

**Appendix 2: Meliadine Lake Outflow Monitoring – Update July 2026 (Reference: DFO
Comment on T&C30)**

MELIADINE LAKE OUTFLOW MONITORING

UPDATE - JULY 2026

Context

The Meliadine Lake discharge is divided into two outflows that drain into two distinctive river systems (Table 1 and Figure 1). Most of the drainage takes place at the southwest outflow, and secondary at the northwest end of the lake. A 3-year monitoring program of the two outflows was initiated in 2024 to better understand the hydrology dynamics of Meliadine Lake and ultimately refine the understanding of the Meliadine Mine's water withdrawal potential impact on Meliadine lake.

Table 1. Location details of the two Meliadine Lake outflows.

Details	Northern Outflow	Southern Outflow
Latitude DMS	63° 08' 11.30" N	63° 02' 4.07" N
Longitude DMS	92° 31' 44.56" W	92° 23' 43.51" W
Depth	0.60 m	0.54 m
Width	~50 m	~100 m
Distance from Meliadine Mine	22 km	12 km

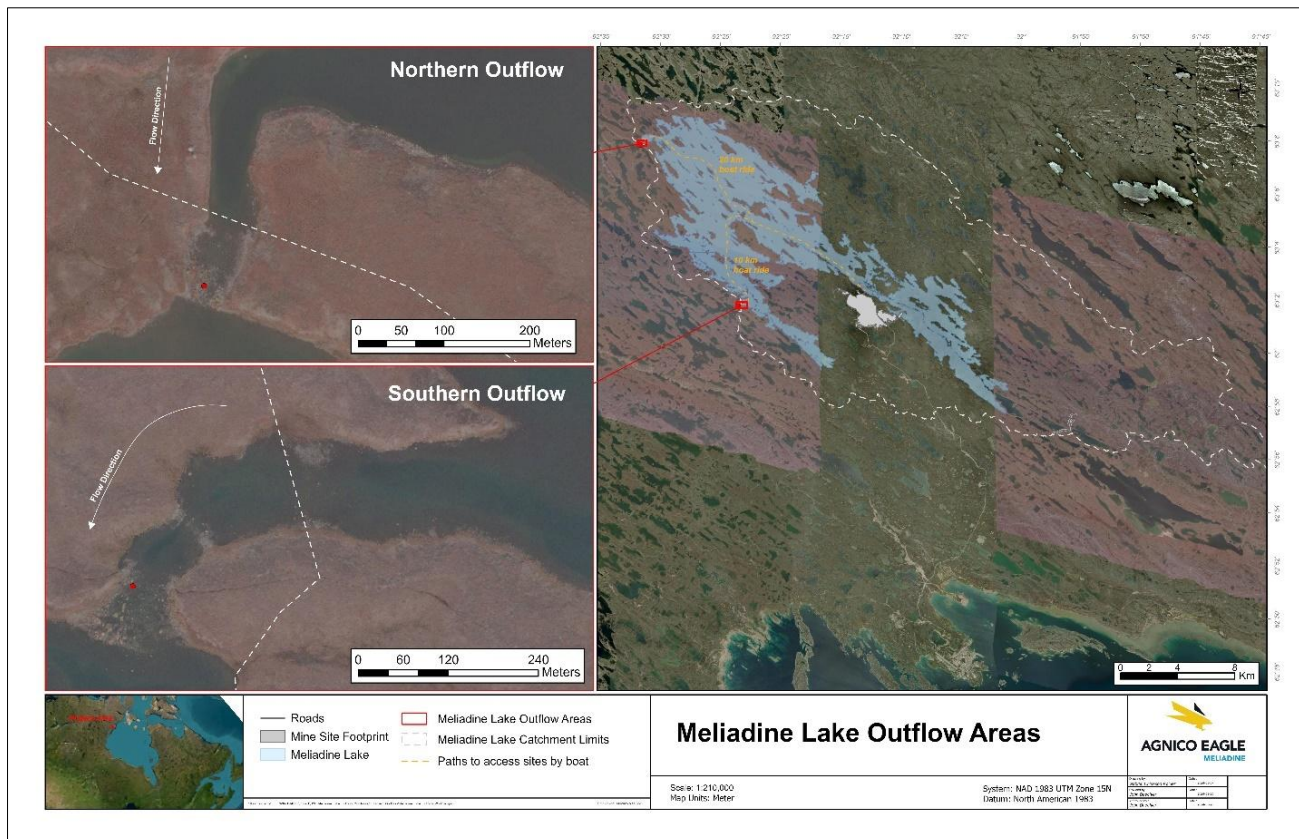


Figure 1. Location of northern and southern outflows of Meliadine Lake.

