

# Ontario's Greenbelt in an International Context

Written and researched by the Canadian Institute for Environmental Law and Policy

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## Table of Contents

Executive Summary.....	1
1. Introduction.....	5
2. Legal, Policy and Institutional Framework.....	27
2.1 London Metropolitan Green Belt.....	27
2.2 Netherlands Green Heart.....	29
2.3 Copenhagen Finger Plan .....	30
2.4 Frankfurt Green Belt .....	32
2.5 German Iron Curtain Green Belt.....	35
2.6 Melbourne Green Wedges .....	36
2.7 Portland Metro Urban Growth Boundary .....	38
2.8 British Columbia Agricultural Land Reserve (ALR).....	41
2.9 São Paulo City Green Belt Biosphere Reserve .....	43
2.10 Ontario Greenbelt.....	44
3. Distinctive Features.....	47
3.1 London Metropolitan Green Belt.....	47
3.2 Netherlands Green Heart.....	49
3.3 Copenhagen Finger Plan .....	49
3.4 Frankfurt Green Belt .....	50
3.5 German Iron Curtain Green Belt.....	50
3.6 Melbourne Green Wedges .....	51
3.7 Portland Metro Urban Growth Boundary .....	52
3.8 British Columbia Agricultural Land Reserve (ALR).....	52
3.9 São Paulo City Green Belt Biosphere Reserve, Brazil .....	53
3.10 Ontario Greenbelt.....	53
4. Threats and Foes .....	54
4.1 London Metropolitan Green Belt.....	54
4.2 Netherlands Green Heart.....	56
4.3 Copenhagen Finger Plan .....	57
4.4 Frankfurt Green Belt .....	57
4.5 German Iron Curtain Green Belt.....	58
4.6 Melbourne Green Wedges .....	58
4.7 Portland Metro Urban Growth Boundary .....	60
4.8 British Columbia Agricultural Land Reserve (ALR).....	61
4.9 São Paulo City Green Belt Biosphere Reserve, Brazil .....	63
4.10 Ontario Greenbelt.....	63
5. Successes and Challenges .....	65
5.1 London Metropolitan Green Belt.....	65

5.2 Netherlands Green Heart.....	68
5.3 Copenhagen Finger Plan .....	70
5.4 Frankfurt Green Belt .....	72
5.5 German Iron Curtain Green Belt.....	74
5.6 Melbourne Green Wedges .....	76
5.7 Portland Metro Urban Growth Boundary .....	78
5.8 British Columbia Agricultural Land Reserve (ALR).....	81
5.9 São Paulo City Green Belt Biosphere Reserve, Brazil .....	82
5.10 Ontario Greenbelt.....	84
Box - One To Watch: San Francisco Bay Area Green Belt.....	87
6. Conclusions and Recommendations.....	88
Bibliography.....	93

## List of Figures

Figure 1 – Map of Ontario’s Greenbelt.....	7
Figure 2 – Extent of Green Belt around London, England .....	9
Figure 3 – Map of the Green Heart.....	11
Figure 4 – The Copenhagen ‘Fingers’.....	13
Figure 5 – The Frankfurt Green Belt .....	15
Figure 6 – The German ‘Iron Curtain’ Green Belt .....	17
Figure 7 – The Melbourne Green Wedges .....	19
Figure 8 – The Portland Metro Urban Growth Boundary.....	21
Figure 9 – The British Columbia Agricultural Land Reserve.....	23
Figure 10 – The São Paulo City Green Belt Biosphere Reserve.....	25

## List of Tables

Table 1 – Ontario Greenbelt – Established 2005.....	7
Table 2 – London Metropolitan Green Belt – Established 1938 .....	9
Table 3 – Netherlands Green Heart – Established 1958 .....	11
Table 4 – Copenhagen Finger Plan – Established 1947 .....	13
Table 5 – Frankfurt Green Belt – Established 1991 .....	15
Table 6 – German Iron Curtain Green Belt – Established 1989 .....	17
Table 7 – Melbourne Green Wedges – Established 1968.....	19
Table 8 – Portland Metro Urban Growth Boundary – Established 1979.....	21
Table 9 – British Columbia Agricultural Land Reserve – Established 1973.....	23
Table 10 – São Paulo City Green Belt Biosphere Reserve – Established 1994.....	25

# Executive Summary

The goal of permanently protecting Ontario's Greenbelt is central to the vision articulated in the Greenbelt Plan. This report documents the experience of greenbelts around the globe and identifies lessons applicable to ensuring the permanence of Ontario's Greenbelt, which this year achieves a five-year milestone.

This report finds that the greenbelt model, which nears 75 years in practice in some of the jurisdictions studied, is today increasingly being identified as a "modern" land use planning tool 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. The long term standing of older greenbelts discussed in this study highlight the foresight that early civic leaders had in implementing greenbelt plans in their jurisdictions. This report concludes that future Ontarians will also come to recognize the creation of the Ontario Greenbelt as being a similarly visionary act of leadership for the Province.

When the first greenbelts were created, their main purposes were to preserve open rural landscapes and provide a separation between urban areas and the countryside. The multiple benefits provided by these landscapes and natural features are now greatly valued. Growing populations will only need more of the benefits that greenbelts can provide, such as clean air and water, fresher produce near to home, and outdoor recreation

opportunities. The potential for greenbelts to address future needs makes them even more vital to society in light of changing global conditions such as climate change impacts, water scarcity, rising oil prices, and food price inflation. The creation of Ontario's Greenbelt has provided the opportunity to do just that – preserve Ontario's natural and cultural heritage and find ways for Ontarians to live sustainably.

This report highlights greenbelts in nine jurisdictions outside of Ontario: London, UK Green Belt; the Netherlands' Green Heart and Randstad region; the Copenhagen, Denmark Finger Plan; Germany's Iron Curtain Green Belt; the Frankfurt, Germany Green Belt; the Melbourne, Australia Green Wedges; the Portland, Oregon Urban Growth Boundary; British Columbia's Agricultural Land Reserve (ALR); and the São Paulo City Green Belt Biosphere Reserve in Brazil. These areas were chosen for various reasons including: the longevity of the greenbelt; similar development pressures faced; and, similar goals to the Ontario Greenbelt to end inefficient development and provide protection to fertile farmland and key natural heritage systems.

### **Lessons Learned**

A number of recurring themes emerge from the stories of the different greenbelts studied, such as: the capacity of greenbelt plans and policies to evolve and address current societal needs; continued pressures for urban growth and associated infrastructure; the importance of proactive support for farmers and agriculture in near urban areas; the opportunity for restoration and enhancement of natural areas; and, encouraging examples of public engagement with local greenbelts. Key lessons for Ontario's Greenbelt are as follows:

1. Curbing and controlling urban growth remains the central and most common objective of greenbelts, and urban development continues to be the biggest pressure and most consistent threat. The constant threat that urban development poses to greenbelt lands underlines the critical importance of effective planning for growth. In achievement of these ends, the Ontario government has wisely paired the Greenbelt Plan with the Greater Golden Horseshoe Growth Plan, which provides direction about where, how, and in what form future growth should be accommodated, and a regional transportation plan for the Greater Toronto and Hamilton area.
2. Land use protections are necessary but insufficient to achieve greenbelt objectives. It is important to provide support to near urban greenbelt farmers to ensure continued farm viability, and to rehabilitate and enhance degraded natural areas.
3. Infrastructure expansion and resource extraction have the potential to negatively influence the ecological integrity, biological diversity, water quality and long term permanence of greenbelts. The jurisdictions studied here have dealt with transportation corridors and other infrastructure in different ways, while aggregate extraction is generally permitted as a use in greenbelts where aggregate resources are present.
4. Greenbelts need to be understood as more than a land use policy on a piece of paper. Most of the greenbelts described in this report are living, working landscapes and

it is important that the public understand what they are, the benefits they provide, and how to connect with them. This need to emotionally connect local people to their greenbelts is crucial to maintaining and strengthening them into the future.

5. Greenbelts are vulnerable to problems in implementation because their policy is commonly set by one level of government while their implementation is overseen by different levels of government, and then within one level government, different departments (such as agriculture, environment and natural resources), have a role to play. Within this context, there may not be sufficiently clear roles and responsibilities, or lines of accountability, amongst the various actors.
6. Over time, it is important that greenbelts be monitored and evaluated. Data and information about implementation compliance as well as effectiveness can help in ensuring an informed citizenry and in making better informed choices and decisions related to greenbelts.

## **Moving Forward**

Ontario's Greenbelt is still relatively new. At five years old, it is still the "kid" amongst the greenbelts studied. Yet while being the youngest of the global greenbelt litter, Ontario's Greenbelt is also the strongest in the world for its supporting laws and policies. Its first five years have shown significant progress but there is much to learn from the experiences, successes and challenges of greenbelts that have existed for decades.

The following are suggestions for governments and the many other stakeholders with an interest in enhancing prospects for achieving the Greenbelt's objectives.

1. Provincial and municipal governments and agencies need to ensure effective containment of urban and suburban expansion while accommodating future growth in new ways as outlined in the Greater Golden Horseshoe Growth Plan. If this is done well, it should reduce pressures to create new infrastructure.
2. Provincial and municipal governments should take advantage of opportunities to expand the Greenbelt in order to protect prime farmlands, significant natural features and environmentally sensitive lands currently outside the boundaries of the Greenbelt. This will increase the presently recognized benefits of preserving Greenbelt lands, and the as yet unknown benefits of the future. The example of the founders of early greenbelts, now recognized for their foresight, demonstrates the importance of setting aside these valuable lands.
3. When considering alternatives for transportation and other infrastructure in and across the Greenbelt, governments need to attach greater importance to cumulative adverse effects, and, where the expansion of existing or construction of new infrastructure cannot be avoided, use methods of lowest impact development.

4. Protecting the Greenbelt's valuable agricultural land base from loss and fragmentation needs to be complemented with measures to ensure the continued economic viability of near urban agriculture. Municipalities and the provincial government should collaborate with local agricultural action committees and others to develop and implement supportive policies, including expansion of markets for locally grown foods and other more direct farm-to-consumer mechanisms, diversification of on-farm activities, and strengthening of farming capacities.
5. The Ontario government should consider selecting or appointing one central body as the primary greenbelt governance entity and point of contact for the public. The experiences observed in other greenbelts would suggest that this body will be essential in creating a direct emotional connection between Ontarians and their Greenbelt to ensure long term public support.
6. Ontario has an opportunity to provide a world leading example with an improved aggregates policy that addresses concerns about the appropriateness of aggregate extraction in the Greenbelt, promotes the use of recycled materials, and minimizes negative and disruptive impacts of extractive activities where they do occur.
7. The provincial government's efforts to develop a performance measurement framework and associated indicators to measure the longer term effectiveness of the Greenbelt are to be commended. It will be important that sufficient resources are provided to ensure that sufficient and appropriate data is collected and analyzed, working collaboratively across the provincial government in concert with municipalities, conservation authorities, and other groups.

At five years young, Ontario's Greenbelt is already an example of a vibrant multi-use greenbelt that is protecting significant agricultural and environmentally sensitive lands from development. Compared to other greenbelts around the world, this Greenbelt is underpinned by one of the strongest legal frameworks, impressive political commitment, a clear diversity of benefits, enthusiastic community organizations, and a supportive public.



# Introduction

Greenbelts are defined broadly as:

*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.<sup>1</sup>*

The notion of preserving a belt of undeveloped land around an urban centre dates back to the nineteenth century and is closely associated with Ebenezer Howard's famous plan for a Garden City that would ensure open space for agriculture near urban settings. The greenbelt concept, which was promoted most strongly by preservationists, was to have strict distinctions between urban and rural areas, to preserve the beauty of the countryside, and to avoid suburbs in the urban fringe.<sup>2</sup>

The oldest greenbelts studied in this report date back to the early twentieth century. Over the years, the roles of these greenbelts have changed and become more significant. In

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<sup>1</sup> Donna L. Erickson, "The Relationship of Historic City Form and Contemporary Greenway Implementation: a Comparison of Milwaukee, Wisconsin (USA) and Ottawa, Ontario (Canada)" *Landscape and Urban Planning*, v. 68 (2004) 199 at 202.

<sup>2</sup> Marco Amati, *Greenbelts: A Twentieth-century Planning Experiment*, in Marco Amati ed., *Urban Greenbelts in the Twenty-first Century* (Ashgate, 2008) 1 at 3-4.

addition to limiting urban growth, they now also serve to protect prime agricultural lands, environmentally sensitive areas, and natural and cultural heritage features.

It is impossible to precisely predict the ways that greenbelt lands may become more important and vital in the future. Because earlier greenbelts set aside open spaces for protection, they inadvertently protected features of these lands that are now greatly valued. Similarly, it is likely that greenbelts established more recently will become increasingly vital to society in light of changing global conditions such as climate change impacts, water scarcity, rising oil prices and food price inflation.

This report highlights greenbelts in nine jurisdictions outside of Ontario: London, UK Green Belt; the Netherlands' Green Heart and Randstad region; the Copenhagen, Denmark Finger Plan; Germany's Iron Curtain Green Belt; the Frankfurt, Germany Green Belt; the Melbourne, Australia Green Wedges; the Portland, Oregon Urban Growth Boundary; British Columbia's Agricultural Land Reserve (ALR); and the São Paulo City Green Belt Biosphere Reserve in Brazil.

Strictly speaking, not all of these regions described in this paper are greenbelts. The Green Heart in the Netherlands is not a belt around a city; instead it is a protected area surrounded by a ring of cities. An urban growth boundary such as the one in Portland, Oregon intentionally divides rural from urban land instead of enclosing a parcel of land in which development is restricted.<sup>3</sup> UNESCO (United Nations Educational, Scientific and Cultural Organization) Biosphere Reserves are areas "which innovate and demonstrate approaches to conservation and sustainable development [sustainability]".<sup>4</sup> The regions considered here were chosen for various reasons including: the longevity of the greenbelt; similar development pressures faced; and, similar goals to the Ontario Greenbelt to end inefficient development and provide protection to fertile farmland and key natural heritage systems.

Established in 2005, the Ontario Greenbelt is an area of permanently protected land spanning 1.8 million acres across southern Ontario. The area stretches from Niagara Falls to Tobermory to Peterborough and encompasses green space, farmland, vibrant communities, forests, wetlands and watersheds. It surrounds the province's Golden Horseshoe region – the most populated area in Canada – and is vital to the quality of life in southern Ontario. The purpose of the Greenbelt is to protect farmland and key environmentally sensitive areas from development.

This report addresses the following questions in relation to each of the greenbelts:

- What is the legal structure of the greenbelt and its protective mechanism? What levels of protection have been extended to areas within the greenbelt? Who are the state and non-state actors involved in the stewardship of the greenbelt?
- What are the distinctive features of the greenbelt, including: size; natural features; function; urban-rural relationship; and length of time it has existed?
- What issues have been faced in the past or are being faced at the present time in relation to the greenbelt?

<sup>3</sup> Ontario has recently put in place UGBs in the Greater Golden Horseshoe through the *Places to Grow Act* and Growth Plan for the Greater Golden Horseshoe.

<sup>4</sup> UNESCO (2008). Biosphere Reserves [online]. Available from: [http://portal.unesco.org/science/en/ev.php-URL\\_ID=4801&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/science/en/ev.php-URL_ID=4801&URL_DO=DO_TOPIC&URL_SECTION=201.html). [Accessed: 16 February 2010]

- What are the known successes and challenges of the greenbelt? What benefits have been realized due to the longevity of the greenbelt if it has been in place for a significant period of time?
- What lessons have been learned in the greenbelt region that can be applicable to Ontario's Greenbelt?

Figure 1 – Map of Ontario's Greenbelt

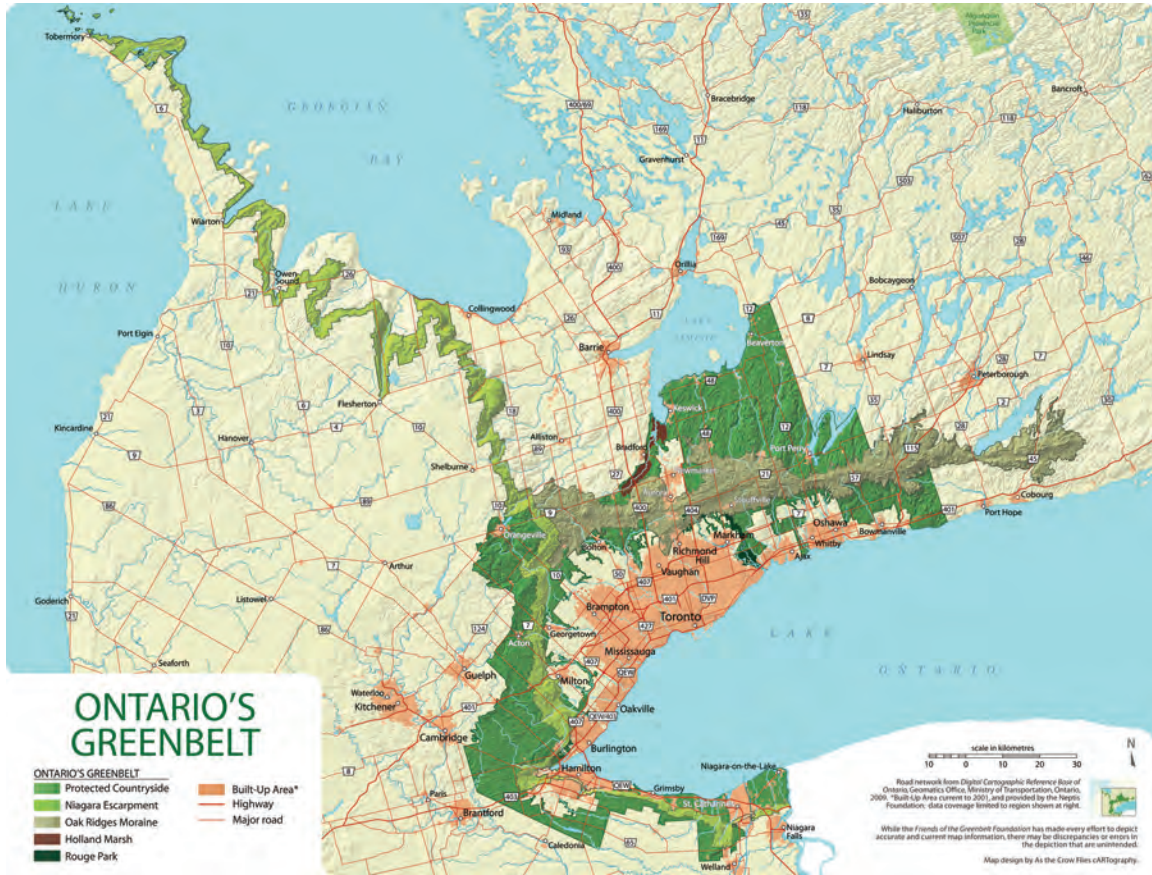
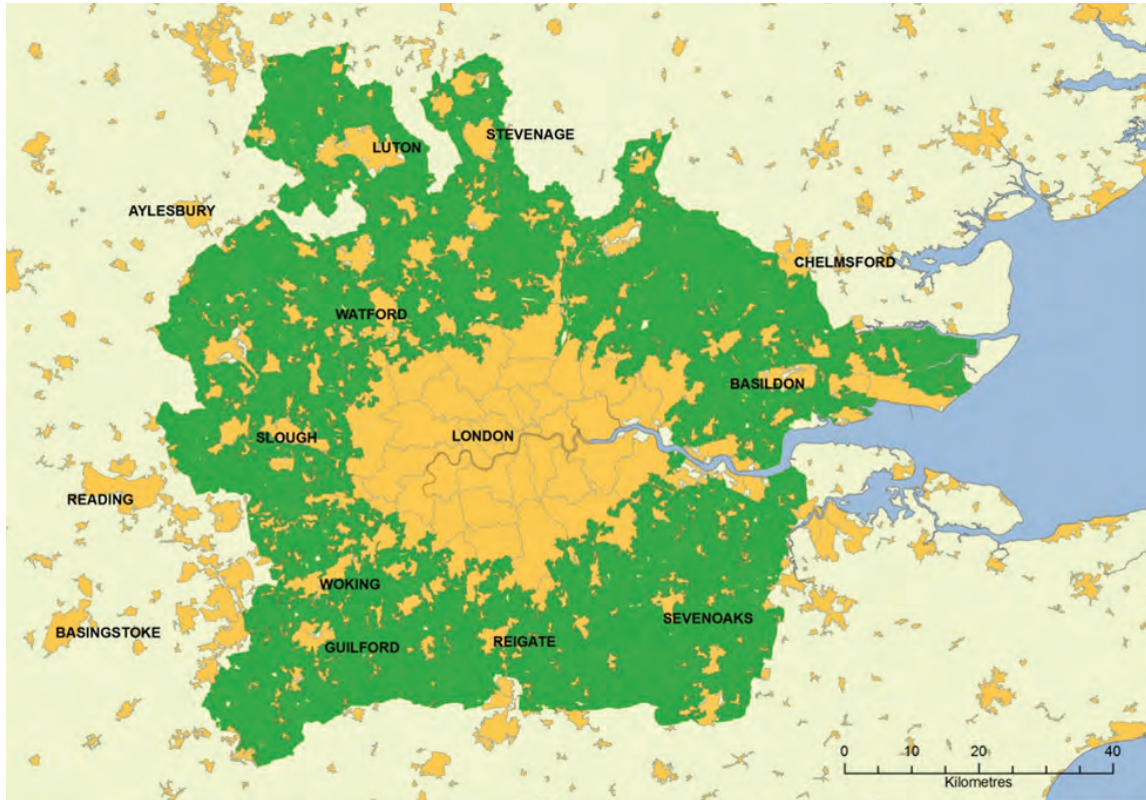


Table 1 – Ontario Greenbelt – Established 2005

Area	<ul style="list-style-type: none"> <li>• 728,000 hectares, 1.8 million acres</li> </ul>
Main Objectives/Vision	<ul style="list-style-type: none"> <li>• To safeguard the quality of life in the Golden Horseshoe in anticipation of continuing population growth and urbanization</li> </ul>
Agricultural Features	<ul style="list-style-type: none"> <li>• Prime agricultural land</li> <li>• Specialty-crop land</li> </ul>

Natural Features	<ul style="list-style-type: none"> <li>• Natural heritage – forests, wetlands, rivers, lakes, etc</li> <li>• Water-resource systems</li> <li>• Indigenous species</li> <li>• Ecosystems</li> </ul>
Governance	<ul style="list-style-type: none"> <li>• <i>Greenbelt Act, 2005</i> – gives the provincial Cabinet the authority to establish a Greenbelt Plan and to establish a Greenbelt Council to give advice to the Minister of Municipal Affairs and Housing</li> <li>• Both government and non-governmental bodies involved</li> <li>• Plan reviewed every ten years</li> <li>• Municipalities have role – must ensure decisions and official plans conform with the Greenbelt Plan</li> </ul>
Greatest Threat	<ul style="list-style-type: none"> <li>• Highways and secondary roads</li> <li>• Other Infrastructure</li> <li>• Aggregate extraction</li> </ul>
Recent Activity	<ul style="list-style-type: none"> <li>• Ontario government has worked to prevent planned or proposed development in a number of sensitive areas in the Greenbelt</li> <li>• Broad range of programs to support farming, tourism and recreation introduced</li> <li>• Ontario government extended the environmental protection in the Rouge River Watershed in Richmond Hill</li> <li>• Efforts underway to extend Greenbelt protection to additional land in adjacent municipalities</li> </ul>
Bottom Line	<ul style="list-style-type: none"> <li>• Very strong legal protection relative to greenbelts studied and covers a large area – it measures 11 times the size of the City of Toronto and is larger than Prince Edward Island</li> <li>• Has had strong support from the public, the provincial government and municipalities, and many other stakeholders over its first five years of life</li> <li>• Greenbelt has remained strong in its prominence and ability to be sustainable</li> </ul>

Figure 2 – Extent of Green Belt around London, England



Source: Natural England, Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2010. All rights reserved. Ordnance Survey Licence number 100022021.

