

LATORNELL CONSERVATION SYMPOSIUM

Mount Pleasant Sub-Area 51-1 Restoration

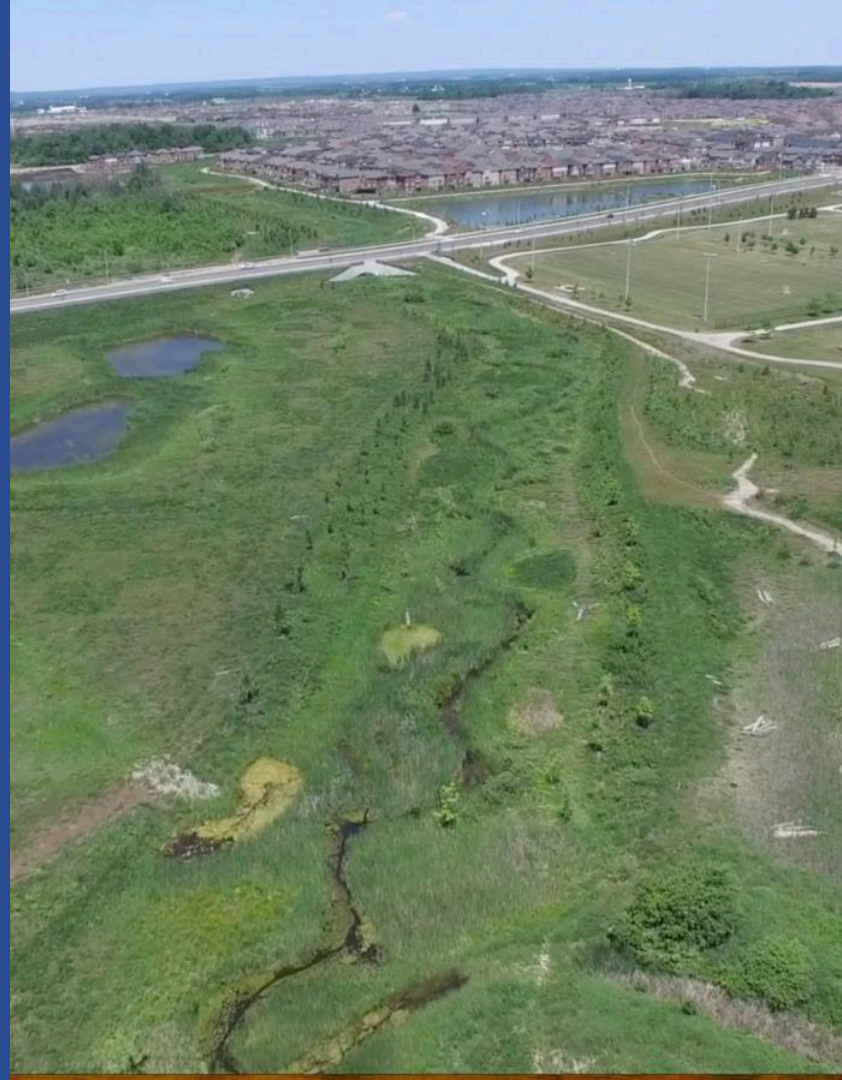
5th Year Terrestrial Performance Monitoring

Presented by Melanie Randolph and James Leslie

Presentation Outline

- Introduction to Mount Pleasant Sub-Area 51-1
- Restoration Goals
- Unexpected Outcomes and Resiliency
- PSW Designation
- Preliminary Terrestrial Performance Monitoring Results
 - Vegetation Monitoring
 - Wildlife Monitoring
- Conclusions and Lessons Learned
- Moving Forwards

