WLTF Report to MLA Members Issue 2017-7

Apr 13, 2017

Moving into the second half of April, extreme rainfall remains the sole risk for flooding of the Muskoka Lakes. Lake levels remain normal for this time of year but are rising in response to a 40mm rainfall and runoff from earlier this week. Levels above Spring normal are possible by next week due to predicted 25mm rainfall this weekend. The snow is gone, except in Algonquin Park, and the ground is thawing. Ice is mostly out in the lakes. Longer term prediction of precipitation effects remains difficult. As of yesterday the Ministry of Natural Resources and Forestry [MNRF] has a Flood Warning in effect for the Moon River/Bala Reach. Members continue to be advised to be prepared for high water due to potential rain and Bala Reach is advised to prepare for imminent flooding.

What does this mean to you?

The level of each property owner's docks above lake level is unique to individual circumstances. The MLA strongly encourages property owners to relate their docks/boathouses to the nearest Environment Canada water level gauge [Beaumaris for Lake Muskoka; Port Carling for Lake Rosseau; Bala for Bala Bay]. If possible, measure distance from top of dock to water level and obtain water gauge elevation from muskokawaterweb.ca website under "checking water levels on your lake" or http://www.muskokawaterweb.ca/water-101/water-quantity/checking-levels. Alternatively, the level can be guesstimated from summer levels provided below. The MLA appreciates that normal Spring level may be higher than some docks and that current water levels may allow wave action to wash over some docks now.

How we got here:

Snow stared early in winter and has produced above normal snow levels in the watershed. MNRF initiated more aggressive lake lowering starting Jan7th and had achieved a drawdown level comparable to last year by Feb 23nd, some two weeks earlier than last year. Unprecedented warmth in February and two rainfall events – Feb 24/25 and March 1 – led to a dramatic water level increase. The water levels were then at an all-time high, compared to all records from 2002 to 2016, from March 1 to March 15. Colder, drier weather in mid-March had allowed MNRF to lower Muskoka [at about 2cm/day] and Rosseau [at near 1 cm/day] to levels approaching this year's previous low. Three weeks ago, rainfall of near 25 mm [1 inch] halted the drawdown but also reduced the snow levels in the bush. Several subsequent rainfall events continue to cause increases in water levels.

Lake Muskoka Update:

