

Lac des Mille Lacs Water Level and Discharge Report

*Interim Report
April 16, 2011 to November 15, 2011*

presented to the

Dog River-Matawin Citizen's Advisory Committee

November 9, 2011

DRAFT

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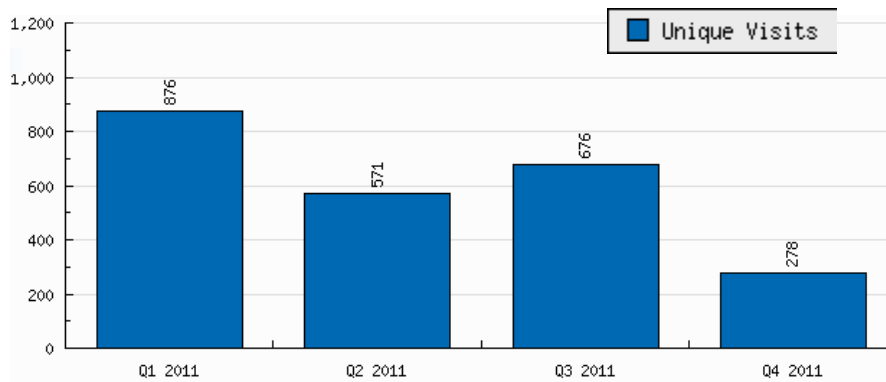
Lac des Mille Lacs Water Level and Discharge Report

April 16, 2011 – November 15, 2011

Please refer to the attached graphs and tables representing Lac des Mille Lacs (LDML) water levels and discharges from the Seine Dam (LDML dam) for 2011. Please also refer to the attached overview of the Seine River System, and the graphical representation of the Seine Dam indicating the current elevation of the lake, current stoplog placement, points of discharge, and notes that explain operating assumptions and targets.

Website Activity:

Commissioned on February 14, 2005, the AbitibiBowater and Valerie Falls Limited Partnership public web site (www.seineriverwmp.com) continued to receive public usage over the 2011 open-water season with over 2,401 unique hits to November 7, 2011.



The site 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, are all available on the website.

The Seine River Water Management Plan can be downloaded from the website as a PDF-format document. When flow or levels are out of compliance with the plan parameters, background information will be provided on the website or in the semi-annual reports. The site also has a Contacts page that can be used to send comments/questions/suggestions to H2O Power LP, Brookfield Renewable Power (for Valerie Falls L.P.), or to the Atikokan MNR.

This report below makes reference to the Seine River Water Management Plan and the plan's Operating Plan Objectives. A copy of the plan can be downloaded from the website.

LDML Conditions during the report period

Please refer to Figure 2 (attached) for the water level and discharge graph for the reporting period. No non-compliant incidents were logged during the reporting period.

Weather Conditions

- Precipitation from May to August at Upsala was generally low but persistent. However, two significant storm events resulted in the bulk of June and July's rainfall being received on one day in each month: June 27 (55 mm) and July 20 (70 mm). The Upsala rain gauge record should be viewed as an incomplete account, as it was intermittently out of service throughout the report period.
- While above-average precipitation in October has allowed for a moderate late-autumn recharge of the reservoir water level, the duration and magnitude of the effect of the precipitation on upper-watershed inflows has been significantly less than expected.

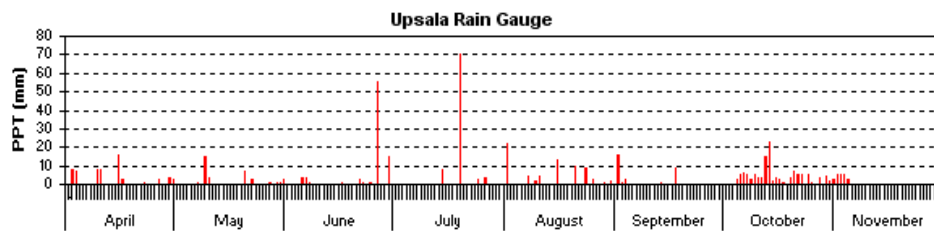


Figure 1. Upsala daily precipitation, April to November, 2011 (En.Can.)

Lac des Mille Lac Conditions

- Following a slightly delayed spring freshet on the upper river and a rapid snowpack loss (late-March to mid-April), a rapid but moderately weak spring freshet brought the lake level to the middle of the band by mid-May. Inputs from the two strong rainfall events noted above were adequately attenuated by the available storage.
- Operations to maintain the steady or rising period (April 15 to June 15th) were surprisingly successful - given the minor amount of rainfall in May and June - with the water level only varying by $\sim \pm 5$ cm during the later-half of the steady or rising period.
- Discharges from LDML peaked in early May while downstream peak inflows were decreasing along the Sapawe Road (28 m³/s, see figure below), and so downstream road flooding was minor.
- Long-term average Inflows to LDML for the report period are approximately 11 m³/s, while inflows for the same period in 2011 are 3 m³/s (*i.e.*, 27 % of long-term average conditions).

