

# Cultivating a Fertile Environment for Urban Agriculture in the Greater Peterborough Area

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Prepared for:

Sustainable Peterborough Future of Food and Farming Working Group

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## Acknowledgements

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## Why Urban Agriculture?

Urban Agriculture is a dynamic concept that includes a multitude of activities, all of which connect growing, processing, and distribution of local food and food- related products in and around cities. As Urban Agriculture takes different forms in different cities, it is best defined locally.

This report is designed to showcase historical and current work being done in the Greater Peterborough Area (GPA), broadly define, and identify the many opportunities that exist for Urban Agriculture to grow in our communities, as well as to provide guidance on how municipalities in the GPA, particularly the City of Peterborough, can incorporate local food policies into its land-use and development processes and establish a supportive civic environment for urban agriculture.

From September 2011– April 2012, the Greater Peterborough Area (GPA), which includes Curve Lake and Hiawatha First Nations, the County’s eight member municipalities, and both the City and County of Peterborough, underwent a broad community-based process of consultation. The result was a collaboratively developed Integrated Community Sustainability Plan (SP, 2012). This plan identifies eleven themes, each with an overarching goal, strategic directions and priority actions. One theme identified, Agriculture and Local Food, establishes a 25-year plan for the GPA to be: “feeding ourselves sustainably with local healthy foods” (p.14) as part of our long-term priorities. Strategic directions for this goal include:

- Maintain adequate farmland availability to support our sustainable agricultural needs;
- Facilitate the production, storage, processing, distribution, and marketing of local, healthy food; and,
- Encourage farmers to practice good environmental stewardship.

In 2013, a diverse range of organizations interested in food and farming formed the Sustainable Peterborough Future of Food and Farming Working Group. Its focus is to conduct research and activities that address strategic directions and advance the goal of `feeding ourselves sustainably with local, healthy food`. In 2014, the group finalized a report entitled: ``Patterns in the Use and Protection of Farmland in Peterborough County` (SP, 2014), Key findings from this work include:

- Approximately 90,000 acres, or 28% of the land farmed in 1971 is no longer being reported as farmed in the Census by farmers;
- Potential for another 57,000 acres of farmland to be lost from production by 2036 if current trends continue;
- A decline in new farmers entering the profession coupled with a marked increase in farmers approaching retirement age;
- Maximum land use protection is provided to only approximately half of the farmed agricultural land in the County;
- Peterborough County did not produce enough fruits, vegetables, and dairy to feed itself in 2011 and that deficiency will grow by 2036; and,
- Peterborough County produced an adequate amount of meat, eggs, and meat alternatives to feed itself in 2011; however, current production levels will be deficient to feed the GPA in 2036

In order to contextualize the importance of supporting Urban Agriculture in our region, the following statistics provide a snapshot of the realities of the GPA. Although the region has been known for its exceptional quality of life and beautiful setting, it also exhibits a number of social and economic characteristics that prompt cause for community conversation. For example, in 2011, average individual incomes in Peterborough were approximately 12% lower than the provincial average (\$37,288 in Peterborough compared to \$42,264 provincially) (City of Peterborough, 2015). As a consequence, 8.7% of area residents relied on social assistance in 2011 and 23.6% of Peterborough households with children under 18 is food insecure in comparison to Ontario's 8.7% (City

of Peterborough, 2015). Presently, Peterborough Public Health estimates that 17.6% of Peterborough-area households experience food insecurity which means that they:

- “Worry about not having enough to eat;
  - Compromise the quality of food eaten, or
  - Do not have a variety of food choices on hand”
- (PPH, 2016)

Currently, over 80% of Canadians live in urban areas. In the GPA, 58% of the area’s approximately 135,000 residents (Statistics Canada, 2012) live in the City of Peterborough and another 7% live in urban settlements within the County of Peterborough (Statistics Canada, 2012). By 2036, it is anticipated that the GPA will grow to a population of 177,000 with an urban population of 109,000 in the City of Peterborough. (OMF, 2012; OMI, 2013).

In late 2014, in response to local demand, and the reality of the statistics presented above, the Urban Agriculture Task Force was formed as a sub-group of Sustainable Peterborough's Future of Food and Farming Working Group. Given the population increase, loss of farmland and farmer statistics, in conjunction with rising food insecurity rates, it is apparent that successful sustainability initiatives must include broad based and inventive ideas. This Task Force believes that urban agriculture offers an innovative response to current challenges, and is a critical component in making Peterborough a more sustainable community. In order to address the unique challenges and opportunities connected to urban agriculture, and the important role that municipalities and wider community can play in `feeding ourselves sustainably with local, healthy foods`, this report seeks to provide further insight into some current activities that are promoting urban agriculture as a best practice in the GPA, and considers what can be done to enhance urban agriculture within the specific circumstances of the GPA.

Urban Agriculture is a means of serving these growing populations and is an innovative response to the challenges faced in traditional agricultural systems. While the rural landscape may be what immediately comes to mind, cities globally have been places of significant, energetic and committed food production. It is important to note that the way in which land is used for agriculture in urban centres differs from traditional rural land use patterns. Urban Agriculture requires growers to adapt to a diversity of environments:

“Nothing can be standardized for urban farmers. There’s no formula for planting, irrigating, and troubleshooting when working on unique sites with diverse soil and weather conditions, differing resources, and social dynamics with neighbours. When it comes to growing in the city, urban farmers have to toss the conventional agriculture rulebook out the window.”  
(Moyles, 2015)

Urban agriculture provides broad based benefits. The City of Hamilton suggests that urban agriculture, as a communal activity, can enhance community engagement and inclusiveness by bringing people together to create productive urban green spaces (City of Hamilton, 2013). Additionally, participation in urban agriculture provides a number of health and education benefits including physical exercise, stress relief, planning and organizational skills, and a knowledge of food production that encourages lifelong healthy eating habits. By taking part in urban agriculture, people can “overcome various personal or cultural barriers such as age, ethnicity, class or gender while instilling pride in the environment around them” (p. 8) (City of Hamilton, 2013).

If the GPA is to sustainably feed itself in the future as envisioned in the Sustainable Peterborough plan, we will need to identify and recognize the distinct requirements and benefits connected to Urban Agriculture. It is an innovative means to diversify the way in which food is produced in our region, attract new farmers, establish affordable access to land for young and new farmers, and to capitalize on the success of our local food movement. Additionally, steps must be taken to overcome current trends in both

agricultural production, as well as the social and economic barriers that lead to food insecurity for area residents.

Urban agriculture can offer part of the solution to making Peterborough a more sustainable community. Ultimately, the goal should be to include production, processing, purchasing, and consumption. By developing local capacity for not only production, but processing as well, we can improve the local economy and mitigate the negative impacts on the environment created by shipping food long distances for consumption, and provide increased access to fresh, local and healthy foods in our communities. In order to reach these goals, it is imperative that municipalities and communities work together to engage in this work.

In 2014, the Food and Farming Working Group finalized a Report entitled “Peterborough in context: Phase One - Documenting How Local Activities Align with the AMO Best Practices in Local Food Guide for Municipalities” (FFFW, 2014). Based on the approach laid out in Ontario Municipal Knowledge Network (OMKN) “Best practices in local food: a guide for municipalities” guidebook, (OMKN, 2013), the report emphasized that:

“[I]t is crucial to recognize that choices regarding local food strategies and practices are to be made and implemented according to the municipality’s unique situation. The key considerations include size, urban/rural distinction, availability of funding and human resources, climate, growing season, soil composition, food assets, and supply and demand of local food” (p. 11)

Food production is just one of a number of sections of the report, which in its entirety includes best practices for the entire local food system – from production to waste management. Furthermore, when considering the benefits of urban agriculture and municipalities’ role in urban agriculture, OMKN (2013) states that:

“Urban agriculture increases access to fresh, local food through self-production or distribution of food for revenue generation or as donation, and encourages the community to be a part of the local food system. Also, ecological and environmental benefits include reduced storm water runoff with rooftop gardens and reduced carbon footprint due to decreased reliance on imported food. The main role of the municipality is to ensure that policies, programs and resources (e.g. human resources, underutilized municipal land, funding and tools) are in place to enable community members to participate in urban agriculture activities.” (p. 19)

The Urban Agriculture Task Force envisions a significant and ongoing role for municipal government and staff in terms of supporting and encouraging Urban Agriculture initiatives, working in partnership with the range of community organizations and community food leaders across the region. The goal of this document is to provide some guidance on how municipalities in the GPA, particularly the City of Peterborough, can incorporate food policy into its land-use and development processes. It is hoped that this document will spark further community discussion on how to modify and establish municipal policy to encourage community agriculture in the GPA, and how it can play a role in improving the sustainability and health of our communities.

