



Town of Mahone Bay – 2025 Water Withdrawal Annual Report

Introduction

In accordance with section 7.a of the Water Approval to Withdraw (2008-061974-02) issued by Nova Scotia Environment and Climate Change (NSECC), The Town of Mahone Bay is providing the annual report for 2025.

Water Supply Overview

Oakland Lake pumping station supplies the Town of Mahone Bay drinking water system. The lake is located approximately 1 km northeast of the Town, off Highway 3. The surface area of the lake is 0.65 km² with a maximum depth of 15 m and a water yield of 5,000 m³/day. The Oakland Lake Watershed has an area of 4.05 km².

In July 2007, under section 106 of the Environment Act, the Province of Nova Scotia enacted the Oakland Lake Watershed Protected Water Area Designation, which describes the watershed area, as well as applicable regulations and restrictions.

The current Approval permits an average rate of withdrawal of 710,000 L/day averaged over 30 days and a maximum rate of withdrawal of 960,000 L/day averaged over 3 days.

Withdrawal Volumes Summary

The total volume of water withdrawn from Oakland Lake during the reporting period of 2025 was 221.7 million litres.

The highest monthly averaged raw water withdrawal rate occurred in August, with volume of 742,600 L/day, this is above the averaged daily withdrawal limit of 710,000 L/day.

An average of daily maximum raw water withdrawal rates, averaged over 3 days, indicated a maximum average day to occur in July, with volume of 784,667 L/day, below the maximum withdrawal limit of 960,000 L/day.

A summary of monthly daily average raw water withdrawal rates indicated in Table 1, and Figure 1 below.

Month	Total Water Withdrawal Volume per Month (m3)	Daily Water Withdrawl - 30 Day Average (m3)	Peak Water Withdrawl 3 Day Average (m3)	Total Monthly Reservoir Outflow (m3)	Daily Reservoir Outflow 30 Day Average (m3/day)
January	17,148	572	607	13,011	420
February	16,351	545	616	12,676	453
March	18,480	616	629	14,474	467
April	18,368	612	649	14,517	484
May	20,053	668	677	15,847	511
June	20,182	673	698	16,599	553
July	21,954	732	785	17,315	559
August	22,279	743	756	18,597	600
September	18,909	630	757	14,523	484
October	17,140	571	634	13,239	427
November	15,109	504	531	11,585	386
December	15,719	524	548	11,869	383

Table 1 – 2025 Monthly Raw Water Withdrawal and Treated Water Supply

Total Annual Withdrawl Volume (m3)	Averaged Daily Withdrawl Per Calendar Year (m3/day)
221,692	607