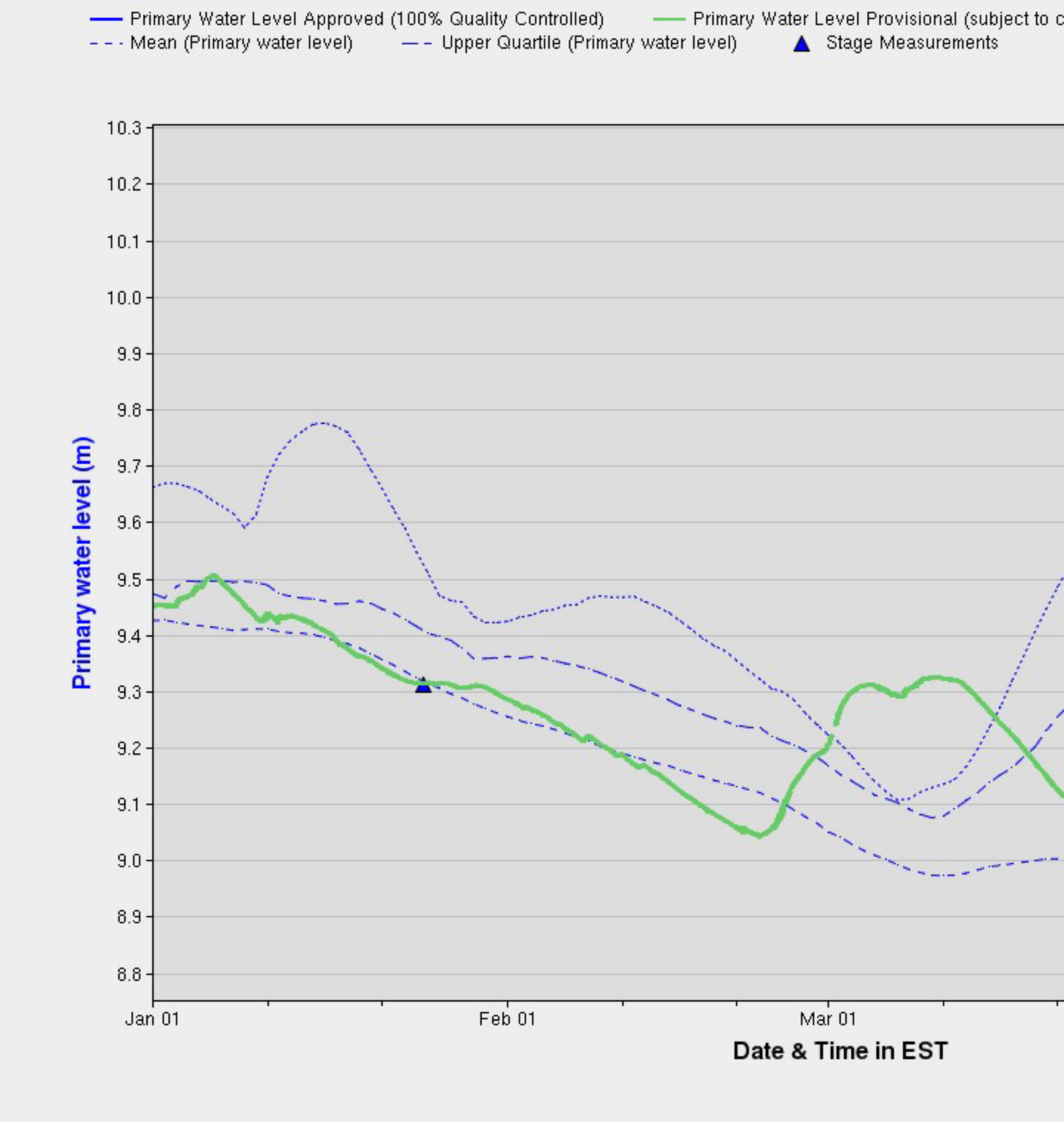
The graphs below show Lake Muskoka water levels are now 30 cm [12"] above the average levels for this time of year and rising in response to recent heavy rain. This lake level is 5 cm [2"] above the normal summer range and only 10 cm [4"] below the MRWMP normal Spring level [Gauge 9.8m]. Since last week the margin to Spring level has decreased by 35 cm [14"]. The ice is mostly out. Snow is gone and the ground has thawed. With thawed ground runoff will decrease significantly,

soaking in instead of running off. Last week's predicted high rainfall, in the amount of 40mm, did arrive. Lake levels will continue to rise as water from the upper reaches of the watershed work their way through the system after the recent rain. In addition, the forecast of a further 25 mm rain on the weekend will again bump up the water levels. Lake level above the normal Spring level are possible by mid next week. The watershed remains vulnerable to significant rainfall events.

Property owners continue to be advised to keep aware of changing weather conditions and to be prepared for imminent high spring water.

