



RioTinto

Nechako Reservoir / River / Freshet Information Sharing – WEI

25 May 2022

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Mercier

Photo: Avlison

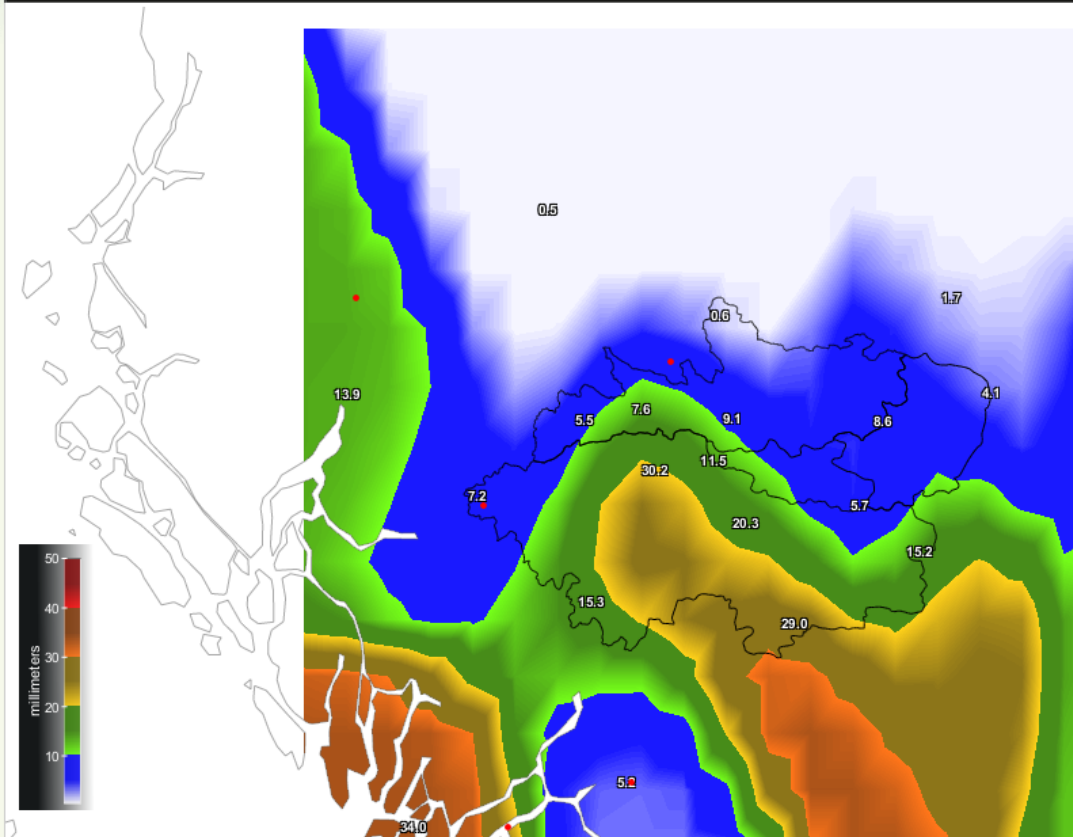
Key Focus

1. Current Watershed Data:
Precipitation and elevation
2. Freshet Forecast, looking
to the spring / summer
and next steps
3. T2 Separate Presentation

