

# **Request for Proposals: Developing a Pathway to Understand the Business Case for EcoHealth in Ontario**

## **Background**

Healthy ecosystems are essential for human health and survival. We all depend on clean air to breathe, clean water to drink, healthy food supplies and green spaces for recreation. Having access to and using green spaces promotes physical activity and improves health and wellbeing. The presence of green space is associated with reduced mortality, obesity, depression, anxiety, cardiovascular disease and low birth weight. It also provides places for stress reduction, mental restoration and social interactions.

Green spaces provide a number of environmental health benefits. They help to improve air quality, provide relief from extreme heat and lessen the urban heat island effect, which reduce the negative health impacts associated with a warmer climate. Green spaces also provide other important benefits, such as delivering flood protection services by reducing the negative impacts of heavy rainfall events, which are expected to increase with a warmer climate.

EcoHealth Ontario (EHO) is a collaborative of professionals in the fields of public health, medicine, education, planning, parks and the environment. We are working together to increase our understanding of the relationships between environment and health with the aim of finding ways to increase the quality and diversity of the urban and rural spaces in which we live.

## **Study Context**

One of the ways to increase the quality and diversity (including biodiversity) of urban and rural spaces through greater provision and access to natural or green spaces is by being able to demonstrate the economic value of making these changes. This information can be used to influence decision makers responsible for the design and management of public spaces.

EHO is therefore seeking expertise to develop a pathway that will enable us to frame and assess the economic returns of greenspace interventions in the public realm. We define greenspace as including (1) Public spaces including natural areas such as parks, conservation areas, greenways, trails, urban and rural forests, street trees, community gardens, school grounds, shorelines and ravines and (2) Private and institutional spaces such as gardens, rooftops, cemeteries, golf courses, and outdoor spaces associated with businesses, hospitals, care homes and universities.

## **Examples of Evidence for the Health Benefits of Greenspace**

EHO has collected a significant body of research documenting the health impacts of greenspace that will inform this project, for example:

- Contact with nature (including trees, lakes, rivers and plants) can provide stress relief, reduce brain fatigue, and improve memory, mood, positive thinking, decision-making ability, mental sharpness, creativity, and attention span.
- A Toronto-based study found that for every one-degree increase in mean temperature, there was a 32% increase in ambulance response calls for heat related illness (Bassil et al, 2010).
- A study of 21 urban parks found that parks can help cool the surrounding area for up to 224 metres (Feyisa et al, 2014).
- A recent study review completed by the David Suzuki Foundation confirmed the important and wide ranging positive impact greenspace has on reducing pollution and mitigating heat in urban centres.
- Dutch researchers found a lower incidence of 15 diseases (including depression, anxiety, heart disease, diabetes, asthma and migraines) in people living within 1 km of greenspace (Maas et al, 2009)
- A number of recent studies have found that mortality rates decrease with increasing neighbourhood greenness (Mitchell & Popham, 2008; Villeneuve et al, 2012; Harlan et al, 2013; Xu et al, 2013)
- A study published in Scientific Reports found that having 10 more trees in a Toronto city block, on average, improves self-reported health perception in ways comparable to an increase in annual personal income of \$10,000, moving to a neighborhood with \$10,000 higher median income or being 7 years younger. The study also found that having 11 more trees in a city block, on average, decreases cardiometabolic conditions in ways comparable to an increase in annual personal income of \$20,000, moving to a neighborhood with \$20,000 higher median income or being 1.4 years younger. (Kardan et al, 2015)
- A study by the National Wildlife Federation (2008) found that time in nature improves a child's academic performance, concentration, balance, coordination, and self-esteem.
- Exposure to greenspace, particularly within or in close proximity to schools, is positively correlated with cognitive development among school children (Dadvand et al, 2015)
- A study published in Environmental Health Perspective (Hystad et al, 2014) found that an increase in greenspace can result in positive birth outcomes.

