



# WATERSHED TALK

## NEWSLETTER

Produced by the Fraser River Aboriginal Fisheries Secretariat

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### 2018 FRASER SALMON UPDATE

By: Aidan Fisher, FRAFS Biologist

Catch and passage for Fraser sockeye is nearly 50/50 to date (2,479,700 catch and 2,301,800 past Mission). The Early Summer in-season information has changed substantially since last week, increasing to track near the p50 abundance with a median run-timing later than forecast. The later run-timing estimate is likely the reason for the lower tracking of in-season abundance in Early Summers observed over the last two weeks. Summers are also looking stronger, now tracking near the p50 forecast with a potential to be higher than forecast. Once we see some of the larger marine test fishery catches observed in-river, the uncertainty from the marine test fisheries will be clarified.

Canadian catch in commercial fisheries is around 1.4 million fish, predominantly in the Area B purse seine (728,300) and Area E gillnet (444,900) fisheries. For First Nations, FSC fisheries have been ongoing throughout the marine approach and in-river, and a few EO fisheries have been occurring in the Lower Fraser. Recreational fisheries in the marine approach and in-river recreational fishery catch is only reported after multiple weeks of fishing and is currently unavailable.

US catch in commercial fisheries (All citizens and Treaty Indian) is nearly 730,000. This catch is broken up into management groups for accounting purposes by the PSC, but the US fisheries are not strictly held to allocations by MU. US fishery allocation is only held to a total Fraser sockeye TAC aggregating the 4 MUs.

The Test fishery program has met its requirement of retained sockeye to pay for this year's test fishery program. There was discussion earlier in the year to increase the retained sockeye catch in the test fishery program to pay for future years, specifically due to expectations of poor return years where the test fishery program operates at a monetary loss, this proposal has not been put in place to date. Instead, the purse seine test fisheries will retain 100 sockeye daily for stock ID purposes, and release the remaining fish once a catch estimate is made. Gillnet test fisheries will continue to retain and sell all sockeye catch due to high release mortality rates.

River temperature has decreased since very warm river temperatures last week of above 20°C. It is still fairly warm in-river, but the temperature has subsided below the critical threshold for sockeye. Given the short duration of high temperature and new information on later than forecast median run timing for Early Summers the pMA prediction has decreased. It should be recognized that there are large prediction errors with this model, and substantial uncertainty. The PSC staff recommend a DBE of 0.37 which correlates to a pMA of 0.59 for Early Summers, related directly to a median run timing of August 9<sup>th</sup>.

17-Aug-2018

Total Fraser sockeye abundance estimates are currently tracking between p25 and p50, although marine test fisheries over the past few days are showing abundances closer to p50, these will be confirmed over the next few days via in-river estimates. The migration spread of Early Summers is longer than forecast and likely later than forecast, meaning they will be present throughout fisheries for longer than expected in preseason fisheries plans. Early Summers are likely to be the constraining stock for longer than expected pre-season, specifically in fisheries that target Late run sockeye.

PSC staff recommend in-season management changes for Early Summers of 2,155,000 run-size, run timing August 7 with a DBE of 0.37 and a pMA of 0.59. The Fraser Panel did not adopt a change to in-season run size, median run timing, DBE or pMA for Early Summers communicating that there is still substantial uncertainty in some of these estimates and to wait until next Tuesday to make a decision. No recommendation was put forward for a Summer run in-season estimate, although the indication is either at or above p50 with a median run timing of a few days later than forecast. There is still a large amount of uncertainty regarding the in-season run size for Late run. They have been tracking near p25 to date, but recent increases in marine test fisheries catches could be indicative of some greater abundance. The marine test fishery catches will be watched closely over the weekend to see if this trend persists.

DFO has officially communicated to the Fraser Panel that they will be managing Cultus to the Late run ER, once there is an **expectation** that Cultus will meet the hatchery broodstock requirements.