Table 2 – London Metropolitan Green Belt – Established 1938

Area	<ul style="list-style-type: none"> <li>• 484,173 hectares, 1.2 million acres</li> </ul>
Main Objectives/Vision	<ul style="list-style-type: none"> <li>• Check the unrestricted sprawl of large built-up areas</li> <li>• Prevent neighbouring towns from merging into one another</li> <li>• Assist in safeguarding the countryside from encroachment</li> <li>• Preserve the setting and special character of historic towns</li> <li>• Assist in urban regeneration, by encouraging the recycling of derelict and other urban land</li> <li>• Provide opportunities for access to open countryside, outdoor sports, and recreations for urban populations</li> <li>• Secure nature conservation interest</li> <li>• Retain land in agricultural, forestry and related uses</li> </ul>

Agricultural Features	<ul style="list-style-type: none"> <li>• 82% of London Green Belt is agricultural land</li> <li>• Open farmland on heavy clay soil</li> <li>• Pasture lands</li> <li>• Large intensively-farmed fields</li> <li>• Small and medium sized farm fields in a rolling lowland and clay vale</li> </ul>
Natural Features	<ul style="list-style-type: none"> <li>• Major rivers flowing through broad valleys</li> <li>• Tree belts and woodland areas</li> <li>• Chalk downland with steep chalk cliff and high quality grassland</li> <li>• Heaths and coniferous forests</li> <li>• Thames floodplain</li> </ul>
Governance	<ul style="list-style-type: none"> <li>• Originally established by <i>London and Home Counties (Green Belt) Act, 1938</i>, implementing the green belt policy adopted by the Greater London Regional Planning Committee in 1935</li> <li>• <i>The Town and Country Planning Act, 1947</i></li> <li>• The London Green Belt Council is a volunteer body created by government in 1954 to review and provide advice on London's Green Belt</li> <li>• Department for Communities and Local Government holds primary responsibility for guiding planning policy including green belt policy as well as the Department for Environment, Food and Rural Affairs</li> <li>• Local municipal councils play a key role and local planning officials make decisions on whether or not to allow development in green belt</li> <li>• Decisions on large or controversial applications are decided by the council's planning committee comprising elected members</li> </ul>
Greatest Threat	<ul style="list-style-type: none"> <li>• Increasing pressure for housing</li> <li>• Highway expansion</li> <li>• Aggregate extraction</li> <li>• Neglected farms and struggle to protect agricultural land</li> </ul>
Recent Activity	<ul style="list-style-type: none"> <li>• Ongoing research aimed at promoting sustainable agriculture in order to protect the Green Belt</li> <li>• Support from the public for improved protection of the natural environment in the London Green Belt</li> <li>• 2010 review of UK Green Belts assesses whether greenbelts are fulfilling their purposes</li> </ul>

<p>Bottom Line</p>	<ul style="list-style-type: none"> <li>In addition to traditional threats from housing and other development pressures, the London Green Belt faces similar challenges to other Green Belts in the UK, including new and emerging challenges such as: climate change mitigation and adaptation; appropriate valuation of ecosystem services; and the introduction of green infrastructure</li> </ul>
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Figure 3 – Map of the Green Heart

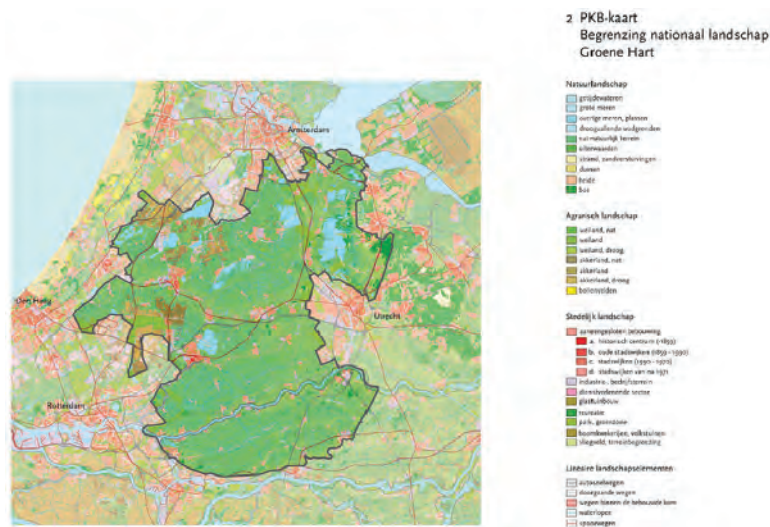


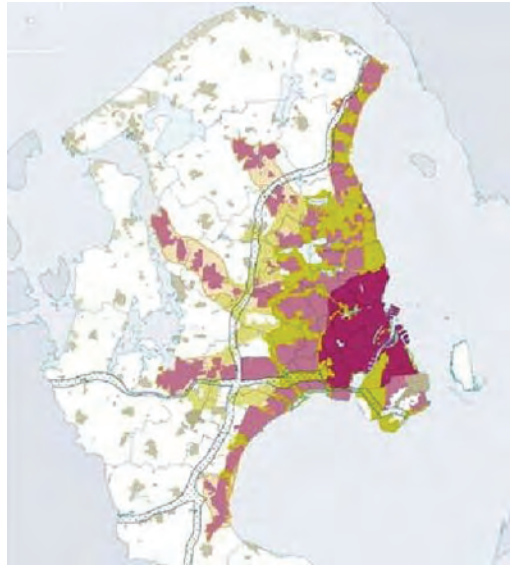
Table 3 – Netherlands Green Heart – Established 1958

<p>Area</p>	<ul style="list-style-type: none"> <li>160,000 hectares, 395,368 acres</li> </ul>
<p>Major Objectives/Vision</p>	<ul style="list-style-type: none"> <li>There should be recreation areas near great cities</li> <li>Productive agricultural land should not be surrendered to urban uses</li> <li>Water catchment areas and recreation areas should not be given over to urban uses</li> </ul>
<p>Agricultural Features</p>	<ul style="list-style-type: none"> <li>In the Randstad region, 80% of land is used for range of agricultural activities including cultivating under glass, bulb growing and large-scale arable farming</li> <li>Also supports dairy farming</li> <li>Contains peat meadows, low polders, dunes and flood plains</li> </ul>

Natural Features	<ul style="list-style-type: none"> <li>• Highly scenic</li> <li>• Dykes, ditches, ponds</li> <li>• Three major landscapes are river landscapes, peat lands and drained lakes</li> </ul>
Governance	<ul style="list-style-type: none"> <li>• Considered more of a planning concept than a legal entity, the Fourth Report on Spatial Development in the Netherlands gave the Green Heart the status of 'National Landscape' and a policy document was created to protect and promote the area's openness and landscape identity</li> <li>• The policy involves development of the landscape, development of nature and cultural values, and restriction of urban sprawl. Although strictly a planning policy, it is strongly supported by the Netherlands government</li> <li>• The Green Heart Platform is responsible for implementing policy relating to the Green Heart. It is made up of representatives of the four government ministries, the Randstad provinces, the four major cities in the Randstad ring, other municipalities, water boards and interest groups</li> </ul>
Greatest Threat	<ul style="list-style-type: none"> <li>• Housing and development pressures on open spaces</li> <li>• Construction of new roads and railway lines</li> <li>• Recreational space is in short supply</li> <li>• Struggle to protect agricultural land</li> </ul>
Recent Activity	<ul style="list-style-type: none"> <li>• Although the Green Heart continues to be a national planning policy concept, local governments now have more discretion in deciding where to build and which restrictions to lift</li> <li>• Netherlands government has identified the Green Heart as part of its response to climate change</li> </ul>
Bottom Line	<ul style="list-style-type: none"> <li>• While the Green Heart remains in need of continued protection, better conditions have been created there and it is viewed as a significant and valuable part of the Randstad region, with its diverse functions of agriculture, recreation, and water and nature management</li> </ul>



Figure 4 – The Copenhagen ‘Fingers’



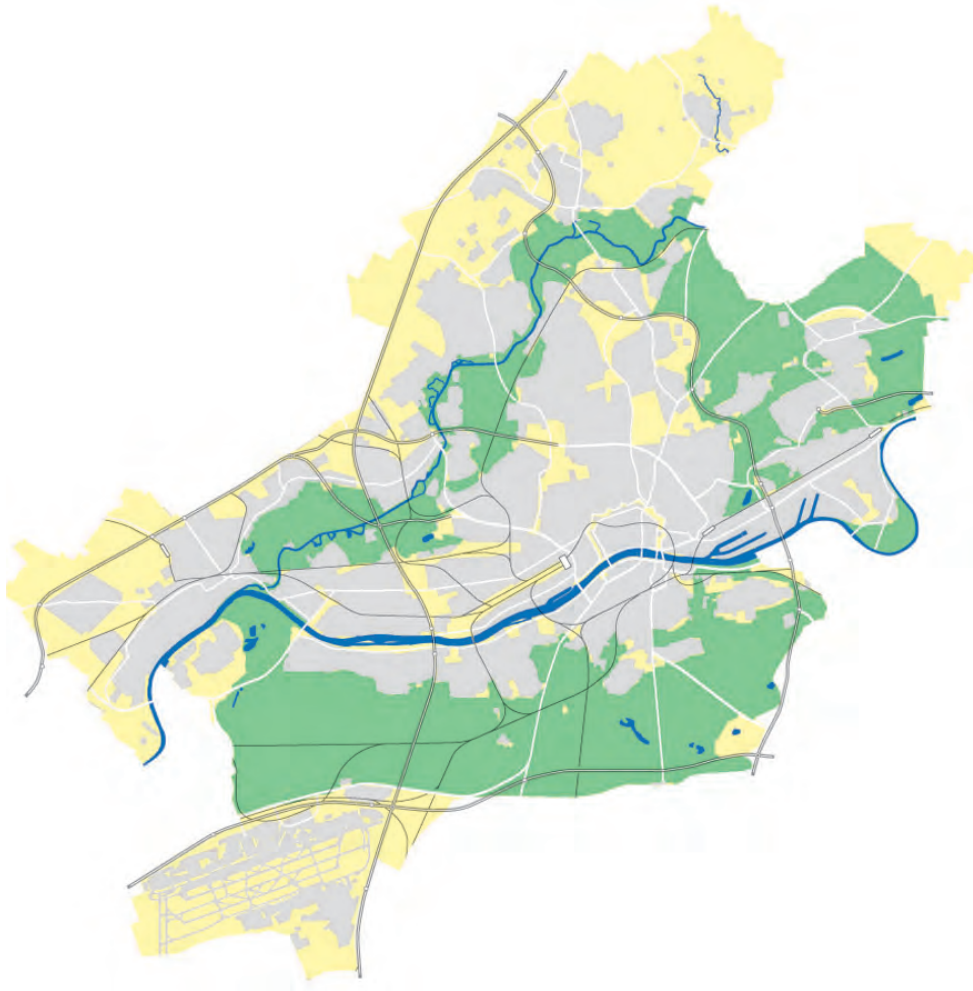
Source: *Spatial Planning in Denmark* by the Ministry of the Environment, Denmark, 2007.

Table 4 – Copenhagen Finger Plan – Established 1947

Area	<ul style="list-style-type: none"> <li>• 10,900 hectares, 26,923 acres</li> </ul>
Major Objectives/Vision	<ul style="list-style-type: none"> <li>• Develop an urban region that would be well served by public transport, allow residents to have good access to green spaces close to where they live, and protect the open countryside from being lost to urban sprawl</li> </ul>
Agricultural Features	<ul style="list-style-type: none"> <li>• No specific protection for agricultural landscapes, and farming has been in significant decline</li> </ul>
Natural Features	<ul style="list-style-type: none"> <li>• Forests, lakes and coasts</li> </ul>

Governance	<ul style="list-style-type: none"> <li>• Copenhagen's Finger Plan has legal status in Denmark's <i>Planning Act</i></li> <li>• The Finger Plan regulates urban development by requiring that the green wedges, the protected land interspersed between 'fingers' of urban development, are reserved for non-urban recreational use</li> <li>• National government establishes the criteria used to divide the Greater Copenhagen area for planning purposes, and defines the overall principles for planning</li> <li>• Municipalities have responsibility for regulating land use in their towns and countryside, and planning to protect natural areas. Municipal plans set out a development strategy to provide a framework for more detailed local planning</li> <li>• Plans for urban development must consider opportunities to strengthen public transport</li> </ul>
Greatest Threat	<ul style="list-style-type: none"> <li>• Opposition to protections in the Finger Plan comes from municipalities that border the green wedges and are limited in their ability to develop those greenfields</li> <li>• Municipalities outside of the finger town that have large amounts of agricultural land may wish to expand their urban developments into those areas</li> </ul>
Recent Activity	<ul style="list-style-type: none"> <li>• The Finger Plan 2007 is the current national planning directive for Greater Copenhagen</li> <li>• 2007 changes to Denmark's <i>Planning Act</i> gave the Finger Plan legal authority and abolished the regional authority that had existed, transferring planning powers to the municipalities in the Copenhagen Region</li> </ul>
Bottom Line	<ul style="list-style-type: none"> <li>• There continues to be pressure for urban development such as new residential areas throughout Greater Copenhagen, including open areas in the urban fringe, but proper implementation of the Finger Plan should ensure that development is located in the existing finger zones</li> </ul>

Figure 5 – The Frankfurt Green Belt



Source: AS&P's Frankfurt Study and Cologne Master Plan Project, © AS&P - Albert Speer & Partner GmbH

Table 5 – Frankfurt Green Belt – Established 1991

Area	<ul style="list-style-type: none"> <li>8,000 hectares, 19,760 acres</li> </ul>
Major Objectives/Vision	<ul style="list-style-type: none"> <li>Established to preserve a ring of green open spaces around the centre of the city in response to the threat to significant natural areas from the increasing demand for development</li> <li>Open Spaces to provide habitat for plants and animals, to protect biodiversity, and to protect supplies of groundwater while allowing for agriculture, forestry and recreation</li> </ul>

Agricultural Features	<ul style="list-style-type: none"> <li>• Agricultural production in the Green Belt includes the renowned regional apple wine industry</li> </ul>
Natural Features	<ul style="list-style-type: none"> <li>• Green spaces, parks, forests and lakes</li> </ul>
Governance	<ul style="list-style-type: none"> <li>• Created by the Frankfurt government as a Green Belt Constitution consisting of plans, procedures and a Green Belt Charter containing guiding principles on nature conservation, planning and administration</li> <li>• Municipal government has delegated responsibility for Green Belt to the city-owned Green Belt Frankfurt Ltd.</li> </ul>
Greatest Threat	<ul style="list-style-type: none"> <li>• Some tension concerning the role of development versus preservation in the Green Belt</li> <li>• Concerns that politicians may claim to adopt the principles of the Green Belt, but at the same time have political reasons for wanting to initiate development in specific locations within it</li> </ul>
Recent Activity	<ul style="list-style-type: none"> <li>• The European Central Bank is planning to locate its new premises near the Green Belt and at the same time close a remaining gap in the Green Belt by incorporating natural landscape</li> <li>• A recent project to reclaim a former military airfield at Bonames is encouraging the development of a new wilderness area in the Green Belt</li> </ul>
Bottom Line	<ul style="list-style-type: none"> <li>• Green Belt has continued to be landscaped in an ongoing way to provide an open space for recreation, sports, cycling, hiking, culture and education</li> <li>• Little of the natural Green Belt land has been lost to development; where this has occurred, there has been financial compensation directed to the Green Belt</li> </ul>

Figure 6 – The German ‘Iron Curtain’ Green Belt



Table 6 – German Iron Curtain Green Belt – Established 1989

Area	<ul style="list-style-type: none"> <li>• 17,700 hectares, 43,737 acres</li> </ul>
Major Objectives/Vision	<ul style="list-style-type: none"> <li>• BUND/FoE Germany (Bund für Umwelt und Naturschutz Deutschland, Friends of the Earth Germany) has been advocating for the protection of the habitats along the former inner-German border since the fall of the Iron Curtain in 1989</li> <li>• Protection of biodiversity</li> <li>• The Green Belt also aims to connect people and become a symbol showing that the enlarged European Union has not only a cultural but also a natural heritage</li> </ul>
Agricultural Features	<ul style="list-style-type: none"> <li>• German Green Belt was not established for agricultural purposes</li> </ul>

Natural Features	<ul style="list-style-type: none"> <li>• Many endangered species and habitats</li> <li>• Includes or borders on 150 nature reserves</li> <li>• More than 600 endangered animals and plant species</li> <li>• 60% of Green Belt composed of aquatic ecosystems, different forest types and grasslands</li> </ul>
Governance	<ul style="list-style-type: none"> <li>• There is no legal regime in place to protect the Iron Curtain Green Belt</li> <li>• The land in the Green Belt along the former Iron Curtain is protected through BUND land purchases and the <i>Federal Nature Conservation Act (2002)</i></li> <li>• BUND is closely involved with the expansion of the Green Belt</li> <li>• 22 per cent administered through a federal foundation</li> <li>• Funds raised from private donors are used to restore habitats, and provide a connection between people and the Green Belt</li> </ul>
Greatest Threat	<ul style="list-style-type: none"> <li>• Intensive agriculture</li> <li>• Development Pressures</li> </ul>
Recent Activity	<ul style="list-style-type: none"> <li>• There is strong support and momentum building to not just preserve land in Germany but to extend the protected land throughout Eastern Europe</li> <li>• The challenge in coming years will be continued public acceptance of policies and programs that provide strong protection for the green belt land, particularly in areas where there are development pressures</li> </ul>
Bottom Line	<ul style="list-style-type: none"> <li>• Cold War resulted in a unique natural heritage opportunity</li> <li>• The vision of a Green Belt became the backbone of an ecological network and a symbol for trans-boundary co-operation in nature conservation and sustainable development (also referred to as sustainability)</li> </ul>

Figure 7 – The Melbourne Green Wedges



Source: Department of Planning and Community Development, Government of Victoria, 2007.

Table 7 – Melbourne Green Wedges – Established 1968

Area	<ul style="list-style-type: none"> <li>647,800 hectares, 1,600,066 acres</li> </ul>
Major Objectives/Vision	<ul style="list-style-type: none"> <li>The Green Wedges are intended to preserve rural land for agriculture, conservation, recreation, mineral extraction and special infrastructure entities (such as water treatment plants and airports)</li> </ul>
Agricultural Features	<ul style="list-style-type: none"> <li>High quality horticultural land</li> </ul>
Natural Features	<ul style="list-style-type: none"> <li>Each of the twelve Green Wedges has distinctive natural features and landscapes, including: internationally recognized wetlands; notable landscape or seascape features; native grassland fauna habitat; native vegetation fauna habitat; river redgum habitat; and grassy woodlands habitat</li> </ul>

Governance	<ul style="list-style-type: none"><li>• The Melbourne Green Wedges have legal protection under 2003 amendments to the State of Victoria <i>Planning and Environment Act 1987</i></li><li>• The Act provides a general framework for municipal planning, sets out a metropolitan fringe planning policy and defines urban growth boundaries</li><li>• Municipal councils are required to develop and implement Green Wedge Management Plans to provide for the long-term sustainable management of the Green Wedges, with a focus on the conserving the unique characteristics of each Wedge</li></ul>
Greatest Threat	<ul style="list-style-type: none"><li>• Leaves open opportunity to expand urban growth boundary into the Green Wedges in the future</li><li>• Government intends the continued use of Green Wedge lands for resource extraction and transportation purposes</li></ul>
Recent Activity	<ul style="list-style-type: none"><li>• In November 2009, the State government announced planned amendment to extend Melbourne's urban growth boundary into the Green Wedges to include approximately 24,500 hectares of land to be used for a minimum of 134,000 new homes</li></ul>
Bottom Line	<ul style="list-style-type: none"><li>• The recent government initiative to extend the urban growth boundary into the Green Wedges to allow for new urban development suggests that political support for meaningful protection of the Green Wedges may have weakened</li></ul>



Figure 8 – The Portland Metro Urban Growth Boundary

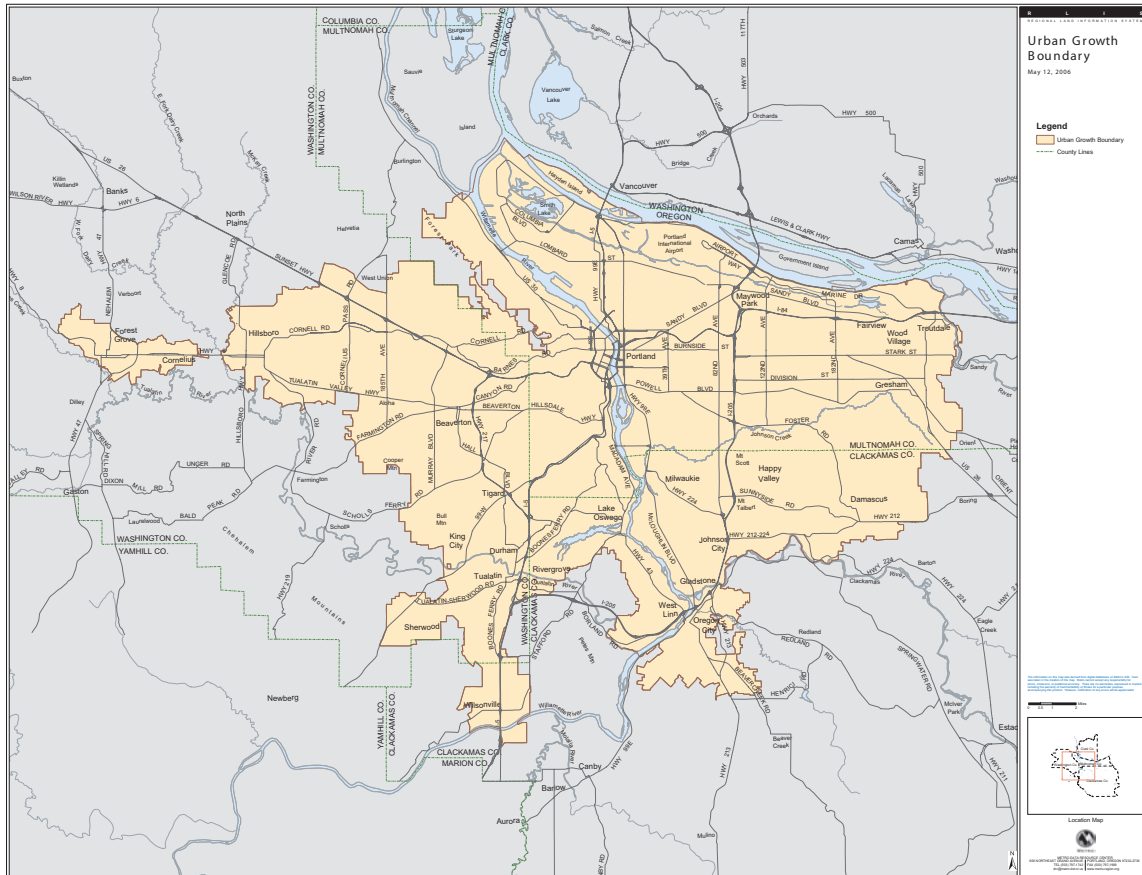


Table 8 – Portland Metro Urban Growth Boundary – Established 1979

Area	<ul style="list-style-type: none"> <li>• 102,953 hectares, 254,403 acres</li> </ul>
Major Objectives/Vision	<ul style="list-style-type: none"> <li>• To protect farms and forests from urban sprawl and to promote the efficient use of land, public facilities and services inside the boundary as well as to promote development and re-development of buildings and land in the urban core to help the downtown thrive economically</li> </ul>
Agricultural Features	<ul style="list-style-type: none"> <li>• Shares similar values with Ontario</li> <li>• Fertile agricultural land and forests; crops include nuts, berries, hops, wine grapes, mint, grass seed and nursery and landscape plants</li> </ul>
Natural Features	<ul style="list-style-type: none"> <li>• Parks and forests</li> <li>• Hiking trails</li> </ul>

Governance	<ul style="list-style-type: none"> <li>• The Urban Growth Boundary (UGB) was put in place as part of Oregon's statewide land use planning program implemented through Senate Bill 100 in May 1973</li> <li>• Afterwards, a number of initiatives were undertaken to weaken the Bill but they were defeated and the UGB was established in 1979</li> <li>• UGB reviewed every five years</li> <li>• State and local governments work together - state lays out framework for protection and local governments are required to make planning decisions within that framework</li> <li>• Non-governmental organizations have a role, including the Audubon Society of Portland and 1000 Friends of Oregon</li> </ul>
Greatest Threat	<ul style="list-style-type: none"> <li>• Development pressures despite a desire to combat urban sprawl and encourage sustainable transportation</li> <li>• Struggle to protect agricultural land</li> </ul>
Recent Activity	<ul style="list-style-type: none"> <li>• In September 2009, the Metro government completed the most recent capacity analysis, which indicated that it may be necessary to add a small amount of land to the UGB so it has enough capacity for growth</li> <li>• The capacity analysis report recommends that the Portland region manage the UGB in a manner that protects farm and forest lands, supports a strong economy, and maintains strong communities</li> <li>• Local governments in the Portland region have developed programs to promote a regional food economy</li> </ul>
Bottom Line	<ul style="list-style-type: none"> <li>• Need to ensure adequate land for urban growth must be balanced against protecting natural and agricultural lands</li> </ul>

Figure 9 – The British Columbia Agricultural Land Reserve

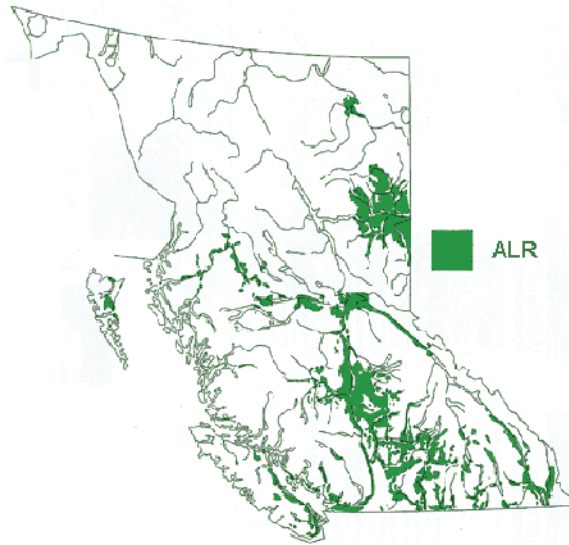
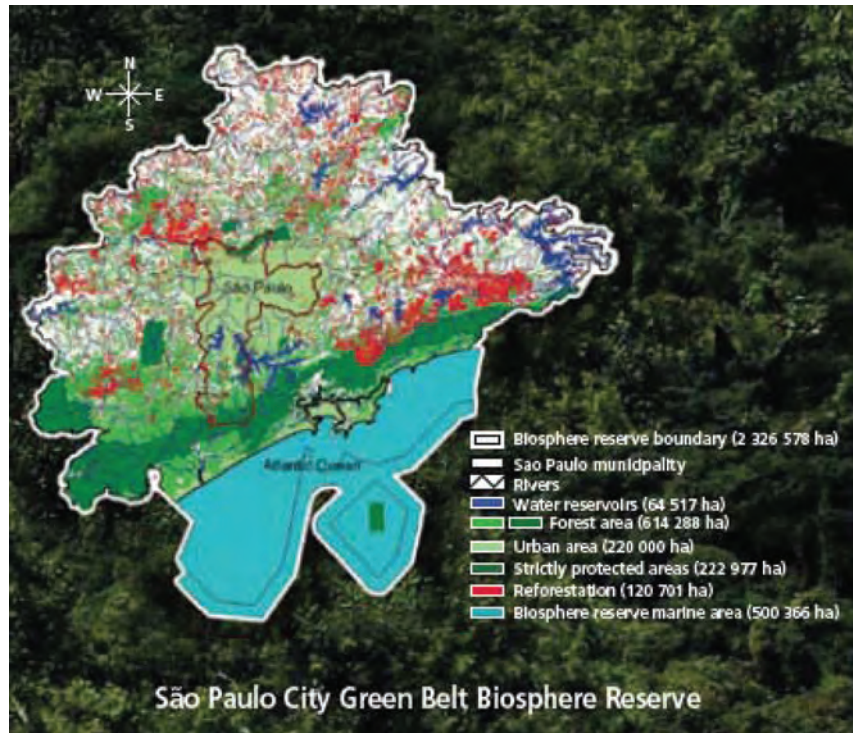


Table 9 – British Columbia Agricultural Land Reserve – Established 1973

Area	<ul style="list-style-type: none"> <li>• 4,760,703 hectares, 11,758,936 acres</li> <li>• ALR in the Vancouver region covers 60,892 hectares, 150,403 acres</li> </ul>
Major Objectives/Vision	<ul style="list-style-type: none"> <li>• Created specifically to protect agricultural land near cities and towns from urban sprawl</li> <li>• Goals include preserving agricultural land, encouraging and enabling farm businesses, and considering community interests in the provincial land reserve system</li> </ul>
Agricultural Features	<ul style="list-style-type: none"> <li>• Some areas produce agricultural products more capably than others depending on factors such as climate, which affects heat, moisture and topography, including soil quality</li> </ul>
Natural Features	<ul style="list-style-type: none"> <li>• Plenty of wildlife habitat</li> <li>• Natural features are quite diverse</li> </ul>

Governance	<ul style="list-style-type: none"> <li>• The ALR was established when the BC government implemented the 1973 <i>Land Commission Act</i> intended to preserve agricultural land and encourage the establishment and maintenance of farms</li> <li>• The land designated as ALR land is part of a controlled agricultural land use zone. The Agricultural Land Commission, an independent body created by and accountable to the government, has the discretion to include agricultural land in or exclude it from the ALR</li> <li>• Local governments and private owners can make applications to the Commission to have land included or excluded</li> <li>• The ALC works with local governments, landowners, industry groups, local community groups and non-governmental organizations</li> </ul>
Greatest Threat	<ul style="list-style-type: none"> <li>• Housing and development pressures</li> <li>• Municipalities that border ALR lands may oppose ALR protections because it limits their ability to develop those greenfields</li> <li>• Struggle to protect agricultural land</li> </ul>
Recent Activity	<ul style="list-style-type: none"> <li>• Strengthening Farming program strives to sort out land use relationships between farmers and their neighbours</li> <li>• ENGOs advocating the creation of a Sea-to-Sky Green Belt along the west coast of the mainland north of Vancouver</li> </ul>
Bottom Line	<ul style="list-style-type: none"> <li>• BC ALR continues to receive government protection and widespread public support</li> </ul>

Figure 10 – The São Paulo City Green Belt Biosphere Reserve



Source: *A World of Science*, Ferroni, Marcelo (2002) Artificial Desert. ISTOÉ, n° 1728, 14 November

Table 10 – São Paulo City Green Belt Biosphere Reserve – Established 1994

Area	<ul style="list-style-type: none"> <li>1,760,311 hectares, 4,347,968 acres in total [UNESCO Biosphere Reserve includes the urban area. Area of the Green Belt minus urban area is 1,540,032 hectares, 3,803,879 acres]</li> </ul>
Major Objectives/Vision	<ul style="list-style-type: none"> <li>Creation of a UNESCO Biosphere Reserve to protect natural heritage and environmentally sensitive lands</li> <li>Preservation of biodiversity</li> <li>Build public awareness about the significance and vulnerability of the ecosystem services in the Green Belt</li> </ul>
Agricultural Features	<ul style="list-style-type: none"> <li>Organic production and agriculture in peri-urban areas</li> </ul>
Natural Features	<ul style="list-style-type: none"> <li>Ecosystem contains tropical rain forest, 20 species of monkeys, fungi and many species of parrots and other birds</li> <li>Types of vegetation other than forest are natural fields, shoal and mangrove</li> </ul>

Governance	<ul style="list-style-type: none"> <li>• The São Paulo City Green Belt Biosphere Reserve was established through UNESCO's Man and the Biosphere program</li> <li>• A number of documents govern the GBBR, including: a Management System; a State of São Paulo Bylaw that provides rules and procedures for the green belt and related agencies; and a GBBR Action Plan that guides activities in the Green Belt</li> <li>• A Management Council has been established to create policies for the GBBR. The Forest Institute develops programs to implement them</li> </ul>
Greatest Threat	<ul style="list-style-type: none"> <li>• Urban growth and real estate speculation due to rapid urban growth</li> </ul>
Recent Activity	<ul style="list-style-type: none"> <li>• Farmers in the Green Belt have formed organizations to certify organic food and built relationships with restaurants in the city</li> <li>• The Youth Eco-job Training Program provides eco-job training in sustainable agriculture and tourism</li> <li>• The Forest Institute has initiated programs that address environmental protection, including a voluntary carbon neutralization market to support reforestation</li> </ul>
Bottom Line	<ul style="list-style-type: none"> <li>• As a major city in one of the primary BRIC (Brazil, Russia, India, China) emerging economies, São Paulo faces more complex challenges and greater social inequities than the other greenbelts studied here</li> <li>• Programs in the Green Belt have sought to address the landscape transformation caused by urban sprawl with programs that encourage the conservation of vital natural features and ecological services, as well as cultural heritage and agricultural resources</li> </ul>

# 2

## Legal, Policy and Institutional Framework

### 2.1 London Metropolitan Green Belt

In the United Kingdom, many green belt areas have been established around urban centres. As of 1997, there were 14 green belt regions designated in England, covering approximately 1.65 million hectares, or 13 per cent of the country. In Scotland, green belts total about 156,600 hectares, or 2 per cent of the country and in Northern Ireland green belt land covers 226,600 hectares, or 16 per cent of the country. This report will focus on the London Green Belt, the oldest and largest of the green belts in the United Kingdom.

