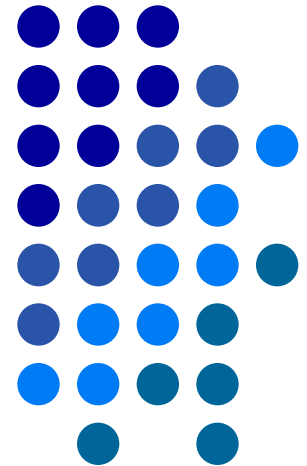


Ontario's Biodiversity in 2010

*How a NatureServe network member program
is contributing to global understanding and
awareness*

Jim Mackenzie
Ontario Ministry of Natural Resources
NatureServe Biodiversity Without Borders Conservation
Conference
April 27, 2010





Introducing the Characters

- Villian: ignorance and apathy
(Ignoramus noactionentis)

- Super Heroes:
Conservation agencies
(Actionus conservatium)



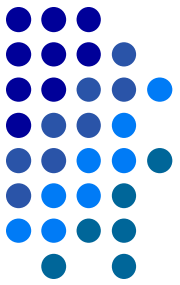
- **Super Power: INFORMATION**
*Brought to you by NatureServe and it's
network of NH Information Power Centres*

Powered by



- We are powerless to fight *Ignoramus noactionentis* without information!
- How Ontario is using their NatureServe Power Centre to fight ignorance and apathy

Ontario's Biodiversity in 2010



Context:

- The world is celebrating biodiversity in 2010, the International Year of Biodiversity (IYB). Nations will be reporting against the United Nations (UN) Convention on Biological Diversity (CBD) target to achieve a significant reduction in the current rate of biodiversity loss
- Ontario's first State of Biodiversity Report & Ontario Biodiversity Strategy Progress Report to be released.
- Ontario's Biodiversity Council will lead renewal of Ontario's Biodiversity Strategy for 2010-2015.
- Ontario's NHIC is positioned to strategically support biodiversity information needs.

Presentation Purpose:

- Highlight findings of 2010 State of Ontario's Biodiversity Report
- Discuss the Super Power role of CDCs/NHPs in support of public reporting
- Increase understanding of the global trend in Biodiversity conservation and reporting
- Help CDCs/NHPs and NatureServe realize their Super Power opportunities
- Inspire change

State of Ontario's Biodiversity 2010 (SOBR)

SOBR assesses indicators related to:

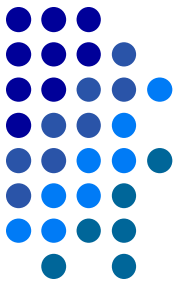
- Pressures on Ontario's biodiversity
 - State of Ontario's biodiversity
 - Conservation/sustainable use
- in the context of Ontario's four major ecozones.

Purpose

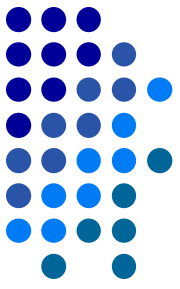
- Inform general public and others of the status of Ontario's biodiversity
- Establish a general framework for future reporting
- Inspire greater conservation action
- Serves as a communications tool

Principles

- Accessible to lay audiences
- Conservation-oriented
- Global context and comparability
- Based on best-available science, existing data
- Repeatable in future years



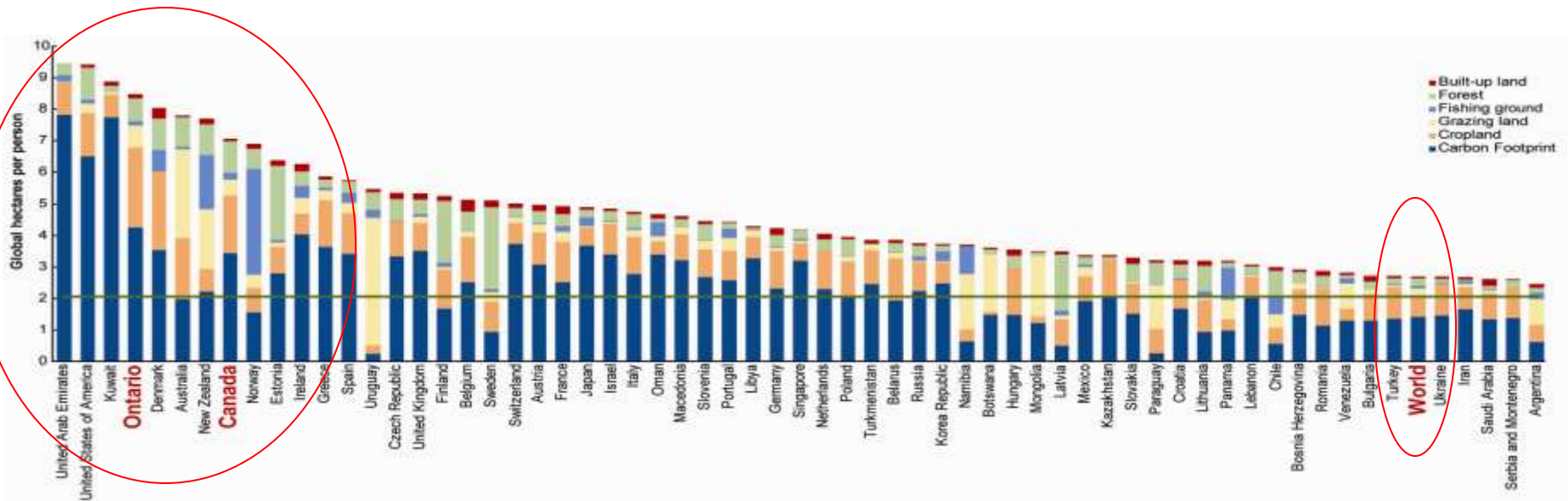
State of Ontario's Biodiversity 2010 – General Summary



