

# Homegrown Baltimore: Grow Local

## *Baltimore City's Urban Agriculture Plan*



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Adopted November 2013 by the Baltimore City Planning Commission

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**Cover:** Mayor Stephanie Rawlings-Blake celebrates National Food Day 2012 with students from the Academy for College and Career Exploration (ACCE) in Baltimore City.

**Photo Credit:** Mark Dennis. October 24, 2012.

## Executive Summary

### Purpose

Stemming from key strategies specified within the Baltimore Sustainability Plan, *Homegrown Baltimore* is an initiative of the City of Baltimore to increase the production, distribution, sales, and consumption of locally grown food within Baltimore. The City is highly committed to building a robust local food system that provides equitable access to healthy foods for all residents; supports Baltimore's gardeners, farmers and businesses; promotes environmental sustainability; and utilizes vacant space productively. Initiated by Mayor Stephanie Rawlings Blake and led by the Baltimore Office of Sustainability in collaboration with key partners from local government, institutions of higher learning, community organizations, area businesses, and residents, *Homegrown Baltimore* demonstrates this commitment by providing a concrete plan to build a healthy, local food system in Baltimore.

### Approach

*Homegrown Baltimore* includes three components: *Grow Local*, *Buy Local*, and *Eat Local*. *Grow Local* focuses specifically on increasing local food production in Baltimore through urban agriculture. *Buy Local* addresses sales and distribution of locally produced foods, including the expansion of farmers' markets, farm stands, community supported agriculture, farm-to-school programs, and the distribution of locally produced foods in food stores. *Eat Local* addresses the need to increase demand for local, healthy food.

This report covers the *Grow Local* component of *Homegrown Baltimore* in depth, outlining Baltimore's urban agriculture plan. The plan documents the history, benefits, and types of urban agriculture in Baltimore; lays out current local urban agricultural efforts and the policies that affect them; and identifies challenges and provides recommendations for creating a more robust urban agriculture sector for our city. This report also briefly introduces some of the strategies for the *Buy Local* and *Eat Local* components.

The primary audience for this report is the Mayor and senior staff of the city of Baltimore, as well as the Baltimore City Commission on Sustainability and the Baltimore Office of Sustainability, which is tasked with carrying out the Baltimore Sustainability Plan. By outlining an urban agriculture plan for Baltimore, this document provides City decision-makers and planners with a tool for building a more robust urban agriculture sector.

### Key Findings and Recommendations

Urban agriculture has a long history in the City of Baltimore, and can offer solutions to address a wide range of problems. Numerous urban agriculture projects are currently underway in the city, including urban farms (both community-oriented and commercially-oriented), community gardens, school gardens, home and rooftop gardens, aquaculture projects, apiaries, and orchards. New policies related to urban agriculture support the development of these projects, and the rewrite of Baltimore's Zoning Code which is currently underway will further promote agricultural uses of land lying within the city boundaries. A wide range of government agencies and partners also provide critical resources to support these projects.

Challenges remain, however, that should be addressed in order to maintain and expand Baltimore's urban agriculture sector. Some of the Key Recommendations in this document include:

Barrier	Recommendations
<b>Land</b>	<p><b>Offer solutions for increased land security to a relevant range of growers:</b></p> <ul style="list-style-type: none"> <li>• Develop Automatic Notification of License Renewal</li> <li>• Streamline Community Managed Open Space Process</li> <li>• Incorporate Community Farms Into Existing Land Trust</li> <li>• Encourage Direct Land Purchasing</li> <li>• Improve Land Leasing Initiative</li> <li>• Strengthen Tenure of Adopt-a-Lot Program</li> <li>• Support Incentives for Gardens and Farms on Privately-Owned Vacant Land</li> </ul>
<b>Water</b>	<p><b>Ensure Maximum water access for growers by streamlining the process and preserving water supply lines:</b></p> <ul style="list-style-type: none"> <li>• Improve Payment Process for Water Access Program</li> <li>• Develop Options for Winter Water Access</li> <li>• Provide Resource for Sites without a Water Meter Pit</li> <li>• Preserve Existing Water Infrastructure</li> <li>• Support the Development of Rainwater Capture Systems</li> </ul>
<b>Soil</b>	<p><b>Build rich, safe urban soils through increased access to equipment, compost and local soil testing:</b></p> <ul style="list-style-type: none"> <li>• Increase Equipment Availability</li> <li>• Develop Soil Standards</li> <li>• Provide Soil Testing</li> <li>• Support Composting at All Levels</li> </ul>
<b>Capital</b>	<p><b>Leverage Local and Regional Resources to help growers:</b></p> <ul style="list-style-type: none"> <li>• Expand Funding Assistance</li> <li>• Support Garden Irrigation Fund</li> </ul>
<b>Agency Support</b>	<p><b>Streamline operations, regulations and staffing to support growers:</b></p> <ul style="list-style-type: none"> <li>• Designate DHCD Staff Position</li> <li>• Create and Support Staff Positions</li> <li>• Support Farm Incubator Development</li> <li>• Assess New Zoning Code’s Permit Process</li> <li>• Assess Animal Regulations</li> <li>• Explore Liability Insurance Options</li> <li>• Ensure Citizen Education and Engagement</li> </ul>

This report provides policy and programmatic recommendations to better support each type of urban agriculture, as well as suggests solutions that address issues that cut across the various types of projects.

