

Fraser River Environmental Watch Report

July 21, 2025

Ten-day daily forecasts of lower Fraser River temperature and flow conditions as well as current conditions throughout the Fraser basin are updated bi-weekly from roughly late-June until mid-August. These short-range forecasts are generated using river temperature and river flow forecast models (Hague and Patterson 2014).

The latest research on Pacific salmon freshwater migration suggests there are population-specific differences in temperature and flow tolerance thresholds (Eliason et al. 2011). These differences likely relate back to the variability in the average river environmental conditions experienced by salmon beginning their river migration at different times of the year and along different paths (Farrell et al. 2008). Despite these differences, there are also species-wide thresholds that will result in migration difficulties for most populations of Fraser River sockeye salmon. We provide species-level thresholds as a guide to interpreting the potential effect of current and forecasted river temperature and flow conditions on returning salmon. However, in general, fish historically returning to the Fraser River in the mid-summer will be more tolerant of higher temperatures than those fish returning in the early or late summer or early fall.

Current Temperatures			
July 20, 2025	Daily Mean	Historic Mean	Year Range
Stuart River @ Fort St. James	19.0	17.9	2000-2024
Stellako River @ Glenannan	17.7	16.8	2011-2024
Nautley River @ Fort Fraser	20.2	18.4	2007-2024
Nechako River @ Vanderhoof	19.5	17.3	2000-2024
Nechako River @ Isle Pierre	19.4	18.8	2006-2024
Bowron River @ Box Canyon	15.7	NA	2019-2024
Fraser River @ Shelley	15.3	14.2	1994-2024
Quesnel River @ Quesnel	17.5	14.6	2000-2024
Fraser River @ Marguerite	18.0	17.1	2015-2024
Chilcotin River @ Hanceville	16.1	16.1	2019-2024
Fraser River @ Texas Creek	17.7	17.1	2006-2024
North Thompson River @ McLure	15.8	14.1	2006-2023
South Thompson River @ Chase	19.6	17.2	1994-2024
Thompson River @ Ashcroft	17.8	16.6	1995-2024
Fraser River @ Qualark	18.5	16.7	1950-2024

**Nechako R @ Isle Pierre water temperature was calculated using a mixing model*

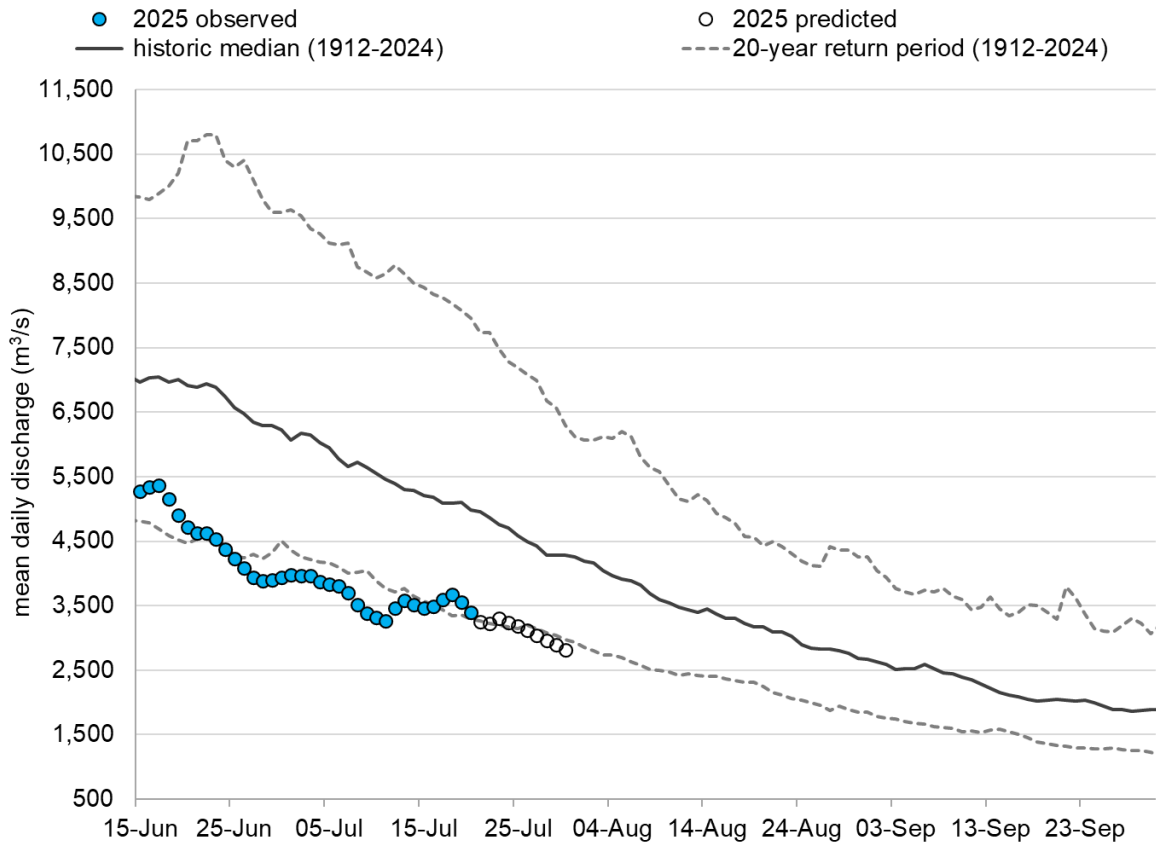
Fraser River Discharge at Hope

Critical levels for fish passage through lower Fraser Canyon:

7000 cms - Early signs of physiological stress evident

8000 cms - Difficulty in migration delaying migration time.

9000 cms - Barrier to migration through Hell's Gate.



Fraser River Water Temperatures at Qualark

- 18°C - Decreased swimming performance
- 19°C - Early signs of physiological stress and slow migration
- 20°C - Associated with high pre-spawn mortality and disease
- 21°C - Chronic exposure can lead to severe stress and early mortality.