## Opportunities to Support Growing Food in Urban Areas in the GPA

The Urban Agriculture Task Force has identified several areas for supporting the growing of food in urban settings in the GPA. While the following are considered opportunities, they are not the only things Peterborough can do to encourage urban agriculture. The recommendations identified relate mostly to municipal policy. Currently, municipal policy does not generally address urban agriculture. This document will help develop the community discussion on how to modify and create municipal policy that will encourage urban agriculture in the GPA. Further, this document will promote discussion on how urban agriculture can play a role in improving the sustainability of our communities.

The timing of the release of this document is important. The City of Peterborough is preparing to release a new draft version of the Official Plan. Additionally, the County of Peterborough is about to embark on a comprehensive review of its Official Plan. These municipal processes present opportunities to encourage urban agriculture.

Traditionally, municipalities do not account for food systems in their land use planning, although that has been changing in recent years. In the Cities of Kitchener and Vaughan for example, urban agriculture is now explicitly permitted and encouraged in their official plans which were adopted in 2014 and 2010 respectively (City of Kitchener, 2014; City of Vaughan, 2010). In comparison, the City of Peterborough Official Plan, which was originally adopted in 1981 (although periodically amended), makes little mention of agriculture and no mention of urban agriculture (City of Peterborough, 2008). Despite this, the City of Peterborough has made some positive steps towards incorporating local food systems into their planning such as the adoption of a community garden policy (City of Peterborough, 2013). This document is meant to encourage this progress to continue, as well as provide some direction for future policy.

The County of Peterborough Official Plan (May, 2014 consolidation) on the other hand, contains extensive policy regarding agriculture but none to specifically address the growing and production of food in urban settlements (County of Peterborough, 2014).

## Community Gardens

A community garden is any piece of land gardened by a group of people, utilizing either individual or shared plots on private or public land to produce fruit, vegetables, and/or ornamentals. Community gardens not only provide community members with sustainable access to land to grow their own fresh food, for personal consumption or distribution, but also, provide opportunities to increase outdoor physical activity, improve underutilized areas, get to know their neighbours, and work together to enhance the communities in which they live.

## Where are we now?

The community garden movement is thriving throughout the GPA. In the past five years, the number of local community gardens has grown from 14 to 43. These gardens can be found throughout the region on municipal (12), provincial and federal grounds (2), school (13), and church lands (9), as well as on and on private land (7) (Nourish, n.d.). The gardens are utilized by a diversity of community members, including businesses, organizations, families and individuals (Nourish, n.d.).

In 2013, the City of Peterborough committed its support to community gardens by passing a Community Garden Policy, which: “provides direction to establish and operate Community Gardens on City-owned or managed land” (City of Peterborough, 2013).

According to the Policy:

“The City values and supports sustainable community gardens because they contribute to the: economic, nutritious, and local food production; an appropriate use of open space; health and well-being; fitness and recreation; positive social interaction; strong neighbourhoods; environmental education; and increased self-reliance.”

Currently, in the City of Peterborough, community gardens are permitted on municipal property for the following purposes:

1. production of produce for:
  - a. personal use
  - b. donation to local food causes; or
  - c. generating revenue to reinvest in the Community Gardens
2. production of floral or landscape display
3. demonstrating gardening or other instructional programming.

Residents interested in starting a community garden on Municipal property must go through a formal approval process, which includes a need for an 'Operator' - an individual or group with lead responsibility for managing and operating the garden, to file an application through Nourish (An local not-for profit community food organization hosted by the YWCA in partnership with GreenUP and Peterborough Public Health) which is passed along to the City of Peterborough for approval. Once it is determined that the land is not slated for future development or has any conflicting land-use plans, a community wide meeting is held to determine wider interest in the garden, and answer any questions or concerns from nearby residents. Finally, the proposal is taken to the Parks and Recreation Advisory Committee for final approval. Once approved, Nourish helps support the creation of a Community Garden group, and works with them to write a Gardener Agreement and establish the community garden.

Throughout the region these community gardens and garden groups are supported by Nourish. Formally, the Peterborough Community Garden Network formed in 2010, now under the Nourish umbrella, has helped communities establish 27 new community gardens in many locations, with a diversity of land-owners and community groups. The existence of such a community organization helps ensure sustainable growth and long-term access to community gardens once they are established. Nourish supports the new and existing community gardens, and integrates the work in our wider community food system by offering cooking, canning/ preserving, seed saving, gardening and other workshops designed to increased food skills in our community. Nourish continues to act as a support for residents interested in starting a community garden on Municipal property through the process laid out in the City of Peterborough Community Garden Policy. Working collectively to write Plot Holders Agreement is an important community development activity. This process is pivotal in facilitating engagement and commitment to the garden, and to the garden group from the gardeners themselves. Although the process to establish a community garden on municipal property in the City of Peterborough can be quite extensive, the process does work to establish a strong neighbourhood group with an official agreement between the community garden group

and the City of Peterborough, which helps ensure the longevity and sustainability of community garden projects.

Currently, a major barrier to the sustainability of community gardens across the region is equal access to reliable sources of water throughout the season. The City of Peterborough Community Garden Policy, does not stipulate the municipal provision of water to garden properties. Water is critical to the sustainability community gardens. Lack of access to a reliable source of water can limit productivity and create barriers to accessibility. Many community garden groups have established creative solutions to this problem including the building of rain catchment structures, installing rain barrels, and or partnering with neighbours or other local groups who can fill water cisterns. However, many of these systems rely on rain, and in seasons of extended drought, this can leave the garden without access to water. Additionally, many of these systems require gardeners to haul water, which can prove to be an accessibility barrier, preventing aging gardeners or those with disabilities from participating. In the fall of 2016, representatives from Nourish, City of Peterborough Parks and Recreation Advisory Committee, and PUC met to start discussing possibilities for providing water to community gardens located on municipal property, and ensuring that gardeners at those sites have equal access to reliable water sources for their community gardens. Community Gardens are encouraged to practice water conservation techniques such as regardless of their water source.

Proposed options for supplying water to community gardens include:

- a) Connecting to an existing water tap
- b) Delivery of water to fill cisterns on site or
- c) Waving of water bills for neighbours or adjacent buildings that provide water to the gardens.

## Goal(s)

1. To increase support for community gardens, including financial support, through supportive municipal policy and funding.
2. Ensure that Community Gardens are accessible to all interested community members.

## How are we going to get there?

The City of Peterborough Community Garden Policy is a positive tool for encouraging community gardens in the region. In implementing the process, some lessons have emerged that could help streamline the process, and increase the accessibility of the program.

Providing municipal water access points to community gardens on would greatly increase the inclusivity, accessibility, productivity and long-term sustainability of community gardens.

Community Organizations such as Nourish, act as a primary point of contact, and intermediary to help establish, expand and sustain local community gardens. It is not expected that the City of Peterborough would fund, or deliver all services connected to building and sustaining community gardens. However, if municipalities in the GPA provided reliable annual long-term funding to assist with work connected to establishing and sustaining community gardens, or advocated for increased funding from provincial or federal sources, the long-term viability of individual community gardens, and the not-for-profit sector that promotes community gardens and urban agriculture in general would be more sustainable. .

In the City of Peterborough, individual gardens are eligible to apply for up to \$1000 of funding annually through the City Of Peterborough Community Grants Program. This

program is useful in helping gardens install infrastructure such as sheds and water systems and for the purchase of tools, amendments and other basic equipment. The program could be expanded to provide support for urban agriculture programs and infrastructure.

Another very important way to support community gardens is to create a supportive municipal policy environment. Community gardens can provide many benefits, including the promotion of community health and food security, and the reduction of storm-water runoff and greenhouse gas emissions. Although the City of Peterborough has a corporate policy to support community gardens, similar policy is absent from its land use policies and regulations.

Many municipal Official Plans in Ontario including those in Kingston, Oshawa, Vaughan, and Waterloo acknowledge community gardening as a tool that contributes to overall sustainability (City of Kingston, 2010; City of Oshawa, 2015; City of Vaughan, 2010; City of Waterloo, 2012). The numerous benefits of community gardening align with many of the objectives of the GPA Community Sustainability Plan, established in 2012 (SP, 2012). GPA municipalities, in their implementation of the Sustainability Plan would be well advised to include explicit land-use planning and support for community gardens in the Official Plans and Zoning By-law regulations. Furthermore, to create a supportive environment for community gardens, municipalities should identify and resolve barriers to community gardening in all policy documents to ensure they are consistent in supporting community gardens.

