



WATERSHED TALK

NEWSLETTER

Produced by the Fraser Salmon Management Council

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VOLUME 1, ISSUE 2

2020 FRASER SOCKEYE UPDATE

By: Aidan Fisher, FSMC Biologist

So far there has not been any indication of a major Fraser sockeye return for 2020. We reported a decent test fishery catch last week, but that has not materialized into a consistent good catch in the marine approach. Test fishery catches to date have remained low and tracking 2016. Fraser sockeye in-season data is trending on the p25 forecast estimate, which results in extremely limited access for Fraser sockeye fisheries. It is still early in the migration for Fraser sockeye, and there is potential for a late return at a higher run size.

Continued high discharge throughout the Fraser will likely result in substantial enroute mortality for Fraser sockeye in 2020. Estimates of Difference Between Estimates (DBE) for Early Stuart are heavily influenced by discharge. DBEs are the difference from the estimated passage of a stock group at Mission compared to the spawning ground abundance estimate. This is a metric of enroute mortality used annually by the Fraser Panel. It is important to note that the DBEs calculated for 2020 do not include any impact from enroute mortality caused by Big Bar.

High discharge has been noted in previous years to affect Fraser sockeye migration. To date we do not have any observations on migration speed for sockeye. There has been some information circulated about the effect of high discharge on chinook migration speed, but it has limited application to sockeye due to some key differences in physiology. If high discharge is slowing migration of Fraser sockeye, this could be a mechanism that explains a later run timing than forecasted. Additionally, the 2020 cycle line has earlier forecasted migration dates than other cycle lines, so a later than forecast run timing for Fraser sockeye has been observed for these stocks but on different cycle lines.

PSC staff did not recommend a change for the in-season estimate, run timing or DBE of Early Stuart because the observed abundance is very close to the preseason forecast. This would have no effect on international fisheries management decisions this week. DFO did advise the Panel that pink directed fisheries are likely going to be licenced in the South Coast area. Pink fisheries will be licenced in consideration for sockeye avoidance and non-retention of sockeye regulations in the licences.

This summary table will be updated throughout the season as information and decisions become available.

Sockeye Management Group	Pre-Season Planning Forecast (P50)	In-Season Abundance	Estimate of (Catch:Escapement)	In-Season Adopted Size	Run	Area 20 Timing for 50% of run (Preseason)
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Early Stuart	13,000	13,500 (100:13,400)	N/A (too early for run size update)	Estimate July 6 (July 4)
Early Summer	218,000	39,900 (800:39,100)	N/A (too early for run size update)	Preseason (July 24)
Summer	611,000	9,900 (900:9,000)	N/A (too early for run size update)	Preseason (July 31)
Lates	99,000	100 (0:100)	N/A (too early for run size update)	Preseason (Aug 6)
TOTAL	941,000	63,400 (1,800:61,600)	N/A (too early for run size update)	Preseason (July 30)

Big Bar Slide

The Whoosh fish passage equipment is operational, with 6 tubes to transport Fraser salmon over the Big Bar slide. Seining has started, but no sockeye catch to date. DFO staff onsite will DNA sample all sockeye caught at Big Bar and identify their stock of origin and retain in holding tanks. All Early Stuart sockeye caught at Big Bar will be transported to the Cultus Lake hatchery. No salmon have been observed above Big Bar since July 15. It was also reported that no sockeye have been tagged to date, only chinook have been radio tagged to date.

If you are interested in more details about the Big Bar Slide, a technical briefing is developed weekly by the tripartite management group (link below).

Early Stuarts

Early Stuart are forecasted at 13,000 (P50). 13,500 Early Stuart sockeye have been observed to date. Test fishery stock ID data indicates the Early Stuart run is effectively complete through the marine approach.

Estimates of run timing indicated a median passage date at July 6, two days later than the forecast. It should be noted that lateness in the Early Stuart run has not been an indicator of late run timing in other stocks. Run timing between Early Stuart and other stocks is not correlated.

Early Summers

Early Summers are forecasted at 218,000 (P50). It is still too early for an in-season run size estimate for this management group. Next week there will likely be sufficient in-season information to produce an Early Summer MU estimate.