The London Green Belt was initially established by the *London and Home Counties (Green Belt) Act, 1938*. This legislation, passed by the British Conservative government, provided a legal mechanism to purchase green belt land around London to protect it from development. This policy sought to establish a green belt or girdle of open space and recreational areas.

*The Town and Country Planning Act 1947* gave permission to local planning authorities to include proposals for green belts in their development plans. New green belts were put in place beginning in 1955, after the UK government issued Green Belt Circular 42/55, inviting

local authorities to protect green belt land and prevent sprawl from encroaching on countryside areas around cities and towns.

The current government planning guidance related to green belts is provided in Planning Policy Guidance 2: Green Belts (PPG 2). PPG 2 articulates five purposes for designating land as green belts, as well as six separate objectives for the use of land that has been defined as green belt land. The five purposes of including land in a green belt are:

- To check the unrestricted sprawl of large built-up areas;
- To prevent neighbouring towns from merging into one another;
- To assist in safeguarding the countryside from encroachment;
- To preserve the setting and special character of historic towns; and,
- To assist in urban regeneration, by encouraging the recycling of derelict and other urban land.

The objectives that apply to the use of land once it has been designated as within a green belt are as follows:

- To provide opportunities for access to the open countryside for the urban population;
- To provide opportunities for outdoor sport and outdoor recreation near urban areas;
- To retain attractive landscapes, and enhance landscapes, near to where people live;
- To improve damaged and derelict land around towns;
- To secure nature conservation interest; and,
- To retain land in agricultural, forestry and related uses.

There are a number of state actors from both levels of government involved in stewardship of the London Green Belt and other UK Green Belts. Within the UK government, the Department for Communities and Local Government has primary responsibility for guiding planning policy, including green belt policy. As well, the Department for Environment, Food and Rural Affairs (Defra) plays a role in protecting green belts through its policies, programs and those of its agencies, such as Natural England.

Local municipal councils also play an important role in each region where green belts have been created. Part of the London Green Belt is located in the Greater London Authority area but much of it is in the surrounding local authorities. The Greater London Authority is a citywide government, consisting of the directly elected Mayor of London and the separately elected London Assembly. Local planning officials are responsible for making decisions on whether or not to allow development in the green belt. The Boroughs, a lower tier of local government in London, also has planning authority to decide applications that may involve issues of Green Belt policy. However, the Mayor of London has some overarching responsibility for specific planning applications, such as new buildings of greater than 1000 square metres of floor space on Green Belt land.

A non-governmental organization (NGO), the Campaign to Protect Rural England (CPRE), has actively worked on countryside issues for eighty years, including advocacy for the creation and strong protection of green belts. CPRE also promotes local food and agriculture. In the case of the London Green Belt, national organizations such as the CPRE and local groups



participate in the London Green Belt Council, a voluntary organization that emerged in 1954 to review and provide advice on London's Green Belt.

## 2.2 Netherlands Green Heart

The term 'Randstad Holland' was first used in the 1930s, but only to refer to the group of towns and cities located relatively close to each other in the Western Netherlands. In the 1950s, the Working Commission for the Western Netherlands developed the basis for an urban strategy for the Randstad Holland. Its 1958 report, 'The Development of the Western Netherlands,' forecast great population growth and introduced a number of recommendations to control suburban expansion, including the development of the Randstad periphery, and preservation of agricultural areas. The report laid the foundation for the Randstad and the Green Heart. It envisioned the Randstad as:

*A horseshoe-shaped pattern of urban settlements arrayed around the Green Heart. This area was the economic core of the country. In the Green Heart, however, priority went to agriculture and recreation. Last but not least the Green Heart would serve as a strategic reserve to cater to future needs.<sup>5</sup>*

Protection for the Green Heart was controversial at the time as large-scale development had been planned for the area, but the need to preserve agricultural land prevailed.

The Green Heart is unusual among green belts in that it is surrounded by a ring of significant urban areas but is not attached to one primary city. The cities that comprise the Randstad

*...jealously guarded against any one of them becoming dominant and this is still a theme in Dutch politics. The Randstad concept owes its appeal to the fact that, by containing urban development on the rim, it preserves not only this balance, but also what is perceived as a unique amenity, the Green Heart.<sup>6</sup>*

The Fourth Report on Spatial Development in the Netherlands in 1988 gave the Green Heart the status of 'National Landscape'. The report was supported by a policy document that elaborated on the importance of restricting sprawl, and better managing the landscape and nature. Concern for protecting the Green Heart led to the decision to intensify density in urban areas that already exist on the Randstad City Ring.<sup>7</sup>

The 2006 National Spatial Strategy committed the central government to stay actively involved in managing the Green Heart and developing necessary policy tools. The Strategy sets out direction for development in the Green Heart:

<sup>5</sup> Andreas Faludi and Arnold van der Valk, *Rule and Order: Dutch Planning Doctrine in the Twentieth Century* (Kluwer Academic Publishers: Dordrecht, 1994) at 107.

<sup>6</sup> Andreas Faludi, "Coalition Building and Planning for Dutch Growth Management: The Role of the Randstad Concept" *Urban Studies*, vol. 31, issue 3, April 1994, at 485.

<sup>7</sup> Michel Van Eeten and Emery Roe, "When Fiction Conveys Truth and Authority: The Netherlands Green Heart Planning Controversy", *Journal of the American Planning Association*, Vol. 66, No. 1, Winter 2000, p. 58 at 60.

*The development programme for the Green Heart will contain a system of quality zones to guide the improvement of landscape quality. This will clearly set out the types of development considered suitable and those considered unacceptable in each zone. For example, in transformation zones small-scale building development could make a contribution to strengthening the landscape structure. Large-scale urban development in the Green Heart is not acceptable under any circumstances.*<sup>8</sup>

In the National Spatial Strategy, the government recognizes the link between the Green Heart and the urban areas that make up the Randstad, “the political, administrative, social and cultural heart and the most important economic motor of the Netherlands.”<sup>9</sup> The Strategy recognizes that one way to contribute to the goal of strengthening the Randstad’s competitive position internationally is to develop the Green Heart’s vitality and unusual qualities.

While the national government defines limits on growth in the Green Heart, it relies on the provinces to implement this in their planning controls. All of the cities and provinces that form the Randstad City Ring also have a key role to play. The Green Heart Platform is responsible for implementing policy relating to the Green Heart. It is made up of representatives of four government ministries, the Randstad provinces, the four major cities in the Randstad ring, other municipalities, water boards and interest groups.

### **2.3 Copenhagen Finger Plan**

In 1947, the town planner Peter Bredsdorff conceived of the Finger Plan as the basis of development in the Copenhagen Region. The plan received its name because:

*[t]he front page of the plan visualized the future urban areas as a hand – the palm resting on the existing compact city centre, and the fingers pointing along future cities, draped on infrastructural corridors that radiated in five directions from the centre.*<sup>10</sup>

The 1947 Finger Plan followed from the 1936 Green Network Plan, which aimed for a system of nature parks that would provide access for Copenhagen residents to landscapes of forests, lakes and coasts. The Green Network Plan was implemented during the decades that followed, resulting in parkways and protected habitats that radiated to the north and northwest from the centre of Copenhagen.

From the beginning, the Finger Plan distinguished the urban areas and infrastructure along the fingers from the green wedges running in between them. In its original version, the Finger Plan was an urban growth plan, rather than a comprehensive regional plan. More recent plans and policy initiatives have addressed this initial lack of attention to the rural areas on the

<sup>8</sup> VROM International – Netherlands Ministry of Housing, Spatial Planning and the Environment, The National Spatial Strategy.

<sup>9</sup> VROM International – Netherlands Ministry of Housing, Spatial Planning and the Environment, National Spatial Strategy Summary: Creating Spaces for Development, 2004 at 21. See: <http://www.sharedapaces.nl/docs/internationaal/engelsesamenvattingnr.pdf>.

<sup>10</sup> Henrik Vejre, Jørgen Primdahl and Jesper Brandt, “The Copenhagen Finger Plan: Keeping a Green Space Structure by a Simple Planning Metaphor,” in Bas Pedroli et al. eds, *Europe’s Living Landscapes: Essays Exploring our Identity in the Countryside* (Zeist, the Netherlands: KNNV Publishing, 2007) 311 at 312.

urban fringe. However, agricultural landscapes were never subject to the planning provisions.<sup>11</sup>

The Finger Plan was originally a concept that provided guidelines for development, but did not have legal status. However, in the 1970s, new planning laws required municipal plans to provide protection for the green wedges against additional urban development. In 2007, the Finger Plan of Copenhagen gained legal status in Denmark's *Planning Act*. The *Planning Act* sets out four principles to guide municipal planning in the Greater Copenhagen Region:

- urban development and regeneration in the core urban region must take place within existing urban zones and take into consideration opportunities to strengthen public transport;
- urban development and new urban functions in the peripheral urban region (known as the finger city) must consider existing and approved infrastructure as well as opportunities to strengthen public transport;
- the green wedges must not be converted to urban zones or used for urban recreational facilities; and,
- urban development in the rest of greater Copenhagen must be minor and planned by municipalities, and must connect with municipal centres or complete other urban communities.

The Finger Plan guides appropriate development in Greater Copenhagen that is linked with the development of transport infrastructure and services. It regulates urban development by requiring that the green wedges, the protected land interspersed between 'fingers' of urban development, are reserved for non-urban recreational use. Municipalities received authority under the 2005 Finger Plan to locate some new local urban development in specified areas outside the 'fingers'. Under the 2007 Finger Plan, municipalities have the authority to determine which new areas may be developed, so long as these fall within a designated four kilometre wide finger corridor that is defined in the Finger Plan. Municipalities are required to clearly set out the order in which new areas will be developed.

In addition to the green wedges, the plan includes a green ring that provides a connection between the forests, lakes and natural regions north of Copenhagen, the western natural areas and the coastal beaches to the south. The 2005 Finger Plan expanded the fingers and wedges and added the new green ring. New urban zones are not allowed in these areas, and priority is given to recreational uses such as natural areas, sports fields and golf courses.

At the national government level, the Ministry of the Environment defines the overall principles for planning in Greater Copenhagen in the Finger Plan and ensures that the 34 municipalities in the Copenhagen Region respect the Finger Plan in their municipal planning. The Minister establishes the criteria used to divide the Greater Copenhagen area into the core urban region, the peripheral urban region or finger city, green wedges and the rest of Greater Copenhagen.

Prior to 2007, the Greater Copenhagen Authority, a regional planning body, was responsible for planning in the Greater Copenhagen Region. Now, the municipalities in the Copenhagen Region have responsibility for implementing the Finger Plan. They regulate land

<sup>11</sup> *Ibid.* at 314.

use in their towns and countryside, and engage in planning to protect natural areas. Municipal plans set out a development strategy to provide a framework for more detailed local planning. Municipalities may prepare local plans when needed, and local plans must be adopted prior to any major development in the area. The municipalities in the Greater Copenhagen region play a significant role in ensuring that their plans are consistent with the Finger Plan. While in the past, a regional authority would evaluate municipal requests for new development on greenfield sites on a case-by-case basis, municipalities now have the authority to decide which new areas to develop.

Generally, the municipalities that have no more greenfield areas available for development are strong supporters of the Finger Plan. However, other municipalities in the region challenge the plan when they wish to develop greenfield areas in the green wedges or remaining agricultural land.<sup>12</sup>

Private landowners have a role as stewards of the green wedges in the Finger Plan. Although most of the natural and open lands around Copenhagen have been protected through national and municipal government actions, initiatives on the part of private landowners have also been instrumental in achieving the objectives of the Finger Plan.<sup>13</sup> For example, the core of the Søllerød Nature Park north of Copenhagen was preserved due to voluntary actions by private landowners during the 1950s. Although most of the area is now publicly owned, 10 per cent continues to be owned privately. These private owners are subject to regulatory restrictions on construction and changes to land cover.<sup>14</sup>

## 2.4 Frankfurt Green Belt

Prior to the establishment of Frankfurt's Green Belt in 1991, two Green Belts already existed within the city. A small Green Belt, established in 1901, surrounds the historic city centre where the former city walls once stood. A second Green Belt exists along the ring road boulevards of the city.

The creation of the 1991 Green Belt also has been linked to visionary land use planning that was undertaken in Frankfurt in the 1920s.<sup>15</sup> Ernst May, Frankfurt's head planner during that era, responded to the need for housing for workers in the city by designing

*sunny green settlements on the urban fringe. Accordingly, in the residential areas he planned, each house has a small backyard, and the settlements are surrounded by a ring of gardens. City planning had become an instrument of social policy.*<sup>16</sup>

The residents who lived in the housing planned by May experienced open green space each day, cycling through a Green Belt to go to work. These residential settlements still exist in

<sup>12</sup> Email from John Fernley Paine, Arkitekt MAA, Miljøministeriet, By-og Landskabsstyrelsen, December 22, 2009.

<sup>13</sup> Jørgen Primdahl, Henrik Vejre, Anne Busck and Lone Kristensen, "Planing and Development of the Fringe Landscapes: On the Outer Side of the Copenhagen 'Fingers,'" in Arnold van der Valk and Terry van Dijk, eds, *Regional Planning for Open Space* (RTPI Library Series, 2009) 21 at 27.

<sup>14</sup> Henrik Vejre, Jørgen Primdahl and Jesper Brandt, *supra* note 9 at 314.

<sup>15</sup> Interview with Roger Keil, Professor and Director, City Institute, York University, January 12, 2010.

<sup>16</sup> Sabine Husung and Peter G. Lieser, "Green Belt Frankfurt" in Roger Keil et al. eds, *Local Places in the Age of the Global City* (Montreal: Black Rose Books, 1996) 211 at 218.

Frankfurt and have provided consistently stable, successful housing, as well as being considered architectural gems.<sup>17</sup>

The modern Frankfurt Green Belt (GrünGürtel Frankfurt) was created by the city parliament of Frankfurt in November 1991. This municipal government body unanimously passed a Green Belt Constitution consisting of four parts:

- a map defining the boundaries of the Green Belt area;
- a Green Belt Plan setting out the types of development permitted;
- a Green Belt Charter containing guiding principles on nature conservation, planning and administration; and,
- procedures to protect the Green Belt through legal and political instruments, such as rules and permit requirements to protect natural areas and landscapes.

In 1991, the governing party of Frankfurt's city parliament was a coalition of the Social Democrats and the Green Party and establishment of the Green Belt was the centrepiece of their environmental policy. The Mayor, Volker Hauff, was a former member of the United Nations World Commission on the Environment and Development (more commonly known as the Brundtland Commission), which developed the concept of sustainable development. The Green Belt Charter reflects sustainable development principles, balancing environmental and social values with economic development. A lengthy planning process took place over 1990 and 1991 prior to the passage of the Green Belt Constitution. This exercise involved analysis of the ecological, social, economic and political aspects of the proposed Green Belt, and included several workshops as well as planning competitions in which residents, local politicians, local and international experts, and various interest groups participated.

The city government worked hard to engage the citizens of Frankfurt in the development of the Green Belt from its planning stages. Those who worked to establish the Green Belt believed that the Green Belt could only be protected in the long term through permanent public interest in it:

*a strong emotional bond between the citizens of Frankfurt and "their" Green Belt can effectively prevent the Green Belt area from being used – little by little – for other purposes. If city planners have to face a furious outcry of protest in the community, when they "touch" the Green Belt, they will try to avoid touching it. An emotional bond between a project and the public naturally develops when citizens intensively participate in the planning process for this project.*<sup>18</sup>

The planners involved in developing the Green Belt believed that ecological stewardship of the protected areas could not be left solely to government agencies, but needed to be in the hands of the local communities. They worked with schools, farmers and local citizens to encourage engagement. Although there were challenges in engaging the public and the public response was not always as widespread as was hoped, the attempts met with limited success.<sup>19</sup>

<sup>17</sup> Interview with Roger Keil, *supra* note 14.

<sup>18</sup> Sabine Husung and Peter G. Lieser, *supra* note 15 at 221-222.

<sup>19</sup> Interview with Roger Keil, *supra* note 14.

The Green Belt Charter formalized the need for continued public participation in decisions relating to the Green Belt, and recognized that the Green Belt needed input from a variety of stakeholders with different interests in and uses for it.<sup>20</sup> However, these attempts at public engagement were not as successful as anticipated.<sup>21</sup>

During the planning stages for the Green Belt, members of the public had different perspectives on how and why to protect the Green Belt. Environmentalists advocated for preserving it primarily as a nature reserve for wildlife and plant protection rather than as a place for people. Others saw the Green Belt as a place for recreation and outdoor activities. The city government planners became convinced that both of these objectives had to be incorporated into the Green Belt.

At the time of its introduction, the Green Belt Charter was considered to be a politically powerful document.<sup>22</sup> Emphasizing the city's responsibility to future generations, the Charter declares that a ring of green open spaces around the centre of the city is to be preserved and developed as the Green Belt. The Charter's preamble recognizes the threat to significant natural areas from the increasing demand for housing, commercial and industrial sites, and traffic. It articulates several reasons for preserving open green areas near the urban centre: provide habitat for plants and animals, including endangered species; protect supplies of groundwater and allow for the flow of fresh air from the rural hills into the city; and allow for agriculture, forestry and recreation. The Green Belt Charter provides for a special procedure to remove land from the Green Belt, and requires that land of at least the same size and comparable quality must be integrated elsewhere into the Green Belt.

The Charter goes on to provide details on the city parliament's vision for the Green Belt and principles for planning in the Green Belt. These principles address the importance of

- defining the transition areas between the Green Belt and the city with development that is acceptable ecologically and socially;
- making the Green Belt accessible by providing pedestrian and cycling pathways and trees planted along all roads;
- ensuring that public transportation and roads in the Green Belt is environmentally sound, adapted to the natural scenery, and carefully integrated into Frankfurt's road and public transportation system; and,
- planning that takes into consideration the visual, social and ecological significance of the Green Belt.

Following the creation of the Green Belt, the city government also founded a development corporation that is owned by the City of Frankfurt. The corporation, Green Belt Frankfurt Ltd. (GrünGürtel Frankfurt GmbH), is tasked with implementing the Green Belt Constitution. This development corporation was given responsibility for managing and improving the ecological and social infrastructure in the Green Belt.

The City of Frankfurt continues to promote the existence of the Green Belt in its tourism

<sup>20</sup> Sabine Husung and Peter G. Lieser, *supra* note 15 at 213.

<sup>21</sup> Interview with Roger Keil, *supra* note 14.

<sup>22</sup> *Ibid.*

and other informational material, and to give consideration to the Green Belt in its future planning for the city.

## 2.5 German Iron Curtain Green Belt

The former Iron Curtain that separated the East and West of Germany had the unintended side effect of facilitating the conservation and development of significant habitats. This occurred because people were not allowed to enter the border strip leaving it relatively undisturbed and free from cultivation and the intensification of land use. As a result, the area retained many endangered species and habitats.

Following the fall of the Iron Curtain in 1989, BUND (Bund für Umwelt und Naturschutz Deutschland) convened a meeting of over 400 nature conservationists from both East and West Germany, where the idea of a "Green Belt" was first applied in relation to the border area. The participants at this meeting agreed to a resolution to protect the unique habitats existing in the Green Belt.

The Iron Curtain Green Belt is intended to support natural heritage, tourism and recreation values. Given its focus on preserving natural habitat, agriculture and economic development are viewed as threats by some.

There is no legal regime in place that specifically establishes or protects the Iron Curtain Green Belt. The Federal *Nature Conservation Act*, a law that should help to promote the ecological network in the Green Belt, came into force in 2002. This Act was aimed at the conservancy of native species as well as protecting the functioning of their habitats.

The German federal government is actively engaged in protection efforts through the German Federal Agency for Nature Conservation (Bundesamt für Naturschutz – BfN). This agency organized a conference to launch the Green Belt in Germany and is also playing a role in efforts to extend the German Green Belt throughout Europe.

In November 2008, Germany's federal government, which is the biggest owner of Iron Curtain lands, transferred half of its land holdings to the Federal State of Thuringia for nature conservation purposes as the level of government with responsibility for nature conservation. This transfer of land followed ten years of lobbying on the part of BUND. The Federally owned Iron Curtain Green Belt land in the other Federal States (Mecklenburg Western-Pomerania, Brandenburg, Lower Saxony, Saxony-Anhalt and Saxony) have not yet been transferred.

The Thuringian government passed responsibility for their Green Belt lands to a foundation of the Federal State called the Foundation for Nature Conservation Thuringia (Stiftung Naturschutz Thüringen). The Foundation is now responsible for the administration of these areas, which constitute approximately 22 per cent of the entire German Iron Curtain Green Belt.

In 2009, the Iron Curtain Green Belt was specifically mentioned in the German Federal *Act for the Preservation of Nature* (Bundesnaturschutzgesetz, BNatSchG) where it was given recognition as a trans-boundary ecological network and a living symbol for overcoming the division of Germany and Europe. The new Federal coalition government, made up of the Christian Democratic Union and the Liberal Democratic Party, made a commitment to secure the Green Belt as a national nature heritage and nature monument in its coalition agreement of October 26, 2009.

This was considered to be an important success resulting from lobbying by NGOs. The BUND group (Bund für Umwelt und Naturschutz Deutschland), one of Germany's leading environmental organisations and a member of Friends of the Earth, is closely involved in the protection of valuable habitats along the Iron Curtain Green Belt.

The BUND-Project Office Green Belt in Nuremberg is responsible for coordination of projects and activities along the German Green Belt. It is also a regional coordinator of the Central European Green Belt. Other NGOs who have an interest in the German Green Belt, and are also involved with the expansion of the Green Belt concept throughout the former East-West border in Europe, include Euronatur and the International Union for the Conservation of Nature (IUCN).

## 2.6 Melbourne Green Wedges

The Melbourne Green Wedges have legal protection under the State of Victoria *Planning and Environment Act 1987*, through amendments made to that Act in 2003. As well as providing a general framework for municipal planning, the *Planning and Environment Act 1987* specifically protects the metropolitan Green Wedges by setting out a metropolitan fringe planning policy that applies to municipal councils in the Melbourne region, and by defining urban growth boundaries (UGBs). Green wedge land is defined as land described in a metropolitan fringe planning scheme as being outside an urban growth boundary.

The Victoria Parliament must ratify an amendment to a metropolitan fringe municipal plan after it has been approved by the Minister, if it:

- amends or inserts a UGB; or
- alters or removes controls over the subdivision of any green wedge land that would allow that land to be subdivided into more or smaller lots than permitted in the planning policy.

The 2003 changes to the *Planning and Environment Act 1987* that gave legal status to the Green Wedges were an outcome of adoption of the 2002 strategic growth plan, *Melbourne 2030*. In particular, Policy 2.4 of that plan focuses on protecting Melbourne's Green Wedges from inappropriate development for non-urban uses. It recognizes that each green wedge requires proper management tailored to its unique features.

In addition to the legislative amendments, the *Melbourne 2030* strategy led to the introduction of planning tools to establish and preserve the Green Wedges. In order to restrict the uses permitted in Green Wedge lands, planning policy specific to the Green Wedges was integrated into the Victoria Planning Provisions. The Victoria Planning Provisions provide a framework for municipal plans (known as planning schemes) and include standard provisions and planning policies which apply across the state. These include a Metropolitan Green Wedge Land policy that sets out core planning provisions intended to protect the Green Wedges from use or development that would detract from their agricultural, environmental, cultural heritage, conservation, landscape natural resource or recreation values. A Green Wedge Zone policy describes uses and subdivision requirements that are intended to promote sustainable farming, preserve cultural heritage significance and open, rural landscapes, and protect biodiversity.