Canada put forward an Area E fishery on Tuesday 10:00am-6:00pm. The US put forward an extension to Area 4b56c until Wednesday and Treaty Indian 677a on Tuesday. Canada has pushed back on the US 677a fishery, requesting they hold back for more information on catch to date and stock abundance, specifically on Early Summer impact from the US 677a fishery. The Panel has decided a Monday call to determine the approval of the US fishery in 677a.

<b>Sockeye Management Group</b>	<b>Pre-Season Planning Forecast (P50)</b>	<b>In-Season Adopted Run Size</b>	<b>pMA (preseason / in-season)</b>	<b>Area 20 Timing (for 50% of run)</b>
Early Stuart	84,000	<b>125,000</b>	0.69	<b>July 5</b>
Early Summer	2,155,000	<b>N/A (too early for run size update)</b>	0.23	<b>Preseason (August 8)</b>
Summer	4,344,000	<b>N/A (too early for run size update)</b>	0.10	<b>Preseason (Aug 11)</b>
Lates	7,398,000	<b>N/A (too early for run size update)</b>	0.43	<b>Preseason (Aug 17)</b>
<b>TOTAL</b>	13,981,000	<b>N/A (too early for run size update)</b>		<b>Preseason (Aug 14)</b>

### Early Stuarts

To date, 123,200 Early Stuart sockeye have been accounted for in catch and escapement. This is below the in-season adopted run size, that was decreased earlier this week to 125,000. The Fraser River Panel has decided not to adjust the in-season run size for Early Stuarts.

### Early Summers

**Early Summers** are forecasted at 2,155,000 (P50). To date the Mission hydroacoustic passage has accounted for 852,500 sockeye and a downstream catch of 556,500.

## Summer Run

**Summers** are forecasted at 4,344,000 (P50). To date the Mission hydroacoustic passage has accounted for 1,156,200 sockeye with a catch downstream of 1,293,900. It is still too early for an in-season run size estimate for this management group. Depending on how in-river catch correlates to the signs of higher than forecast abundance currently showing in the marine test fisheries.

Currently for the dominant stocks of the Summer run MU, Chilko is tracking below p50, while Quesnel is tracking above p75. Overall Summers are tracking at p50 with in-river data, marine test fishery expanded data is showing abundance above p50 for the last few days.

## Late Sockeye

**Lates** are forecasted at 7,398,000 (P50). To date the Mission hydroacoustic passage has accounted for 171,700 sockeye with a downstream catch of 627,500. It is still too early for an in-season run size estimate for this management group. Some modelling work was put forward by the PSC staff to the Fraser Panel that indicates Late run are not early, but no information is available on whether they are low or slow (smaller than forecast run-size or later than average run timing).