NOVEMBER 21, 2019



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Introduction

Mount Pleasant Promotional Video

NOVEMBER 21, 2019

Restoration Goals – EIR Objectives

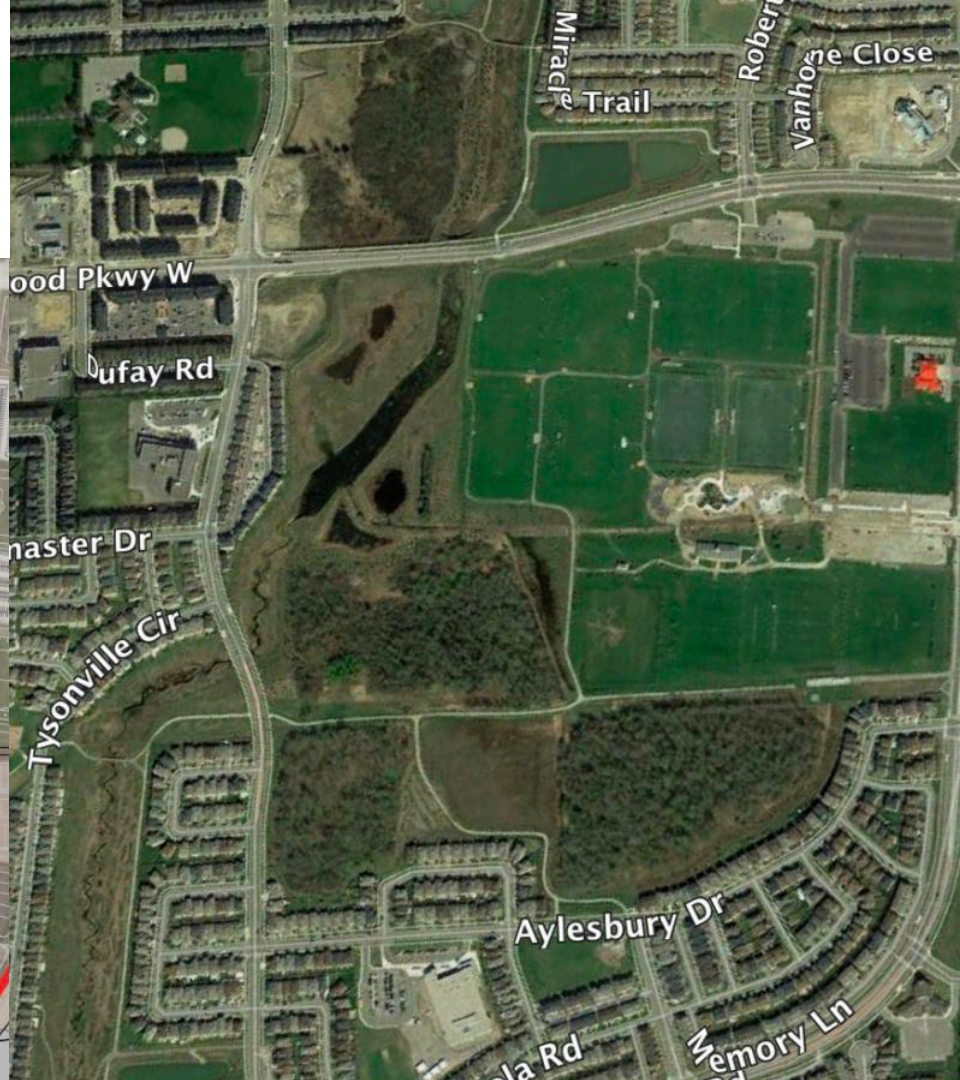
