



WATERSHED TALK

NEWSLETTER

Produced by the Fraser Salmon Management Council

VOLUME 1, ISSUE 1

2020 FRASER SOCKEYE UPDATE

By: Aidan Fisher, FSMC Biologist

Welcome back to the Fraser sockeye fishing season. FSMC will continue to develop weekly updates through the Watershed Talk, similar to the weekly communications previously taken on by FRAFS. The information summary will be mainly focused on Fraser sockeye, but if there is an interest in expanding the communication materials to cover other stocks do not hesitate to reach out.

Fraser sockeye have started their annual migration, and the Fraser Panel has now held three meetings to review the in-season data. The preseason forecast for Fraser sockeye in 2020 is low, with limited fishing forecasted. To date there has not been much deviation expected for the early migrating sockeye stocks based on the in-season data available, but we are still very early in the sockeye season. Test fisheries are not at full implementation, with only gillnet test fisheries operating to date. Hydroacoustic data currently available has been affected by very high discharge so estimates of daily passage at Mission are more uncertain than usual. High discharge has also been observed to affect salmon migratory behaviour, it seems to compress the migration of sockeye into a shorter period. If this continues it can affect the uncertainty of daily passage estimates because there are fewer daily migration data points to compare.

To date the Fraser sockeye migration is tracking between the p25 and p50. We are still very early in the migration, and have a low forecast. Test fishery data from gillnet test fisheries is increasingly uncertain at low abundances, and we should have a better idea of where the Fraser sockeye migration is tracking once we have the purse seine test fishery data available next week. High discharge was identified as a factor that impacts daily estimation methods, both on Lower Fraser test fisheries and the hydroacoustic program. No fisheries directed on Fraser sockeye have been proposed in Fraser Panel managed waters, or in-river. We should expect to hear more discussion on fisheries next week.

Sockeye runs in-season run timing estimates from throughout the Pacific (Alaska to Washington) seem to be average or late this year, which may be a sign for the 2020 Fraser sockeye run. Although the preseason forecast for Fraser sockeye was early migration.

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 (Catch:Escapement) Estimate of	In-Season Adopted Run Size	Area 20 Timing (for 50% of run)
Early Stuart	13,000	8,500 (0:8,500)	N/A (too early for run size update)	Preseason (July 4)
Early Summer	218,000	14,400 (600:13,800)	N/A (too early for run size update)	Preseason (July 24)
Summer	611,000	600 (200:400)	N/A (too early for run size update)	Preseason (July 31)
Lates	99,000	0 (0:0)	N/A (too early for run size update)	Preseason (Aug 6)
TOTAL	941,000	23,500 (800:22,700)	N/A (too early for run size update)	Preseason (July 30)

Big Bar Slide

PSC and DFO staff are expecting sockeye to arrive at Big Bar later than usual due to high discharge, and low daily abundance observed at Mission. DFO staff continue to work on studying natural migration over Big Bar and have radio tagged over 100 chinook to date, no radio tagging has occurred yet on sockeye. There has been some observed natural passage by Chinook salmon but is inconsistent and looks to be related to changes in discharge. To date there has been no evidence of salmon milling at the lower site. It was reported that the Whoosh fish transport system is operational, and fishway has used by Fraser salmon. The expectation is for the first fish to be Whooshed today or tomorrow.

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). It is still too early for an in-season run size estimate for this management group. Low abundance of Early Stuart has been observed to date, 8,500. Recent marine test fishery data does not seem to be showing much abundance seaward. It is unlikely that there will be any more substantial Early Stuart migration, and likely returning near the p50 forecast.

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.

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.).

