

# WLTF Report to MLA

## Members Issue 2017-9

Apr 27, 2017

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**Since last Sunday a number of dry days has allowed lake levels to crest and start declining. The drawdown rate is slow and ranging from 1 to 2 cm per day for Lakes Muskoka, Rosseau and Joseph. Significant rainfall forecast for this weekend has the potential to erase part of the drainage gain made this week. Many docks remain underwater. The Ministry of Natural Resources and Forestry [MNR] downgraded its Flood Watch to a Warning for the North Branch of the Muskoka River and the District of Muskoka. Its Flood Warning for the Moon River/Bala Reach and South Branch of the Muskoka River remains in effect. Members are advised to act to mitigate damage from submergence and wave action. Also, if travelling by boat, go slow to avoid adding wake damage to already fragile shorelines and waterfront structures.**

### **What does this mean to you?**

The level of each property owner's docks relative to 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". 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 started early in winter and has produced above normal snow levels in the watershed. MNR initiated more aggressive lake lowering starting Jan 7th and had achieved a drawdown level comparable to last year by Feb 23<sup>rd</sup>, 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 MNR to lower Muskoka [at about 2cm/day] and Rosseau [at near 1 cm/day] to levels approaching this year's previous low. Four weeks ago, rainfall of near 25 mm [1 inch] halted the drawdown but also reduced the snow levels in the bush. Since late March a string of rainfall events have progressively increased water levels to flood level. Only this past weekend has water level crested and lake drawdown commenced.

