Water Level & Flow Update for the Lower Nelson River

Weekly Update # 17 May 1 2020

Lower Nelson River (Split Lake to Hudson Bay)

Watering up activities started at Keeyask on February 26, 2020. Impoundment activities have now been delayed to the fall of 2020.

Flows on the Nelson River are high as heavy Fall rainfall in the southern parts of the watershed flows north on its way to Hudson Bay - this will continue into the spring. Hydro system flows to Split Lake and the Lower Nelson River come from 2 sources – Lake Winnipeg (LW) outflows through Kelsey generating station (at 3020 cms or 106,700 cfs) and Churchill River Diversion (CRD) through Notigi control structure (860 cms or 30,400 cfs). These combined flows of 3880 cms (or 137,100 cfs) have been relatively constant since early December. The Nelson's flow downstream of Keeyask is 3220 cms (or 113,700 cfs) (measured at Limestone.) (See Map)

Nelson River flow depends on Lake Winnipeg Water level: Lake Winnipeg outflows are largely controlled by the Jenpeg Generating Station (upstream of Kelsey Generating Station). These flows are maximized every winter to allow as much water as possible to flow out of Lake Winnipeg to fuel generating stations on the Nelson River to meet heating demands by Manitobans. The maximum amount of water flow (termed maximum discharge) changes depending on the level of Lake Winnipeg – last year with Lake Winnipeg almost 2 feet lower, maximum discharge through Jenpeg was 65,000 cfs; while this year with the lake almost 2 feet higher, maximum discharge has been 90,000 cfs! Very similar conditions were experienced in Jan/Feb 2011 with Lake Winnipeg and Jenpeg outflows at similar high levels.

Map of Churchill and Nelson Rivers with control structures and generating stations.

As of April 29 Lower Nelson River lake and forebay levels are:

- Split Lake 167.71 m (or 550.2 ft)
- Clark Lake 167.20m (or 548.6 ft)
- Gull Lake 156.34m (or 512.9 ft)
- Stephens Lake 140.90m (or 462.3 ft)
- Long Spruce forebay 110.08 m (or 361.2 ft)
- Limestone forebay 85.04 m (or 279.0 ft)

Graphs of Split, Clark, Gull and Stephens Lakes and Nelson River flow are available on the following pages. Note Stephens Lake was drawn down and then brought back up due to a transmission outage.

Changing ice conditions at Split Lake's outflow through Clark Lake can cause water levels to fluctuate quickly on Split Lake as either ice forms and backs up water in the lake, or melts and releases more water downstream. Since early December water levels on these lakes have fluctuated due to ice conditions by about 2.5 feet, while hydro system operations have remained relatively constant.

This update is based on a combination of current and forecasted weather data from Environment and Climate Change Canada; recent and historic stream flow conditions based on both federal and Manitoba Hydro data.

If you have any questions or concerns, please contact:

Dale Hutchison-Waterway Community Engagement @ (204) 360-3505 or WCE@hydro.mb.ca.

More information on water level forecasts and current year actual outflows are on our website at:

https://www.hydro.mb.ca/waterlevels/

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Lower Nelson River Lake Levels and Flows to Split Lake (February 26 to present)

Note: All values shown above are daily averages. Gull Lake data is missing from April 25-28, 2020.

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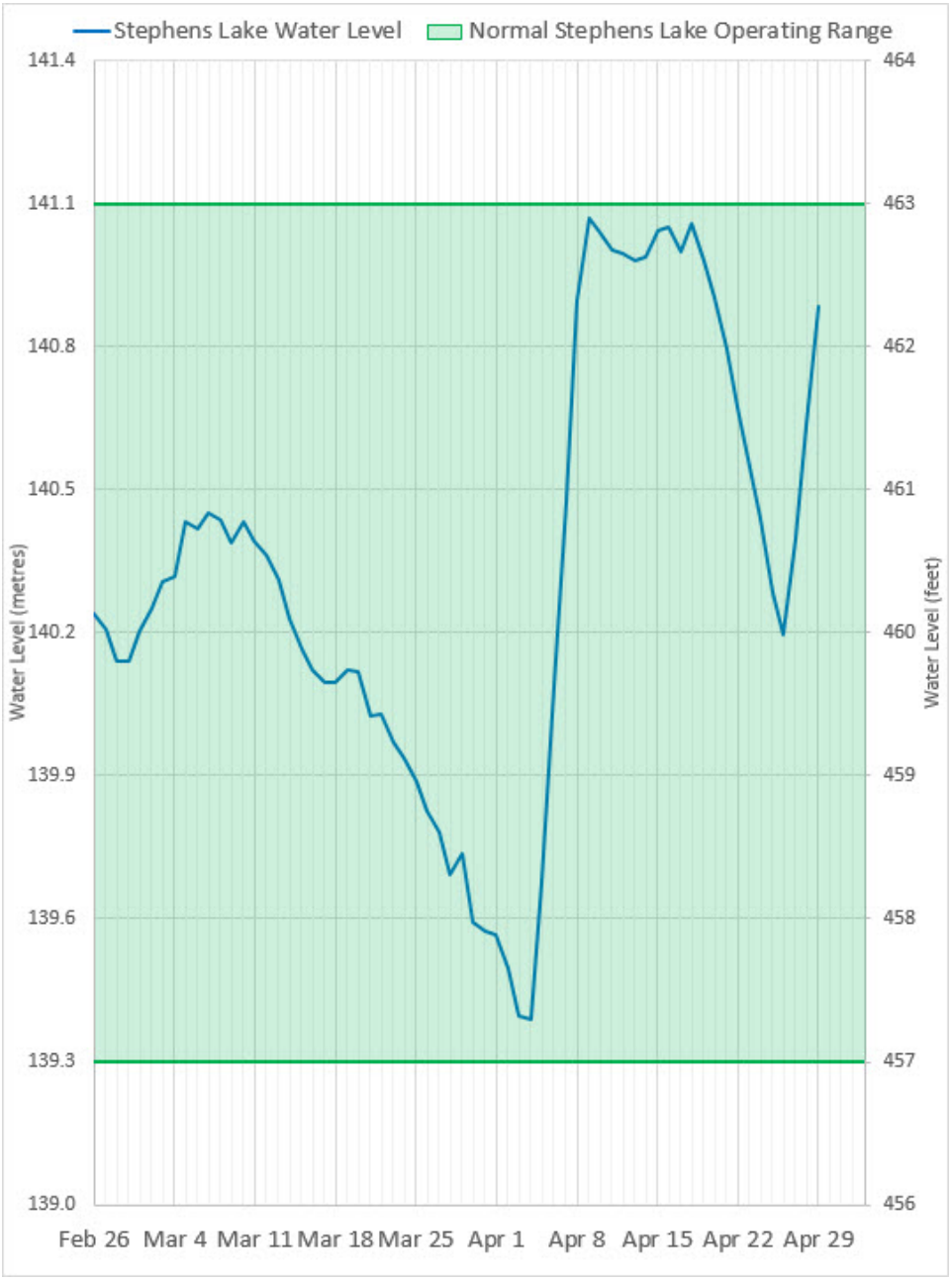
Stephens Lake Water Levels (February 26 to present)



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