

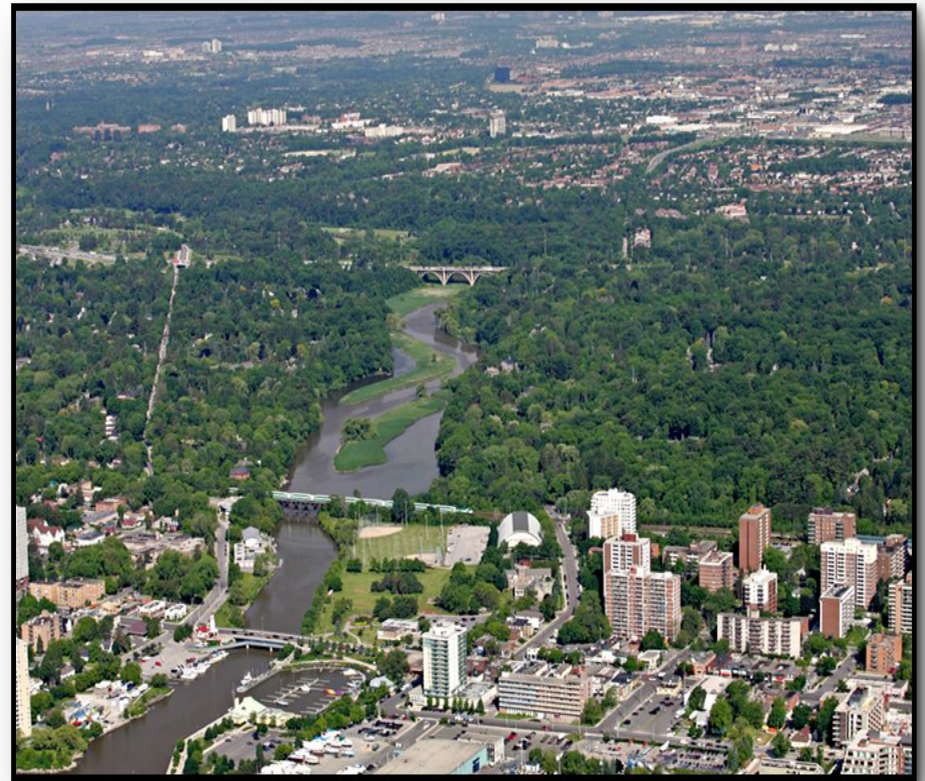
Invasive Species Management Plan and Implementation Strategy (ISMP & IS)

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City of Mississauga

- 29 214 ha in size
- ~752 000 residents
- 6th largest city in Canada



Mississauga's Urban Forest

- Approximately 2.1 million trees
- 19% canopy cover
- ~234 species
- Maple & Ash

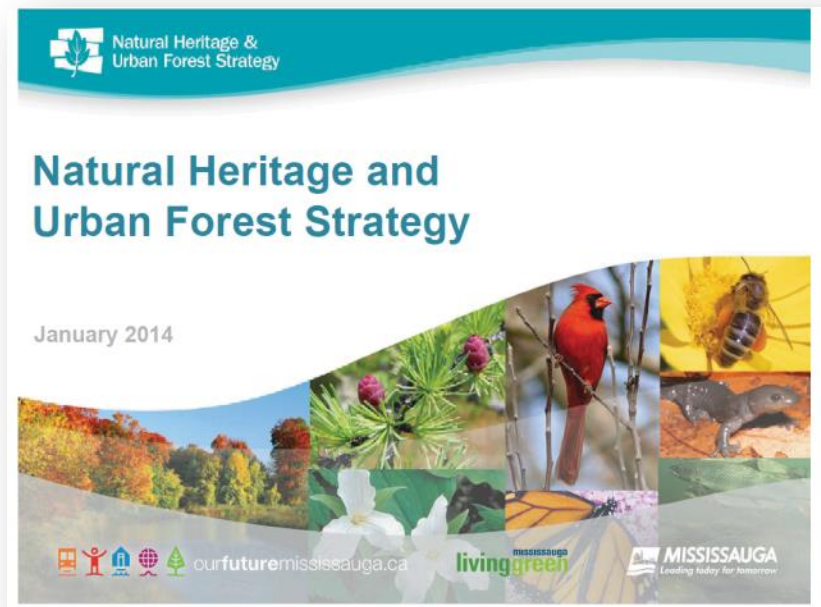


Introduction

- City's natural heritage system (NHS) and urban forest includes more than 2,737 ha and 2.1 million trees
- Social and environmental benefits
- Challenges to properly and safely manage
- Invasive Species Management Plan and Implementation Strategy (ISMP & IS) created to guide efforts
- ISMP & IS supported by City-wide strategy documents

Natural Heritage and Urban Forest Strategy (NH & UFS, 2014)

- Conserve natural features and improve over long term
- Natural heritage and urban forest in one strategy
- Proactive management to sustain long-term health of trees and natural areas
- 26 strategies



Natural Heritage and Urban Forest Strategy (NH & UFS, 2014)