Chilliwack preseason forecast run timing was July 10, and in season estimates are July 14. To date 27,000 Chilliwack sockeye have been estimated past Mission below the p50 and adjusted p50 forecast.

Summer Run

Summers are forecasted at 611,000 (P50). It is still too early for an in-season run size estimate for this management group.

Late Sockeye

Lates are forecasted at 99,000 (P50). It is still too early for an in-season run size estimate for this management group.

Sockeye Closures

Area	Start Date	3-Week End Date	4-Week End Date	Management Actions ³
Areas 111, 121, 123 to 127	19-Jun	15-Jul	22-Jul	No Fraser sockeye directed fisheries before July 15 (Sn, Gn, Tr).
Area 11	19-Jun	15-Jul	22-Jul	No Fraser sockeye directed fisheries before July 15 (Gn, Tr), July 25 (Sn) ^{1,2} .
Area 12	19-Jun	15-Jul	22-Jul	No Fraser sockeye directed fisheries before July 15 (Gn, Tr), July 25 (Sn) ^{1,2} .
Area 13	19-Jun	15-Jul	22-Jul	No Fraser sockeye directed fisheries before July 15 (Gn, Tr), July 25 (Sn) ¹ .
Areas 14 to 16	19-Jun	15-Jul	22-Jul	No Fraser sockeye directed fisheries before July 15 (Gn, Tr), August 15 (Sn) ¹ .
Areas 17, 19, 20 and 21	19-Jun	15-Jul	22-Jul	No Fraser sockeye directed fisheries before July 15 (Sn, Gn, Tr).
Areas 18 and 29	27-Jun	20-Jul	27-Jul	No Fraser sockeye directed fisheries before July 20.
Steveston-Mission Bridge	27-Jun	20-Jul	27-Jul	No Fraser sockeye directed fisheries before July 22.
Mission Bridge-Sawmill Cr	29-Jun	22-Jul	29-Jul	No Fraser sockeye directed fisheries before July 24.
Sawmill Cr-Texas Cr	2-Jul	24-Jul	31-Jul	No Fraser sockeye directed fisheries before July 24.
Texas Cr-Kelly Cr	2-Jul	24-Jul	31-Jul	
Kelly Cr-Deadman	2-Jul	24-Jul	31-Jul	
Deadman-Chilcotin	6-Jul	28-Jul	4-Aug	No Fraser sockeye directed fisheries before July 28.
Chilcotin-Quesnel	6-Jul	28-Jul	4-Aug	
Quesnel-Hixon	6-Jul	28-Jul	4-Aug	
Hixon-Prince George	11-Jul	2-Aug	9-Aug	No Fraser sockeye directed fisheries before August 2.
Prince George-Stuart R	13-Jul	4-Aug	11-Aug	No Fraser sockeye directed fisheries before August 4 except for potential First Nations FSC allowable harvest in terminal areas.

The Early Stuart window closure is in place for the Fraser River and the marine approach area for 4 weeks. The dates for each region are in the table above under the 4-Week End Date, from the Draft 2020-2021 Southern Salmon IFMP (p.415).