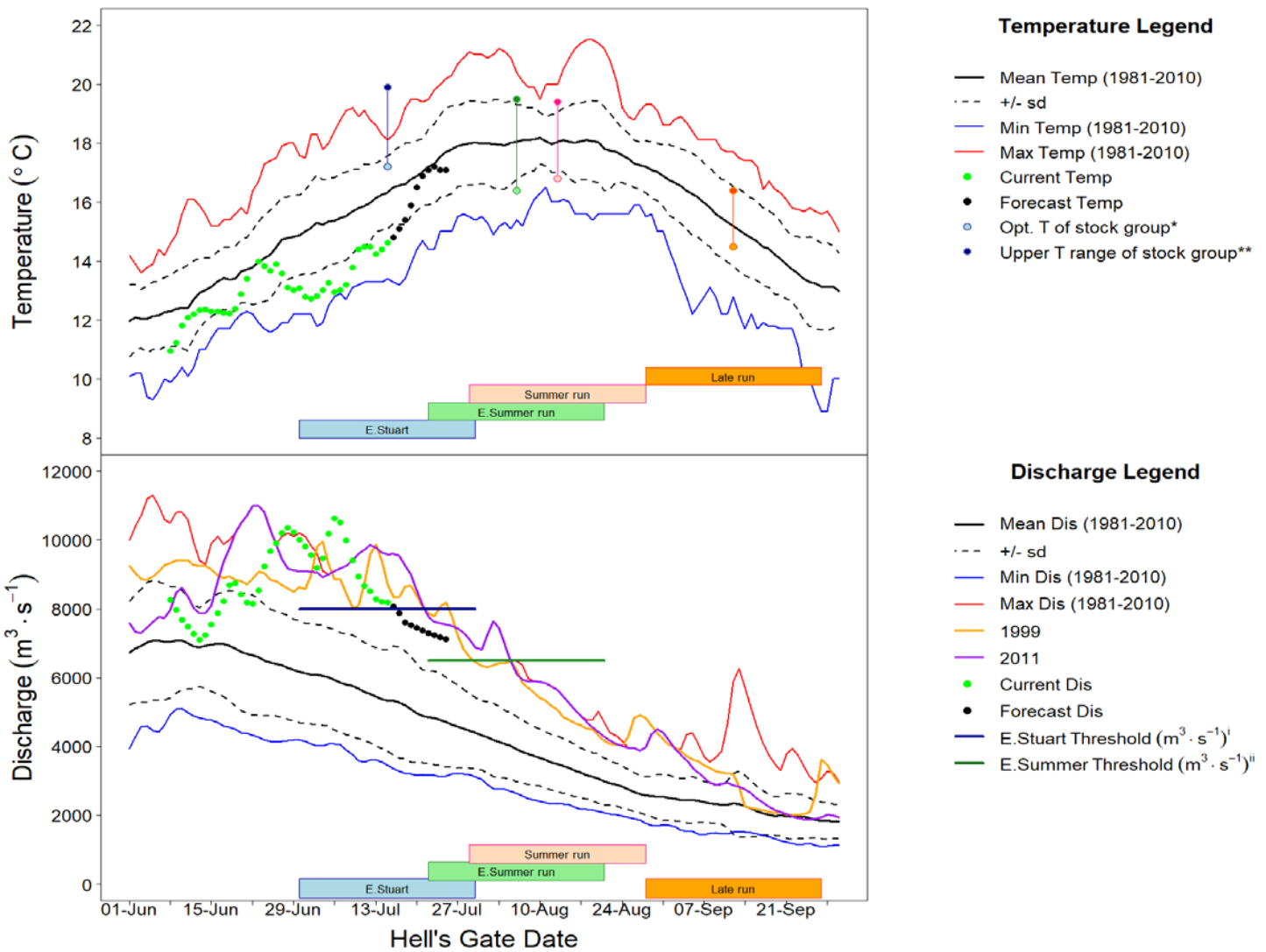
Fraser River Conditions

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 16th, 2020):



Temperature is below average in the Fraser mainstem and tributaries which is a good sign for lower enroute mortality. River temperature is forecasted to increase back to historical medians. 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 17th, 2020) and the Fraser River Panel meeting from the same day.

Diversion rate through Johnstone Straits is 1%. This low diversion rate is similar to 2012 and expected preseason, but the observed diversion rate to date is even lower than expected.

Stock Identification

To date there are some DNA samples available in sufficient abundances to produce preliminary estimates of run sizes by stock. Most sockeye observed in Juan de Fuca are Early Summer origin, with the remainder mainly Summer run. Limited Early Stuart have been observed in marine test fisheries over the past week. In-river test fisheries have identified Early Stuart and some Early Summer, although sample sizes are low.

Chilliwack sockeye seem to be present in river and in the marine approach, but below the p50 forecast. Next week will be a critical period for Early Summer abundance to be observed in the marine approach.

Test Fisheries

Test fisheries have recently started. In river test fisheries have seen extremely low catch since they began. There has been some catch observed in marine gillnet test fisheries. The Johnstone Strait and Juan de Fuca purse seine fisheries are planned to start next week. This will provide greater DNA sample sizes and another metric of marine abundance.