Objectives

To improve understanding of Meliadine Lake's hydrology, a three-year monitoring program of the two outflows was initiated in late 2024. The objectives of this program are: (i) to develop a water mass-balance

model for Meliadine Lake, and (ii) to refine the assessment of potential mine-related impacts (i.e., water withdrawal) on Meliadine Lake in the context of climate-driven changes to its hydrology. Historical data from the Final Environmental Impact Statement (FEIS) are included in this assessment.

Methodology

Over the 2024-2026 period, the program incorporates field instrumentation, monitoring, surveys, and development of a numerical model of the lake water balance. Key activities are described below.

Lake level monitoring: In the fall of 2024, Agnico Eagle installed a vented pressure transducer (HOBO) at each outflow. The transducers will remain in the lake until the end of the program in 2026. Using a local referenced benchmark and the site weather station used for barometric pressure correction, the recorded pressure data are converted to lake water elevation above sea-level (AMSL) values.

In September 2025, a vented pressure transducer was installed along the Meliadine Mine freshwater intake. The freshwater intake pressure transducer will stay in place for the life of mine and will provide hourly pressure data for long-term monitoring of Meliadine Lake levels at this location.

Discharge flow quantification: The two outflows were visited once in 2024 and four times throughout the open-water season of 2025 for streamflow measurements at high and low water stages. Discharge flows were estimated using the electromagnetic current meter OTT MF Pro and the Velocity-Area method. Given the shallow water depth, the one-point method was prioritized to calculate the discharge flows. Table 2 presents the calculated discharge flows at the two outflows.



Figure 2. Measurement of flow velocity at the northern outflow on September 9, 2025.

Elevation-discharge rating curves: Rating curves of the calculated discharge flow and water stage elevation were developed using both historical data from the FEIS (2009) and data collected by Agnico Eagle in 2024

and 2025. Figures 3 and 4 present the rating curves calculated for the southern and northern outflow, respectively.

Results

Southern Outflow

The southern outflow represents the primary discharge point for Meliadine Lake. Calculated discharge flows range from 1.33 to 5.87 m³/s and lake elevation varies from 51.538 to 51.773 m (Table 2).

Table 2. Elevation and Flow at the southern outflow of Meliadine Lake from the FEIS and Agnico Eagle.

Date	Study	Elevation mASL (m)	Flow (m ³ /s)
6/12/2009	FEIS	51.717	n/a
7/9/2009	FEIS	51.773	5.87
8/5/2009	FEIS	51.722	3.85
9/11/2009	FEIS	51.642	2.20
9/22/2024	Agnico Eagle	51.569	2.29
7/24/2025	Agnico Eagle	51.691	2.94
8/24/2025	Agnico Eagle	51.615	1.77
8/31/2025	Agnico Eagle	51.591	1.63
9/14/2025	Agnico Eagle	51.538	1.33

