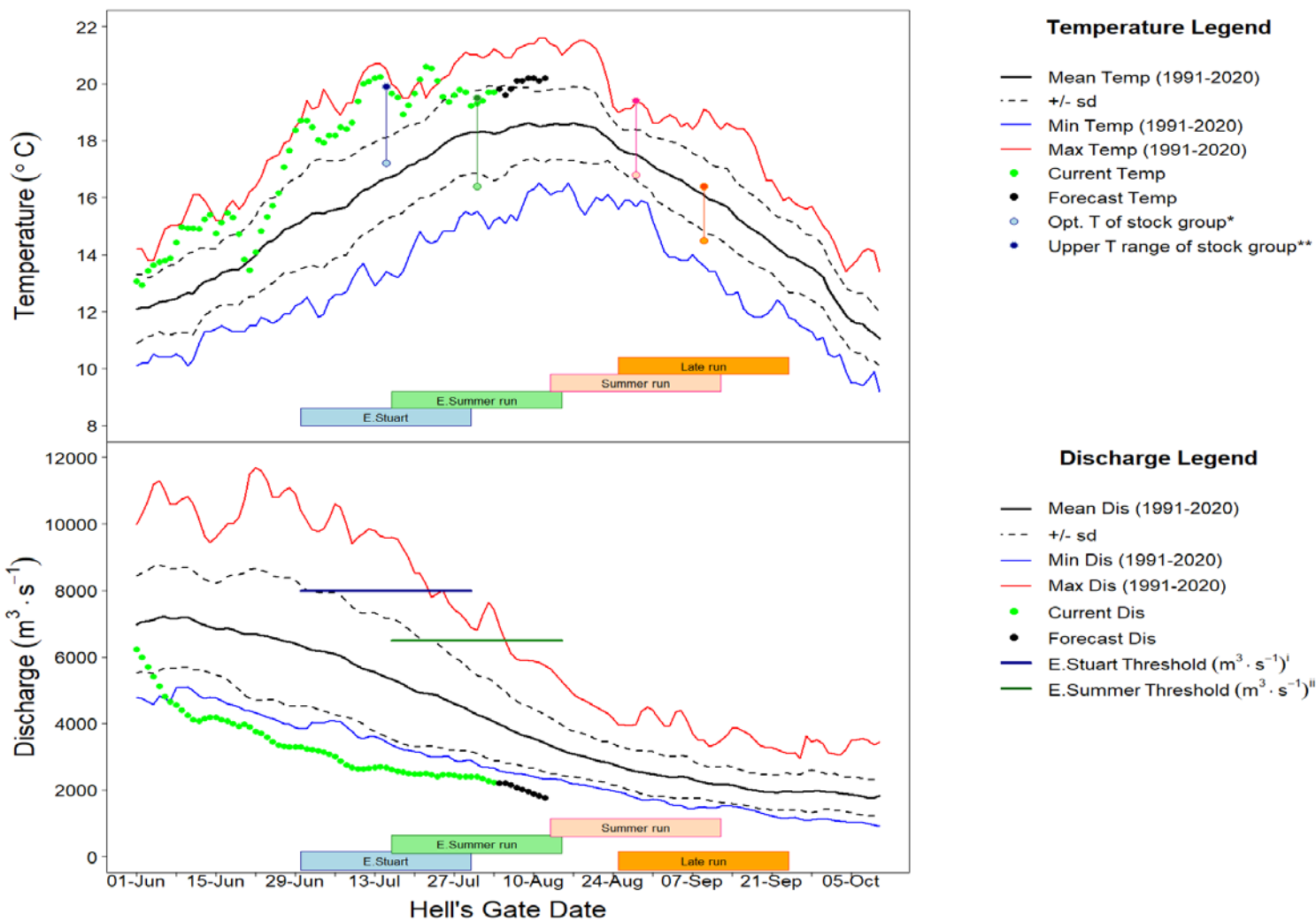
³ Predictions for sockeye are multinomial extrapolations of current year data to 5 days after the last observation; Predictions for pink salmon are projections of stock compositions based on historic and current data

⁴ Further information relating stock group descriptions to spawning ground locations and population definitions can be found at http://www.psc.org/FRPWeb/Escapement/PSC_Fraser_Sockeye_Stock_Group_Definitions.pdf

Results in grey text have been presented to the Panel previously

Observed Fraser River Temperature at Qualark for 03-Aug	19.7°C
Average (1991-2020) Historical Temperature on this day	18.3°C
Deviation from Average	1.4°C
Forecast Temperature for 09-Aug-23	20.2°C
The forecast in Kamloops is for above average air temperature. The forecast for Prince George is for above average air temperature.	

