



**To:** Chair and Members  
Engineering and Public Works Committee; and  
Finance and Corporate Services Committee

**From:** Michael Currie  
Director, Water and Wastewater Services

**Date:** October 22, 2025

**Subject:** Lagoon Compliance Update

**Report:** PW-10-2025-4

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### **Recommendation**

WHEREAS the Ministry of Environment Conservation and Parks (MECP) inspections and annual monitoring reports have identified ongoing compliance, and operational challenges at District hauled sewage lagoons;

AND WHEREAS the District has responded to the MECP by developing and implementing Monitoring, Trigger Mechanism and Remedial Action Plans (MTM-RAP), planning for new hauled sewage receiving equipment, and the preparation of by-law amendments to address contaminants and strengthen hauler accountability;

NOW THEREFORE BE IT RESOLVED THAT staff **be directed** to update [By-law 2007-51](#) (Hauled Sewage By-law) to address the requirements set out in the MTM-RAPs and changes to the administration and tracking of accepted hauled sewage.

### **Origin**

This report has been prepared to provide Council with an update on the operation and management of the Lagoons, including actions taken to address recommendations from MECP, implementation of MTM-RAPs, and ongoing capital and operational improvements to maintain environmental compliance.

### **Background**

The Lagoons were constructed in Muskoka beginning in the 1970s to provide disposal sites for hauled sewage from rural properties using septic tanks or portable toilets.

At the time, these facilities represented a cost-effective way to provide disposal options for a dispersed rural population. Most sites consist of an excavation lined with clay, receiving hauled sewage directly by truck.

Lagoon treatment of hauled sewage is minimal: solids settle, liquids undergo partial stabilization, and effluent may be discharged seasonally. Unlike modern treatment plants, lagoons provide no filtration, limited nutrient removal, and little control over contaminants such as chlorides, preservatives, or plastics which can easily enter the watershed.

Through regular inspections, the MECP has identified that lagoons are a legacy technology requiring close oversight to protect the Muskoka watershed. The Lagoons are located near rivers, lakes, or wetlands, meaning even small exceedances of nutrients, chlorides, or other contaminants can have outsized environmental impacts.

At the same time, Muskoka's WWTPs – such as those in Port Carling, Port Severn, Gravenhurst, Huntsville (Golden Pheasant), and Bracebridge (Lagoon Lane) — have advanced technologies including membranes, UV disinfection, and nutrient removal. These facilities already receive some hauled sewage and offer a significantly higher level of protection.

## **Analysis**

The Lagoons continue to operate in accordance with their Environmental Compliance Approvals (ECAs); however, recent inspections by MECP have shown that meeting these baseline requirements alone are no longer sufficient to ensure long-term environmental protection.

The MECP's reports and technical memoranda identified areas where oversight and performance could be strengthened with a particular focus on monitoring frequency, hauler reporting accuracy, and the management of nutrient and chloride loading to groundwater and surface water.

In response, the District undertook a comprehensive review of Lagoon operations and developed MTM-RAPs for each active site. These plans formalize early-warning systems, set more conservative thresholds for key parameters, and outline mandatory actions when exceedances occur.

The greatest impact of the changes will ensure that sampling is completed as the load is received and allowing action to be taken before the full load is released, depending on the magnitude of non-compliance. The current system requires that haulers take samples of random loads and submit them for analysis with no opportunity to refuse a non-compliant load, since the discharge has taken place well before the sample analysis is completed.

Recognizing that additional measures are needed to protect Muskoka's watershed, staff are preparing updates to the Hauled Sewage By-law, introducing standardized hauler

agreements, and developing a plan to install receiving systems that will secure access, verify loads, and automate sampling.

### **MTM-RAPs for the District's Lagoons have been developed in response to compliance concerns raised by the MECP**

In response to MECP directives, the District has prepared MTM-RAPs for the Lagoons and these plans form the backbone of Lagoon operations. They expand monitoring to include more parameters, set conservative trigger thresholds, and outline mandatory remedial actions when triggers are exceeded.

The goal is to move from reactive compliance to proactive protection with accountability built into the service. This ensures consistency across all sites and demonstrates to MECP that the District is applying a rigorous, structured approach to lagoon oversight.

### **Nutrient and Contaminant Concerns**

Council recently approved Resolution [R10/2025-PW](#) (the Resolution) which raised concerns about the presence of chlorides increasing within the District's watershed.