Figure 1: LAKE MUSKOKA – 2017 WATER LEVELS [meters above gauge 02EB018

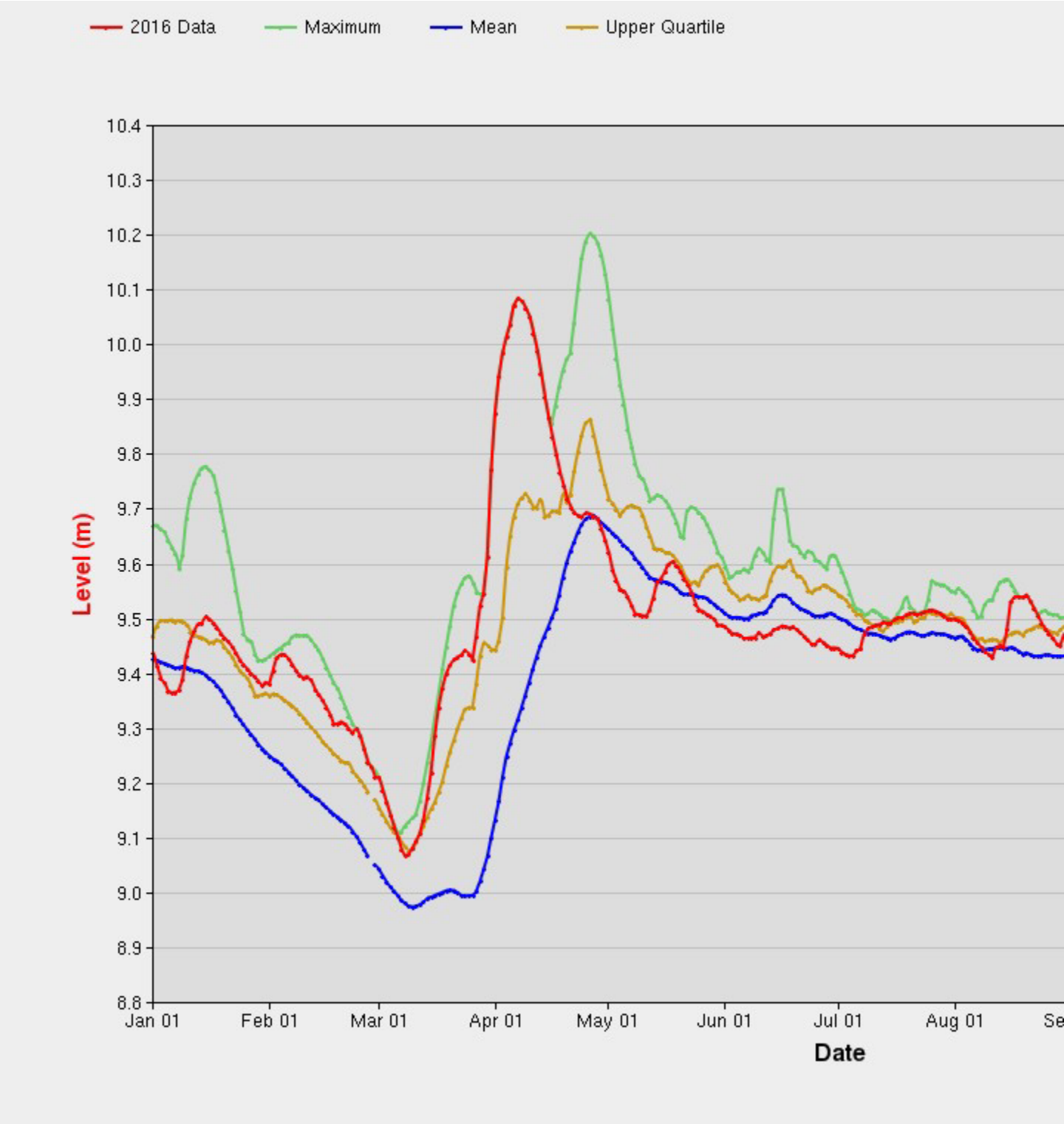
2017 actual – green line Average [2002-2016] – lowest blue dashed line



For reference, Normal Summer levels: 9.35m to 9.65m; Normal Drawdown level 8.95m; Flood Level 10.05m on above figure.