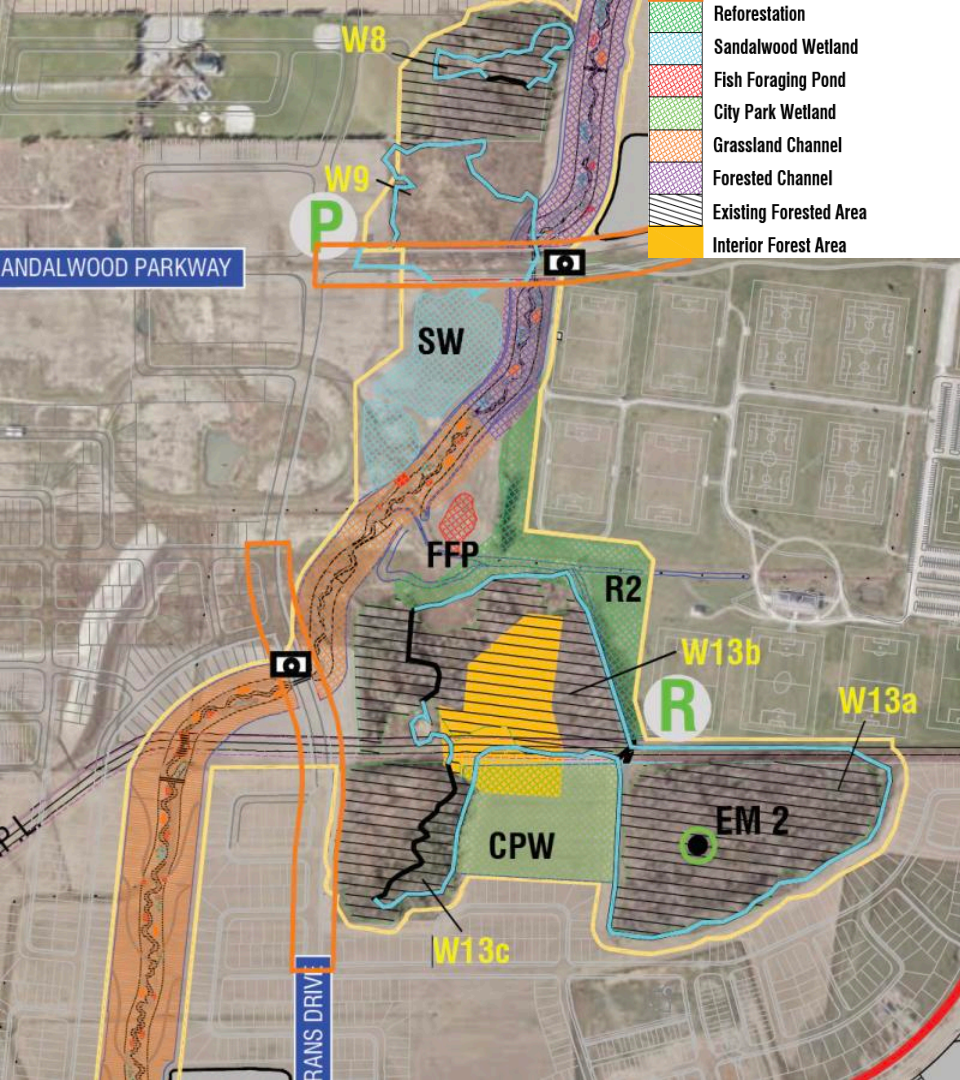
- Protection
- Enhancement
- Restoration
- Diversity
- Linkage
- Resilience
- Sustainability
- Integration with urban uses
- Efficiency
- Balanced



