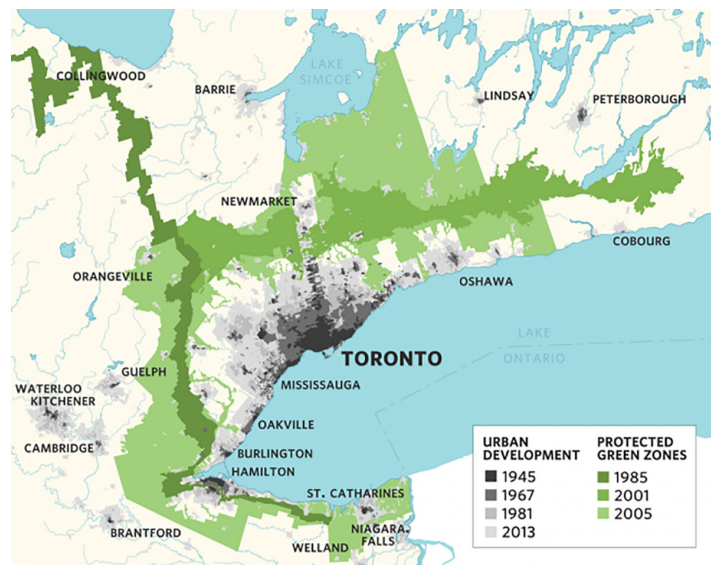


## Greenbelts: Connecting to Place & the Ecological Determinants of Health

This casebook example explores the programs and activities that are helping to protect and/or enhance greenspaces as settings for public health and well-being. Taken from *Leveraging the Benefits of Greenspace for Environmental and Public Health Benefits: A Casebook of Ontario Initiatives (2017)*

### Summary

Greenbelts are used by cities around the world to protect swaths of natural features and agricultural land surrounding cities and towns from urban development. The Ontario Greenbelt was established in 2005 to protect the land that surrounds the Golden Horseshoe region. It built upon previous conservation initiatives established in the Oak Ridges Moraine Conservation Plan and Niagara Escarpment Plan. The scope and scale of the greenbelt fosters additional reflection on both the population health level benefits that are received from the connection to place being fostered by the Greenbelt within the region and the positive impact that this landscape has on the well-being of society. There is strong interest from a number of stakeholders in expanding the Greenbelt to include additional critical sensitive water resources in the region that are under threat from development and vulnerable to the effects of climate change. This interest in a so-called Bluebelt reinforces the connections that are being made through the Greenbelt to various determinants of health and the need to take proactive measures to sustain environmental systems for the benefit of current and future generations of Ontarians.



**Figure H-1.** Greenbelt and Urban Development Change over Time (1945 – 2013) (Source: Greenbelt.ca)

### Introduction/Background

Greenbelts are “swaths of natural or open land surrounding cities or towns. They often contain a mix of public land and privately held land on which development restrictions are placed” (Erickson, 2004, p. 202). They are used by cities around the world to “help achieve local food security, protect ecological integrity, conserve biodiversity, protect local water quality and quantity, and provide natural recreation areas for nearby urban centres” (Carter-Whitney and Esakin, 2010, p.1).

Greenbelts also act as carbon sinks. Protected vegetation absorbs and stores greenhouse gases, reducing a region’s overall emissions. The Ontario Greenbelt is estimated to store 102 million tonnes of carbon (David Suzuki Foundation, 2008, p.3) This is important in Ontario as the province moves toward the establishment of “net-zero communities” as part of its climate change strategy (Ministry of the Environment and Climate Change, 2016).

The Ontario Greenbelt was established in 2005 to protect the land that surrounds the Golden Horseshoe region. It includes 430,000 ha of some of the most productive agricultural land in Canada. The Greenbelt emerged from the work of the Royal Commission on the Future of the Toronto Waterfront (see also Case 6). The Commission focused attention on the entire Greater Toronto Bioregion – bounded by Lake Ontario to the South, the Niagara Escarpment to the West and the Oak Ridges Moraine to the north and east (Figure H-1). The Greenbelt is a “systems-based approach to natural heritage planning at a landscape scale” (Ontario Nature, 2014, p.8) covering 7,200 km<sup>2</sup>. The Greenbelt Plan articulates five goals:

- agricultural protection
- environmental protection
- support for culture, recreation and tourism
- support for strong rural economy
- support for Infrastructure

The interest of the emerging Bluebelt advocates (for example, the Grow our Greenbelt group) is to expand the greenbelt in such a way as to extend protection to “threatened headwaters, moraines, groundwater recharge and discharge areas, wetlands, rivers and streams” (Grow our Greenbelt, 2016). Such an interest recognizes that water and land management

are inextricably linked – one of the key rationales for a watershed/aquifer based approach (Case 9).

