

A scenic view of a pond with a stone bridge, a stone lantern, and red maple trees. The bridge is made of stone and has a black metal railing. The pond is surrounded by lush greenery and trees with autumn foliage. A stone lantern stands in the foreground near the water's edge, surrounded by red maple trees. The water reflects the surrounding trees and the sky.

# Managing Environmentally Significant Areas in Growing Urban Centres

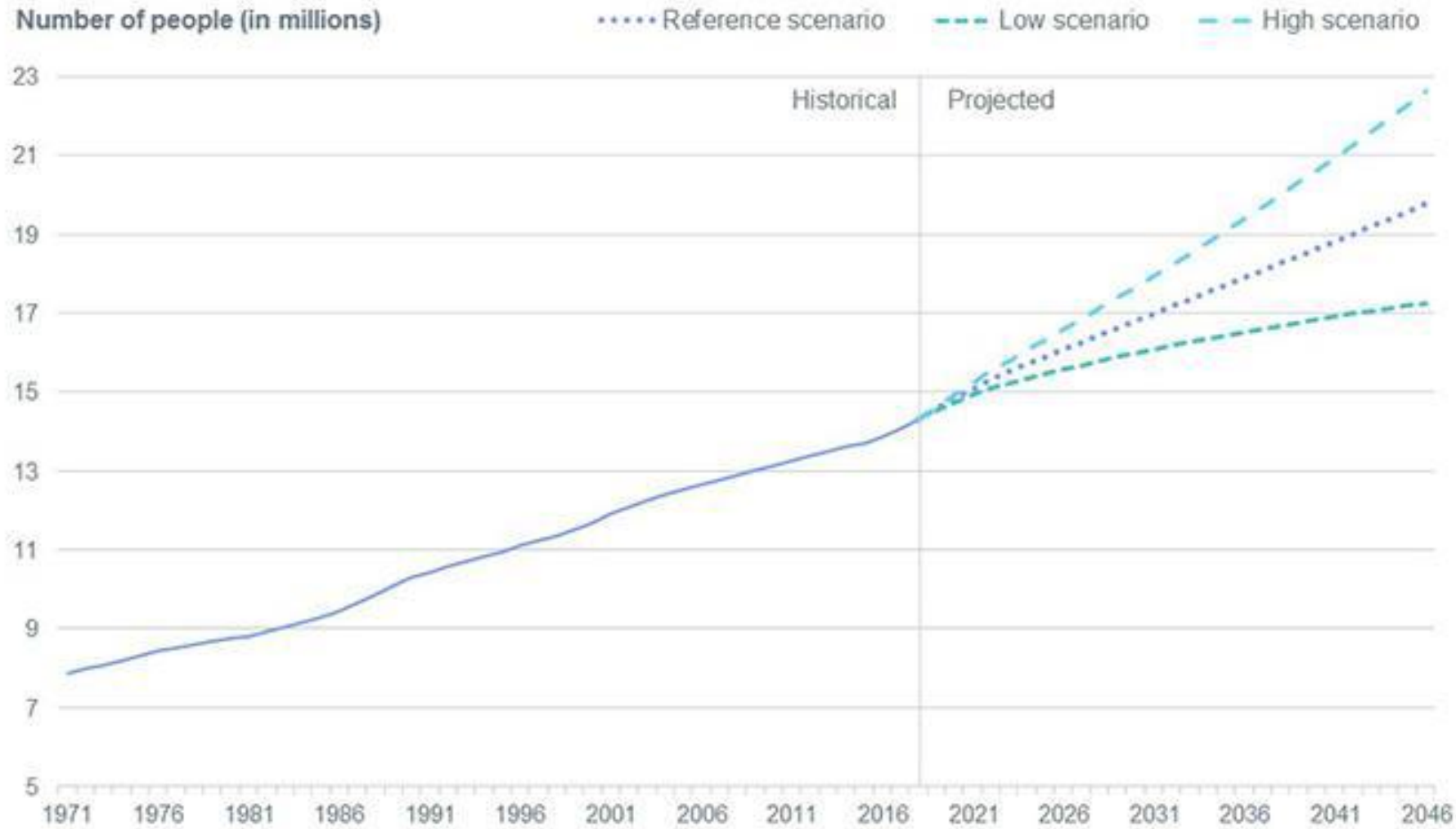
Jen Petruniak, *Partner & Technical Lead, Environmental Sciences*

Latonnell 2019

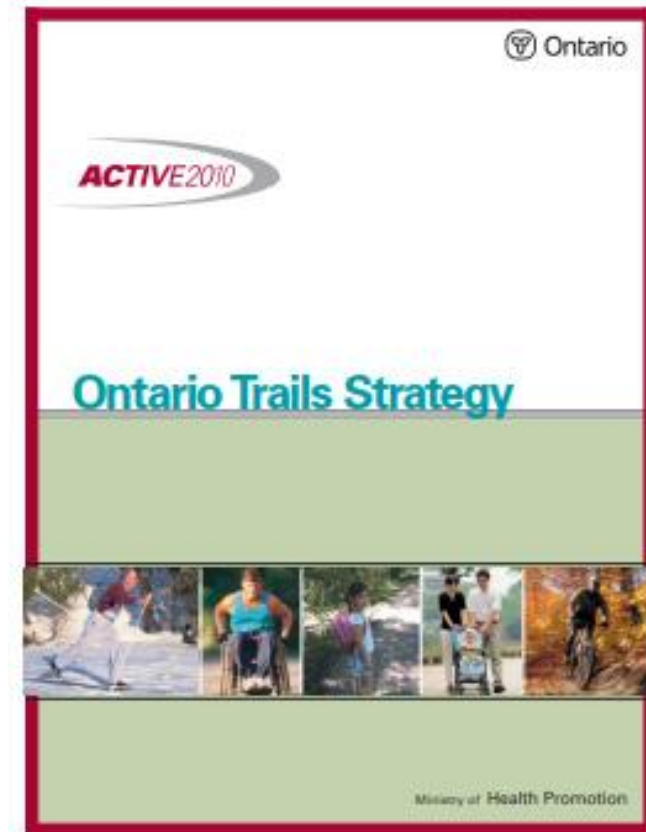
The logo for Dillon Consulting, featuring a stylized white graphic of two intersecting lines above the company name.