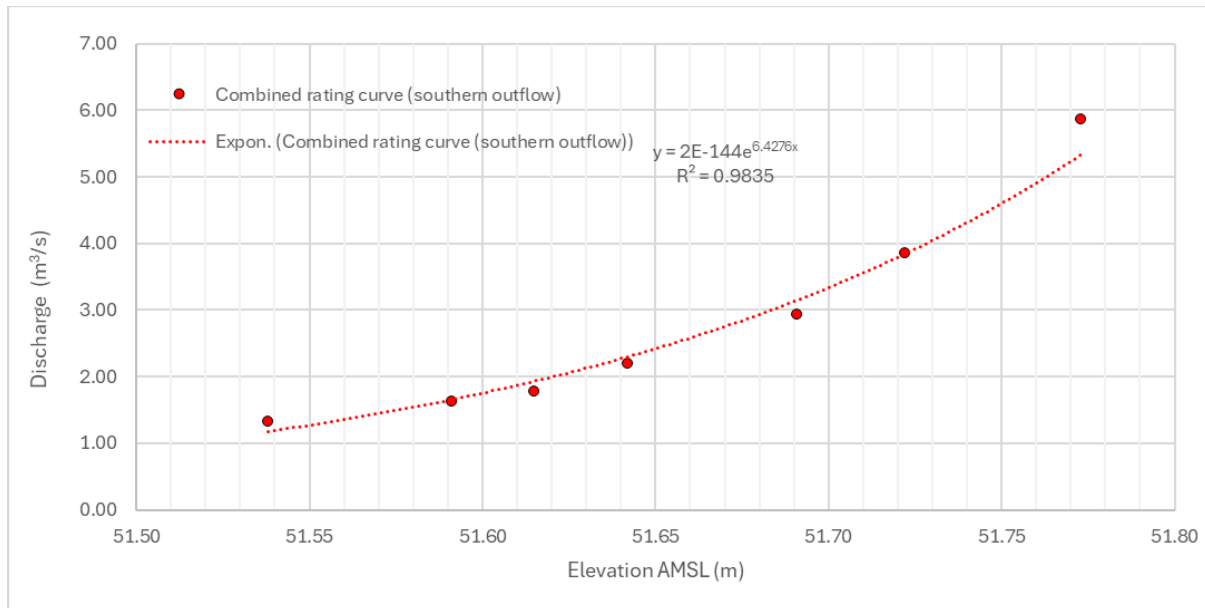


Figure 3. Combined Elevation-Discharge Rating Curve of Meliadine Lake Southern Outflow.

Northern Outflow

The northern outflow is the secondary discharge point of Meliadine Lake. Calculated discharge flows range from 0.42 to 3.57 m³/s and lake elevation varies from 51.473 to 51.725 m.

Table 3. Elevation and Flow at the northern outflow of Meliadine Lake from the FEIS and AEM.

Date	Study	Elevation mASL (m)	Flow (m3/s)
6/14/2009	FEIS	51.693	2.88
7/10/2009	FEIS	51.725	3.57
8/5/2009	FEIS	51.656	1.71
9/11/2009	FEIS	51.562	0.54
8/23/2024	Agnico Eagle	51.473	0.52
9/22/2024	Agnico Eagle	51.595	1.21
7/24/2025	Agnico Eagle	51.669	2.24
8/24/2025	Agnico Eagle	51.603	1.27
8/31/2025	Agnico Eagle	51.554	0.42
9/14/2025	Agnico Eagle	51.527	0.44

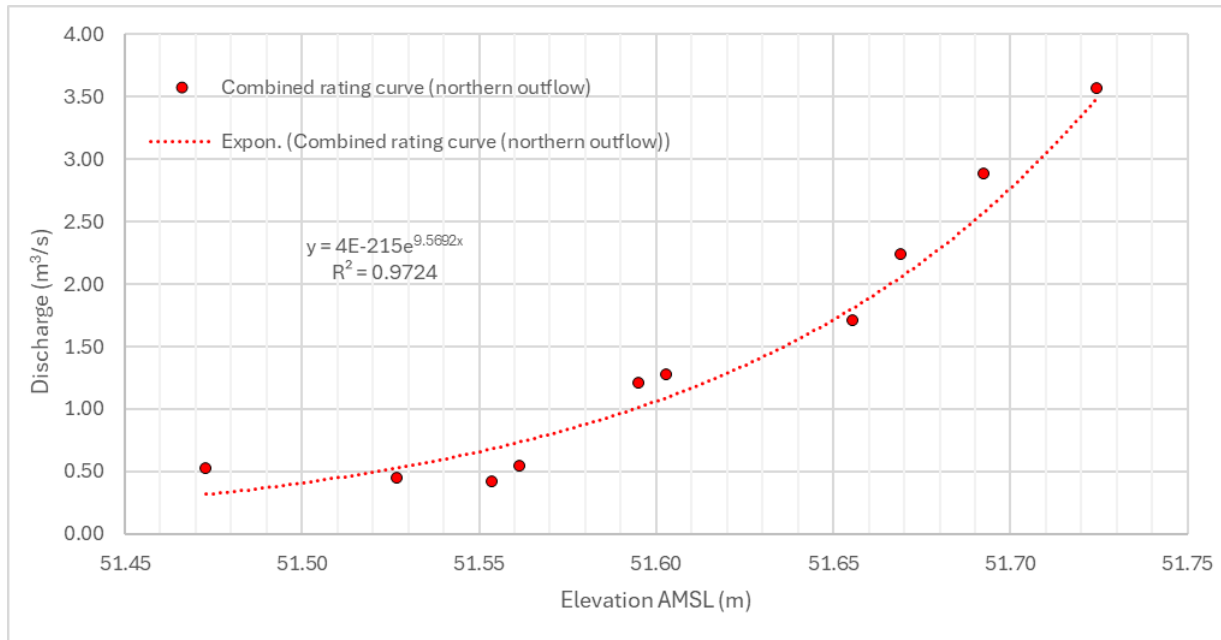


Figure 4. Combined Elevation-Discharge Rating Curve of Meliadine Lake Northern Outflow.

Both rating curves provided a good fit (i.e., $r^2 = 0.9835$ and $r^2 = 0.9724$, respectively) for continuous estimation of streamflow discharge at the Meliadine Lake outflows and will continue to be refined with supplemental discharge measurements collected in 2026.