Presently, municipalities are permitted to require 5% of a residential subdivision plan be dedicated to municipality for parkland usage (Government of Ontario, 2015a).

Municipalities could take a more active role in encouraging residents and developers to integrate gardens into this green space, and negotiate with developers to provide green space as an amenity in new multi-unit residential buildings. This does not necessarily mean that gardens would be installed where there is no demand, but would require that certain standards be met during the development process such as minimum soil depth,

access to quality water, and other standards that would facilitate the development of community agriculture should the request be made by community members.

In the City of Vaughan, for example, the intent for identifying community gardening opportunities in new developments is included directly in the Official Plan which states that community agriculture will be encouraged by (Volume 1, Section 7.4.1.4):

- encouraging the identification of space for community agricultural activities in new residential development ; and
- allowing and encouraging community gardens as part of the private outdoor amenity”

(City of Vaughan, 2010)

The GPA should be proud of its successful community garden program. Our region has one of the highest number of community garden per capita in Canada (see table below). Lessons learned in building this program can be expanded upon to build a strong, sustainable urban agriculture program that can help improve and increase local food production, train growers, create employment, re-imagine land access and usage and build a more sustainable community. Municipal governments can play an important role in supporting urban agriculture by creating a supportive policy environment, supporting community organizations, working with the community to identify and resolve barriers to urban agriculture in all policy documents to ensure they are consistent in supporting its growth.

*Table 1 Community Gardens and Population Comparisons of Several Canadian Cities*

	<b>Number of Community</b>	<b>Population</b>
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	<b>Gardens</b>	
<b>Greater Peterborough Area</b>	43	135,000
<b>Ottawa</b>	65	883,391
<b>Vancouver</b>	75	603,500
<b>Montreal</b>	97	1,650,000

(City of Montreal, n.d; City of Vancouver, 2013b; Just Food, 2014; Nourish, n.d.)

## Edible Landscaping, Gleaning and Foraging

Edible landscaping is a landscape design concept in which traditional ornamental plants, shrubs and trees planted in municipal areas are integrated, or replaced with edible varieties. These edible varieties match or increase aesthetic considerations for municipal curb appeal, ecological biodiversity of both flora and fauna, as well provide an opportunity to integrate the demand and accessibility to local, healthy food.

Forest Gardening, or Food Forests, is an innovative approach to address both the ecological and local food needs of a community. Green spaces such as urban parks, schoolyards, and pedestrian trails can integrate edible species into their planting plans to be available for the public to harvest freely, yet can also potentially provide an economic opportunity for urban farmers and local organizations to create and sell value added products. Food Forests tend to include many canopy layers of edibles including groundcovers, perennials, shrubs, vines and trees, which can be flexible with variable urban site specifications. The increase in biodiversity of plant species also provides important food and habitat to native wildlife and insect pollinators, which is essential for all food cycles to thrive. Similar to community gardens, food forests require the commitment from the community to provide appropriate maintenance and stewardship.

Gleaning is the act of gathering leftover produce from farmers' fields after they have been commercially harvested or from a field where it is not economically profitable to harvest. Foraging, on the other hand, involves the gathering of wild produce often using traditional and cultural knowledge of edible plants and regional phenology. Together,

these two activities can be promoted as means of enhancing food security and sovereignty providing access to healthy food which would otherwise go to waste. However, education is critical to the success of these practices. With foraging, it is essential to know the appropriate times for harvesting and to be able to distinguish what is edible and what might be poisonous.

### Where are we now?

The Peterborough area is facing a crisis that offers a great opportunity to implement more edible landscaping. Since the Emerald Ash Borer (EAB) has been found in the area, our ash trees are dying because of this invasive insect and many, mature canopy ash trees are pre-emptively cut down to mitigate safety threats to the public. The EAB arrival requires expensive yearly inoculation of individual trees over a 10 year period, or the replacement of trees. Where ash trees need to be removed, opportunities exist to replace many Ash with species that can provide food such as fruit, berry and nut producing varieties of trees.

In the City of Peterborough, Council has adopted an Urban Forest Management Plan that contains a comprehensive action plan for planting particular species of trees throughout the city (City of Peterborough, 2011). Presently, there are no recommended fruit or nut tree species within the Urban Forest Strategic Plan.

In 2014, GreenUP, a Peterborough-based non-profit organization that promotes environmental education, sustainability, and stewardship, initiated a research project with the Social Sciences and Humanities Research Council of Canada (SSHRC) and Trent University to explore municipalities throughout North America who have successfully integrated food forests in their communities. Research included both local food and environmental organizations who steward community gardens and urban orchards, to larger parks and street plantings overseen by municipal urban forest/utility service departments. Best practice research suggests that collaborative stewardship approaches, in which both local groups and the municipalities share the tasks of park

maintenance (to ensure tree health) and food harvesting are most effective (Mackey, 2014).

GreenUP also planted Peterborough's first Food Forest Demonstration Garden in Ecology Park along the Rotary Trail. The garden now grows over 25 different species of edible plants recommended through community consultations. GreenUP is using this garden for food education workshops and initiating a dialogue about our community's views and values about accessing "free" food. Currently, GreenUP is monitoring foraging use, garden stewardship, vandalism, and insect pollination. The Food Forest Demonstration garden can be used as a model for which other green spaces within Peterborough can integrate safe, food-based planting for urban agricultural opportunities with public park landscaping.

Peterborough Gleans, a local volunteer-based gleaning group, and Tree for the Picking, a program that matches fruit tree owners with gleaners, offer people with limited access to fresh food the opportunity to harvest healthy locally-grown produce. Peterborough Gleans provides gleaners with free bus transportation to nearby farms. Working together with dedicated volunteers, the program organizes trips to area farms to pick produce that farmers donate to gleaners. Currently there are about 400 city community members involved in the network and many others from the county. In the 2015 season alone, participants in the program gleaned the equivalent of over \$20,000 worth of local fresh produce (Peterborough Gleans, 2016).

Tree for the Picking is designed to support the harvesting of edible trees, particularly in the City of Peterborough. Property owners, who have a fruit, nut or berry tree that is unused or not fully utilized, invite Tree for the Picking members to come and harvest their trees. A third of the harvest goes back to the owner, a third to the gleaners and a third is donated to a local, food share program.

Both programs are housed under the Nourish Project which is dedicated to eating, cooking, growing and advocating for good food. This collaborative food-based initiative is

led by the YWCA and provides unique opportunities to enhance urban agriculture in Peterborough. Nourish, for instance, offers food literacy workshops and sponsors canning bees to support gleaners, among others, in growing their food knowledge and in making the most of their harvest. During the growing season, participants in Nourish workshops receive Nourish Market Dollars. They enable participants to purchase the ingredients they need to practice the skills they honed in the sessions at home. Nourish Market Dollars are redeemable at the Peterborough Downtown Farmers' Market and have become a great avenue to introduce new customers to the market and to weave new connections between customers and food producers, both rural and urban.

## Goals

1. Increase edible landscaping on residential and municipal land in the GPA.
2. Enhance the profile of gleaning and foraging programs in the GPA and establish additional partnerships with food producers to ensure the programs' growth and success.
3. Locate and identify the species of publicly accessible food sources
4. Establish guidelines for gleaning and foraging practices in urban areas

## How are we going to get there?

Gleaning and foraging can help improve food security. These activities can be further supported by incorporating more edible landscaping into the area. Edible landscaping does not have to be limited to food producing trees; rather, it could be as simple as replacing some municipal flower gardens with food gardens, or even planting edible species along trails or in parks. The food produced by these areas could be available to everyone. GPA municipalities should consider establishing a pilot project to explore the potential for including edible landscaping on municipal property and working with local community groups to harvest such produce. As mentioned previously, collaborative

projects between municipal governments, community members, and other groups have shown the greatest success in other areas.

Furthermore, if municipalities wish to promote edible landscaping, they could create edible landscaping guidelines that contain a list of recommended species and planting specifications. Guidelines could apply to both public and private land and should be made easily accessible for greatest impact. Municipalities may wish to consider partnering with groups like GreenUP who can offer recommendations of suitable edible plants for the area. If municipalities wish to consider establishing a formal edible landscaping program, they will need to assess the resource requirements (e.g. planting and maintenance) for the program as well as the need for policies to address harvesting rights similar to our existing municipal Community Gardens contract.