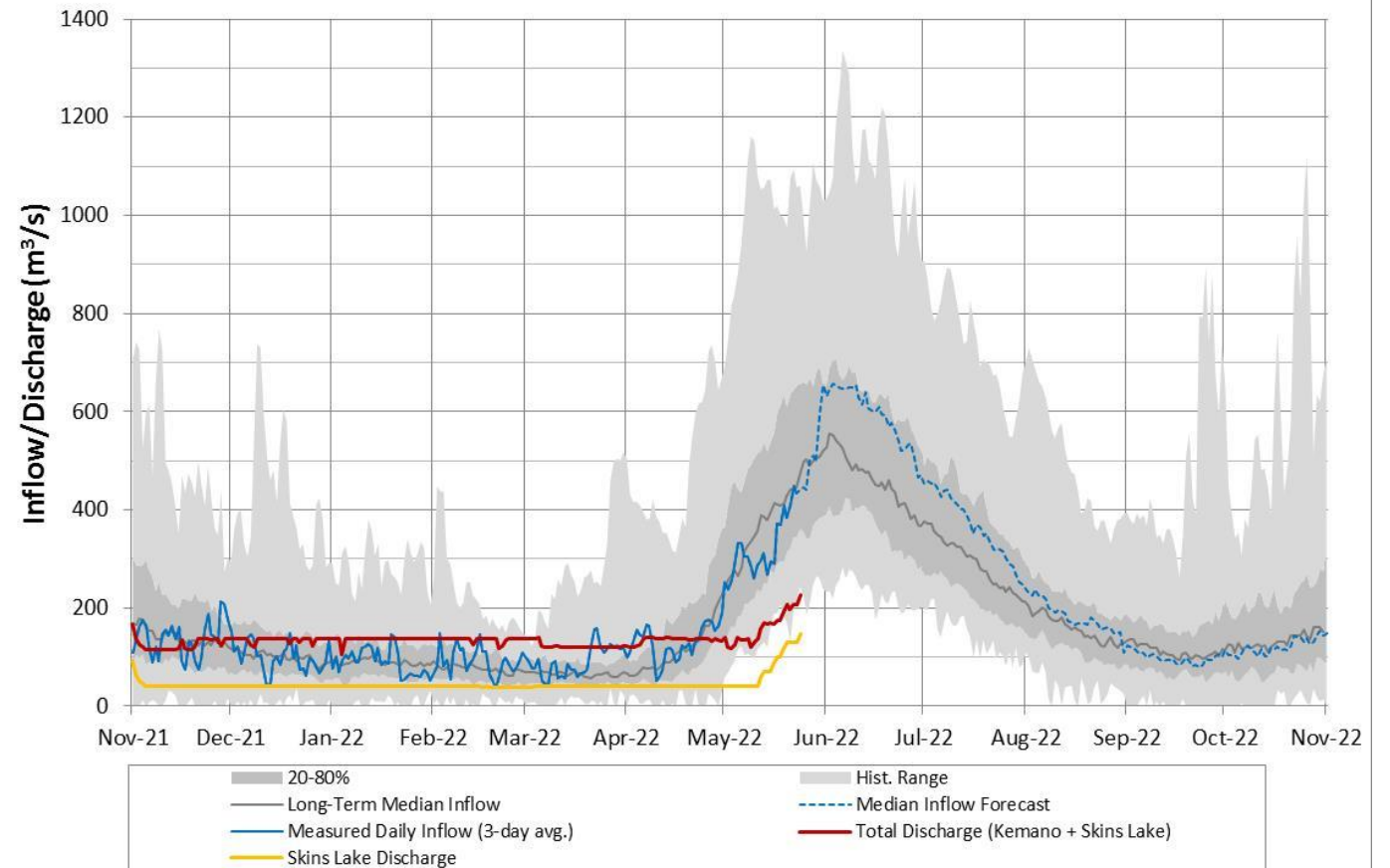


Observed Precipitation, Inflows vs Historical

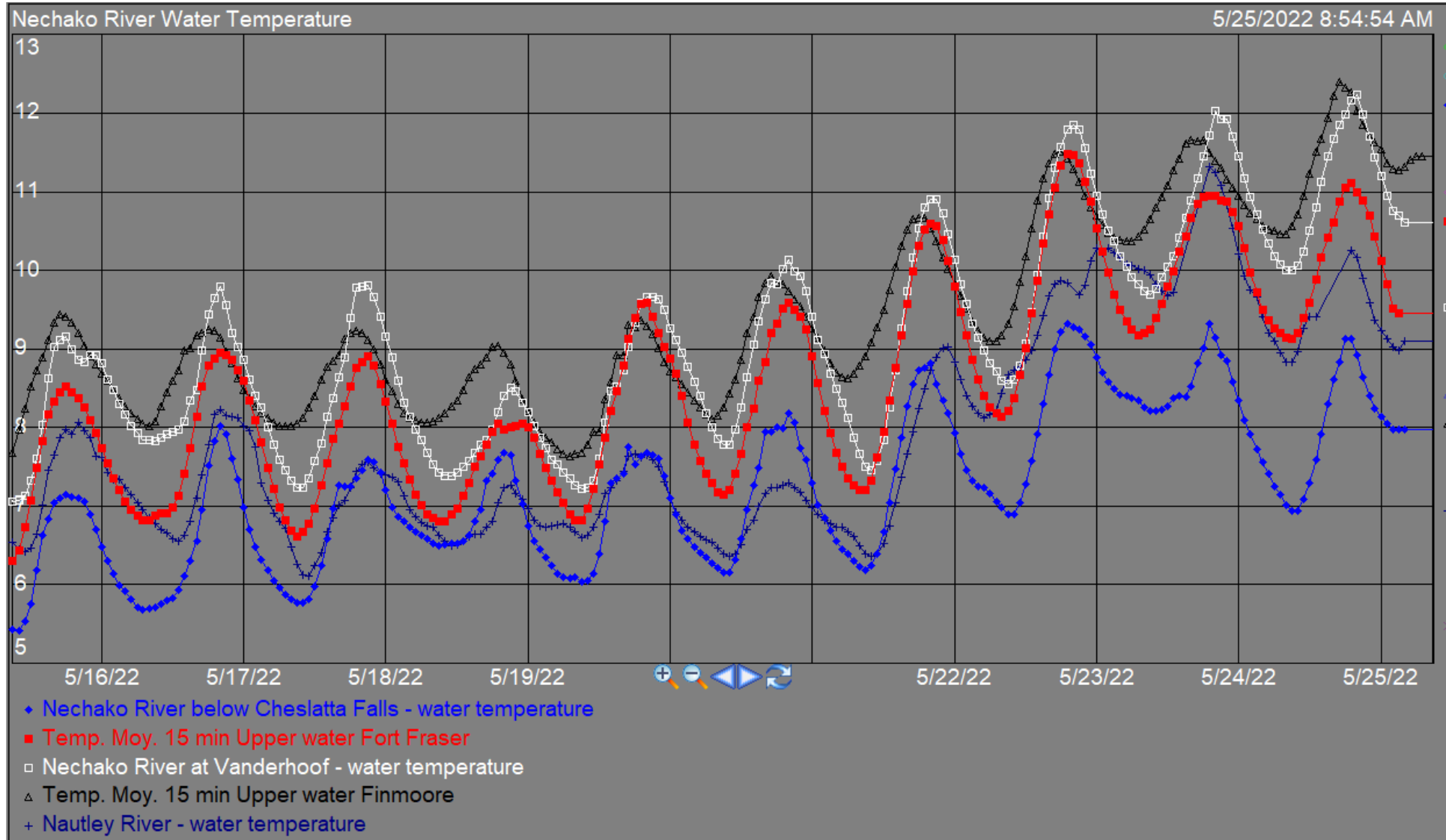
7-day cumulative rainfall



Nechako Reservoir Operation
Observed Inflow and Discharge 2021-2022



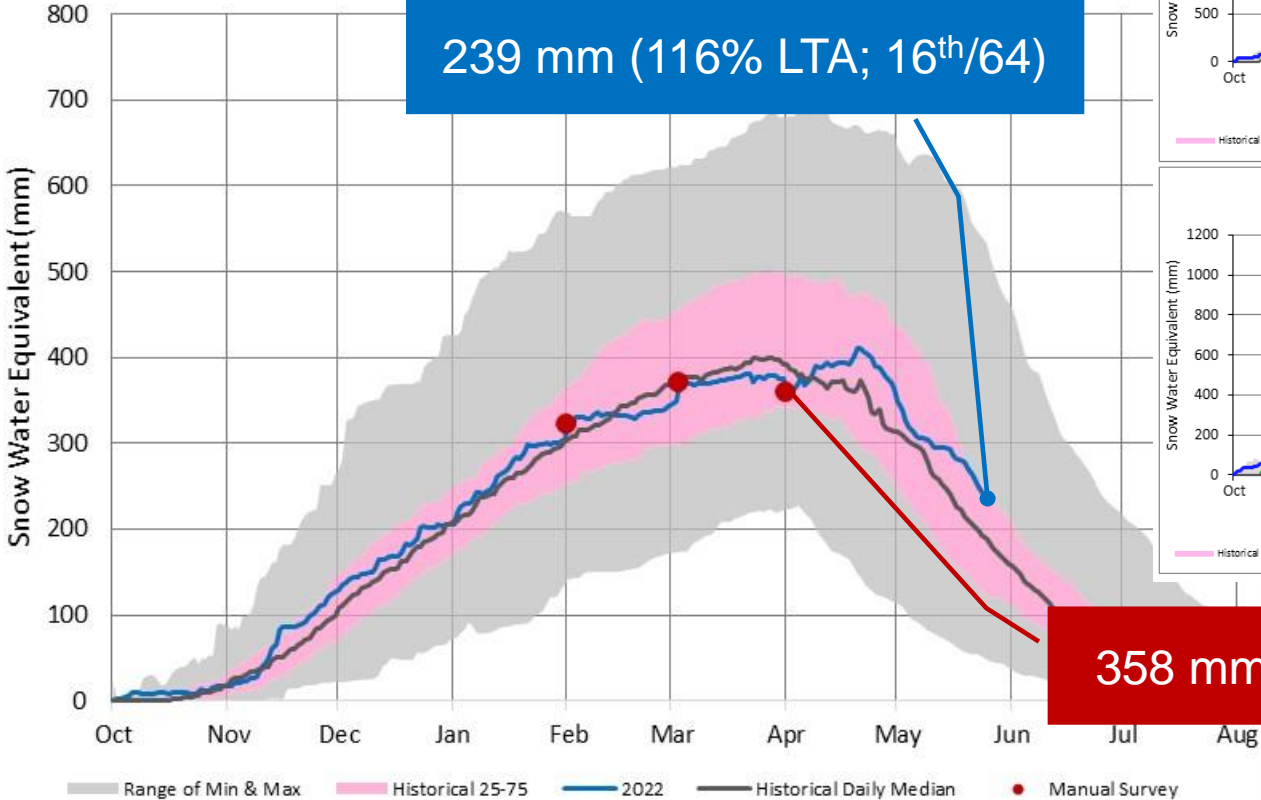
Observed Water Temperatures



Current Snowpack

Nechako Reservoir Snowpack

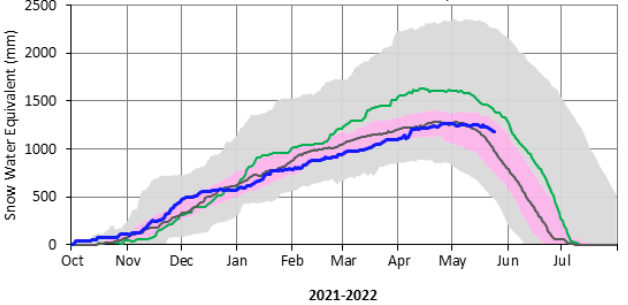
239 mm (116% LTA; 16th/64)



358 mm (85% LTA; 40th/64)