## I. Introduction

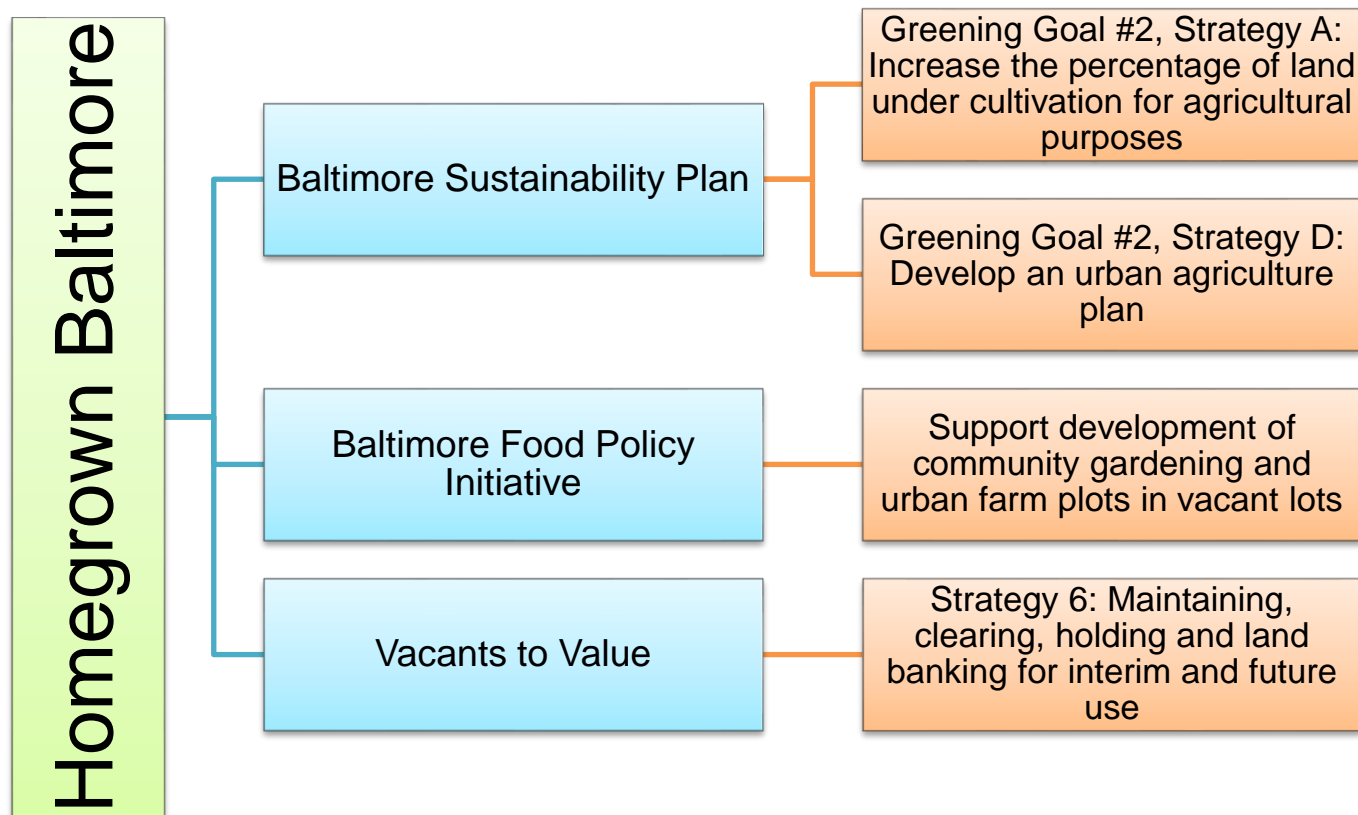
In 2009, the Baltimore City Council adopted the [Baltimore Sustainability Plan](#), a broad, inclusive, and community-responsive sustainability agenda for Baltimore. The plan lists 29 goals to create a healthier, greener, and stronger Baltimore. Among these, Greening Goal #2 calls to “Establish Baltimore as a leader in sustainable, local food systems” through several strategies, including Strategy D, developing an urban agriculture plan. This document is a first major attempt at creating such a plan. Its focus is narrower than that described in the strategy below, leaving ample room for future documents to be developed.

### **Greening Goal #2, Strategy D: Develop an urban agriculture plan**

*Develop a plan that will promote healthy, local, and, where possible, organic food production and food professions and include multiple stakeholders currently involved in food production and job training. The plan should identify the predicted demand for urban-farmed food and recommend location and distribution of urban agricultural institutions. It could also identify the best distribution of existing food networks and identify gaps that need to be filled.*