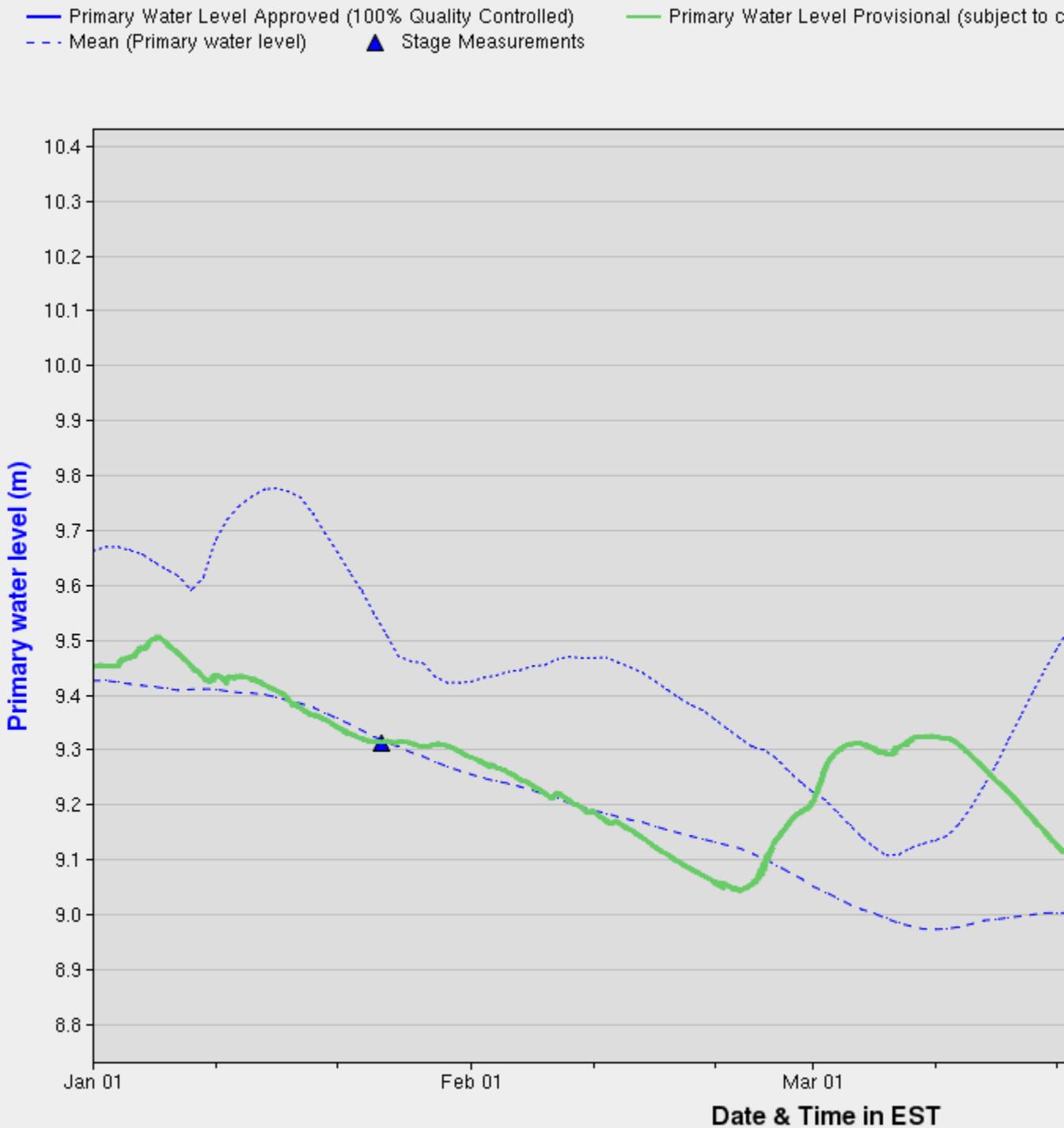
### **Lake Muskoka Update:**

The graphs below show Lake Muskoka water levels crested at 9.96m and have dropped 12 cm since then. This high water peak level was 16 cm [6"] above the Muskoka River Water Management Plan [MRWMP] Spring "normal" level [Gauge 9.8m]. Water levels are now only 3 cm [1"] above Spring "normal" and are declining by 2cm [just under 1"] per day. The prospects of 20mm of rain on the weekend may undo part of the