Gleaning is largely a rural activity, maximizing the utility of existing farmers' fields. Because of this, there is a need to connect urban dwellers who wish to pursue gleaning with rural producers. Existing resources in the community should be explored to determine whether partnerships can be forged to help bring farmers and gleaners together. One such resource for Peterborough Gleans could be Farms at Work, a non-profit project that works with farmers throughout east-central Ontario. Farms at Work currently runs a program called Find Local Food which is intended to match local farmers with local businesses, organizations and institutions that are looking to purchase local food products (Farms at Work, n.d.). Perhaps a similar program could be established for gleaning.

Foraging is an activity that some already participate in. It might include gathering apples from some of the numerous apple trees in the area, or collecting blackberries along the Rotary Trail. To raise the profile of foraging in the community and to ensure foraging is done in a safe manner, municipalities, or other partners such as the Peterborough Public Health could create educational programs to teach people about foraging and how to distinguish between what is edible and what is not. However, before promoting foraging on municipal property, municipalities need to assess the risks associated with allowing

such activity and assure themselves that they will not be exposed to undue liability in the event of an unforeseen event such as an accidental poisoning.

## Green Roofs

Typically, space is at a premium in cities, especially in built up areas. As the City of Peterborough grows, it is likely to become more densely populated, especially in the core. This anticipated growth provides an opportunity to plan for the future. Green roofs, the growing of vegetation on the roof of a structure, offer an opportunity to produce food in an often forgotten part of the city. In addition to providing opportunity for growing food, green roofs are shown to also:

- reduce urban heat-island effect by reducing the amount of hard surface area (e.g. concrete and asphalt) available for absorbing and radiating heat;
- provide much-needed green space in city centres which is associated with positive health effects for urban dwellers;
- reduce storm water runoff compared to a conventional roof;
- Reduce air pollution and greenhouse gas emissions by using vegetation to remove pollutants from the air and sequester carbon and by keeping buildings cooler and thereby reducing the need for air conditioning and its associated energy use;
- Maintain or provide habitat and biodiversity in urban settings for bird and invertebrate species; and,
- Reduce the rate of degradation of conventional roofing materials from solar exposure (City of Hamilton, 2011)

## Where are we now?

For most of Ontario, the construction of green roofs is regulated by the Ontario Building Code. In the City of Toronto, however, under the authority of the City of Toronto Act,

2006, policies and building regulations exist that require green roofs to be incorporated into certain new buildings (City of Toronto, n.d.-b). Outside of the City of Toronto, Ontario municipalities do not have the authority to require green roofs or specify their method of construction however several municipalities, including the Cities of Cambridge, Hamilton, Ottawa and Waterloo have incorporated green roofs into City building projects and also include supportive policy in their Official Plans (City of Hamilton, 2011; City of Cambridge, n.d.; City of Ottawa, 2015; City of Waterloo, 2012).

Locally, green roofs are not directly addressed in municipal policies. However Trent University has long had approximately 3500 square metres (37,700 square feet) of green roof space on its campus (Trent University, n.d). Food grown in parts of these spaces is harvested and served at an on-campus cafe.

## Goals

1. Establish policy to encourage new buildings, of a certain size and type, to incorporate green roofs into their construction
2. Establish policy to require green roofs to be included in municipal construction projects of a certain size and type

## How are we going to get there?

GPA municipalities can follow the lead of the Cities of Cambridge, Guelph, Hamilton, Ottawa and Waterloo by incorporating policy into their Official Plans to encourage the provision of green roofs in all new buildings of a certain size or type. Furthermore, area municipalities could establish policy to require that municipal building projects of a certain size or type incorporate green roofs into their construction. Such a policy would appear to be supported by the provincial Growth Plan for the Greater Golden Horseshoe, 2006 which requires municipalities to develop and implement official plan policies to support (among other things) energy conservation for municipally owned facilities and

land-use patterns and urban design standards that encourage and support energy-efficient buildings (OMI, 2013).

The Government of Canada and the Canada Mortgage and Housing Corporation funded a resource manual that helps guide municipal policy makers on how to develop a policy for green roofs (CMHC, 2006). The document includes examples from several Ontario municipalities. There are many resources that municipalities in the GPA could draw on to create a policy that encourages green roofs in certain new developments.

Research conducted by the City of Hamilton suggests that green roofs cost approximately 2 to 5 times more than a typical roof construction, depending on the type of green roof installed (City of Hamilton, 2011). To help offset the additional cost that green roofs incur over traditional roofs, the City of Toronto offers an Eco-roof Incentive Program that gives grants up to \$100,000 for the installation of a green roof (City of Toronto, n.d-a). If municipalities in the GPA wish to encourage green roofs in the community, consideration should be given to offering financial incentives to help make green roofs more financially attractive. This might include sharing cost savings data gathered using green infrastructure calculators such as *Green Values*® which calculate savings in heating and cooling costs, water use and carbon capture.

## Backyard Chickens

In recent years, residents of cities have become increasingly interested in raising backyard chickens. Some reasons include:

- frustration with the ability to source ethical food;
- a desire to sustainably reduce household organic waste by feeding it to the birds;
- production of organic matter to add nutrients to home-gardens; and
- a desire to reconnect with where our food comes from.

There has been a variety of approaches to urban hens in cities with some cities passing by-laws support backyard flocks, while others have banned urban chickens. This has been great debate in some cities, including the City of Toronto, where chickens continue to be listed as a prohibited/restricted animal under the City of Toronto Municipal code (City of Toronto, 2013). Canadian cities that have created regulations allowing residents to keep backyard chickens include the Cities of Brampton, Guelph, Kingston, and Vancouver.

There has been resistance to the idea of keeping chickens in many urban areas because raising chickens is viewed as a type of “agricultural” activity or use belonging in rural areas. Concerns regarding avian influenza have been noted as a concern, mainly in larger commercial flocks but also in backyard flocks. There is a risk of infection from handling waste, along with spread of reportable diseases, as defined by Health Protection and Promotion Act, such as salmonella and campylobacter from handling live poultry, eggs and waste. If contact is properly managed, along with good hand hygiene practice, risks could be minimized.

### Where are we now?

The issue of Backyard Chickens has recently come to the forefront in the City of Peterborough. In the summer of 2016, Chapter 180, by-law 91-143, proposed the outright banning of backyard chickens. This proposed by-law was met with widespread resistance from the community. An on-line petition received over 1200 signatures in just a few weeks, on June 27<sup>th</sup> 2016. A July Committee of the Whole meeting, held in July 2016, which gave the public the opportunity to comment on the proposed by-law changes, lasted over 6 hours, and attracted over 100 citizens, the majority who spoke in favour of backyard chickens, and a revisiting of the by-law to include the allowance for backyard chickens, and a review of potential regulations that would be ensure the safety and health of our community. In the end, the aspect of the bylaw surrounding chickens was deleted from the approved bylaw and staff was directed to undergo further

consultations before bringing back an amending bylaw, specific to chickens, in the first quarter of 2017. The portion of the by-law related to backyard chickens was put on hold, and is currently under review by the City of Peterborough legal department. It is hoped that there will be opportunities for community consultation, and input from a very active community of backyard chicken owners and supporters of urban agriculture.

As has been seen in other jurisdictions, planning for urban hens is not as simple as allowing hens to be reared. Considerations that must be discussed and addressed to ensure success include:

- number of hens to be permitted (and not allowing roosters as per other jurisdictions);
- education for those interested and delivery costs for programs (i.e. animal care, feeding, hand washing, hygiene);
- waste management/animal husbandry requirements/best practices;
- predation issues;
- space requirements;
- licensing, use of eggs/meat (cannot be sold unless through an inspected food premise through public health and meeting other specific legislation i.e., egg grading);
- renegotiation of contracts with Peterborough Humane Society (Animal Services/OPSCA) in order to manage by-law enforcement; and
- budget to support the development, implementation and evaluation of the by-law.

There is interest and support locally among urban residents for moving forward on the issue both within the City of Peterborough and in small population centres in the County. Barriers and concerns must be addressed however including costs that would result from the development and enforcement of a by-law or licensing system.

## Goals

1. To allow the raising of hens within the City of Peterborough and in urban settlements in the County of Peterborough.
2. To create reasonable restrictions on the raising of chickens in the City of Peterborough and in urban settlements in the County of Peterborough.

## How are we going to get there?

Peterborough can follow the example of many other Canadian municipalities. The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) notes that some issues municipalities should consider before developing by-laws around keeping poultry include: animal health and public health, animal care, predators, food safety and other production considerations (OMAFRA, 2016b).