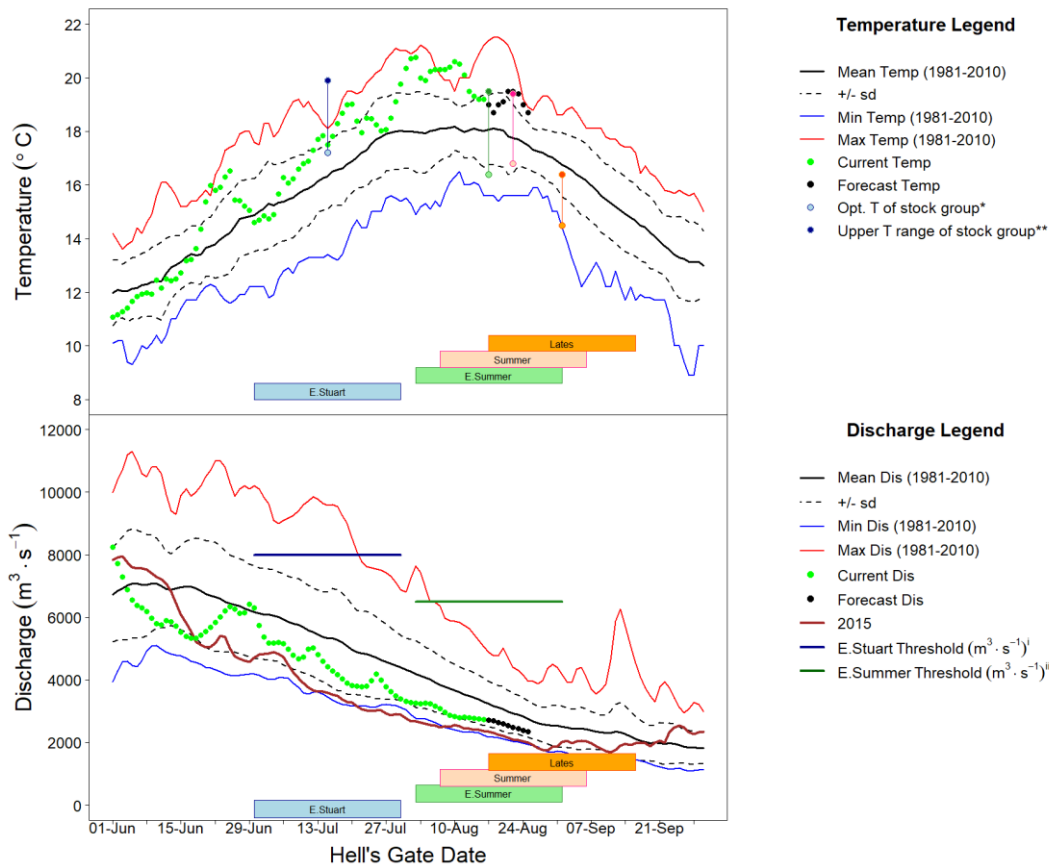
## Fraser River Conditions

The main source of information for Temperature and Discharge data and forecasts is DFO's Environmental Watch Program (see link below).

The BC River Forecast Centre website (see links below) has information and links related to discharge and temperatures at various monitoring stations throughout the Fraser watershed, including snow pillow and melt updates.

Environment Canada's Water Office webpage provides access to real time hydrometric data at many locations throughout the Fraser watershed (see links below).

Fraser Discharge and temperatures at Hope and Qualark Creek (near Hope) respectively look like this (graphs from the Fraser River Panel Distribution August 16<sup>th</sup>, 2018):



The Fraser River water temperature at Hope is currently 19.2 degrees Celsius on August 16 (1.2 degrees Celsius above average for this time of year) and is forecast to increase slightly to 19.5 degrees Celsius by August 22. The Fraser River discharge is very low at 2,731 m<sup>3</sup>/sec at the Qualark water station on August 16 (17% below average for this time of year). The discharge is predicted to continue tracking below average but within the usual annual variation, with a forecast discharge of 2,489 m<sup>3</sup>/sec by August 22<sup>nd</sup>.

### **Fraser River Fisheries Information**

Fraser First Nations Fisheries information can be found on the DFO website at:

<http://www.pac.dfo-mpo.gc.ca/fm-gp/fraser/index-eng.html>

DFO staff have distributed 15 Fraser Salmon Bulletins, and we strongly encourage people to review and comment on the DFO bulletin if time and resources permit. Contact your local DFO Resource Manager for a copy, and addition to the distribution list.

### **Fraser Sockeye Salmon**

The Pacific Salmon Commission (PSC) distributes the Fraser River Panel meeting agenda and technical information for Panel members and observers to the process. The following information is a summary of key information from that document (August 16<sup>th</sup>, 2018) and the Fraser River Panel meeting from the same day.

*Diversion Rate and Hydroacoustics*  
17-Aug-2018

Diversion rate through Johnstone Strait has maintained the trend seen last week (5-day average = 29%) and is indicative of greater than expected (forecast = 63%) migration around Vancouver Island and through Juan de Fuca. Very recently the test fisheries are showing greater abundance through Johnstone Strait, perhaps an indication of a shift in diversion rate.

