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TNG-led Emergency Salmon Task Force Weekly Data Report July 15 – 21 2025

1. INTRODUCTION

A major landslide occurred on the Chilcotin River on July 30, 2024, that dramatically and immediately impacted sockeye and Chinook populations returning to the Chilcotin Watershed to spawn. In response to the slide, the Tŝilhqot'in National Government (TNG) rapidly formed a technical tripartite Emergency Salmon Task Force, comprised of BC, DFO and TNG's indigenous technical partner, the Upper Fraser Fisheries Conservation Alliance (UFFCA), to assess the impacts on returning salmon, and prepare and implement mitigation measures to reduce risks and impacts for the 2024 salmon season. Post-season analysis has shown that the landslide had significantly negative impacts on both sockeye and Chinook populations, and the risks and impacts to salmon are anticipated to be significant and ongoing for years. TNG and the Task Force continued monitoring in 2025 (Figure 1) using refined and expanded methods that permit monitoring of the full suite of returning salmon stocks and associated environmental conditions related to the landslide – critical information to inform both in-season response and recovery planning.

The following weekly report prepared by TNG with support from Ecofish, summarizes 2025 monitoring data for fish passage and environmental conditions (river conditions update) from May 1 to July 21, 2025 (start date varies with program). This summary includes:

- Salmon passage upstream of the slide site (Hanceville) and concurrent turbidity and flow conditions downstream of the slide site (Farwell Canyon); and
- River conditions in the Chilcotin River upstream and downstream of the slide site (turbidity and discharge) and the Fraser River upstream and downstream of the Chilcotin River confluence (turbidity).

Key observations from this week include:

- Salmon passage continues past the slide and passage rates (number of fish per day) have remained constant for all three size classes at the Hanceville Sonar (Section 2.1), with a total of 411 salmon observed this week and a total cumulative count of 1140 salmon since the start of the program, June 25, 2025.
- Turbidity spikes of short duration (3-12 hrs) were observed in the Chilcotin River downstream of the slide site (Farwell Canyon) on July 19 and July 21, ranging from 1,330-6,647 NTU (Section 3.1). Turbidity spikes of this magnitude may result in migration delays. There was no detectable disruption of salmon migration upstream of the slide site following turbidity spikes. Given the travel time from turbidity sensor downstream of the slide site (Farwell Canyon) to the sonar station upstream of the slide site (Hanceville), it is possible that a disruption in salmon passage has not yet been detected at the sonar station. Turbidity spikes coincided with periods of high precipitation and increased flows through the week, conditions that are likely to resuspend sediment and increase turbidity.
- Continued elevated turbidity in the Chilcotin River downstream of the slide site (Farwell Canyon) compared to upstream of the slide site (Hanceville), as indicated by turbidity monitoring, site photos and satellite imagery (Section 3.1).