FIGURE 2 – Historic Water Levels for Lake Muskoka 2002 – 2016

Average [2002-2016] - blue solid line 2016 actual – red line Maximum [2002- 2016] – green line



MRWMP Flood Level = 10.05 m Top NOZ = 9.8 m for Mar 27 to May 16th

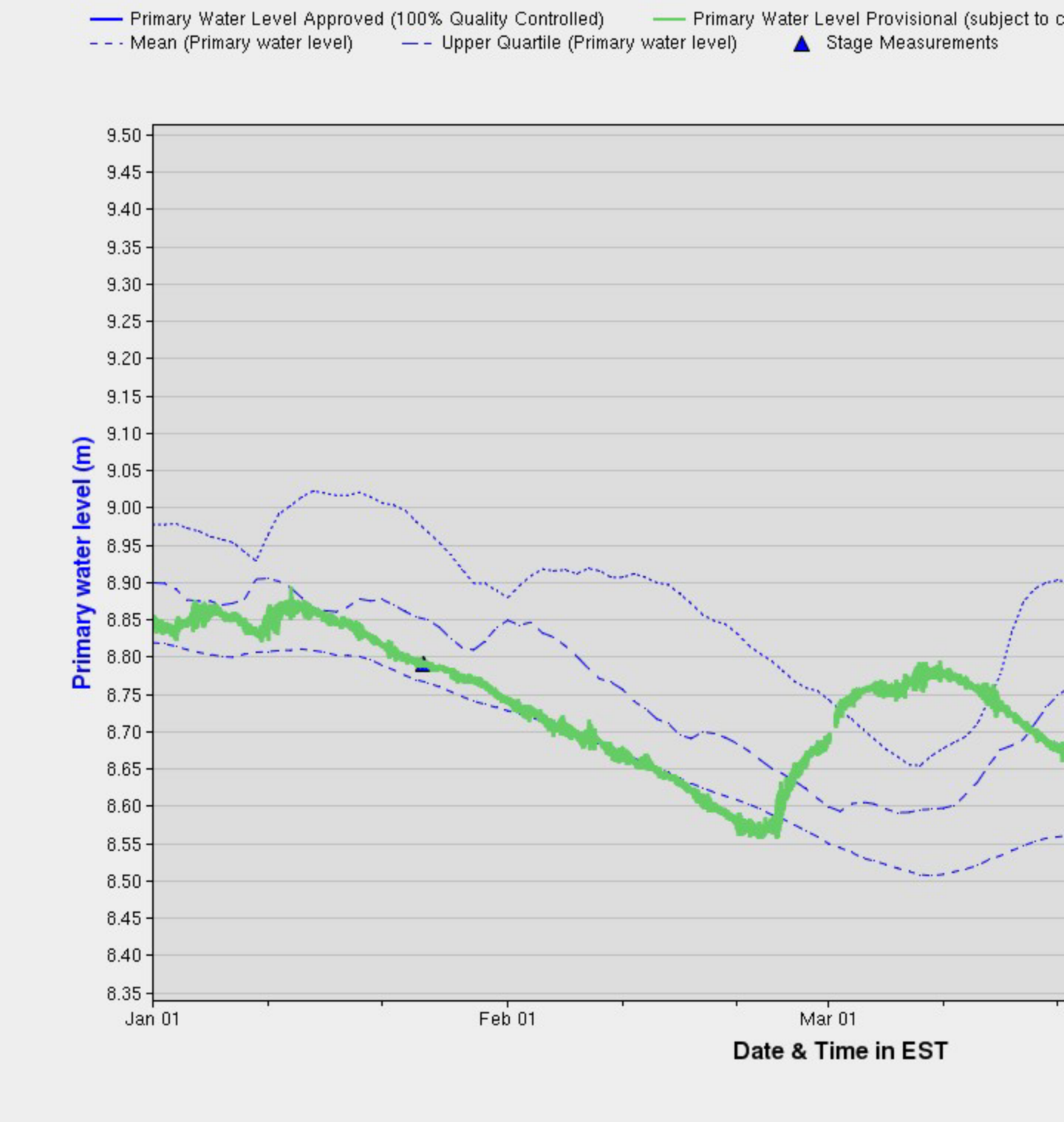
Lakes Rosseau and Joseph Update:

