

Brokenhead Ojibway Nation: Wetland Restoration and Monitoring Project

For the past two years, Brokenhead Ojibway Nation (BON) has been working with the [Centre for Indigenous Environmental Resources](#) (CIER) on a wetland restoration and monitoring project, with support from the [Native Plant Solutions](#), [Native Orchid Conservation Inc.](#), and [Lake Winnipeg Foundation](#) at different stages of the project.

The Brokenhead Wetland, located approximately 45 minutes northeast of Winnipeg, MB, is approximately 40,300 hectares in size. It is home to 23 provincially rare and uncommon plants, 28 of Manitoba's 36 native orchid species, 10 species of carnivorous plants, and a rare white cedar community. The wetland is culturally important to BON as a source of traditional medicines and foods. BON is leading efforts to protect this wetland; they have established a non-profit organization called Debwendon (www.debwendon.org) to help support this cause. BON has expressed concerns for the wetland area including flooding and erosion of streams and river banks, invasive species (e.g. purple loosestrife), the potential threat of invasive organisms (from the Devil's Lake diversion), and excess nutrients and pollutants from development, such as agriculture, surrounding Lake Winnipeg.

The purpose of the project is to enhance and restore wetlands within and adjacent to the Brokenhead Ojibway Nation's (BON) reserve, and to build the capacity of BON to conduct regular wetland monitoring. The ultimate goal is:

to establish wetland monitoring and hands-on restoration practices that will limit erosion to reduce nutrient loading to Lake Winnipeg, improve and conserve habitat for rare and culturally important species, and provide information to assist BON with planning and collaboration with other First Nations to improve the health of Lake Winnipeg.



There are 4 main overarching objectives for this multi-year project:

1. Provide monitoring training and collect data to monitor the wetland;
2. Develop a wetland restoration plan using scientific and Indigenous knowledge;
3. Implement restoration activities as a first phase of the wetland restoration plan; and,
4. Communicate the results to BON and other communities with interests in the wetland.

The following provides a summary of the activities to date and planned activities for the 2017-18 fiscal year:

YEAR ONE: 2015

- Held a planning workshop to bring together BON members and technical advisors to identify priority wetland restoration goals and activities to create the Brokenhead Wetland Restoration Plan.
- Hired a BON Community Researcher to lead wetland monitoring and restoration activities, and assist with event organisation in BON.
- Trained five BON members and one CIER staff in Canadian Aquatic Biomonitoring Network (CABIN) monitoring.

YEAR TWO: 2016

- A two-day planning workshop in Brokenhead Ojibway Nation to guide the restoration work by setting river and wetland protection and restoration goals, and selecting and scheduling appropriate restoration activities. It was decided that restoration activities would include stabilizing stream/river banks to control erosion and planting native species/buffer vegetation to reduce sedimentation to improve habitat for local recreational fisheries and ongoing monitoring activities.
- A site assessment was conducted to finalize restoration sites and the monitoring plan.
- A BON Restoration Report was developed as a guide for future ecosystem protection and restoration activities for BON.
- Developed and implemented a Purple Loosestrife Implementation Plan which involved scouting and confirming areas of purple loosestrife infestations; releasing beetles; collecting water samples; and, scouting and confirming stands of willows (to be used for shoreline erosion work).
- Priority areas for data collection were identified, water quality monitoring data was collected (following the CABIN protocol) and data is being entered into the national CABIN database and incorporated into the BON restoration report.



YEAR THREE: 2017 (start in July)

- CIER will work with BON and NPS on a series of restoration activities. The intention of the restoration work is to demonstrate techniques and build restoration skills for community members, and to build capacity of BON members to carry out regular wetland and water quality monitoring. Restoration activities will include:
 - Stabilizing the Brokenhead River bank to control erosion;
 - Planting native species/buffer vegetation to reduce sedimentation;
 - Mitigating against invasive plants (purple loosestrife) to improve habitat; and,
 - Educating community members about the importance of wetlands (e.g., delivering a BON community open-house presentation to discuss the results of the project; presenting to the National Aboriginal Land Managers Association).