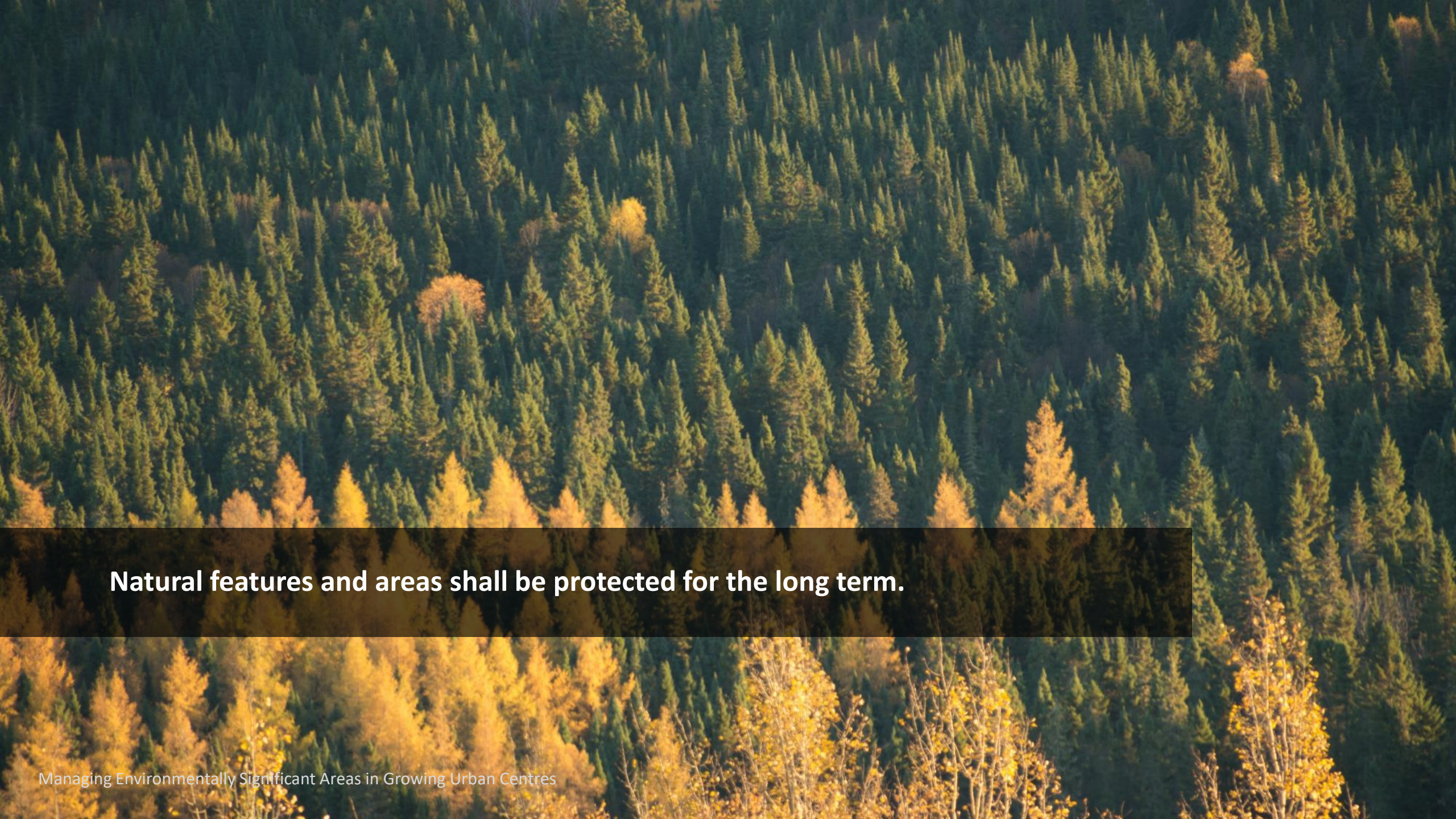
**DILLON**  
CONSULTING

# Population pressures




# Mental Health Crisis





**Natural features and areas shall be protected for the long term.**



**Rising population + Desire to connect with nature =  
Increase pressure on natural areas**

**At what recreational carrying capacity does a natural area impact the  
quality of the visitor experience?**

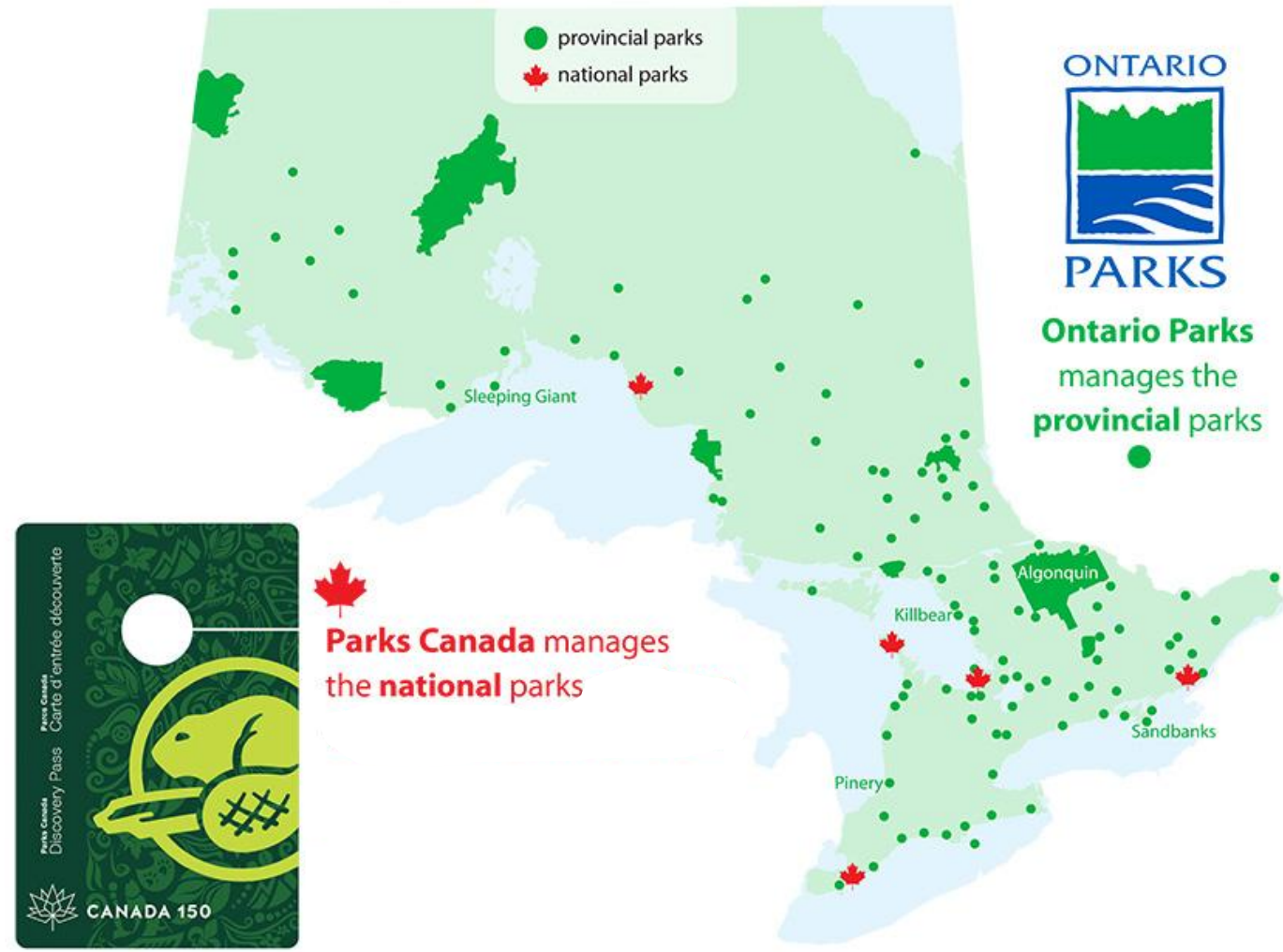
# Protected Natural Areas

<i>LEVEL OF GOVERNMENT</i>	<i>CITIES/URBAN AREAS</i>	<i>GOVERNMENT OF ONTARIO</i>	<i>GOVERNMENT OF CANADA</i>