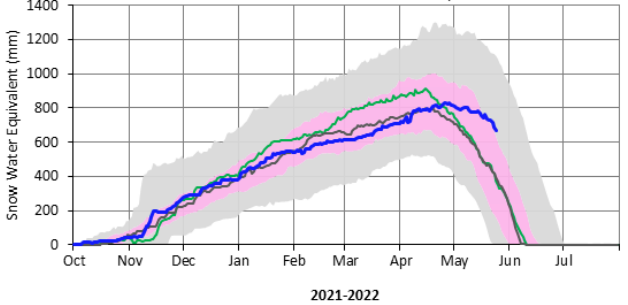
Tahtsa Lake

Automated Snow Weather Station Graph



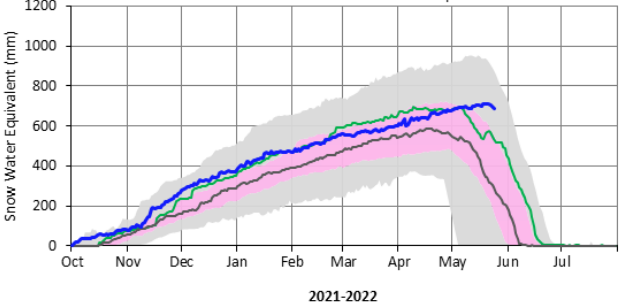
Mount Pondosy

Automated Snow Weather Station Graph



Mount Wells

Automated Snow Weather Station Graph

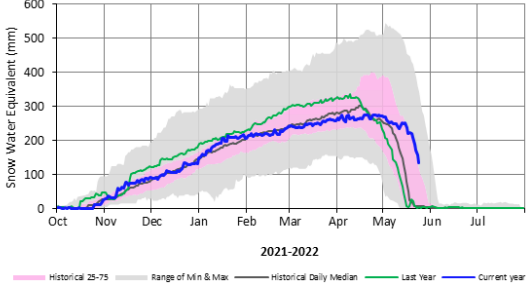


Station	Current Value (mm)	LTA* (mm)	%LTA*	Percentile Rank*
Tahtsa Lake	1178	1053	112%	67%
Mount Pondosy	669	426	157%	78%
Mount Wells	689	348	198%	93%

*(1992-2021)

Lu Lake

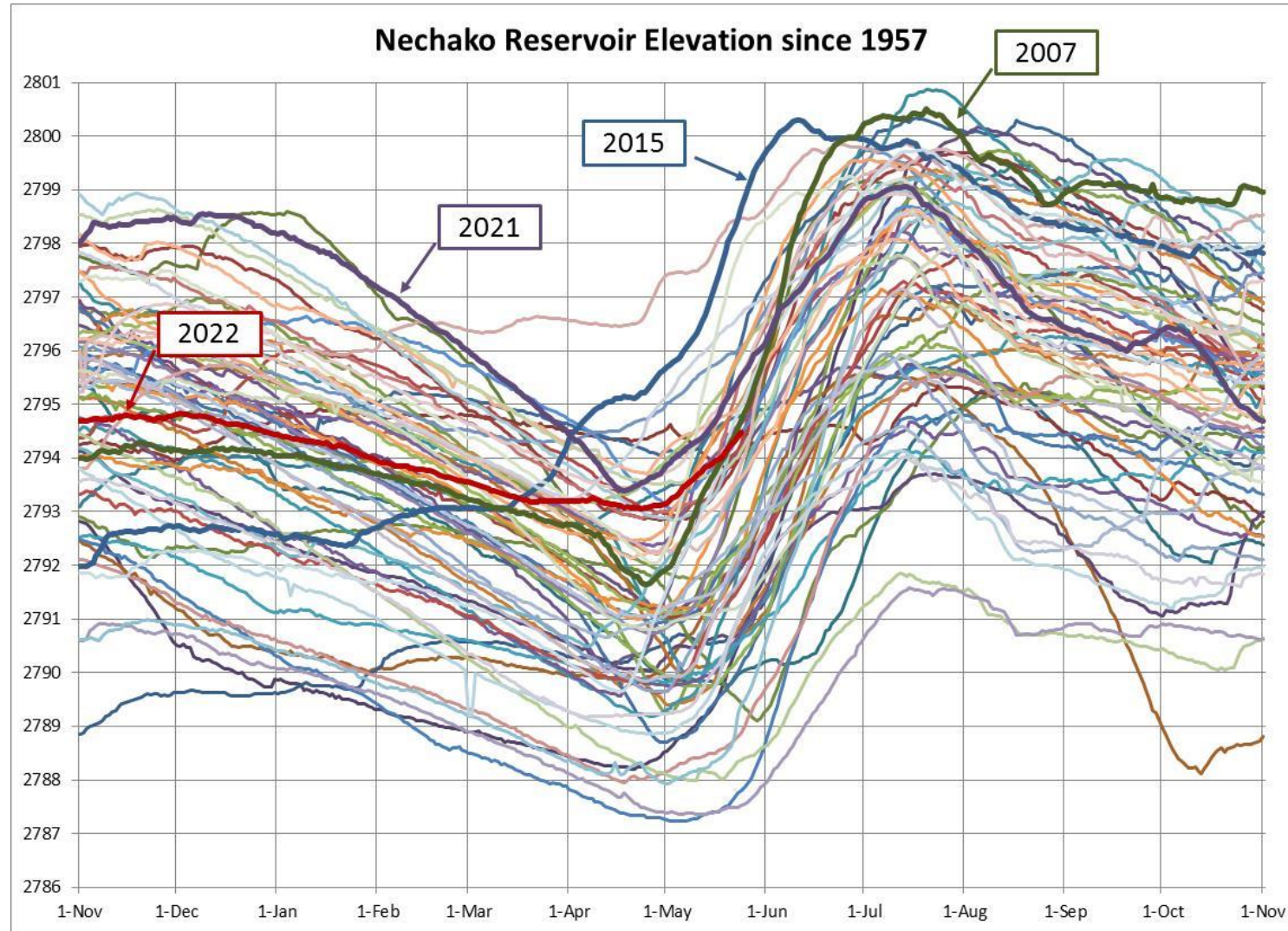
Automated Snow Weather Station Graph



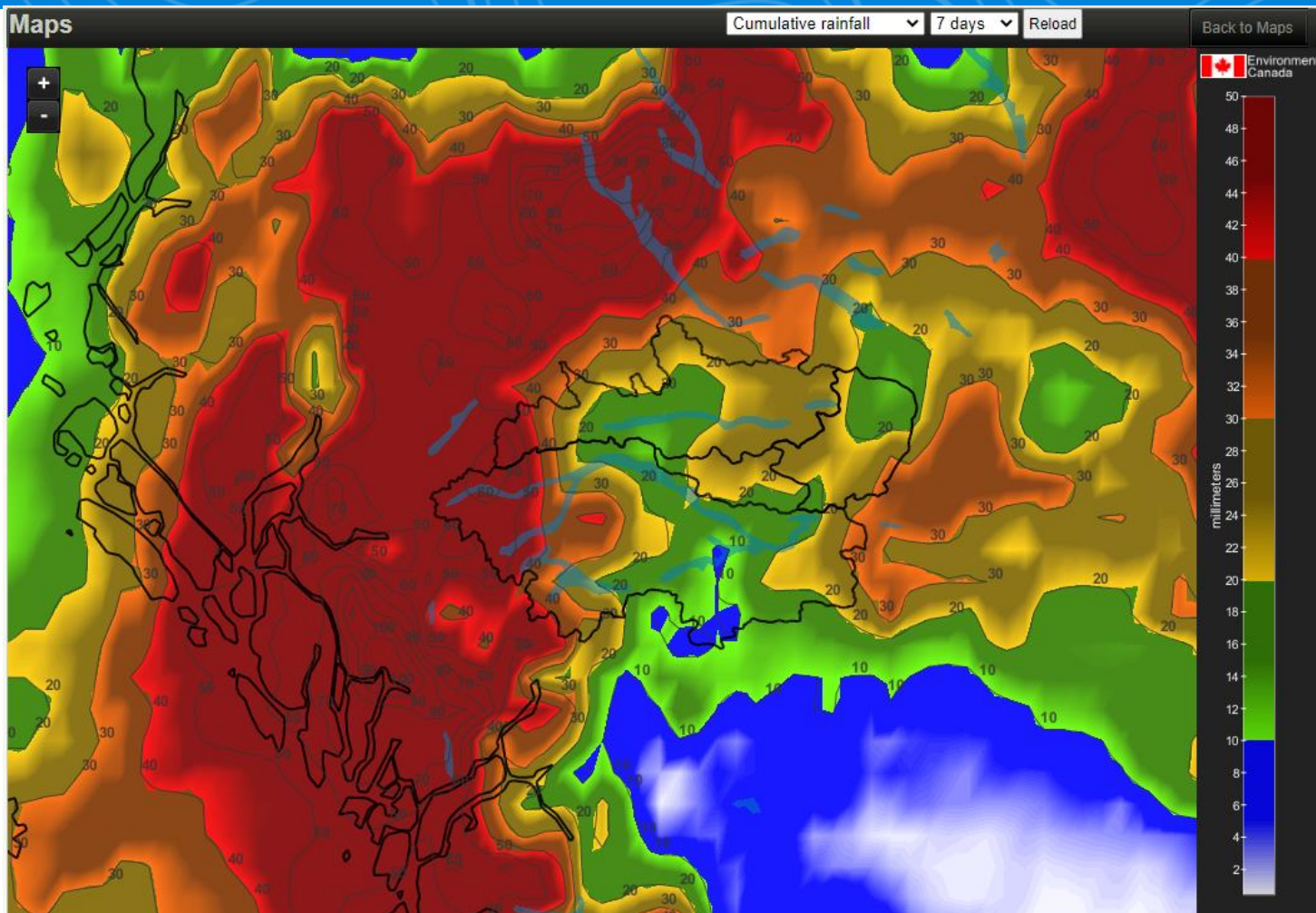
Station	Current Value	%LTA*
Lu Lake	133	173%

