

Ganawenim Meshkiki's Eastern Georgian Bay Initiative Annual Update

February 11, 2025

Mr. Patrick Brennan
Executive Director,
Ganawenim Meshkiki

Dear Mr. Brennan,

Please accept this as Fleming College's funding report for the year ending 2024.

The 3-year funding from the Ganawenim Meshkiki Initiative

Specifically, the funding will support creation of nearly 60ha new Kirtland's Warbler habitat through:

- Wild collection of tree, shrub and non-woody seeds
- Seed cleaning
- Soil tilling and frost-seeding
- Invasive species treatment
- Training of seed collectors and cleaners

The following is an update based on the milestones and deliverables from Fleming College's proposal:

Activity 1

Collect and clean a large variety of seeds associated with xeric, early successional pine-oak forest. A species list is provided in Appendix B. Our goal is to collect a variety of these seeds from multiple areas throughout region to best initiate a high-diversity ecosystem. These activities and deliverables will be the total of activities supported by this proposal and additional funding and therefore would be difficult to partition among funding sources.

Deliverable

2024 Collect and clean 13kg (weight is post-cleaning) of shrub and non-woody seeds, 100kg of tree nuts, and 20kg of grass seed. In total, a minimum of 30 species of vegetation will be collected.

2024 Activity 1 Actions Completed

In 2024, our group collected and cleaned:

- 90 species of seeds weighing a total of 245.75 kg
 - Forbs: 23.97 kg

- Graminoids: 22.86 kg
- Shrubs: 4.15kg
- Vines: 0.11kg
- Trees: 194.66kg
- Fleming College's staff and students cleaned more than 11.9kg of forbs, graminoids, and shrubs as well as more than 60kg of acorns.

Activity 2

Collect and develop systems for propagating and planting difficult to seed shrubs including native blueberries (*Vaccinium spp.*) and Sweet Fern (*Comptonia peregrina*) including by students in Fleming College's Woody Plant Propagation course. We will attempt to propagate these species using stem and root cuttings as well as seeds. Propagated vegetation will be planted as part of habitat creation.

Deliverable

2024

Collect seeds and cuttings from 1 species of blueberry and sweet fern. Attempt to propagate branch and root cuttings of both species. Clean and stratify seeds. As these are new processes for this group, amounts are difficult to pre-determine, but it is expected that over the period of this project that we will be propagating a minimum of 200 blueberry and 200 sweet fern plants per year.

2024 Activity 2 Actions Completed

In July 2024, we collected more than 50 cuttings of Low Sweet Blueberry (*Vaccinium angustifolium*). We attempted to root the growing season cuttings in the Fleming College greenhouse, but none of them were successful. This winter we plan on taking some dormant season cuttings and will attempt rooting those. We also collected Sweet Fern (29g) and Blueberry seeds and will be growing those out.

Activity 3

Perform training and knowledge transfer between Mary Gartshore Ecological Consulting and Fleming College staff on seed cleaning and storage methods. The intent of this activity is to support a transition of current seed cleaning activity from Simcoe in Norfolk County to Lindsay in City of Kawartha Lakes and that will include students. Current systems involve collecting seeds near the FNR and then transporting the seeds almost 400km to the south for cleaning. This proposal will reduce seed transportation and will also help develop infrastructure, staff capacity and student learning opportunities and additional training for seed-based restoration.

Deliverable

2024	Have at least 2 Fleming staff member attend Mary Gartshore Ecological Consulting's seed cleaning facilities for 2 days to learn techniques for seed cleaning (removing outer sheaths around fruits/seeds) to prepare them for planting. Mary Gartshore will attend Fleming College's facilities for 1 day to advise on infrastructure needs to expand seed cleaning activities. Staff will also reach out to other seed cleaning facilities such as the St. Williams Eco Centre to see their operations. A short report outlining Fleming College equipment and facility needs will be prepared.
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2024 Activity 3 Actions Completed

Two Fleming staff technologists attended Mary Gartshore's seed cleaning facilities for two days (November 21 and 22, 2024) to learn seed cleaning techniques and evaluate equipment needs. Staff practiced cleaning seeds from many different species; Mary Gartshore prepared for the training by selecting seeds requiring various techniques and which had different challenges. To accommodate variation between proposed and approved budgets, we will prepare a report internally.

Activity 4

Perform site preparation for planting ploughing/tilling and packing of cropped agricultural fields to prepare them for seeding after their final harvest. Crop residues will be ploughed into the soils and seed banks of annuals will be released. Following site preparation, acorns/nuts will be planted using a tractor-mounted tree planter and seeds will be spreader using a tractor-towed broadcast seeder.

Deliverable

2024	Plough, pack, and seed 19ha.
2025	Plough, pack, and seed 22ha.
2026	Plough, pack, and seed 20ha (the location of this is to be determined as it will be a subsequently acquired property for Kirtland's Warbler habitat expansion.

2024 Activity 4 Actions Completed

Fleming College staff worked with a local farmer to plough (till) and pack 19ha of harvested cornfield between November 29 and December 3, 2024 (after the corn was harvested). Snow began to fall immediately after this and to not damage equipment with mud and moisture, we decided to perform a spring seeding. We have stored the prepared mixed seed to perform the broadcast seeding as soon as possible.

Activity 5

Use herbicide (ex. Garlon) to treat invasive species that threaten the creation of habitat. Invasive species, generally found in the hedgerows on the site, include Autumn Olive, Tartarian Honeysuckle, Black Locust, European Buckthorn and Black Swallowwort. Due to variations in access, densities, and methods for different species this deliverable will be based on performing a specified number of days of treatment.

Deliverable

2024	Perform 4 days of herbicidal treatment.
2025	Perform 4 days of herbicidal treatment.
2026	Perform 4 days of herbicidal treatment.

2024 Activity 4 Actions Completed

To accommodate lower funding amounts than requested, we did not perform the herbicidal treatment in 2024. We intend to perform herbicidal treatments in 2025.