Table 2 – 2025 Annual Withdrawal Overview

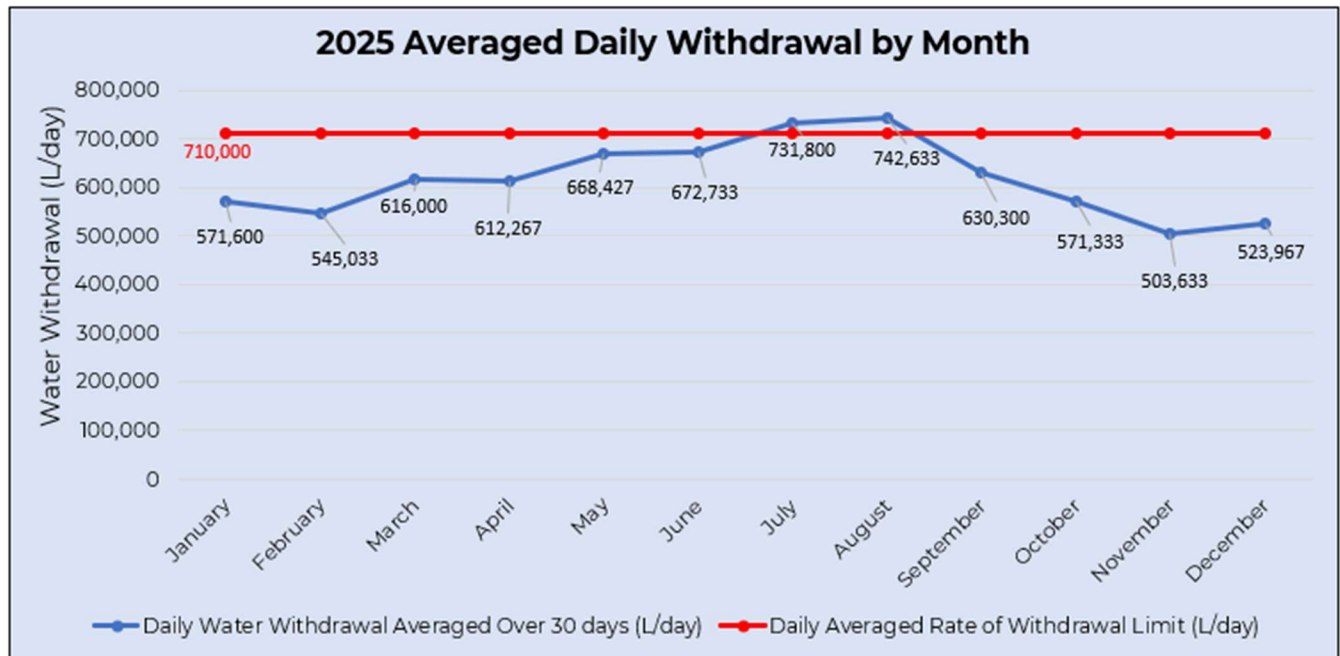


Figure 1 – 2025 Monthly Daily Average Water Withdrawal from Oakland Lake

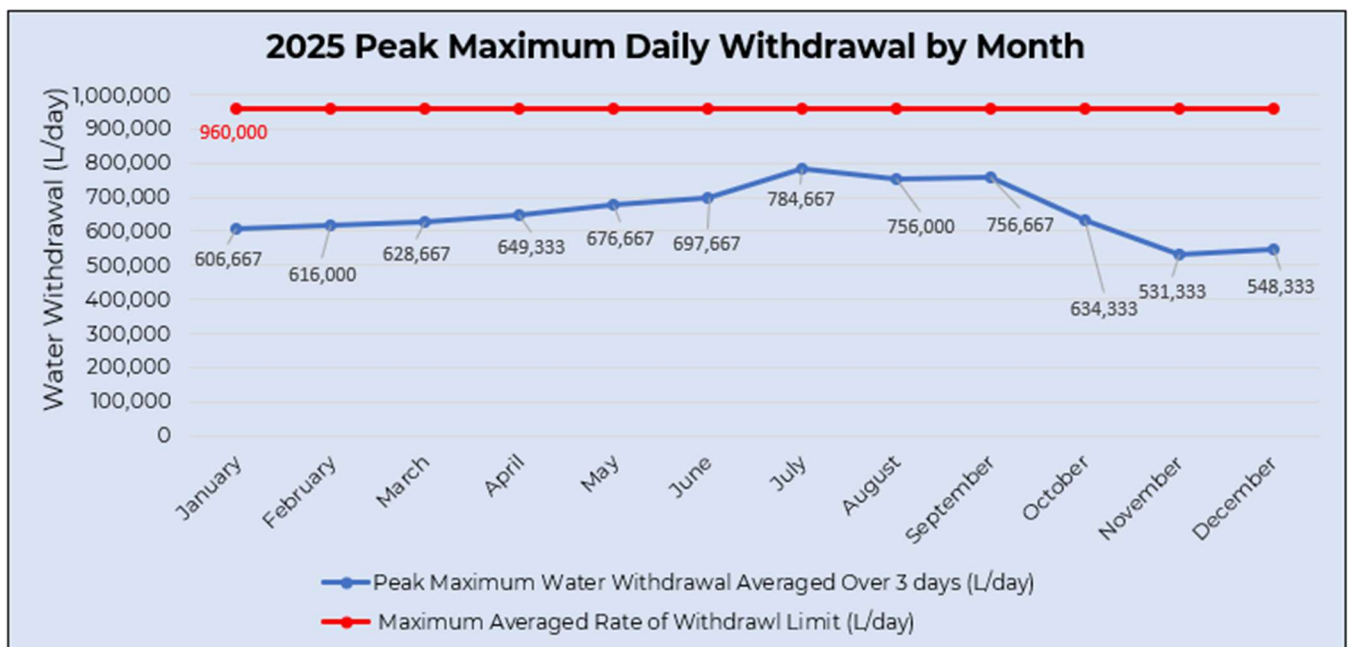


Figure 2 - 2025 Peak Maximum Water Withdrawal from Oakland Lake

Ecological Maintenance Flow Summary and Discussion

In accordance with section 6.k & 6.i of the Approval, Operators with the Town of Mahone Bay conducted regular monitoring of the watercourse immediately downstream of Oakland Lake outlet. The prescribed ecological maintenance flow for Oakland Lake October through June is $\geq 0.06 \text{ m}^3/\text{s}$ and July through September $\geq 0.01 \text{ m}^3/\text{s}$. July through September is considered the summer low flow period.

