

May 29, 2013 CEWF Update on Reservoir and Flow-Through Lake Water Levels

Unusually high water levels continue to exist on many reservoir and flow-through (RAFT) lakes, especially in the Gull River watershed. For reservoir lakes these can be monitored on the TSW website at http://www.pc.gc.ca/lhn-nhs/on/trentsevern/visit/ne-wl/trent_e.asp Unfortunately water level data are not available from the TSW for the flow-through lakes at this time.

On April 26th we reported that, according to Environment Canada, the heavy rains of April 18-19th contributed 40 – 50 mm of rain across the region with some locations informally reporting as much as 75mm. According to Environment Canada the average precipitation for all of April is 70mm and the historic extreme single-day event was 49mm of rain in 1956. We noted that the rain came at a time when the ground was still frozen in many places resulting in the rapid run-off of rainwater from the land into the lakes and rivers. In addition there was continuing run-off of snowmelt in most areas: this had already caused lake levels to rise significantly in the preceding week.

The net effect was an unprecedented volume of water entering the reservoir and flow-through lakes overwhelming the water management system's limited capacity and resulting in extensive flooding.

Compounding the situation, many lakes were still frozen: the combination of ice and unusually high water levels led to significant ice damage of docks and other shoreline infrastructure by the rising and moving ice-sheet. In addition, there were many road and culvert washouts – although most affected roads were made passable in record time by the affected municipalities.

In late May a second storm system affected a large area of the northern Trent watershed resulted in 88mm of rain being recorded by Environment Canada at their Haliburton gauge station between May 20-22. By this time the ground was no longer frozen. Although water levels again rose and flood warnings were issued, the water management system was able to handle this event much more effectively.

The Coalition applauds the efforts of Trent Severn Waterway frontline staff for their efforts to manage these unprecedented situations with limited resources.

The Coalition is compiling reports from its member lake associations on the April event and will be releasing the results shortly in an attempt to ensure that the lessons learned from this event are documented and can be heeded in future.

In the meantime the following preliminary observations may be made:

- With a few exceptions, such as the Hawk lakes, as of mid-April the

- reservoir lakes were filling normally and water levels were typical for the time of year;
- Had the April rains come ten days earlier the system would have been much more capable of handling the inflow;
 - The TSW dams on the reservoir lakes were not designed primarily as a flood control system and the capacity of the TSW infrastructure to mitigate against flooding, particularly in spring when the reservoirs are filling, is far less than previously realized;
 - That water levels on several RAFT lakes on the Gull system remained outside their normal operating ranges for more than a month after the April storm is indicative of the severity of the flow constraints in Minden and at Shadow Lake, and illustrates an inability of the system to recover from a single extreme event in a timely manner;
 - The two storm events one month apart provide an opportunity to assess the degree to which the frozen ground and snowmelt played a role in the April event;
 - Improvements to the water management system and infrastructure are required if we are to be able to better manage extreme weather events: however it will be important not to solve one problem (flooding) by creating another (e.g. lack of navigation due to not being able to fill the reservoirs in dry years like 2010 and 2012): there needs to be an integrated approach to water management at the watershed level for all seasons of the year;
 - Shoreline property owners on the reservoir and flow-through lakes and inter-connecting waterways were poorly served by Parks Canada and MNR in terms of communications relating to water management decisions by the TSW and flood alerts by the MNR: in contrast, residents within the area covered by Kawartha Conservation Authority had ready access to considerably more information because communications responsibilities appear to have been more clearly defined.

Footnote: The Coalition has refrained from commenting directly on the flooding in Minden and has focused on the effect of the storms on the watershed in general and the RAFT lakes in particular. Nonetheless CEWF is fully committed to supporting the efforts of Minden Hills and other municipal and county-level governments in seeking improvements in the water management challenges facing us all.