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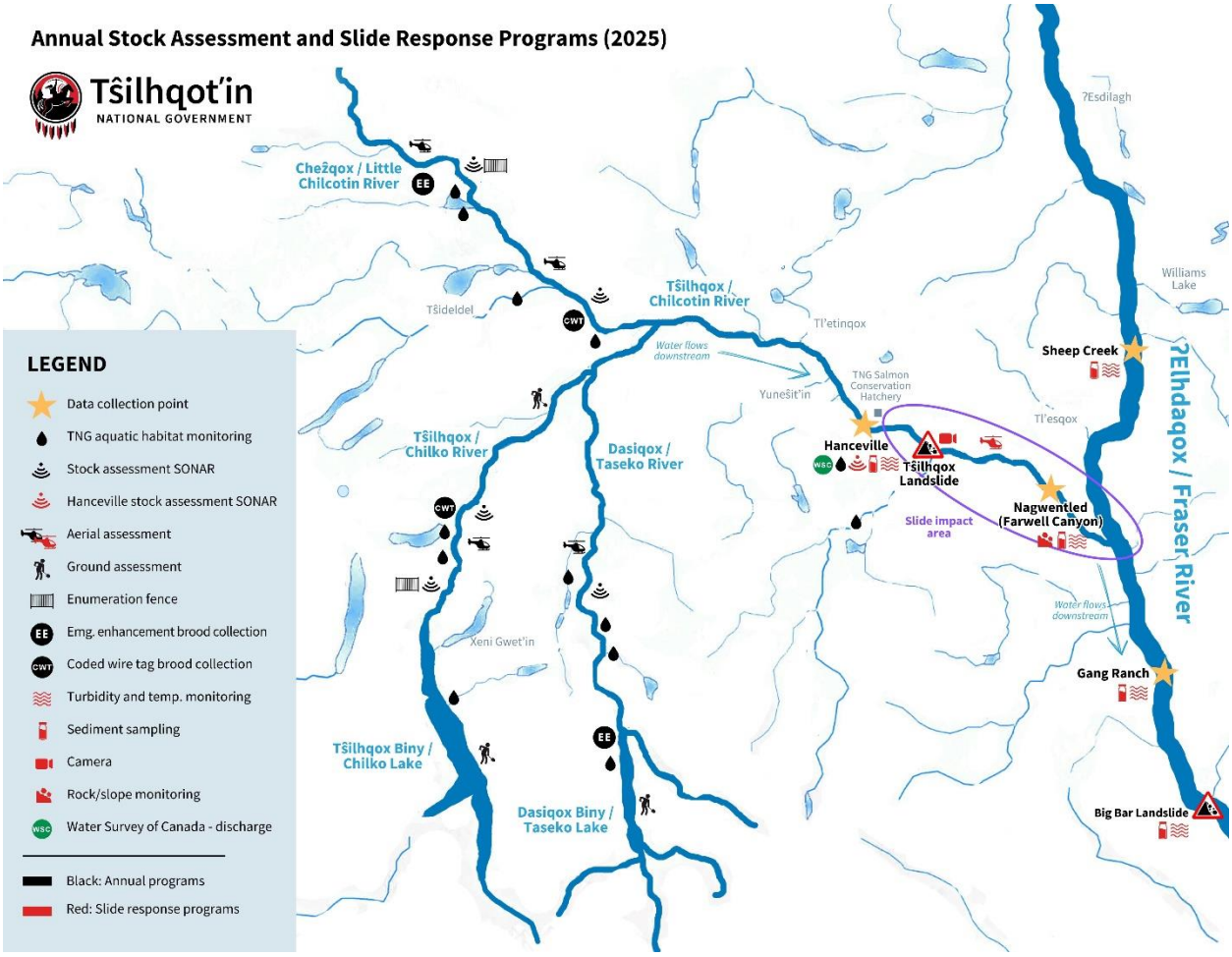
- Continued elevated turbidity in the Fraser River downstream of the Chilcotin River confluence (Gang Ranch), compared to upstream of the Chilcotin River confluence (Sheep Creek) as indicated by turbidity monitoring and satellite imagery (Section 3.2).

Figure 1 TNG Annual Stock Assessment and Slide Response Programs (2025).



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2. FISH PASSAGE

2.1. Hanceville Sonar Update

Daily salmon passage with turbidity and discharge is presented in Figure 3, noting that Olson *et al.* (2024) estimate that salmon passing downstream of the slide site (Farwell Canyon) arrive at the sonar station upstream of the slide site (Hanceville) roughly one to three days later.

Summary of Salmon Counts

For sonar data, twenty minutes of every hour have been counted and data have been expanded to the full hour. Infilling of data will occur during post-season analysis. A total of 411 salmon were counted during Week #4 (Figure 3). This includes 84 presumed Chinook Salmon (>80 cm in length), that were observed from July 15 to July 21 with peak counts (n = 24) occurring on July 19, as well as 108 salmon between 50 to 64 cm in length and 219 salmon between 65 to 79 cm in length. Observations of salmon between 50 to 64 cm in length occurred from July 15 to July 21 and peak counts occurred on July 15 (n = 24). Salmon of 65 to 79 cm length were observed from July 15 to July 21, 2025. There was no detectable disruption of salmon migration upstream of the slide site following turbidity spikes on July 19 and 21, 2025, with daily total salmon counts on July 20 and 21 comparable to previous days. Given the travel time from turbidity sensor downstream of the slide site (Farwell Canyon) to the sonar station upstream of the slide site (Hanceville), it is possible that a disruption in salmon passage has not yet been detected at the sonar station.