*(1997-2021)

Historical Reservoir Elevation



7 Day Weather Forecast

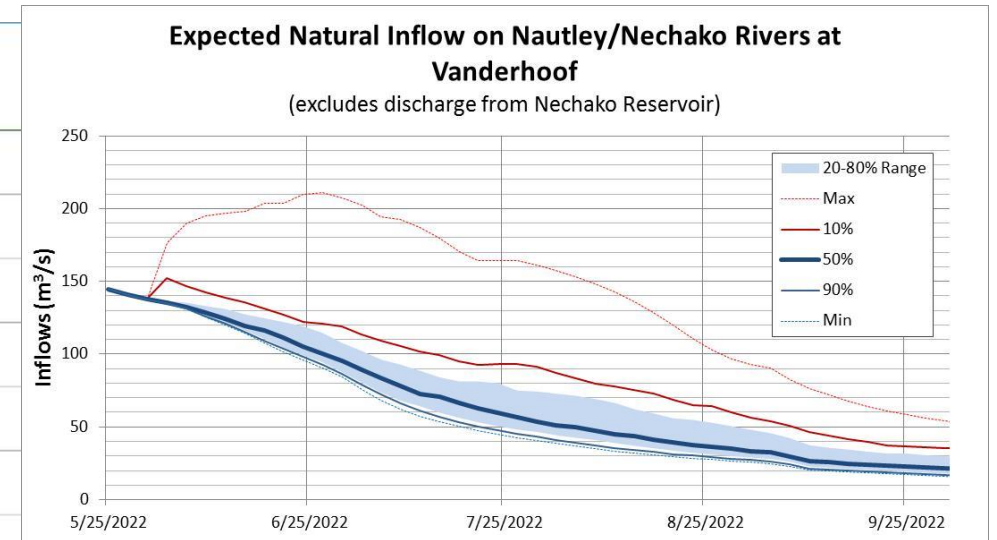
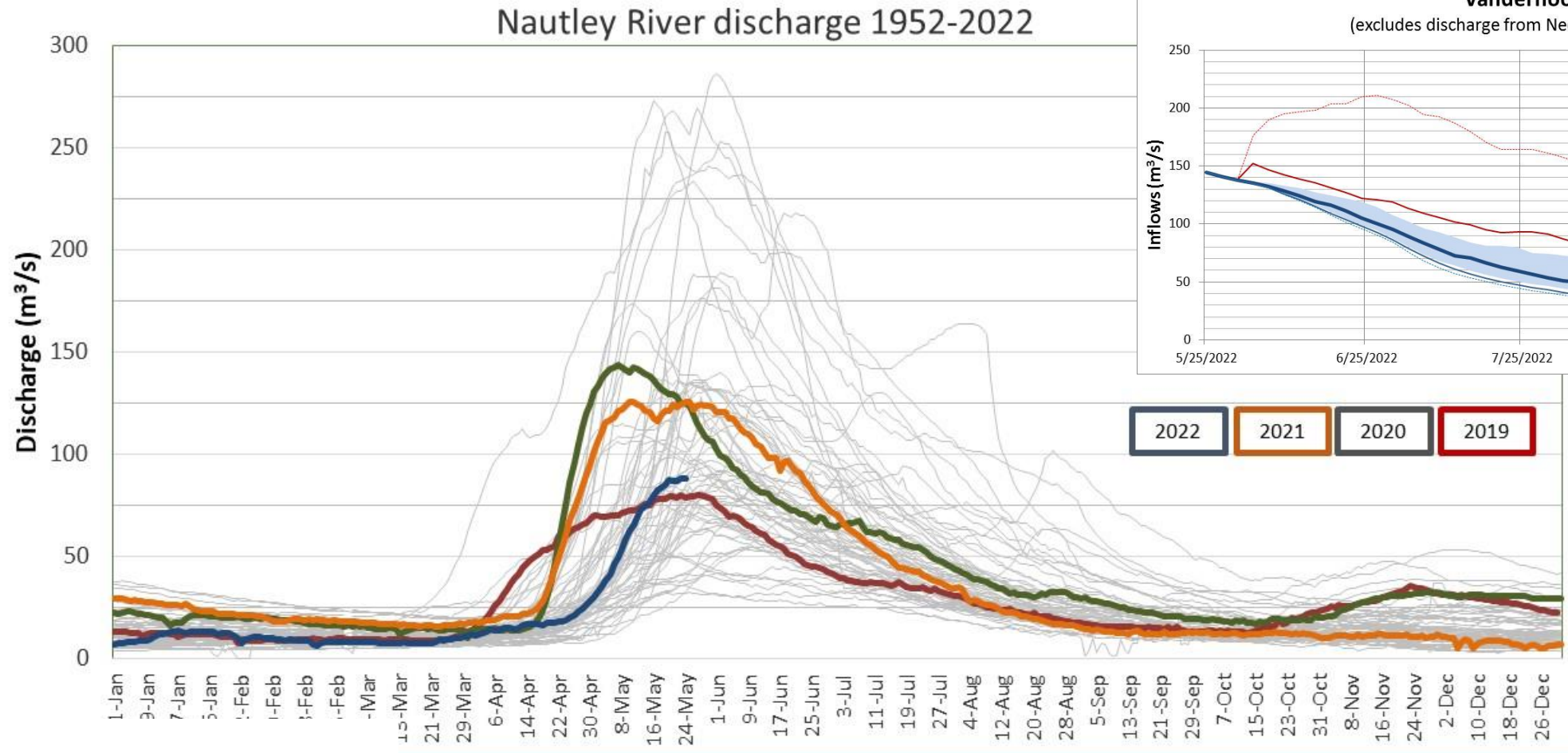