drawdown gains made this week. Return to normal Spring levels could happen by next week. Continued progress of drawdown will be, as always, dependent on weather conditions.

Property owners are advised to take action to mitigate high water effects on their property.

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

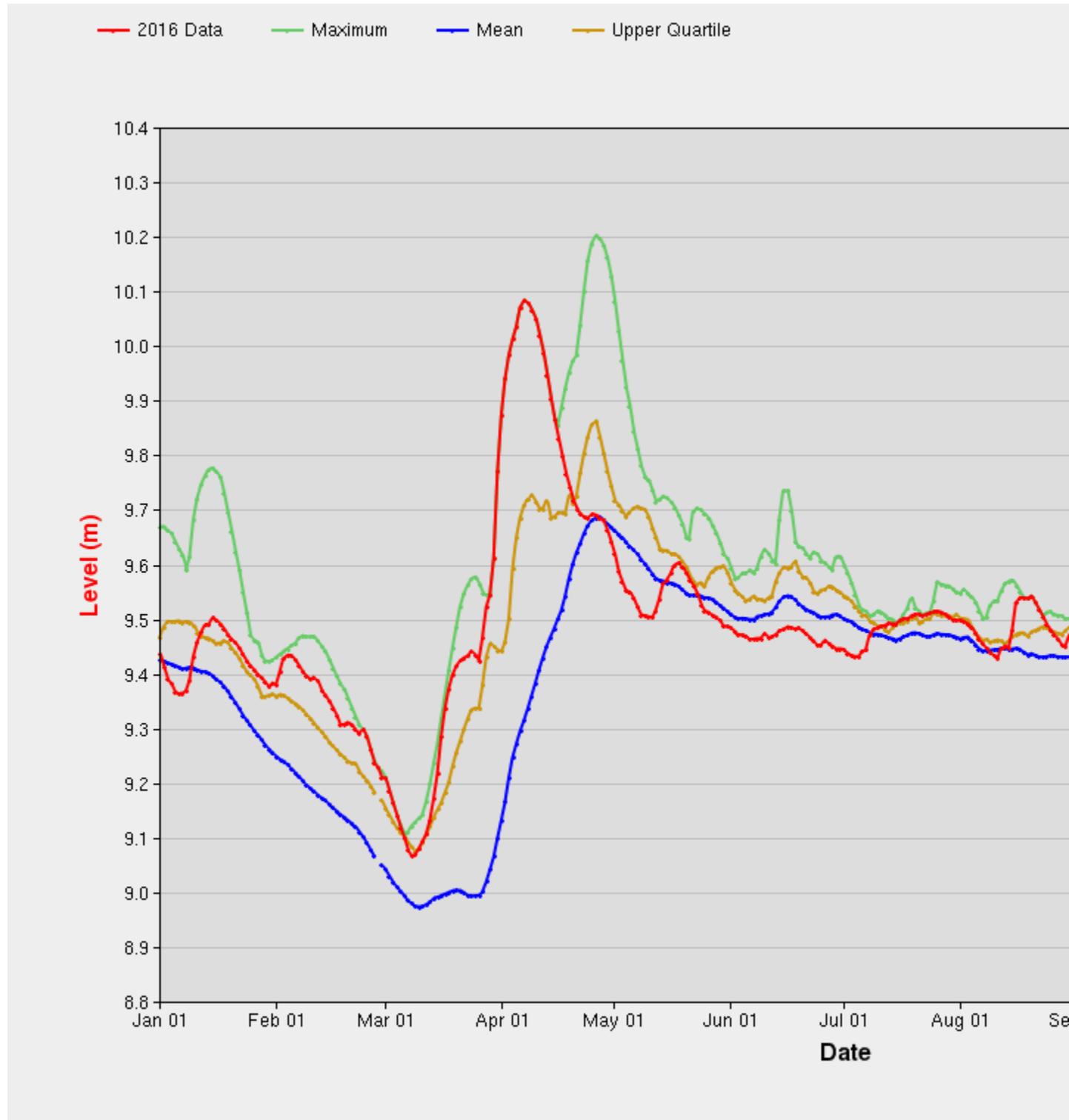
2017 actual – green line    Average [2002-2016] – lowest blue dashed line    Maximum – uppermost dotted blue line