<b><i>Protected Natural Area</i></b>	Environmentally Significant Area	Provincial Park (Wilderness, Nature Reserve and Natural Environment Classes)	National Park
<b><i>Description of Natural Area(s)</i></b>	Contain natural features and perform ecological functions that warrant their retention in a natural state.	Areas selected to represent the distinctive natural habitats and landforms of the province.	A representative natural area of Canadian significance. National parks represent each of Canada's distinct natural regions.

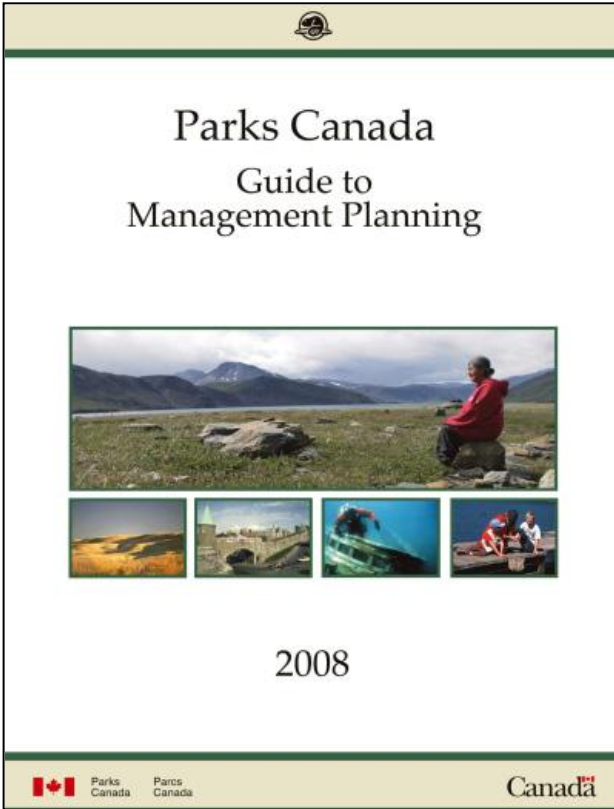
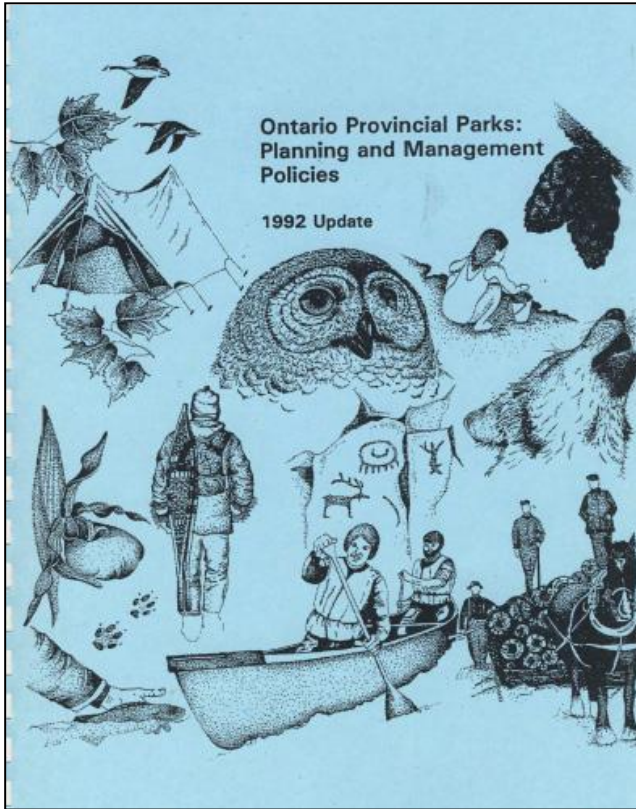
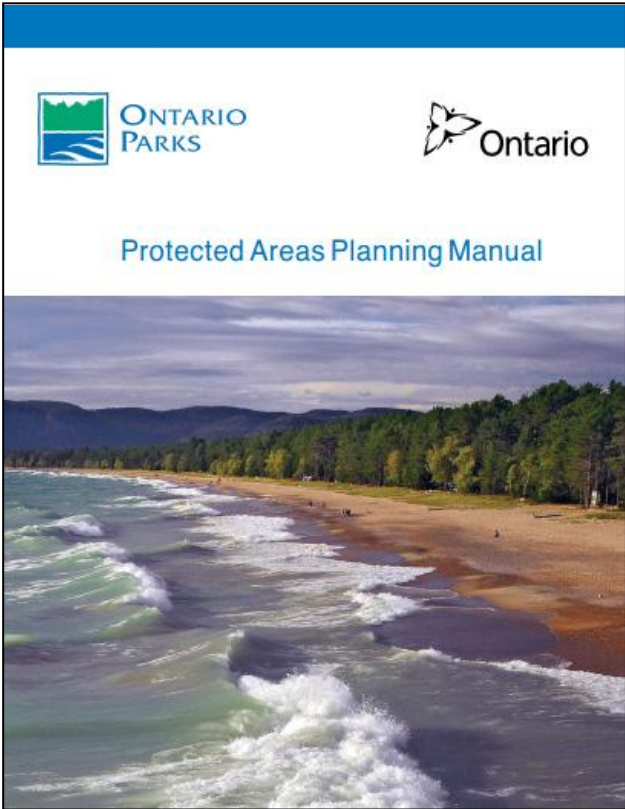
# PRIORITIES FOR PROTECTED NATURAL AREAS