This document also introduces *Homegrown Baltimore*, an initiative of the City of Baltimore to increase the production, distribution, sales, and consumption of locally grown food within the city. Support for urban agriculture is building across the U.S., flourishing with the energy and passion of non-profits and individual food producers. Importantly, this sector is seeing new, committed leadership among U.S. mayors, who view urban agriculture as a way to build stronger, healthier communities. For many cities, urban agriculture represents a solution to address derelict vacant land, economic underdevelopment, and lack of access to healthy foods. In October 2011, a group of U.S. mayors – including Baltimore’s Mayor Stephanie Rawlings Blake – convened for the First Lady’s Food Access Summit in Chicago to discuss issues of low and inequitable healthy food access. As an outcome of the Summit, the U.S. Conference of Mayors formed a Food Policy Task Force, on which Mayor Stephanie Rawlings Blake acted as vice-chair until June 2013, when she became the second incoming president of the US Conference of Mayors. The Task Force identified city-based, ‘homegrown’ strategies as a priority for building stronger neighborhoods. Over the past year, Baltimore has begun formulating its own homegrown strategy, known as *Homegrown Baltimore*. This strategy not only meets several of the goals of the Baltimore Sustainability Plan, but also forwards the mission of the [Baltimore Food Policy Initiative](#) – an intergovernmental collaboration to increase access to healthy and affordable foods in Baltimore City’s food deserts – and the [Vacants to Value Initiative](#), which focuses on rehabilitating blighted properties in Baltimore City.

The City of Baltimore is committed to building a robust local food system that provides equitable access to healthy foods for all residents; supports Baltimore’s gardeners, farmers and businesses; promotes environmental sustainability; and utilizes vacant space productively. Initiated by Mayor Stephanie Rawlings Blake and led by the Baltimore Office of Sustainability, part of the City of Baltimore’s Department of Planning, in collaboration with key partners from local government, community organizations, area businesses, institutions, and residents, *Homegrown Baltimore* furthers this commitment by providing the first steps towards a concrete plan to build a healthy, local food system in Baltimore.



## Purpose of the Plan

*Homegrown Baltimore* includes three components: *Grow Local*, *Buy Local*, and *Eat Local*. *Grow Local* focuses specifically on increasing local food production in Baltimore through urban agriculture. *Buy Local* addresses sales and distribution of locally produced foods, including the expansion of farmers’ markets, farm stands, community supported agriculture, farm-to-school programs, and the distribution of locally produced foods in food stores. *Eat Local* addresses the need to increase demand for local, healthy food. This report covers the *Grow Local* component of *Homegrown Baltimore* in depth, outlining Baltimore’s urban agriculture plan. It also briefly introduces some of the strategies for the *Buy Local* and *Eat Local* components.

The purpose of the urban agriculture plan is to advance the City’s efforts to support and expand urban agriculture in Baltimore by documenting current urban agricultural efforts; the successes and challenges of these efforts; and to provide policy and programmatic recommendations regarding what is needed to create a more robust urban agriculture sector. The recommendations outlined in this document focus on the utilization of vacant land, as well as overarching policies and collaborations that may help to grow Baltimore’s urban agriculture sector. It is important to note that given the rapid pace at which the urban agriculture sector is growing, the urban agriculture plan outlined in this document must be considered a work in progress and should be updated as Baltimore’s local food system matures.

## Intended Audience

The primary audience for this report is the Mayor and senior staff of the City of Baltimore, as well as the Baltimore Office of Sustainability, which is tasked with carrying out the Baltimore Sustainability Plan, and the Baltimore Commission on Sustainability, which oversees implementation of the plan. By outlining an urban agriculture plan for Baltimore, this report provides City decision-makers and planners with a tool for building a more robust urban agriculture sector, and can also be seen as a resource to help support the use of vacant city-owned land for a variety of agricultural uses. This plan is also intended to be of use to partners involved in urban agriculture, including non-profits and city residents, whose involvement is vital to making this movement a success.

## How This Plan Was Developed

The concept for this report arose from the [Urban Agriculture Policy Plan](#) for Minneapolis, Minnesota, which was developed by the City of Minneapolis Community Planning and Economic Development Department and adopted by the Minneapolis City Council in April 2011. As part of *Homegrown Minneapolis* – a series of recommendations related to local food production – Minneapolis' Urban Agriculture Policy Plan provides a topical plan on how urban agriculture can be better supported as a use of urban land.

The steps in developing Baltimore's Urban Agriculture Plan were as follows:

1. Staff within Baltimore City's Office of Sustainability gave input as to the structure of the plan, key stakeholders whose input should be solicited, and background on the current state of urban agriculture, including relevant documentation.
2. Existing documents related to urban agriculture in Baltimore were reviewed to provide background for the report.
3. A wide variety of stakeholders (listed in Appendix A) were interviewed to solicit their input on the plan.
4. Once complete, the draft document was reviewed and finalized by staff in the Baltimore City Office of Sustainability.
5. Public comments on the plan were solicited from the stakeholders listed in Appendix A and from the general public via advertisement on the websites and newsletters of the Baltimore Office of Sustainability and its partners over a four-week period.
6. Final revisions were made based on public comments.
7. The document was approved by the Baltimore City Commission on Sustainability on October 15, 2013 and was adopted by the Baltimore City Planning Commission on November 21, 2013.

## II. Background on Urban Agriculture

This chapter provides background on urban agriculture, including a brief history of urban agriculture in Baltimore and the U.S., a description of the benefits urban agriculture provides to urban environments, and definitions of the types of urban agriculture that are discussed in this report.