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:**

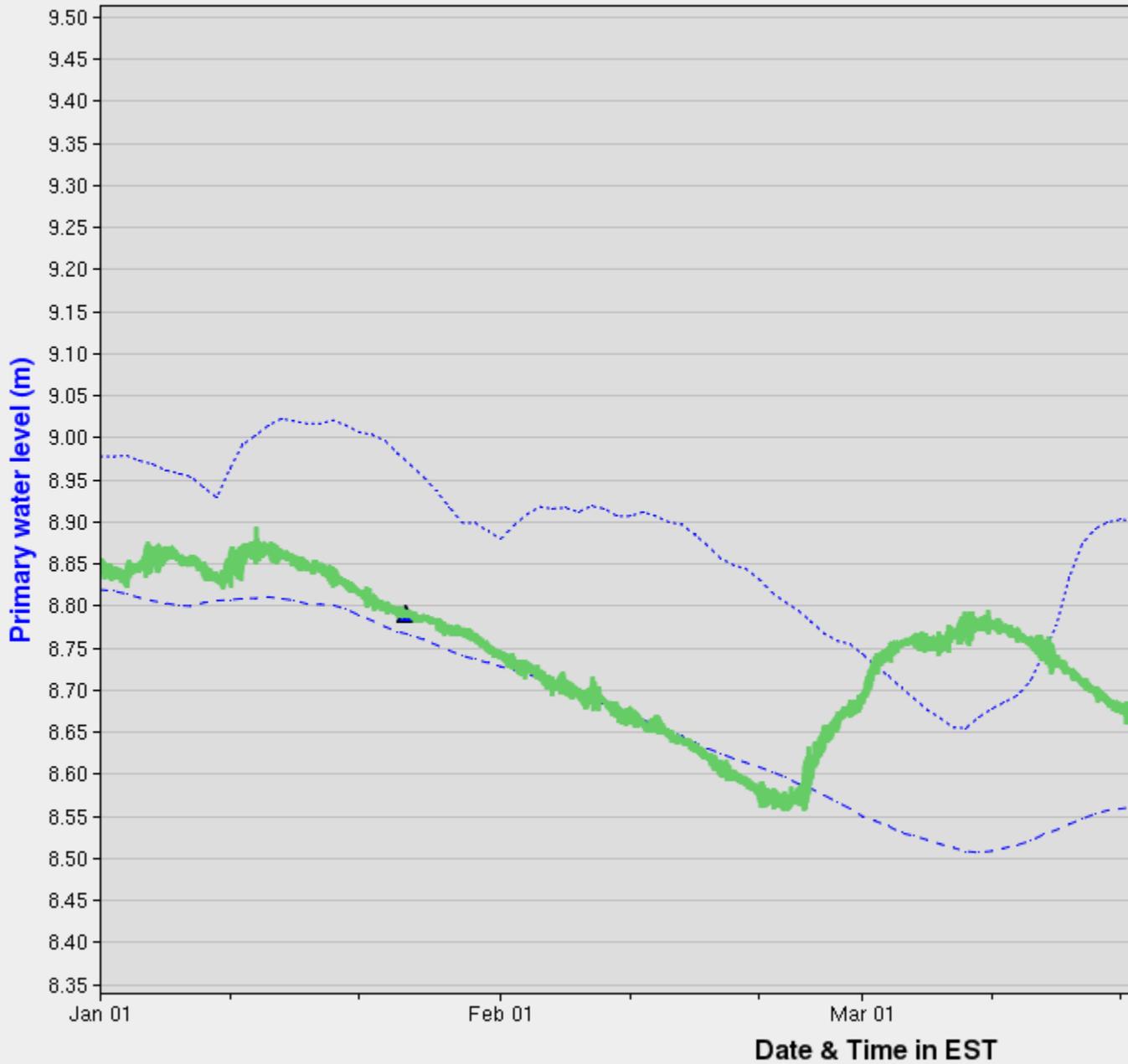
The graphs below show Lake Rosseau and Joseph water levels levels crested at 9.17m on April 22<sup>nd</sup> and have dropped 4 cm since then. This high water peak level was 4 cm [1-1/2"] below the Muskoka River Water Management Plan [MRWMP] Spring "normal" level [Gauge 9.13m]. Water levels are now at the top of Spring "normal" and are declining by about 1cm [1/2"] per day. The prospects of 20mm of rain on the weekend may undo part of the drawdown gains made this week. Return to normal Spring levels could occur by next week. Continued drawdown progress will be, as always, dependent on weather conditions.

Property owners are advised to take action to mitigate high water effects on their property.

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

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

— Primary Water Level Approved (100% Quality Controlled)    — Primary Water Level Provisional (subject to c  
- - - Mean (Primary water level)    ▲ Stage Measurements