Unexpected Outcomes and Resiliency

Latornell Conservation Symposium

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PSW Designation

- Recent development of a dedicated natural heritage system has resulted in improvements to existing wetlands and the creation of four new Provincially Significant Wetlands (Wetland Nos. 25, 35, 36 & 48) (MNR 2018)
- These created wetlands constitute 5% of the overall Huttonville Creek & Area Wetland Complex
- Wetland 25 is 0.8 ha in size and supports habitat for BARS, Common Snapping Turtle, breeding amphibians, native fish species, waterfowl (Mallard and Canada Goose) and two locally uncommon plant species



PSW Designation

- Wetland 35 is 0.42 ha in size and supports habitat for BARS, breeding amphibians, waterfowl (Mallard and Canada Goose) and is a wetland type not well represented elsewhere in the wetland complex
- Wetland 36 is 0.33 ha in size and supports habitat for waterfowl (Mallard and Canada Goose) and a locally rare plant species
- Wetland 48 is 1.44 ha in size and supports habitat for Redside Dace, BARS, waterfowl (Mallard and Canada Goose) and a locally rare plant species



Preliminary Terrestrial Performance Monitoring Results

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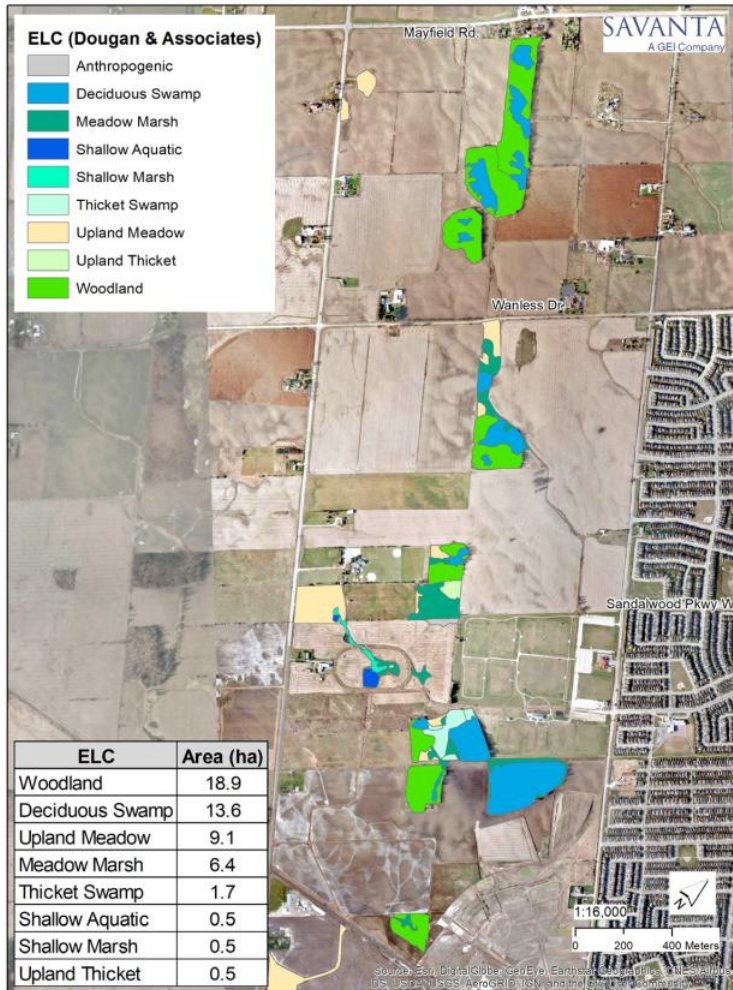
Vegetation Monitoring

- Two target objectives:
 - Net gain of ELC community types
 - Net gain in native species diversity