Observed Fraser River Discharge at Hope for 03-Aug	2234 m ³ ·s ⁻¹
Average (1991-2020) Historical Discharge on this day	4062 m ³ ·s ⁻¹
% above or below Historical Discharge	-45%
Forecast Discharge for 09-Aug-23	1952 m ³ ·s ⁻¹
The forecast in Kamloops is for 6 mm precipitation. The forecast in Prince George is for 9 mm of precipitation.	



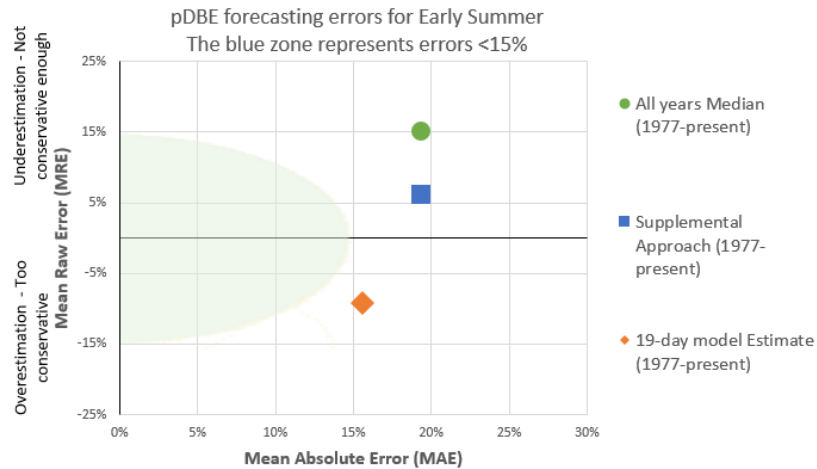
Run timing bars represent a 31 day spread of the run centered around the Hell's Gate date. Hell's gate timing is 5 days from Mission for Early Stuart and Late run; and 4 days from Mission for Early Summer and Summer run. ⁱpMA is the proportional increase to spawning escapement targets to help ensure targets are achieved. ⁱⁱ%DBE is %difference between estimates of potential spawning escapement and spawning escapement. *This is the optimum temp for aerobic swimming - T_{opt} (Eliason et al. (2011). Science 332: 109-112)**This is the upper range of the optimum temp for aerobic swimming - T_{pejus}. ⁱDischarge threshold of 8000cms for Early Stuart from Macdonald (2000). Can. Tech. Rep. Fish. Aquat. Sci. 2315: 120p. ⁱⁱDischarge 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 #	02-Aug	Daily Mean	Historic Mean	Deviation from Historical Mean	Historic Year Range
<u>Fraser River Mainstem</u>						
	1	Fraser River @ Qualark	19.7	18.3	1.4	1991-2020
	2	Fraser River @ Texas Creek	18.9	18.3	0.6	2006-2022
	3	Fraser River @ Big Bar Creek	NA	NA	NA	2019-2022
▶	4	Fraser River @ Marguerite	18.6	18.6	0.0	2015-2022
▶	5	Upper Fraser @ Shelley	17.2	15.2	2.0	1994-2022
<u>Fraser River Tributaries</u>						
	6	Thompson R. @ Ashcroft	19.7	17.8	1.9	1995-2022
	7	South Thompson @ Chase	19.8	19.2	0.6	1994-2022
	8	North Thompson @ McLure	18.1	15.4	2.7	2006-2022
▶	9	Quesnel R. @ Quesnel	17.1	16.8	0.3	2000-2022
▶	10	Nechako R. @ Isle Pierre	18.7	19.1	-0.4	2006-2022
▶	11	Stuart R. @ Ft. St. James	19.3	18.7	0.6	2000-2022