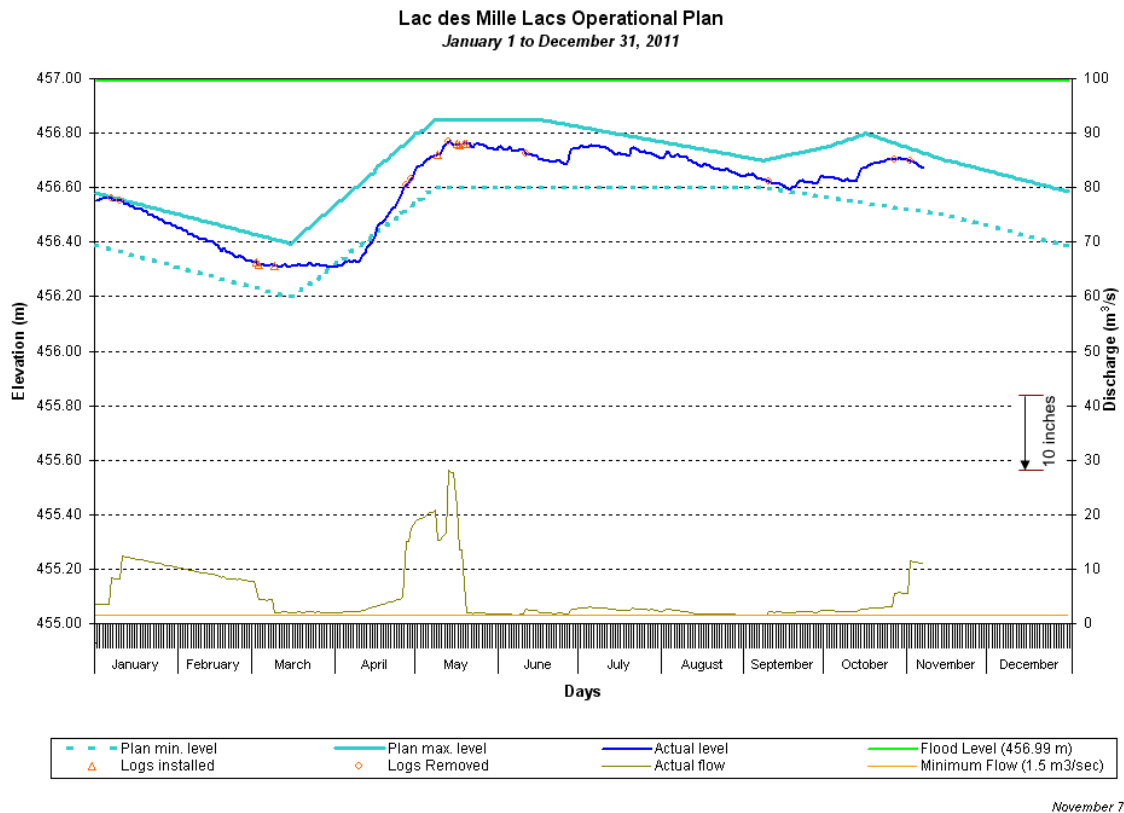


Figure 2. Water levels and discharge conditions (2011), Seine Dam

- Discharge from the dam between mid-May to present were necessarily kept at or near minimum flows ($1.5 \text{ m}^3/\text{s}$) in order to maintain water level conditions within the compliance band.
- The present 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.
- The maximum discharges for the report period occurred between May 13th and 15th ($28 \text{ m}^3/\text{s}$). The periods of minimum discharge from the Seine Dam occurred between May 20th to October 26th (~ 1.5 to $\sim 3.0 \text{ m}^3/\text{s}$).
- Stoplog operations to tentatively begin the winter drawdown period occurred on October 27th and November 2nd.

Operational Notes

- Minor maintenance to the new gauge was performed in late July to mid-August. The second DCP provided continuous backup service during this period.
- Refer to Figure 3 at the end of this report for a summary of current log settings and operating conditions at the LDML dam.

Result of Planned Operating Strategy for LDML

From April to November the WMP priorities are as follows:

- minimize the risk of flood,
- maintain constant or rising levels and flows for walleye spawn,
- recover the lakes to summer levels,
- maintain water levels for navigation, recreation, and social opportunities,
- manage a late summer drawdown,
- where practical, manage a September/October lake level recovery to support winter power production at the three downstream water power stations.

Water levels were maintained well-within the operating band throughout the entire summer and fall period.

The late fall-freshet did not allow for a normal autumn recovery of the lake to water level and inflow conditions normally anticipated for the normal winter support of the downstream power stations. Water levels are presently trending within late-fall freshet conditions.