Since sonar enumeration commenced on June 25, 2025, a total of 200 salmon > 80 cm, 545 salmon between 65 to 79 cm in length, and 395 salmon between 50 and 64 cm in length have been counted moving upstream past the sonar station at Hanceville (Figure 4).

Field Summary of Sonar Operation

Hanceville experienced large weather cells this week, resulting in high winds and cloud burst events that brought significant precipitation over short periods of time. Flows remained high at the sonar site throughout the week but are anticipated to start trending downwards if the current forecast for warm and dry conditions holds.

Due to high flows and large amounts of transported debris, the river-left fence was repositioned further up the bank and additional supports were added. No flow-related issues occurred at the river-right sonar site where the upstream diversion fence prevented debris strikes (Figure 2). However, the hard-drive at the river-right site malfunctioned on July 20, 2025, resulting in a 12-hour data outage. The drive was replaced on July 21, 2025, and the station is now functioning normally.

A side channel which cuts behind the river-left sonar was fenced on July 17, 2025, to prevent any undetected fish passage at higher flows. Water levels were deemed insufficient for passage prior to this point. Dip netting at Hanceville for species and size validation is planned to start once visibility improves.

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Figure 2. **Diversion fence maintenance at the right bank Hanceville Bridge sonar site on July 16, 2025**.