Although *Melbourne 2030* led to their legal protection, the Green Wedges existed in planning policy for decades prior to 2003. The idea of protecting non-urban lands in the Melbourne area first emerged in 1966, and “green wedges” were initially included in formal Victoria government policy first in 1968 and then in the Planning Policies for the Melbourne Metropolitan Region in 1971. The Green Wedge concept continued to appear in planning documents over the next few decades.<sup>23</sup> In the early days of the Green Wedges, their intended purpose was to

*contain metropolitan growth and provide breaks to continuous urban development, enable the continuation of agriculture close to the city, protect areas of high natural value including landscapes, protect deposits of minerals and other resources, provide locations for infrastructure and major public utility installations or large institutions, and locations for recreation and the reservation of public open space.*<sup>24</sup>

In *Melbourne 2030*, the goals for the Green Wedges remained remarkably consistent with the earlier purposes; “to preserve rural land for agriculture, conservation, recreation, mineral extraction and special infrastructure entities (such as water treatment plants and airports).”<sup>25</sup> The legislative approach was seen as necessary to end land speculation, to ensure that planning rules were applied consistently, and to better protect the Green Wedges. Between 1996 and 2002, a great deal of rural land was lost to development when the land use system permitted at least 4000 hectares of land in the non-urban zones to be rezoned to allow residential lots. Much of this residential development was located in environmentally sensitive areas.<sup>26</sup>

Victoria’s Department of Planning and Community Development has primary responsibility for developing legislation and strategies to guide planning in the State, including the Melbourne area. The Department accomplishes this in collaboration with local governments and other public and private stakeholders with an interest in planning. The Department has prepared detailed guidance materials and established a Project Team and a Technical Reference Group to assist in developing Green Wedge Management Plans. The State government has provided financial assistance to assist municipal councils in forming the management plans.

Other State government departments with an interest in the Green Wedges include the Department of Sustainability and Environment and the Department of Primary Industries. The Department of Sustainability and Environment led in the development of *Melbourne 2030*, and is responsible for the sustainable management of water resources, climate change, parks and biodiversity. The Department of Primary Industries has responsibility for agriculture, earth resources, energy and forestry and recently published a report on improving natural resource management by private rural landowners in the Green Wedges.

<sup>23</sup> Michael Buxton and Robin Goodman, *Maintaining Melbourne’s Green Wedges: Planning policy and the future of Melbourne’s green belt*, School of Social Science and Planning, RMIT University, December 2002 at ii-iii.

<sup>24</sup> Michael Buxton and Robin Goodman, “Protecting Melbourne’s Green Wedges – Fate of a Public Policy” in Marco Amati, ed, *Urban Green Belts in the Twenty-first Century*, (Ashgate Publishing Limited: Hampshire, 2008) 61 at 66.

<sup>25</sup> Peter Parbery, Roger Wilkinson and Komala Karunaratne, *Square Pegs in Green Wedges? Landholders and Natural Resource Management in Melbourne’s Rural Hinterland*. (State of Victoria, 2008) at x. See: [http://www.dpi.vic.gov.au/dpi/nrenfa.nsf/LinkView/3438557A6B55EC24CA25757F000DB0BACC82CCF26A840230CA2573E10018D1B9/\\$file/3%20Parbery%20et%20al%202008%20Green%20Wedges%20Exec%20Summary.pdf](http://www.dpi.vic.gov.au/dpi/nrenfa.nsf/LinkView/3438557A6B55EC24CA25757F000DB0BACC82CCF26A840230CA2573E10018D1B9/$file/3%20Parbery%20et%20al%202008%20Green%20Wedges%20Exec%20Summary.pdf).

<sup>26</sup> Michael Buxton and Robin Goodman, “Practice Review: Protecting Melbourne’s Green Belt.” *Urban Policy and Research*, Vol. 21, No. 2, 2003, 204 at 206.

Municipal governments are also closely involved in the stewardship of the Green Wedges. Municipal councils are subject to Victorian State planning policies relating to the Green Wedges and the UGB. Although most of the Green Wedge lands fall within the jurisdiction of eight municipal councils, more than half of the municipalities in the Metropolitan Melbourne area have some of these lands inside their boundaries.

Where Green Wedges fall within their boundaries, municipal councils play an important role in developing and implementing Green Wedge Management Plans. These plans are expected to provide for long-term sustainable management of the Green Wedges, with a focus on conserving the unique characteristics of each Wedge. Green Wedge Management Plans are intended to identify the future use of non-urban lands, and the regimes needed to manage lands and resources. The first council to develop a Green Wedge Management Plan was the Manningham City Council. The October 2004 plan identified management priorities and made recommendations to encourage sustainable land management practices, biodiversity protection and enforcement of environmental protection laws.

The Municipal Association of Victoria (MAV) is another body engaged with stewardship of the Green Wedges at the municipal level. The MAV has been involved in supporting municipalities through education and capacity-building related to planning and programs in the Green Wedges. The MAV has conducted research into the challenges faced by municipal councils in Green Wedge management, and has advocated on their behalf for improved financial and technical support.

There has also been significant NGO involvement in the Green Wedges. The Green Wedges Coalition brings together 160 community and environmental groups concerned with protecting the Green Wedges. These groups include residents' associations, 'friends of' parks and other significant environmental features, and other environmental organizations. The Coalition is active in raising public awareness on threats to the Green Wedges, and making submissions on matters such as proposed changes to the UGB.

Private landholders are also important stewards of the Green Wedges as almost 80 per cent of the rural land in the Green Wedges is privately owned. This is challenging because of the diversity of private landholders, identified in a recent report as falling into the following categories: amenity lifestyle (farming undertaken for enjoyment but not dependent on farm income); green lifestyle (particular interest in nature conservation); part-time farmer; commercial farmer; struggling farmer; green commercial farmer (interest in nature conservation reflected in agricultural practices); hybrid farmer (combining primary agriculture with other activities such as hospitality or tourism); non-farm business; and, property speculator.<sup>27</sup>

## 2.7 Portland Metro Urban Growth Boundary

An Urban Growth Boundary (UGB) is a legal boundary that separates urban land, where urban growth is permitted, from rural land. A border is drawn around the urban area to contain growth within that area. In this way, UGBs differ from green belts, which are belts of land that surround a town or city and within which development is restricted. Despite the differences between these planning tools, they share similar purposes and the longevity of

<sup>27</sup> Peter Parbery, Roger Wilkinson and Komala Karunaratne, *supra* note 24 at 43.

the Portland Metropolitan UGB, Oregon, established in 1979, makes it a particularly useful example for this study.

The use of urban growth boundaries is part of Oregon's statewide land use planning program first implemented through Senate Bill 100 in May 1973. The Republican Governor of Oregon pushed for this initiative in response to concerns about "sagebrush subdivision, coastal condo mania, and the ravenous rampages of suburbia."<sup>28</sup> Over the following years, a number of initiatives to repeal or weaken Senate Bill 100 were defeated. Land use plans are developed by cities and counties based on the state planning program. Municipalities are required to establish an UGB based on the number of acres of land needed to accommodate population and employment growth. Outside the UGB, expansion of the urban area into farmland or forest land is not permitted. Land within the urban growth boundary may be used to develop housing and necessary urban services such as water and sewer systems, roads, parks, and schools.

Portland's UGB was initially established in 1979 to: focus urban settlement and promote higher density development along possible transit corridors; retain agricultural land; and, retain park forest land. It currently encompasses about 400 square miles, or 256,360 acres (103,745 hectares), of land designated for urban use.

The main functions of Portland's UGBs are to protect farms and forests from urban sprawl and also to promote efficient use of land, public facilities and services inside the boundary. The boundary also serves to promote development and re-development of buildings and land in the urban core to help the downtown thrive economically. The UGB makes those decisions about locating infrastructure like roads and sewers needed for further development more predictable. As well, the limit to urban growth assists efficiency in deciding how infrastructure should be built because it allows money to be used for public transit and existing roads, as opposed to extending roads into new areas.

The state and local governments are important actors working together for rural land stewardship within the UGB. The state has laid out a framework for protection, and the local governments are required to make planning decisions within that framework.

In the Portland area, the UGB is managed for the region by the Metro Council, an elected regional government with jurisdiction over 25 cities in three counties. The Council is responsible for policy-making and operations in relation to the regional government's programs and functions, including reviewing the UGB every five years and, if necessary, expanding the boundary to meet a legal requirement that a 20-year supply of land be made to accommodate future residential development within the UGB. The Council has a number of land use planning powers granted by state law:

- Coordinating between regional and local comprehensive plans in adopting a regional urban growth boundary;
- Requiring consistency of local comprehensive plans with statewide and regional planning goals; and,
- Planning for activities of metropolitan significance including (but not limited to) transportation, water quality, air quality and solid waste.

<sup>28</sup> Oregon Department of Land Conservation and Development website, History of the Program. See: <http://www.oregon.gov/LCD/history.shtml>.

Other actors who have a significant role in stewardship include non-governmental organizations such as the Audubon Society of Portland and 1000 Friends of Oregon. 1000 Friends of Oregon is a nonprofit organization created in 1975 that works in education, research and advocacy to defend and promote land use laws, policies and legal precedents. This group partners with independent local and regional citizens' land use organizations to address specific UGBs. 1000 Friends of Oregon also helped create Coalition for a Livable Future, an alliance of community groups in the Portland Region which strives to engage in developing and implementing a long-term land use plan in Portland.

The state government intends that UGBs will be reviewed and adjusted periodically. UGB expansions must only be considered where there is 'need', as defined by state law. Specific limitations apply even after a need for new land has been demonstrated. First, there must be an attempt to improve the capacity of land within the existing boundary. Then, non-agricultural land must be considered for urban expansion prior to farmland.

The most recent expansion of the Portland area's UGB occurred in December 2002, when the Metro Council approved a major addition following a two-year process to determine how much new land was required to satisfy the need for housing and employment. This added 18,867 acres into the UGB, with 2,6711 acres (1,154 hectares) of that to be used for employment lands.

In September 2009, the Metro government completed the most recent capacity analysis, which indicated that it may be necessary to add a small amount of land to the UGB in order to have enough capacity for growth. The capacity analysis report recommends that the Portland region manage the UGB in a manner that protects farm and forest lands, supports a strong economy, and maintains strong communities. This recommendation emphasizes that an expansion of the UGB is not necessarily the preferred course of action because it would require the extension of roads and other costly public infrastructure, such as water, wastewater and storm water systems, to additional areas. The expense of further expanding the UGB would take limited public financial resources away from existing urban centres and corridors, when there is already a need for increased public funds to renew downtown core areas and existing employment areas, and invest in transportation. It would also result in the loss of productive farmland, and lead to longer commutes and increased carbon emissions.

The report acknowledges that simply adding land to the UGB will not solve Portland's capacity problems given that areas added to the UGB after 1998 have not yet attracted new housing and jobs because public money has not been made available to finance needed water systems, sewers, roads and parks. A 'tight' UGB, on the other hand, would support "the creation of great communities by sending a signal to the private sector that investments in our downtowns and main streets are investments that will hold their value."<sup>29</sup> The report observes that a failure to use land within that boundary efficiently could cause development to move to neighbouring regions. This would lead to other consequences such as threats to farmland in those areas, and higher carbon emissions due to transportation. It also notes that if a decision is made to expand the UGB, land will only be added from Portland's designated urban reserves.

A recent addition to the legal context for land use planning in Oregon was the 2007 Senate Bill 1011, a state law that provided authority to Metro and Metro area counties to

<sup>29</sup> Metro, *Making the Greatest Place: Strategies for a sustainable and prosperous region*, September 15, 2009, at 25.

designate urban and rural reserves. The designation of these two types of land reserves would determine where UGBs in the Portland Metro region will or will not be permitted to expand to accommodate future growth over the next 40 to 50 years. The Metro government must work with the nearby county governments to establish the urban and rural reserves, and although the new law gives authority to create urban and rural reserves, it does not require that this be done. It is hoped that the reserves will be established in 2010.

Portland's Metro government intends to use urban and rural reserves in order to achieve long-term planning goals. The regional government will be allowed to select land from urban reserves when expansion of the UGB is needed, and this will provide greater predictability. Similarly, once agricultural lands, forests and natural landscape features are included in rural reserves, farmers and others will have greater certainty that these lands will continue to be preserved as farms, forests and natural areas for the foreseeable future.

## 2.8 British Columbia Agricultural Land Reserve (ALR)

The British Columbia government created the Agricultural Land Reserve (ALR) in 1973 as a response to concerns that irreplaceable farmland, a scarce resource in the province, was being lost.<sup>30</sup> The reserve lands were assembled between 1974 and 1976 with the cooperation of regional districts and area municipalities.

The ALR provides an example of another Canadian jurisdiction that shares goals relating to agricultural preservation and, to some extent, natural heritage, and tourism and recreation. Like many of the other jurisdictions, communities in BC face housing and development pressures, and concerns about sprawl and sustainable transportation and infrastructure.

The Agricultural Land Reserve (ALR) was legally established when the New Democratic Party government headed by Premier David Barrett implemented the 1973 *Land Commission Act*. This Act was intended primarily to preserve agricultural land and encourage farming. The *Land Commission Act* was replaced by subsequent legislation. The *Agricultural Land Commission Act* came into force in November 2002.

Along with the ALR, BC's Agricultural Land Commission was created in 1973. The purposes of the Commission are to:

- Preserve agricultural land;
- Encourage farming on agricultural land in collaboration with other communities of interest; and,
- Encourage local governments, First Nations, the government and its agents to enable and accommodate farm use of agricultural land and uses compatible with agriculture in their plans, bylaws and policies.

Land designated as part of the ALR is part of a controlled agricultural land use zone. The Agricultural Land Commission has the discretion to include agricultural land in or exclude it from

<sup>30</sup> Deborah Curran, *Protecting the Working Landscape of Agriculture: A Smart Growth Direction for Municipalities in British Columbia* (West Coast Environmental Law, 2005) at 5, 14. See: <http://www.wcel.org/sites/default/files/publications/Protecting%20the%20Working%20Landscape%20of%20Agriculture%20-%20A%20Smart%20Growth%20Direction%20for%20Municipalities%20in%20British%20Columbia.pdf>.

the ALR. Local governments and private owners must make an application to the Commission if they want land to be included in or excluded from the ALR.

The *Agricultural Land Commission Act* restricts non-farm uses and subdivisions of agricultural land in the ALR except where they are allowed by the Act, regulations or an order of the Commission. Policies provide guidance on permitted uses in the ALR and activities that have been designated as farm use among other topics.

When the ALR was created in the mid-1970s, it was made up of approximately 4.7 million hectares (11.6 million acres) of agricultural land. This represented about 5 per cent of the entire province. Although the boundaries of the ALR have been adjusted over the years, its total area has remained about the same.

Despite the consistency in total area, there have been claims that the quality of the agricultural land within the ALR has declined over time, and that the quality of the land included in the ALR is not as high as the land that has been excluded.<sup>31</sup>

The Commission is made up of members who possess knowledge about agriculture, land use planning, local government or first nation government. Prior to 2000, the provincial government appointed the members of the Commission, which functioned as a centralized provincial body. As of 2000, the government began to appoint members to regional panels and, in 2002, the Commission was structured so that six regional panels would consider land use applications from their respective regions.

The Agricultural Land Commission is an independent body, although it is created by and accountable to the government and does conform broadly to government policy. In carrying out its mandate to preserve agricultural lands and support farmers, the Commission works with others who have a stake in the ALR. This includes:

- Local governments, who are treated as partners in land use planning and in compliance and enforcement due to the Commission's limited resources;
- Landowners, who have a statutory right to make an application to have land included in or excluded from the ALR and to be notified of another's application;
- Industry groups such as the BC Cattlemen's Association, the BC Agriculture Council and the Union of British Columbia Municipalities;
- Local community groups such as Save Penticton's Agricultural Land from Division and Extinction (SPADE) in BC's interior Okanagan region; and,
- Non-governmental organizations that have advocated for greater protection of the ALR such as Protect Our Greenbelt, Smart Growth BC, West Coast Environmental Law, FarmFolk/CityFolk and the David Suzuki Foundation.

Formed in 2004 to increase public awareness of the ALR and to oppose major applications that threaten it, the ALR Protection and Enhancement Committee (ALR-PEC) is working to make sure the existing laws and regulations protecting the ALR are enforced, and to advocate for new laws and regulations to ensure that agriculture in BC is sustainable. ALR-PEC has called for a moratorium on removing land from the ALR.

<sup>31</sup> *Ibid.* at 12; and Charles Campbell, *Forever Farmland: Reshaping the Agricultural Land Reserve for the 21st Century* (David Suzuki Foundation, 2006) at 5. See: <http://www.davidsuzuki.org/files/SWAG/DSF-ALR-final3.pdf>.

## 2.9 São Paulo City Green Belt Biosphere Reserve

The São Paulo City Green Belt Biosphere Reserve (GBBR) was established in 1994 through the Man and the Biosphere program of the United Nations Educational Scientific and Cultural Organization (UNESCO). The Man and the Biosphere program has established a global network of biosphere reserves to allow for sharing of knowledge, research, monitoring, education, training and participatory decision-making. The GBBR is within the boundaries of another biosphere reserve, the Mata Atlântica Biosphere Reserve, which was created in 1992.

Although the GBBR was created in 1994, the civic movement that led to its establishment began several years earlier. In 1989, there was significant public opposition to a large road-building project that would have adversely impacted water resources that supply the city. This led to a broad-based civil society movement that collected 150,000 signatures on a petition calling for suspension of the road project and the creation of a reserve to protect natural heritage lands.

In response to the civic campaign for a biosphere reserve, the Forest Institute of the State of São Paulo's Department of the Environment brought the petition to UNESCO to seek the biosphere reserve designation. Following scientific study and endorsement from well-respected environmental non-governmental organizations working in the region, the UNESCO biosphere reserve program recognized the GBBR.

There is no specific mention of the GBBR in Brazilian federal legislation, although federal law does recognize biosphere reserves in the country generally. A number of documents govern the GBBR, including: a Management System; a State of São Paulo Bylaw that provides rules and procedures for the green belt and related agencies; and a GBBR Action Plan that guides activities in the Green Belt. The Action Plan establishes priority actions based on an assessment of the reserve's strengths and weaknesses, and other criteria.

Under the Management System, a Management Council has been established to create policies for the GBBR. The Management Council is made up of 34 members; 17 of these members represent government agencies and the other 17 represent non-governmental organizations. Government members represent state and municipal levels of government, including the Forest Institute. Non-governmental seats represent a range of interests, such as: the agricultural community; the manufacturing industry; the service industry; commissions for regional water basins; the scientific community; local residents; and local NGOs. This large group meets four times each year, but a smaller group of nine representatives of the Council meets monthly.

The Forest Institute develops programs to implement policies set up by the Council. It also engages in building public awareness about the significance and vulnerability of the ecosystem services in the GBBR. Forest Institute programs have emphasized the creation of eco-job and eco-business opportunities in the agro-forestry, organic agriculture, ecotourism, water management and waste recycling sectors. The Institute has, for example, established centres around the GBBR to provide eco-job training to disadvantaged youth.

## 2.10 Ontario Greenbelt

The legal framework for the Ontario Greenbelt is the *Greenbelt Act, 2005*. A moratorium on development in the Greenbelt study area was put in place under prior legislation in December 2003 to protect the land during public consultation. During the election earlier in 2003, the newly elected Liberal provincial government promised to create a greenbelt area in the Greater Golden Horseshoe.

The *Greenbelt Act* gives the provincial Cabinet the authority to establish a Greenbelt Plan, which requires that local official plans be brought into conformity with the Greenbelt Plan, and establishes a Greenbelt Council to give advice to the Minister of Municipal Affairs and Housing. The Act sets out an ambitious set of objectives for the Greenbelt Plan:

- To establish a network of countryside and open space areas which supports the Oak Ridges Moraine and the Niagara Escarpment;
- To sustain the countryside, rural and small towns and contribute to the economic viability of farming communities;
- To preserve agricultural land as a continuing commercial source of food and employment;
- To recognize the critical importance of the agriculture sector to the regional economy;
- To provide protection to the land base needed to maintain, restore and improve the ecological and hydrological functions of the Greenbelt area;
- To promote connections between lakes and the Oak Ridges Moraine and Niagara Escarpment;
- To provide open space and recreational, tourism and cultural heritage opportunities to support the social needs of a rapidly expanding and increasingly urbanized population;
- To promote linkages between ecosystems and provincial parks or public lands;
- To control urbanization of the lands to which the Greenbelt Plan applies;
- To ensure that the development of transportation and infrastructure proceeds in an environmentally sensitive manner; and,
- To promote sustainable resource use.

The Greenbelt Plan sets out a vision of a broad band of permanently protected land which: protects against the loss and fragmentation of the agricultural land base and supports agriculture as the predominant land use; gives permanent protection to the natural heritage and water resource systems that sustain ecological and human health and that form the environmental framework around which major urbanization in south-central Ontario will be organized; and provides for a diverse range of economic and social activities associated with rural communities, agriculture, tourism, recreation and resource uses. Under the Act, the Ontario government must conduct reviews of the Plan every ten years, and may propose amendments to it.



In parallel with the development of the *Greenbelt Act* and Plan, the provincial government also created a Growth Plan for the Greater Golden Horseshoe. The Growth Plan directs each municipality to develop and implement a strategy and policies that will ensure that future population and employment growth is directed to existing built up areas, with designated major transit station areas and intensification corridors. It also provides density targets and other guidance on development in Greenfield areas.

A number of government and non-governmental stakeholders are involved with stewardship of the Ontario Greenbelt. Provincial government officials must conform to the Plan when making land use planning decisions. Municipalities have an integral role in protecting the Greenbelt as they must ensure that their decisions and official plans are in conformity with the Greenbelt Plan.

The *Greenbelt Act* provides for the appointment of a Greenbelt Council to advise the Minister on matters relating to the Act. The Greenbelt Council includes members from different backgrounds with knowledge about and experience with land use planning, agriculture, environment, and transportation. The Council provides advice on issues such as the ongoing implementation of the Act and Plan and the development of performance measures to use in monitoring the Plan's effectiveness. They may also be consulted on proposals for amendments to the Greenbelt Plan, and the ten-year reviews of the Plan.

In June 2005, soon after passing the *Greenbelt Act*, the Ontario government announced the creation of the *Friends of the Greenbelt Foundation*, and provided \$25 million to support the *Foundation* in its operations, research, and grant-making. The *Foundation* is an independent, not-for-profit organization dedicated to promoting and sustaining the Greenbelt as a beneficial and permanent feature, enhancing the quality of life for Ontario residents.

Other Ontario non-governmental organizations were instrumental in advocating for a greenbelt in the Golden Horseshoe area, and continue to support and promote the Greenbelt. Most of these groups work together as a coalition called the Ontario Greenbelt Alliance. This coalition serves as a steward of the Greenbelt by: taking on a watchdog function in relation to development pressures, particularly in Greenbelt areas that have important environmental functions and features; providing a Greenbelt-wide information network and exchange; promoting a sense of the Greenbelt's value to rural and urban communities; and, advocating that the protected Greenbelt area be increased.

Ongoing implementation of the of Ontario's five-year-old Greenbelt Plan continues. While a few municipalities are still drafting amendments, most have drafted or adopted amendments to their Official Plans, or are waiting for Ministry of Municipal Affairs and Housing approval of their amendments. In some cases, amendments have been appealed to the Ontario Municipal Board. Many lower tier municipalities have not yet brought their Official Plans into compliance because this process is linked to conformity with the Growth Plan for the Greater Golden Horseshoe for which an extension was granted to the summer of 2010.

Ministry of Municipal Affairs and Housing staff have developed a draft Greenbelt Plan performance measures framework for measuring the effectiveness of the Plan in years to come. Focused consultation with municipalities and stakeholders on the draft framework took place in November 2009, and the Ministry is planning broader consultation with the general public later during the spring of 2010.

In August 2008, the Ontario government announced the six criteria that it would use to assess requests from municipalities to expand the Greenbelt. The government noted that Ontarians have come to value the Greenbelt and that growing the Greenbelt will do more to improve their quality of life. Municipalities must meet the following six criteria if they wish to expand the Greenbelt into their jurisdictions:

1. The request must be from a regional, county or single-tier municipal government, supported by a council resolution
2. The request must identify a proposed expansion area adjacent to the Greenbelt or show a clear functional relationship to the Greenbelt and how the Greenbelt Plan policies will apply
3. The request must show how the proposed expansion area meets the intent of the Greenbelt vision as well as one or more of the goals of the Greenbelt Plan
4. One or more of the Greenbelt systems – Natural Heritage System, Agricultural System and Water Resource System – must be included in the proposed expansion area, and their functional relationship to the existing Greenbelt system shown
5. A proposed area for expansion must not hinder implementation of the Growth Plan, and the request must show how the expansion area supports the goals, objectives and targets of both the Greenbelt Plan and the Growth Plan
6. The request must show that the proposed expansion area will not undermine provincial interests, or other provincial initiatives.

The provincial government has increased the opportunity for public engagement in land use planning in the Greenbelt. Ontario's *Environmental Bill of Rights* now applies to the *Greenbelt Act*, meaning that formal processes are in place to allow members of the public to participate in decisions relating to the Greenbelt. These include the right to comment on proposed policies and regulations, and the right to ask for a review of the *Greenbelt Act* and regulations and policies made under it.

# Distinctive Features

## **3.1 London Metropolitan Green Belt**

The initial idea for a 'green girdle' around the City of London originated with Raymond Unwin, a technical advisor to the Greater London Regional Planning Committee, in 1933. The purpose of this narrow green belt was to provide open space for recreation that was lacking within the city. The London Green Belt was implemented in 1945 at approximately two fifths of its current size.

The London Green Belt is the largest of the municipal green belts in the UK. A 2010 publication by Natural England and the Campaign to Protect Rural England to commemorate the 50th anniversary of the UK's green belts by assessing their progress, indicates the London Green Belt was approximately 484,173 hectares as of 2006.

The extensive green belt region around London is composed of a number of diverse landforms, including: the North Thames Basin, covering a large area around North London; the Greater Thames Estuary, which follows the Thames flowing to the east; the North Kent Plain southeast of Central London; the Thames Basin Lowlands to the southwest; the Thames Valley to the west; the North Downs to the south; and the Thames Basin Heaths which is further south.

The different regions that make up the London Green Belt contain a wide variety of natural features, including the following:

- Major rivers flowing through broad valleys;
- Tree belts and woodland areas, many on hillsides and hilltops;
- Corridors containing motorways, rail lines and electricity pylons;
- A variety of agricultural landscapes including: open farmland on heavy clay soil; pasture lands; large intensively-farmed fields; and small and medium sized farm fields in a rolling lowland clay vale;
- Chalk downland with a steep south-facing chalk cliff and high quality grassland
- Heaths and coniferous forests; and,
- Thames floodplain.

Roughly 92 per cent of the London Green Belt is undeveloped land, but only 58 per cent of the land has been registered as agricultural land. Fourteen per cent of the land in the Green Belt is Grade 1 or 2 agricultural land, meaning that it is considered the best or most versatile. About 55 per cent of the Green Belt is considered to have maintained its original landscape character with trees, woodland and rivers. Eighteen per cent of the Green Belt is covered in woodland. Approximately five per cent of the Green Belt is considered to be sites of special scientific interest.