Figure 5 presents the average daily level of the two outflows and shows continuous estimation of discharge flows in 2024-2025 based on the elevation-discharge rating curves calculated previously.

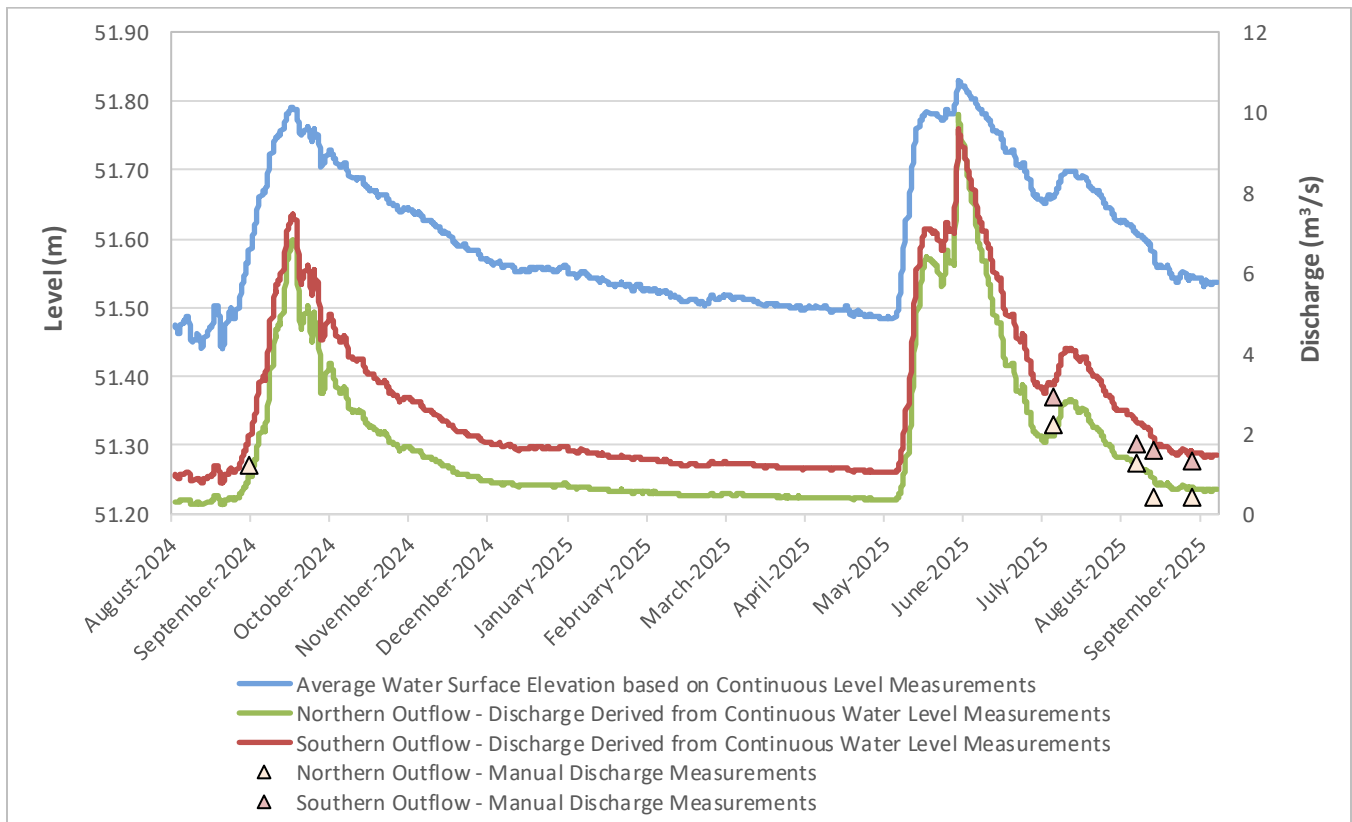


Figure 5. Meliadine Lake's Outflow Hydrograph from August 2024 to September 2025. The blue line represents the average elevation (m) of the lake, and the green and red lines represent the estimated discharge (m³/s) of the two outflows. Spot triangle points represent calculated discharge flows based on field measurements.

Conclusions

Supplemental streamflow measurements and lake-level monitoring will continue during the open-water season of 2026 and results reported in the 2026 Annual Report. In 2025, preliminary results were provided to Lorax Environmental Services for the development of the Meliadine Lake water-balance model, using the outflow monitoring data as calibration inputs. This component was added to the Water Balance Water Quality Model (WBWQM) and an update will be provided in the 2026 Annual Report. The outcome of the project will improve the assessment of mine-related water withdrawals (during both operations and closure) on Meliadine Lake's hydrology, as well as the resulting effects under various climate change scenarios.