

PILOT PROJECT:

Recovering Phosphorus at the Landmark Lagoon

Nutrient overloading in Lake Winnipeg has caused severe water quality issues in the lake with excessive algal blooms. In 2016 the Province of Manitoba enacted legislation that requires municipalities to reduce phosphorus levels in wastewater discharging from municipal lagoons. The goal is to reduce the amount of phosphorus reaching Lake Winnipeg in order to help improve the long-term water quality.



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Innovative Wastewater Solutions

The RM of Tache, together with Innovantage Inc., embarked on a pilot project to remove, recover, and reuse phosphorus from the Landmark lagoon. Innovantage is a technology innovation

company focused on sustainable development in the municipal sector.



Phosphorus separation tank



Captured phosphorus sludge

The pilot included multiple trials for capturing phosphorus in wastewater, to help identify a simple cost-effective way for capturing and removing the phosphorus. Trials were run at the Landmark lagoon during the summer of 2021.

Since phosphorus is a non-renewable resource and an essential nutrient for plant growth, the second part of the project's focus was to recover the phosphorus through a composting trial.

The aim was to turn the phosphorus precipitated sludge into a high nutrient fertiliser. Innovantage worked with the University of Manitoba to find the optimum parameters for composting the captured phosphorus. The full recovery of the phosphorus for reuse is a breakthrough for growing our sustainable community.



Clean water discharge

Next Steps?



Composted phosphorus rich sludge

The RM of Tache will continue to investigate the technologies developed to see how they can be used within the current lagoon system for full recovery of the phosphorus. All current long-term planning for our wastewater treatment includes innovative technology development.

We look forward to leading the way in wastewater treatment and being good stewards of the environment, thus ensuring the long-term health of Lake Winnipeg for future generations to enjoy.



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