Next 7 Days

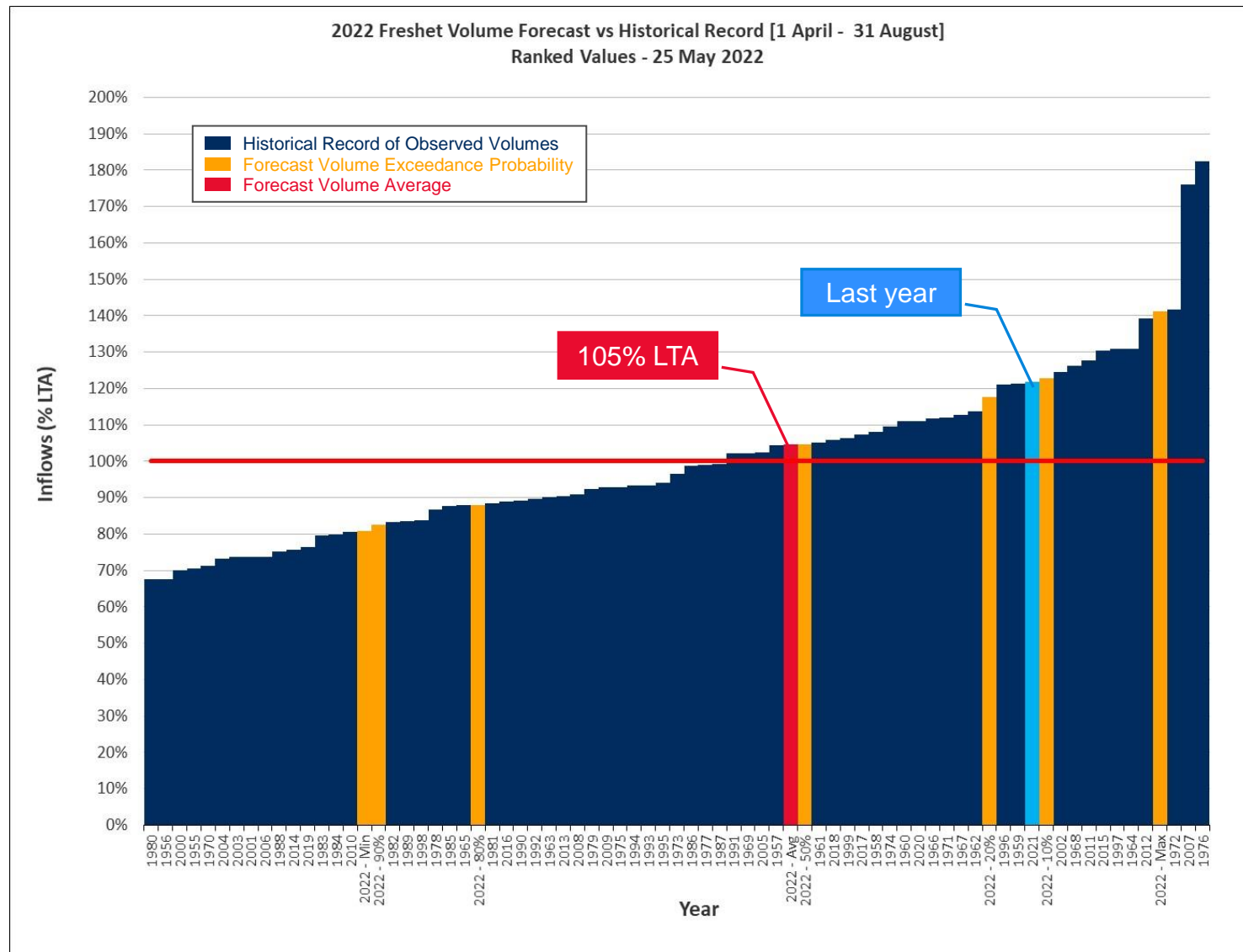


	Thu 05/26	Fri 05/27	Sat 05/28	Sun 05/29	Mon 05/30	Tue 05/31	Wed 06/01
	A mix of sun and clouds	Rain	Rain	Cloudy with showers	Mainly sunny	Mainly sunny	A mix of sun and clouds
	15°	10°	8°	14°	18°	21°	21°
Feels like	15	8	7	14	17	21	21
Night	5°	3°	3°	3°	4°	5°	5°
POP	30 %	90 %	80 %	60 %	20 %	20 %	20 %
Wind (km/h)	9 s	15 sw	9 w	9 NE	7 NE	8 SE	6 sw
Wind gust (km/h)	14	23	14	14	11	12	9
Hrs Of Sun	4 h	1 h	2 h	3 h	11 h	13 h	9 h
24 Hr Rain	<1 mm	5-10 mm	~10 mm	~1 mm	-	-	-