Most areas that allow urban chickens forbid roosters, limit the number of hens and have specific space and housing requirements. It is important to include restrictions on the placement and design of the coop in order to protect human health.

There is also the need to educate about the waste produced by the chickens. OMAFRA notes that chicken manure “must be disposed of in a safe and environmentally responsible manner” (OMAFRA, 2016b). Manure can contain harmful bacteria (i.e. E.coli, salmonella) so health risks must be considered (i.e. proper composting if planning to use as source of organic matter in gardens).

Chickens need sufficient space, as well as a perch and a nest box. Predators are also a major concern and coops need to be designed to protect the chickens. Care for birds in cold weather also needs to be considered in Peterborough. There is an abundance of free information, including information from the Canadian Food Inspection Agency (CFIA) and OMAFRA that municipal websites could link to on the proper care of urban

chickens. Some jurisdictions have funded education sessions for those interested in backyard flocks. This should be considered in by-law development.

It appears to be common practice to forbid slaughtering on residential properties (e.g., Surrey, British Columbia and Seattle, Washington). Any by-laws permitting urban hens should consider the means for dealing with chickens that are past their prime laying age. A number of options would need to be explored and education regarding these options is critical. Consideration could include an urban abattoir, mobile slaughter units, and sending them to rural areas (which is not recommended for biosecurity and spread of diseases). Animal control implications must also be considered including cost of housing for birds that have been released.

Some cities (i.e., Vancouver, Surrey) require that all backyard chickens be registered with the city (City of Surrey, 2015; City of Vancouver, 2013a). The City of Vancouver also provides a step by step guide starting with the by-laws, information on proper care of chickens and how to design a proper coop (City of Vancouver, 2013a). The animal control by-law is easily accessed online and is easy to understand, information on the rules related to keeping chickens can be found in sections 7.15 and 7.16 (City of Vancouver, 2015).

Peterborough area municipalities could consider reviewing existing regulations to determine the best way to meet community members' interest in backyard chickens and personal egg production while also supporting the education and information needs of people interested in keeping urban hens. At the time of this reports publication, the City of Peterborough legal department has released a survey to collect public input on the issue.

## Urban Beekeeping

Urban agriculture and food production in cities has recently experienced a huge growth in interest. Insect pollination is critical for food production and human livelihoods, and directly links ecosystems with human-made production systems. Urban beekeeping is an integral part of the planning process for a viable urban agriculture model in the Peterborough region.

In Ontario, the population status on honeybee death reached an all-time high of 58% (2013) which has lead OMAFRA to investigate honeybee deaths in the province and make food pollination one of its highest priorities in the next 2 years. (OMAFRA, 2016c; OMARFRA, 2016d)

### Where are we now?

In Ontario, beekeeping is regulated by the OMAFRA. OMAFRA does not currently address urban beekeeping as a separate practice and maintains a uniform set of regulations for both urban and rural hives. Advocates of urban beekeeping have demonstrated though experienced and informed beekeeping practices, that the stewardship of honeybees provides a number of healthy environmental, economic, and social benefits, for practitioners and cities alike. With the existence and growing number of high profile beekeeping initiatives in Ontario cities, and the increasing visibility of urban beekeepers, the regulatory framework for beekeeping in the province has been amended in several cities. Adopting best practice guidelines, including urban hive registration, city zoning ordinances and animal health protection acts have been very successful in keeping beekeeping safe and sustainable in cities such as Vancouver, Montreal, Calgary, New York City, San Francisco, Seattle and Chicago (Berquist et al., 2012) Within these cities, it is not surprising to see overwhelming evidence of flourishing urban agriculture projects and businesses that thrive on being able to reap the benefits of higher production due to increased pollination as well as the sale of local honey. A

single, managed colony of honeybees can produce over 45kg (100lbs) of honey (Canadian Honey Council, 2016).

With respect to the needs of urban beekeeping and public safety, the *Ontario Bees Act* requires that all hives be kept further than 30m (100ft) from the property line of the lot where they are kept (Government of Ontario, 1990a). This regulation effectively prohibits beekeeping in dense urban environments but allows for hives in larger sites such as rooftops, golf courses and underutilized greenspaces belonging to both private property owners and municipalities. Some urban beekeepers have indicated a higher winter survival rate, lower death rate and less disease in urban hives which have been associated positively with municipal cosmetic pesticide bans, heat islands and intensification of foraging sources (Wilson-Rich, 2015).

### Goal(s)

1. City of Peterborough to recognize beekeeping as an important ecological process providing symbiotic benefits for people, plants and wildlife.
2. To encourage beekeeping in Peterborough, following existing OMAFRA regulations to support and improve pollination required for food production locally.
3. To work with the City of Peterborough to create a municipal regulatory framework for urban beekeeping in Peterborough.

### How are we going to get there?

The Urban Agriculture Task Force has researched a number of recommendations for extending and improving urban beekeeping in Peterborough. These include:

1. More decision-making agency should be given to municipalities, such as

Peterborough to moderate the benefits and risks of urban beekeeping in our community.

2. Municipal regulations ought to consider honeybee flight paths over concerns of distance between people and bees.
3. Voluntary best management guidelines can be highly effective especially when working in partnership with urban agriculture practitioners.
4. Support networks within the urban agriculture and apiculture industry and with municipal governments.
5. Continue to expand education to beekeepers, and bee ecology to the public
6. All municipal stakeholders should work with the province to revise Section 19 of the Bees Act in a way that allows urban beekeeping to move forward in their respective communities.

## Urban Start-Up Farms and Shared Infrastructure

Urban agriculture appeals to a diversity of growers, many who are new farmers who do not come from a farming background or have access to large tracts of family land to farm upon. Start-up farms can assist these farmers, and other interested growers in accessing the land and knowledge they need to acquire to start or enhance their farming careers. There are several advantages in exploring opportunities to provide access to farmland and programming within or in close proximity to City boundaries. A start-up farm can take many forms, for example:

- An actively managed farm that provides on-site training for new farmers in or near the urban area; and/or,
- A farm that makes land and possibly shared infrastructure available to new farmers for rent or lease on an interim basis during the experimentation and start-phase of their careers; and/or
- A farm that is leased to farmers on a permanent or semi-permanent basis.

An actively managed training farm should be located on permanently protected land, as are others in the province today. Infrastructure, soil improvement and educational programming are long-term investments that community organizations running the farm would have to make, and cannot be taken lightly. In Ontario, start-up farms of this kind are already operated by non-profit organizations west of Toronto and in eastern Ontario. In the east central region, there are no start-up training farms to date.

Alternatively, establishing a start-up farm that simply offers land to new farmers for rent or short-term lease would require less capital investment by the operator as well as less ongoing management. Such a farm could be located on land that is leased by the operator and then subleased or rented to new farmers. Because tenancies are not intended to be permanent, this type of farm could occur on land that is not permanently protected for farming. However, soil management and land preparation, as well as even temporary infrastructure placement, is expensive and time consuming. For this reason, a commitment to the land in the 5-10 year range would be needed to be feasible.

### Where are we now?

The City itself does not own any appreciable amount of land that is still zoned for agricultural use. Almost no land has been permanently designated for agriculture in the City of Peterborough, except for a small area in the city's south end that is subject to flooding conditions. Most land within the City boundary that is zoned to permit agriculture is in waiting for eventual development, and is farmed as an interim use by the owner or a tenant. It would be very expensive to purchase existing farmland in the city for permanent protection because of the market expectation for future urban development.

## Goals

- Ensure that new and prospective new entrants to farming have access to the resources they need in terms of training, access to land and infrastructure during the development phases of their businesses;
- Support the creation of successful farm businesses over time that will contribute to food security and economic development in the region.

## How are we going to get there?

Municipal support in principle for these concepts would enable project plans to continue to develop and open the door to supportive municipal policy and zoning if needed.

A number of local organizations are exploring options and investigating the development of a training farm in the GPA. Over the next few years, through grant-writing and on-going research, it is hoped that urban start-up farms, where new farmers can access City land shared infrastructure and training opportunities, will be established.

A funded feasibility study will be completed by Farms a Work during 2017 that will look at possible models of start-up access to land and infrastructure both within and outside the City boundaries.

## Municipal Context and Considerations

### Context

A fundamental premise of the OMKN Best practices document was the idea that the specific urban context had to be considered in decision-making (OMKN, 2013). That is, the document recognized that desirable policy solutions in one municipal context in Ontario might be different from those in another. For this reason, it is important to

characterize the City and County of Peterborough in order to best achieve the objectives within the local context.