Compliance Monitoring

Compliance Item	Period	Variation from WMP	Comments
<i>Water Levels</i>	In compliance		
<i>Flood Freeboard</i>	In compliance		
<i>Flows</i>	In compliance		
<i>Minimum Flow</i>	In compliance		
<i>Constant and/or rising April 15 to June 15</i>	In compliance		

Downstream Conditions and Forecast

- The present inflow rate from the LDML dam is approximately $-2 \text{ m}^3/\text{sec}$, and the dam is discharging approximately $11 \text{ m}^3/\text{s}$, both of which are well-below post-fall freshet norms. Flows will be reduced or increased as required to maintain the water level within the compliance band and maintain compliant levels through the 2011 and 2012 winter drawdown period.
- In the absence of additional precipitation inputs to the system, discharges at the Dam may necessarily be maintained within a range of 2 to $7 \text{ m}^3/\text{s}$ for the remainder of the drawdown period.

- It's expected that the Marmion Sluiceway will be closed in late 2011 or early 2012, to maintain the water level needed by the Atikokan OPG Generating Station for its proper operating conditions.

Power Production

- Valerie Falls is currently operating at 20 % of capacity. Energy production for the period April 1 to November 7, 2011, was 64 % of forecast.

Other Issues - Water Level Comments, Concerns, and Dam Security

- During the report period Valerie Falls received few comments and inquiries from the public regarding water levels and discharge rates.
- No trespassing incidents were noted at the Seine Dam site in 2011.

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LDML Water Level Report - Seine Dam Status - November 7, 2011

4	Slot 1	Slot 2	Slot 3	Slot 4	Slot 5	Slot 6	Slot 7	Log #
3								8
2								7
1								6
								5
								4
								3
								2
								1
	Log #							Log elevation (m) taken from top of log
	1							(top of log)
	2							456.99
	3							456.69
	4							456.39
	5							456.09
	6							455.79
	7							455.49
	8							454.89
								Sill Level - 454.59 m
								Present water level is 456.68 m
								Top of Deck Level - 458.25 m

Notes

- 1) All elevations are in metres above sea level.
- 2) Logs are 0.3 metres high and there are 56 logs available for use (8 for each slot).
- 3) On November 7 there were 10 logs out.
- 4) Actual discharge (outflow from the lake) with the above 10 logs out is approximately 10.9 cubic metres per second (m³/s).
- 5) Leakage flow between stoplogs during the winter months was approximately 0.85 m³/s.
- 6) Inflow to LDML on November 7 was approximately -2 m³/s.
- 7) The lake level is currently at 456.68 m and slowly decreasing.
- 8) The long term average annual discharge from LDML is 11 m³/s. The average discharge for the report period ~ 4.5 m³/s.
- 9) Where safe and practical, log operations will respond to the operating parameters of the Water Management Plan.
- 10) Drought and flood response log operations to be directed by the MNR.
- 11) As of October, 2009, Tramin Inc. of Atikokan has been contracted by BRP to conduct all-season stoplog operations at the LDML Dam. Flow monitoring and stoplog orders will continue to be directed by BRP's water management staff (Wawa office), and operational supervision and training will be coordinated via BRP's Valerie Falls G.S. operations staff.
- 12) The new water level Data Control Platform (DCP) at Pine Point Resort went online on October 31, 2009. The existing station will continue to be used as a backup until it fails, at which time it will be removed from Pine Point Resort property. A similar station was installed at the Lower Marmion Gaugehouse on November 1, replacing the manual gauge.

Figure 3. Seine Dam Conditions, November 7, 2011.



Public notice
Spring is here, stay clear!

Brookfield Renewable Power encourages the public to stay clear of the rivers and reservoirs in early spring when ice conditions are unpredictable and dangerous. The annual spring run-off can result in rapid changes in water levels that may flood areas that are normally dry.

Brookfield Renewable Power reminds water recreation enthusiasts that this time of year marks high water levels and to use extreme caution when in the water.

Stay safe !
Always stay a safe distance from the hydropower dams, stations and waterways. www.brookfieldpower.com


Avis public
C'est le printemps, soyez prudent !

Énergie renouvelable Brookfield vous invite à vous tenir loin des rivières et des réservoirs au début du printemps alors que l'état des glaces est imprévisible et dangereux. La crue printanière peut modifier rapidement le niveau de l'eau et inonder des endroits habituellement secs.

Énergie renouvelable Brookfield rappelle également aux utilisateurs des rivières qu'ils doivent faire preuve d'une extrême prudence en raison des niveaux d'eau élevés.

Soyez prudent !
Éloignez-vous des barrages et des centrales hydroélectriques. www.energiebrookfield.com

Brookfield

**abitibi
bowater** 

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PUBLIC NOTICE
Seine River System Levels and Flows
(Posted October 2, 2011)

There are no public notices at this time.

Figure 4. Notices posted to www.seineriverwmp.com website in the open water period of 2011