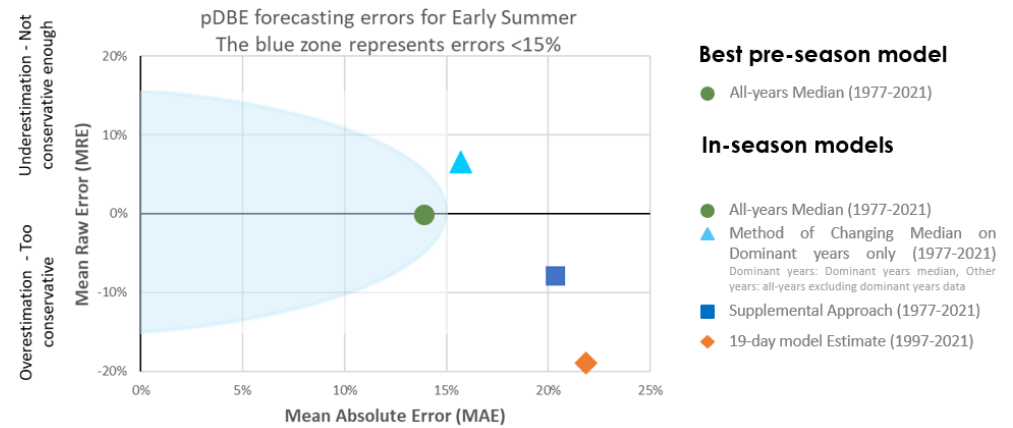


Retrospective Analysis of methods to predict Early Summer Run pDBE based on Low Discharge Years

Performance using Low Discharge years



Performance using All-years¹



	MAE	MRE
19-day model Estimate (1977-present)	16%	-9%
Supplemental Approach (1977-present)	19%	6%
All years Median (1977-present)	19%	15%

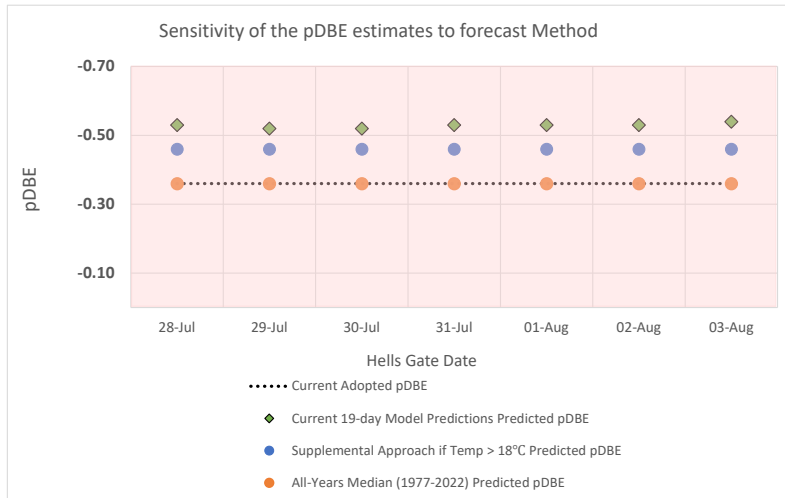
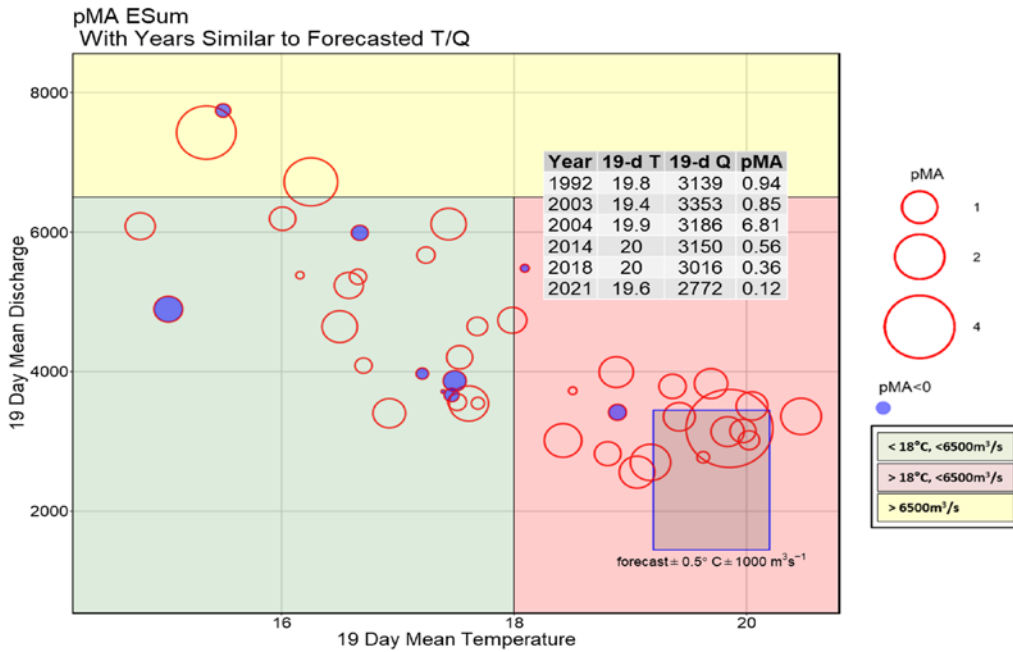
Conclusions for low discharge years