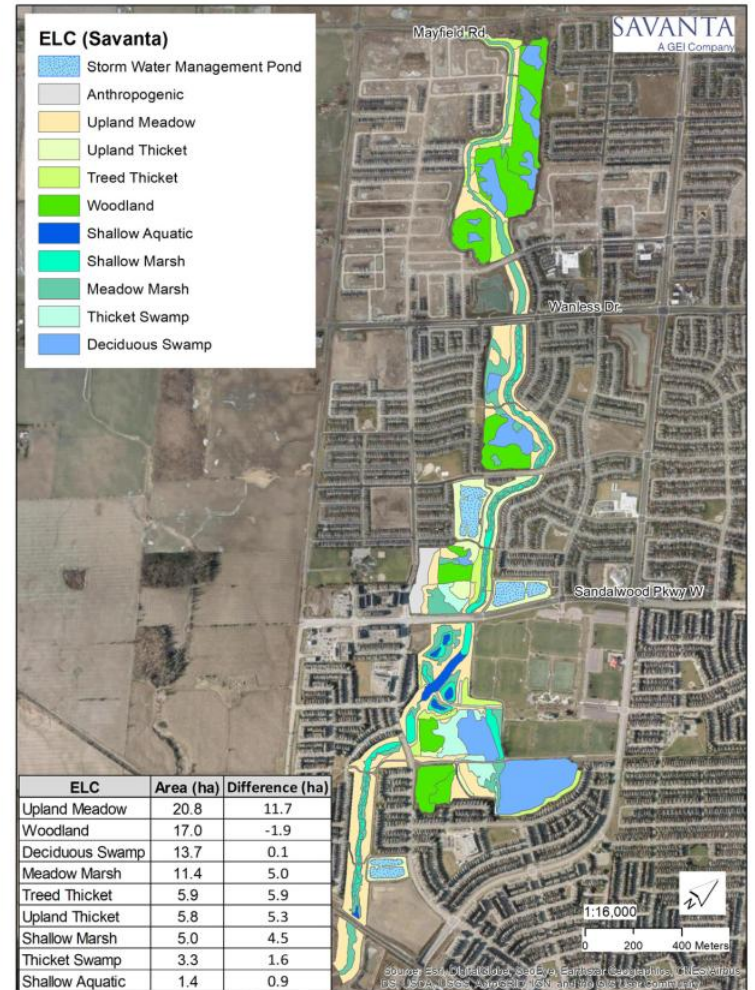


Photo credit: NAK Design Strategies

2011 Ecological Land Classification (ELC)



2019 Ecological Land Classification (ELC)



Vegetation Monitoring

- Preliminary analysis of ELC diversity
 - Small increase in community types, but much greater coverage of most
 - THMM1-1 Native Mixed Regeneration Thicket
 - MAMM1-14 Rice Cut-Grass Graminoid Mineral Meadow Marsh
- Combined perimeter of ELC vegetation communities:
 - 29,350 m pre-construction
 - 84,556 m post-construction

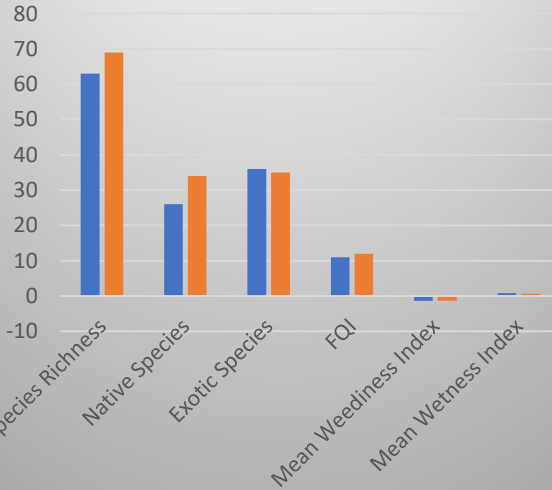
Vegetation Monitoring

- Plot surveys completed in 2016 and 2018
 - 62 plots targeting the restored channels, restored woodlands, and restored areas outside of the channel
 - Self-funded