The UK government's English Nature agency sub-divided England into Natural Areas with unique identities due to the interplay of wildlife, landform geology, land use and human impacts. A number of these Natural Areas containing important habitats exist within the London Green Belt region, including ancient parkland with veteran trees, ancient woodlands, lowland heath, grazing marshland, chalk grassland and scrub, cliff and chalk quarries, inter-tidal sand and mud flats, and arable farmland.

Although the London Green Belt is largely composed of open agricultural, wooded and recreational areas, it also contains some urban development. The growth in urban areas bordering and within the green belt have led to changes in rural areas as described here:

*For centuries, farming has shaped the physical character, economy and culture of rural areas – with farmers often being described as the 'custodians of the land'. In recent years, pressures at the urban fringe have caused farming activity to become detached physically, economically and culturally from the urban population.<sup>32</sup>*

At the same time, rural and urban residents are interconnected in many respects. Those who live in rural areas use services available in urban centres, while urban residents require the products that are generated in the rural regions.

Farmers in the 'urban fringe' – rural areas proximate to urban regions – face the usual challenges for those in agriculture, such as low market prices and outbreaks of animal

<sup>32</sup> Green Arc Bringing the Big Outdoors Closer to People, Improving the countryside around London: The Green Arc Approach, April 2004 at 18. See <http://www.greenarc.org/luc-report.html>.

diseases. In addition, urban fringe farmers must contend with other problems, including: vandalism and poaching; development pressure; high land prices; and competition from other incompatible land uses; and, the loss of local infrastructure supporting agriculture such as veterinarians and abattoirs.<sup>33</sup>

### 3.2 Netherlands Green Heart

The four Western Netherlands cities of Rotterdam, The Hague, Amsterdam and Utrecht form a horseshoe shape referred to as the Randstad City Ring. Within this ring is the Green Heart and together the Green Heart and the City Ring make up the Randstad area. The Green Heart area is approximately 1,600 square kilometres in size.

Historically the Green Heart was a peat bog; it was not even inhabitable until the middle of the sixteenth century. The Randstad area is now an agricultural landscape containing peat meadows, low polders (low lying land reclaimed from a body of water and protected by dikes), dunes and flood plains. It is highly scenic and features dikes, ditches and ponds. The three main landscapes are a river landscape, peat lands and drained lakes.

In the Randstad region, 80 per cent of the land continues to be used for a diverse range of agriculture, including cultivation under glass in the west, bulb production in the north and large-scale arable farming in the south. The Green Heart is a central open agricultural area in the Randstad that supports soil-based agriculture and dairy farming.

### 3.3 Copenhagen Finger Plan

The Finger Plan covers approximately 90 km from Helsingør in the north to Køge in the south, and about 60 km and from Copenhagen in the east to Roskilde in the west. In addition to Copenhagen, the plan includes five market towns – Helsingør (Elsinore), Hillerød, Frederikssund, Roskilde and Køge – at the extremities of the five fingers. Although it is difficult to define the amount of protected space within the Finger Plan region, the areas of the three western green wedges total approximately 3,900 hectares. There are also smaller protected areas outside the wedges in the west that cover about 1,000 hectares. In the northern Copenhagen region there are approximately 3,000 hectares of open space, including agricultural land and open countryside, which are subject to nature conservation orders. There are also significant forest areas that total about 3,000 hectares more, as well as a number of lakes and wetlands. Depending on where the outer limit of the metropolitan region is defined, there are additional areas protected from development, including agricultural land.

Many of the fringe areas around Copenhagen had traditionally been agricultural lands, but as previously noted, agriculture was not a focus of protection in the early Finger Plan. The nature of the urban finger-open countryside pattern ensured a strong, close urban-rural relationship integral to the Finger Plan. This was consistent with the planning objective that residents would have easy access to the green spaces near where they lived.

The open space to the west of Copenhagen contains the three green wedges, Hjortespring, Vestskoven and Vallensbæk, which have all developed in different ways under the Finger Plan.

<sup>33</sup> *Ibid.* at 26.

Implementation of the plan has been hindered by problems of inconsistency and a lack of continuity within the planning system.<sup>34</sup> Due to a lack of coordination by four municipalities, the Hjortespring wedge was not well protected and some of its land was lost to development. However, the remaining land was saved when the local municipalities agreed to a protective plan. Authority for planning for the Vestskoven wedge was given to the State Forest District, which provided strong protection by making land in the wedge subject to the strict provisions of the Forest Protection Act. The four municipalities that control land in the Vallensbæk Wedge followed different paths in planning for their areas. For example, Brøndby municipality planted forests and introduced allotment gardens. Vallensbæk established golf courses and Ishøj municipality created a landscape park.<sup>35</sup>

In addition to the three green wedges west of Copenhagen, a green network of nature parks that include forests, lakes and coasts exists to the north and northwest of the city. This is the legacy of the 1936 Green Network Plan. In the 2005 regional plan, the green wedges were extended and a green ring was formed around Copenhagen. All of these protected areas are included as green wedge geographical zones in the Finger Plan 2007. The Finger Plan 2007 designates inner, outer and coastal wedges.

### 3.4 Frankfurt Green Belt

The Green Belt around the city includes an area of 80 square kilometres, approximately one-third of Frankfurt's total area. The Frankfurt City Forest covers more than half of the Green Belt, and in the remaining area there are other green spaces, parks and playgrounds. There is agriculture in the Green Belt as well.

The Frankfurt Green Belt is made up of forests in the South, the valleys of the Nidda and Main Rivers, and hills to the North East. The city forest includes beech, pine and old-growth oak trees. To the north-east of the city, there are agricultural lands, and poplar and willow trees. There are also over 50 lakes, pools and ponds in the region. The Green Belt contains scenic landscapes and, along with the FrankfurtRhineMain Regional Park, hosts a 70 kilometre cycle path and a 63 kilometre hiking path. Agricultural production in the Green Belt includes the renowned regional apple wine (Stöffche) industry northeast of the city.

The city government intended that the Green Belt promote a close urban-rural relationship. The Green Belt Charter sets out its "vision of an open green area in which the urban society with its diversity of lifestyles can develop its increasing awareness of the environment."<sup>36</sup>

### 3.5 German Iron Curtain Green Belt

Anywhere from 50 to 200 metres wide, the Iron Curtain Green Belt runs for 1,393 kilometres through Germany with borders from Saxony, Bavaria and the Czech Republic to the Baltic Sea. The green belt includes or borders on 150 nature reserves extending the habitat network within it from 17,656 hectares (43,628 acres) to 223,211 hectares (551,566 acres), or 2,232 square kilometres. More than 200 nature reserves protected by statute, are designated or planned to be within the green belt area.

<sup>34</sup> Jørgen Primdahl, Henrik Vejre, Anne Busck and Lone Kristensen, *supra* note 12 at 21.

<sup>35</sup> Henrik Vejre, Jørgen Primdahl and Jesper Brandt, *supra* note 9 at 320.

<sup>36</sup> Sabine Husung and Peter G. Lieser, *supra* note 15 at 213.

Because of its linear nature, the Iron Curtain Green Belt includes examples of almost all types of German landscape such as coastal areas, lowlands and low mountains. The green belt also connects these habitats to one another, which is “extremely rare in the intensively used and fragmented German landscape... Fallow grassland, shrubland, dry grassland, pioneer forest, wet meadows, water bodies and bogs are linked and interlinked.”<sup>37</sup>

A survey of habitat types along the entire green belt was undertaken from April 2001 to September 2002, and some 109 different types were identified and mapped. Sixty percent of the Green Belt is composed of aquatic ecosystems, different forest-types, extensively used as well as unused grassland. Half of the area (48%) of this habitat network consists of endangered habitat types. In a 24-hour period in 2003, 500 experts were able to map more than 5,200 species of plants and animals in the green belt, including some that had been thought to be extinct.

The Iron Curtain Green Belt is seen “not only as Germany’s first nationwide nature conservation project but also a living memorial to recent German history.”<sup>38</sup> The Green Belt is intended to protect a system of interconnected habitats, 85 per cent of which currently remains intact ecologically. In Germany, where landscapes have been used intensively, the green belt is frequently the only land base left in a natural condition, making it valuable despite its narrowness and gaps. Although the green belt covers areas that are in very poor condition, there is potential to create a national ecological network.<sup>39</sup>

### 3.6 Melbourne Green Wedges

The Green Wedges are made up of twelve separate protected areas around Melbourne, as opposed to one integrated Green Belt. However, many of the wedges are contiguous with other wedges, so that a map of the metropolitan Melbourne region gives the impression of a belt of lands surrounding the city. The Green Wedges cover approximately 6,478 square kilometres of the land around Melbourne and are three times larger than the urban lands within Melbourne’s UGB.

Each of the twelve Green Wedges has distinctive natural features and landscapes. Examples of significant features and land uses in various wedges include:

- internationally recognized wetlands
- notable landscape or seascape features
- native grassland fauna habitat
- native vegetation fauna habitat
- river redgum habitat
- grassy woodlands habitat
- high quality horticultural land
- national parks or other parklands.

<sup>37</sup> Liana Geidezis and Melanie Kreutz, “Green Belt Europe – Nature Knows No Boundaries” *Urbani Izziv*, vol. 15, no. 2/04 at 135-136. See: [http://www.bund.net/lab/reddot2/pdf/english\\_article\\_greenbelt.pdf](http://www.bund.net/lab/reddot2/pdf/english_article_greenbelt.pdf).

<sup>38</sup> *Ibid.* at 135.

<sup>39</sup> Karin Ullrich and Uwe Riecken, Federal Agency for Nature Conservation Germany, “The German Green Belt,” in Engels et al. eds, *Perspectives of the Green Belt, Chances for an Ecological Network from The Barents Sea to the Adriatic Sea? Proceedings of the International Conference 15th of July in Bonn, 2004* at 80. See: [http://www.bfn.de/fileadmin/MDB/documents/skript102\\_2.pdf](http://www.bfn.de/fileadmin/MDB/documents/skript102_2.pdf).

The Green Wedges are viewed as multi-functional areas that include agriculture and other non-urban activities. The Green Wedge areas include small communities as well as environmentally significant features and rural and agricultural lands. They also include stone, sand and mineral resources that are intended for extraction as needed, and are home to major transportation facilities that include airports, ports and road and rail corridors. A range of other types of infrastructure is located in the Green Wedges, such as water reservoirs and sewage treatment plants. Many recreational and tourism opportunities and facilities are also located in the Green Wedges.

The rural lands in Melbourne's Green Wedges are closely linked to urban areas. Most of the Green Wedges are located between 'fingers' of urban development that are linked by regional transportation corridors. The urban areas are also connected to the rural lands through a number of parks, open spaces and trails that follow river and creek valleys, a number of which lead into Green Wedges.

### **3.7 Portland Metro Urban Growth Boundary**

The Portland region is located in the Willamette Valley, an area with fertile agricultural land and forests. A range of crops are grown in the area, including nuts, berries, hops, wine grapes, mint, grass seed and nursery, and landscape plants.

The Cascade foothills provide drinking water for much of the region. Wooded areas along the Deep Creek canyon connect the Clackamas River to natural habitats in urbanized areas to the North. The Clackamas River watershed hosts wild salmon and also provides high quality drinking water. Clear Creek hosts many species of fish, including endangered varieties and other creeks and rivers provide important habitats for fish, animals and waterfowl within an increasingly urban region. The Willamette Narrows is a botanically rich area of cliffs and islands containing plants normally found to the north and east of this region.

### **3.8 British Columbia Agricultural Land Reserve (ALR)**

The ALR contains public and private agricultural lands that may be farmed, forested or vacant. The natural features of these areas are quite diverse, extending across BC in both northern regions of the province and southern agricultural regions such as the Lower Mainland, Thompson-Okanagan and southern Vancouver Island. As of March 31, 2009, the total area of the ALR across the province of British Columbia was 4,760,703 hectares. At that date, the amount of ALR land in the Vancouver Region was 60,892 hectares.

Depending on a variety of factors, such as climate, moisture, topography and soil quality, some areas within the ALR are more capable of producing agricultural products than others. The province uses a land classification system that categorizes farmland according to seven land capability classes depending on how many limitations to productivity exist in an area and what special management practices may be needed. The high quality, productive farmland that produces a broad variety of foods also helps to support biodiversity and protect habitats for wildlife.<sup>40</sup>

<sup>40</sup> Charles Campbell, *supra* note 30 at 1.



The ALR also supports other economic activities that are viewed as compatible with agriculture, including tourism and recreation, oil and gas exploration and production, gravel extraction, food processing, equestrian facilities, and wineries.

### **3.9 São Paulo City Green Belt Biosphere Reserve, Brazil**

The boundary of the GBBR includes the urban area of São Paulo as well as the Green Belt lands. The total area of the São Paulo City Green Belt Biosphere Reserve is 1,760,311 hectares (4,347,968 acres), including a Green Belt of 1,540,032 hectares (3,803,879 acres) and the urban area of 220,279 hectares (544,089 acres). The GBBR is the only UNESCO Biosphere Reserve to encompass a major city.

The São Paulo GBBR is part of the Atlantic Forest, one of the most endangered forests on earth, which has been reduced to only 7 per cent of its original size. The GBBR contains an ecosystem that is considered to be one of the world's most diverse, with a tropical rain forest, 20 species of monkeys, fungi and many species of parrots and other birds. The green belt region still includes important vegetation in terms of both quality and quantity, and contains more than 6,000 square kilometres urban and peri-urban forests. Types of vegetation other than forest are natural fields, shoal and mangrove. In addition to the Atlantic Forest, the GBBR includes water reservoirs and marine areas.

### **3.10 Ontario Greenbelt**

The Ontario Greenbelt is made up of 728,000 hectares (1.8 million acres) of land in the Golden Horseshoe around Toronto, and includes 323,000 hectares (800,000 acres) of land that is also protected by the Niagara Escarpment Plan, a UNESCO World Biosphere Reserve, and the Oak Ridges Moraine Conservation Plan. It is larger than the province of Prince Edward Island. The Greenbelt was established to safeguard the quality of life in the Golden Horseshoe in anticipation of continued population growth and urbanization. The population in the area is expected to increase by approximately 4 million to 11 million people by 2031. A greenbelt was seen as necessary to combat the prospect of further urban sprawl and associated short and long term negative impacts such as fragmentation and loss of agricultural land, and loss and degradation of ecological features and wildlife habitat. The Greenbelt now protects the headwaters of all major watersheds in the western Greater Toronto Area that were not previously protected by the Niagara Escarpment or Oak Ridges Moraine Plans.

The Greenbelt's boundaries are defined by a systems approach to land use planning, and include the Natural Heritage System, the Agricultural System and Settlement Areas.

The Natural Heritage System includes natural-heritage and water-resource systems that are needed to maintain biological and geological diversity, natural functions, and indigenous species and ecosystems. The Agricultural System is made up of prime agricultural land, specialty-crop land and other rural areas. Settlement Areas in the Protected Countryside include land that is designated as towns, villages and hamlets.

# Threats and Foes

## 4.1 London Metropolitan Green Belt

The most significant threat facing the London Green Belt at present is increasing demand for housing. London and the areas that surround it require significant levels of new housing and there are frequent calls to locate it in the green belt. In recent years, green belt policy has been increasingly challenged by critics urging a review of the current planning system with a move to deregulation. Concerns relate to conflicts between housing policy and green belt policy that seemingly prevent towns and cities from being able to meet demands for local housing, resulting in long distance commuting from developments that leapfrog the green belt.<sup>41</sup>

Foes of the green belt have opposed the UK's green belt policy as being less relevant to current realities. For example, a 2007 report from the UK think tank Policy Exchange states that the national green belt policy should be replaced and local communities should be permitted to

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<sup>41</sup> The Countryside Agency, Urban Fringe – Policy, Regulatory and Literature Research: Preliminary Project Report (Scoping), March 31, 2003 at 15. See: [http://p1.countryside.gov.uk/Images/Scoping%20Report\\_tcm2-19777.pdf](http://p1.countryside.gov.uk/Images/Scoping%20Report_tcm2-19777.pdf).

make their own decisions about planning and the environment.<sup>42</sup> Even supporters of the Green Belt, such as the Town and Country Planning Association, have expressed some concerns about elements of the policy with respect to housing, suggesting that the roles, purposes and extent of green belts should be revisited where they inhibit sustainable development of urban areas or where they limit opportunities to reduce social exclusion.<sup>43</sup> Likewise, the Royal Town Planning Institute (RTPI), an organization promoting strong planning in the UK, has critiqued existing green belt policy, claiming that public perception of the purpose of green belts is not consistent with reality.<sup>44</sup> The RTPI has argued for a new green space policy that links urban density and public transit, encourages regeneration and protects open natural spaces.<sup>45</sup>

The final report of the Barker Review of Land Use Planning from 2006 recommended as follows:

*[T]here is likely to be increased need for green belt reviews, both to ensure that the integrity of green belts is maintained where necessary and to ensure that the development that takes place in England is genuinely sustainable (with careful evaluation of the different environmental impacts of different patterns of development). The requirements of sustainable development suggest that some urban extensions and new settlements should take place clustered around transport corridors, or at the edge of urban areas. The policy framework should clearly allow for this. Given the high proportion of land that is green belt, limited and properly justified change of classification could be allowed without jeopardising the overall goals for which green belts are designed.<sup>46</sup>*

The UK government has not implemented the recommendations to allow housing within green belt areas that were made in the Barker Review. The continuing pressure for new housing and accompanying infrastructure continues, however, to be the biggest threat to the London Green Belt. It has become common for major homebuilders and other land speculators to practice 'land banking' in the London Green Belt. Land bankers acquire Green Belt land and then wait in hope that its value will increase if planning restrictions on housing are lessened or removed in the future.<sup>47</sup> As well, some small farm properties have been held in hopes of the land value risings, and as a result the land has been neglected.

There are additional development threats to the integrity of the Green Belt such as proposals for highways, airport expansions and larger electricity transmission lines. As well, aggregate extraction through quarries and pits that are subsequently turned into landfills for waste disposal have compromised the landscape quality of the Green Belt. It is difficult

<sup>42</sup> Alan W. Evans and Oliver Marc Hartwich, *The best laid plans: How planning prevents economic growth*, Policy Exchange, January 2007 at 8. See: <http://www.rudi.net/node/17560>.

<sup>43</sup> Town and Country Planning Association, *Policy Statement: Green Belts*, May 2002 at 1. See: <http://www.tcpa.org.uk/data/files/greenbelts.pdf>.

<sup>44</sup> Royal Town Planning Institute, *Modernising Green Belts: A Discussion Paper*, May 2002 at 2. See: <http://www.rtpi.org.uk/download/2382/2002-63.pdf>.

<sup>45</sup> Royal Town Planning Institute, *Planning for Delivery: Let's Push Things Forward*, 2005 at 1. See: <http://rtpi.org.uk/resources/policy-statements/manifesto.pdf>.

<sup>46</sup> Barker Review of Land Use Planning, *Final Report – Recommendations*, December 2006 at 62. See: [http://www.american-dreamcoalition.org/housing/barker\\_finalreport.pdf](http://www.american-dreamcoalition.org/housing/barker_finalreport.pdf).

<sup>47</sup> Natural England and the Campaign to Protect Rural England, *Green Belts: a greener future*, 2010, at 30-31. See: <http://www.cpre.org.uk/campaigns/planning/green-belts/green-belts-campaign-update>.

to challenge these uses due to the perspective that minerals must be extracted where they are available. Mineral extraction is perceived as a temporary use of the land, although it may continue for a lengthy period, and the landscape and natural features will be irrevocably changed. There are also issues of how to restore the land in a manner appropriate to the Green Belt once the minerals have been extracted.

Strategic Rail Freight Interchanges (SRFIs) represent another threat currently faced in the London Green Belt. SRFIs are sites for the transfer of goods between rail and road vehicles, and are being encouraged as a way to reduce the movement of freight on the roads, by moving it to the railways. However, the prime sites for SRFIs are where the main railways into London cross the M25 Motorway. The M25 forms a ring around London and is nearly all within the Green Belt. Because SRFIs tend to need many hectares of warehousing built near them and there are concerns that the proposals are “disguised ways of building warehouses that have nothing to do with the railway in the Green Belt.”<sup>48</sup>

CPRE claims that approximately 1,000 hectares (2,471 acres) of Green Belt land are lost to inappropriate development each year. In response to such concerns, the UK government issued the Town and Country Planning (Green Belt) Direction 2005. This Direction sets out criteria to guide the Secretary of State in deciding where to call in proposed applications for development that may be inappropriate in order to allow public inquiry and make a determination as to whether the application may proceed.

#### 4.2 Netherlands Green Heart

Increasing pressure on housing and resources, including open space, in the Netherlands poses a threat to maintaining the Green Heart in the long term. Analysis by the Dutch Geographical Society has suggested that the Green Heart has been under threat of suburbanization for several decades. Political concessions have been made to favour urban expansion over the protection of open space. The Green Heart has also been compromised by the construction of new roads and railway lines, and by insufficient space for recreation.<sup>49</sup>

Foes of the Green Heart have made numerous attacks on it, which include the following:

- There is no whole, continuous physical landscape that could be called the Green Heart as there are a wide variety of landscapes in the region and it is broken up by infrastructure like highways and electric wires;
- The Green Heart does not have precise, marked boundaries except where it borders on major cities and the boundary mapped on plans does not reflect the landscape;
- Few parts of the Green Heart are truly ‘green’ in that only 3.8 per cent of the Green Heart may be defined as natural, recreational areas, as opposed to the national average of 14.8 per cent;
- There is a substantial amount of visible urban development that means there is no sense of visual openness; and,

<sup>48</sup> Email from Cedric Hoptroff, Chairman, London Green Belt Council, December 7, 2009.

<sup>49</sup> Manfred Kühn, “Greenbelt and Green Heart: separating and integrating landscapes in European city regions” *Landscape and Urban Planning* 64 (2003) 19 at 25.

- Randstad City Ring does not exist because those living there identify themselves as citizens of the cities in which they reside and not as citizens of the Randstad.<sup>50</sup>

Some critics have gone so far as to claim that the Randstad and Green Heart are planning fictions and do not exist in reality.<sup>51</sup>

The Netherlands government has reduced its role in spatial planning at a national level. Although the Green Heart continues to be a national planning policy concept, local governments now have more discretion in deciding where to build and which restrictions to lift. However, a public debate continues about the issue of preserving open space. Many object to 'cluttering' or 'messaging up' the landscape, for example with industrial areas along major roads.<sup>52</sup> One suggestion of a way to balance multiple objectives for the Green Heart has been to allow the construction of high quality housing in the Green Heart, combined with nature preservation and water storage capacity. Advocates for these projects believe that there should be greater use of the Green Heart to store water when there is a high level of water run-off from rivers, and that this function should also be accompanied by housing, such as building more floating houses.

### 4.3 Copenhagen Finger Plan

Some of the strongest opposition to protections in the Finger Plan comes from municipalities that border the green wedges and are limited in their ability to develop those greenfields. Further challenges come from municipalities outside of the finger town but within the Greater Copenhagen Region that have large amounts of agricultural land and may wish to expand their urban developments into those areas. However, legislative and policy changes made by the national government in 2007, such as giving the Finger Plan legal status in Denmark's *Planning Act*, indicate continuing strong political support for the Finger Plan.

### 4.4 Frankfurt Green Belt

There is some tension concerning the role of development versus preservation in the Green Belt. There have been concerns expressed that development would be a threat to the natural landscape in the Green Belt. There is a perception among some residents that politicians may claim to adopt the principles of the Green Belt, but at the same time have political reasons for wanting to initiate development in specific locations within it.<sup>53</sup> Others believe that public-private partnerships are needed in order to close gaps in the Greenbelt.

Frankfurt's large international airport is situated near the Green Belt, but is not part of it. A current expansion of the airport does not require the use of Green Belt lands. However, the proximity to the airport does create noise and reduces the quality of the Green Belt for recreation in that area.

<sup>50</sup> Michel Van Eeten and Emery Roe, "When Fiction Conveys Truth and Authority: The Netherlands Green Heart Planning Controversy", *Journal of the American Planning Association*, Vol. 66, No. 1, Winter 2000, p. 58 at 60-61.

<sup>51</sup> *Ibid.* at 61-62.

<sup>52</sup> Wil Zonneveld, "A Sea of Houses: Preserving Open Sapce in an Urbanised Country," *Journal of Environmental Planning and Management*, Vol. 50, No. 5, 2007, 657 at 673.

<sup>53</sup> Christian Curré, *Brabant Centre for Sustainable Development, The Story Behind the Story – International Examples of Sustainable Area Development*, (Lifescape your Landscape, 2008), at 11.

#### 4.5 German Iron Curtain Green Belt

Although a primary goal for establishing green belts in other jurisdictions has been to preserve agricultural land, proponents of the Iron Curtain Green Belt consider agricultural uses to be contrary to the aims of protecting ecological integrity of the Green Belt.

The Iron Curtain Green Belt is subject to intensive agriculture in some areas such as Magdeburger Börde, north and south of the Harz region. However, more sustainable forms of agriculture are being encouraged through the introduction of regional tourism programs.

Foes of the preservation of the Iron Curtain Green Belt include former landowners who wish to reclaim their properties in the border regions. The 1996 *Border Property Law* that allowed former landowners in the border area to buy back their former land for 25 per cent of its current market value has hindered the ability of BUND to protect the land. About 20 per cent of the land in the green belt is privately owned, 13 per cent belongs to municipal or public authorities and two per cent is owned by NGOs, primarily BUND. The remaining 65 per cent is federally owned, and a federal government decision to sell this land posed a threat for green belt protection. In 2003, the German Minister of the Environment promised to transfer the federally owned land to the German states at no cost for nature conservation. This mean that states on the former border would be able to use about 10,000 hectares (24,710 acres) for environmental purposes if they agreed to participate.

State governments along the German green belt, including Mecklenburg-Western Pomerania, Brandenburg, Saxony, Saxony-Anhalt, and Lower Saxony as well as Thuringia, have profited financially from real estate on the border under the *Wall Land Act* that provided that proceeds from such sales would be placed in a funding scheme to be distributed among the different states for investment in social, cultural and economic projects.

Another threat arises from plans to build a highway within the Green Belt in the region of the UNESCO Biosphere Reserve Rhön, in Hesse and Thuringia. The issue of roads crossing the Green Belt is a general concern because there are so many; all in all 450 roads cross the Iron Curtain Green Belt in the tight network of roads, from small country roads up to motorways, through Germany. Other threats include the 120 hectares of industrial parks that are in or adjacent to the Green Belt, as well as the problem of reforestation with non-indigenous species.

#### 4.6 Melbourne Green Wedges

Although the introduction of the UGB and other legal protection for the Green Wedges in 2003 was designed to preserve the non-urban lands from inappropriate urban development, the *Melbourne 2030 Strategy* left open the opportunity to expand the UGB into the Green Wedges in the future if growth area development plans indicate that this is both necessary and desirable.

The *Melbourne 2030* strategy encourages municipal councils to plan for intensification in urban areas that already exist, and suggests that there would only be expansions of urban lands where there were no negative impacts on the role and features of the Green Wedges. However, the strategy does make clear that such expansions would be contemplated.