- During low discharge years (< 3000 cms), the mean absolute error is smallest for the 19-day temperature and discharge model compared to the Supplemental Approach and the All-years Median.
- The 19-day temperature and discharge model is slightly conservative but the tendency to be too conservative is considerably smaller on low discharge years compared to recent years in general.
- Applying the all-years median (which performed best in recent years) in low discharge years would tend to underestimate the pDBE and not be conservative enough.

¹ Forrest, M. 2022. Retrospective analysis of the DBE approach: part II. June FRP meeting presentation, Sequim, WA.

Early Summer run pDBE Forecast and Sensitivity Analysis for August 04, 2023

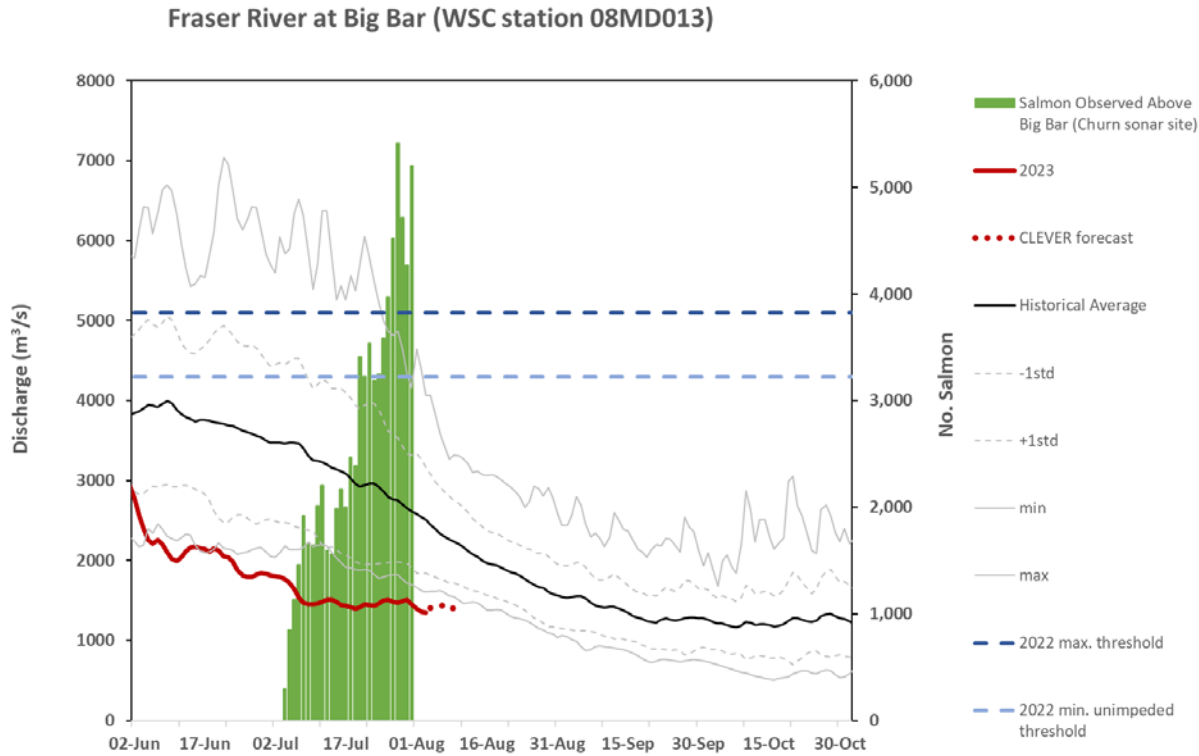
Based on the retrospective analysis of the Low Discharge years for Early Summer run the best performing model is the 19-day Temperature and Discharge Model