Although the Resolution was focused mainly on road salt as a contributor to the increasing concentrations of chloride, recent samples taken from hauled sewage discharges have identified high levels of chlorides being discharged at the Lagoons. These samples appear to be related to de-icing chemicals used in commercial portable toilets and some commercial operations. These chemicals, often based on sodium or magnesium chloride (similar to de-icing chemicals used for winter maintenance), are discharged directly with hauled waste and ultimately into the environment.

Samples have revealed extremely high chloride concentrations (in some cases over 200,000 mg/L) and far exceed those typically found in residential hauled sewage of approximately 100 mg/L. At these concentrations, even small volumes of hauled sewage can have a significant impact on the receiving water bodies and downstream.

By their nature and lagoons lack effective filtration to protect the watershed. Plastics, wipes, and other inorganics have been observed in discharge areas, and some large particles settle slowly or not at all. This represents both an operational cost and an environmental hazard.

These findings reinforce the need for stronger hauler oversight and improved monitoring to avoid inappropriate materials entering the watershed and protecting Muskoka's environment.

### **Hauler Agreements, New Technology and By-Law Updates**

At present, hauled sewage volumes and contents are reported directly by haulers at the time of disposal, with recordkeeping based on self-reported data and limited verification. This reliance on the "honour-system" has been identified in MECP and staff reviews as a vulnerability, as inaccuracies are suspected.

Compounding this issue, security at lagoon sites is currently limited to basic lock-and-key access. This approach allows haulers virtually unlimited and unmonitored entry, with no reliable means of confirming who has accessed a site, when loads were delivered, or whether the reported volumes are accurate.

To address these concerns, all hauler agreements are being reviewed and standardized. The intention is to require updated contracts that align with by-law provisions, clearly set out requirements for reporting and compliance, and establish the basis for enhanced enforcement. This next step will also support the introduction of secure receiving equipment, allowing volumes, contents, and hauler identity to be verified and automatically logged, with non-compliant loads subject to penalties following an education first approach.

With new hauled sewage receiving units, the District will be able to:

- Control site access via secure keypad identification.
- Measure volumes with integrated flow meters.
- Sample each load automatically with refrigerated composite samplers.
- Grind waste to emulsify solids, improving lagoon treatment efficiency.
- Screen out rocks and inorganics, reducing maintenance costs.

Once installed, these units will eliminate reliance on hauler self-reporting, producing accurate data for billing, compliance, and environmental monitoring.

Amendments to the Hauled Sewage By-law will be required as the hauler agreements are updated and compliance requirements formalized. Staff will prepare an updated By-law to tighten parameters for nutrient and contaminant acceptance.

The by-law will also include an escalating process to ensure haulers comply with discharge requirements, which would begin with education, escalate to fines and/or restrict access to facilities (locations or time) to ensure continued compliance and protection of the environment.

### **Watershed Protection and Environmental Stewardship**

At the heart of these efforts is the protection of Muskoka's watershed. The Lagoons are located near sensitive water bodies, and the MECP has consistently stressed that even small exceedances of nutrients or chlorides can contribute to algal blooms and long-term degradation of aquatic systems.

Muskoka's economy is rooted in tourism, recreation, and a reputation for pristine natural environments.

Protecting water quality is not only a regulatory requirement but a fundamental responsibility to residents, visitors, and future generations. Recognizing that legacy lagoon technology provides only minimal treatment, the best environmental outcomes will be achieved by ensuring advanced treatment of hauled sewage and this a core benefit of making investments in WWTPs to receive hauled sewage.

The implementation of MTM-RAPs, more closely monitoring hauler discharges, and proposed by-law updates directly reduce risks to the watershed by ensuring earlier detection of contaminants and accountability for haulers. Better management of lagoons, combined with ongoing WWTP expansions at facilities such as Golden Pheasant, Gravenhurst, and Port Carling, it is expected that this service's environmental footprint will continue to be reduced.

### **Future Reporting and Consideration of Lagoon Operations**

While implementation of the MTM-RAPs, planned mechanical receiving upgrades, and ongoing WWTP improvements will strengthen compliance and oversight, additional review of lagoon operations remains necessary.

Staff will continue to evaluate each lagoon's performance, capacity, and environmental monitoring results to determine their ongoing suitability and alignment with MECP expectations.

Based on this information, staff will prepare future reports with the necessary technical, financial and regulatory information to support any recommendations regarding continued operation or modification of the Lagoons. This assessment will also evaluate the capital upgrades to the WWTP's that may be needed if a shift away from lagoons is being recommended.

Until such direction is provided, Lagoons will continue to operate under their existing ECAs and MTM-RAP requirements.