It is also clear that the Victoria State government considered that the protection being extended to the Green Wedges included the protection of valuable natural resources for a broad

range of uses, including extraction.<sup>54</sup> Alongside the protection of agricultural, open space and natural heritage lands, the government intends to continue the use of Green Wedge lands for resource extraction and transportation purposes. For example, stone, sand and other mineral resources would be protected so that they could be extracted, and large transport facilities and transportation corridors would continue to be planned and built in the Green Wedges.

The *Melbourne 2030* changes appeared to be effective at protecting the Green Wedges from residential and industrial developments. According to the Green Wedges Coalition, only one housing development was approved following implementation of the 2003 provisions. However, there has been some erosion of the protections. For example, the UGB was amended to allow for an increase to the growth corridors of 35 per cent in 2005. More recently, there was some assessment of the development and implementation of the *Melbourne 2030* strategy. The *Melbourne 2030* Audit assessed implementation of *Melbourne 2030* and made several recommendations. The Audit Expert Group recommended retaining and strengthening the UGB, but also making sure that sufficient development land was maintained in 'growth areas.' The audit team felt that this could be achieved by maintaining the UGB without alteration for at least the next five years, and developing a clear and transparent process for future reviews of the UGB.<sup>55</sup>

In its *Planning for all of Melbourne* report, the State government set out a number of actions it would take in response to the Audit, including commitments to:

- Prepare longer-term plans for Melbourne's growth, informed by the latest population and economic growth forecasts, transport network needs, climate change and other environmental and community needs.
- Maintain the UGB and consider the timing of future UGB changes on the basis of updated forecasts, the development capacity of existing urban areas, longer-term urban growth issues (including future economic and employment opportunities) and transport investment requirements.

In December 2008, just a few months after the release of *Planning for all of Melbourne*, the same government released *Melbourne @ 5 million*, with the stated intention of updating *Melbourne 2030* and providing a long-term planning framework for the management of growth in Melbourne. This new document suggested expanding Melbourne's outer UGB to accommodate some of the estimated 284,000 new homes needed to be built in the growth areas to ensure that housing remains affordable. A June 2009 news report stated that new land zoned for development would include thousands of hectares that had previously been protected as Green Wedges. Others questioned the numbers being used to promote the idea of extending the UGB and exposed problems with the plans. An analysis by the Green Wedges Coalition claimed that *Melbourne @ 5 million* was based on incorrect land supply estimate figures and flawed assumptions, such as assumed constant high migration and growth.<sup>56</sup> Michael Buxton, a

<sup>54</sup> Victoria Department of Sustainability and Environment website, Melbourne 2030 Direction 2: Better management of metropolitan growth. See: [http://www.dse.vic.gov.au/melbourne2030online/content/policies\\_initiatives/02d\\_policy24.html#greenwedges](http://www.dse.vic.gov.au/melbourne2030online/content/policies_initiatives/02d_policy24.html#greenwedges).

<sup>55</sup> Rob Moodie et al., Melbourne 2030 Audit Expert Group Report, March 2008, at 67. See: [http://www.dse.vic.gov.au/CA256F310024B628/0/E3FA9C74C4FA6A22CA25744E0004719F/\\$File/Audit+Expert+Group+Report.pdf](http://www.dse.vic.gov.au/CA256F310024B628/0/E3FA9C74C4FA6A22CA25744E0004719F/$File/Audit+Expert+Group+Report.pdf)

<sup>56</sup> Green Wedges Coalition website, Why UGB expansion plans are seriously flawed: analysis by Jenni Bundy, October 2, 2009. See: <http://www.gwc.org.au/node/73>.

professor at Melbourne's RMIT University who has studied and written about the Green Wedges, criticized the proposal and cautioned that the Green Wedges are in jeopardy:

*Melbourne 2030 is stone dead...It is tragic for Melbourne's future because we are going to end up with two cities - we are going to end up with a whole lot of houses far from services and employment in the outer suburbs and more and more people being shoved into them.*<sup>57</sup>

*Melbourne @ 5 million* indicated a dramatic shift in the State government's approach to the UGB and in its relationship to the Green Wedges. This report stated that a review of the UGB was necessary due to a quickly growing population and the lack of an adequate supply of greenfield lands, and proposed to investigate how to alter the UGB in order to extend the growth areas in Melbourne. Specific regions were determined to be "Investigation Areas" for possible inclusion within the UGB. *Melbourne @ 5 million* acknowledged that this could impact on the Green Wedges, although the extent of the impact will not be clear until the review process is finalized.

The proposal to extend the UGB also related to State government plans for substantial changes to the transport system in the Melbourne region, including an expansive rail line and an outer ring road.

This sudden change in direction in the plan for the UGB and Green Wedges seems to reflect the government's acceptance of the argument by organizations such as the Housing Industry Association and the Property Council that a boom in population in Victoria required an extension of the UGB. In November 2009, the State government announced that the amendment to extend Melbourne's UGB had been approved by the Minister of Planning and was now being submitted for ratification by Parliament. The extension is to include about 24,500 hectares of land to be used for a minimum of 134,000 new homes.

#### **4.7 Portland Metro Urban Growth Boundary**

One of the main threats to urban growth boundaries in the Portland area is the pressure to accommodate a growing population and ensure that sufficient affordable housing is available. Foes of the UGB frequently criticize it for standing in the way of urban growth and affordable housing. Some suggest that:

*The scarcity of land for development that has been created by the "smart growth" policies has been cited as a principal reason that the Portland area experienced the greatest loss in housing affordability of any US metropolitan area between 1990 and 2000.*<sup>58</sup>

Organizations such as the National Association of Home Builders (NAHB) have expressed similar objections to UGBs, urging against their use to restrict suburban development. The NAHB also alleges that the higher density housing envisioned by the

<sup>57</sup> Jason Dowling and Kate Lahey, "Brumby tackled on urban sprawl," *The Age*, June 9, 2009. See: <http://www.theage.com.au/national/brumby-tackled-on-urban-sprawl-20090608-c0ui.html>.

<sup>58</sup> Wendell Cox Consultancy, "Portland: Urban Growth Boundary Keeps Out Growth" *Demographia* at 2. See: <http://www.demographia.com/db-porugbmigr.pdf>.



UGB regime is hard to achieve because there is less market acceptance for it, and because neighbours often oppose such projects.

The significant expansion of the Portland UGB in 2002 was the result of a vigorous campaign on the part of real estate agents and home builders in the Portland metropolitan area suggesting that there was an affordable housing crisis by the UGB policy. Builders had purchased farmland along the UGB in anticipation that it would expand into the western suburbs.

Others have refuted claims made by the NAHB by pointing out problems with the data relied on. For example, some of the NAHB rankings relied on census income figures that did not accurately reflect the jump in median household income in Portland during the early 2000s due to growth in the high-tech industry. This high-tech boom also contributed to an increase in the price of housing. Figures indicate that overall, US metro areas have a median household income of US\$57,500 and a median house price of US\$225,000, compared with Portland where the median income is US\$67,900 and the median house price is US\$201,000. It has also been noted that during the 1990s when housing prices were rising, houses were being renovated and restored and this resulted in increases in their value and more desirable neighbourhoods.

In addition, an urban analyst looked at changes in housing prices in Portland and a number of other metropolitan areas from 1980 to 2000 and found that Portland's UGB only had statistically significant effects on home prices during the first half of the 1990s and these effects were small. He determined that it was wrong to conclude that UGBs would inevitably cause housing prices to rise faster based on the experience in Portland.<sup>59</sup>

Portland continues to grapple with debates about the impact that the UGB may be having on the price of land and housing, and on how the urban land supply is managed. The strongest lobby for the expansion of the UGB continues to be land developers, including both residential and commercial real estate interests. However, these advocates for expansion have been somewhat quieter since the 2008 economic downturn in the United States.

#### **4.8 British Columbia Agricultural Land Reserve (ALR)**

The pressure of urban development that led to the creation of the ALR in 1973 has continued to wax and wane as a political issue over time. The Commission expects that the pressure to release land to accommodate community growth will continue to increase in coming years.

Foes of the ALR include developers who apply to remove agricultural land from the ALR, and provincial government policies that do not adequately protect and promote the economic potential of agricultural lands. Municipalities that border ALR lands may oppose ALR protections because it limits their ability to develop those greenfields.

The Commission has been criticized for allowing applications for the removal of productive agricultural land from the ALR for development. New guidelines in the Commission's service plan now require that the community needs be considered in deciding whether or not to exclude land from the ALR, and the 2002 restructuring of the Commission was intended to make it more responsive at a regional level. A 2006 report by the David Suzuki Foundation made a number of recommendations:

<sup>59</sup> Philip Langdon, "Urban Growth Boundary did not make Portland Unaffordable," New Urban News, March 2005. See: <http://www.newurbannews.com/PortlandMar05.html>.

- The *Agricultural Land Commission Act* and the Agricultural Land Commission's annual service plan must be revised to ensure they are consistent and clear in their commitment to protect agricultural land from other forms of development.
- The application process for ALR removals, subdivision, and non-farm use must be made more open, transparent, and accountable.
- The Agricultural Land Commission must move toward a more comprehensive regional planning process and consider 'community need' applications for removal only as part of a comprehensive review of ALR boundaries.
- The provincial government must undertake or facilitate authoritative research on a wide range of factors likely to impair the viability of farming now and in the future.
- The provincial government must develop policies to support farms and farming practices that contribute to the health of communities and the environment.
- Municipalities and regional districts must plan to protect existing agricultural land as a permanent legacy for future generations.<sup>60</sup>

Some of the changes to the structure and functioning of the Commission were the result of provincial government deregulation initiatives. The current *Agricultural Land Commission Act* was introduced as part of this program of deregulation. Beyond the changes already discussed, the new legislation also expands the oil and gas and mining activities that are permitted on agricultural land, and gave the Cabinet more authority to regulate permissible non-farm uses of agricultural land.

One of the legislative mandates of the Agricultural Land Commission is to encourage and enable farm businesses. The Commission has struggled with how to fulfill this part of its mandate given that it is a regulatory land use agency and has limited financial resources. The Commission has therefore not been proactive in encouraging and enabling farm businesses directly because it lacks the capacity to do so.<sup>61</sup> Other actors have suggested means to encourage and enable farm businesses. For example, the ALR Protection and Enhancement Committee has urged the provincial government to develop a strong provincial agri-food policy that commits to preserving farmland and ensuring a safe, secure food supply.

In addition, a 2005 West Coast Environmental Law report proposed a number of potential tools, such as:

- Agricultural area plans to address issues including identifying opportunities and constraints faced by agriculture in a specific area, and promoting agriculture by increasing public awareness of its value to a region;
- Agri-tourism to supplement and diversify farm incomes and increase urban dwellers' appreciation of agricultural practices and concerns; and,
- Farmers' markets to provide a regular local market for produce and provide a connection between farmers and urban consumers.<sup>62</sup>

<sup>60</sup> Charles Campbell, *supra* note 30 at 2.

<sup>61</sup> Personal conversation with Gary Hall, *supra* note 160.

<sup>62</sup> Deborah Curran, *supra* note 29, at 17-39.

The ALR faces opposition from some who believe it has negative impacts. For example a 2009 Fraser Institute report, admittedly issued from a think-tank grounded in free-market thought, questioned the need for the ALR.<sup>63</sup> The report did not provide evidence to support its claims and so was widely criticized. In response to the report, a representative of the Fraser Valley Regional District acknowledged that there are some problems with the Agricultural Land Commission but argued that it is essential to keep the ALR.<sup>64</sup>

#### 4.9 São Paulo City Green Belt Biosphere Reserve, Brazil

One of the most significant threats to the green belt region has been urban growth and expansion. Rapid urban growth has led to development projects such as the large highway project that led to calls for the creation of the Green Belt Biosphere Reserve because of its potential for adverse impacts on the city's water supplies

Rapid urban growth has resulted in real estate speculation in some areas of the city, and accompanying pressure on government to make public investments to encourage price increases for housing in these areas. There has been inadequate investment to provide residents of areas on the periphery of the city, in and near the greenbelt, with access to needed public services and infrastructure.<sup>65</sup>

#### 4.10 Ontario Greenbelt

While there was generally strong support from stakeholders during legislative committee hearings prior to the enactment of the *Greenbelt Act*, a number of groups expressed specific concerns, and in some cases opposition to the legislative and policy framework being introduced. These groups included the aggregate industry, the home building industry, developers, and some farmers and landowners in the Greenbelt region.

In a first anniversary report card of the Greenbelt Plan in February 2006, the Ontario Greenbelt Alliance evaluated the progress in implementing it. The report noted several threats, including: a proposed large sewer extension requiring massive dewatering that could harm sensitive aquifers and environmental systems as well as bringing intensive urban development, contrary to the principles of the Greenbelt; proposals for new quarries or quarry expansions in environmentally sensitive areas and natural heritage features; and a major residential and recreational development that threatens pristine forests, rare species and the headwaters of three significant cold-water streams.<sup>66</sup>

The second anniversary report card, released in February 2007, conveyed further concerns about sensitive areas in the Greenbelt needing better protection against proposed

<sup>63</sup> Diane Katz, *The BC Agricultural Land Reserve: A Critical Assessment* (Fraser Institute, 2009) at 3-4, 22-23. See: [http://www.fraserinstitute.org/commerce.web/product\\_files/BCAgriculturalLandReserve.pdf](http://www.fraserinstitute.org/commerce.web/product_files/BCAgriculturalLandReserve.pdf),

<sup>64</sup> Brian Lewis, "Fraser Institute says scrap the ALR – Farmers, local politicians argue report is ideological and full of errors," *The Province*, October 20, 2009. See: <http://www.theprovince.com/news/Fraser+Institute+says+scrap/2122436/story.html>.

<sup>65</sup> Rodrigo Antonio Braga Moraes Victor et al., "Application of the Biosphere Reserve Concept to Urban Areas: The Case of São Paulo City Green Belt Biosphere Reserve, Brazil - São Paulo Forest Institute: A Case Study for UNESCO," in *Annals of the New York Academy of Sciences*, Vol 1023, Issue Urban Biosphere and Society: Partnership of Cities, 237 at 239-240.

<sup>66</sup> Ontario Greenbelt Alliance, *Greenbelt Report Card: Grading implementation and progress in Year 1, February 2006* at 1-3. See: <http://www.environmentaldefence.ca/reports/Grading%20the%20GreenbeltFINAL.pdf>.

quarries, sewer pipes, roads and highways, and urban development. However, the report also noted a very high level of public support for the Greenbelt and commended the Ontario government for the measures it has taken to identify and protect parkland, and for its aggressive defense of areas against breaches of the Greenbelt Plan.<sup>67</sup>

The prospect of new highways and highway extensions is real; the provincial Ministry of Transportation is the proponent of three highway projects through the Greenbelt. In December 2009, the Greenbelt Council advised the government regarding factors that should be considered in the Environmental Assessment processes for the GTA-West and Niagara-GTA Transportation corridors. This advice reflected the Greenbelt Council's concerns that the cumulative impact of extensive new highway construction would "erode the public's faith in the Greenbelt as a long-term vision."<sup>68</sup>

The extraction of aggregates in environmentally sensitive areas continues to be one of the most serious threats in the Greenbelt, as they continue to be proposed and approved in environmentally significant areas including farmland, the Niagara Escarpment and Oak Ridges Moraine. Pit mining comes with several ecological costs including threatening already endangered species, fragile forests and wetlands; taking considerable amounts of drinking water; releasing harmful pollution to our air from thousands of truck journeys per day; and leaving permanently scarred landscapes.<sup>69</sup>

A 2009 report by the Ontario Greenbelt Alliance evaluated the implementation to date of the Growth Plan for the Greater Golden Horseshoe under the Ontario government's *Places to Grow Act*. The report suggested that four of the nine upper tier municipalities had passed or proposed Official Plan amendments that would incorporate growth strategies contradictory to the spirit and intent of the *Places to Grow Act*. Examples of the growth strategies that the Ontario Greenbelt Alliance found objectionable included an urban boundary extension of 2,868 hectares into environmentally sensitive areas and prime agricultural lands in Durham Region; and scattered, low-density residential development in the environmentally threatened Simcoe County. While the lands subject to the Growth Plan for the Greater Golden Horseshoe are outside the Greenbelt, they are very close and often adjacent to Greenbelt lands. The continued threat of urban sprawl to prime agricultural and environmentally sensitive lands is one of the main reasons that some stakeholders are advocating expansion of the Greenbelt.

<sup>67</sup> Ontario Greenbelt Alliance, *Greenbelt Report Card: 2nd Anniversary Edition*, February 2007. See: [http://www.greenbeltalliance.ca/reports/GreenbeltReportCard\\_FINAL\\_embargoed.pdf](http://www.greenbeltalliance.ca/reports/GreenbeltReportCard_FINAL_embargoed.pdf).

<sup>68</sup> Letter to The Honourable Jim Watson, Minister of Municipal Affairs and Housing from Dr. Robert Elgie, Chair, Greenbelt Council, December 2, 2009. See: <http://www.mah.gov.on.ca/Page7067.aspx>.

<sup>69</sup> Environmental Defence website, *Pitfalls in Greenbelt Protection Unearthed*. See: <http://www.environmentaldefence.ca/pressroom/viewnews.php?id=186>.

# 5

## Successes and Challenges

### 5.1 London Metropolitan Green Belt

#### *Farming and Food*

The UK green belts were not designed to assist in fostering a regional food economy, although some suggest that green belt designation reassures tenant farmers that their land will not be sold by the owner, and this stability makes it more likely that farmers will invest in long-term crops.<sup>70</sup>

Regardless of whether or not the London Green Belt was designed to promote a regional food economy, the proximity of green belt farms to a major city and towns facilitates access to local food. Farmers' markets, as well as ethnic and specialty markets, are increasing throughout London and offer personal contact between farmers and consumers. Farmers in the green belt may access support to transition to organic farming through Defra's Organic Farming Scheme. Also, farmers offer recreation and agri-tourism activities, and education about local food, by opening their farms to the public to showcase the land and their farm practices.

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<sup>70</sup> Personal communication from Estelle Taylor, Head of Campaigns, Campaign to Protect Rural England, September 12, 2006.

Despite some concerns about the effects of Green Belt policies on the diversification of farm activities, a 2005 survey for the London Development Agency of farmers showed that diversified enterprises accounted for nearly one-third of farm income, a much higher figure than in the rest of the country.

Agencies such as CPRE that are strong advocates of the green belt also promote local food, sustainable food production and connections between consumers and food producers. For example, CPRE has published a study of local food networks, or 'food webs' in East Suffolk that link people and businesses that grow, process, sell and buy food within a local region. The report noted threats posed to local food networks by large supermarkets, and called for policies to support and help create local food webs throughout England.<sup>71</sup> Other initiatives to promote local food webs include a local produce directory website, [www.Localfoodweb.co.uk](http://www.Localfoodweb.co.uk), which provides consumers with a searchable directory of farm shops, specialty food retailers, farmers' markets and village stores and forum to exchange recommendations with other consumers.

There is ongoing research aimed at promoting sustainable agriculture in order to protect the Green Belt. The CPRE has commissioned London Food Link, a project of Sustain: the Alliance for Better Food and Farming, to assist with a study on the potential for growing food to assist in preserving the London Green Belt. The London Assembly has also recently considered the role of the planning system in supporting and encouraging commercial food growing in London, including in the Green Belt.<sup>72</sup>

### *Tourism and Recreation*

The six objectives set out for the use of green belt land in PPG 2 have been met at least to some extent in the London Green Belt. Networks of parks, woodlands and other green areas form corridors between the town and the country for informal recreation. The Green Belt also provides opportunities for outdoor sports and recreation, typically near the boundary with the urban population.

While large areas of publicly accessible open space exist in the green belt, many of these are criticized for not being easily accessed by public transit, although this criticism should be seen within the context that the UK generally has been more aware of and proactive about providing accessibility through transit than many other jurisdictions.<sup>73</sup> Poor access by public transport mainly impacts those with lower incomes, making it difficult for them to visit the wider countryside. Another economic barrier results when fees are required to enter open space areas in the green belt National Trust sites.

A number of studies have found that ethnic minorities may feel stigmatized and uncomfortable in the 'British' countryside for a number of reasons, including a lack of information about the green belt, a lack of comfort and familiarity outside of urban areas, language barriers and other cultural factors.

<sup>71</sup> Caroline Cranbrook and Campaign to Protect Rural England, *The Real Choice: How Local Foods can Survive the Supermarket Onslaught* (CPRE, June 2006). See: <http://www.cpre.org.uk/library/results/local-foods>.

<sup>72</sup> London Assembly report to the Planning and Housing Committee of the Greater London Authority, *Review of the Role of the Planning System in Supporting and Encouraging Commercial Food Growing in London*, Report Number 4, October 13, 2009.

<sup>73</sup> Personal conversation with Alison Chapman, Project Coordinator, Greening Cities, Environmental Defence, May 30, 2007.

### *Natural Environment*

Efforts to improve damaged and derelict land in the London Green Belt have sometimes been linked to removing an area of land from the green belt in exchange for funds to restore a wider area. For example a 100-hectare site that had been used for gravel extraction was restored and opened for public access as the result of an agreement to give up 20 hectares of land for commercial and industrial development.

There are other mechanisms that have assisted in restoring damaged landscapes and habitats and expanding wilderness areas. These include two Defra programs: Environmental Stewardship, which rewards farmers for effective environmental management of their land; and the English Woodland Grant Scheme, which provides grants to help sustain and increase the benefits of existing woodlands and to help create new woodlands. The CPRE has urged that in addition to such programs, long-term public funding should be made available to support landscape conservation work undertaken by farmers, recognizing that farming provides many public benefits that are not rewarded through sales of farm produce.<sup>74</sup>

There is support from the public for improved protection of the natural environment in the London Green Belt. Recent surveys conducted as part of research on the current status of Green Belts in England indicated that overall the public supports the creation of additional nature reserves. Land use planners and land managers in the London area strongly agreed that more could be done to encourage wild animal and bird habitat within the London Green Belt.

A number of programs already implemented in the London Green Belt have seen successful results. For example, significant landscape enhancement initiatives like the Community Forest program have had a lot success. It has been shown that the Community Forest program has had positive impacts for more than 25 years in regenerating forest areas in the urban fringe and improving the Green Belt. Areas such as the eastern fringe of the London Green Belt, which historically included extractive industries, "have been significantly transformed with the establishment of the Community Forests and other land reclamation initiatives."<sup>75</sup> There are also two Regional Parks, Colne Valley and Lee Valley, which cover large areas of the Green Belt and have successfully combined stewardship and improvement of the natural environment with increased public access.

The current Wildspace project in London is creating an important conservation park in the Rainham Marsh area in order to develop an ecological and leisure resource for new and existing communities in east London. One of the environmental benefits of this project will be the restoration and enhancement of a degraded and inaccessible area of the London Green Belt.

### *Current Health of Greenbelt*

Overall, green belts in the UK have had a profound effect on the landscape around urban areas, for the most part achieving their purposes of keeping the countryside open and preventing new development except for agriculture, forestry and recreation. The final report of the 2006 Barker

<sup>74</sup> Campaign to Protect Rural England and National Farmers' Union, *Living Landscapes: Hidden Costs of Managing the Countryside*, July 2006.

<sup>75</sup> Natural England and the Campaign to Protect Rural England, *Green Belts: a greener future*, 2010, at 78. See: <http://www.cpre.org.uk/campaigns/planning/green-belts/green-belts-campaign-update>.

review acknowledged that the “success of green belts and other policies has been notable, and has produced a number of important benefits, including maintaining valued open space for recreation and preserving the intrinsic character of the English countryside.”<sup>76</sup>

The London Green Belt was created in response to the unchecked and sprawling growth that took place in that city during the 1920s and 1930s. Had the green belt not been put into place, it is likely that the sprawl would have continued. Instead, the green belt has ensured that existing urban land has been used more efficiently, as well as preserving much of the countryside around the city.

As outlined above, there has been considerable debate of the last few years about the functions of the London Green Belt. While stakeholders agree on the need to control development and that openness should be preserved, there are different interpretations of appropriate development.

Green Belts in England receive ongoing, strong support from the general public. In the face of reports that encouraged the introduction of new housing into the London Green Belt, the government continued to support rigorous planning restrictions. Green Belt policies continue to be very effective in preventing urban sprawl.

In addition to traditional threats from housing and other development pressures, the London Green Belt faces new and emerging challenges such as climate change mitigation.

## 5.2 Netherlands Green Heart

### *Farming and Food*

The Netherlands’ National Spatial Strategy includes a vision for the future of agriculture and designates five ‘greenports’ as internationally significant horticultural areas. Four of these greenports are in the Randstad area: Westland-Oostland, Aalsmeer, Bollenstreek and Boskoop.

A group of farmers have launched an interesting initiative to promote agriculture in the Green Heart. In order to diversify their agricultural businesses, these farmers opened shops to sell products grown and made in the area, and branding them Green Heart Products. These products are marketed to alternative buyers, such as members of nature and environmental organizations, as opposed to a mainstream market.

In 2008, the Council for the Rural Areas in the Netherlands commissioned a study on agriculture in the Green Heart, which served as the basis for further discussions with farmers in different areas of the Green Heart. Based on this research, the Council concluded that agriculture is strong, and noted that a “new spirit of entrepreneurship is emerging with farmers who see good prospects for the future and who are learning to exploit the benefits of the landscape from generation to generation.”<sup>77</sup>

### *Natural Environment*

In its vision and plan for the area, as outlined in *Randstad Toward 2040*, the Netherlands government has identified the Green Heart as part of its response to climate change. It plans to

<sup>76</sup> Barker Review of Land Use Planning, *supra* note 45 at 8.

<sup>77</sup> The Council for the Rural Area website, Current and Future Activities. See: [http://www.eeac-net.org/bodies/netherlands/nl\\_rlg.htm](http://www.eeac-net.org/bodies/netherlands/nl_rlg.htm).



connect the Green Heart region to IJsselmeer Lake, the Zeeland lakes, the coast and the Utrecht Hill Ridge in order to increase the amount and diversity of water in the Green Heart, making it a more significant part of a larger green-blue delta.

### *Current Health of Greenbelt*

Some have expressed concerns that the Dutch Green Heart has reached its hoped-for potential as a protected green belt area due to continued suburban community growth, the loss of rural character, and the further urbanization of cities and villages.<sup>78</sup>

One author has argued that the Green Heart has failed due to “a dilemma between two contradicting functions of open spaces in a regional context: to be a separator of urban and rural areas and to be an integrator towards the Regional City of ‘Greenbelt Metropolis.’”<sup>79</sup> This analyst has suggested that

*Areas for recreation and nature protection are in very short supply within the Green Heart. The “rurality” of the area is more fiction than fact. A functional shortcoming of the Green Heart approach is that the landscape is hardly able to fulfil the functions of a pulsing “heart” of the Randstad.<sup>80</sup>*

However there are others who have argued that the Randstad and Green Heart are real and have succeeded in important functions:

*There are still important values being pursued here. Among other things, this area is a classic Dutch poldered landscape, interspersed with small towns and villages. The aesthetic and recreational values are real and significant—the ANWB (the Dutch equivalent of the American Automobile Association), for instance, publishes a number of maps laying out bicycle trips in the Green Heart, and indeed many people do bicycle there!<sup>81</sup>*

To protect the Green Heart, three policies were promoted in the Netherlands:

- Imposition of restrictions on residential and industrial development in the area;
- Provision of alternate space for development in new towns and urban extensions outside the Green Heart; and,
- Improvement of the quality of landscape and nature in the Green Heart.<sup>82</sup>

Although this approach of development restrictions succeeded for decades, it was opposed in the 1990s by forces favouring deregulation, decentralization and privatization. Since then, financial support for landscape reconstruction, nature conservation and

<sup>78</sup> Manfred Kühn, “Greenbelt and Green Heart: separating and integrating landscapes in European city regions” *Landscape and Urban Planning* 64 (2003) 19 at 24.