Model Performance Based on the Retrospective Analysis of the Low Discharge years.				Best 2 3			
Hells Gate		Average	Average	Current	Current 19-day Model	Supplemental	All-Years
Area 20	Date	Temperature °C	Discharge m ³ /s	Adopted	Predictions	Approach if	Median (1977-2022)
				pDBE	Predicted pDBE	Predicted pDBE	Predicted pDBE
18-Jul	28-Jul	19.7	2506	-0.36	-0.53	-0.46	-0.36
19-Jul	29-Jul	19.7	2489	-0.36	-0.52	-0.46	-0.36
20-Jul	30-Jul	19.7	2467	-0.36	-0.52	-0.46	-0.36
*	21-Jul	31-Jul	19.7	2443	-0.36	-0.53	-0.46
22-Jul	01-Aug	19.7	2422	-0.36	-0.53	-0.46	-0.36
23-Jul	02-Aug	19.7	2404	-0.36	-0.53	-0.46	-0.36
24-Jul	03-Aug	19.7	2384	-0.36	-0.54	-0.46	-0.36
Implied pMA							
*	21-Jul	31-Jul	19.7	2443	0.56	1.13	0.85

*Currently last day with 19 days of observed Temp & Disch data.

Fraser River Discharge at Big Bar



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

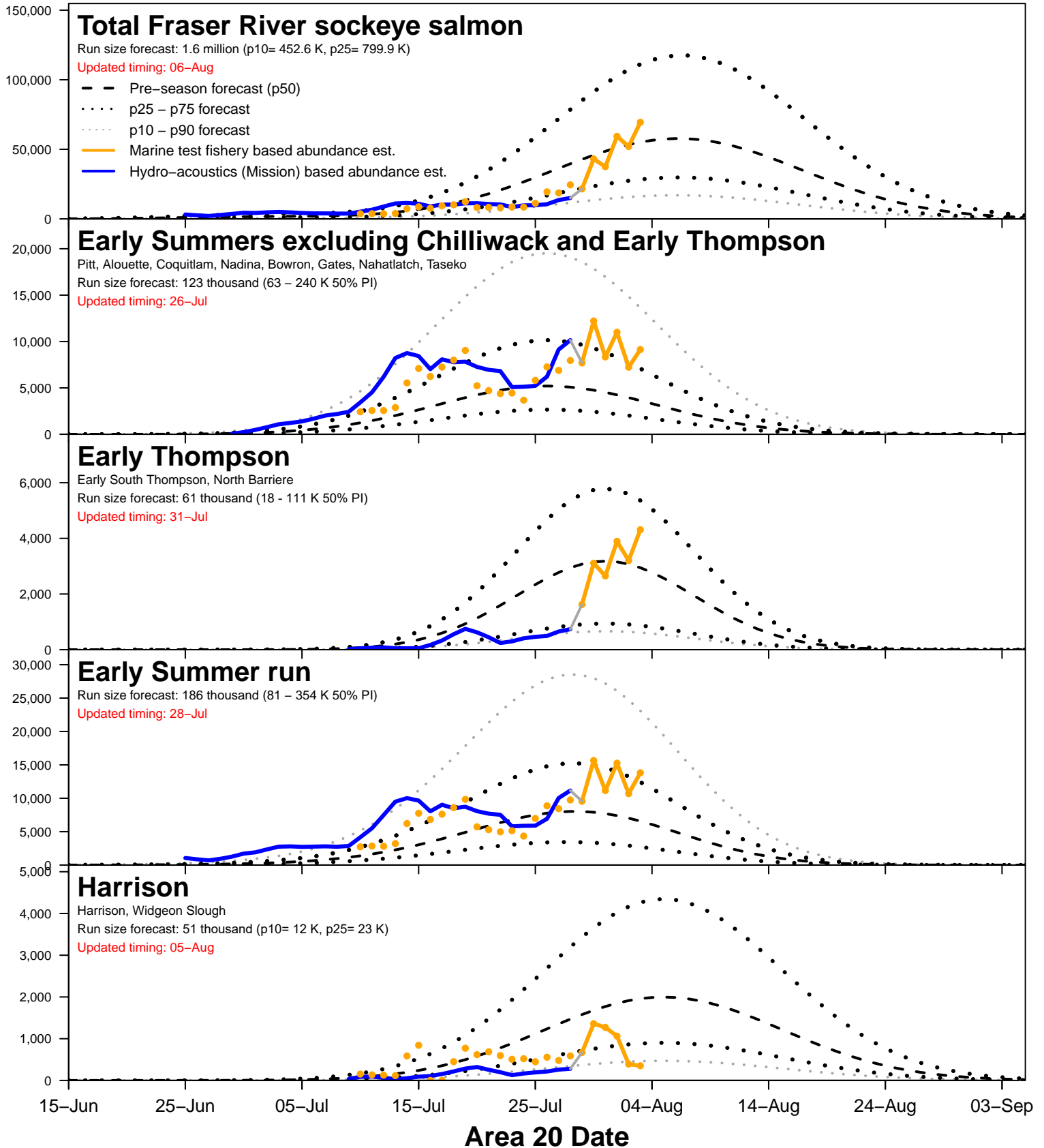
Migration passage at Big Bar

Final Big Bar Update

- A total of 75,645 salmon have been observed 40 km upstream of Big Bar (Churn Creek).
- A total of 86,397 salmon have been observed below Big Bar (Alfalfa).
- The Sonars at Alfalfa and Churn creek have been decommissioned.
- A total of 178 sockeye have been tagged.

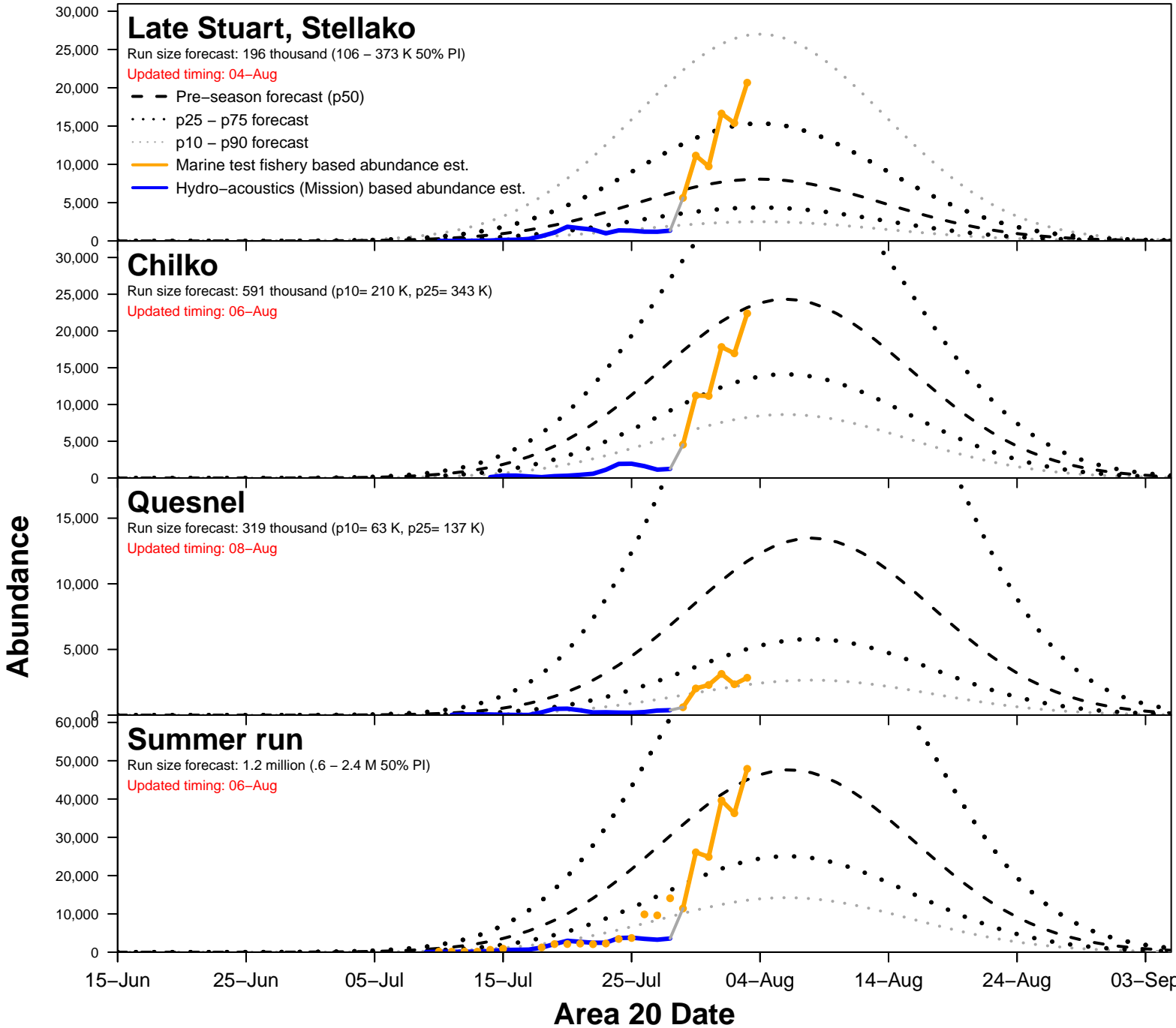
2023 Fraser River sockeye salmon daily migration