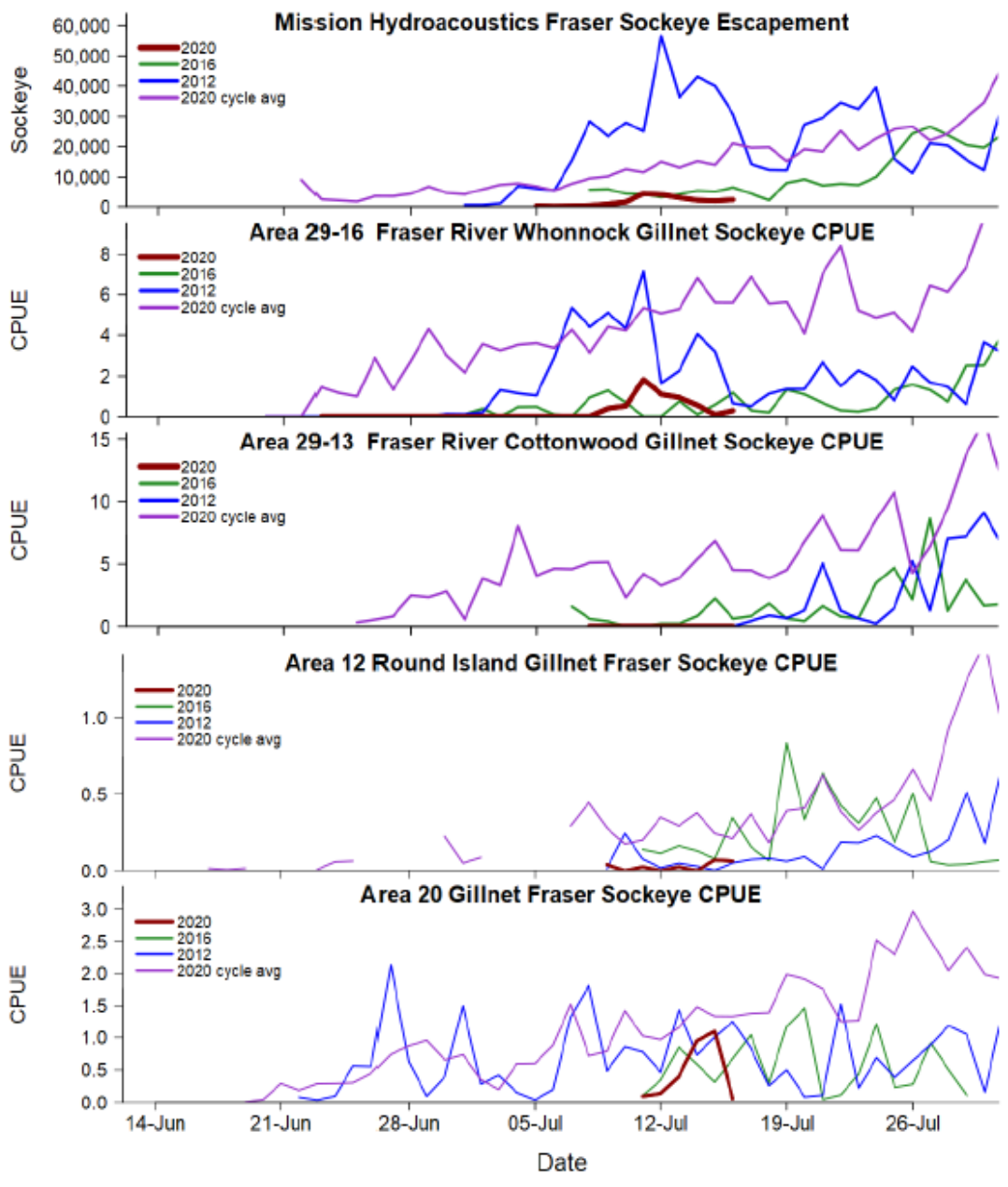
In season estimates of marine abundance from test fisheries are highly affected by the expansion line applied. The expansion line is a multiplier based on comparing daily catch at marine test fisheries to hydroacoustic data of the same migratory period. The FRPTC is currently using the expansion line from historic data because there is not sufficient overlap between hydroacoustic data and marine test fishery data. Once the expansion line can be informed by 2020 data, the abundance estimate will be updated and certainty for the abundance estimate will be stronger.