### **Financial Considerations**

The financial requirements associated with addressing the recommendations of the MECP and implementing the necessary improvements at the Lagoons have been anticipated within the District's approved capital planning.

Provisions for the procurement and installation of upgraded lagoon receiving equipment (each with an estimated purchase and installation cost of approximately \$250,000 per setup) include secure keypad access, automated volume tracking, enhanced sampling capability, and mechanical grinding/screening systems. Staff will bring forward new projects through the 2026 Fiscal Update as required but note that sufficient funds exist within the current capital plan allocation and Environmental Reserve to support these compliance-related activities.

While significant investment has already been committed to wastewater treatment plant expansions – such as the Golden Pheasant WWTP Phase 2 upgrades supported by the Housing Enabling Water Systems Fund, and the awarded Gravenhurst WWTP design project which incorporates enhanced septage receiving – these capacity improvements will unfold over multiple years. In the interim, lagoon facilities remain essential to the District’s ability to manage hauled sewage. The procurement of modern receiving equipment at lagoon sites represents a necessary step: it strengthens compliance with MECP requirements; ensures more accurate monitoring and accountability for haulers; and mitigates environmental risks.

Achieving compliance with environmental requirements and protecting watershed health will require continued, and likely increasing, investment in both capital upgrades and operational improvements.

At present, user fees for hauled sewage operations do not fully support these costs. To ensure greater alignment with the actual costs of providing the service, staff will undertake a review of hauled sewage fees for Council’s consideration in the future reports. This review will explore alternatives to phase in full cost recovery gradually, recognizing that the increases may be greater than in previous years.

In addition to ensuring that fee structures better reflect capital and operating costs, staff will examine the creation of a differential fee for hauled sewage discharged and treated at WWTPs rather than the Lagoons. This approach could provide an incentive for haulers to use facilities which provide a higher level of treatment (improving environmental outcomes) creating the potential for a “win-win.” This is premised on the requirement that water and wastewater ratepayers are not unintentionally burdened with additional costs.

Taken together, this financial framework supports a prudent approach to meeting current MECP expectations and maintaining service continuity. Immediate investments in lagoon receiving technology will address identified compliance and monitoring gaps, while planned wastewater treatment plant WWTP upgrades will provide enhanced treatment capacity and future flexibility. As these improvements are implemented, staff will continue to evaluate the role of Lagoons within the District’s overall hauled sewage management system to ensure that future service models align with environmental, regulatory, and financial objectives.

### **Climate Change Implications**

The District assesses climate implications in all staff reports using the Clean Air Partnership’s [‘Municipal Climate Lens Tool’](#) to consider climate impacts or benefits associated with any project, program or initiative. The following is a summary of the results.

<b>Municipal Climate Lens Tool</b>	<b>Results</b>
Mitigation	GHG impact has been considered
Temperature	There are no Temperature impacts associated with this report
Precipitation	There are no Precipitation impacts associated with this report

Lagoons, by their nature, are significant GHG generators.

This is due to the simple process where organic materials are broken down without the addition of oxygen. Anaerobic digestion of organic materials generates methane, which is a greenhouse gas more than 28 times more potent than carbon dioxide.

Incentivizing treatment of hauled sewage at WWTPs will produce significantly better environmental outcomes while reducing Community GHG emissions.

**Communications**

Effective communication is a critical component of ensuring compliance and long-term sustainability of the District’s hauled sewage services. The proposed amendments to the Hauled Sewage By-law, together with the introduction of enhanced receiving equipment, will require coordinated outreach and education for haulers, municipal staff, and the broader public.

Beyond hauler-specific outreach, staff will prepare public communications to reinforce the importance of protecting Muskoka’s watershed from contaminants such as chlorides, nutrients, and synthetic preservatives associated with hauled sewage (both residential and commercial).

Messaging will highlight the role of hauled sewage management in safeguarding local lakes, rivers, and wetlands, and will connect the upgrades and enforcement to broader environmental stewardship goals that residents value.

**Strategic Plan**

The District assesses the impact or influence of the information or recommendations included in staff reports toward achieving Council’s [Strategic Plan objectives](#).

This report includes information or recommendations that impact or influence the following Strategic Plan Objectives:

- [Objective 1 Taking action together](#) – Preserve and protect our natural environment, take climate action and be more resilient to its impacts.
- [Objective 6 Service alignment](#) – Modernize municipal services and deliver them in the way that makes most sense – best value, efficiency, and outcomes for residents.

Respectfully submitted,

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