

# FALL 2014 INTERIM REPORT

# Seine River Water Management Plan

[www.seineriverwmp.com](http://www.seineriverwmp.com)

REPORT PERIOD: April 16, 2014 to November 15, 2014

## DRAFT

DECEMBER 18, 2014

### PREPARED FOR:

*Seine River Water Level Technical Committee*  
*Dog River-Matawin Citizen's Advisory Committee*

Ontario Ministry of Natural Resources  
Fort Frances District  
Thunder Bay District

### PREPARED BY:

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## BACKGROUND INFORMATION

The Effectiveness Monitoring section of the 2004 Seine River Water Management Plan calls for an annual report to be presented to the Lac des Mille Lacs Advisory Committee (LDMLAC) and to the Seine River Water Level Technical Committee (SRWLTC). In recent years, a full report has been presented to the SRWLTC in the Spring (usually in May) prior to walleye season opening, and an interim condition report has been issued as a mail-out in late Fall or early Winter. The Thunder Bay transferred the reporting requirement to the LDMLAC has been transferred to the Dog River-Matawin Citizen's Advisory Committee (DRMCAC).

## WEBSITE ACTIVITY

Commissioned on February 14, 2005, the H2OPower L.P. and Valerie Falls L.P. public web site continued to receive normal public usage over this years' open-water season with over 1472 unique hits to November 15, 2014.

The website provides WMP Objectives, system conditions (should they change significantly), and other information of interest to stakeholders. Graphs of actual and historical levels and flows, the history of the watershed, and descriptions of the dams – as referenced in this document – are all available on the website.

The site also has a Contacts page that can be used to send comments, questions, or suggestions to H2OPower L.P., Brookfield Renewable Energy Group (for Valerie Falls L.P.), or to the Atikokan Office of the MNRF.

## 1. REPORT ON CONDITIONS SPRING 2014 TO FALL 2014

### Overview

The spring 2014 freshet conditions arrived approximately 4 weeks late, resulting in a delayed but rapid recovery of the reservoirs.

### *Lac des Mille Lac*

- Late spring springtime conditions and a rapid snowpack loss (late April to early May) quickly brought the lake level above minimum summer-period levels by mid-May. Heavy rainfall in early June raised the water level by approximately 6 cm above the contemporary spring freshet maximum level.
- Fourteen (14) stop log operations were conducted via the Flood Ramping Rates to manage the water level during the freshet period, ranging between 2 m<sup>3</sup>/s and 71 m<sup>3</sup>/s for the freshet period.
- The periods of minimum discharge from the Seine Dam for the report period occurred between March 8<sup>th</sup> to May 2<sup>nd</sup> (~1.5 to ~3.0 m<sup>3</sup>/s) due to a late freshet, July 16<sup>th</sup> to 20<sup>th</sup> (~1.5 to ~3.0 m<sup>3</sup>/s). August 28<sup>th</sup> to September 10<sup>th</sup> (~1.5 to ~3.0 m<sup>3</sup>/s).
- Following a delayed spring freshet on the upper river, the minimum elevation a rapid and strong spring freshet brought the lake level to the top of the band by mid-May. A strong rainfall event in early June raised the water level above the contemporary upper limit, where it remained until inflows rapidly decreased in mid-June.

- Between mid-June to present, inflows have allowed for dam operations to maintain water levels within the compliance limits, with discharges from the Seine Dam ranging from 60 m<sup>3</sup>/s to 1.5 m<sup>3</sup>/s. Two brief late-summer rainfall events also briefly raised the water level above the contemporary FSL band (2 days apiece); this effect is expected after any significant rainfall or wind event.
- The below-average autumn precipitation at Upsala has reflected the generally low upper-river inflow trend, and the water level is presently tracking in the middle of the autumn water level band.
- As of October, 2009, Tramin, Inc., of Atikokan, has been contracted and trained by BRP to conduct the stoplog operations at the Seine Dam on Lac des Mille Lacs. Operations will continue to be prescribed by the BRP Water Resource Manager in Wawa, and contract management will be performed by the Valerie Falls G.S. operations staff.
- The new data control platform (DCP) for the remote access of water level readings at Pine Point Resort in had to be repair due to for reporting issues.
- Stop log operations to initiate the winter drawdown period occurred on November 4<sup>th</sup>.