Hydroacoustics

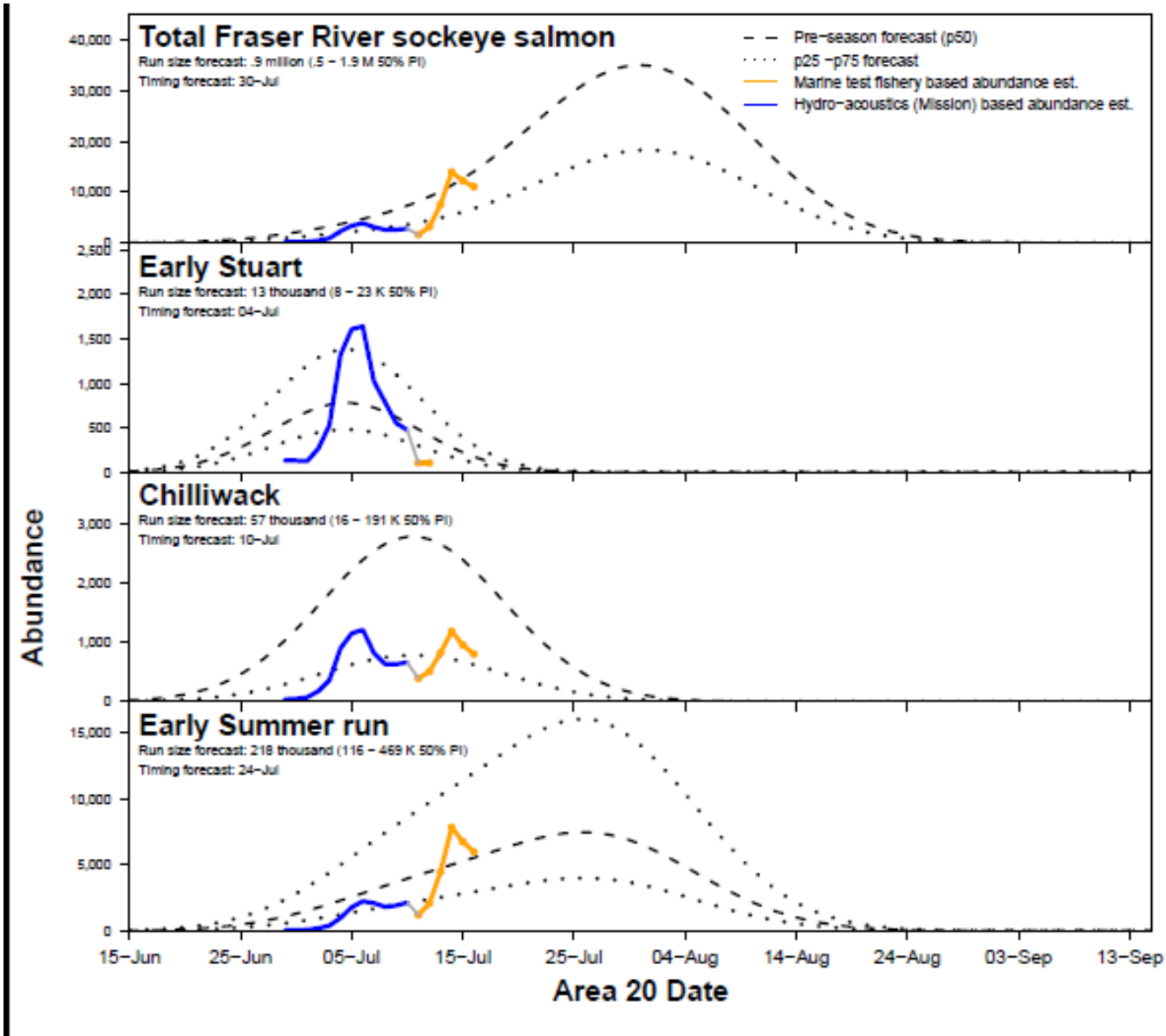
Due to the high discharge the hydroacoustic program has been modified. The normal bank mounted hydroacoustic sites are fully submerged, and are inaccessible to staff. Due to this the daily hydroacoustic estimates require an alternative estimation methodology. Hydroacoustic estimates will change over the next week, as high water levels are accounted for in new methodology. The expectation for the alternate methods is that it won't significantly affect daily passage estimates, but the numbers presented today will change over the next week or two.

The hydroacoustic program was started after the start of the Early Stuart migration. PSC staff will be working on estimating daily passage before the hydroacoustic program was operational. The migration before the hydroacoustic program started is likely in the 1,000 fish range.

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://bcrfc.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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