

Green Infrastructure Ontario Coalition

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Colleen Cirillo, Project Coordinator

Green Infrastructure Ontario Coalition

The coalition is an alliance of organizations that share a **common vision** of a healthy green Ontario in which the economic, social, environmental and health benefits of green infrastructure are fully **realized, protected, maintained and enhanced.**

Steering Committee Members

Janet McKay, LEAF

Deborah Martin-Downs, TRCA

Steven Peck, Green Roofs for Healthy Cities

Tony DiGiovanni, Landscape Ontario

Paul Ronan, Ontario Parks Association

David Stonehouse/Lois Lindsay, Evergreen

Doris Chee, Landscape Ontario



Green infrastructure is defined as natural vegetation and vegetative technologies that collectively provide society with a broad array of products and services.



Green Infrastructure Types

- urban forests and woodlots
- wetlands, waterways and riparian zones
- meadows and agricultural lands
- green roofs and green walls
- parks, gardens and landscaped areas
- bioswales, engineered wetlands and stormwater ponds



Green infrastructure also includes **soil** in volumes and qualities adequate to sustain living green infrastructure and absorb water, as well as **technologies** like porous paving, rain barrels, cisterns and structural soils.

The Issue

Green infrastructure provides a multitude of economic, social, environmental and health benefits, most of which are **not fully recognized** in current policies and public investment formulas.



Coalition's Purpose

To build a strong and convincing case for a **shift** in public and private policies and investment formulas.



Elements of our Work

- Coalition-building/outreach
- Consultative process – survey, workshops and peer-review process
- Review of existing legislation and policy
- Review of contributing science and research
- Development of a strategy

Strategy for Green Infrastructure

- Makes a strong business case
- Includes basic green infrastructure information, case studies and specific policy and program recommendations
- Will be launched early next year along with a media and government relations plan

ecojustice

Green Infrastructure and Water

Performs in a similar manner to grey infrastructure, yet has multiple additional societal benefits.

CIELAP report



Wetlands and Water

Water benefits: storage and purification

Additional benefits: recreation, food provision, biodiversity



Lake Simcoe Valuation

\$435 million worth of services contributed by wetlands annually

Green Roofs and Water

Toronto bylaw has led to 1.2 million square feet of new green roof area.

This has resulted in the capture of 435,000 cubic feet of stormwater.

Additional benefits: 125 full-time jobs and a savings of 1.5 million KWH of Energy.



Urban Forests and Water

The urban forest in the Credit River Watershed provides \$19 million worth of services in water regulation and supply, waste treatment and other services per year.

Simulations that doubled the tree canopy in the Don watershed indicated a 2.5% decrease in overall flow.

Additional Benefits of the Urban Forest

- Carbon sequestration and storage
 - Pollution removal
 - Energy savings (shading and windbreaks)
 - Compliments and extends life of gray infrastructure
- Tree shade correlated with reduced pavement fatigue and cracking
- Increases property values
- Properties with trees valued 5 – 15% higher than those without

Additional Benefits Continued

- Mitigates urban heat island effect through shade and evapotranspiration
- Incurs health benefits and associated cost savings, including increased recovery rate of hospital patients with tree views
- Reduces neighbourhood crime levels
- Increases commercial activity
Shoppers on well-landscaped streets willing to pay more

Example: Urban Forest in Peel Region

Carbon sequestration and storage

- 19,000 tonnes of carbon sequestration annually, valued at \$550,000
- total annual carbon storage is 400,000 tonnes, valued at \$11.5 million

Pollution removal

- 855 tonnes of air pollution removed annually, valued at \$9.1 million

Energy savings

- residents save \$2.5 million annually through shading and windbreak

Urban Forests in Lake Simcoe

\$319 million worth of services contributed by forests annually

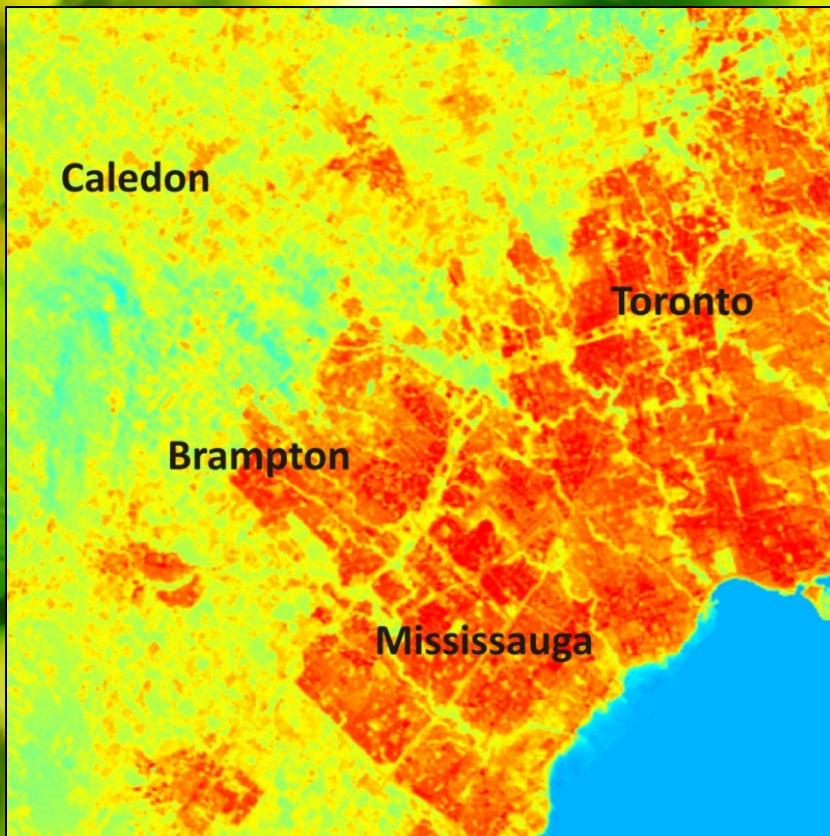
Cooling Cities with Green Infrastructure

Trees and green roofs counter UHI effect.

Cooler cities = fewer incidences of heat stroke and other heat-associated illnesses = reduced health care costs

Cooler cities = reduced electricity demand = reduced electricity production and transmission costs

Urban Forests and the Urban Heat Island Effect



Thermal imagery indicating the urban heat island effect across Peel Region and the City of Toronto. (Natural Resources Canada)



Thermal imagery illustrating the contrast in temperatures between neighbourhoods with varying tree cover. (Natural Resources Canada)

Concluding Remarks

Green infrastructure

- takes many forms, both natural and engineered
- offers great promise for stormwater management
- provides numerous additional benefits
- need to address obstacles to mainstream use

Green Infrastructure Ontario Coalition

- aims to increase awareness and influence decision-making
- working on a strategy that addresses obstacles and identifies opportunities

Get involved!

Visit our website: www.greeninfrastructureontario.org

Sign-up for the electronic newsletter

Join the coalition

Share resources and expertise