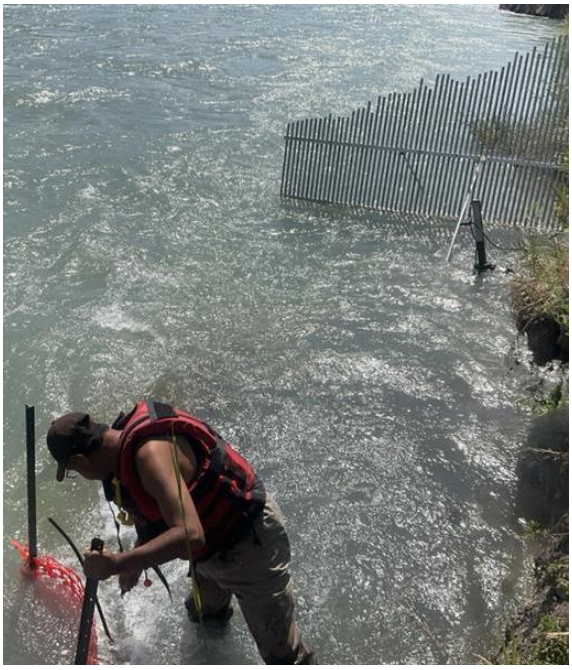

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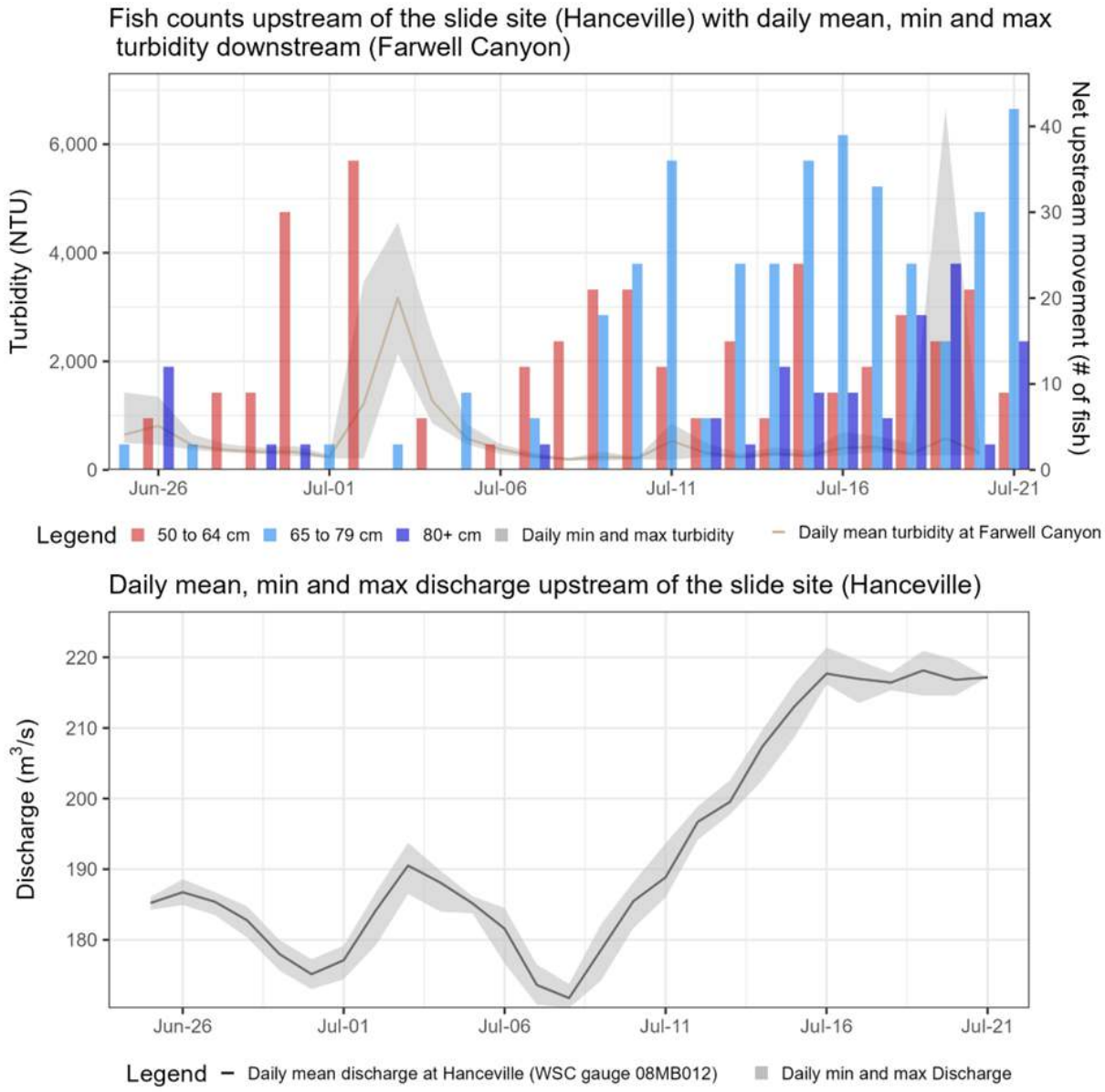
Figure 3. Expanded[1] net daily movement of salmon[2] past the Hanceville sonar upstream of the slide site, with turbidity measured downstream of the slide site (Farwell Canyon) and discharge upstream of the slide site (Hanceville) from June 25 to July 21, 2025.



[1] One twenty-minute file was reviewed per hour of sonar operation (as per DFO standards). To estimate total fish passage per hour, the twenty-minute counts were expanded by a factor of three to expand to the full hour. Infilling will be completed in post-season analysis.

[2] Mixed salmon separated by size (50 to 64 cm) and (65 to 79 cm), and presumed Chinook (80+ cm), as defined by the Department of Fisheries and Oceans (DFO).