### History of Urban Agriculture in Baltimore<sup>1</sup>

Four main eras define urban food production in the U.S. and are reflected in Baltimore's own history. The first is the early urban garden programs of the 1890s and early 1900's; the second, the national garden campaigns associated with World War I and World War II; the third, a greening movement that began in the 1970s; and the fourth, the current interest in urban agriculture spurred by activists, non-profits, and entrepreneurs, paired with a renewed focus on urban agriculture by policymakers and urban planners as a tool for community development.

#### **Gardening as a form of economic opportunity and beautification (1890's – 1910's)**

Urban agriculture, while arguably always a facet of city life, started in the U.S. as a recognizable movement in the 1890s, a time when industrial expansion had led to substantial urban population growth. While the middle-class moved out of cities to pursue the garden-suburb ideal, the working class migrated in, leading to urban congestion. At the same time, a lack of industrial control created substantial environmental problems that threatened the health of urban residents. It was in these complex social and environmental conditions that vacant-lot cultivation associations arose. Rooted in a strong philosophy of environmental determinism, vacant-lot gardens were expected to simultaneously improve the urban environment and the behavior of garden participants. It was also a time of economic recession, with many unemployed individuals and families relying on charity; with objectives to produce food for families and help participants generate income through sales, vacant-lot gardens were considered an alternative to charity for unemployed laborers. Urban gardening as a form of charity strongly resonated with welfare reformers who feared that providing charity might create a system of dependency, for gardening offered a self-help approach that provided access to food, kept people productive and taught new skills.

While vacant-lot cultivation associations had economic relief as their primary goal, improvement societies promoted gardening as a form of beautification and civic improvement. With a similar belief in environmental determinism – that an improved physical environment would influence social behavior – civic groups strove to improve the visual and sanitary conditions of cities. Gardens were one component of their efforts, for gardens were considered to improve the visual character of neighborhoods as well as change people's character, habits, and social behavior, an attitude to which recent social science research has lent credence. Similar to the vacant-lot cultivation associations, the efforts of civic associations focused on planting gardens in vacant lots. In Baltimore, the first beautification garden was established in the spring of 1910, where a vacant lot used for trash dumping was transformed into a space where 20 families were allotted

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<sup>1</sup> Information for this section is drawn from two major sources:

- 1) Lawson, L. J. (2005). *City bountiful: A century of community gardening in America*. Berkeley and Los Angeles, CA: University of California Press
- 2) Lowe, J.S. (1995). *A policy formulation for urban gardening in Baltimore City*. Thesis: Morgan State University.



plots for vegetable gardening.<sup>2</sup> The garden's success led to expansion the following spring. A slide presentation was also created and shown at movie theaters in Baltimore, resulting in the establishment of 11 other gardens by 1914.

### **Liberty and Victory Gardens (1917 – 1945)**

The next era of urban agriculture occurred during the first and second World Wars. Whereas the programs of the late 1800's targeted the poor, these later garden programs arose out of national crisis and sought support from the general public. They also involved a dramatic shift in organization, with federal government providing much of the leadership. The World War I campaign stressed patriotic self-sacrifice; citizens were expected to garden to promote domestic food production so that more farm-raised food could be sent overseas. Families gardened in their yards and in community plots, and organizations like the Boy Scouts and Girl Scouts grew gardens. In 1918, there were over five million gardens in the U.S.

In Baltimore, Liberty Gardens were coordinated by the Women's Section of the Council of Defense, with cooperation from the State Board of Agriculture, the Maryland State College of Agriculture, the University of Maryland Cooperative Extension Service, and the Children's Playground Association. By the summer of 1917, there were 25 urban gardens on previously vacant lots, 13 gardens operated by schools with 595 individual plots, 8 gardens operated by orphanages, senior centers and girls' homes, and 6 city park gardens cultivated by 286 children. African Americans were credited for their patriotic spirit and efforts in both harvesting their crops and canning their yields.<sup>3</sup>

Government-supported garden programs continued through the Great Depression of the 1930s and into World War II. During World War II, federal experts sought to increase food production through improved rural agriculture rather than home gardens, and so instead of emphasizing food production, Victory Gardens were promoted as a way to improve health, provide a source of recreational family activity, and boost morale. By 1944, there were nearly 20 million families with victory gardens that collectively provided 40% of the American vegetable supply.

In Baltimore, the Civilian Mobilization Committee was formed and charged by then Mayor Jackson with implementing the Victory Garden campaign, with partners coming from the University of Maryland Cooperative Extension Service, the National Seed Trade Association, the State Department of Education, Baltimore City Public Schools, private schools, the Federated Women Clubs of Maryland and Baltimore, the Children's Playground Association, the Civic League of Baltimore, and the Garden Club of Baltimore.<sup>4</sup> The program supported gardeners by providing garden supervisors, establishing urban gardens in public places for citizens who did not own land to cultivate, and employing children to safeguard the gardens.<sup>5</sup> Some of the neighborhoods to plant victory gardens on vacant lots included Herring Run Park, where 53 residents cultivated a three-acre lot, and Webster Heights, where 25 families had plots.<sup>6</sup> By 1943, there were about 3,000 gardeners in more than 50 community gardens in Baltimore,<sup>7</sup> and at the height of the war, 60,000 families were involved in victory gardens.<sup>8</sup>

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<sup>2</sup> James, Harlean. (1914) Civic gardening which develops the city people. *Craftsman* 25: 574-584.