Level of Government	City*	Government of Ontario	Government of Canada
Protected Natural Area	ESA	Provincial Park (Wilderness, Nature Reserve and Natural Environment Classes)	National Park
Management Priority	Protection of the natural features and ecological functions that support ecological integrity and ecosystem health	Maintain ecological integrity and provide consideration for the restoration of ecological integrity	Maintenance or restoration of ecological integrity
Objectives/ Mandate	<ol style="list-style-type: none"> <li>1. Protect natural area</li> <li>2. Facilitate opportunities for nature-based passive recreation</li> </ol>	<ol style="list-style-type: none"> <li>1. Protect natural area</li> <li>2. Facilitate opportunities for high quality, low-impact recreation.</li> <li>3. Support education and research</li> </ol>	<ol style="list-style-type: none"> <li>1. Protect natural area</li> <li>2. Facilitate opportunities for visitor experience</li> <li>3. Provide public education</li> </ol>

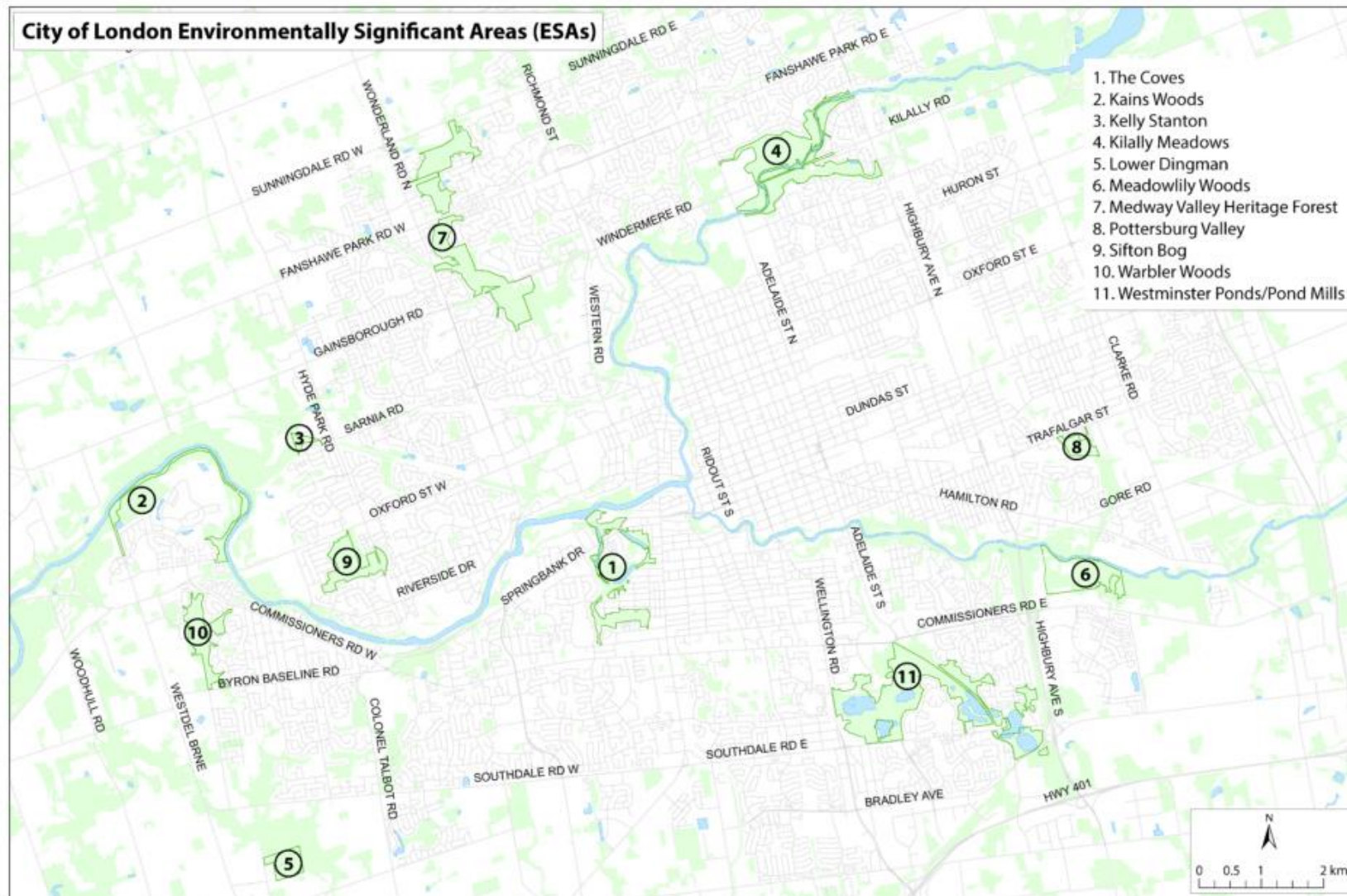
# Locations of Protected Natural Areas in Ontario



# Provincial and Federal Guides to Managing Natural Areas



# Managing an ESA in an Urban Area



- Parking, washrooms
- Encroachment
- Invasive species
- Trail systems, including bridges, staircases, boardwalks
- Hazard tree assessment
- Garbage
- Unofficial access points
- Off-leash dogs
- Use (group size, off/on peak times)
- Maintain infrastructure

# Management Plan Tasks



# Municipal Guidelines



### OALA Award for Service to the Environment

This award is given to a non-landscape architectural individual, group, organization, or agency in the Province of Ontario to recognize and encourage a special or unusual contribution to the sensitive, sustainable design for human use of the environment. The contribution must emulate the fundamental principles of OALA and the OALA Mission Statement and go beyond the normal levels of community action in preserving, protecting or improving the environment.

#### City of London for: Guidelines for Management Zones & Trails in Environmentally Significant Areas

The "Guidelines" were developed through a multi-year, community-engagement process led by a multi-disciplinary team of landscape architects and ecologists from the City of London with support from scientists and facilitators at Dillon Consulting Inc. to develop a science based, repeatable, and transparent trail planning policy and process that enhances the community engagement experience, stewardship and the protection of ecological features and functions.