In 2015, the Town of Mahone Bay engaged CBCL Ltd. to complete a stage discharge curve which established watercourse level benchmarks to reflect the ecological maintenance flow requirements. The low flow period benchmark level is $\geq 0.07\text{m}$ and the remainder of the year the benchmark is $\geq 0.17\text{m}$.

In 2025, from June 23rd to June 30th and Aug 1st to Dec 8th the outlet watercourse level was below the established benchmark. In accordance with the Approval, NSECC and the Department of Fisheries and Oceans (DFO) were notified of the non-compliance. As per NSECC and DFO direction, monitoring frequency is increased during the low flow periods. The period of June through November experienced reduced rainfall which contributed to the low watercourse level. Ecological Flow Monitoring records for 2025 are below in Figure 3.

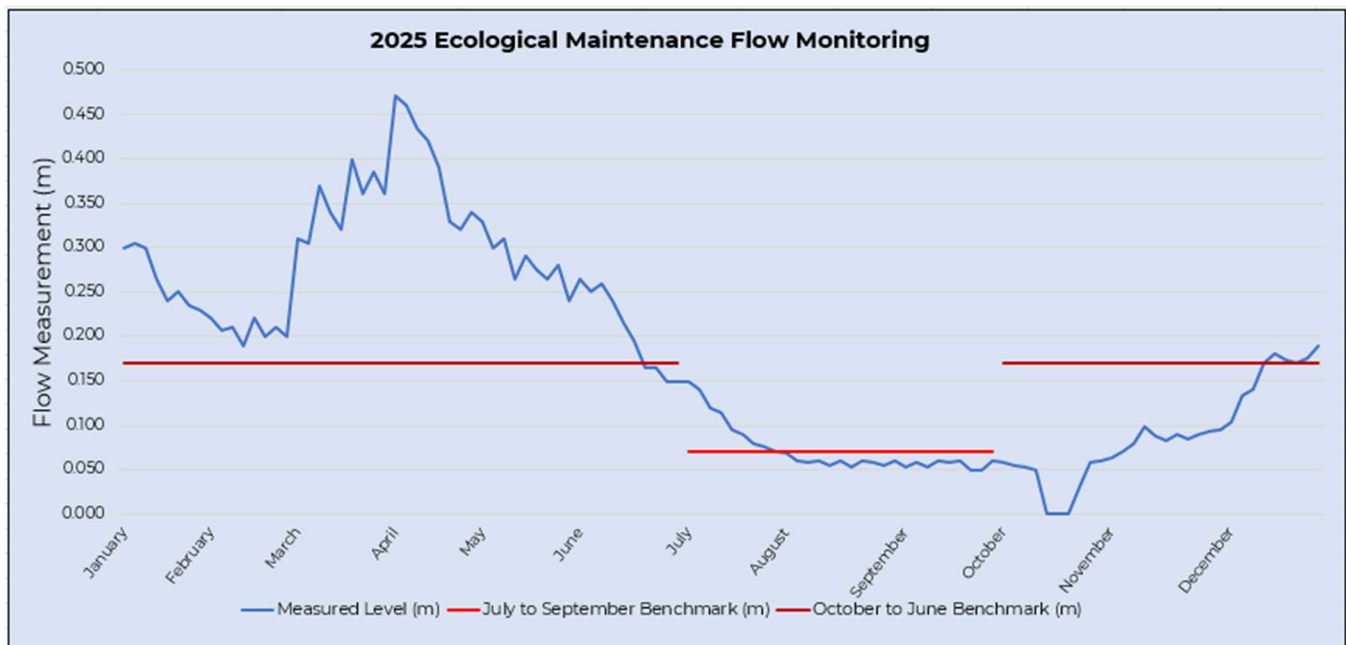


Figure 3 – 2025 Ecological Maintenance Flow Monitoring

Water Level Monitoring Summary

In accordance with Section 6.g & 6.i of the Approval, Operators with the Town of Mahone Bay conducted regular monitoring of the lake level using the staff gauge located in the raw water pump house. In 2025, the water level was within the normal historical range January thru May but then dropped off by July and remained low for the remainder of 2025 as seen in figure 4.