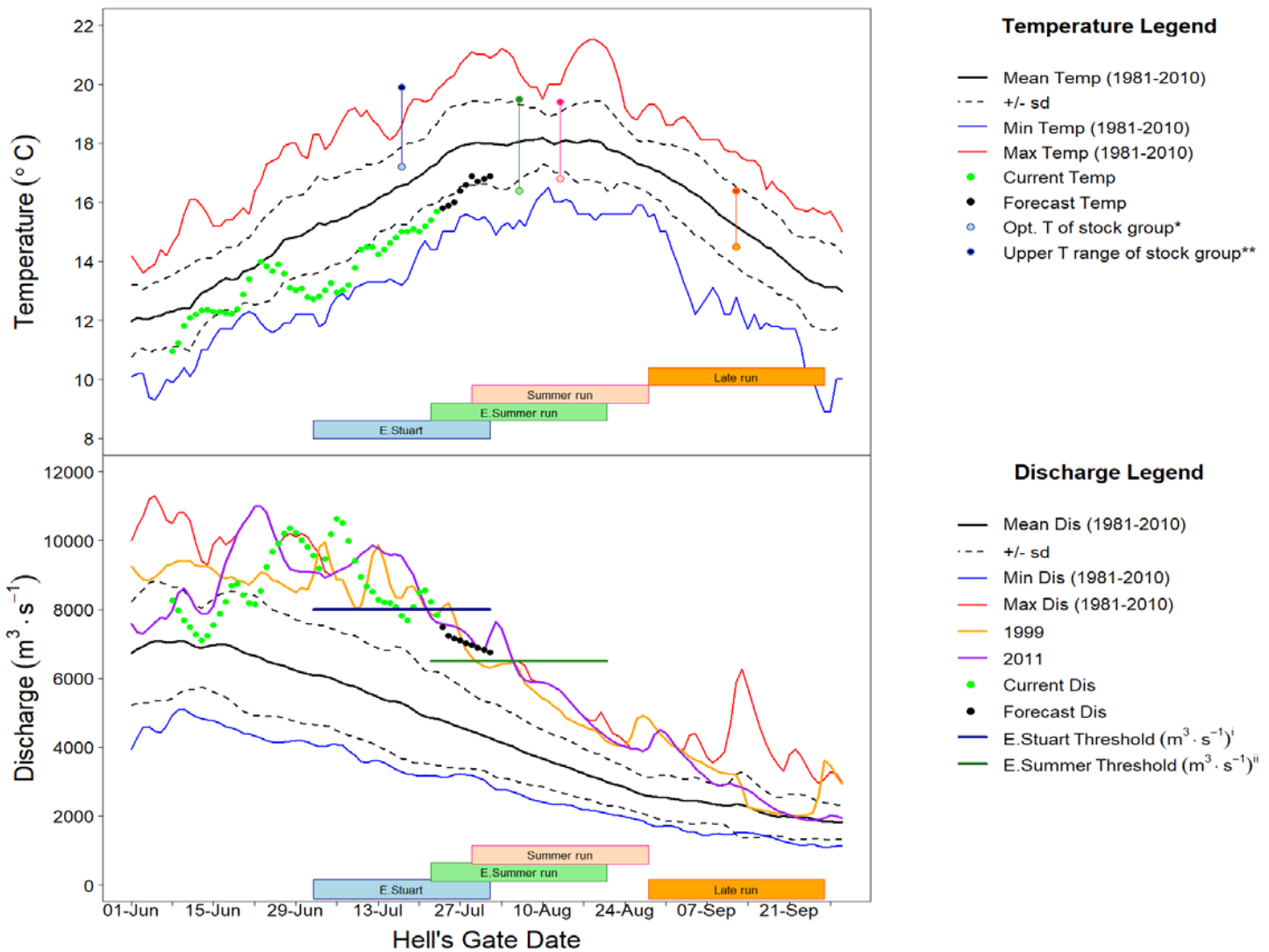
Fraser River Conditions

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 July 24th, 2020):



Temperature is below average in the Fraser mainstem and tributaries which is a good sign for lower enroute mortality. River temperature is trending below average as we come up on some of the hottest weather of the season, which is a good sign for river temperatures remaining lower than average. River discharge is high and forecasted to remain high. Discharge rates affect migratory success of Fraser sockeye. Discharge rates also remain a point of interest for natural passage over Big Bar.

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 will be distributing 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 (July 24th, 2020) and the Fraser River Panel meeting from the same day.

Diversion rate through Johnstone Strait has increased slightly since last week, tracking closer to 2012 and 2008 at 16% over the past 5 days. Diversion is low to date compared to the forecast of 35%.

Stock Identification

The Panel was presented a full suite of new stock ID information today. Area 12 had low Fraser proportions earlier this week compared to the usual proportions of sockeye in that area, as low as 50% Fraser sockeye. Fraser stock proportions in Area 12 have increased lately to more typical proportions. Marine test fisheries are identifying predominantly Summer run, with Early Summers proportions decreasing. Late run stocks have been identified in stock ID samples. Early Stuart continue to be identified in trace amounts.

Stock ID proportions do not seem to indicate anything out of the ordinary for 2020, regarding the potential for extremely late run timing.