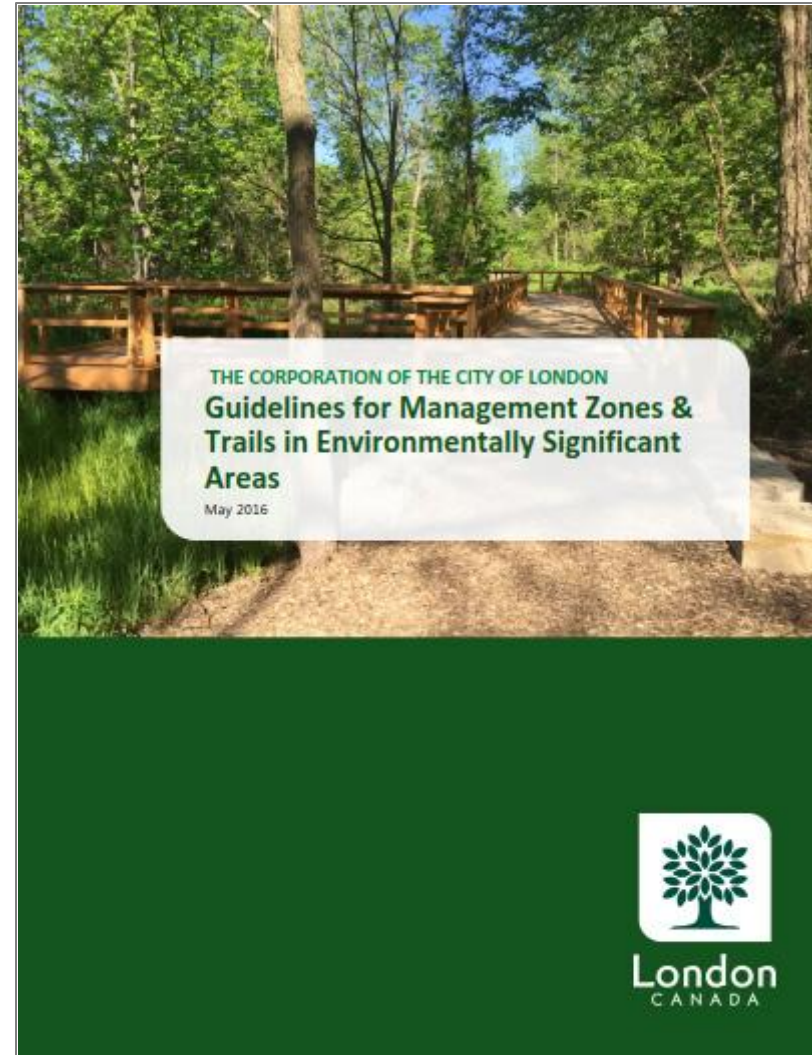
The science first process outlined in the Guidelines provide an opportunity for community members and stakeholders to review the significant features and functions present in order to make informed decisions in the trail planning process, enhancing the understanding of the ESA and local stewardship.

The Guidelines and process are aligned with and emulate the fundamental OALA principles and OALA mission statement and are a strong contribution to the practice of landscape architecture providing direction for sustainable design for human use and protection of the environment.

To view the entire Guidelines document, [please click here to view a pdf copy.](#)



Accepting the award is project lead, Linda McDougall.



# Guiding Principles of Conservation Master Plan

- ✓ **Natural features and ecological functions** for which the ESA has been identified **shall be protected**.
- ✓ **The ecological integrity and ecosystem health of the ESA shall have priority in any use or design related decision.**
- ✓ **A properly designed and implemented trail system appropriate to specific management zones** and reflecting sensitivity of the natural features will be implemented to achieve the primary objective of protection and the secondary objective of providing suitable recreational and educational opportunities.

# Guiding Principles of Conservation Master Plan

- ✓ **The community will be engaged** in natural areas protection and the trail planning process to build awareness, foster education, and encourage participation in order to increase the capacity for creating a conservation culture that promotes natural areas as a common good and **conservation as a collective responsibility**.
  
- ✓ **Enjoyable, safe, accessible trails** for recreation appropriate in an ESA and learning environment **will be permitted in accordance with** any/all recognized **accessibility legislation such as the Accessibility for Ontarians with Disabilities Act, (AODA)**, best practices and the above principles.