Mission hydroacoustics have been observing some higher passage than expected regardless of the Area E fishery that has been ongoing over the past 2 days. Usually the Area E commercial fishery significantly reduces the passage estimates at Mission, which was observed in last week's Area E fishery. This week's fishery doesn't seem to have affected the hydroacoustic estimate as significantly. As well, Qualark has been verifying some of the largest counts past Mission (nearly 200,000 daily passage), which provides more certainty in daily passage estimates.

### *Stock Identification*

In marine test fisheries, Early Summer, Summer and Lates have all persisted in the samples. Early summers are dropping off, however Early Thompson are still a meaningful part of the stock proportion (9%-13% JST, 9%-22% JdeF). Early Summers are likely to persist in these stock proportions throughout next week both marine approaches. Chilko and Quesnel are almost the entirety of the Summer run stock proportions (minimal non-Chilko/Quesnel Summer run stocks have been identified). Late Shuswap have started to be identified in above 50% of the stocks ID in some samples, the expectation is for Late Shuswap to continue to grow in the stock proportions as we get later into the migration.

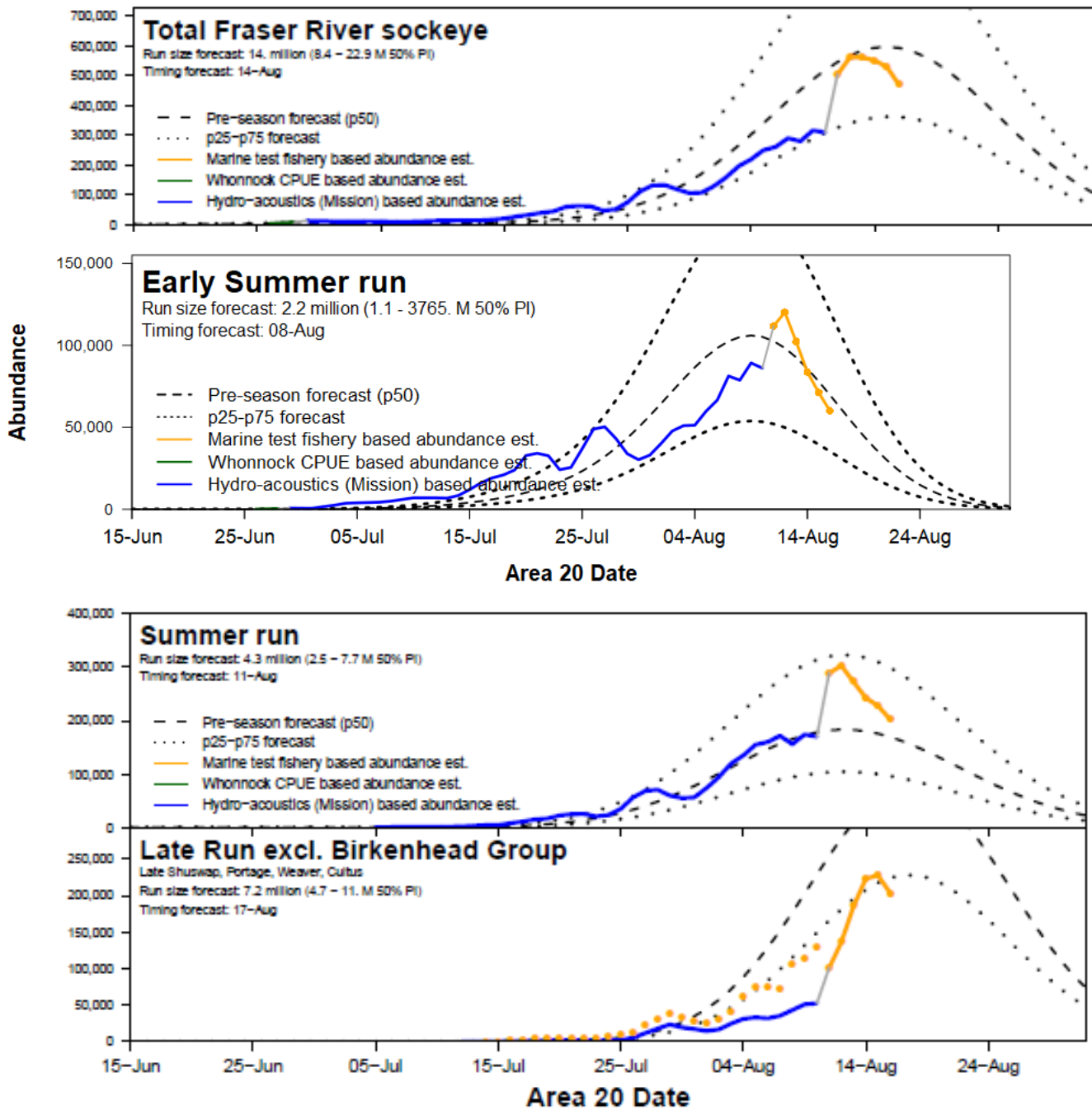
In-river test fisheries are still showing a substantial portion of Early Summers (29%-37%), which are predominantly Early Thompson. Summer run are the overwhelming majority (56%-70%) in river, while Late run proportions are very low (0%-9%). This is indicative of Late run sockeye holding off the mouth of the Fraser, a good sign for these stocks as migration now to their spawning grounds will likely end in enroute or pre-spawn mortality.