Timing updated based on Timing Correlations



2023 Fraser River sockeye salmon daily migration

Timing updated based on Timing Correlations



2023 Fraser River sockeye abundance en-route to Mission

Current date: 04-Aug

Area 20 date	Escapement past Mission through 03-Aug	Projected abundance en route to Mission based on marine test fishery data ^{1,2}									Escapement + projections through 09-Aug
		29-Jul	30-Jul	31-Jul	01-Aug	02-Aug	03-Aug	Total	80% PI ³		
		04-Aug	05-Aug	06-Aug	07-Aug	08-Aug	09-Aug		10p	90p	
Total Fraser	257,400	33,600	24,300	70,600	16,900	89,700	48,500	283,600	163,600	457,700	541,000
Early Summer Run	181,700	16,700	9,600	20,400	3,300	21,900	6,300	78,200	38,300	161,900	259,900
Chilliwack	30,100	500	200	300	0	700	0	1,700	800	3,500	31,800
Pitt/Alouette/Coquitlam	22,200	5,700	1,300	2,300	200	2,400	700	12,600	6,200	26,100	34,800
Nadina group ⁴	122,900	8,200	6,100	12,900	2,100	13,000	2,800	45,100	22,100	93,400	168,000
Early Thompson ⁵	6,500	2,300	2,000	4,900	1,000	5,800	2,800	18,800	9,200	38,900	25,300
Summer Run	34,100	16,400	13,900	47,500	12,900	58,000	37,400	186,100	113,500	268,000	220,200
Harrison / Widgeon ²	3,200	700	1,000	2,400	500	300	300	5,200	3,200	7,500	8,400
Late Stuart / Stellako	14,600	9,000	5,800	18,500	4,800	26,500	14,700	79,300	48,400	114,200	93,900
Chilko	11,600	6,200	5,900	21,400	6,000	25,800	18,800	84,100	51,300	121,100	95,700
Quesnel	3,500	500	1,100	4,400	1,300	3,600	2,100	13,000	7,900	18,700	16,500
Raft / North Thompson	1,200	0	100	800	300	1,800	1,500	4,500	2,700	6,500	5,700
Late Run	700	500	800	2,700	700	9,800	4,800	19,300	11,800	27,800	20,000
Birkenhead / Big Silver	400	200	500	1,800	500	2,700	1,300	7,000	4,300	10,100	7,400
Late run excl Birkenhead	300	300	300	900	200	7,100	3,500	12,300	7,500	17,700	12,600

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

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

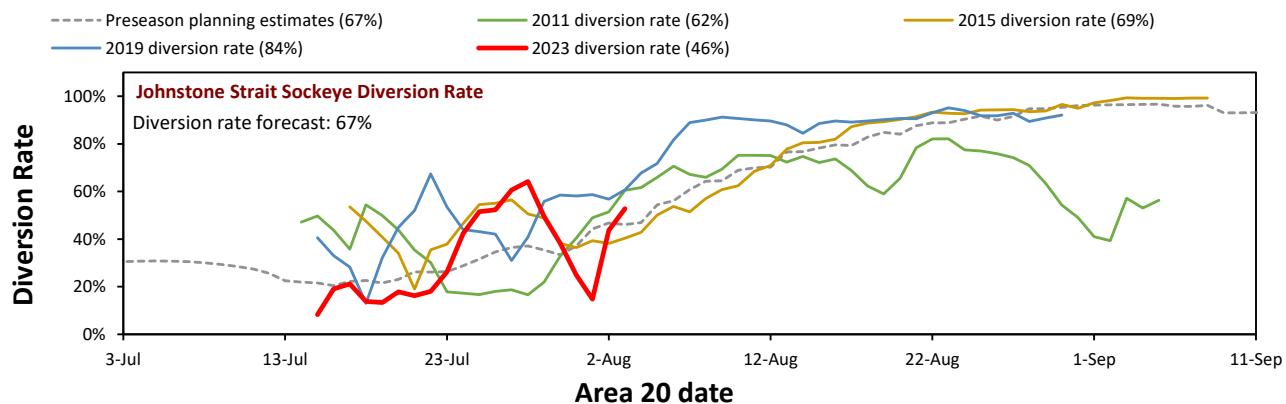
³ 80% Probability Interval: there exists an 80% chance that the true abundance lies within this interval