The graphs below show Lake Rosseau and Joseph water levels are now 20 cm [8”] above the average levels for the past 15 years and rising in response to recent heavy rain. This lake level is 7 cm [3”] above the top of the normal summer range and only 3 cm [1”] below the MRWMP normal Spring level [Gauge 9.13m]. Since last week the margin to Spring level has been almost completely eliminated. The ice is mostly out. Snow is gone and the ground has thawed. With thawed ground runoff will decrease significantly, soaking in instead of running off. Last week’s predicted high rainfall, in the amount of 40mm, did arrive. Lake levels will continue to rise as water from the sub-basin around the Upper Lakes drain into these lakes and are expected to rise above the normal Spring level [Gauge 9.13 m] over the weekend when 25mm rain is forecast. The watershed remains vulnerable to significant rainfall events.

Property owners continue to be advised to keep aware of changing weather conditions and to be prepared for imminent high spring water.

Figure 3: LAKE ROSSEAU/JOSEPH WATER LEVELS 2017 [above gauge 02EB020]

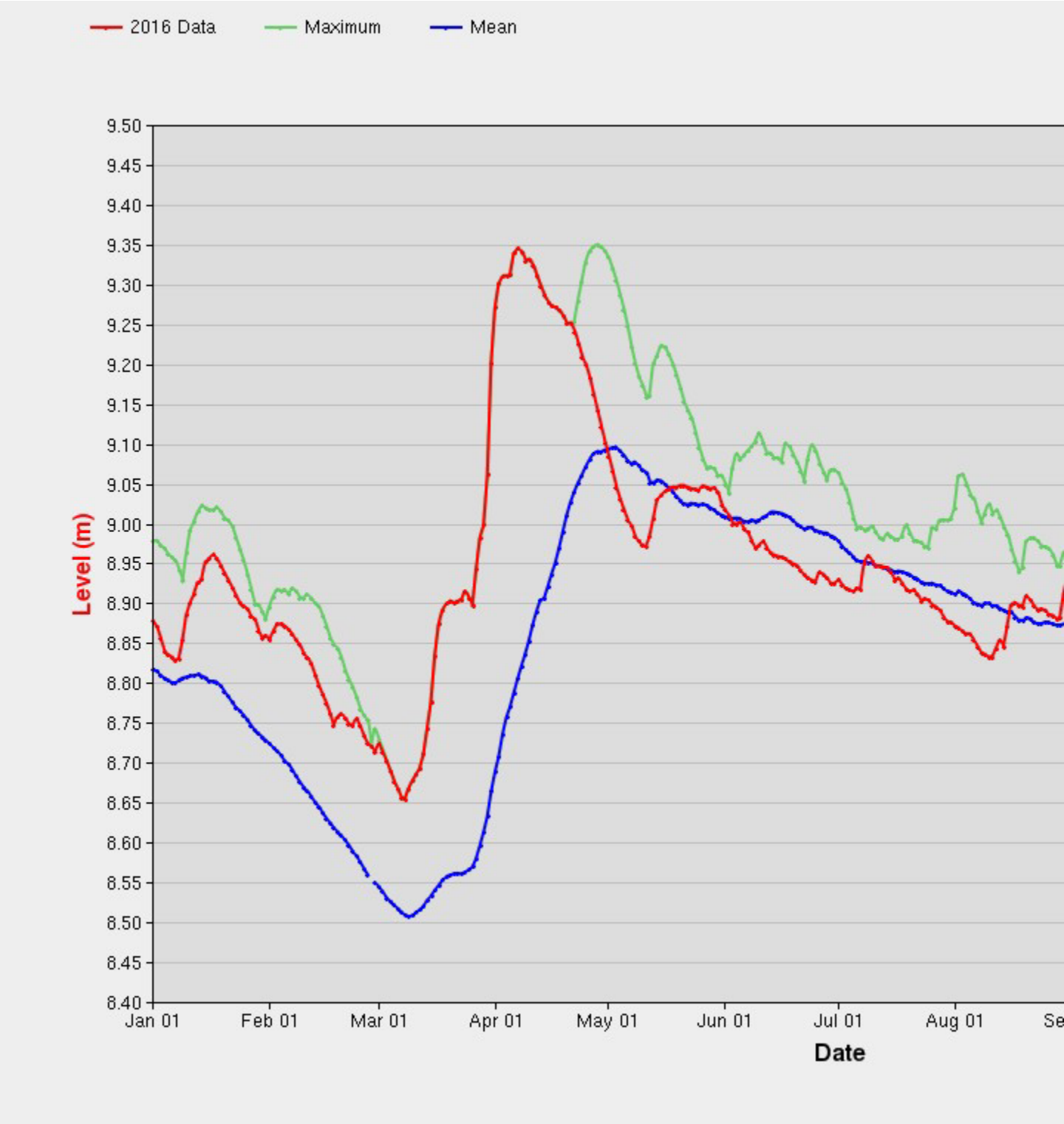
2017 actual – green line average [2002-2016] – blue dashed line