Test Fisheries

Test fishing catch has decreased over the past week from trending on the p50 forecast closer to the p25 forecast. The Area 20 gillnet had some good catches near the end of last week which we were hoping would be continued abundance through this week. Area 20 (Juan de Fuca) catches have not trended upwards since last week, instead they have remained fairly consistent at low catch rates. The Area 12 (Johnstone Strait) test fishery catches are low for both gillnet and purse seine.

The Panel has decided to continue the gillnet test fisheries in both Area 12 and Area 20 until next week. Better tides for fishing gillnets have been reported and the Panel is interested in the best available info over the next few week. They were originally scheduled to complete this weekend, but the need for greater in-season information next week lead to the panel extending the test fishery program. The Panel will revisit the extension to the test fishery program next week.

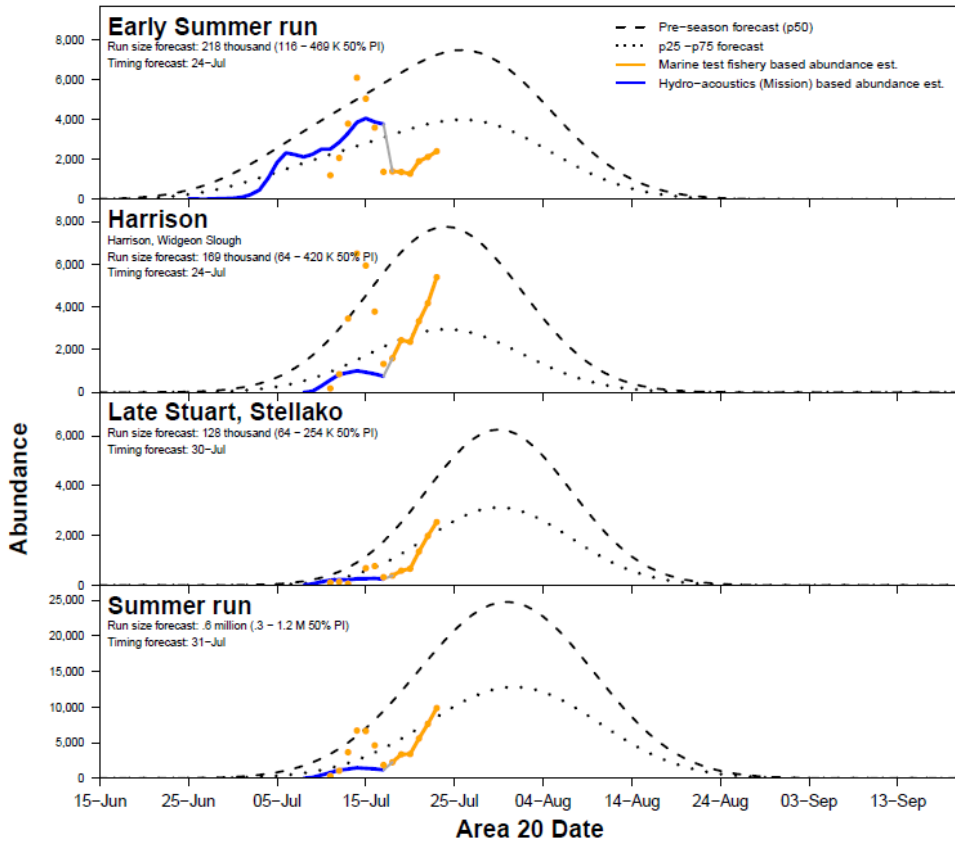
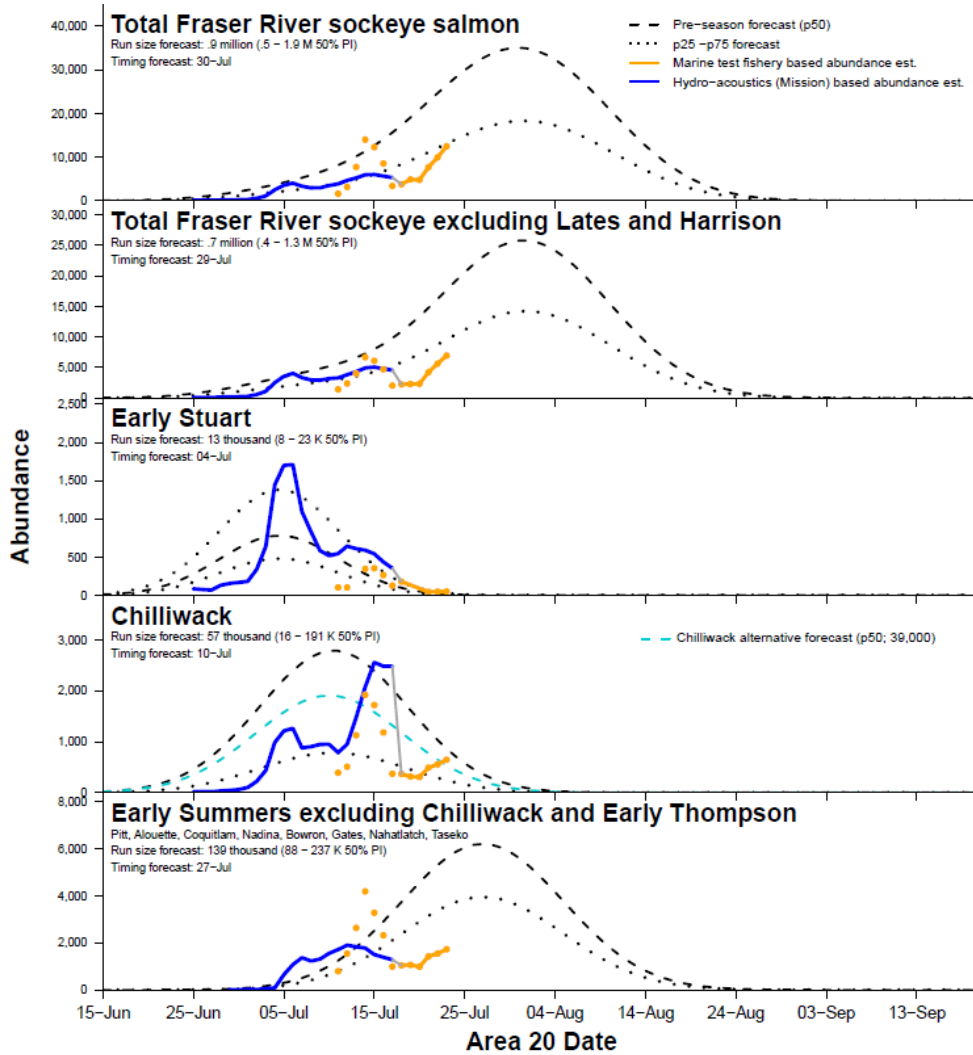
Expansion lines for the marine test fisheries are now informed using 2020 data. To date hydroacoustic estimates and test fishery estimates are not divergent, meaning they are both identifying similar estimates of daily passage. This strengthens the estimates developed both at Mission and at the test fisheries.