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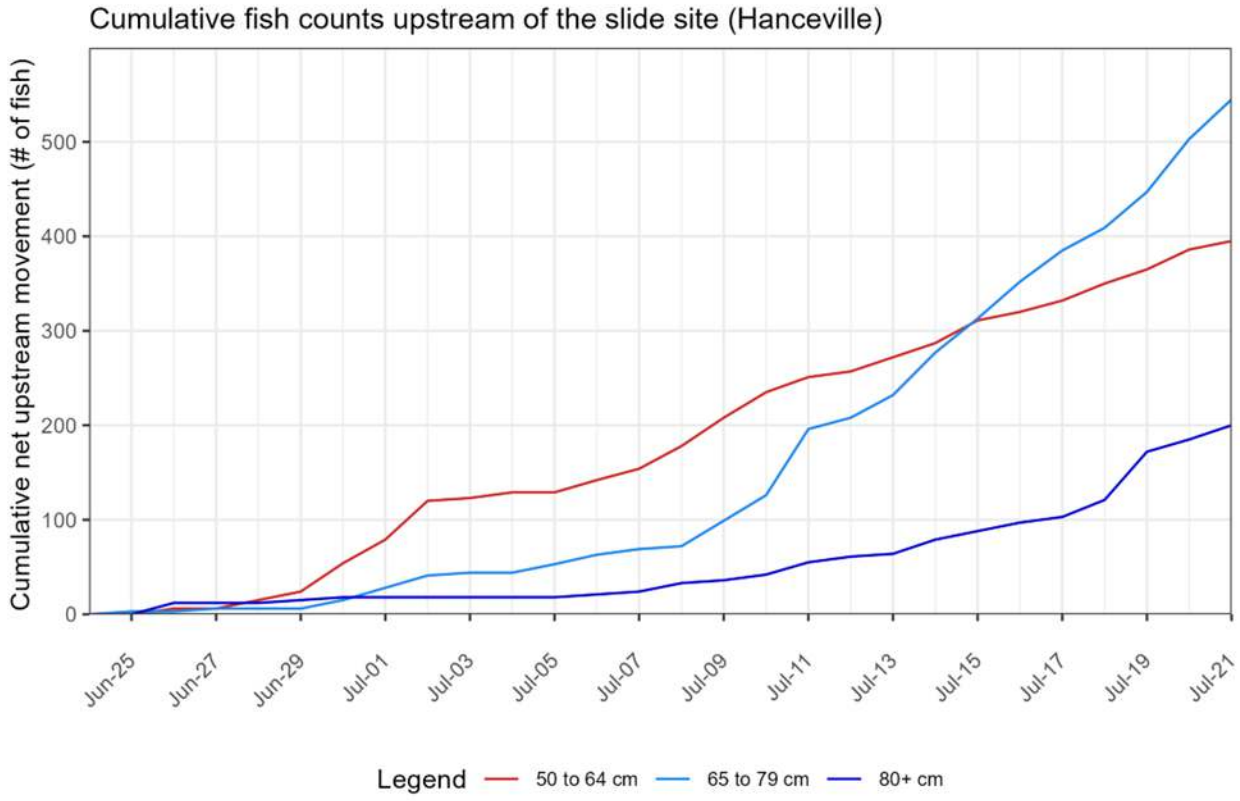
Figure 4. Expanded[3] cumulative daily counts of salmon[4] movement past the Hanceville sonar upstream of the slide site from June 24, 2025 to July 21, 2025.



[3] One twenty-minute file was reviewed per hour of sonar operation (as per DFO standards). To estimate total fish passage per hour, the twenty-minute counts were expanded by a factor of three to expand to the full hour. Infilling will be completed in post-season analysis.

[4] Mixed salmon separated by size (50 to 64 cm) and (65 to 79 cm), and presumed Chinook (80+ cm), as defined by the Department of Fisheries and Oceans (DFO).

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3. RIVER CONDITIONS UPDATE

3.1. Chilcotin River Turbidity and Flow

During the week of July 15 to July 21, discharge in the Chilcotin River upstream of the slide site (Hanceville) ranged from 206 m^3/s to 218 m^3/s (mean = 216 m^3/s) (Figure 5). Turbidity ranged from 28 NTU to 168 NTU at Hanceville, with an overall mean of 38 NTU. Downstream of the slide site (Farwell Canyon) turbidity was higher, ranging from 230 NTU to 6,647 NTU, with an overall mean of 391 NTU. Three turbidity spikes were observed on July 19 and July 21, ranging from 1,330 to 6,647 NTU for a short duration of 3-12 hrs, compared to baseline downstream turbidity, averaging 300 NTU. The 6,647 NTU maximum spike in turbidity observed this week downstream of the slide site (Farwell Canyon) occurred on July 19, for a duration of 5 hrs. The differences in turbidity upstream and downstream of the Farwell Canyon slide site can be seen by differences in river colour in recent field photos (Figure 6) and recent satellite imagery (Figure 7). Field crews in the area observed heavy localized rainfall events this week.