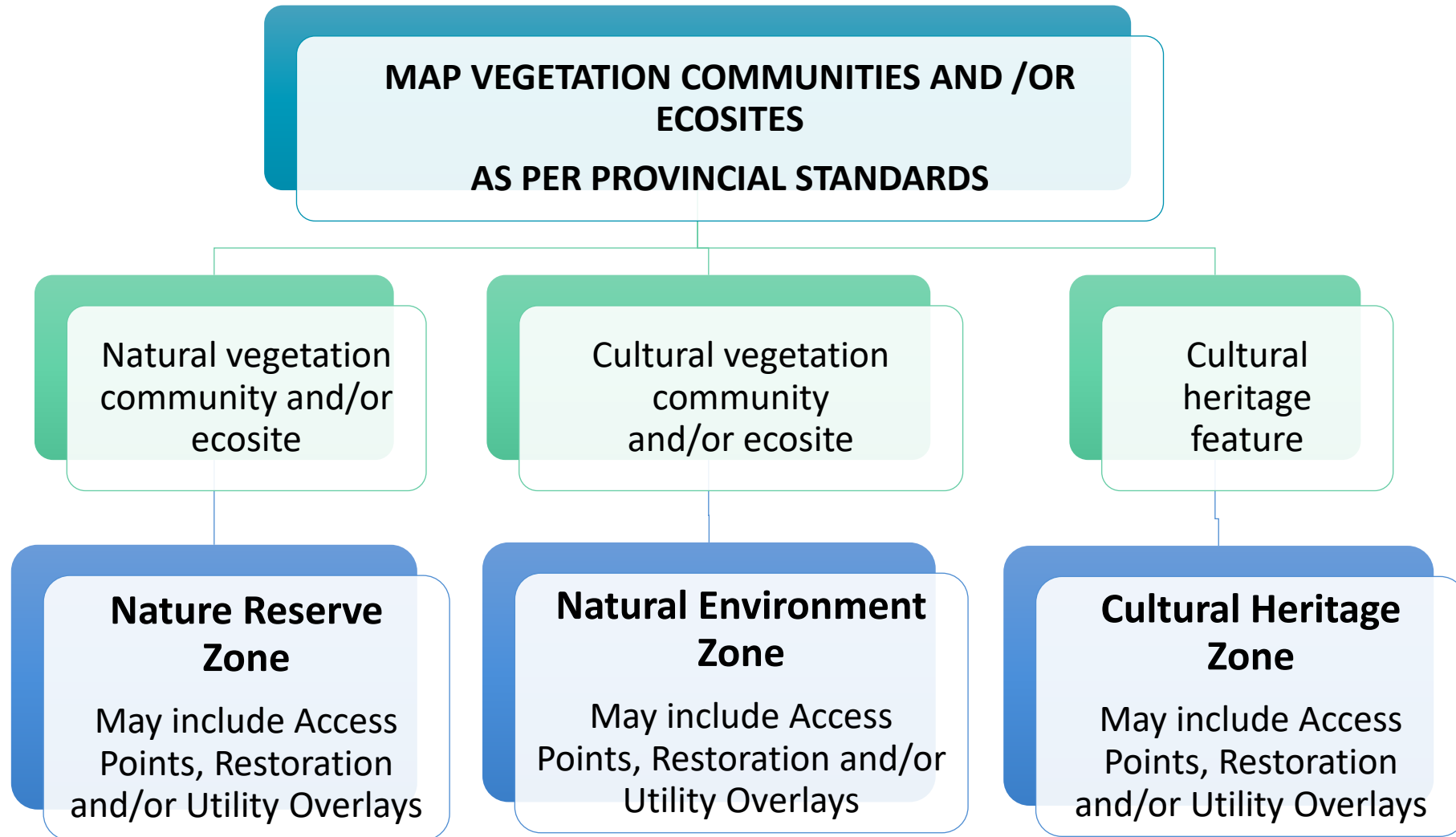
# Overview of Guidelines

Define management zones to align with provincial and federal standards

Develop a repeatable system to determine the compatibility of trails with significant ecological features

Create a review process for both existing and new trails

# Define Management Zone



# Review of Existing Trails

## **Overlay The Existing Trail System Onto Management Zones**

- include significant ecological features

## **Identify Significant Ecological Features That Overlap The Trail System**

Consult government resources for guidance on managing the interaction between significant ecological feature(s) and existing trails

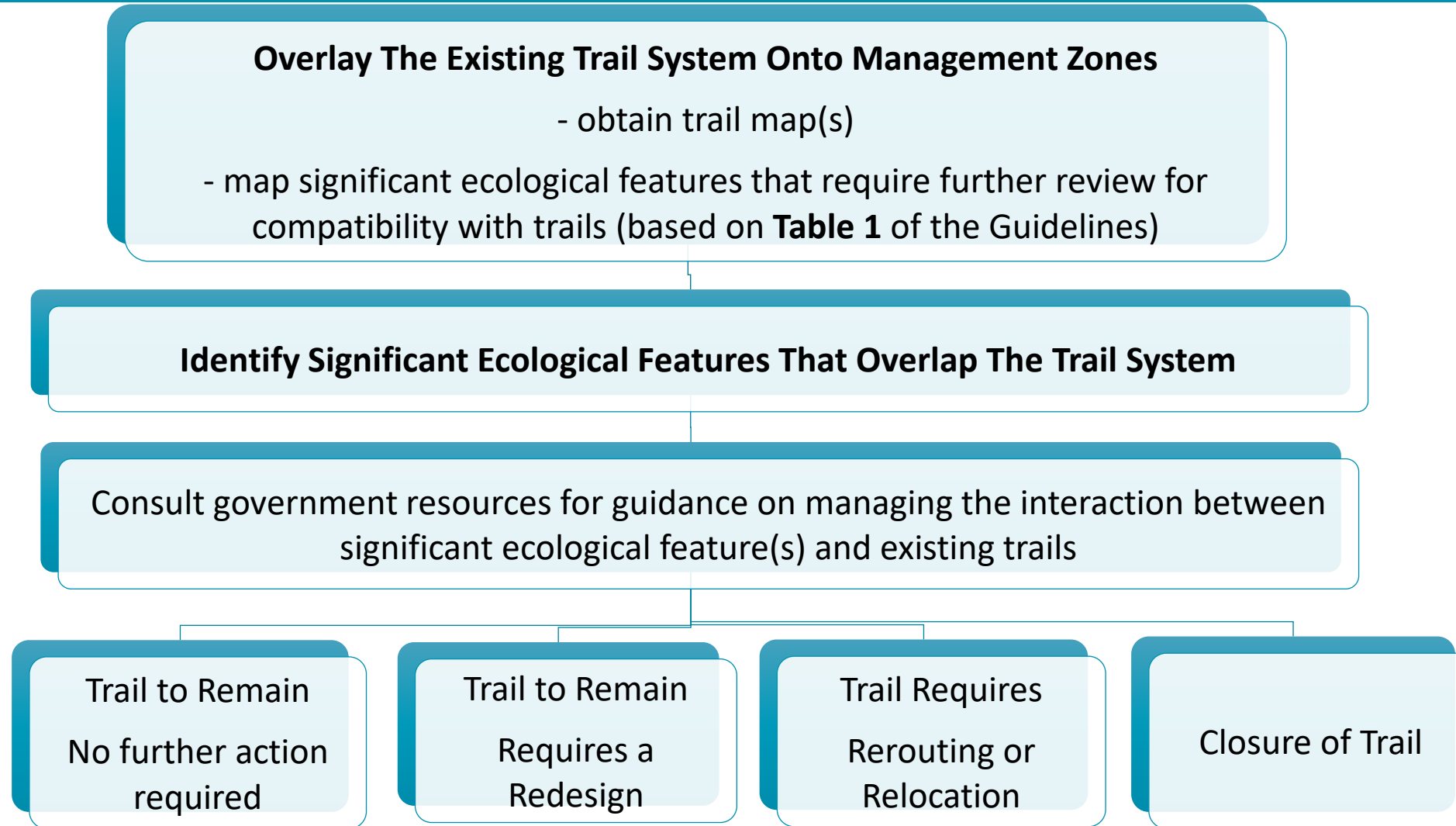
# Compatibility of Trails and Natural Features

## QUESTION

*“Is there potential for a trail or its use to impact or eliminate the significant ecological feature and/or its ecological function?”*