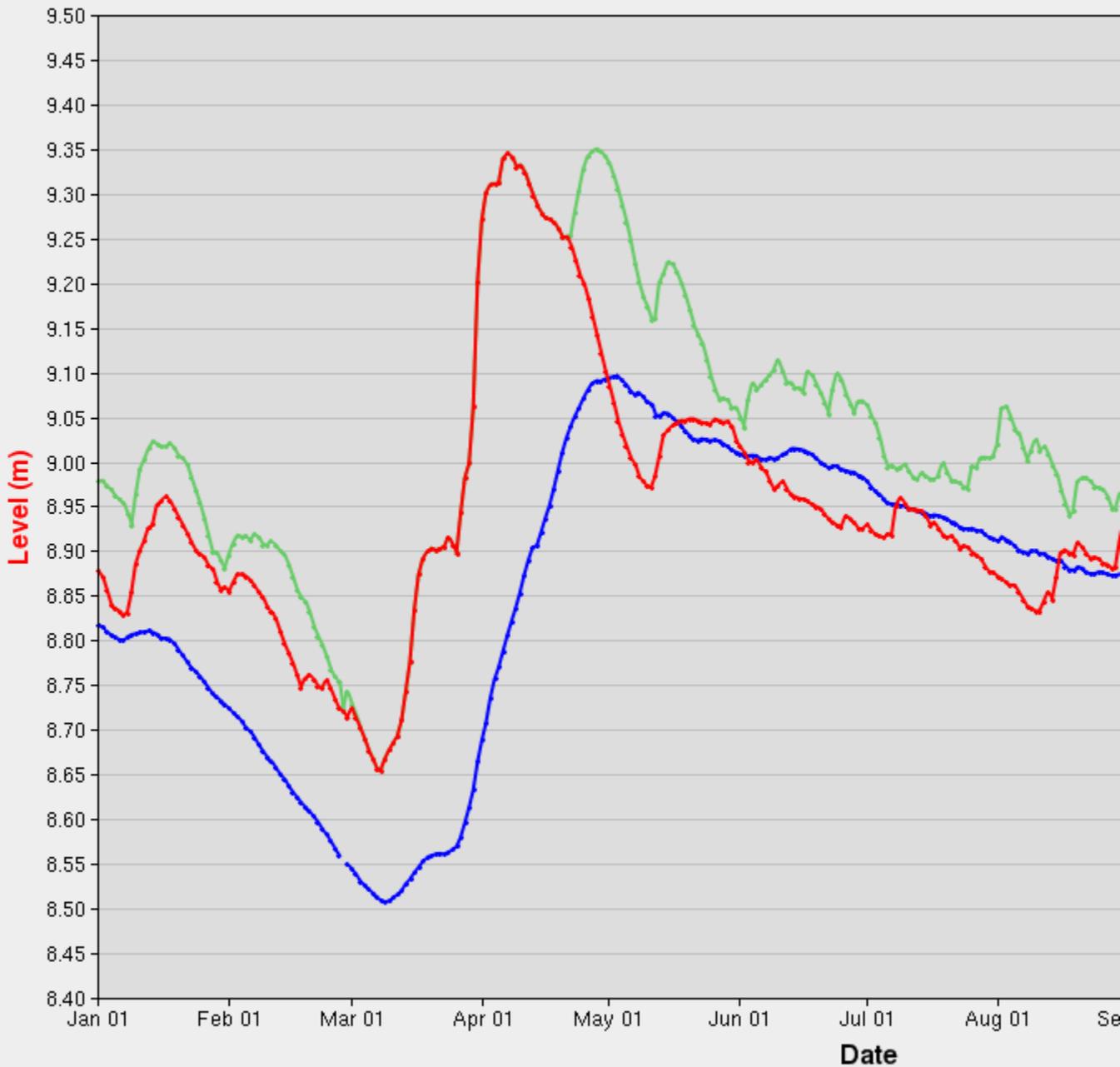


For reference, Normal Summer levels 8.88m to 9.03m; Normal Drawdown level 8.58m; Flood Level 9.28m on above figure.

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

— 2016 Data    — Maximum    — Mean



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

**Bala Reach/ Moon River Update:**

Flows into the Bala Reach are now starting to decline, as well. Gauges upstream of the dams show

a 10 cm decrease in water level. However, MNRF data received April 26<sup>th</sup> show flow at 321 m<sup>3</sup>/sec is still above flood level. A Flood Warning was re-issued by MNRF and remains in effect. These conditions are expected to last for as long as Lake Muskoka remains above “normal levels”. Members are advised to take action to mitigate effects of ongoing flooding.

#### Snow Core information

Live webcam review of Algonquin Park indicates that most of the snow has melted through the balance of the watershed.

#### Weather Information

The weather forecast for the coming week includes 20 to 25mm of rain on the weekend. The remainder of the week is expected to be dry. Temperature-wise, the current weather forecast calls for daytime highs over the next week ranging between 6°C and 25°C and overnight lows between 4°C to 12°C.

#### MNRF Statements

On Wednesday, April 26<sup>th</sup> MNRF issued a “Flood Warning” for the Moon River/Bala Reach area and the South Branch of the Muskoka River. 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

Although the ice is now out, members are advised that damage did occur over the winter due to ice expansion. 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

Flood waters have now crested and have been declining since last Sunday. Barring a major rainfall, continued decline to normal levels is expected over the next week for Lakes Muskoka, Rosseau and Joseph.

Flow through Bala Reach continues to exceed flood level, although there has been a minor decrease since the past weekend. Despite ongoing decreases in flow, flood levels are expected to continue through the next week.

Shoreline property owners are advised to take action to mitigate flood effects on their shoreline structures and personal property.