Peterborough County is a two-tier municipal government system consisting of a County government and 8 Township governments. Additionally, within the County, the City of Peterborough exists as a single-tier municipality while the Curve Lake and Hiawatha First Nations exist as independently governed communities. The City is the largest urban area in the County, but is a relatively small city with a current population of approximately 79,000 inhabitants (Statistics Canada, 2012). In addition there are several smaller towns and hamlets in the County.

Combined, Peterborough County, City, and the two local First Nations encompass an area of 3,847.77 square kilometres (City of Peterborough Planning Department, January 2016, personal communication). Of that area, approximately 24% is considered to be under agricultural use according to the 2011 Census (OMAFRA, 2016a). The City of Peterborough comprises approximately 1.7% (63.8 square kilometres) of the overall land area (Statistics Canada, 2012).

The City of Peterborough differs from other urban areas in that it does not incorporate large swaths of agricultural land within its municipal borders. Instead, it is surrounded by an abundance of farmland within minutes of the City core, in the County townships. As a result of this structure, urban planners do not incorporate rural areas and more traditional farming lands into their urban development plans. In the last 20 years the City has annexed some agricultural land. However this land has been earmarked for development to accommodate expected growth. Some of the annexed areas have continued to be zoned for agricultural activities; however, this is an interim designation. Annexed lands that are zoned for agriculture are not municipally-owned, but are in private hands.

## Commercial Agriculture in the City

### Food Production

There are a couple of key constraints to using land within the City of Peterborough for commercial agricultural purposes.

First, commercial agriculture typically has to occur on privately-owned land because of restrictions that the Municipal Act places on municipalities for using public resources in support of private business (Government of Ontario, 2015a). Accordingly, using private urban land for commercial farming is constrained by the high value of the land, given that the land is typically designated for residential and/or industrial development. Where operational farms exist within the city, they are typically either owned by developers or will be sold to developers at high prices over time. The value of development land is extremely difficult to incorporate into a viable long-term business plan for farming. Second, as discussed previously, agriculturally-zoned land in the City is typically expected to transition to urban use over time.

This interim nature of urban land use for agricultural use, could present challenges to urban farmers looking to obtain land that could reliably support a farmer throughout the business cycle of a lifelong farming operation. Urban Agriculture utilizes land differently than a traditional rural model of farming. Many urban farmers intensely farm smaller acreages with financial success. Municipal land-use plans that incorporate space for these urban agriculture projects will help increased access to urban farm land, as well as the accessibility of fresh, locally produced foods for urban residents. We need a new model of land-use planning that considers the uniqueness of urban agriculture as showcased in this report.

Given the above context, if commercial farming on private property is to be financially viable within the City, the City would have to permanently re-designate areas for commercial agriculture. Such a measure would likely devalue the land compared to what

would otherwise be expected if the land were planned for urban uses. There would need to be a compelling reason to do this, given the impact on the current private landowners.

Commercial agricultural activities may be possible on land that is not zoned for agriculture. However, the scale and nature of the business would differ significantly from a traditional rural farm. For example, residential properties are permitted to grow food as an accessory use. Typically, this production is for personal use or donation, but could be sold for profit as a home-based business. Additionally, food production can also occur in greenhouses, which are permitted in some commercial and industrial areas. However, the land and infrastructure cost associated with establishing a commercial greenhouse may pose a significant entry barrier to prospective growers.

### Selling Goods to the Public

Generally, the retail sale of goods and services to the public is only permitted in areas zoned for commercial uses. In the City of Peterborough, limited retail sales are permitted in residential areas as part of small-scale home-based businesses. Presently, home-based businesses in the City of Peterborough are restricted in size and limited to employees who are residents of the property (City of Peterborough, n.d.-a).

Additionally, municipalities often regulate the selling of goods to the public through a municipal licensing by-law. In the City of Peterborough, bake shops, butcher shops, catering establishments, mobile canteens (e.g. bicycle carts, mobile food preparation vehicles, refreshment vehicles), restaurants and temporary traders (e.g. a vendor at a farmers market on private property) require a municipal license (City of Peterborough, 2016). Fees related to these licenses may create barriers for smaller operators.

If municipalities wish to support and promote urban agriculture as an economic opportunity, care should be taken to ensure that zoning by-law and municipal licensing regulations are sufficiently permissive without compromising land use compatibility.

## Health and Safety

### Soil Contamination

In urban environments, land that is used for the growing of produce may have been previously used for, or could be located in close proximity to, other land uses that may have caused the soil to become contaminated. For example, over the course of Peterborough's almost 200-year modern history, the community has hosted, a number of significant industrial activities including lumber mills, abattoirs, canoe factories, fuel and coal storage, and heavy manufacturing that may have released contaminants into the environment. A review of existing research conducted by Toronto Public Health on urban gardening reveals the potential for adverse health risks from growing produce on contaminated urban soils (Toronto Public Health, 2011).

When thinking about growing of food in an urban environment, consideration should be given to the land use history of both the potential growing site and the surrounding area. Urban farmers should be aware that under the Environmental Protection Act, they could be responsible for having qualified persons undertake soil assessment studies and soil remediation, especially if the growing is to occur on a site that was previously used for industrial or commercial uses (Government of Ontario, 2015b). Specifically, Section 168.3.1 of the Act prohibits the change of land use from commercial, industrial or community uses (e.g. roads, airports, arenas, theatres, churches etc.) to agriculture, parkland, institutional or residential uses unless a Record of Site Condition (a certification that contamination levels on a property are suitable for the proposed use) is filed with the Ministry of the Environment and Climate Change. Although most people are likely unaware of this requirement and will only discover it when they seek a permit to build, for example, a shed, urban growers should be aware of the legislation in order to protect against penalties from the Ministry.

To assist prospective urban growers in determining whether a site is suitable for them to grow food, Toronto Public Health has published a guide titled "From the Ground Up: Guide for Soil Testing in Urban Gardens" (Toronto Public Health, 2013). In the absence

of site specific soil quality information or local soil assessment guidelines, area residents could refer to this document as part of their due diligence before growing food in urban soils.

### Food Handling

Whether growing food for personal use or for sale, safe food handling practices should be used throughout all stages of the food production process to ensure that food is grown, harvested, and processed in a safe environment. In Peterborough, Peterborough Public Health is responsible for monitoring food safety at food premises such as places where food is manufactured, processed, prepared, stored, handled, displayed, distributed, transported, sold or offered for sale (excluding private residences or certain excepted food premises).

Urban growers, particularly those who may wish to grow produce for public sale, should make themselves aware of the County and City's by-laws respecting mandatory food handling certification (City of Peterborough, n.d.-b). Currently, Peterborough Public Health regularly offers a Food Handling Training and Certification Course at a nominal cost.

Furthermore, if the public sale of urban produce is a priority, producers and sellers must be aware of provincial regulations regarding the sale of produce such as the Food Safety and Quality Act, 2001 and regulations made under that act, and Regulation 562 – Food Premises made under the Health Protection and Promotion Act (Government of Ontario, 1990b; Government of Ontario, 2001). Education opportunities should be provided regarding applicable provincial and municipal regulations for prospective urban farmers.

## Use of Municipal Resources and Risk Management

Where the encouragement of urban agriculture involves the use of municipal resources such as land, water, and vegetation growing on municipal property, municipalities need to evaluate:

- the liability risk associated with allowing public access to municipal lands for the purpose of growing and/or gathering food;
- the impact that allowing urban agriculture on municipal property either in the form of community gardening or edible landscaping will have on municipal staff resources;
- a fair means of allocating the right to specific community members to practice activities such as community gardening, gleaning and foraging on municipal property, especially if this involves securing such sites from theft and vandalism;
- the appropriateness of allowing for-profit urban agricultural businesses to locate on municipal property; and
- the potential impact of urban agriculture on existing municipal infrastructure such as soil erosion and sediment migration into storm water systems and the cost of new infrastructure such as water infrastructure that is required to support urban agriculture.

## Property Tax

Urban agriculture initiatives on privately owned land such as vacant lots would be subject to typical urban tax rates. To encourage urban agriculture, some municipalities have suggested property tax incentives. For example, the Union of British Columbia Municipalities suggests that municipalities could offer tax relief in exchange for property owners that grant conservation easements in favour of the municipality to preserve urban land for agriculture, including community gardens (Barbolet et. al., 2009).

