

Information Report

Title: Kincardine Lagoon Wastewater Update

Report Number: Environmental Services-2026-14

Director: Infrastructure & Development

Manager: Environmental Services

Meeting Date:
Wednesday, June 24, 2026

Executive Summary:

Kincardine's sewage treatment facility has been the source of odours for several years. In an effort to make a significant improvement to the facility and ultimately reduce odours, a program of sludge removal has been initiated. This has exacerbated the odour problem resulting in residents' complaints and questions about health impacts. This report is to provide Council with a history of events and provide an update on the Kincardine Lagoons and ongoing compliance and odour issues.

Context and Background Information:

In 2022, the Municipality made upgrades at the Kincardine Lagoons including the construction of a new out-building, blowers, electrical upgrades and an aeration system. The aeration system was commissioned in 2023 and brought online. The system struggled to meet the objectives of the design and started to cause compliance and odour issues. Investigation discovered that the aeration system was coated in rags and product and was unable to produce fine bubble diffusion. In addition, the new system began to capture old, settled sludge and put it into suspension, releasing odours and concerns with the neighboring subdivision. In July 2024, the Municipality partnered with Hydra-Survey, a company that uses sonar-technology to provide accurate sludge depths and accumulations within the pond system. The Kincardine site was deemed to have significant sludge volumes. The three ponds in Kincardine have a hydraulic capacity of about 159,000m³ and the sludge capacity within the ponds was 77,500m³. This had ponds at 48% sludge capacity.

Throughout this process the Municipality was also having struggles with compliance limits within the Municipality Environmental Compliance Approvals. The staff struggled to meet criteria for Total Suspended Solids (TSS), Carbonaceous Biochemical Oxygen Demand (CBOD₅), Total Phosphorus (TP) and bacterial samples.

In 2025, the Municipality partnered with Bishop Water Technologies, to begin the process of sludge removal within the Kincardine ponds. The aeration system was removed, and the small pond was dredged and sludge removed with a total volume of 11,000m³ being pumped capturing 240 DBT of sludge.

The start of the 2026 season has seen similar results with compliance and odours in the surrounding neighborhood. The Municipality is again partnering with Bishop Water Technologies to work at removing sludge in Cell #1 with a goal of removing about 900DBT from the pond.

Odours within the neighborhood haven't changed significantly year-over-year, but the frustration with the project and enjoyment of properties has grown. The Municipality has continued to investigate solutions to resolve the project. Overall, the problem seems to remain in the aeration cell that was recently cleaned. The cell seems to be operating in an anaerobic state, and investigation of the aeration cell equipment is showing significant improvement with the equipment and less plugging. However, dissolved oxygen readings remain low, and persistent odours continue to cause problems.

The Municipality worked with a contractor for the purchase of Sodium Nitrate. This product needs to be applied on the lagoon pond as a liquid solution and works to both mask odours and support bacterial change within the pond to allow dissolved oxygen levels to return to preferred levels. The Municipality is also investigating other potential chemical additions for odours, with the hope of having the ponds return to normal operating conditions.

To staffs' knowledge, there have been no previous sludge related works completed on the large two ponds in Kincardine. Constructed in the 1960's the ponds have substantial amounts of sludge volume, and the removal also taken significant ground footprint or agricultural lands for application. Staff are taking an aggressive approach to the removal process, but an additional two years work are projected after 2026.

On June 17th, 2026 the Municipality was advised that two inspectors from Environment and Climate Change Canada will be on site to inspect our Wastewater Lagoon System to verify compliance with the Wastewater Systems Effluent Regulations (WSER) on July 8th, 2026. They will tour the plant and collect samples of the effluent from the final discharge point.

A negative inspection finding under the Wastewater Systems Effluent Regulations does not automatically lead to prosecution. In many cases, compliance findings have served as the basis for transitional authorizations, technical engagement with regulators, and strengthened applications for funding support to make facility upgrades.

Consultation Overview:

Throughout the process, staff have continued to work with various stakeholders. The Ministry of Environment Conservation and Parks have provided support with issues surrounding compliance and is supportive of the Municipalities ongoing sludge removal projects to get the system to a better operational condition.

The Municipality has worked with BM Ross, who oversaw the aeration project for recommendations, for treatment process.

The Municipality has made contact with TriplePoint the installers of the system, requesting information and data, and start a process of engagement to review the process of the aeration installation.

The Municipality has also found new partners including Aquabond, and Evoqua who are potential partners in supplying chemical that could support operations and nuisance odours.

The Municipality continues to work with Bishop Water Technologies for future sludge projects.

The Municipal staff have also put significant effort into the project. Lead by ES Supervisor Jerry Jez, the department has worked to make repairs to the aerations system, monitor levels, apply chemical applications, and work to find new resources and vendors to support operations. The Strategic Initiatives team has also worked to pull together information for the public, organize mailouts and public meetings, and prepare correspondence and social media information to support ratepayers.

Origin:

Request of CAO

Attachments: Hydra-Survey Sludge Survey

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