Nautley River Flows, Forecast

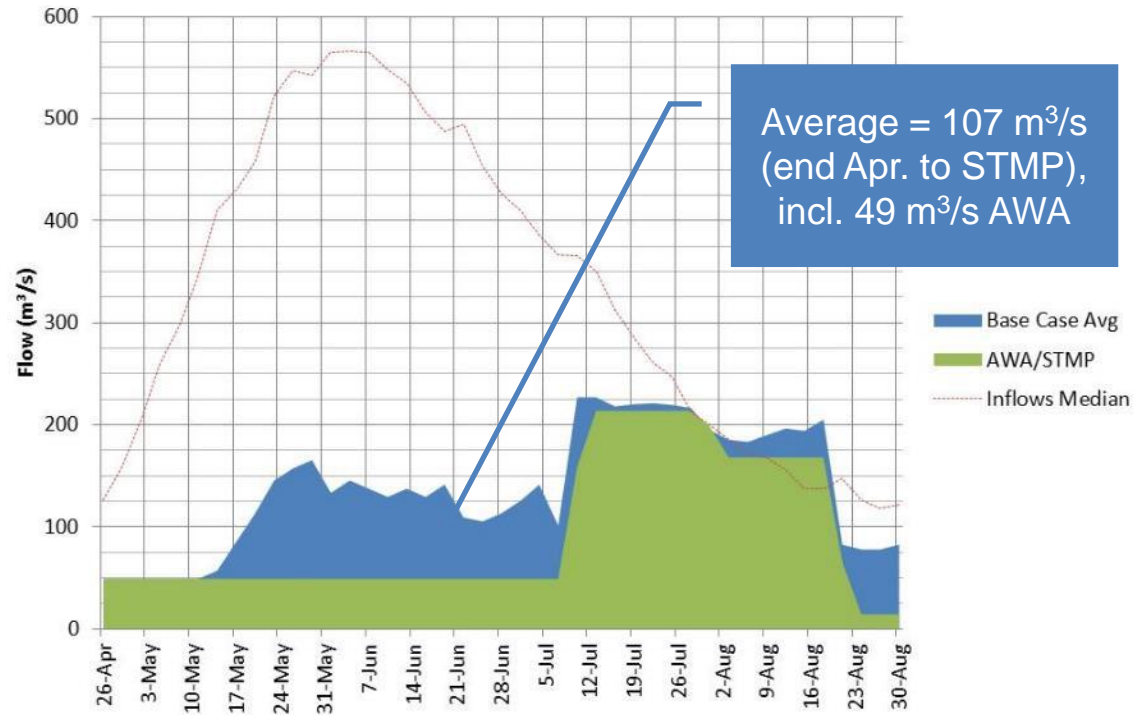


Spring Freshet Inflow Forecast

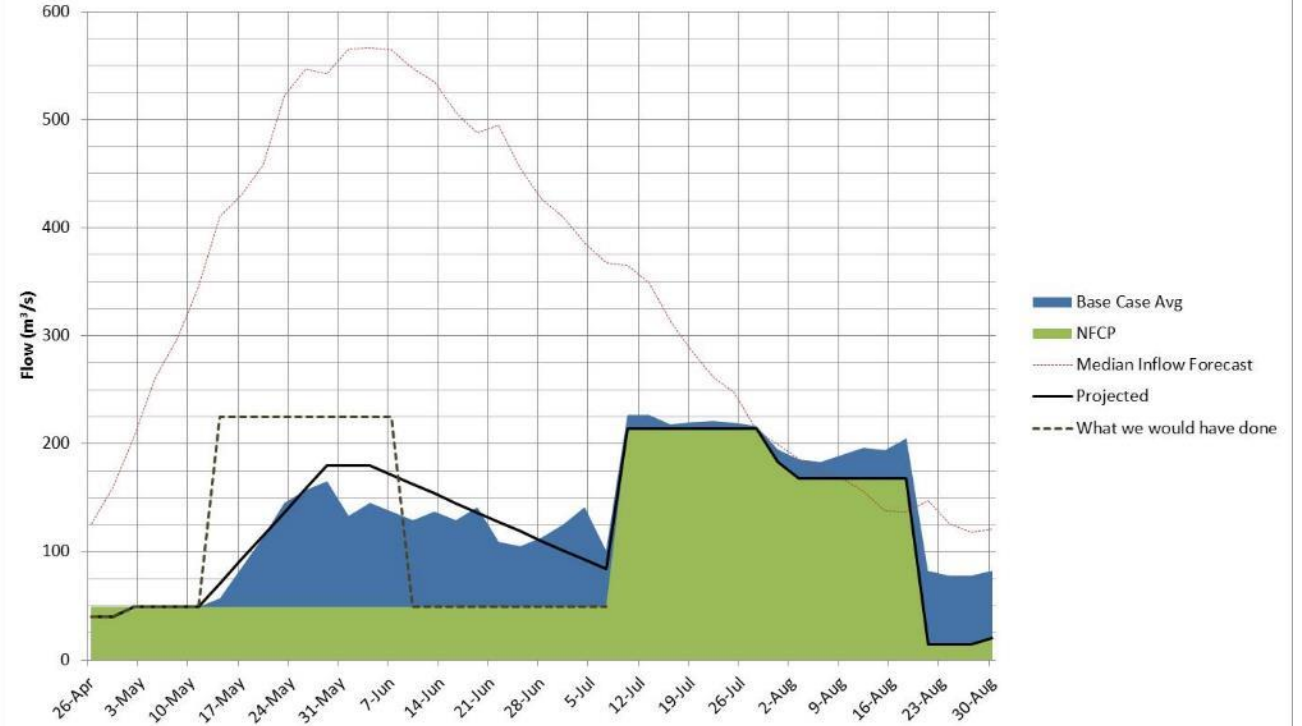


Planning the 2022 Release

Average expected spillway release, inflows



Average expected spillway release, inflows



Release Considerations:

- Feedback from the Nechako First Nations, Cheslatta and from Water Engagement Initiative
- Release timing corresponding to seasonal triggers that mimic, as much as possible, natural conditions
- Releases that mimic a spring-early summer freshet-like shape, increasing access to habit
- Flood risk to be maintained as low as possible

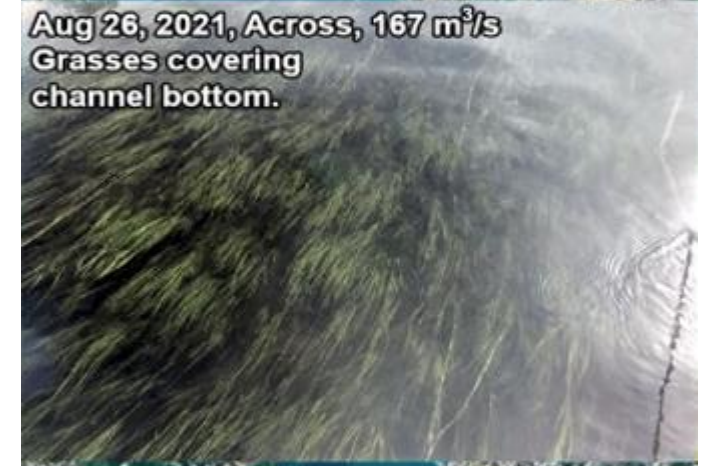
Upper Nechako



Aug 26, 2021, Downstream, 167 m³/s
Lots of flow but shallow. Fully
vegetated across the channel.



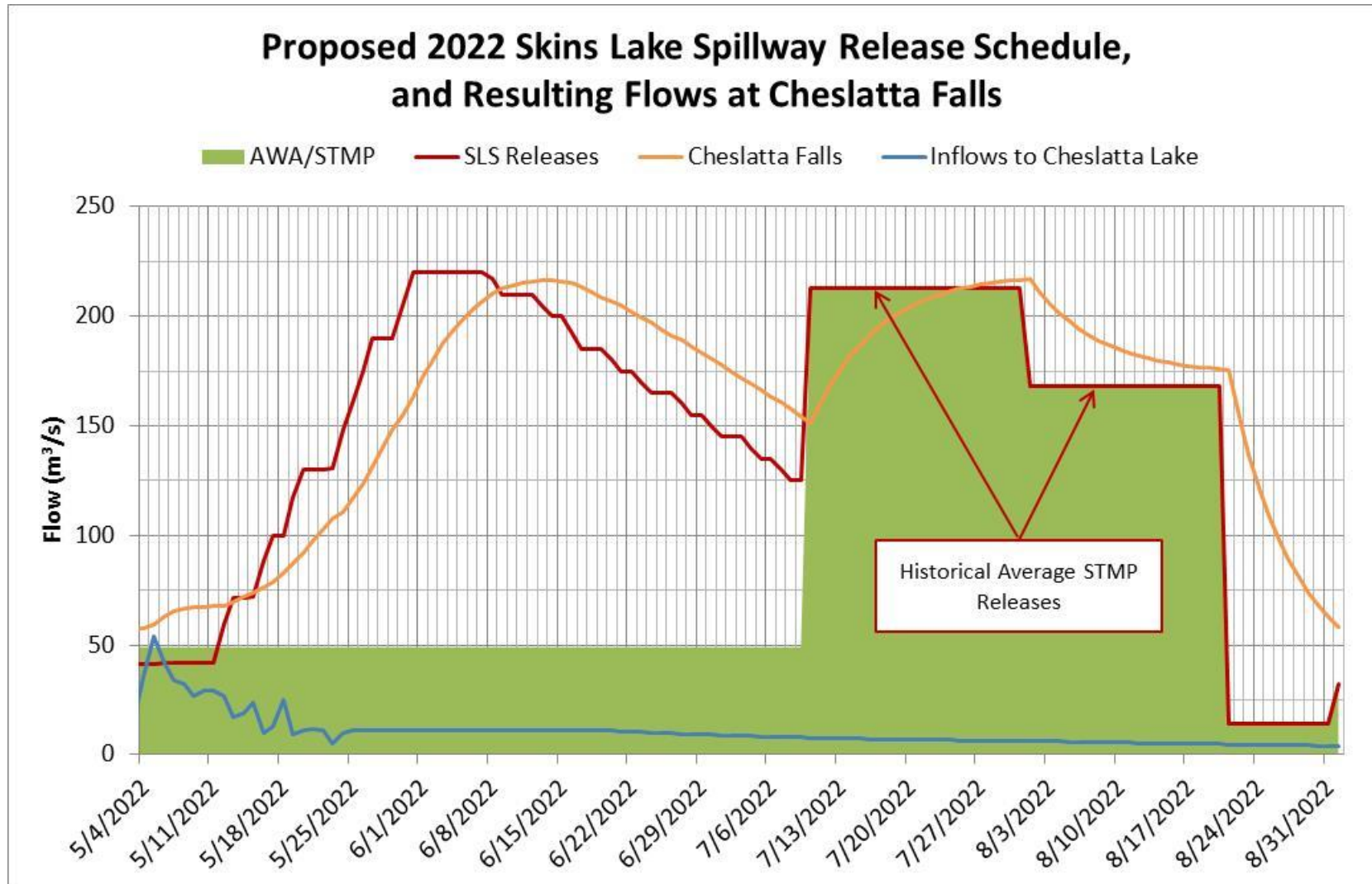
Aug 26, 2021, Across, 167 m³/s
Grasses covering
channel bottom.



Aug 26, 2021, Upstream, 167 m³/s
Navigable from top to bottom
(~2.5 km) Likely to dewater.