Presently, in Ontario, municipalities are required under Section 364 of the Municipal Act to have a program to provide tax rebates to owners of commercial and industrial-class property that are either vacant or partially vacant (Government of Ontario, 2015a). It has been suggested that this legislative requirement be extended to include vacant or under-utilized properties being used and/or zoned for urban agriculture.

Alternatively, the Toronto Food Policy Council (TFPC), in their document titled “GrowTO: An Urban Agriculture Action Plan for Toronto” (TFPC, 2012), proposed to request “the Municipal Property Assessment Corporation (MPAC) to study the possibility of establishing a small-scale urban farm designation and study the tax implications for the City of Toronto” (p. 22). If an entirely new assessment class designation was created and if it were deemed relevant to the Peterborough context, a specific municipal tax rate could be applied to that class of land.

### Cost of Water Services

Whether urban agriculture occurs on municipal or private property, access to water for irrigation is critical to ensuring a successful growing environment. As noted previously, access to water can be a struggle for community gardens and can serve to limit opportunity for establishing gardens. Where municipal water is available, growers must be aware of the cost associated with using such water. Presently, in the City of Peterborough, water users pay a minimum basic charge of \$19.72 per month for the smallest metre size plus a minimum of \$1.29 per 1000 litres of water used (PUC, 2016). Depending on the scale and type of agriculture being undertaken, monthly water charges can be significant and could act as a significant barrier to urban agriculture.

## Conclusion:

This paper has raised some possible directions for discussion in the GPA. The next step is to take these ideas to a broader group of diverse stakeholders for further comment and input. Local organizations that focus on housing, health care, urban and rural farming and social issues will be able to offer valuable insights and perspectives. Through broader consultation, it is hoped that this document can be refined into a tool that can assist both area municipal policy and decision makers and community groups and individuals with an interest in urban agriculture. It is hoped that there endorsement of this paper will be action based and that we can work these diverse stake-holders to build supports for, and a flourishing Urban Agriculture movement across the GP.

## Questions for discussion include:

1. Are these types of initiatives relevant and appropriate for the GPA, in the light of its “unique situation” and the factors outlined in the section (p.6)?
2. What are the costs of implementation?
3. Are the costs of implementation commensurate with the gains in terms of the benefits of urban agriculture?
4. What are the implications of soil quality in urban areas like the City of Peterborough for food production?
5. What are the implications of commercial production of food within urban areas?
6. How do the opportunities presented here support neighbourhood-centred planning?
7. What role should municipalities play in funding urban agriculture programs?
8. What opportunities can current municipal grant programs provide to urban agriculture ventures?

9. How can the municipality and the development community collaborate to support urban agriculture in new developments and in existing neighbourhoods?
10. How can we enhance the partnership between the municipality and community groups to support the maintenance and stewardship of green spaces?
11. How can urban agriculture be best positioned in upcoming projects, such as the Urban Park, Bethune St. reconstruction, and the Lily Lake Plan?

## References

Barbolet, H., Cuddeford, V., de la Salle, J., Geggie, L., & Rideout, K. 2009. *Dig it! A Practical Toolkit: How local governments can support community gardens*. Retrieved from <http://www.toolkit.bc.ca/sites/default/files/DIG%20IT-%20MAY%208-FINAL%20WITH%20LOGOS.pdf>

Berquist, M., A. Bird, M.G. Dean, R.B. Law, S. Lee, H. Panesar. 2012. Towards a New Approach in Beekeeping Policy in Ontario. Retrieved from <http://sustainontario.com/wp2011/wp-content/uploads/2012/12/FINAL-REPORT-Urban-Beekeeping-Policy-in-Ontario-December-2012.pdf>

Canada Mortgage and Housing Corporation (CMHC). 2006. Green Roofs: A Resource Manual for Municipal Policy Makers. Retrieved from <http://www.cmhc-schl.gc.ca/odpub/pdf/65255.pdf?lang=en>

Canadian Honey Council. 2016. Honey Industry/Beekeeping. Retrieved on November 11, 2016 from <http://www.honeycouncil.ca/industry.php>

City of Cambridge. (n.d.). Building the Green Roof Gallery. Retrieved on February 11, 2016 from <http://www.cambridge.ca/gallery-internal.php?gid=15>

City of Hamilton. 2011. Green Roofs and Living Walls (PW11037). Retrieved from [http://www2.hamilton.ca/NR/rdonlyres/9AE3EB17-0A39-4650-B333-8E1CE27B3F0B/0/Jun13EDRMS\\_n180476\\_v1\\_8\\_3\\_PW11037.pdf](http://www2.hamilton.ca/NR/rdonlyres/9AE3EB17-0A39-4650-B333-8E1CE27B3F0B/0/Jun13EDRMS_n180476_v1_8_3_PW11037.pdf)

City of Hamilton. 2013. Urban Agriculture Policy, Planning, and Practice. Retrieved from <http://www.hamilton.ca/sites/default/files/media/browser/2015-03-06/urbanagriculturepolicyplanningandpractice.pdf>

City of Kingston. 2010. City of Kingston Official Plan. Retrieved from <https://www.cityofkingston.ca/business/planning-and-development/official-plan>

City of Kitchener. 2014. City of Kitchener Official Plan. Retrieved from [https://www.kitchener.ca/en/insidecityhall/resources/PLAN\\_City\\_of\\_Kitchener\\_New\\_Official\\_Plan.pdf](https://www.kitchener.ca/en/insidecityhall/resources/PLAN_City_of_Kitchener_New_Official_Plan.pdf)

City of Montreal. n.d. Community Gardens. Retrieved on December 15, 2016 from [http://ville.montreal.qc.ca/portal/page?\\_pageid=5977,68887600&\\_dad=portal&\\_schema=PORTAL](http://ville.montreal.qc.ca/portal/page?_pageid=5977,68887600&_dad=portal&_schema=PORTAL)

City of Oshawa. 2015. City of Oshawa Official Plan. Retrieved from <https://www.oshawa.ca/business-and-investment/resources/CityofOshawaOfficialPlan.pdf>

City of Ottawa. 2015. Resources for building green. Retrieved on February 11, 2016 from <http://ottawa.ca/en/residents/water-and-environment/green-living/green-building-resources>

City of Peterborough. (n.d.-a). *Section 6: Supplementary Regulations*. Retrieved April 24, 2015 from <http://www.peterborough.ca/Assets/City+Assets/Planning/Documents/Zoning+By-Law/06+-+Supplementary+Regulations.pdf>

City of Peterborough. (n.d.-b). By-law Number 13-029. Retrieved on January 18, 2016 from <http://www.peterborough.ca/Assets/City+Assets/By-Laws/2013/13-029+-+Food+Handler+By-law.pdf>

City of Peterborough. 2008. *Official Plan of the City of Peterborough*. Retrieved January 25, 2016 from <http://www.peterborough.ca/Assets/City+Assets/Planning/Documents/Official+Plan.pdf?method=1>

City of Peterborough. 2011. *Our Forest, Our Future - Urban Forest Strategic Plan*. Retrieved from <http://www.peterborough.ca/Assets/City+Assets/Public+Works/Documents/Final+Urban+Forestry+Plan.pdf?method=1>

City of Peterborough. 2013. *Community Gardens*. Retrieved July 13, 2015 from <http://www.peterborough.ca/AssetFactory.aspx?did=17118>

City of Peterborough. 2015. Housing Stability Fund: Peterborough evaluation report 2014. Retrieved from <http://www.peterborough.ca/Assets/City+Assets/Social+Services/Documents/Reports+and+Research/Emergency+Shelter+and+Assistance/Housing+Stability+Fund+Evaluation+2014.pdf>

City of Peterborough. 2016. Business Licensing. Retrieved January 18, 2016 from [http://www.peterborough.ca/Living/City\\_Services/City\\_Clerk/Business\\_Licensing.htm](http://www.peterborough.ca/Living/City_Services/City_Clerk/Business_Licensing.htm)

City of Surrey. 2015. *Backyard Chickens*. Retrieved July 7, 2015, from <http://www.surrey.ca/community/13805.aspx>

City of Toronto. (n.d.-a). Eco-Roof Incentive Program. Retrieved January 18, 2016 from <http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=3a0b506ec20f7410VgnVCM10000071d60f89RCRD>

City of Toronto. (n.d.-b). *Green Roofs*. Retrieved April 21, 2015, from <http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=3a7a036318061410VgnVCM10000071d60f89RCRD#thresholds>