Vegetation Monitoring

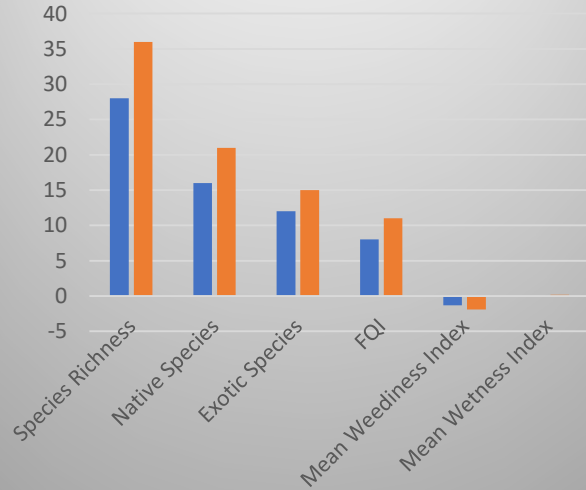
RESTORED CHANNELS

■ 2016 ■ 2018



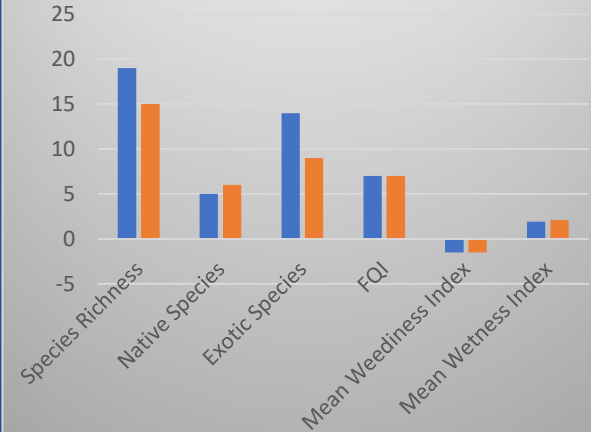
RESTORED WETLANDS

■ 2016 ■ 2018



RESTORED GRASSLANDS

■ 2016 ■ 2018



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Shallow Marsh



Thicket Swamp



Channel Banks – Upland Meadow



Upland Meadow / Treed Thicket



Meadow Marsh Floodplain

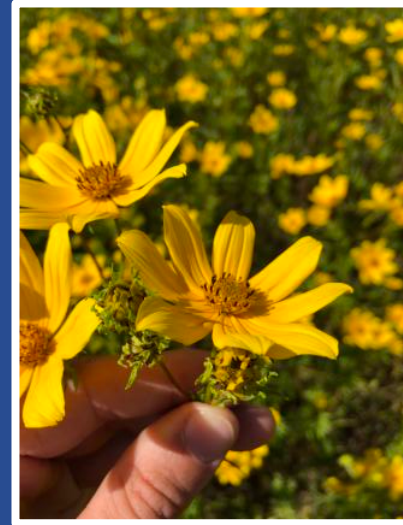


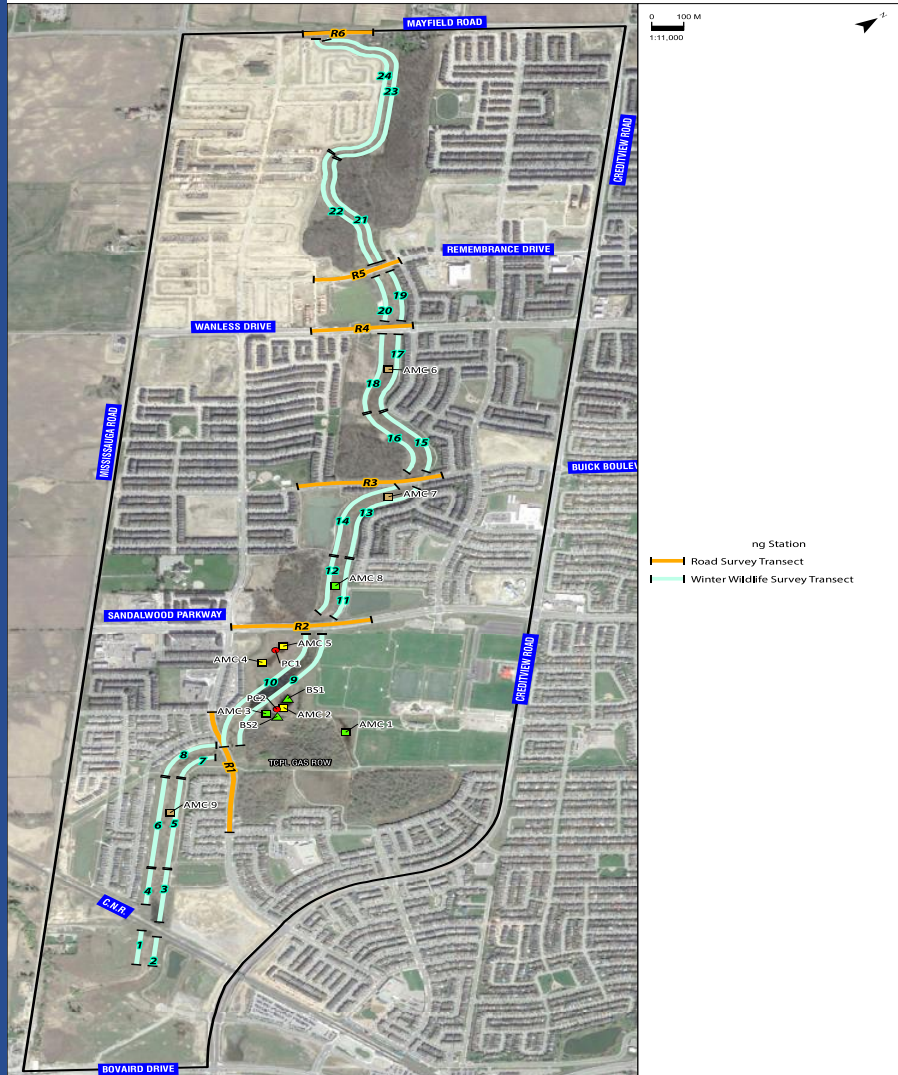