### **Raft Lake**

- Raft Lake began to discharge near minimum flows on April 9<sup>th</sup>, 2014.
- On April 16<sup>th</sup>, 2014, H2O Power notified B. Jackson (OMNRF Atikokan) that a late freshet was being anticipated (similar to spring 2013). It was projected that the elevation level would breach the SRWMP lower prescribed elevation by April 24<sup>th</sup>, 2014.
- On April 24<sup>th</sup>, 2014, the projected elevation breach came to fruition. Thus, the elevation was non-compliant.
- Although temperatures were below normal during the winter of 2014, nearby watersheds (i.e. Rainy Lake, Namakan Lake & Lake of the Woods) were reporting a heavy snowpack. Weather forecast delivered statements that no significant rainfall was expected.
- On April 27<sup>th</sup>, signs that freshet had begun were apparent. Inflows at Raft Lake more than doubled overnight. The natural effects of freshet had brought the Raft Lake elevation within compliance on May 12<sup>th</sup>. Over the course of six (6) days, on May 13<sup>th</sup>, daily log operations were conducted to stabilize the elevation near the mid-band of the SRWMP prescribed level.
- On May 28<sup>th</sup>, MNR's Surface Water Monitoring Centre had forecasted zero precipitation over the next 5-days. On May 29<sup>th</sup>, the forecast changed dramatically. Projections were presenting approximately 60mm of precipitation over the next 5-days. By June 3<sup>rd</sup>, daily log operations were being conducted to prevent the forebay from rising near or above 415.500m. Outflows peaked near 165 m<sup>3</sup>/s on June 11<sup>th</sup>.
- On June 13<sup>th</sup>, H2O Power and MNR (Atikokan) agreed to adopt the following strategy:
  - If Raft Lakes elevation <415.50m, the dam discharge shall remain below 150 m<sup>3</sup>/s
  - If Raft Lakes elevation >415.50m, the dam discharge shall remain below 180 m<sup>3</sup>/s until all logs are installed and the discharge from the dam is uncontrolled over the weir.

This strategy was adopted until inflows were dissipating and trending downwards or the Raft lake elevation was within the operating range identified in the SRWMP.

- Conditions were normal by July 15<sup>th</sup>.
- Between September 7<sup>th</sup> and September 24<sup>th</sup>, debris had compromised the readings of the Raft Lake elevation gauge. The elevation remained compliant during this period.

- H2O Power has officially commenced its winter drawdown operation on November 21<sup>st</sup>.
- Overall, H2O Power filed three (3) non-compliance reports during this reporting period.

### **Lower Marmion Reservoir**

- No issues for this report period.
- The Sluiceway was opened for open-water conditions on May 15, and was closed November 14. A safety boom across the sluiceway openings is installed for the winter period. Leakage abatement measures may be required to maintain the Lower Marmion Reservoir's water level through the winter of 2014-15.

### **Colin/Little Falls Lake (Valerie Falls G.S.)**

- Four (4) non-Compliance events (minimum flows) occurred during the report period, all the result of external factors (*i.e.*, external transmission-caused faults). Pulsed natural inflow increases and decreases between mid-May and August saw generation operations intermittently at full capacity and spilling.

### **Calm Lake and Sturgeon Falls**

- Calm Lake & Sturgeon Falls were in compliance during this reporting period.
- The peak period for high inflows (inflows greater than the riparian flow of 150 m<sup>3</sup>/s) existed between May 25<sup>th</sup> and June 25<sup>th</sup>.
- Best Management Targets were exercised at Calm Lake by lowering the forebay elevation near the minimum operating level
- Section 11.2 of the SRWMP states that a flood condition is in effect when the Calm Lake outflow is >200 m<sup>3</sup>/s **AND** the water level was above 382.9 m. Flows at Calm Lake reached a peak discharge of 212.6 m<sup>3</sup>/s but remained well below the 382.9 m threshold. Between May 25<sup>th</sup> and June 25<sup>th</sup>, the maximum elevation was 382.357 m and the mean elevation was 382.285 m.
- Several public complaints were received from residents on Perch Lake. Each individual presented concerns regarding high elevation levels.

## **2. GENERAL COMMENT ON WMP OBJECTIVES RELATIVE TO SPRING, SUMMER AND FALL 2014 CONDITIONS AND OPERATIONS**

### **Objectives for Aquatic Ecosystems, Navigation, Recreational and Social, and Flood**

LDML and Raft Lake levels are presently being managed for a normal winter drawdown.

Out of Plan water levels (higher and lower than Plan) reflected an appropriate operational response to the inflow conditions experienced during the spring and summer period.