<sup>3</sup> Gordon, Wilson. (1920) Report of the Maryland Council of Defense to the Governor and General Assembly of Maryland. Compiled by Lynn R. Meekins.

<sup>4</sup> Office of Civilian Defense. "Victory Garden Meeting." Office of Civilian Defense, 29 January 1943.

<sup>5</sup> Baltimore Sun. "Garden groups organize." 30 January 1943.

<sup>6</sup> Baltimore Sun. "Community plots yield crops." 10 March 1943.

<sup>7</sup> Baltimore Sun. "Gardeners told, they're doing a swell job." 31 July 1943.

<sup>8</sup> Baltimore Sun. "Gardens at half war peak." 12 July 1947.

## **Greening movement (1970's – 2008)**

The next era of urban food production in the U.S. began in the mid-1970s as a way to counteract rising food prices due to the oil embargo and amid concerns about environmental conditions, particularly growing awareness about the destructive impact of agricultural technologies on the environment. This was coupled with rising concerns about the health consequences of pesticides on food. Gardening was a way for people to regain control over their lives. At this time, *community garden* took on a broader meaning – previously the term had referred to a garden site that was divided into multiple individual gardens, but with the resurgence of gardens in the 1970s, the community garden stood as an expression of grassroots activism. This shift toward an emphasis on community was accompanied by a similar shift in leadership of gardens. Instead of outside organizations such as civic groups developing the gardens and doling out plots, the community gardens of the 1970s relied more on local community leadership.

In addition to this greater individual focus on self-reliance, some activists and gardeners saw gardening as a form of activism that could transform vacant lots – a symbol of the declining conditions of many cities – into something useful. The loss of blue-collar employment, racial segregation policies, and the out-migration of the middle-class to the suburbs had left many cities in physical disarray. Within these conditions, many activist urbanites saw community gardens as the first step toward community revitalization. To encourage groups to take over maintenance of these blighted areas – which municipalities struggled financially to maintain – cities developed Adopt-a-Lot programs and other incentives to encourage the revitalization of derelict urban land into usable open space.

In Baltimore, vacant land had become an enormous burden on the City, with many lots becoming dumping grounds that contributed to the degradation of communities. In February of 1973, the City Council Special Sanitation Committee held a meeting to determine how the city's 1,000 vacant lots could be utilized.<sup>9</sup> In April, the Neighborhood Garden Committee was announced – this committee was to clean lots and provide topsoil so that neighborhood groups could garden.<sup>10</sup> By May, this committee was replaced by another program – Adopt-a-Lot. The Adopt-a-Lot program provided a way for neighborhood groups or individuals to formally gain permission to utilize a vacant lot for gardening or the creation of a playground or other activities. In the spring of 1980, Mayor William Donald Schaefer also established the Mayor's Urban Gardening Taskforce.<sup>11</sup> The objective of the taskforce was to promote urban gardening to increase food production and nutritional health, particularly among low-income individuals. As a result of the taskforce, in 1981 there were 33 gardens on vacant city-owned lots. In addition, a competitive gardening contest and Annual Harvest Festival were initiated. The taskforce was eventually discontinued due to budgetary constraints.

## **Current era (2008 – present)**

Since the 1970s, community gardening projects have continued to evolve. The neighborhood garden is still the most common type of community garden, providing space in neighborhoods for residents to garden individually or collaboratively and for neighbors to gather. In recent years, community gardens have come to be seen as an avenue for increasing community food security by improving access to fresh fruits and vegetables to urban residents, including both

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<sup>9</sup> Myers, W.J. (1973) "Vacant city owned lots: A lot of your help is needed." Litter Letter, 4:1.

<sup>10</sup> Embry Jr., R. E. (1973) "Perhaps your group would be interested in developing a neighborhood garden." Litter Letter, 4:3.

<sup>11</sup> Mayor's Urban Garden Program. "Mayor's urban garden fact sheet." April 20, 1981.

physical proximity and information about these foods. They are also seen more as a potential entrepreneurial activity for communities with high unemployment, with various organizations starting job-training programs to provide technical and marketing skills to individuals with limited access to jobs. Finally, school gardens have been popular since the inception of urban agriculture in the U.S., but new concerns about childhood obesity and diabetes have amplified the interest in these programs.

In the past few years, urban agriculture has seen a great surge of interest from the environmental and do-it-yourself movements on the grassroots level, as well as renewed political emphasis, highlighted through the planting of the White House garden by First Lady Michelle Obama. The U.S. Conference of Mayors' Food Policy Task Force – on which Mayor Stephanie Rawlings-Blake of Baltimore served as co-chair for the first year and a half – has prioritized establishing a “homegrown strategy” for promoting healthy food access that includes urban agriculture as one of its three platform legs. In fact, by prioritizing healthy food access in her tenure as mayor, Stephanie Rawlings-Blake has created a political environment in Baltimore where multiple City agencies are working to identify ways to support urban agriculture – including urban farming – and help facilitate its expansion.