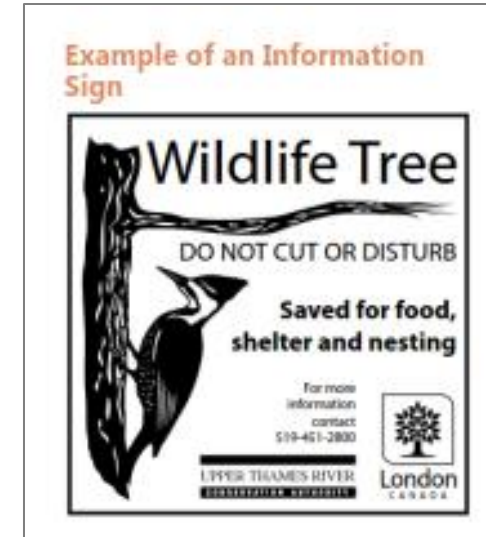
Significant Ecological Feature	Does this feature require review for compatibility with trails?	Rationale
<b>Significant Wildlife Habitat</b>		
Waterfowl Stopover and Staging Areas (Terrestrial)	Yes	Fields flooded with sheet water during the Spring may provide short term habitat for migrating waterfowl. Depending on the location of the trail within the habitat, trails may require temporary closure in the Spring due to flooding and/or to prevent disturbance to the waterfowl.
Bat Maternity Colonies	No	Bat maternity colonies can be found in human structures, suggesting bat species are not particularly sensitive to human disturbance. Wildlife trees are retained in ESAs and trees along hiking trails are not routinely inspected. In the unlikely event that a large tree would need to be proactively managed for risk to public safety, a cavity search is completed in advance by qualified personnel to avoid impacts to the species. As bats do not generally exhibit site fidelity to any one wildlife tree, trails would not impact bat or this type of wildlife habitat.
<b>Species at Risk - Threatened or Endangered Species</b>		
Species at Risk (General/ Regulated Habitat)	Yes	Species and/ or habitat included in this type of wildlife habitat have a diverse range of requirements and tolerance to disturbance.

# Review of Existing Trails



# Managing Use of ESAs - Trails

- Trails can be planned and managed to protect a natural area by:
- Keeping users on a designated path
- Encouraging a sense of ownership and stewardship
- Define zones of recreational activity and focus on these areas for monitoring
- Facilitating education and awareness



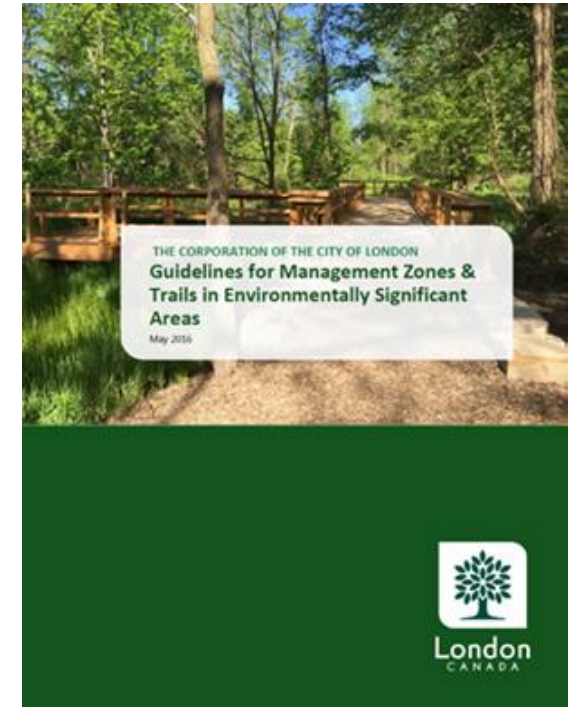
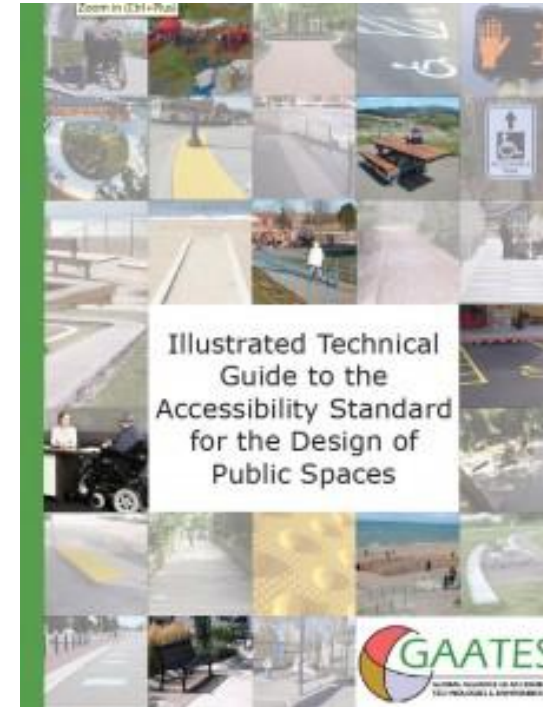
# Trails and the *Accessibility for Ontarians with Disabilities Act (AODA)*

By law, you must make recreational trails accessible if you are building new public recreational trails and planning to maintain them or making major changes to existing ones and planning to maintain them

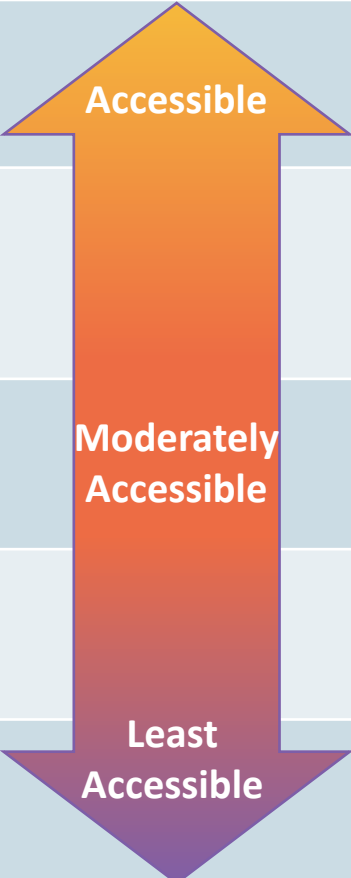
## **Exceptions:**

- Exceptions where making the trail accessible would have a negative effect on water, fish, wildlife, plants, invertebrates, species at risk, ecological integrity or natural heritage values

**With an aging population, accessible trails benefit everyone – today and tomorrow.**



# Firm and Stable Trails Under AODA

Surface Material	Level of Accessibility
Concrete Pavers on Concrete	
Asphalt Crushed Stone Wood Decking	
Soil Cement Untreated Soil	
Wood Chips	
Packed Gravel	

Pathways to Recreation Learning about Ontario's Accessibility Standard for the Design of Public Spaces (Parks and Recreation Ontario, 2014)