Throughout the reporting period plan levels and flows were generally achieved, with exceptions and challenges noted above. Constant and/or rising water levels were achieved when practicable during the spring 2014 walleye spawning, incubation and hatching period of April 15<sup>th</sup> to June 15<sup>th</sup>.

As per the Plan objectives, stoplog operations were conducted within each Operating Plan Schedule to minimize sudden changes in discharge. The number of stoplog operations for each control facility for the period April 16<sup>th</sup> to November 15<sup>th</sup> is tabled below:

STRUCTURE	# OF STOPLOG OPERATIONS
LDML dam	42 ops involved 165 logs
Raft Lake dam	26 ops involved 81 logs
Lower Marmion Sluiceway	2 visits involving 9 logs
Calm Lake G.S.	13 ops involved 124 logs
Sturgeon Falls G.S.	14 ops involved 114 logs

VFLP and Brookfield Renewable Energy Partners L.P. presently maintain representation on the Dog River-Matawin Citizen's Advisory Committee and are prepared to receive Seine River watershed-specific questions at any time.

### 3. SITE CONDITIONS REPORT

#### Power Production: Spring 2014 to date

Please refer to the website for water level and flow charts for each generating station and reservoir.

Valerie Falls experienced approximately 6 days of moderate spill due loss of generation capacity during maintenance and transmission system outages, and approximately 67 days of spill due to natural inflow conditions exceeding station capacity.

**Valerie Falls G.S.** Water Management Plan operational, level, and flow objectives were met during the report period. Valerie Falls is currently operating at~ 60% of its rated capacity. Energy production for the period January 1, 2014 to November 15, 2014 was ~108 % of forecast.

#### **Calm Lake G.S.**

119 days of spill was required due to inflows being greater that the total turbine discharge capacity. Included in those 119 days were 29 hours of lost power production due to planned and forced unit and/or transmission outages.

Water Management Plan operational, level and flow objectives were met during the report period. Generation was maximized between April 16<sup>th</sup> and August 29<sup>th</sup>. Modified peaking occurred between August 30<sup>th</sup> and October 17<sup>th</sup>. Full capacity resumed thereafter. Overall, energy production was favourable this calendar year.

#### **Sturgeon Falls G.S.**

118 days of spill was required due to inflows being greater that the total turbine discharge capacity. Included in those 118 days were 31 hours of lost power production due to planned and forced unit and/or transmission outages.

Water Management Plan operational, level and flow objectives were met during the report period. Generation was maximized between April 16<sup>th</sup> and August 29<sup>th</sup>. Modified peaking occurred between August 30<sup>th</sup> and October 17<sup>th</sup>. Full capacity resumed thereafter. Overall, energy production was favourable this calendar year.

#### 4. FORECAST FOR LATE FALL 2014 TO EARLY SPRING 2015

Conditions at this time indicate that the fall freshet period will be below average, with managed efforts required to maintain levels and flows within Plan requirements during the winter period.

Winter forecasts (Dec-Jan-Feb) have signaled below normal temperatures and near normal precipitation for Northwestern Ontario. However, above normal temperatures may be experienced from time to time but short lived.

Assuming inflows remain at or above 0 m<sup>3</sup>/s through the winter period, there is enough stored water in the Lac des Mille Lacs Reservoir to support an average discharge ~7 m<sup>3</sup>/s from this report date to April 15, 2015, all other things being equal.

Raft Lake saw inflows that were 13% below normal during fall 2014 (Sep-Oct-Nov). Given the current conditions combined with a forecast of below normal winter temperatures, inflows are expected to remain below normal until early spring 2015.

At the 2012 meeting of the SRWLTC, VFLP was asked by the Committee to end the ice-control practice below LDML along the Sapawe Road (*i.e.*, creating a short period of high flows from LDML during the late-winter drawdown) in the interests of public safety for those users that access the river ice cover as a late-winter travel corridor.

#### 5. SUMMARY

Despite highly variable inflows during the early part of the report period, H2O Power L.P. and BREG are generally pleased with the management of the period described. Out of plan events were managed within the limits of normal control, and were broadly consistent with the seasonal conditions and trends. Log operations targeted an incremental and responsible response to unusual conditions and reflect the principle of “good management practices” prescribed in the Seine River WMP.

#### Pre-Meeting Update

The Annual Report will be distributed prior to the next SRWLTC spring meeting, which is usually scheduled in late April or May of each year, or prior to the late-winter meeting should one occur.

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*December 19, 2014*