- Pressures
 - Growing population with a high ecological footprint
 - Habitat loss and fragmentation issue in the south
 - Climate change, pollution and invasive species
- Ecozones & habitats
 - Cumulative effects of pressures most significant in Mixedwood Plains Ecozone
 - Hudson Bay Lowlands will be especially affected by climate change
 - Quantity of terrestrial habitat may be rebounding in the south, quality is a concern
- Species Diversity
 - **Between 16% and 68% of each species group is of conservation concern (includes, sensitive species, species at risk and species that may be at risk)**
 - **Breeding birds – most species are stable or increasing, especially forest birds, but grassland birds and aerial insectivores (e.g. swallows and flycatchers) experiencing steep declines.**
- Conservation and Sustainable Use
 - Very significant growth in conservation activity in the last 10 years
- Ontario is not unique – similar trends faced globally

State of Ontario's Biodiversity 2010: Ontario's Ecological Footprint (EF)

- EF analysis compares human demands on nature with the available Biocapacity to provide products and assimilate wastes - indicator of overarching human pressures causing biodiversity loss.
- Ontario's EF is equivalent to its available Biocapacity, but exceeds the world average by more than four times.
- If everyone in the world lived comparable lifestyles to Ontarians, it would require the resources of four planets to support humanity.
- Only three of 150 countries with reported EF data have a higher average per-person EF than Ontario.



State of Ontario's Biodiversity 2010 – Summary by Ecozone



The biodiversity of the Hudson Bay Lowlands Ecozone has been the least affected by human activity and is still largely intact. Almost all of the ecozone consists of natural land cover.



The Ontario Shield Ecozone is the largest ecozone in the province and human impacts on biodiversity have occurred to a greater extent in the southern part of the ecozone. Two thirds of the Ontario Shield's landscape is forested with limited loss of forest habitat.



The biodiversity of the Mixedwood Plains Ecozone has been significantly affected by human activity. The landscape has been highly altered with 68% of the ecozone made up of built-up areas, agriculture, roads and other anthropogenic cover. Habitat loss and fragmentation, invasive alien species and pollution are ongoing threats to biodiversity.



The biodiversity of the Great Lakes Ecozone has been impacted by a long history of human use of the lakes and their surrounding watersheds. The ecozone has been subject to many changes over the last century associated with multiple stresses. Invasive alien species have been a particular problem for Great Lakes biodiversity.

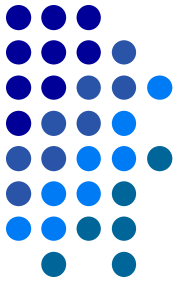
State of Ontario's Biodiversity 2010 Report