### *Test Fisheries*

A total of 4,781,500 Fraser sockeye have been accounted-to-date. The run comprises of 123,200 Early Stuart sockeye, 1,409,000 Early Summer run sockeye, 2,450,100 Summer run sockeye, and 799,200 Late run sockeye. Fishery catch to date downstream of Mission has been 2,479,700 sockeye (1,800 Early Stuart, 556,500 Early Summer, 1,293,900 Summer, 627,500 Late).

Test fishing graphs information from the PSC distribution package:

## Estimated Abundance and In-Season Timing Compared to Forecast



The next Fraser River Panel meeting is scheduled for 10:30AM Tuesday August 21<sup>st</sup>.

Fraser River Panel Schedule:

- July 6, 10, 13, 17, 20, 24, 27 (Tuesdays and Fridays) 11am**
- July 31 (Tuesday), August 7, 14, 21 (all Tuesdays) 10:30am**
- August 3, 10, 17, 24, 31 (all Fridays) 11 am**
- September 4, 7, 11, 14 (Tuesdays and Fridays) 11am (TBC)**

**Canada dial-in: 1-888-299-2873**

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(USA dial-in: 1-888-585-9008)

**Conference ID: 902-802-337**

## **Links**

With Chinook and sockeye approaching and in the Fraser, these links may be of interest:

BC River Forecast Centre Website: <http://bcrfc.env.gov.bc.ca>

Environment Canada's Water Office Website: [http://www.wateroffice.ec.gc.ca/index\\_e.html](http://www.wateroffice.ec.gc.ca/index_e.html)

Pacific Salmon Commission Website: [www.psc.org](http://www.psc.org)

Pacific Salmon Commission Test Fisheries: [http://www.psc.org/info\\_testfishing.htm](http://www.psc.org/info_testfishing.htm)

Pacific Salmon Commission News and Regulatory announcements: <http://www.psc.org/publications/fraser-panel-in-season-information/fraser-river-panel-regulatory-announcements/>

Fraser River Mission Escapement Reports: <http://www.psc.org/publications/fraser-panel-in-season-information/fish-passage-past-the-psc-hydroacoustic-counting-station-near-mission-bc/>

Fraser River Environmental Watch Reports: <http://www.pac.dfo-mpo.gc.ca/science/habitat/frw-rfo/index-eng.html>

The Albion Test Fishery information can be found at:

<http://www.pac.dfo-mpo.gc.ca/fm-gp/fraser/docs/commercial/albionchinook-quinnat-eng.html>

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