Figure 5. Turbidity and discharge measured in the Chilcotin River upstream of the slide site (Hanceville) and turbidity measured downstream of the slide site (Farwell Canyon) from May 01, 2025, to July 21, 2025.

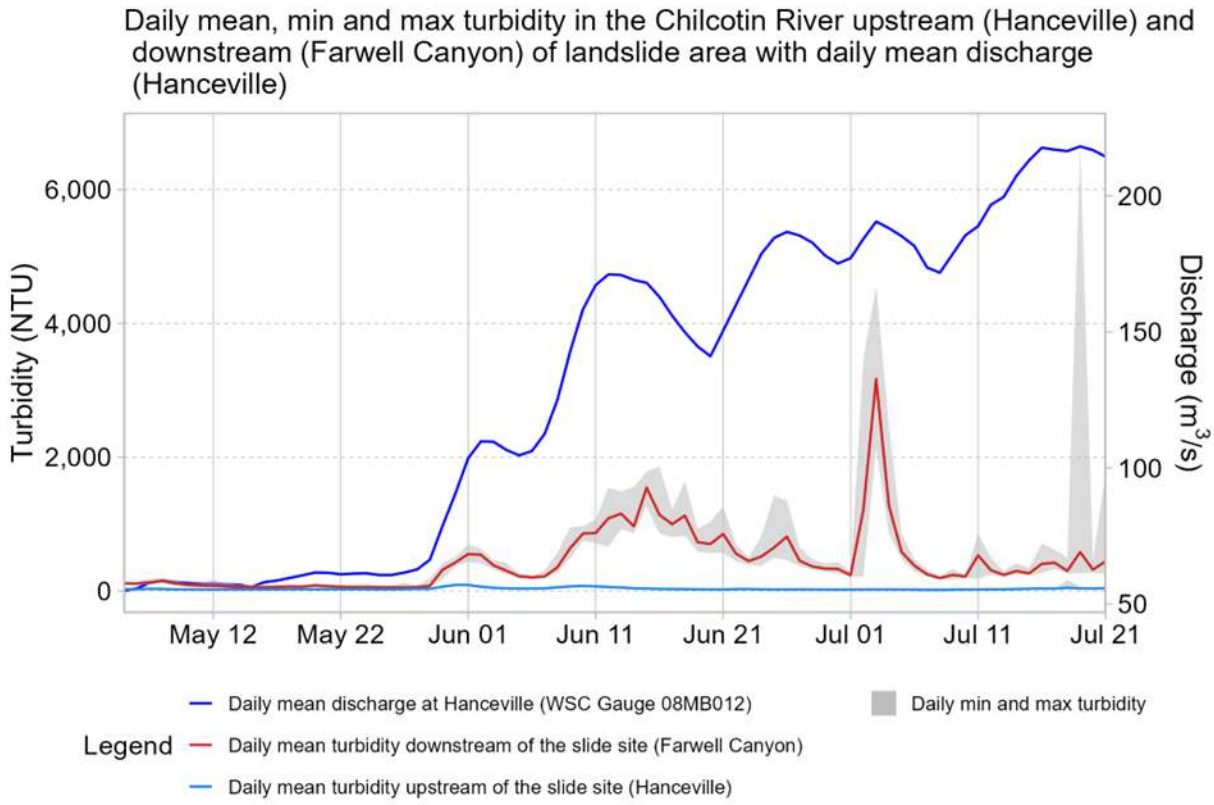

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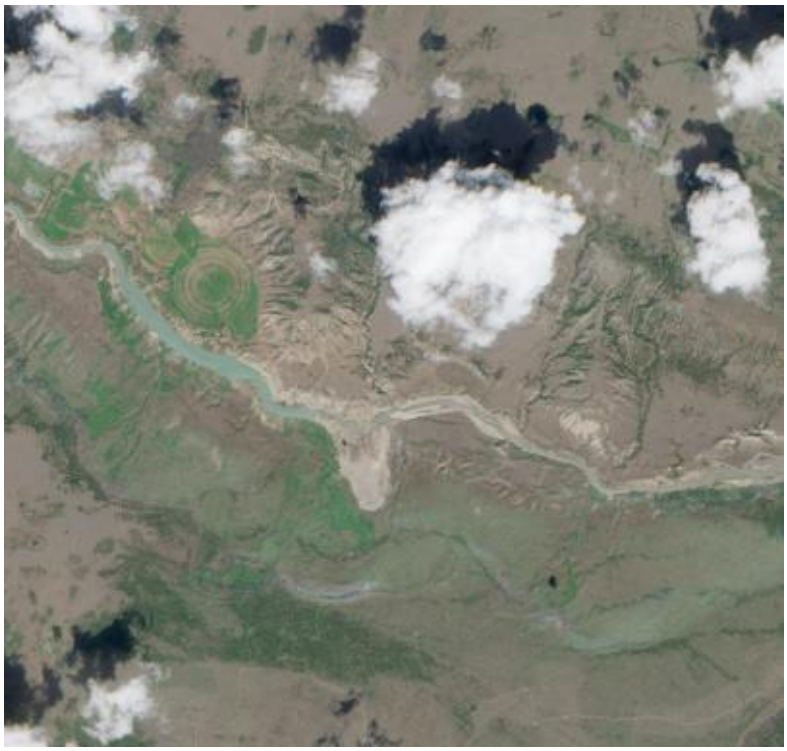
Figure 6. **Water quality conditions upstream of the slide impact area (left, Hanceville) and downstream of the slide impact area (right, Farwell Canyon) captured on July 16, 2025.**

Figure 7. **Satellite image of Chilcotin River upstream (left) and downstream (right) of the Farwell Canyon slide site on July 18, 2025 (Copernicus 2025).**



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3.2. Fraser River Turbidity and Flow

During the week of July 15 to July 21, turbidity upstream of the Chilcotin-Fraser confluence (Sheep Creek) ranged from 51 NTU to 169 NTU, with an overall mean of 102 NTU (Figure 8). Turbidity downstream of the confluence (Gang Ranch) ranged from 87 NTU to a maximum of 1,004 NTU on July 20 (mean = 152 NTU). Three turbidity spikes were observed downstream of the confluence (Gang Ranch) between July 19 and July 21, ranging from 380-1,004 NTU for a short duration of 5-12 hrs, compared to baseline downstream turbidity, averaging 100 NTU. The differences in turbidity upstream and downstream of the confluence of the Chilcotin and Fraser rivers can be seen by differences in river colour in the recent satellite imagery from the junction (Figure 9).

Figure 8. Turbidity in the Fraser upstream of the Chilcotin confluence (Sheep Creek) and downstream of the confluence (Gang Ranch) from May 01, 2025 to July 21, 2025.