Summary of status, trends, and data confidence for each indicator used

Indicator		Status	Trend	Data
Pressures on Ontario's Biodiversity	Ecological Footprint	High per capita footprint and limited biocapacity	B	●
	Habitat Loss - Land Cover	Significant habitat loss in Mixedwood Plains, but limited habitat loss in the Ontario Shield and Hudson Bay Lowlands	B	●
	Habitat Loss - Road Density in Southern Ontario	67% increase in total length of road from 1935 - 1995, length of paved road increased almost 5-fold over this period	D	●
	Habitat Loss - corridors in the Ontario Shield	low road densities except southern portion and near urban centres, small increase in road area 2001-2005 (0.02%)	B	●
	Habitat Loss - Aquatic Stress Index	High stress index values in Mixedwood Plains and southern Ontario Shield, low values in Hudson Bay Lowlands	B	●
	Invasive Alien Species - Great Lakes	★ Large number of alien species present in Great Lakes (186) and invasion rate has increased	D	●
	Pollution - Ground Level Ozone	Increasing background levels & increasing 8-hour peak levels during summer	D	●
	Pollution - Freshwater Quality Index	58% of sites with good or excellent ratings, but 41% with marginal or poor ratings mostly in southwestern Ontario	B	●
	Climate Change - Great Lakes Ice Cover	Decline in percentage of ice cover on all five Great Lakes between 1970 - 2008	D	●
	Climate Change - Condition and survival of Polar Bears	Reduced condition and survival rates for male and female polar bears in all age classes	D	●
State of Ontario's Biodiversity	Forests - extent of forest cover and disturbance	Amount of forested land remained stable between 1998 and 2002	NC	●
	Forests - fragmentation in Mixedwood Plains Ecozone	4 of 5 zones have >30% forest cover, but largest zone (SW) has only 17% with limited habitat for forest-interior birds	B	●
	Wetlands - losses southern Ontario	To be determined based on DU analysis	D	●
	Rare Ecosystems - extent and protection	★ 54% of prairie/savannah habitat legally protected, 92% of dune habitat protected, only 21% of alvar protected	B	●
	Great Lakes - Great Lakes shoreline hardening	> 30% of Lake Erie shoreline and 25% of GL connecting channels have high proportion of hardened shoreline	D	●
	Great Lakes - <i>Diporeia</i> abundance in Great Lakes	Drastic declines in abundance in all Great Lakes except Lake Superior over the last 10-20 years	D	●
	Inland Waters - alterations to stream flow	not assessed	UD	N/A
	Inland Waters - fragmentation by dam	not assessed	UD	N/A
	Species Diversity - changes in General Status rankings	★ 919 of 1,063 species had same ranks in 2000 and 2005. 10 species moved to higher ranks because of increased risks	M	●
Species Diversity - trends in Ontario's breeding birds	★ Most species increasing or stable (especially forest birds and northern birds), aerial foragers and grassland birds declining	M	●	
Conservation and Sustainable Use	Protected Areas - protected areas and conservation lands	★ 11.3% of Ontario Shield, 10.0% of Hudson Bay Lowlands, and 3.9% of Mixedwood Plains protected	B	●
	Protected Areas - ecological representation	★ Minimum representation thresholds have not been achieved for any ecodistrict, Ontario Shield has best representation	B	●
	Sustainable Management - forest certification	Area under forest certification increased dramatically since 2002, 80% of licenced land base certified in 2008	I	●
	Sustainable Management - agriculture	65% of Ontario farms (34,000) have participated in environmental farm plans since 1992	I	●
	Stewardship - area enhanced for biodiversity	Cumulative and annual area enhanced for biodiversity continues to increase from 2002 to 2008	I	●
	Stewardship - volunteer efforts to conserve biodiversity	Between 2006 and 2008, 33,000 Ontarians volunteered annually on biodiversity conservation initiatives	B	●
	Stewardship - participation in tax incentive programs	Participation rate in conservation tax incentive programs (CLTIP and MFTIP) increased 11% between 2002 and 2008	I	●
	Urban Biodiversity - wooded area in urban landscapes	Wooded areas account for 7.8% of the 4,765 km ² of urban landscape within Mixedwood Plains Ecozone	B	●
	Financing - expenditures and charitable giving	Since 2001, biodiversity-related public sector spending has increased by 80%	I	●

Trend **I** Improvement **D** Deterioration **B** Baseline **M** Mixed **NC** No Change **UD** Undetermined Data Suitability ● High ● Medium ○ Low

State of Ontario's Biodiversity 2010: Ontario's Report in the Global Context



The international community has failed to meet its target to reduce significantly the rate of biodiversity loss by 2010.

Global Biodiversity Outlook 3. Synthesis of National Reports to Secretariat to the Convention on Biological Diversity. [content embargoed: not to be cited or quoted until report release]

The target of halting biodiversity loss in Europe by 2010 will not be achieved. Our indicator-based assessment illustrates that European biodiversity remains under serious pressure and our policy responses have been insufficient to halt its general decline.

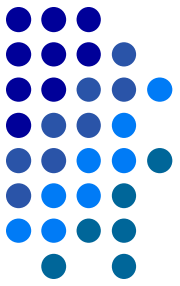
European Environment Agency. Progress towards the European 2010 biodiversity target.

Progress in Canada toward the 2010 target of “significantly reducing the rate of biodiversity loss” is mixed, with significant progress in some areas, and limited progress in others. Despite the many actions being taken in Canada to prevent and redress the loss of biodiversity... biodiversity is being lost and will come under increasing pressure as land is converted to urban and industrial use, the integrity of ecosystems is compromised by industrial pollution and invasive alien species and a changing climate challenges the capacity of species and ecosystems to adapt or in some cases survive.

Canada's 4th National Report to the United Nations Convention on Biological Diversity, July 2009.

The 2010 report shows that Ontarians are placing large demands on the province's biological resources and that biodiversity losses are occurring, particularly in southern Ontario. Given that Ontario's population is growing, it is likely that the province's biodiversity will continue to be eroded if current consumption patterns continue. Although efforts and expenditures to protect and conserve biodiversity have increased over the last decade, it is not clear if these will be sufficient to prevent further losses of the province's biodiversity.

State of Ontario's Biodiversity Report [draft 3]



It's a start

- A step in the right direction
- Shows courage and transparency
- Ontario's NHIC is recognized and valued
- But...
- We need more heroes
- We need to win public support

(play video)