Strategy #15

- Undertake targeted invasive species management in the NHS
- Implement a pest management plan for the Urban Forest that will build on the lessons learned from dealing with the Emerald Ash Borer (EAB)

Urban Forest Management Plan (UFMP, 2014)

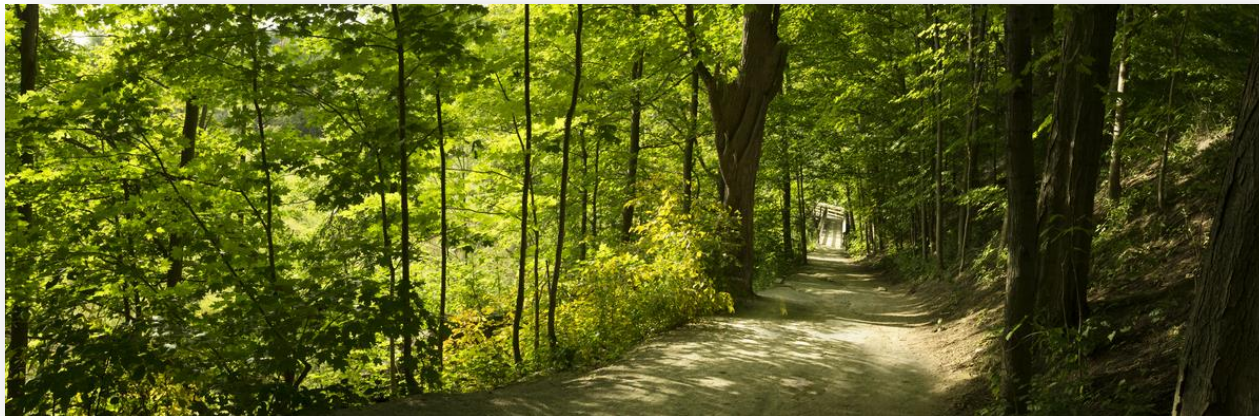
- Takes direction from NH & UFS
- Provides more detailed technical, operational, and tactical guidance
- 30 Actions intended to improve health, sustainability, and performance of the urban forest



Urban Forest Management Plan (UFMP, 2014)

Actions #9 & 10

- Develop a pest management plan for the Urban Forest
- Undertake targeted invasive species plant management in the NHS



Natural Areas Survey (NAS)

- Ongoing source of data to inform management



<http://www.mississauga.ca/portal/residents/nas>

NAS

- Commenced in 1996
- Surveys conducted annually
- Each natural area surveyed every 4 years
- Data collected: flora, fauna, vegetation communities, boundary changes, general condition, and management concerns
- Database for analysis and management of data

<http://www.mississauga.ca/portal/residents/nas>

NAS

- ELC vegetation community mapping used to identify high quality and unique features
- Flora and fauna database from research collected over 20 years



ISMP & IS Goals and Objectives

Provide an organized targeted approach to managing terrestrial invasive species in an economically efficient manner while enhancing native biodiversity and overall ecological integrity of the City's natural areas.

Objectives:

- Reduce abundance of invasive species
- Increase ecological integrity
- Optimize resources through collaboration
- Monitor effectiveness

Collaboration

- Core working group (City staff, conservation authority, local conservancy)
- Consultant (ecologists, arborists, entomologist, invasive species specialist)
- Stakeholder consultation
- Public information session



Deliverables

- Background Analysis Report
- ISMP & IS
- Field data forms



Background Analysis Report

- Document review
- Agency consultation
- Existing conditions
- Guiding principles
- Vision
- Identification of priority species and sites

Setting Priorities

- Focus management on species with:
 - the greatest potential to impact Natural Areas, and
 - a potential threat to human health.
- Focus management on sites that are:
 - flagship Significant Natural Areas

NOW ☒
LATER ☐



Priorities

- Priority invasive species
 - 19 flora
 - 3 fauna
- Priority natural areas
 - 10 sites



ISMP & IS Components

- Inventory, monitoring, and mapping
- Control and restoration triggers
- Management in response to EAB
- Biomass disposal
- Prioritizing resource allocation
- Funding and grants
- Public education and engagement
- Partnerships
- Tracking progress
- Decision-making tools

Cost Estimate Example

Cut & treat Buckthorn, chip & remove materials (leave stumps)

- Productivity/day:
 - Dense growth (10 stems/m²) = 0.09 ha
 - Light/scattered growth (1 stem/2 m²) = 0.4 ha
- Staffing requirements/day = 4 people
- Cost/day (labour and equipment) = \$2,920
- Cost/ha:
 - \$32,400 dense growth
 - \$7,300 light/scattered growth

Demonstration Sites

- 2 demonstration sites
- Variety of challenges/opportunities
- Focus efforts for 5 years
- Use information learned from demonstration sites to expand program to the 10 priority natural areas
- Informs management cost estimates for priority sites

Lessons Learned

- Background studies are essential for setting priorities
- Identify need in Strategic Plans or Master Plans
- Incorporate decision-making tools to ensure consistent application of ISMP&IS in the long term

Next Steps

- Finalize document
- Public information session
- Demonstration sites:
 - Baseline inventory
 - Control measures



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