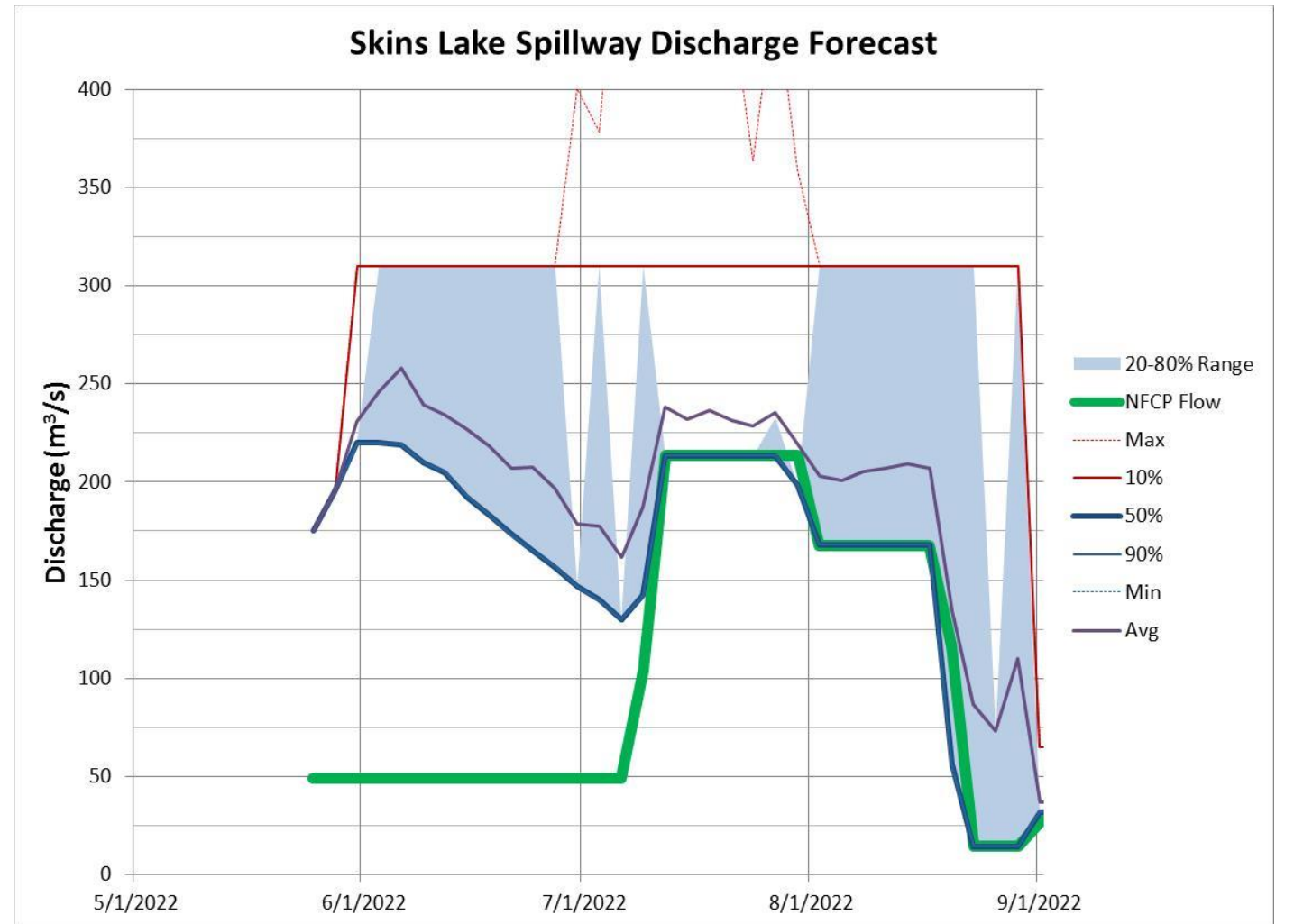


Expected Spillway Release

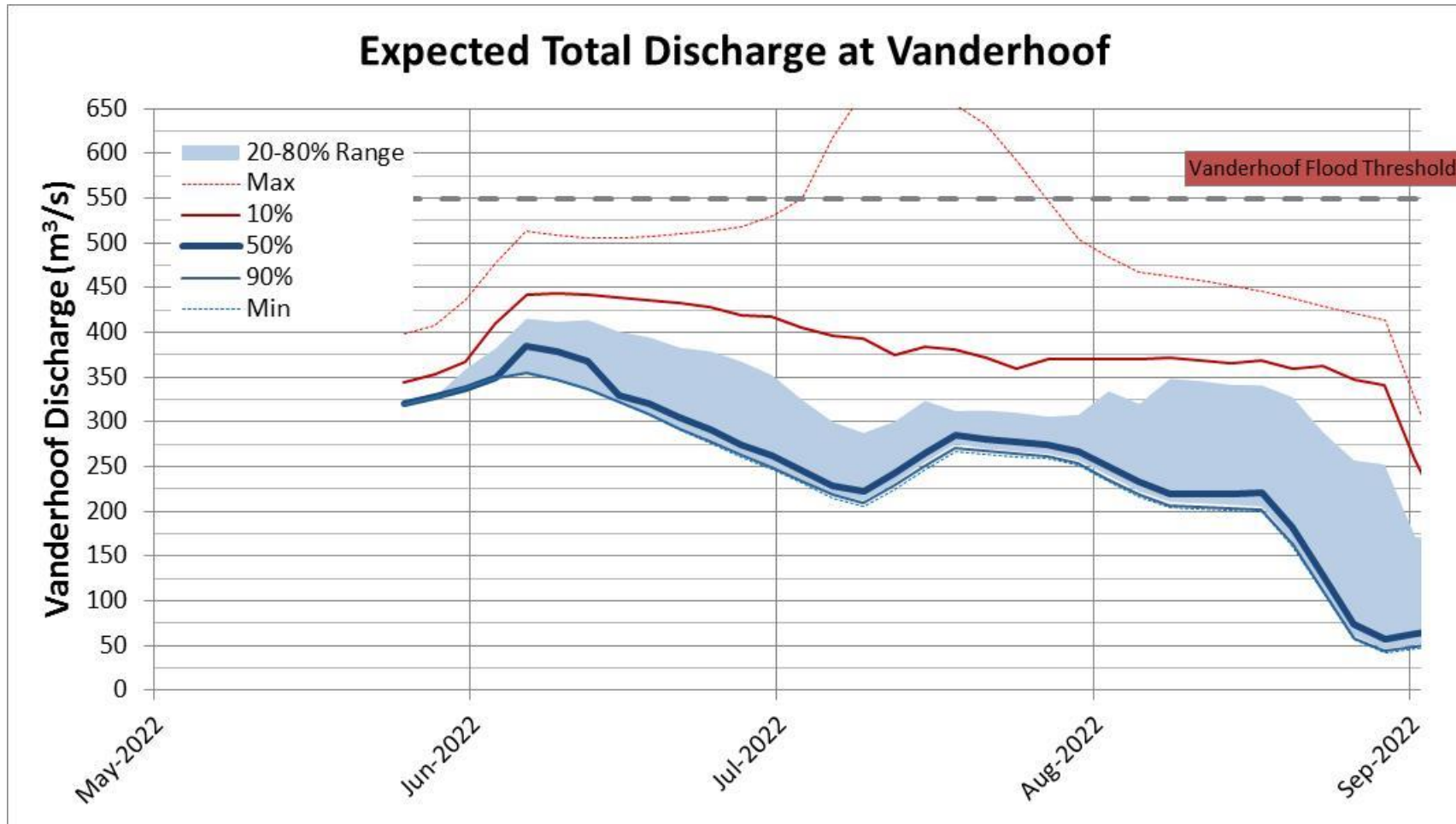


Spillway Management – Looking to Spring/Summer

- SLS discharge is currently 160 m³/s. It is being gradually increased and it should peak around 220 m³/s;
- Smelter Re-Start plan integrated
- Spring Freshet flood risk; Murray Cheslatta System and Vanderhoof