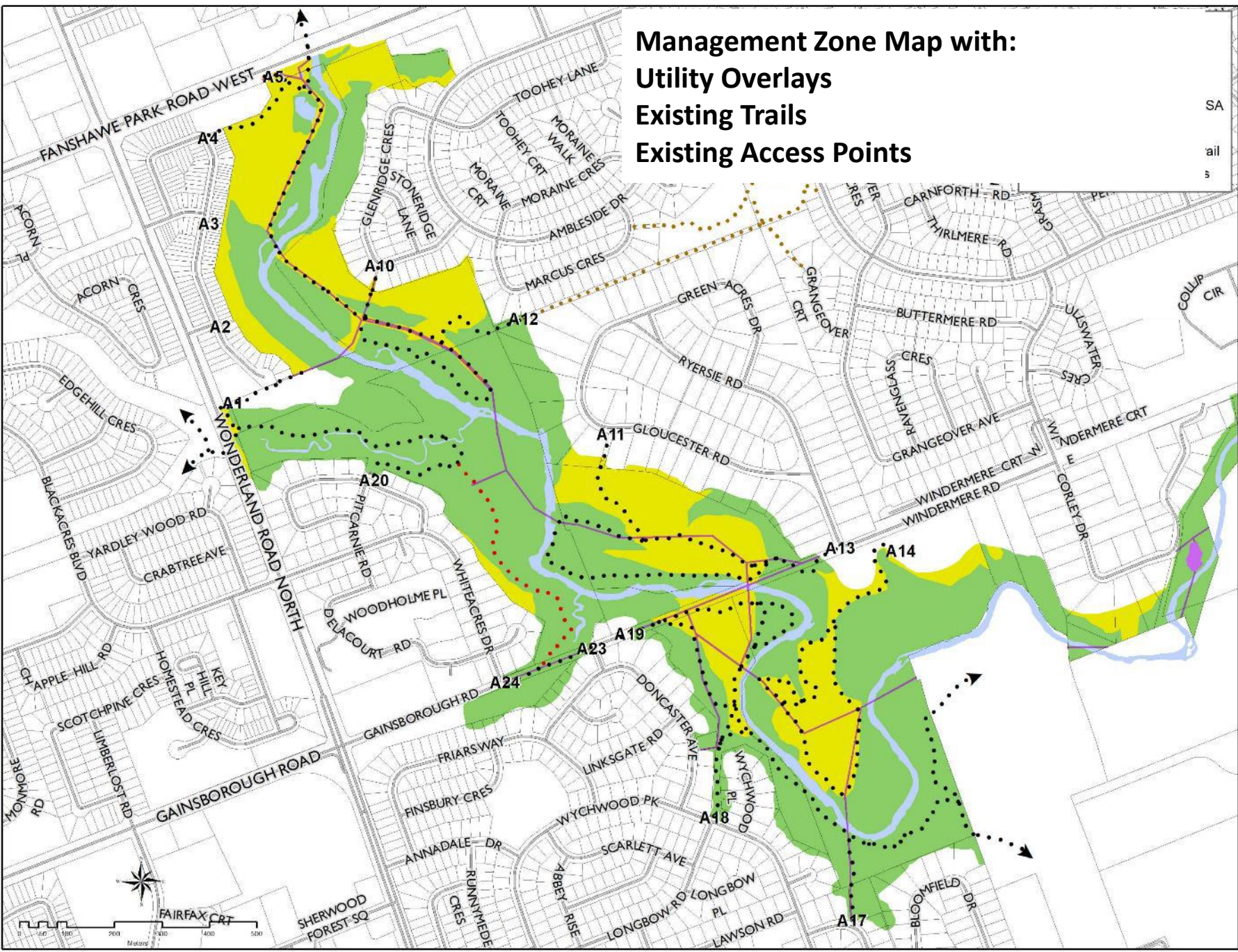


# CASE STUDY in the City of London



## Medway Valley Heritage Forest ESA (South) Conservation Master Plan

# Management Zone Map with: Utility Overlays Existing Trails Existing Access Points



SA  
ail  
s

Western / Huron and other private ESA lands are not subject to City's Guidelines for Management Zones and Trails in ESAs

# Identification of Management Issues (and Opportunities!)



**15** areas were identified that require active ecological restoration or special management.

Ecological restoration work is underway in 8 of 15 areas.



**3** areas were identified for naturalization.



**17** adjacent properties were identified as potential candidates for stewardship opportunities on private property. Some restoration is underway.

# Restoration and Stewardship – Invasive Species Management



Japanese Knotweed  
Control (Herbicide  
Injection) in the MVHF  
ESA



Injections of Ash trees to control Emerald  
Ash Borer continues through 2017



On-going work to manage Norway Maple,  
Periwinkle, Goutweed, Buckthorn,  
Japanese Knotweed in the MVHF ESA.



European Common Reed (*Phragmites*)  
treated as “high priority for control” in all  
ESAs including the MVHF ESA.

# Restoration : A Species at Risk Success Story

## Protection of False Rue-anemone (*Enemion biternatum*), a *Threatened* species found in the Medway Valley Heritage Forest ESA



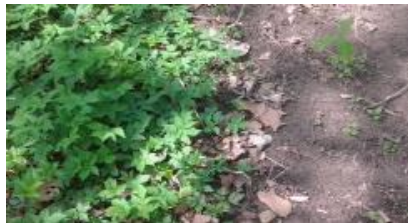
2013

Phase 1 Inventory identified Goutweed (*Aegopodium podagraria*) as a Threat to False Rue-anemone in MVHF ESA



2014

City contracted UTRCA and Dillon to control Goutweed to assist in the recovery of a Threatened Species at Risk



# Restoration : A Species at Risk Success Story

## Protection of False Rue-anemone (*Enemion biternatum*), a *Threatened* species found in the Medway Valley Heritage Forest ESA



**2015**

Goutweed Control early success and native species return to understory



**2016**

Goutweed population significantly reduced as of 2016/2017



**2017**

False Rue-anemone identified in areas where Goutweed once existed


# Restoration : A Species at Risk Success Story



Existing trails in the ESA have helped to limit trampling and provided a physical barrier to prevent the spread of Goutweed

Opportunity to increase awareness of Species at Risk and promote education of invasive species threats

The City of London was recognized for their innovative work, habitat protection and contributions in the Federal Recovery Strategy for the False Rue-anemone in Canada (2016).



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Increase pressure on natural areas**

**At what recreational carrying capacity does a natural area impact the  
quality of the visitor experience?**

# Thank You

Questions or to Continue the Conversation:

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