<sup>79</sup> *Ibid.* at 25.

<sup>80</sup> *Ibid.* at 25.

<sup>81</sup> Timothy Beatley, “Dutch Green Planning More Reality Than Fiction,” *Journal of the American Planning Association*, Vol. 67, No. 1, Winter 2001, p. 98.

<sup>82</sup> Han Lorzing, “Planning System and Landscape: A Dutch Example,” 29 (4) *Landscape Research* (October 2004) 357 at 368.

heritage protection has dropped and long-term policy concerning the Green Heart has been increasingly debated.<sup>83</sup>

While the Green Heart continues to need continued protection it is generally viewed as a significant and valuable part of the Randstad region, with its diverse functions of agriculture, recreation and water and nature management. The Green Heart Programme Management Office, with the support of all levels of government, continues to work to implement environmental and agricultural policies and programs.

### 5.3 Copenhagen Finger Plan

#### *Farming and Food*

Although the Finger Plan has never made the protection of agricultural landscapes or farming a focus, the original plan did recognize the need to preserve high quality farmlands near Copenhagen for food production value. By the late 1970s, however, the Finger Plan did not give any particular consideration to the use of agricultural landscapes, and farming has been in significant decline for a number of reasons.

There is little area remaining to allow farms to expand. Full time farmers are now only located in the open landscape outside the green spaces, as well as in the northern fringe areas to some extent.<sup>84</sup> As the number of full-time farmers has declined, their former farm residences now house urban residents who commute in to Copenhagen or run non-agricultural businesses. Some academics have recognized that measures are needed to stop the urbanization of agricultural lands. One proposed solution would be to promote a combination of both commercial agriculture and pastoral associations.<sup>85</sup>

It remains to be seen whether there will be action by the national or municipal governments in the Greater Copenhagen region in response to these kinds of recommendations. However, the agricultural lands in the green wedges need attention. Commercial agriculture does still exist in the Copenhagen Region but clearly is under great pressure.

#### *Tourism and Recreation*

One of the successes of Copenhagen's Finger Plan has been the preservation of an intact countryside area that provides the residents in and around the region with good recreational access to green spaces. Protection of areas such as the Køge Bugt Beach Park has provided beach access and space for boaters, cyclists and other visitors. Recreation is regarded as the primary function of the forest and pastoral landscapes in the green wedges and other green spaces in the Finger Plan.

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<sup>83</sup> *Ibid.*

<sup>84</sup> Henrik Vejre, "Models for Safeguarding Urban Fringe Open Landscapes – The Balance Between Public and Private," in Proceeding of the Conference "Rurality near the City," Leuven, February 7-8, 2008, at 9.

<sup>85</sup> Jørgen Primdahl, Henrik Vejre, Anne Busck and Lone Kristensen, *supra* note 12 at 32, 37. Note that 'pastoral associations' refer to groups of local citizens in urban finger areas who organize "grazing of fields in the urban fringe because they are interested in contact with the livestock, in producing their own meat and in doing things together with others from their neighbourhood."

### *Natural Environment*

The protection of natural areas was undertaken over a period of many years. Some areas were designated for protection in the 1938 Nature Conservation Plan that followed the establishment of the Green Network Plan in 1936. These areas were gradually protected in a piecemeal fashion through conservation orders being issued in cooperation with municipalities, which would then plan urban development for areas not covered in the orders. The conservation orders were usually (but not always) followed by public acquisition of the lands. It was not until 2007 that the last areas designated by the 1938 plan were finally subject to full protection.

The early Finger Plans preserved the structural green space that allowed for the eventual development of enhanced habitat and ecosystem services.

*Although the plans gave little advice about the contents and functions of the green structures, the planners were foresighted enough to create structural frames that the following generations could fill. Carbon sequestration, biodiversity, air and water quality was not on the agenda in the 1940s, but the green space created the opportunity to plan and manage the areas following a moving target.<sup>86</sup>*

Regional planning has also provided ecological corridors that connect spaces for sustainable populations of wildlife. It has been instrumental in the preservation of two important reclaimed landscapes not included in the green wedges: a shallow sea adjacent to south Copenhagen which has become an important natural area that is accessible to the public; and a beach park on the south coast.

Forest planting programs have also been used in the Copenhagen Region and other parts of Denmark to provide green areas in the urban fringe. The 1989 Afforestation Program sought to double the forest coverage in Denmark over 80-100 years. The Vestskoven (Western Forest) wedge lands, once used for intensive agriculture, have been forested and naturalized, hosting many species of animals and plants. The area now provides timber production, groundwater protection and carbon sequestration. From the 1980s on, the Finger Plan became concerned with nature conservation for purposes of providing ecosystem services, such as drinking water. Therefore, decades later, streams within the plan area continue to have reasonable water quality and it is possible to consume groundwater without purification, although some wells have had to be closed.

Planning for nature and environmental protection no longer forms part of the Finger Plan. The 34 municipalities in the Copenhagen Region now have responsibility for protecting natural areas in their municipal plans, following the planning principles set out for Greater Copenhagen by Denmark's Ministry of the Environment.

### *Current Health of the Green Belt*

There is general public awareness of the Finger Plan in the Copenhagen Region. There is public recognition of the Finger Plan 'hand' symbol and Danish school children learn about the plan as

<sup>86</sup> Henrik Vejre, Jørgen Primdahl and Jesper Brandt, *supra* note 9 at 322.

part of the geography curriculum. The Finger Plan was recently included on an official list of the 'kulturkanon', a list of the twelve all time Danish architectural achievements.

As a result of the uncoordinated planning and inadequate protection of the green wedges, their current boundaries are not the same as those proposed in 1947, and there has been a reduction in open space in these areas. The wedges have continued to be designated in regional plans and are well used for recreational activities. Local authorities have emphasized that it is important that the green areas exist and are accessible. It has been suggested that the "emphasis expressed in the earlier plans has become even more evident and visionary in the more recent plans."<sup>87</sup>

Still, one of the shortcomings of the Finger Plan has been its primary focus on urban space and functions, with green spaces seen as residual. Much of the planning for the green wedges has prioritized providing the urban public access to and opportunities for recreation in natural areas. As a result, there has been less active local planning with respect to realization of the green wedges and other natural spaces.

Under the municipal planning process for the period 2009 to 2013, a much smaller area of the Copenhagen Region, proportionally, has been overtaken by green field urban development, relative to the rest of Denmark, where there are no overarching plans. There continues to be, however, pressure for urban development such as new residential areas throughout the whole Greater Copenhagen Region, including open areas in the urban fringe. Consistent implementation of the Finger Plan should ensure that development is located in the existing finger zones.

There is potential for brownfield redevelopment in the Greater Copenhagen Region, not only in Copenhagen but also in municipalities situated in the inner fingers and the market towns at the end of the fingers. Brownfield redevelopment saves greenfield sites and makes good use of existing transit infrastructure. Rules for the sequencing of new development areas in Finger Plan 2007 encourage the use of brownfield sites.

Commuting in the region has put a heavy demand on the existing road and rail infrastructure. Traffic travelling across the fingers through Greater Copenhagen is increasing and especially vulnerable to congestion. New infrastructure, such as light rail, is required to alleviate current congestion problems, and also to facilitate the regeneration of former industrial lands on the perimeter of the "palm of the hand" in the Finger Plan.

## 5.4 Frankfurt Green Belt

### *Farming and Food*

The planners of the Frankfurt Green Belt recognized early on the importance of the agricultural lands in protecting the landscape. Frankfurt has a strong agricultural base and in the early 1990s was considered the largest 'farmer village' in Germany with 160 farms within the city limits.

Frankfurt's Institute for Rural Development Research undertook a research project to identify and pilot environmentally sensitive farming in the urban fringe of Frankfurt that

<sup>87</sup> Ole H. Caspersen, Cecil C. Konijnendijk and Anton S. Olafsson, "Green space planning and land use: An assessment of urban regional and green structure planning in Greater Copenhagen," *Geografisk Tidsskrift, Danish Journal of Geography* 106(2) 2006, 7 at 19.

would adapt agricultural land use to the special requirements of urban fringe areas. The project was based on a perceived need for a broader approach to agriculture that would integrate elements nature conservation, recreation and environmental education. Projects were introduced to increase husbandry of riding horses, which requires well managed grasslands, and to establish a processing facility to make juice and wine from fruit crops in old orchards in the Green Belt. Apple wine has been particularly promoted in the Green Belt and is a significant part of the local cultural tradition. In addition, the municipality adopted a conceptual framework for agri-environmental policies and introduced biannual meetings of experts on agriculture in urban fringe areas.<sup>88</sup>

### *Tourism and Recreation*

The Green Belt continues to be strongly promoted by the City of Frankfurt for its recreational and tourism opportunities. It contains beautiful landscapes, many parks and both cycling and hiking paths. The apple wine production is also important to tourism and recreation.

Cultural attractions have been integrated into the Green Belt in innovative ways. For example, a number of pieces of weather-resistant comic art and tree art have been placed in the Green Belt in partnership with the Frankfurt Museum for Comic Art.

The Green Belt development corporation has established a program for children called Discover, Research and Learn in the Green Belt. It has been successful in introducing the Green Belt to children and their parents, and allowing them to learn about the environment and conservation while having fun.

### *Natural Environment*

The Green Belt Charter emphasized the importance of keeping development out of green spaces to provide habitat for plants and animals, protect supplies of groundwater and allow for fresh air to flow into the city. Frankfurt's city government saw the valleys between the northern hills, in particular, as green wedges that needed to be preserved to bring fresh air into urban areas to help counter the heat island effect.

The Green Belt predated, but has become part of a larger Regional Parks project that aims to conserve land as green ecological corridors in the broader region around Frankfurt, and to raise public awareness about the ecological, cultural and historical significance of these areas.

A recent project within the Green Belt is reclaiming a former military airfield at Bonames. The project is encouraging the development of a new wilderness area in the Green Belt. With minimal change to the site, nature is being permitted to take its course, and wildlife is returning to the area. The European Central Bank is locating its new premises near the Green Belt, and will use this development to close a remaining gap in the Green Belt by incorporating the natural landscape of the Main River and elements of the floodplain into a park landscape, and adding trees and paved paths.

<sup>88</sup> Institute for Rural Development Research website, Green belt Frankfurt/Main: Development of environmentally friendly forms of agriculture in the context of communal policy. See: [http://www.iflrs.de/content/en\\_project\\_06.php](http://www.iflrs.de/content/en_project_06.php).

### *Current Health of the Green Belt*

Frankfurt's 1991 Green Belt and its predecessor greenbelts continue to be important natural landscapes in and around the city, providing opportunities for outdoor recreation including, cycling and hiking, as well as educational opportunities.

Overall, the Green Belt Charter and related municipal planning policies and procedures have been successful in protecting the Green Belt boundaries. Little of the natural Green Belt land has been lost to development; where this has occurred, there has been land added to the Green Belt, and in some cases financial compensation directed to the Green Belt.

The city government is continuing to plan for these lands. Future projects in the 2009 Strategic Master Plan for Frankfurt included improving the connectivity and accessibility of the Green Belt, and increasing the "felt, perceived and experienced green area."<sup>89</sup> As noted above, the Green Belt also has become connected to a broader project of the State government to preserve a green corridor of Regional Parks in the State and promote regional awareness of natural, historical and cultural benefits of these spaces, and some funds from the Regional Parks project have been used to support artistic, cultural and historical monuments in the Green Belt.

Currently, as the Green Belt approaches its twentieth anniversary, the City is undertaking a reevaluation and re-design of the Green Belt. The re-design will be linked to the theme of environmental justice that was highlighted last year by the Frankfurt Commissioner of Environmental Affairs.

## **5.5 German Iron Curtain Green Belt**

### *Farming and Food*

As noted above, intensive agriculture is seen as a significant threat to the Iron Curtain Green Belt, and contrary to the aims of protecting the area's ecosystems. More sustainable forms of agriculture are being encouraged through the introduction of regional tourism programs.

### *Tourism and Recreation*

The Iron Curtain Green Belt is seen as a monument to overcoming the years of German division, and so the historical and cultural elements of the green belt are emphasized. Historical cycling tours are offered on the historical trails through this area.

The BUND Project Office Green Belt developed a comprehensive marketing concept for the Green Belt consistent with its goal of nature conservation and worked to promote eco-tourism opportunities. Tourism packages have been developed in three model regions.

'Experience the Green Belt,' launched at the end of 2006 allows school-aged children and adolescents to learn about the Green Belt by taking part in 4 to 6 weeks of activities. These activities teach the students about the nature, history and culture of the German Green Belt regions and the students use their experience to create art that represents a theme related to the Green Belt.

<sup>89</sup> Albert Speer & Partner GmbH, Strategic Master Plan for Frankfurt am Main, 2009 at 11. See: [www.unece.org/hlm/sessions/docs2009/presentations/04.CNC.Denkel.pdf](http://www.unece.org/hlm/sessions/docs2009/presentations/04.CNC.Denkel.pdf).

The year 2009 was the 20th anniversary of the fall of the Berlin Wall and a central focus of the German National Tourist Board. This provided unique opportunities to market the Iron Curtain as a travel destination both nationally and internationally. It is hoped that 'Green Belt Tourism' will encourage sustainable agriculture, along with craft and other commercial activities in order to increase the value of the Green Belt for both local communities and visitors.<sup>90</sup>

### *Natural Environment*

The primary mechanism to protect the land in the German Green Belt is land purchase. BUND buys property containing unique habitats from private owners and undertakes measures to protect and manage the land. These activities are financed through the sale of Green Share Certificates. Purchasers of the certificates become symbolic shareholders in the Green Belt and are invited to guided excursions and other exclusive activities.

In October 2007, the Iron Curtain Green Belt became one of the flagship projects of the German strategy for the preservation of biological diversity. The German National Biodiversity Strategy identifies the conservation and protection of the Green Belt along the former Iron Curtain as part of Germany's natural heritage and as a historic monument. The main objective of this project is to conserve and manage it as a unique national system of interlinked ecological habitats that run across nine German states over a distance of approximately 1,400 kilometres.

### *Current Health of Greenbelt*

Support for the Iron Curtain Green Belt is strong and the momentum in Germany to not just preserve it but to extend it throughout Eastern Europe is growing. Because this area was protected from development during the Cold War era,

*[t]he border granted nature a 30-year pause for breath. And nature flourished as a result. What developed was something that has become extremely rare in our intensively used landscape: a truly wild area, with expansive fallow grasslands, idyllic shrublands and forests, swamps and heaths in bloom - a colourful mosaic of diverse habitats.<sup>91</sup>*

There continues to be strong public and NGO support of the Iron Curtain Green Belt, as well as increasing government support in recent years. The movement to extend the Iron Curtain Green Belt beyond Germany and into other areas of North- and South-Europe is also continuing, led by the International Union for Conservation of Nature (IUCN) Regional Office for Europe.

The challenge in Germany in coming years will be to retain public support for policies and programs that can provide strong protection for the green belt land, particularly in areas where there are development pressures. The unique historical significance of this green belt will be instrumental in ensuring support for its continued protection, as many see "a green belt as a way to preserve the memory of the Wall, complemented by documentation stations and memorials."<sup>92</sup>

<sup>90</sup> BUND/Friends of the Earth Germany, *The Green Belt: Borders separate – Nature unites*, 2009, at 9.

<sup>91</sup> BUND Aktuell et al., *From Death Zone to Lifeline*. See: [http://www.europeangreenbelt.org/download/publications/english\\_brochure\\_GB-Germany.pdf](http://www.europeangreenbelt.org/download/publications/english_brochure_GB-Germany.pdf).

<sup>92</sup> Carolyn Loeb, "Planning reunification: the planning history of the fall of the Berlin wall," 21 *Planning Perspectives* (January 2006) 67 at 82.

## 5.6 Melbourne Green Wedges

### *Farming and Food*

The Green Wedges were not established specifically to protect agricultural land and farming in the Melbourne region. Yet,

*[e]ven without a specific stated intention to preserve farmland the implementation of the Melbourne Strategy has had the effect of delivering the most significant agricultural protection measure of anywhere in Australia.<sup>93</sup>*

The Green Wedges include high quality agricultural land in areas such as Cardinia, Yarra Valley, Silvan/Monbulk, Werribee South and Mornington Peninsula. Farmers in the Green Wedges have identified many challenges, some related to broader systemic issues, and others are linked to farming in near urban areas. These challenges include land speculation, absentee landowners and increased regulations and restrictions on agriculture due to the nearby presence of residential areas. A recent report noted that over 80 per cent of farms in the Green Wedges do not make a profit as individual enterprises.<sup>94</sup>

A 2008 report produced by the Victoria government, entitled *Square Pegs in Green Wedges?* identified the need to use existing industry and social networks to help promote projects to help farmers remain or become more commercially viable, while at the same time having a reduced impact on natural resources in the Green Wedges. The report does not recommend financial assistance, but instead focuses on: better planning; putting in place or providing access to necessary infrastructure such as water and transportation; providing training and information; and establishing new sources of income, such as ecosystem services. The report also recommends that municipal governments create and provide resources to help farmers leverage opportunities to add value to their agricultural activities in the Green Wedges, such as farmers' markets, regional branding, eco-labelling and organic production. It further proposes that local governments provide accredited ecosystem services, and promote the blending of agricultural activities with tourism, recreation and hospitality services.<sup>95</sup>

### *Tourism and Recreation*

The Green Wedges Coalition has expressed concern that some tourism facilities permitted in the Green Wedges have been out of scale with the rural environment, citing large-scale accommodation and over-development that combines many commercial facilities (residential hotel, restaurant, conference centre, etc.) on small pieces of Green Wedge land. The Audit Expert Group Report of March 2008 noted claims that "residential subdivisions are masquerading as recreational or tourist developments."<sup>96</sup> In response, the Audit Expert Group recommended that

<sup>93</sup> Trevor Budge, "Farmland Preservation in Australia: Emerging Issues - Fragmented Responses," in W. Caldwell, S. Hilts and B. Wilton (eds), *Farmland Preservation around the Globe: Challenges and Opportunities*, (University of Guelph, 2007) at 32.

<sup>94</sup> Municipal Association of Victoria, *Green Wedges Forum Report*, December 2009, at 13.

<sup>95</sup> Peter Parbery, Roger Wilkinson and Komala Karunaratne, *supra* note 24 at 198-199.

<sup>96</sup> Rob Moodie et al., *supra* note 56, at 56.



the State government make sure that Green Wedge tourist and recreational developments are only approved if they are consistent with and supportive of *Melbourne 2030*.

*The Square Pegs in Green Wedges?* report suggests that governments at the municipal and State levels ensure that tourism and recreation in the Green Wedges fit with and promote the Green Wedge vision. The report recommends that State and municipal governments make long-term investments into infrastructure, events and marketing that will support a strategic vision of individual Green Wedges. This would include support for tourism, recreation and hospitality in the regions.<sup>97</sup>

### *Natural Environment*

The Green Wedges are vulnerable to the possibility of development due to the extension of the UGB, as well as the use of land in the Green Wedges for resource extraction or transportation infrastructure purposes. Once ratified, the UGB amendment announced in November 2009 will also allow for the clearing of native grasslands on Green Wedge lands to allow urban development, although the government has promised to offset this by creating a reservation to protect other native grassland areas west of Melbourne.

The member groups of the Green Wedge Coalition remain concerned about the continued loss of biodiversity and unique native habitats, and have raised the issue of addressing and adapting to climate change in the Green Wedges. The Audit Expert Group Report also stated that the State government should make it a higher priority to ensure that the Green Wedges enhance Melbourne's sustainability and liveability. Means to accomplish this include: creating incentives and assistance programs to encourage landowners in the Green Wedges to manage natural resources appropriately; and, using Green Wedge Management Plans to put in place land use controls that protect important natural features.<sup>98</sup>

Although it predates the Audit Expert group's recommendations, the Manningham City Council's Green Wedge Management Plan recognizes these principles. The management plan recommends providing a range of educational, extension and incentive programs for Green Wedge landholders to implement sustainable land management practices and to protect biodiversity.<sup>99</sup>

In implementing the Strategy, Manningham set up a trial program that would pay landowners for ecosystem services from managing native vegetation on land of more than one hectare. The City Council fixed an annual rate of return and payments were linked to agreed conservation works. This became a successful program working one-on-one with individual landowners. However, the Council has found it difficult to obtain State Government funding in support of the program. Payment schemes for ecosystem services at the individual municipal level may be challenging to sustain. There is a need for municipal councils and the Victorian State government to work together to develop a common incentive scheme.<sup>100</sup>

<sup>97</sup> Peter Parbery, Roger Wilkinson and Komala Karunaratne, *supra* note 24 at 201.

<sup>98</sup> Rob Moodie et al., *supra* note 56, at 57.

<sup>99</sup> Manningham City Council, Green Wedge Strategy, October 2004, at 2. See: [http://www.manningham.vic.gov.au/maccwr/\\_assets/main/lib90268/green%20wedge%20strategy%20october%202004.pdf](http://www.manningham.vic.gov.au/maccwr/_assets/main/lib90268/green%20wedge%20strategy%20october%202004.pdf).

<sup>100</sup> Municipal Association of Victoria, Green Wedges Forum Report, December 2009, at 9.

The management plan also identifies the importance of enforcing environmental protection legislation within the Green Wedge, observing that enforcement tends to be inconsistent and under-resourced.<sup>101</sup>

### *Current Health of the Green Belt*

Generally, the stronger legal and planning policy protections afforded by *Melbourne 2030* have been effective at preserving the Green Wedges in the face of urban development. The 2008 Audit Expert Group report confirmed that the laws and planning policies that govern the Green Wedges have had success, although some challenges remain. For example, the Green Wedge Management Plans must account for differences in the quality, nature and capability of the Green Wedges. Some stakeholders have expressed the opinion that more specific guidance is needed on how to manage the Green Wedges, and that the unique features of the different green wedges need more specialized management than is currently in place.<sup>102</sup>

However, the recent government initiative to extend the UGB into the Green Wedges to allow for new urban development is of concern. This action suggests that political support for meaningful protection of the Green Wedges may have weakened. Given the success so far of the Green Wedges, it will be important that the boundaries of these lands be safeguarded, and not compromised by incremental extensions of the UGB. In reality, implementation of the *Melbourne 2030* protections still has a great distance to go, with further development of the Green Wedge Management Plans. It is hoped that these efforts will be allowed the space and time they need to better preserve these natural resources, agricultural lands and environmentally-sensitive lands.

## **5.7 Portland Metro Urban Growth Boundary**

### *Farming and Food*

Farmland advocates question the extent of the Portland UGB's effectiveness at protecting agricultural land. Despite the UGB tool, 10,117 hectares (39 square miles, or 25,000 acres), of rural land was urbanized during the decade from 1980 to 1990, while the population grew by 146,000 people. This increasing urbanization is consistent with the nature of the UGB system insofar as the boundaries must be periodically evaluated and expanded to ensure a 20-year land supply. Despite expanding boundaries, the Portland area has lost less farmland than other urban regions in the United States, even compared with other areas where farmland is protected.<sup>103</sup>

The rate at which Oregon has lost farmland has declined greatly since the introduction of the UGB planning requirements. Between 1959 and 1974, Oregon lost 1,211,974 hectares (2,994,853 acres) of farmland, but between 1974 and 1992 lost only 255,740 hectares (631,948 acres). Oregon lost 2.5 per cent of its farmland between 1978 and 1992 as opposed to 6 per cent in Washington, 8.4 per cent in Idaho and 11.5 per cent in California.

<sup>101</sup> Manningham City Council, *supra* note 100, at 2.

<sup>102</sup> Rob Moodie et al., *supra* note 56, at 13-14, 56.

<sup>103</sup> Personal conversation with Richard Benner, *supra* note 43.

Strong links have been made between the UGB and farmland preservation in Oregon. The organization 1000 Friends of Oregon cites a number of anecdotal examples of the success of UGBs in protecting agricultural land:

*Without the planning program, the Red Hills of Dundee—heart of Oregon's \$45 million wine industry—would have been developed in acreage homesites; 4,000 acres [1,619 hectares] of prime farmland on Sauvie Island would have been carved into 5-acre [2 hectare] parcels; and destination resorts would have been built at the edge of the apple and pear orchards in both the Hood River Valley and the Rogue Valley, as well as next to world-class cropland in Jefferson County's North Unit Irrigation District. Of the 2 million acres [809,371 hectares] in farm zones in the Willamette Valley, only 4,070 acres [1,647 hectares], or 2/10 of 1%, was lost between 1987 and 1999, either by being added to urban growth boundaries or by being rezoned from farm use to rural development. During the same period, the population of the valley increased by nearly 23%, to 2,268,200. (For comparison purposes, California's Central Valley is losing 15,000 acres [6,070 hectares] of farmland every year.) The establishment of the planning program meant that over 300,000 acres [121,406 hectares] in the Willamette Valley were rezoned in 1973 from rural homesites to agriculture.<sup>104</sup>*

A number of local governments in the Portland region have developed programs to assist in promoting a regional food economy. There are between 30 and 40 farmers' markets in the area that have relationships with growers in the region. There is a Chefs' Collaborative chapter in the area that emphasizes local produce on restaurant menus. There is also a network of farms participating in Community Supported Agriculture, allowing consumers to buy shares in a farm in return for a supply of produce and establishing a direct relationship with the farmer.

The type of urban growth that has occurred in the Portland region may promote, support and enhance local agriculture in the future:

The cultural and economic context of agricultural change around Portland suggests that population increase and cultural change can provide opportunities for farming by creating markets for locally grown products. Changing food preferences and local food politics can affect land use and landscape and help shape a regional dynamic where agriculture connects rather than divides urban and rural residents.<sup>105</sup>

A detailed assessment of agriculture in the Portland region was conducted by the Oregon Department of Agriculture in 2007. This study found that agriculture was continuing as a strong, diverse industry in the most urban region of Oregon.<sup>106</sup> This thriving agricultural sector is strongly supported by a comprehensive, effective suite of government programs aimed at protecting agricultural lands. These programs include: planning policies to protect agricultural lands; exclusive farm use (EFU) zoning; legal protection of accepted farm practices

<sup>104</sup> 1000 Friends of Oregon, Questions and Answers about Oregon's Land Use Program: Farmland Protection. See: <https://www.friends.org/issues/downloads/qa/farmland.pdf>.

<sup>105</sup> Martha Works and Thomas Harvey, "Can the Way We Eat Change Metropolitan Agriculture? The Portland Example," *Terrain*, org: A Journal of the Built & Natural Environments, Issue No. 17, Fall/Winter 2005. See: [https://www.terrain.org/articles/17/works\\_harvey.htm](https://www.terrain.org/articles/17/works_harvey.htm).