For reference, Normal Summer levels 8.88m to 9.03m; Normal Drawdown level 8.58m; Flood Level 9.28m on above figure.

Figure 4 - Historic Water Levels for Lakes Rosseau & Joseph 2002 – 2016

Average [2002-2016] - blue solid line 2016 actual – red line Maximum [2002- 2016] – green line



MRWMP Flood Level = 9.28 m Top NOZ = 9.13 m April 1 to May 20th

Bala Reach/ Moon River Update:

With significant rain since March 25th and again April 10th water levels in Bala Bay are now the highest they have been all since January 1st . Flows into the Bala Reach are now at or just above the 280 m^3/sec damaging level and will likely increase as high water is passed through the watershed system and a further 25mm rain is forecast for this weekend. Natural flow restrictions between the main part of Lake Muskoka and Bala Bay [at Wallis Cut, Jannocks narrows and Coulter Narrows] continue to cause a level difference of 35 cm [14"] with the main part of Lake Muskoka. A Flood Warning was issued by MNRF yesterday and remains in effect until next Tuesday, April 18th . Members are advised to keep aware of weather conditions and to be prepared for imminent flooding.

Snow Core information

Snow core data is no longer being taken by MNRF as the snow is essentially gone at measurement stations although some remains in Algonquin Park. Live video of the Park can be viewed at Friends of Algonquin Park webcam. Rainfall amounts now far outweigh snowmelt considerations.

Weather Information

The Weather Network forecasts significant rainfall of 25mm for Saturday. Cooling temperatures by mid next week may produce light snow. Temperature-wise, the current weather forecast calls for daytime highs over the next week ranging between 4°C to 16°C and overnight lows between -1°C to 10°C.

MNRF Statements

On Wednesday, April 12th MNRF issued a "Flood Warning" for the Moon River/Bala Reach area. A "Flood Watch" has been issued for the rest of the watershed. The flood watch means that the potential for flooding exists within specific watercourses.

Ice Damage

Several instances of boathouse/dock damage have been reported this year, following days when rapid temperature rise has caused the clear, uninsulated ice to expand and shove. The forces involved [on the order of 5 tons per lineal foot] far exceed the strength of normal shoreline structures. Ice expansion is dependent on the unusual coincidence of rapid temperature rise, clear ice without insulating snow cover and ice adhesion to the shoreline. Frequent thaws and rains have made these conditions more common this year. The damage has occurred at structures which did not have bubblers in place to provide a protective gap of open water beside the cribbing. Alternatively, cutting a trench in the ice beside the structure can also relieve forces from ice expansion. Members are advised to be aware of this damaging phenomenon which is unrelated to any wind or water level changes at the reported locations.

Summary

The Muskoka Lakes and Bala Reach remain vulnerable to rising lake levels as the recent rainfall works its way through the watershed. The current rate at which lake levels are rising plus predicted rainfall translates into lake levels above normal Spring levels by mid next week. Flooding is imminent in Bala Reach.

Shoreline property owners continue to be advised to take precautions to protect their shoreline structures and personal property.