In 2009, the Baltimore Sustainability Plan – which includes strategies directly related to expanding urban agriculture – was adopted by the Baltimore City Council. In 2010, the Baltimore Food Policy Task Force released recommendations that included support for urban agriculture. That same year, Mayor Stephanie Rawlings-Blake's Vacants to Value initiative to encourage the demolition or renovation and sale of vacant properties in Baltimore City was launched, and included a strategy specifically acknowledging urban agriculture as a way to stabilize vacant land without development potential. In 2011, Power in Dirt, another Mayoral initiative, was kicked-off, focusing specifically on helping volunteers revitalize vacant lots, often through community gardening.

At the same time that Baltimore's municipal government was refocusing efforts on urban agriculture from multiple directions, community groups were also initiating urban agriculture projects. During 2007 and 2008 a number of new urban agricultural projects, especially related to urban farming, began percolating within the city's limits, and many took shape in the next several years. One of Baltimore's largest urban farms – Civic Works' Real Food Farm – began in 2009. Today, urban agriculture is a hotter topic in Baltimore City than ever before.

## Benefits of Urban Agriculture

Urban agriculture has gained significant attention in recent years as it has come to be seen as a way of addressing multiple urban issues with the potential to provide numerous benefits to cities, including each of the following:

### **Increased availability of fresh produce in close proximity to consumers**

- Urban agriculture may help alleviate the lack of access to healthy fresh foods in food desert neighborhoods and may help individual households increase their food security.
- Urban agriculture can contribute to community food security by augmenting a community's food self-reliance through an increased local food supply.<sup>12</sup>

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<sup>12</sup> McCullum, C., Desjardins, E., Kraak, V. I., Ladipo, P., & Costello, H. (2005). Evidence-based strategies to build community food security. *Journal of the American Dietetic Association*, 105(2), 278-283.

## Development of the local economy and creation of jobs

- Money spent on local agriculture stays within the local economy, yielding benefits for local economic development.
- Urban agriculture can create new jobs and/or training opportunities for individuals interested in starting their own urban agriculture projects or working in related sectors.

## Improvement to the natural environment

- Urban farms and gardens minimize waste by using their own waste and the waste of residents and industries to produce compost, which is recycled back into the soil, enriching the soil and thus the productivity of the farm or garden.<sup>13</sup>
- Local production and distribution of food can reduce waste by minimizing packaging.<sup>14</sup>
- Improvements to soil structure and plants with extensive root systems can better absorb storm water run-off, decreasing the burden on wastewater treatment plants and contamination of groundwater and waterways, allowing for groundwater recharge.<sup>13,15,16</sup>
- Plants can reduce air pollution by absorbing pollutants through their foliage.<sup>15,16</sup>
- Greenery and permeable land regulate the microclimate by controlling humidity, lowering summer temperatures, acting as a windbreak, and creating shade.<sup>14</sup>
- Urban agriculture can increase a city's biodiversity by creating habitat for and attracting beneficial soil microorganisms, insects, birds, and animals and providing food and resting spaces along birds' migratory flight patterns.<sup>15,16</sup>

## Contribution to environmental sustainability of cities

- Growing food in cities can decrease the distances food must travel to get to consumers.
- Less food is wasted when travel is minimized, and the more sustainable practices typically used in urban agriculture offer greater efficiency in production inputs such as the use of farm machinery, fertilizers and pesticides.<sup>17</sup>
- With fewer energy requirements, urban agriculture can provide food to cities in a manner that contributes fewer climate change-inducing greenhouse gas emissions.
- Gardens and farms can sequester carbon, reducing atmospheric carbon that contributes to climate change.<sup>16</sup>

## Productive use of vacant lots

- Reduces the prevalence of vacant abandoned land that contributes to neighborhood decay and attracts crime, vagrancy, and rodent infestation.<sup>18</sup>

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<sup>13</sup> Brown, K. H., & Carter, A. (2003). Urban agriculture and community food security in the United States: Farming from the city center to the urban fringe: Community Food Security Coalition.

<sup>14</sup> Deelstra, T., & Girardet, H. (2000). Urban agriculture and sustainable cities. In N. Bakker, M. Dubbeling, S. Guendel, U. S. Koschella & H. d. Zeeuw (Eds.), *Growing cities growing food: Urban agriculture on the policy agenda: A reader on urban agriculture* (Vol. Thematic Paper 2).

<sup>15</sup> Brown, K. H., & Jameton, A. L. (2000). Public health implications of urban agriculture. *Journal of Public Health Policy*, 21(1), 20-39.

<sup>16</sup> Okvat, H. A., & Zautra, A. J. (2011). Community gardening: a parsimonious path to individual, community, and environmental resilience. *American journal of community psychology*, 47(3-4), 374-387.

<sup>17</sup> Lovell, S. T. (2010). Multifunctional urban agriculture for sustainable land use planning in the United States. *Sustainability*, 2, 2499-2522.

<sup>18</sup> Cohen, J. R. (2001). Abandoned housing: Exploring lessons from Baltimore. *Housing Policy Debate*, 12(3), 415-448.