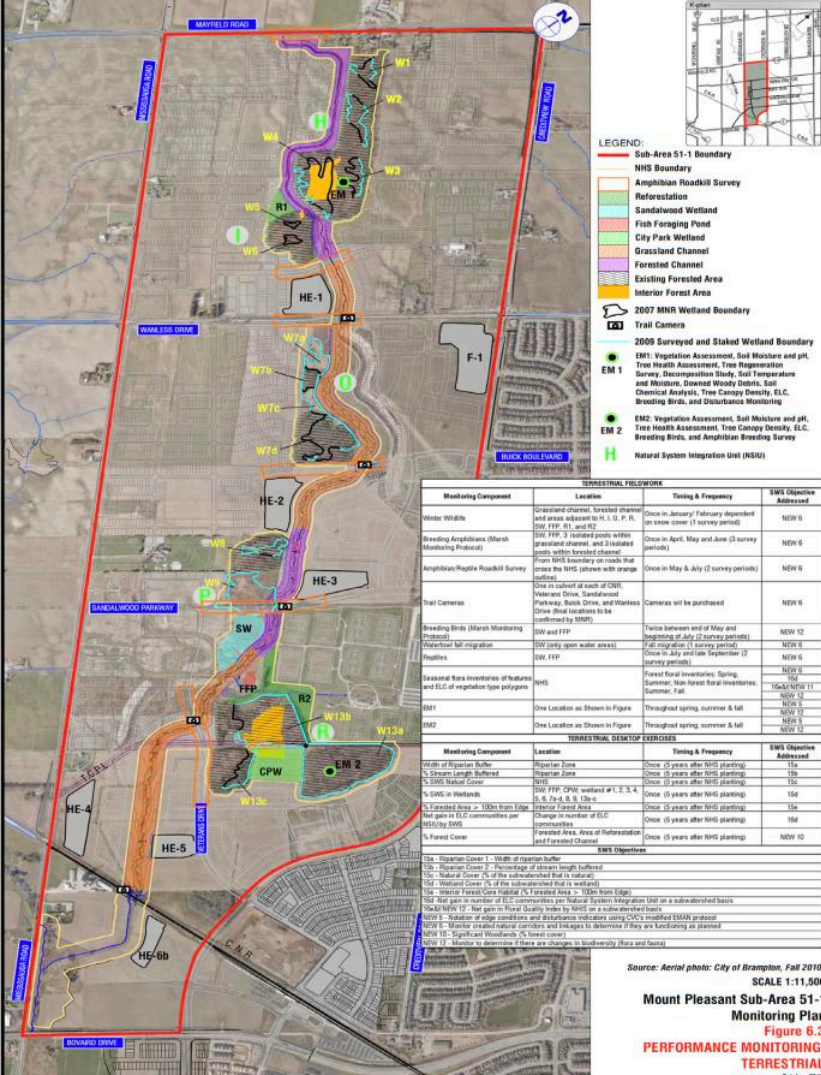
Upland Meadow / Grasslands



Vegetation Monitoring

- 2019 Preliminary Results
 - 249 species documented, 65% native, 35% exotic
 - FQI: 44
 - Mean Weediness Index: -1.6
 - Mean Wetness Index: 0.7
- Species of note
 - Tall Boneset (*Eupatorium altissimum*, S1)
 - Stiff Goldenrod (*Solidago rigida* ssp. *rigida*, S3)
 - Dense Blazing-Star (*Liatris spicata*, S2, THR)
 - Awnless Beggarticks (*Bidens polylepis*, exotic)