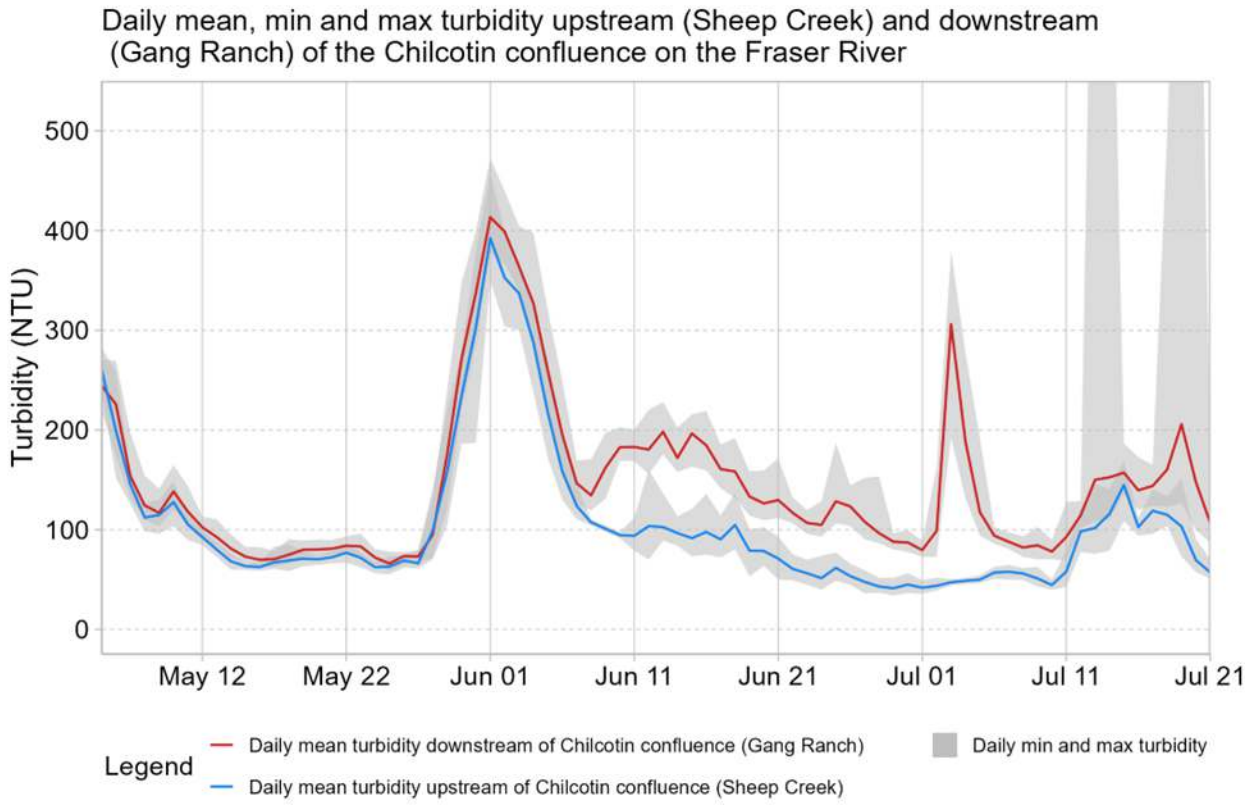

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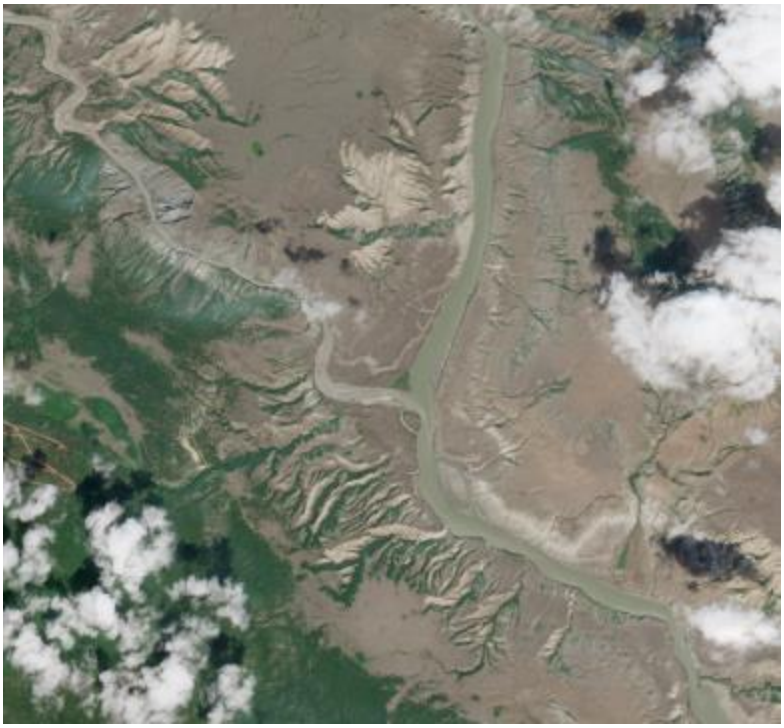
Figure 9. **Satellite image of the Chilcotin River at confluence with Fraser River on July 18, 2025 (Copernicus 2025).**



Disclaimer:

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