City of Toronto. 2013. Toronto Municipal Code Chapter 349 – Animals. Retrieved from [http://www.toronto.ca/legdocs/municode/1184\\_349.pdf](http://www.toronto.ca/legdocs/municode/1184_349.pdf)

City of Toronto. 2015. *Bylaw enforcement - prohibited - restricted animals - chickens - livestock - in the City of Toronto*. Retrieved from <http://www.toronto.ca/311/knowledgebase/32/101000040932.html>

City of Vancouver. 2013a. *Learn the rules for backyard chickens, and register your chickens with the City*. Retrieved April 14, 2015, from <http://vancouver.ca/people-programs/backyard-chickens.aspx>

City of Vancouver. 2013b. Community Gardens. Retrieved on January 18, 2016 from <http://vancouver.ca/people-programs/community-gardens.aspx>

City of Vancouver. 2015. *Animal Control By-law No. 9150*. Retrieved April 22, 2015, from <http://former.vancouver.ca/bylaws/9150c.PDF>

City of Vaughan. 2010. Vaughan Official Plan 2010. Retrieved from [https://www.vaughan.ca/projects/policy\\_planning\\_projects/official\\_planning\\_2010/Pages/default.aspx](https://www.vaughan.ca/projects/policy_planning_projects/official_planning_2010/Pages/default.aspx)

City of Waterloo. 2012. Official Plan City of Waterloo. Retrieved from [http://www.waterloo.ca/en/contentresources/resources/government/OP\\_Consolidated\\_Version.pdf](http://www.waterloo.ca/en/contentresources/resources/government/OP_Consolidated_Version.pdf)

County of Peterborough. 2014. County of Peterborough Official Plan. Retrieved from [http://cms.county.peterborough.on.ca/assets/uploads/documents/County\\_OP\\_Consolidated\\_September\\_2014\\_1.pdf](http://cms.county.peterborough.on.ca/assets/uploads/documents/County_OP_Consolidated_September_2014_1.pdf)

Farms at Work. (n.d.). *Find Local Food*. Retrieved April 27, 2015, from <http://www.farmsatwork.ca/local-food>

Future of Food & Farming Working Group (FFFW). 2014. Peterborough in context: Phase One Documenting How Local Activities Align with the AMO Best Practices in Local Food Guide for Municipalities. Retrieved from <http://www.pspc.on.ca/sites/default/files/attach/final%20Peterborough%20in%20Context%20final%20July%202014.pdf>

Government of Ontario. 1990a. Bees Act. Retrieved from <https://www.ontario.ca/laws/statute/90b06>

Government of Ontario. 1990b. Reg. 562: Food Premises. Retrieved from <https://www.ontario.ca/laws/regulation/900562>

Government of Ontario. 2001. Food Safety and Quality Act. Retrieved from <https://www.ontario.ca/laws/statute/01f20>

Government of Ontario. 2015a. Municipal Act 2001. Retrieved from <https://www.ontario.ca/laws/statute/01m25>

Government of Ontario. 2015b. Environmental Protection Act 1990. Retrieved from <https://www.ontario.ca/laws/statute/90e19>

Just Food. 2014. Community Gardens in Ottawa. Retrieved on January 18, 2016 from <http://justfood.ca/community-gardening-network/community-gardens-in-ottawa/>

Mackey, T. (2014). *Urban Food Forest Final Report*. Retrieved from <http://www.greenup.on.ca/wp-content/uploads/2014/07/Urban-Food-Forest-FINAL-Report.pdf>

Moyles, T. 2015. Urban female farmers reclaiming how food is grown. Retrieved from <http://gutsmagazine.ca/women-farming-in-the-city-2/>

Nourish. (n.d.). Community Gardening. Retrieved on Dec 15, 2016 from <http://nourishproject.ca/community-gardening>

Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA). 2016a. Area of Census Farms by County. Retrieved from <http://www.omafra.gov.on.ca/english/stats/census/cty30a.htm>

Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA). 2016b. Urban Agriculture: Livestock and Poultry. Retrieved on January 18, 2016 from <http://www.omafra.gov.on.ca/english/livestock/urbanagricul.html>

Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA). 2016c. Apiculture. Retrieved January 29, 2016 from <http://www.omafra.gov.on.ca/english/food/inspection/bees/apicultu.html>

Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA). 2016d. Pollinator Health Strategy. Retrieved January 29, 2016, from <http://www.omafra.gov.on.ca/english/pollinator/meeting-reg.htm>

Ontario Ministry of Finance (OMF). 2012. 2011-2036 Ontario and its 49 Census Divisions. Retrieved from <http://www.fin.gov.on.ca/en/economy/demographics/projections/projections2011-2036.pdf>

Ontario Ministry of Infrastructure (OMI). 2013. Growth Plan for the Greater Golden Horseshoe, 2006. Retrieved from <https://www.placestogrow.ca/content/ggh/2013-06-10-Growth-Plan-for-the-GGH-EN.pdf>

Ontario Municipal Knowledge Network (OMKN). 2013. *Best Practices in Local Food: A guide for municipalities*. Retrieved from <https://www.amo.on.ca/AMO-PDFs/Reports/2013/2013BestPracticesinLocalFoodAGuideforMunicipalitie.aspx>

Peterborough Gleans. 2016. 2015 Gleaning Report. Retrieved on from <https://peterboroughgleans.wordpress.com/2016/02/06/2015-gleaning-report/>

Peterborough Public Health (PPH). 2016. Limited Incomes: A Recipe for Food Insecurity. Retrieved from <http://www.peterboroughpublichealth.ca/wp-content/uploads/2011/09/2016-NFB-Limited-Incomes.pdf>

Peterborough Utilities Commission (PUC). 2016. Water Utility Rate Schedule. Retrieved from <http://www.peterboroughutilities.ca/Assets/PUSI+Assets/Documents/Corporate/Water+Utility+Rate+Schedule+January+2016.pdf>

Statistics Canada. 2012. Peterborough, Ontario (Code 3515) and Canada (Code 01) (table). Census Profile. 2011 Census. Statistics Canada Catalogue no. 98-316-XWE. Ottawa. <https://www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CD&Code1=3515&Geo2=PR&Code2=01&Data=Count&SearchText=peterborough&SearchType=Begin&SearchPR=35&B1=All&Custom=&TABID=1>

Sustainable Peterborough (SP). 2012. Greater Peterborough Area Community Sustainability Plan. Retrieved from [http://sustainablepeterborough.ca/wp-content/uploads/2015/01/SP\\_Plan\\_Final\\_Plan.pdf](http://sustainablepeterborough.ca/wp-content/uploads/2015/01/SP_Plan_Final_Plan.pdf)

Sustainable Peterborough (SP). 2014. Patterns in the use and Protection of Farmland in Peterborough County. Retrieved from <http://www.pspc.on.ca/pdf/SP%20Farmland%20Report%20consolidated%20Dec%202014.pdf>

Toronto Food Policy Council (TFPC). 2012. GrowTO: an urban agriculture action plan for Toronto. Retrieved from <http://www.toronto.ca/legdocs/mmis/2012/pe/bgrd/backgroundfile-51558.pdf>

Toronto Public Health. 2011. Assessing Urban Impacted Soil for Urban Gardening: Decision Support Tool Technical Report and Rationale. Retrieved from [https://www1.toronto.ca/city\\_of\\_toronto/toronto\\_public\\_health/healthy\\_public\\_policy/lead/files/pdf/urban\\_gardening\\_assessment.pdf](https://www1.toronto.ca/city_of_toronto/toronto_public_health/healthy_public_policy/lead/files/pdf/urban_gardening_assessment.pdf)

Toronto Public Health. 2013. From the Ground Up – guide for soil testing in urban gardens. Retrieved from [https://www1.toronto.ca/City%20Of%20Toronto/Toronto%20Public%20Health/Healthy%20Public%20Policy/Environmental%20Pollutants/Files/PDF/guide\\_for\\_soil\\_testing\\_2013.pdf](https://www1.toronto.ca/City%20Of%20Toronto/Toronto%20Public%20Health/Healthy%20Public%20Policy/Environmental%20Pollutants/Files/PDF/guide_for_soil_testing_2013.pdf)

Trent University. (n.d.). Green Roofs. Accessed January 18, 2016 from [https://www.trentu.ca/sustainabilityoffice/overview\\_roof.php](https://www.trentu.ca/sustainabilityoffice/overview_roof.php)

Wilson-Rich, Noah. 2015. Why urban dwellers should be raising bees on their rooftops. Retrieved from <http://honeylove.org/urban-dwellers-rooftops/>