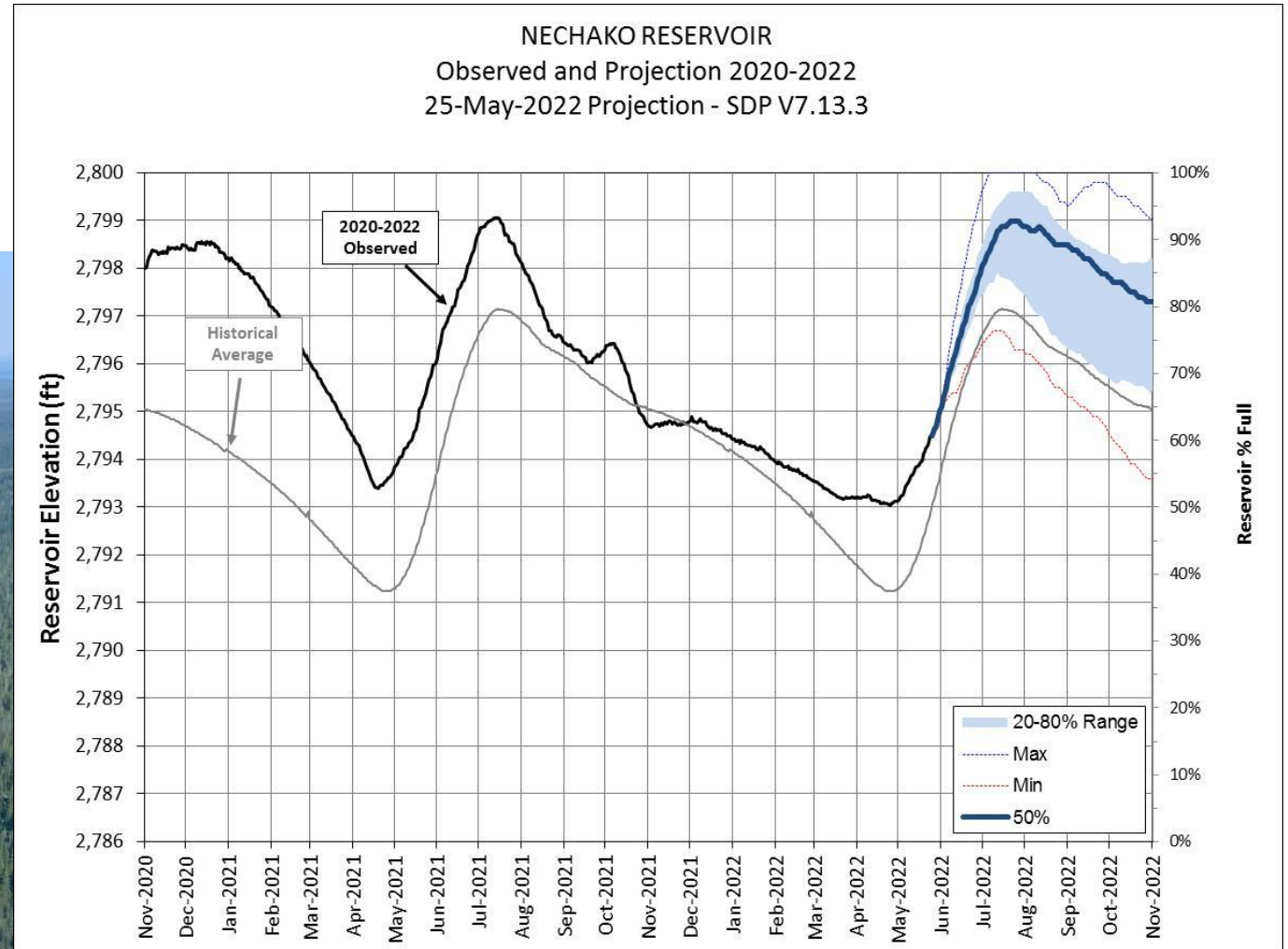


Forecast – Vanderhoof



Reservoir Level Projection

- Inflow projections are used to estimate reservoir levels over time considering current hydrology and historically observed additional snow and rain.



Next Steps – Actions



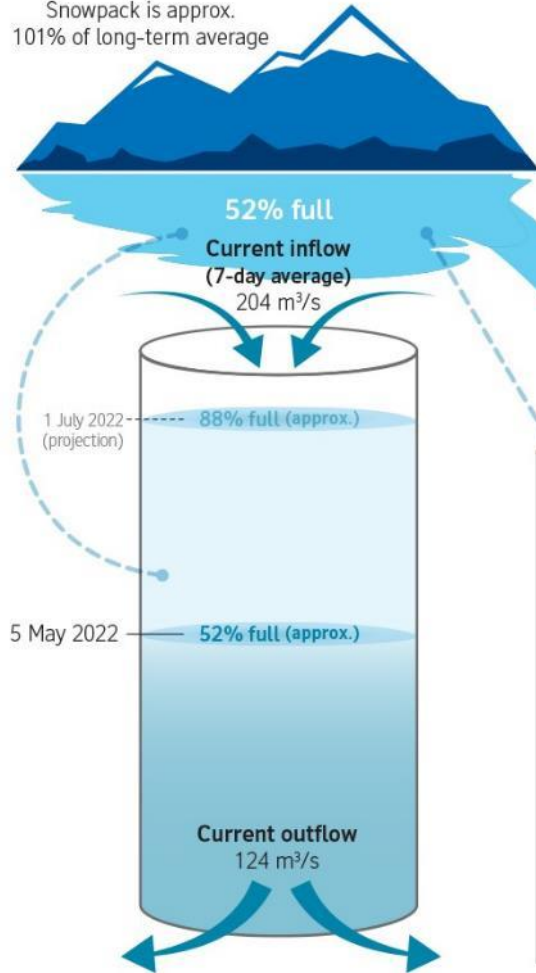
Photo: Avison

1. Model update and communications.
2. Monitoring work to learn from 2022 release
3. Continue to update on Smelter Re-Start
4. Confirm next meeting date – **18 May or 01 June**

Presentations are available on the Get Involved Nechako website under 'Our Operations'. Recordings can be requested up to 30 days following the meeting.

Current Conditions - 5 May 2022

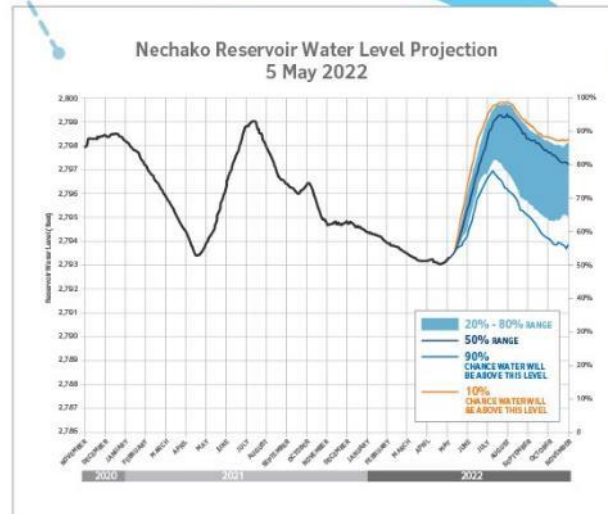
Nechako Reservoir
Snowpack is approx.
101% of long-term average



Nautley Watershed
Snowpack is approx.
101% of long-term average

Cheslatta Falls
59 m³/s

Nautley River
40 m³/s



Nechako Reservoir operations update

- Skins Lake Spillway discharge is being maintained at ~40 m³/s. Discharge will be increased to 49 m³/s when ice formations on Murray and Cheslatta Lakes recedes.
- For real time information and updates visit getinvolvednechako.ca
- To subscribe to weekly updates email us at nechakoreservoirupdates@riotinto.com

Stuart River
Snowpack data
is not available

Vanderhoof
126 m³/s

Stuart River
73 m³/s

Prince George
240 m³/s

Fraser River

Feedback & Reflections