### **Health and Well-being**

The benefits of the Greenbelt for human health and well-being include, for those who live in and travel to the region, many of the individual level physical and psycho-social benefits associated with green space. These include physical health benefits related to outdoor recreation and tourism, good local outdoor air quality and reduced stress; mental health benefits related to relaxation, attention restoration and mood enhancement, and social benefits of sharing interests and concerns with an extended peer community, including the local food movement.

In this case, we are particularly interested in the concept of connection to place. Having a strong connection to place is seen as critical to help people make choices that help protect and conserve our natural environment (Halpenny, 2010). It is a psychological construct referring to the meanings, feelings and a sense of relationship that people attribute to particular places (Kyle and Chick, 2007; Lynch et al., 2012). It can be more difficult to foster in urban areas where people no longer experience the natural world as part of their daily life (Kellert, 2002; Schultz, 2002; Kyle et al., 2004). The Greenbelt draws on both natural and socio-cultural (Indigenous and post-Colonial) history and current programming

(local food markets, trails, etc.) to help foster this connection in the region. This is demonstrated through consistent high levels of support for the Greenbelt, growing it to protect critical water resources and ensuring the boundaries are protected in perpetuity<sup>1</sup>. As the Greenbelt connects more directly to cities along Lake Ontario through urban river valleys, this sense of connection to the surrounding landscape will be further strengthened.

The scope and scale of the Greenbelt fosters additional reflection on the population health level benefits that are received from the essential services supporting human life and the positive impact that this landscape has on the “well-being of society” (Forge, 2000, p.1). Because the Greenbelt influences both the social and ecological determinants of health in the region, this multifunctionality<sup>2</sup> is critical to appreciating the Greenbelt. In terms of the social determinants, the greenbelt contributes to sustainable regional economic development. This includes enhanced food security through expanded local food systems, some resource development (e.g. aggregate), tourism and recreation (related to agriculture, natural heritage sites, recreational paths, scenic routes, etc.), as well as the provision of vital built and green infrastructure. This green infrastructure provides services such as flood control which protects human health and property in the event of extreme weather events.

<sup>1</sup> Ontario Greenbelt Environics Polling 2015; [www.greenbelt.ca/ontario\\_greenbelt\\_environics\\_polling\\_2015](http://www.greenbelt.ca/ontario_greenbelt_environics_polling_2015)

<sup>2</sup> “An activity is said to be multifunctional when it plays a number of roles that may contribute to the well-being of society. In economic terms, impacts other than the primary objective of an activity are called ‘externalities’” (Forge, 2000, p.1). The term is most commonly associated with agricultural policies in Europe and Japan. The ecosystem services provided by area or feature functionality is often overlooked or undervalued using traditional approaches, but can be highlighted by an emphasis on multifunctionality and the social and environmental determinants of health.

The Greenbelt influences the proximal environmental determinants of the health by placing controls on development practices that harm the integrity of the landscape. By limiting urban sprawl and the air, land and water quality degradation that accompanies them, the Greenbelt preserves vital air, water and land resources and reduces pollution. In addition, it helps address the myriad of other issues associated with urban sprawl, such as obesity, coronary heart disease, greenhouse gas emissions, road injuries and fatalities, and social and mental health (Griffin et al., 2013; Ewing et al., 2014; Barrington-Leigh and Millard-Ball, 2015). The distal ecological determinants of health, such as climate change, biodiversity loss, contaminants, etc. are also positively influenced by the Greenbelt. While the benefit of each individual action taken on the landscape (for example, a best management or low impact development practice) may be difficult to link to a population health outcome in a reductionist sense, they are nonetheless recognized as preventive health measures at the regional scale, for example by the World Health Organization (2011, 2016) and the Intergovernmental Panel on Climate Change (2014).

## Actions

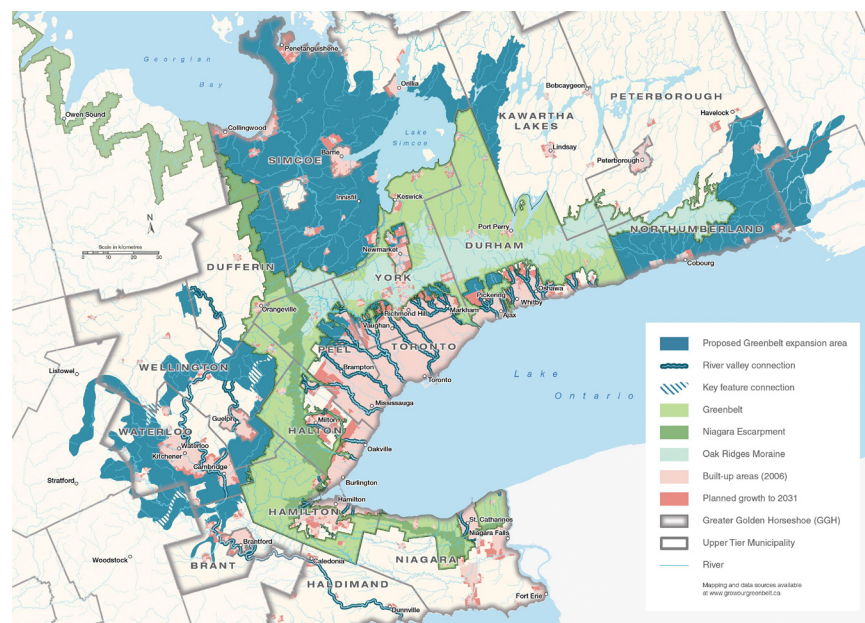
The Greenbelt has strong connections to other land use plans in the region. The Province of Ontario recently undertook a land use planning review that focused on the Growth Plan for the Greater Golden Horseshoe, the Greenbelt Plan, the Oak Ridges Moraine Conservation Plan and the Niagara Escarpment Plan. Together these four provincial land use plans are intended to manage