Table 1: Environmental and Health Benefits associated with access to and presence of green spaces

<p><b>TREES AND FORESTS</b></p> <ul style="list-style-type: none"> <li>• Reduce smog and other forms of pollution by filtering out many airborne pollutants linked to heart disease, respiratory illnesses, diabetes, and cancer</li> <li>• Provide shade, reducing health risks from solar radiation</li> <li>• Provide natural air conditioning, reducing health risks from extreme heat</li> <li>• Absorb rainfall and snowmelt, reducing flooding and recharging aquifers</li> <li>• Support recreation activities such as hiking, bird-watching, camping and picnicking</li> </ul>	<p><b>WETLANDS, LAKES AND RIVERS</b></p> <ul style="list-style-type: none"> <li>• Filter sediment, nutrients and pollution, helping to clean our drinking water sources</li> <li>• Recharge groundwater and reduce risks of flooding</li> <li>• Moderate the local climate</li> <li>• Support recreation activities such as swimming, fishing and canoeing</li> </ul>	<p><b>PARKS AND TRAILS</b></p> <ul style="list-style-type: none"> <li>• Provide natural settings for outdoor recreation and physical activities</li> <li>• Provide contact with nature to support mental health and emotional well-being</li> <li>• Create attractive, liveable communities</li> </ul>
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**Scope of Work**

The challenge for EHO is to link the health benefits provided by green spaces with their associated financial benefits from an individual and societal perspective. Given the many of the environmental issues facing the region, and rapid population growth that is increasing pressure on the natural environment, it is important to understand the financial implications in terms of:

- Increased costs associated with losing greenspace
- Reduced costs associated with greenspace enhancements (higher quality and / or greater provision)

Another important aspect of this project is to identify who (including individuals, organizations and businesses) carries cost increases, benefits from cost reductions, and is responsible for funding greenspace enhancements. Typically organizations responsible for providing, maintaining and enhancing green spaces do not receive the financial benefits of doing so. For example, creating more

urban green spaces could require additional funds for municipal Parks and Forestry but the cost savings of improved mental health and reduced obesity are realized by provincially funded health care.

This work is an important step in addressing the identified challenges. The successful applicant will:

1. Review existing approaches to calculating the economic or financial costs and benefits of traditional public health interventions, including information on: feasibility, needed resources, data needs, challenges, and what policies (e.g. stakeholder best targeted such as provincial or municipal) the approach is best suited for
2. Consult with the EHO Research Working Group to advise which of the potential greenspace interventions can be best quantified in economic terms from a health perspective; for example:
  - a. Greater provision of greenspace at different scales (e.g. neighbourhood, city, regional)
  - b. Loss of green space
  - c. Programs to increase access and or use
  - d. Improving the quality of existing green spaces
  - e. Targeted interventions for specific communities or locations,
  - f. What-if scenario analysis etc.
3. Document examples of:
  - a. 'ecohealth' type projects and programs within and outside of Ontario that have delivered demonstrable economic returns on investment
  - b. Projects or programs that have addressed the issue of green space funding organizations not benefiting from the related cost savings
4. Establish a framework for integrating the principles and concepts of health economics with the identified quantifiable greenspace interventions as described in #2 above
5. Present and discuss findings with the EHO research working group and invited experts in a workshop setting, and incorporate their feedback into a final report.
6. Document a pathway for EHO to generate a business case for 'ecohealth' in Ontario. In this context, 'ecohealth' will be defined by the 'greenspace interventions' identified in steps 2 and 3 above.

## **Deliverables**

1. Presentation and written summary of findings, including results of tasks 1, 2 and 3 under Scope of Work.
2. Workshop with EHO Research Workgroup and invited experts (workshop costs should not be included in proposals. Bids should only include hours required for agenda design and participation)
3. Final report fully documenting the pathway to a business case for 'ecohealth' in Ontario

## **Project management**

The Friends of the Greenbelt Foundation will manage the project and will be the point of contact for applicants. The EHO Research Working Group will evaluate proposals and provide project oversight.

## **Project Timeline**

The project will commence in March 2019 and be completed by December 31, 2019

## **Project Budget**

Proposals up to and including \$47,500 (including HST) will be accepted.

## **Proposal Requirements**

Proposals should include the following:

- CV for the consultant (and any other team members), that clearly outlines their qualifications relevant to this assignment;
- Up to 3 references relevant to this assignment;
- A description of your understanding of the assignment, the proposed approach, and methodology to implement the scope of work;
- A draft project timeline with touchstone meetings, milestone and project completion dates.
- Two writing samples; ideally reports, articles or published papers on similar topics
- A time/task breakdown by project team member (if more than one consultant); and
- A proposed budget including reimbursable expenses as applicable

The *Friends of the Greenbelt Foundation* reserves the right to choose any or none of the vendors responding to this request for proposals.

Any questions and completed proposals should be directed to:

Thomas Bowers  
Research Manager

Friends of the Greenbelt Foundation  
[tbowers@greenbelt.ca](mailto:tbowers@greenbelt.ca)  
416 960 0001 ext 339

**Proposals must be received by email no later than 4pm on Friday 15<sup>th</sup> March 2019**