<sup>106</sup> Ethan Seltzer, "Maintaining the Working Landscape," in Arnold van der Valk and Terry van Dijk, eds, *Regional Planning for Open Space* (RTPI Library Series, 2009) 151 at 171-172.

in EFU zones; and tax incentives for farmers such as reduced property tax assessments for land in EFUs.<sup>107</sup>

Most farmers in the regional Portland agricultural community wish to continue farming, and support long-term protection for agricultural land through the designation of urban reserves. There is ongoing development of programs in the Portland area that connect farmers to urban dwellers in relation to local food production, including thriving farmers' markets, community gardens and a food policy council.

### *Natural Environment*

Portland's UGB policy is explicitly linked to its objectives for reducing carbon emissions in the region. Metro's September 2009 report notes the need for transportation network improvements to further reduce carbon emissions. This is consistent with a recent Oregon law that overtly links land use and transportation to climate change with the state's goals for the reduction of greenhouse gas emissions.

The Metro report also emphasizes the importance of acquiring land in natural areas to preserve significant habitats to "support, the healthy function of rivers and streams, filter our water, provide connectivity for wildlife, improve our air quality, and sequester carbon."<sup>108</sup>

### *Current Health of Greenbelt*

Many see the UGBs in the Portland Metro Region to be very successful in a number of respects. For the most part, urban development has not encroached on prime agricultural land or on forests. Within Portland there has been efficient, compact growth, much of it infill planned in a new urbanist architectural style, and Greater Portland has remained an aesthetically appealing city.<sup>109</sup> Studies have found that Portland area residents value the role of the UGB in protecting farmland and containing urban sprawl.

After more than 20 years, the land area in Portland's UGB has expanded by only two per cent, although the population of the City of Portland has grown by 50 per cent and Metro Portland's population increase by 17 per cent. Although UGB expansion in 2002 was the largest in its history, the Metro government also introduced policies at that time to protect existing neighbourhoods, provide more employment lands and improve local streets and commercial centres. Portland's UGB is credited with protecting a strong agricultural industry in the region and revitalizing the City of Portland.

The future for the Portland UGB looks positive due to a continued commitment by the Metro government. A long-range 50 year growth concept adopted by the region looks out to the year 2040 and highlights the importance of supporting mixed-use urban centres within the urban growth boundary and protecting open spaces both inside and out of the urban growth boundary. While some degree of pressure to expand Portland's UGB continues, the current regional Metro government is resistant to expanding the UGB, and has new tools available to

<sup>107</sup> Edward Sullivan and Ronald Eber, "The Long and Winding Road: Farmland Protection in Oregon 1961 – 2009," in *San Joaquin Agricultural Law Review*, Vol. 18, No. 1, 2008-2009, 1 at 15-52.

<sup>108</sup> Metro, *supra* note 28, at 24.

<sup>109</sup> Personal conversation with Paulette Copperstone, *supra* note 153.

protect land through urban and rural reserves. The 2007 Oregon Department of Agriculture analysis of agriculture in the Portland area identified lands that are considered to be critically important to sustaining an agricultural economy in the Portland metropolitan region. This work should provide a basis for developing urban and rural reserves in the region.<sup>110</sup>

The UGB is important to members of the general public in the Portland community, and has become “part of the way in which residents of the region understand and lend meaning to the landscape itself, to their sense of place.”<sup>111</sup>

## 5.8 British Columbia Agricultural Land Reserve (ALR)

### *Farming and Food*

From 1971 to 2001, the quantity of dependable agricultural land being converted to urban land more than doubled in Canada, growing from 690,000 to 1,430,000 hectares (1.7 million to 3.5 million acres). In British Columbia, however, there was no net loss of agricultural land between 1974 and 2003. This can be attributed to the existence of the ALR as it ensured the amount of land that was included in and excluded from the reserve over that period of time was roughly equal.

The ALR was created specifically to protect agricultural land near cities and towns from urban sprawl. As such, the relationship between BC's urban centres and the ALR is a close one. A number of benefits have been noted as a result of this proximity:

It puts farms close to their marketplace and their labour force. It encourages good land stewardship, provides wildlife habitat and can help mitigate the damage that humans inflict on their environment. It enhances food security, which faces increased pressure from population growth, the erosion of agricultural land elsewhere, rising transportation costs, and potential calamities ranging from pandemic disease to climate change.<sup>112</sup>

In addition to the land protection measures implemented through the ALR, the government has funded the Strengthening Farming program since the mid 1990s in order to ensure that farmers would be supported in farming in the ALR. The two key components of the program are farm practices protection and land use planning for agriculture. The Farm Practices Protection program protects farmers' right to farm within specified BC regions, such as the ALR, through the *Farm Practices Protection (Right to Farm) Act*. It provides protections related to nuisances such as odour, noise and dust. Land use planning policies for agriculture concentrate on encouraging positive relationships between local governments, the farm community and the provincial government and making sure that agriculture receives proper consideration by municipal governments. Interestingly, there are policies in Official Community Plans (OCPs) to maintain and enhance farming, and adopting agricultural area plans for key farming communities.

### *Natural Environment*

The purpose of the ALR has always been to preserve agricultural lands and encourage farming. Although environmental protection is not a stated objective of the ALR, an unintended effect

<sup>110</sup> Ethan Seltzer, *supra* note 107 at 172.

<sup>111</sup> Ethan Seltzer, *supra* note 107 at 172.

<sup>112</sup> Charles Campbell, *supra* note 30, at 3.

has been some protection of other values, including environmental values where they do not conflict with agriculture.

It is interesting to note some ENGOs have advocated creating a Sea-to-Sky Green Belt along the west coast of the mainland north of Vancouver, which would help to connect and protect green spaces from West Vancouver to D'Arcy (about a one hour drive north of Whistler). There is little agricultural land in this region, and the primary objective of the proposed greenbelt would be to protect natural features and environmentally significant lands.

### *Current Health of Greenbelt*

The ALR has had a generally positive impact by restricting development to farm uses over an extended period of time and directing non-farm development away from the working landscape into areas that are already serviced. The ALR has acted as “an important urban containment boundary in the areas of the province where human settlement, ecologically sensitive areas and the agricultural sector compete most intensely for land.”<sup>113</sup>

In spite of this, the effectiveness of the ALR has been somewhat compromised over time. In 2002 the government decided to continue using a regional model by developing six new regional panels composed of three members each. These panels only hear ALR applications in their own regions. Although the government justified this change on the grounds that panels should be sensitive to local considerations, some have expressed concerns that local decision-makers may be unduly influenced by “real and perceived short-term economic development needs outside major urban centres [that] can...be a huge factor in the erosion of the ALR.”<sup>114</sup>

The BC ALR receives ongoing government protection and public support. Members of the public, most of whom are located in urban areas, have overwhelmingly supported the protection provided by the ALR. A BC government-commissioned poll released in December 2009 indicated that 90 per cent of Lower Mainland residents strongly support the ALR. A CBC poll a year before showed that 79 per cent of British Columbians believe there is no acceptable reason to destroy farmland.

There may be ways to enhance its health in the future, however. A recent graduate student essay analyzed management policies in several other reserves in North America: Quebec's Agricultural Zone, the New Jersey Pinelands Reserve, Oregon's Tillamook State Forest and the Florida Keys Marine Sanctuary. The report examined alternatives to further strengthen the ALR and recommended the implementation of an exclusion moratorium policy.<sup>115</sup>

## **5.9 São Paulo City Green Belt Biosphere Reserve, Brazil**

### *Farming and Food*

Many of São Paulo's vegetables once came from the Green Belt region. The Forest Institute is now fostering the development of organic agriculture on the remaining farmland in the

<sup>113</sup> Deborah Curran, *supra* note 29, at 13.

<sup>114</sup> *Ibid*

<sup>115</sup> Hannah A.Cavendish-Palmer, *Planting Strong Boundaries: Urban Growth, Farmland Preservation and British Columbia's Agricultural Land Reserve*, Simon Fraser University, 2008 at 19, 59, 61.

GBBR. Farmers in the Green Belt have formed organizations to certify organic food and built relationships with restaurants in the city. In the Veravá neighbourhood of the GBBR, 90% of the farmers have become organic producers. After distributing their produce through a retail company for a number of years, many of these farmers formed an association and began to develop new marketing strategies that included food baskets, schools, hospitals and food baskets delivered to individuals.

The Núcleo da Terra Holistic Association for Ecological and Community Participation (AHPCE) has promoted and supported a Youth Program that provides eco-job training for young people between the ages of 15 and 21 who live in periurban São Paulo and in the GBBR. Two of the workshops offered through this program provide training related to agriculture: sustainable agriculture and forest production and management; and, small-scale agribusiness. The Sustainable Agriculture and Forest Production and Management workshop trains students on the use of sustainable practices, and agro-ecological systems for production and recovery of degraded areas in agriculture. The Small-Scale Agribusiness workshop trains young people in principles of environmental sustainability and food quality in relation to small-scale health food processing.

#### *Tourism and Recreation*

The GBBR Youth Eco-job Training Program also provides eco-job training in Sustainable Tourism. The Sustainable Tourism workshop trains students to work in 'eco-jobs' in the local tourism market and teaches them the importance protecting the environment, culture and communities.

#### *Natural Environment*

The Forest Institute has initiated programs that address some of the needs for environmental protection in the GBBR. These include public policies to support reforestation, such as a voluntary carbon neutralization market which allows companies to pay the cost of tree planting as an offset for their carbon emissions. The Forest Institute has also introduced a policy that requires landowners to keep at least 20 per cent forest cover on their land, and to maintain 'permanent preservation areas' in relation to river margins, water springs and hilltops.

There are other, however, environmental issues that are increasingly posing a problem in the GBBR and will require attention and action. In particular, adequate water supply is becoming a bigger concern as the per capita availability of water in São Paulo has been reduced. In response to this and other environmental problems, the Forest Institute has established a Green Belt Research Program to study conditions in the Green Belt to better inform environmental management.

#### *Current Health of the Green Belt*

The GBBR has provided an opportunity for people and institutions in the region to analyze and communicate information about environmental threats to members of the community.<sup>116</sup> As

<sup>116</sup> Interview with Vanessa Silveira, São Paulo Forest Institute, Department of the Environment, São Paulo, Brazil, January 26, 2010.

a major city in one of the primary BRIC emerging economies, São Paulo faces more complex challenges and greater social inequities than the other greenbelts studied here. The Forest Institute and other stakeholders have sought to address the landscape transformation caused by urban sprawl with programs that encourage the conservation of vital natural features and ecological services, as well as cultural heritage and agricultural resources.<sup>117</sup>

There has already been some success involving communities in the GBBR region in meaningful ways to create a more sustainable metropolitan area alongside a well-protected natural environment. Programs have been developed to protect and restore the environment and ecosystem services in the GBBR, combat social problems and inequities in the GBBR at the periphery of São Paulo, and promote the development of sustainable tourism and agriculture.

In December 2009, the GBBR Management Council created a new action plan in accordance with the Madrid Action Plan for Biosphere Reserves. The Madrid Action Plan explores potential actions for biosphere reserves to respond to challenges such as climate change and providing ecosystem services over the period of 2008 to 2013.

## 5.10 Ontario Greenbelt

### *Farming and Food*

Farmers are important stewards of the Greenbelt, and agriculture and food are two key areas of focus for the Ontario Greenbelt. The Ontario Greenbelt has an abundance of produce, livestock, dairy and other produce, and includes two specialty crop areas, the Niagara Peninsula Tender Fruit and Grape Area and the Holland Marsh. The Greenbelt Plan specifically allows for supportive infrastructure for farming and value added uses, noting the importance of flexibility to allow for an evolving agricultural/rural economy.

Within the Ontario Greenbelt there are agricultural advisory committees in each of the regional municipalities. They provide a voice for the farm community to comment on land use planning matters and other local level issues. While some are more reactive, others are more proactive. The Niagara Agricultural Task Force, for example, set itself an ambitious action plan, and in partnership with others, convinced the provincial and federal governments to re-develop the Vineland Research and Innovation Centre. The Centre undertakes advanced and applied research to support the fruit, vegetable, grape and wine, ornamental and greenhouse industries.

Two-thirds of grants made by the *Friends of the Greenbelt Foundation* are agriculture related. Significant support has been provided to the Greenbelt Farm Stewardship Program to support 700 farmers' projects to implement on-farm beneficial management practices (BMPs). Grants have also been provided to help immigrant farmers and young farmers learn to farm through training farms and also helping increase the amount of ethnic crops that are being produced on Ontario Greenbelt farms, and to establish a growers' association in the Holland Marsh. The Foundation has also financially assisted the development of Local Food Plus, a non-profit organization that certifies farmers and processors using socially and environmentally

<sup>117</sup> Rodrigo Antonio Braga Moraes Victor et al., "Application of the Biosphere Reserve Concept to Urban Areas: The Case of São Paulo City Green Belt Biosphere Reserve, Brazil - São Paulo Forest Institute: A Case Study for UNESCO," in *Annals of the New York Academy of Sciences*, Vol 1023, Issue Urban Biosphere and Society: Partnership of Cities, 237 at 241-242.



responsible practices and then links them with local purchasers to create more opportunities for the public to enjoy local food in restaurants, hospitals, schools and other institutions.

Farmers' markets and on-farm markets are also increasing throughout the Ontario Greenbelt, making it easier for people to connect with their food and the farmers who provide it. The Friends of the Greenbelt Foundation is collaborating with other partners to establish an online marketplace to connect Greenbelt growers with buyers.

The Greenbelt Council has consistently advised the Ontario government on ways to support agriculture in the Greenbelt, addressing issues such as the sustainability of the grape growing industry in the Niagara Region, tax assessment policies for on-farm processing and sales, agricultural easements, and the need for a overall food and farming strategy.

### *Tourism and Recreation*

One of the most successful programs to promote tourism and recreation in the Greenbelt has been the Bike Train. This sustainable tourism initiative promotes cycling holidays in the Niagara Region of the Greenbelt, along with other parts of the province, by offering dedicated train cars with bicycle storage racks. The Tour de Greenbelt, begun in 2008, also provides an opportunity for cyclists of all ages and ability to experience various areas of the Greenbelt over two weekends in the Fall.

Another popular activity in the Greenbelt is hiking. Ontario's Greenbelt includes one of Canada's largest networks of hiking trails including the Bruce Trail, Oak Ridges Trail and TransCanada Trail.

A strong network of culinary tourism associations helps to promote both on-farm sales as well as local restaurants.

### *Natural Environment*

The Ontario government has worked to prevent development that had been planned or proposed in a number of sensitive areas in the Greenbelt. For example, the province has opposed attempts to reduce the size of the Natural Heritage System identified around provincially significant wetlands in the Trafalgar Moraine. The government has also refused to allow a highway to run through the Boyd Ecological Complex containing an old-growth forest, provincially threatened species, rivers and wetlands.

In February 2006, the Ontario government extended the environmental protection in the Rouge River Watershed in Richmond Hill through an amendment to the Greenbelt Transition Regulation. The amendment resulted in 8,062 hectares (19,924 acres) of the Rouge River Watershed now being protected under the Greenbelt.

### *Current Health of the Greenbelt*

Ontario's Greenbelt has had strong support from the public, the provincial government and municipalities, and many other stakeholders over its first five years. During the 2007 provincial election, the four main political parties stated they were in favor of the Greenbelt. Results from a 2009 survey conducted for the *Friends of the Greenbelt Foundation* show that 91 per cent of those

polled completely agree (46 per cent) or somewhat agree (45 per cent) that the Greenbelt is one of the most important contributions of our generation to the future of Ontario. Protecting the natural waterways remained the most highly valued benefit of the Greenbelt, cited by 36 per cent of respondents as the most important benefit, followed by preserving agricultural lands (cited by 17 per cent of respondents) and wildlife habitats (cited by 17 per cent of respondents). The survey revealed that 59 per cent of those polled completely agreed, and 32 per cent somewhat agreed, that the Greenbelt should be protected from encroachment and that urban growth can be accommodated by making more efficient use of existing lands.

These survey results show that Ontario's young Greenbelt has been successful in acquiring high levels of local awareness. It also has demonstrated an early ability to remain sustainable with the help of groups like the Greenbelt Council, the *Friends of the Greenbelt Foundation*, the Ontario Greenbelt Alliance and Municipal Leaders for the Greenbelt.

The Ontario Greenbelt Alliance is a diverse multi-stakeholder coalition of more than 80 organizations who share a common vision for protecting and expanding the Greenbelt. It is a watchdog organization, with a mandate to ensure that the Greenbelt Plan is implemented. The Ontario Greenbelt Alliance believes the Greenbelt should grow, including areas that were not included in the original Greenbelt and are now targets of 'leap-frog' development, as well as environmentally significant and prime agricultural lands. There has been interest on the part of some municipal councils to expand the Greenbelt into their jurisdictions. For example, the Town of Oakville has requested that its regional government look into having a parcel of land included in the Greenbelt. The City of Markham is exploring the idea of creating a "food belt" that would protect approximately 2000 hectares of land from urban expansion for agricultural production.

### One To Watch: San Francisco Bay Area Green Belt

The Green Belt Alliance in the San Francisco has worked towards creating a Green Belt throughout the Bay Area since 1958. Although the San Francisco Bay Area “Green Belt” is not a creature of government legislation or policy, it is a growing reality. Efforts to increase protection of valuable natural and agricultural lands in the region take place at the local level, but have been very effective.<sup>118</sup> Approximately 465,388 hectares (1,150,000 acres) of Green Belt land have been protected over the years, while 162,481 hectares (401,500 acres) remain at risk.

The Green Belt Alliance is building the San Francisco Bay Area Green Belt by identifying vital lands in the region and then creating a coordinated strategy to ensure they are preserved. Protection is primarily achieved by:

- creating parks;
- raising funds to allow for the purchase of land, conservation easements and other forms of stewardship that will protect key areas; and
- working with local governments to make sure they are adopting strong local land use policies to restrict development; and
- encouraging private landowners to implement practices that protect and restore private lands.<sup>119</sup>

While the Green Belt Alliance is independent of government, it collaborates with local governments and other regional agencies to identify and protect priority conservation areas.

The Green Belt Alliance has received support for its continued efforts to create a Green Belt in California’s 2008 *Sustainable Communities and Climate Protection Act*. The new law requires that each metropolitan community develop a Sustainable Communities Strategy to identify growth strategies and transportation policies that will reduce greenhouse gas emissions. The Green Belt Alliance hopes to link this strategy to its goals of excluding natural habitat and farmland from development.<sup>120</sup>

<sup>118</sup> Interview with Carey Knecht, Policy Director, Green Belt Alliance, San Francisco, November 3, 2009.

<sup>119</sup> Green Belt Alliance, *Golden Lands, Golden Opportunities – Preserving vital Bay Area lands for all Californians*, 2009 at 3, 20. See: [http://www.GreenBelt.org/downloads/resources/report\\_GoldenLands.pdf](http://www.GreenBelt.org/downloads/resources/report_GoldenLands.pdf).

<sup>120</sup> Interview with Carey Knecht, *supra* note 120.

# Conclusions and Recommendations

Some of the greenbelts described in this report date back to the early twentieth century. When these greenbelts were created, their main purpose was to preserve open rural landscapes and provide a separation between urban areas and the countryside. Over the years, the roles of these greenbelts have changed and become more significant.

It is impossible to precisely predict the ways that greenbelt lands may become more important and vital in the future. Earlier greenbelts somewhat inadvertently protected different landscapes and features, and the benefits of these lands are now greatly valued. Similarly, it is likely that greenbelts established more recently will become increasingly vital to society in light of changing global conditions such as climate change impacts, water scarcity, rising oil prices and food price inflation.

The potential for greenbelts to protect lands right now and for future needs makes them vital. The creation of Ontario's Greenbelt has provided the opportunity to do just that – preserve our natural and cultural heritage and find ways to live sustainably.

A number of recurring themes emerge from the stories of the different greenbelts studied, such as: the capacity of greenbelts to evolve to address current societal needs, tensions due to continued pressure for urban growth and associated infrastructure; the importance of proactive support of farmers and agriculture in near urban areas; the

opportunities for restoration and enhancement of natural areas; and, encouraging examples of public engagement with local greenbelts.

**Key lessons for Ontario's Greenbelt are as follows:**

1. Curbing and controlling urban growth remains the central and most common objective of greenbelts, and urban development continues to be the biggest pressure and most consistent threat to greenbelts. This is an ongoing threat seen in every jurisdiction studied.

The constant threat that urban development poses to greenbelt lands underlines the critical importance of effective planning for growth. Most of the jurisdictions studied have understood this and have tried to link planning for future growth with designating areas for continued agricultural production and protecting sensitive environmental areas and wildlife corridors. The Ontario government has also wisely paired the Greenbelt Plan with the Greater Golden Horseshoe Growth Plan which provides direction about where, how, and in what form future growth should be accommodated, and a regional transportation plan for the Greater Toronto and Hamilton area.

2. In the different jurisdictions studied, it is commonly recognized that land use laws and plans are not enough to adequately preserve the functioning of the land within greenbelts. Governments and other stakeholders have realized that they need to go further by implementing policies and programs as a complement to the land use protections, including pro-farming policies, policies to ensure ecological integrity, to protect biodiversity and water quality, and other similar policies that focus on the long term strength of a greenbelt.

It is necessary, for example, to restore natural areas that have been degraded in order to strengthen and ensure continued provision of ecosystem services such as groundwater protection, biodiversity, and carbon sequestration. Effective policies and programs in support of greenbelt farmers are also vital to ensure continued farm viability. Like others who farm in near urban areas, those farming in greenbelts face added barriers, pressures and the potential for conflicts with other land uses. In British Columbia, for example, the Strengthening Farming program has recognized these concerns and provided protection for the right to farm as well as planning tools to address land use conflicts with agriculture uses.

3. Aggregate extraction continues to be permitted and protected as a use in greenbelts where aggregate resources are present, such as the London Green Belt. Where that is the case, aggregate extraction has a huge impact – it takes place over a very long period of time, and it is unlikely that rehabilitation will ever fully restore the landscape and natural features that once existed.

There is a great need to address concerns about aggregate extraction in greenbelts. This would involve re-examining how much new aggregate is really needed, where extraction should be permitted, how extraction should be conducted, and what are the best options for rehabilitation.

4. Transportation, water, sewage and other infrastructure in greenbelts are sometimes not appropriate to the landscape, and the agricultural and environmentally-sensitive lands they go through.

Greenbelts have dealt with transportation corridors and other infrastructure in different ways. Attempts are being made to protect the green wedge areas from this type of development in Copenhagen's Finger Plan. In contrast, Melbourne's government views the Green Wedges as a place to locate large transport facilities, transportation corridors and other types of infrastructure.

5. Greenbelts need to be understood as more than a land use policy on a piece of paper. Most of the greenbelts described in this report are living, working landscapes and it is important that the public understand what they are, the benefits they provide, and how to connect with them. The need for the public to form an emotional connection to their greenbelts is crucial to maintaining and strengthening them into the future.

The goal of creating an emotional bond with the greenbelt was identified by the planners of the Frankfurt Green Belt, and strong public identification is evident in many of the jurisdictions studied. Public engagement can happen in a variety of ways. The German ENGO, BUND, has established Green Share Certificates to fund measures aimed at protecting and restoring unique or threatened habitats in the Iron Curtain Green Belt. At the same time, donors are provided with a direct connection to the Green Belt.

Connecting with greenbelts can involve engaging those who are not normally engaged and even provide a response to broader social problems. In the São Paulo City Green Belt, programs for disadvantaged youth in the region offering eco-job training in sustainable agricultural and tourism, along with education about environmental sustainability.

6. Greenbelts are vulnerable to problems in implementation because their policy is commonly set by one level of government while their implementation is overseen by different levels of government. In addition, different provincial ministries (such as agriculture, environment and natural resources) have a role to play. Within this context there may not be sufficiently clear roles and responsibilities, or lines of accountability between provincial government policy makers and municipal policy implementers.

Also, the individual natural features and requirements of different areas within a greenbelt may require that they be managed in different ways. This is partly addressed by applying policies to the appropriate area of a greenbelt. Melbourne's greenbelt goes a step further with management plans designed to conserve the unique characteristics of each of its twelve wedges.

7. Over time, it is important that greenbelts be monitored and evaluated. The most basic form of monitoring is compliance to the associated plan or guideline and its policies. Over time, it is important to examine whether the greenbelts are fulfilling

their purposes. In the UK, a review of greenbelts was recently conducted by Natural England and the Campaign to Protect Rural England, providing such an assessment.

Ontario's Greenbelt is still relatively new. It has much to learn from the experiences, successes and challenges of greenbelts that have existed for decades. The following are suggestions for governments and the many other stakeholders with an interest in enhancing prospects for achieving the Greenbelt's objectives.

1. Provincial and municipal governments and agencies need to ensure effective containment of urban and suburban expansion while accommodating future growth in new ways as outlined in the Greater Golden Horseshoe Growth Plan. If this is done well, it should reduce pressures to expand existing or create new infrastructure.
2. Provincial and municipal governments should take advantage of opportunities to expand the Greenbelt in order to protect prime farmlands, significant natural features and environmentally sensitive lands currently outside the boundaries of the Greenbelt. This will increase the presently recognized benefits of preserving Greenbelt lands, and the as yet unknown benefits of the future. The example of the founders of early greenbelts, now recognized for their foresight, demonstrates the importance of setting aside these valuable lands.
3. When considering alternatives for transportation and other infrastructure in and across the Greenbelt, governments need to attach greater importance to cumulative adverse effects, and, where the expansion of existing or construction of new infrastructure cannot be avoided, use methods of lowest impact development.
4. Protecting the Greenbelt's valuable agricultural land base from loss and fragmentation needs to be complemented with measures to ensure the continued economic viability of near urban agriculture. Municipalities and the provincial government should collaborate with local agricultural action committees and others to develop and implement supportive policies and programs, including expansion of markets for locally grown foods and other more direct farm-to-consumer systems, diversification of on-farm activities, and strengthening of farming capacities.
5. The Ontario government should consider selecting or appointing one central body as the primary greenbelt governance entity and point of contact for the public. The experiences observed in other greenbelts would suggest that this body will be essential in creating a direct emotional connection between Ontarians and their Greenbelt to ensure long term public support.
6. Ontario has an opportunity to provide a world leading example with an improved aggregate policy that addresses concerns about the appropriateness of aggregate extraction in the Greenbelt, promotes the use of recycled materials, and minimizes negative and disruptive impacts of extractive activities where they do occur.

7. The provincial government's efforts to develop a performance measurement framework and associated indicators to measure the longer term effectiveness of the Greenbelt are to be commended. It will be important that sufficient resources are provided to ensure that appropriate and sufficient data is collected and analyzed, working collaboratively across the provincial government in concert with municipalities, conservation authorities, and other groups.

At five years young, Ontario's Greenbelt is already an example of a vibrant multi-use greenbelt that is protecting significant agricultural and environmentally sensitive lands from development. Compared to other greenbelts around the world, this Greenbelt is underpinned by one of the strongest legal frameworks, impressive political commitment, a clear diversity of benefits, enthusiastic community organizations, and a supportive public.



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