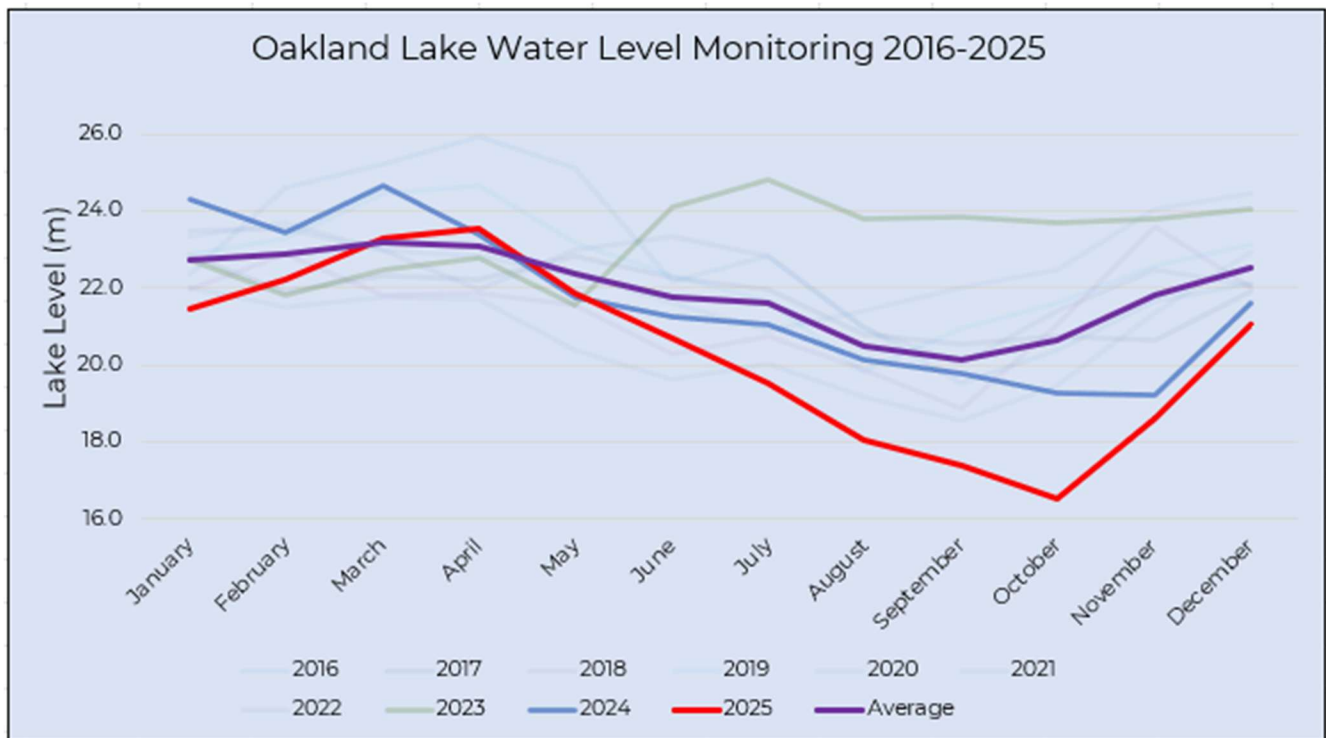


Figure 4 – 2025 Water Level Monitoring with Historical Trends

Complaints & Corrective Actions

The Town of Mahone Bay did not receive any complaints in 2025.



Conclusion

In 2025, the Town of Mahone Bay operated the Oakland Lake pumping station in accordance with Approval No.2008-061974-02. Withdrawal amounts remained within the limits established in the Approval for all months with the exception of July and August. Ecological maintenance flows were generally within the limits established in the Approval, with the exception of dry conditions during June, and September to December, causing compliance reporting requirements. During the weeks that the outlet watercourse level was below the benchmark, NSECC and DFO were appropriately notified, and no subsequent directives were expressed to Town staff.

Yours very truly,

Town of Mahone Bay

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