Hydroacoustics

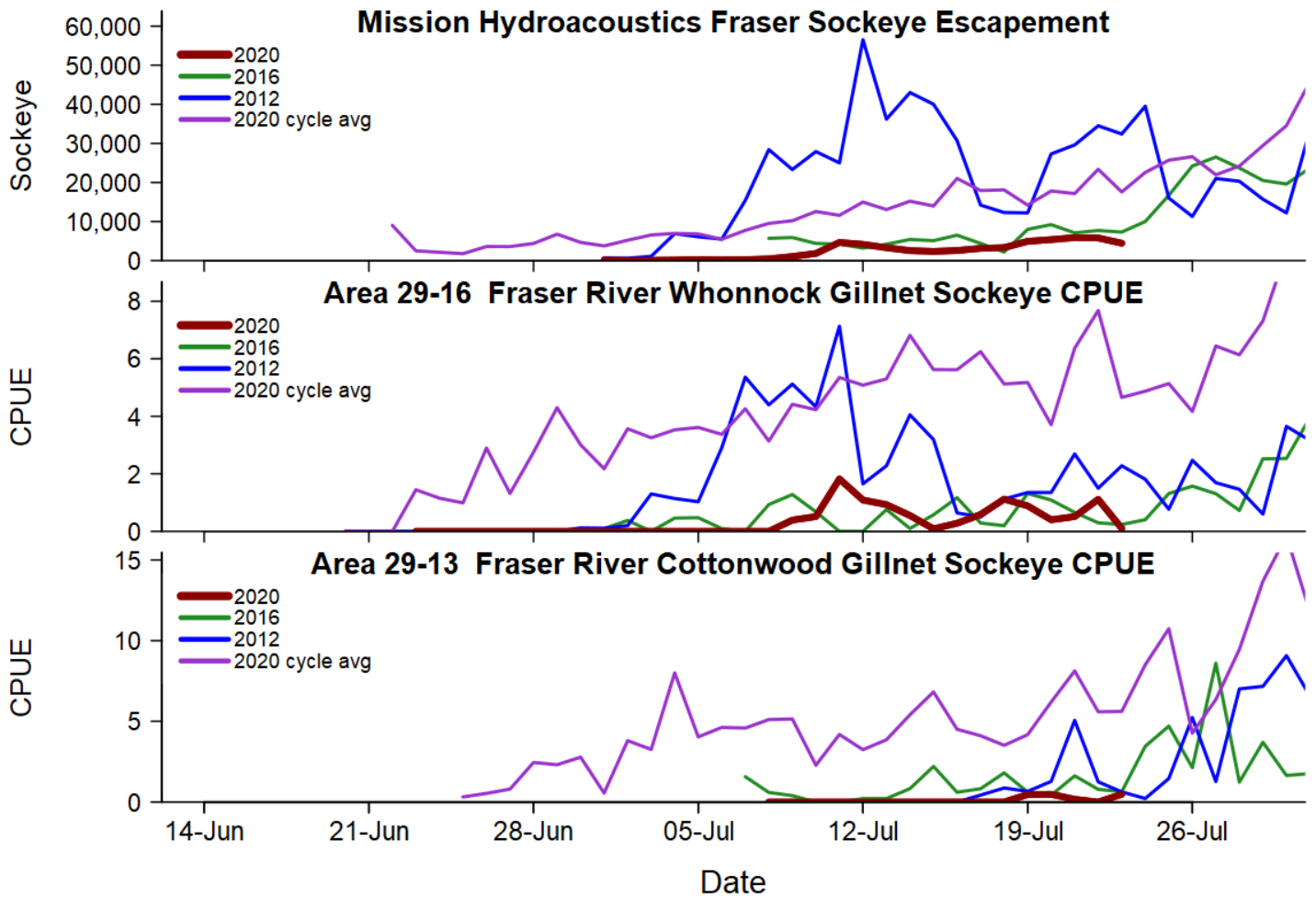
Hydroacoustic daily estimates have remained consistent over the past week at daily passage between 4,000-5,000 sockeye. All 3 sites are operational as normal as water levels have come down to typical discharge. Chinook are present in the hydroacoustic estimates but in smaller abundances than sockeye, such that they will not influence the daily passage estimate substantially. Hell's Gate fish passage counting program is operational and they are observed some fish passing Hell's Gate.

To date Mission escapement is tracking similar to the daily passage estimates observed in 2016. It should be noted that 2016 was not a strong year for Fraser sockeye, but higher abundance than 2019.

Test fishing graphs and Mission hydro-acoustics information from the PSC distribution package:



Estimated Abundance and In-Season Timing Compared to Forecast



The next Fraser River Panel meeting is scheduled for 11AM Tuesday July 21st.

Fraser River Panel Schedule:
Tuesday and Friday 11am.

Please join the meeting from your computer, tablet or smartphone.
<https://global.gotomeeting.com/join/513559997>

You can also dial in using your phone.
United States (Toll Free): [1 866 899 4679](tel:18668994679)
United States: [+1 \(571\) 317-3117](tel:+15713173117)

Canada (Toll Free): [1 888 299 1889](tel:18882991889)
Canada: [+1 \(647\) 497-9373](tel:+16474979373)

Access Code: 513-559-997

Links

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

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

Environment Canada's Water Office Website: http://www.wateroffice.ec.gc.ca/index_e.html

Pacific Salmon Commission Website: www.psc.org

Pacific Salmon Commission Test Fisheries: 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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