growth, curb sprawl and protect the region's natural environment and agricultural lands. The review, and the Plan amendments proposed by the Province in response, call for stronger measures to build complete communities, support agriculture viability, protect natural heritage and water, grow the Greenbelt, address climate change, and integrate infrastructure with development. Taken together, these measures will increase human health and wellbeing in the Greater Golden Horseshoe, including the Greenbelt.

A key innovation in the current renewal of the Greenbelt Plan was the creation of a new land use designation in the province: urban river valleys. This change is allowing the Province to expand the Greenbelt directly into the urban communities it supports, through a network of 21 urban river valleys and 7 coastal wetlands (Figure H-2). This expansion will contribute to the protection of the headwaters

of the rivers running from the Greenbelt to Lake Ontario. It will also make a significant contribution to raising the public's awareness of both the green space and recreational resources provided by urban ravines and their connection to the larger Greenbelt system. As mentioned above, creating connections to place is vital to the creating social and political will to fully realize the benefits of the Greenbelt and related land use policies in the region.

The interest in incorporating additional water resource systems has the potential to revitalize ecosystems throughout the region. It supports existing densification programs for urban areas to create livable communities that make best use of expensive urban infrastructure and to protect the already contested water resources that support municipal, industrial, agricultural and ecological water uses in the region.



**Figure H-2. Proposed Greenbelt Expansion with Rivers and Headwaters (Source: Grow our Greenbelt, 2016)**

## Discussion

The proposed amendments include establishing an ongoing commitment to explore new opportunities to grow the Greenbelt. Public calls to include lands referred to as the 'bluebelt' could improve the social and ecological determinants of health in the region by supported enhanced economic development activities and improving ambient environmental quality. By protecting vital water resources for generations to come, the proposed expansion will help ensure that future generations of Ontarians benefit from these vital resources. The Catskill Mountains in New York State that serve to provide New York City with potable water (Appleton, 2002;

Postel and Thompson, 2005) starkly illustrate the financial argument to be made for resource preservation, as the cost of cleaning up degraded water resources for large populations is extremely expensive and difficult and forgoes the co-benefits that are received from inherent multifunctionality of these vital areas. By creating a new construct to label and identify Southern Ontario's valuable agricultural land (Figure H-3), the Greenbelt has assisted in creating a meaningful place for the region's predominantly urban residents to relate to and draw meaning from. The expansion of the Greenbelt into the urban river valleys of the Greater Horseshoe Region has the potential to raise public awareness of the interconnectedness among social,



Possibility grows here.

**Figure H-3.** Greenbelt Logo – Creating a Sense of Place

ecological and economic systems in the region. The ravines serve multiple functions, particularly as a recreation resource, wildlife corridor and the destination for precipitation and urban runoff from the surrounding watersheds. They are increasingly being framed as a focal point for Toronto's emerging green identity (Murray, 2000; City of Toronto, 2015).

## Discussion Questions

1. Which of the social determinants of health relate to this case example? Ecological determinants of health?
2. The services provided by the Greenbelt will only become more valuable over time in light of climate change and increasing urbanization. How can permanent protection be maintained in the face of pressure from land speculation by developers and urban boundary expansion?

## For More Information about the Case, See:

Friends of the Greenbelt Foundation. 2016. [www.greenbelt.ca](http://www.greenbelt.ca)

Grow Our Greenbelt. 2016. Growing the green, protecting the blue. [www.growourgreenbelt.ca](http://www.growourgreenbelt.ca)

<sup>3</sup> The website [ecosystemmarketplace.com](http://ecosystemmarketplace.com) briefly summarizes this well-known example as follows: "A filtration plant large enough to clean New York City's water supply would cost between \$8-\$10 billion in today's dollars, approximately \$6 billion to build and another \$250 million annually to maintain. Preserving the watershed, conversely, was estimated at \$1.5 billion, just over a dime invested on ecological preservation for every dollar that would have been spent on a filtration plant. The City spent or committed between \$1.4 - \$1.5 billion in watershed protection projects so far, averaging \$167 million in expenditures per year".