

Restoring and Improving Water Quality in the Minesing Wetlands

Nature Conservancy of Canada

Interim Report to Ontario Wildlife Foundation, December 21, 2022

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Project objectives:

The Nature Conservancy of Canada (NCC), partners, community members, and volunteers will undertake work across the Minesing Wetlands Natural Area to improve and restore water quality in these internationally significant wetlands. NCC plans to create a green infrastructure wetland on retired farmland, which will help reduce phosphorus and sediment load flowing into adjacent rivers and the wetlands. Stream bank stability and aquatic habitat will also be restored along 100 metres of stream by installing 2 woody revetments (wing deflectors) along the bank. At least 500 trees and shrubs will be planted along streambanks to help restore riparian zones, contributing to increased riparian habitat and erosion control. Volunteers will be engaged in restoration activities where they will learn about the significance of the Minesing Wetlands and the species that live there.

Interim Update

We are pleased to share that we've made great progress on the three project activity areas in 2022 and we have already met our engagement targets! 40 community volunteers were engaged in four Conservation Volunteers events in 2022, and we have more events planned for 2023. We have included brief updates in each of the project areas below along with our plans for 2023.

We are also thrilled to share that we received confirmation of funding from the federal Environment and Climate Change Canada's EcoAction grant! This will help us to expand the project beyond 2023 and complete the full suite of work planned. We have made some slight modifications to the work plan and schedule now that we know we have ongoing funding for the project for multiple years.

- 1. Installing Wing Deflectors in Willow Creek** - on July 20th, 21st and 22nd, we hosted three events to install additional layers on two existing wing deflectors in Willow Creek. Each of these were approximately 15m long and help to stabilize an additional 50m of streambank downstream while also improving a natural flow regime and sediment capture. These events were hosted in collaboration with the Nottawasaga Valley Conservation Authority (NVCA), and engaged a total of 31 volunteer community members, including several students earning volunteer hours. In summer 2023, we plan to host at least two volunteer events to install two new wing deflectors at sites further downstream and add layers on existing wing deflectors that need updated woody material, as identified by the NVCA. Preparation for this work will occur in the spring and early summer and installation will occur once water levels are low enough to safely work in stream. We will also replace some custom wing deflector installation equipment that was broken during the in 2022 installation events.
- 2. Tree planting in riparian zones** - In spring 2022 we completed riparian tree planting activities with volunteers, prior to the start date of the OWF grant so they are not detailed in this report. In May 2023, we will again be working with the NVCA to plant at least 500 native trees and

shrubs in new riparian locations. While we hope to include volunteers for these events, there are some challenges as these sites are further downstream into the Minesing Wetlands and materials and equipment will either need to be hiked in a fair distance or be boated in on canoes to reach the planting sites. Plans are already underway for this work.

3. **Green Infrastructure Wetland** - on October 28th, 2022, we hosted an event to install a woody revetment along a drainage route for a field historically used for farming. Over decades, annual cropping and tilling practices have allowed sediment and excess nutrients to flow into the Minesing Wetlands along this route, posing a risk to the wetland community. The old agricultural field was seeded with a native Ontario grassland mix in 2021 and a project to build earthen berms for wetland creation was considered. Through follow up monitoring, NCC staff determined that restoring a wetland vegetation community along the drainage routes would be more beneficial. In collaboration with the NVCA, we welcomed nine community volunteers to build a woody revetment to slow runoff and reduce sedimentation. Volunteers helped unwrap the trees and install the revetment. Approximately 300 trees were generously donated by the Somerville Nursery for this structure. To further support this new wetland community, NCC has ordered the Water's Edge Seed Mix from St. William's Nursery and Ecology Centre and will seed the wetland areas with this native grass and forb mix to ensure nutrient and sediment capture prior to entering the Minesing floodplain. In fall 2023, we plan to continue with this project by holding another event to plant a greater diversity of wetland forbs, grasses and shrubs and will consider if an additional woody revetment will be beneficial to ensure the stability of the soil during annual high-water flows.

Photos



Sharing of knowledge between a first-time volunteer and a long-standing volunteer and board member of the Friends of Minesing Wetlands group.



The team of volunteers and students show off the completed western wing deflector in Willow Creek.



Lots of smiles, despite the challenges of biting insects, difficult terrain, and weather conditions.



Despite the biting red ants at this site, these volunteers enjoyed completing the eastern wing deflector in Willow Creek.



These volunteers are co-workers from an engineering firm who were recognized for a team accomplishment and won a day off work to volunteer.



With frost still covering the trees, the team got right to work removing the plastic mesh and tags from each tree in October 2022.



A volunteer unwrapping and removing the plastic tags from the trees prior to woody revetment installation.



These two graduate students volunteered for the woody revetment installation day.



Completed woody revetment with the team involved in the installation.