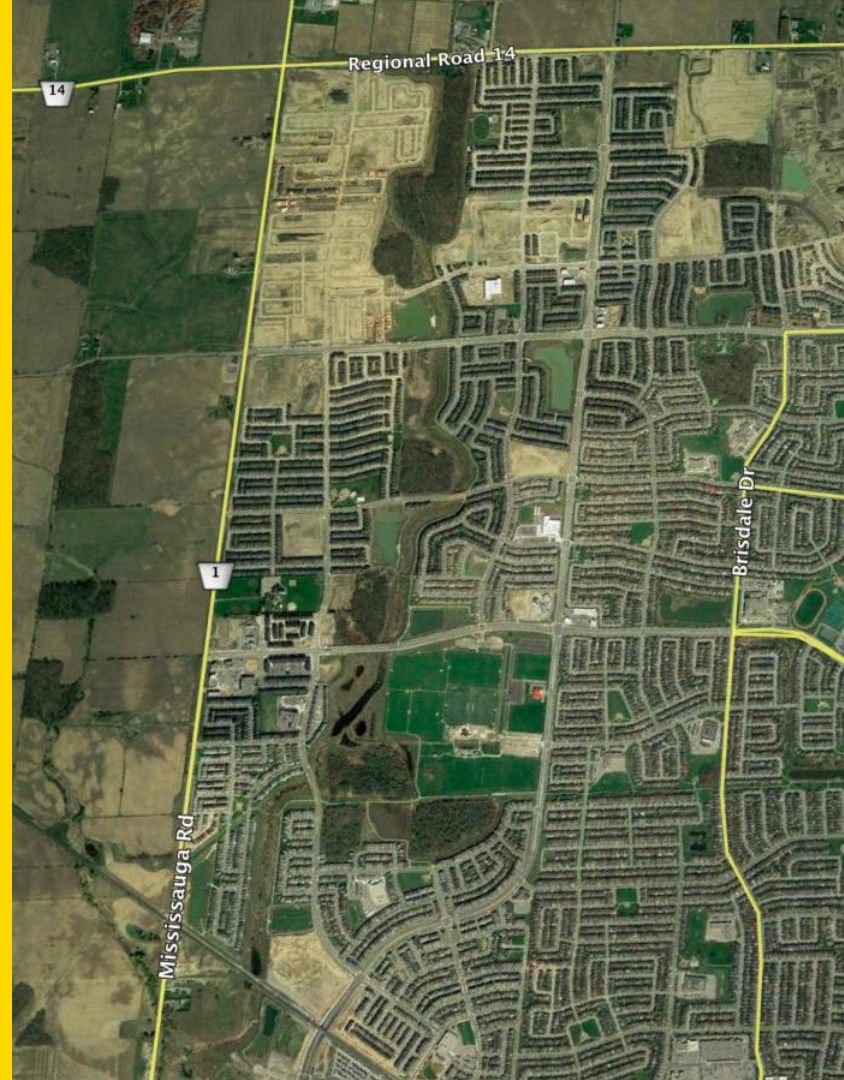
Wildlife Monitoring

- Corridor facilitating movement for large and small mammals; e.g., Coyote, Mink, Deermouse
- New bird species observed such as Northern Pintail Duck and Pied-billed Grebe
- Increase in number of amphibians observed and two turtle species observed: Midland Painted Turtle and Common Snapping Turtle
- Road fencing and crossings were found to be functioning as planned



Conclusions and Lessons Learned

- Preliminary Success!
 - Stakeholder collaboration at all stages is key
- Lessons learned
 - In order to properly analyze your data, it is ideal to conduct the baseline surveys yourself, or in the least, get all of the data from the other consultant
 - Ideally you will conduct multiple rounds of baseline and performance data so there are enough data sets to complete a meaningful statistical analysis



Moving Forward

- We planned for succession of forests by planting early successional species as well as hardwood species
- Recommend that monitoring continues by agencies, particularly to provide more information on whether the forested communities function as planned