- Research on community gardens shows that urban agriculture has significant positive effects on surrounding property values, particularly in low-income neighborhoods, producing additional property tax revenues from the neighborhood.<sup>19</sup>

### Greening of cities

- Urban agriculture can have a regenerative effect on neighborhoods, transforming weedy, trash-ridden vacant lots into productive green space within the urban landscape.
- Increased access to green space is linked to improved health outcomes including longevity, self-reported health, better immune functioning, reduced stress, and milder symptoms of attention deficit hyperactivity disorder among children.<sup>20, 21</sup>
- Green space has been shown to play an important role in residents' feelings of attachment towards a community and their interactions with other residents.<sup>20</sup>

### Strengthening community resilience

- Urban agriculture and other efforts to re-localize the food system returns control of food production to communities, helping to increase a community's resilience to natural and human-created disaster, as well as disturbances such as an economic downturn.<sup>17, 22</sup>
- Community gardening efforts can bring neighbors together, creating stronger bonds and demonstrating community investment in the neighborhoods in which they are located

### Educational opportunities about the food system

- Via field trips and hands-on experiences, urban gardens and farms provide young people with the opportunity to better understand where food comes from.
- Urban agriculture sites can act as informational hubs for nutrition, healthy eating, cooking, and food-growing for community members of all ages.

## Categories of Urban Agriculture

*Urban agriculture* is defined by the Food and Agriculture Organization of the United Nations as “small areas within cities, such as vacant lots, gardens, verges, balconies and containers, that are used for growing crops and raising small livestock... for own-consumption or sale”.<sup>23</sup> In this way, it is an umbrella term that includes several types of urban food production. The different types of urban agriculture discussed in this document are characterized in **Table 1**.

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<sup>19</sup> Been, V. & Voicu, I. (2008). The effect of community gardens on neighboring property values. *Real Estate Economics*, 36(2): 241-283.

<sup>20</sup> Tzoulas, K., Korpela, K., Venn, S., Yli-Pelkonen, V., Kazmierczak, A., Niemele, J., & James, P. (2007). Promoting ecosystem and human health in urban areas using Green Infrastructure: A literature review. *Landscape and Urban Planning*, 81, 167-178.

<sup>21</sup> Talor, A.F., & Kuo, F.E. (2011) Could exposure to everyday green spaces help treat ADHD? Evidence from children's play settings. *Applied Psychology: Health and Well-Being*, 3(3): 281-303.

<sup>22</sup> Tidball, K. G., & Krasny, M. E. (2007). From risk to resilience: What role for community greening and civic ecology in cities? . In A. E. J. Wals (Ed.), *Social learning towards a sustainable world: Principles, perspectives and praxis* (pp. 149-164). Wageningen, The Netherlands: Wageningen Academic Publishers.

<sup>23</sup> Food and Agriculture Organization of the United Nations. (1999). Issues in urban agriculture. *Spotlight*. Retrieved 10-24-2010, from <http://www.fao.org/ag/magazine/9901sp2.htm>.

**Table 1.** Types of urban agriculture as defined for this report

Type of Urban Agriculture	Products	Primary Distribution Sites	Key Characteristics
Urban Farm (commercial and community)	Horticulture Livestock/animals	Restaurants, Stores, Farm stand, Farmers markets, CSA	Large plot (avg. ¼ -2 acres); primary emphasis is on income-generating agricultural activity and the operation of the farm as a for-profit or non-profit business enterprise. May be characterized as community-oriented or commercially-oriented.
Community Garden	Horticulture Livestock/animals	Consumed by gardeners or shared/donated	A single site, which may or may not be broken into individual plots, gardened by multiple people; produce is consumed directly by the gardeners or shared/donated, not typically used to generate income.
Youth Garden/Farm	Horticulture Livestock/animals	School food programs, Farm stand, Shared/donated	Gardens or Farms oriented toward the involvement of youth; includes gardens and farms associated with schools and recreation centers, also includes community gardens with a strong youth component.
Home Garden	Horticulture Livestock/animals	Consumed by household or shared	Private garden in the yard of a home, gardened by that household.
Rooftop Garden	Horticulture	Farmers markets, Consumed by gardeners or shared/donated	Can take the form of an urban farm, community garden, or home garden, but is located on the rooftop of a building.
Aquaculture	Fish/seafood/ algae	Restaurants, Stores, Farmers markets, CSA	Cultivation of aquatic organisms, possibly including filamentous or single celled algae, in a controlled environment.
Aquaponics	Fish/seafood Horticulture	Restaurants, Stores, Farmers markets, CSA	Combines aquaculture with hydroponics (cultivation of plants in water) in a symbiotic environment.
Other	Animal products (eggs, meat, milk) Honey Fruit from trees Hops Herbs (e.g. lavender) Vineyards/wineries	Restaurants, Stores, Farm stand, Farmers markets, Specialized networks (e.g. beer brewers)	While any of the products listed may be produced in conjunction with urban farms or gardens, the “other” category captures urban agriculture activities that focus exclusively on one of these products.

