



**Niverville Lagoon – Decommissioning Project
Environmental Act License No. 2712**

Report on 2018 Activities

Prepared by Native Plant Solutions, January 2019

This annual report provides an update on the progress of the project to decommission the wastewater treatment lagoon located on SW 30-7-4EPM in the Town of Niverville, as required by the conditions for decommissioning under Environment Act License No. 2712.

Graduate Student Research

On October 10, 2018, University of Manitoba graduate student Nicholson Jeke successfully defended his PhD thesis titled “Wetland and Terrestrial Phytoremediation of an End-of-Life Municipal Lagoon Using Cattail (*Typha* spp.).” Research for Dr. Jeke’s thesis was conducted at the Niverville Lagoon site. In addition to his PhD thesis, Dr. Jeke’s research has also been published in a number of journals over the past 3 years, including 4 new publications in 2018 (see Communication Activities and Reference List).

Communication Activities

On June 3, the Niverville Lagoon Decommissioning Project received local exposure when it was highlighted at the retirement celebration for Jim Buys (CAO Town of Niverville 1985-2018). As CAO, Mr. Buys was passionate about the decommissioning project and he requested that in lieu of retirement gifts, donations be made towards funding the completion of the project.

Three manuscripts related to the decommissioning of the Niverville Lagoon were published in peer-reviewed journals in 2018 (see reference List). Another manuscript was submitted in 2018 and was accepted by the prestigious Journal of Environmental Quality for publication in 2019 (Jeke et al. 2019). The Niverville Lagoon Decommissioning Project was also featured in the Spring/Summer 2018 edition of the Canadian Reclamation magazine (Jeke et al. 2018d).

In addition to publications, the success of the Niverville Lagoon decommissioning process was also featured in a promotional video that was filmed in 2018 by Ducks Unlimited Canada. The video is currently being edited and is scheduled for release in the fall of 2019.

Niverville Lagoon Site Plan

With licence removal from the decommissioned former dry cell (i.e., secondary cell), the Town of Niverville continues to proceed with preliminary steps to develop the former lagoon into an area that the residents of Niverville can enjoy. In 2018, 300 willows were planted in the former dry cell and along the south berm of the holding cell (Figures 1 and 2). The willows will improve the aesthetics of the area as well as provide other benefits such as erosion control and habitat creation. Willows provide habitat for a wide range of wetland species by adding a vertical element to the habitat and increasing the structural diversity of a site. These conditions are highly sought after by many wildlife species such as wetland songbirds, which will use willow stands as nesting, singing and perching sites.

Funding

The 2018 communication activities were funded by in kind support from the University of Manitoba and Native Plant Solutions. The Town of Niverville funded the 2018 willow planting.

Activities Planned for 2019

In an effort to continue to work towards full licence removal on the former treatment lagoon site (i.e., primary and holding cells), the Town of Niverville will monitor water quality in the wetland cell and holding cell. The data will be used to track the remediation trajectory of the two cells.

The Town of Niverville, Native Plant Solutions and the University of Manitoba plan on meeting with representatives from the Province in 2019, to provide an update on research progress made since the dry cell decommissioning in December 2015, and to summarize the research results of Drs. N. Jeke and F. Zvomuya. By engaging Provincial representatives as part of the discussion to ensure decommissioning targets are met, this discussion will help to support the goal of full site decommissioning. In addition, the Town will look to work towards the submission of a Notice of Alteration request for licence removal on the holding cell.

If you have questions regarding project activities in 2018 please do not hesitate to contact:

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Reference List

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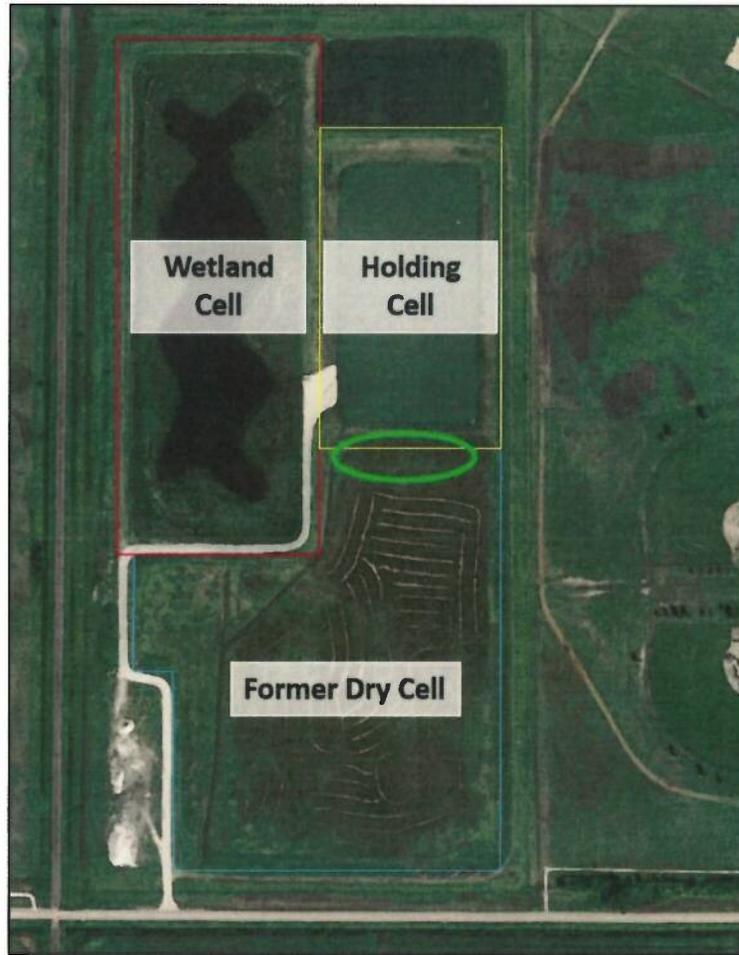


Figure 1. Aerial view of the Niverville Lagoon decommissioning project, including the former dry cell (licence removal December 2015), wetland cell (currently under licence) and holding cell. Green oval indicates approximate location of willow plantings in 2018. Image courtesy of Google Earth (Imagery date: 2015).



Figure 2. Willow plantings on north side of former dry cell. (Imagery date: October 29, 2018).