⁴ Nadina / Bowron / Gates / Nahatlatch / Taseko

⁵ Early South Thompson / North Barriere

2023 Fraser River sockeye diversion rates through Johnstone Strait

	5-day-average
Diversion rate	53%



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 ¹					
	Inseason Adopted	Preseason Forecast	Inseason estimate	Inseason 80% PIs ²		Method	Catch + Escapement	6-day Projection ³	Seaward Abundance	Migration Delay	Inseason Adopted	Preseason Forecast	Inseason estimate	Inseason 80% PIs ²		Method
				10% PI	90% PI									10% PI	90% PI	
Early Stuart Run	43,000	23,000	✓ 41,000	41,000	41,000	Recon	41,000	0	0	0	02-Jul	07-Jul	02-Jul	02-Jul	02-Jul	Recon
Early Summer Run	NA	186,000	● 240,000	207,000	288,000	Sum	185,000	32,000	23,000	0	NA	06-Aug	20-Jul	18-Jul	23-Jul	Weight
Chilliwack		2,000	● 32,000	31,000	33,000	Recon	30,000	2,000	0	0		20-Jul	05-Jul	05-Jul	05-Jul	Recon
Pitt/Nadina Group ⁴		123,000	● 187,000	162,000	219,000	Recon(2)	147,000	24,000	16,000	0		05-Aug	21-Jul	19-Jul	23-Jul	Recon(2)
Early Thompson ⁵		61,000	◇ 21,000	14,000	36,000	Model	8,000	6,000	7,000	0		09-Aug	01-Aug	29-Jul	05-Aug	Model
Summer Run	NA	1,167,000					36,000	187,000		4,000	NA	17-Aug	06-Aug	03-Aug	17-Aug	Timing Corr.
Harrison / Widgeon		51,000					3,000	6,000		4,000		12-Aug	05-Aug	28-Jul	13-Aug	Timing Corr.
Late Stuart / Stellako		196,000					15,000	79,000		0		13-Aug	04-Aug			Timing Corr.
Chilko		591,000					13,000	84,000		0		17-Aug	06-Aug			Timing Corr.
Quesnel		319,000					4,000	13,000		0		19-Aug	08-Aug			Timing Corr.
Raft / North Thompson		10,000					1,000	5,000		0		23-Aug	16-Aug			Timing Corr.

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

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

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

⁴ Pitt / Alouette / Coquitlam / Nadina / Bowron / Gates / Nahatlatch / Taseko

⁵ Early South Thompson / North Barriere.

Methods for run size & timing estimation

Model	Run size assessment model (median)
Recon	Catch + escapement + 6-day test fish projection + model seaward projection
Recon(2)	Catch + escapement + model projections
Sum	Sum of individual groups
Weight	Weighted average of individual groups

Run Size Uncertainty Legend[†]

- ✓ ≥ 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 for 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 indication of run size; ≥ 50% confirmed at Mission
- ◇ < 50% of the run size has been accounted for in catch + escapement. Uncertain or early indication of run size based on marine data

[†] 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.

Early Thompson run size based on timing

Catch+Escapement To Date: **7,000**
 6-day projections: **19,000**

	Method	Run Size*	% Seaward of Mission
Based on timing of 30-Jul	50% Date	22,000	68%
Based on timing of 01-Aug	50% Date	34,000	79%
Based on timing of 05-Aug	% Seaward	60,000	88%
Based on timing of 08-Aug	% Seaward	79,000	91%
Based on timing of 11-Aug	% Seaward	118,000	94%

*Based on % seaward in 2011, 2015 and 2019 if timing is later than 03-Aug

*Equal to double the reconstructed abundance if timing is earlier than 04-Aug

Early Summer run size based on timing

Catch+Escapement To Date: **184,000**
 6-day Projection: **32,000**

	Method	Run Size*	% Seaward
Based on timing of 20-Jul	50% Date	243,000	24%
Based on timing of 21-Jul	50% Date	261,000	30%
Based on timing of 22-Jul	50% Date	272,000	32%
Based on timing of 23-Jul	50% Date	288,000	36%
Based on timing of 24-Jul	50% Date	295,000	38%

*Based on % seaward in 2011, 2015 and 2019 if timing is later than 03-Aug

*Equal to double the reconstructed abundance if timing is earlier than 04-Aug