CSA = Community supported agriculture

### III. Urban Agriculture Land Assessment

Ample vacant land within Baltimore City has created enormous potential for the city’s urban agriculture sector. This vacant land is the consequence of Baltimore’s population decline, which dropped from a peak of about 950,000 people in 1950<sup>24</sup> to the current population of about 620,000<sup>25</sup>. Baltimore currently has an estimated 30,000 vacant properties, 16,000 of which are vacant buildings and 14,000 of which are vacant lots,<sup>26</sup> imposing a significant cost on the city and its neighborhoods. Throughout several periods in history, urban agriculture – particularly community gardening – has been seen as a way of productively using such vacant land.

To address the issue of vacant land and begin working to meet Strategy A of Greening Goal #2 of the Baltimore Sustainability Plan (“Increase the percentage of land under cultivation for agricultural purposes”), the Department of Planning completed a land assessments in 2010 to identify city-owned vacant land that could be utilized for large-scale urban agriculture activities, specifically urban farming. Approximately 40% of all vacant land in Baltimore is owned by the City, creating an opportunity for Baltimore City to facilitate the expansion of the urban agriculture sector. The assessment of available vacant land in the city for urban agriculture is updated on an ongoing basis.

To inform these efforts, the Department of Planning conducted an urban farmers stakeholder Meeting in 2010 in order to identify characteristics that farmers deem necessary to successfully run an urban farm. Several farmers attended the meeting. Based on this meeting, the following characteristics were determined for urban farming sites:

<b>Physical attributes</b>	<ul style="list-style-type: none"> <li>- Minimum size of 1 acre</li> <li>- Flat (less than 5% grade)</li> <li>- Clear of trees, shrubs, etc.</li> <li>- Receives southern exposure to the sun</li> </ul>
<b>Access</b>	<ul style="list-style-type: none"> <li>- Accessible by sprinter vans or box trucks on a daily basis</li> <li>- Accessible by 18-wheelers to provide soil, compost, etc. semi-annually</li> </ul>
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>- 2-inch water lines</li> <li>- Access to electricity</li> <li>- Warehouses or buildings on the land for processing, distribution, and farmers markets</li> </ul>
<b>Security</b>	<ul style="list-style-type: none"> <li>- Visible from the street</li> <li>- 6-8 foot fencing around site</li> </ul>
<b>Permitting</b>	<ul style="list-style-type: none"> <li>- Minimum lease time of 5 years</li> <li>- 2 years notice on lease termination</li> </ul>
<b>Social attributes</b>	<ul style="list-style-type: none"> <li>- Supported by community</li> </ul>
<b>Product distribution</b>	<ul style="list-style-type: none"> <li>- Proximity to potential distribution sites such as schools, farmers markets, restaurants, and stores</li> </ul>

<sup>24</sup> Gibson, C. (1998). Population of the 100 largest cities and other urban places in the United States: 1790-1990 *Population Division Working Paper* (Vol. 27). Washington D.C.: Population Division, U.S. Bureau of the Census.

<sup>25</sup> U.S. Census Bureau. (2012). State & County QuickFacts: Baltimore city, Maryland Retrieved June 21, 2012, from <http://quickfacts.census.gov/qfd/states/24/24510.html>

<sup>26</sup> Baltimore Office of Sustainability. (2012). Cleanliness: Vacant lots, from <http://www.baltimoresustainability.org/cleanliness/vacantLots.aspx>; Housing Authority of Baltimore City. (2012). From vacants to value Retrieved June 21, 2012, from [http://static.baltimorehousing.org/pdf/vacants\\_to\\_value.pdf](http://static.baltimorehousing.org/pdf/vacants_to_value.pdf)

- 
- Ability to sell products directly on site
  - Accessible by public transportation
- 

Through GIS mapping, the Department of Planning carried out an inventory process to identify land that could potentially be suitable for urban agriculture. Parcels were considered if they were at least one acre in size and if they were owned by the Mayor and City Council or the Housing Authority of Baltimore City, and were excluded if they were slated for development or on park land, did not meet physical criteria (i.e. tree coverage, sloped, within flood line), or were a former hazardous or toxic waste site (including former landfills or brownfields).

In the first assessment, the Department of Planning identified approximately 35 acres of potentially suitable land for large-scale urban farming, encompassing 16 sites. Further assessments have identified more land that might be suitable, while some plots have been eliminated from consideration for a variety of reasons. It is important to note that physical characteristics and development potential alone do not necessarily mean that a given parcel of land will be a good fit for a given type of urban agriculture, or any at all. Community interest, farmer input on suitability, and more detailed information on site history and potential safety concerns are all necessary for a particular parcel of land can be considered to be a good fit for urban farming. Therefore, GIS assessments can only be considered a starting place for determining the true potential for large-scale urban agriculture on city-owned land in Baltimore.

In addition to these large plots, there are many vacant lots smaller than one acre in size that may be appropriate for agricultural uses. When non-adjacent smaller plots are included, as much as 240 acres of city-owned vacant land (totaling approximately 0.5% of the city's total land area) could meet the most basic criteria for development as smaller-scale or shorter-term urban agriculture sites. Smaller plots that are owned by the City of Baltimore and that are available for use as community-managed open space are listed on the Baltimore Housing Department [website](#) and can be viewed on the Power in Dirt [map](#). Larger plots that may be suitable for urban agriculture are being assessed on a site by site basis with individual farmers and communities.

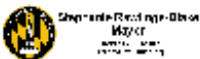
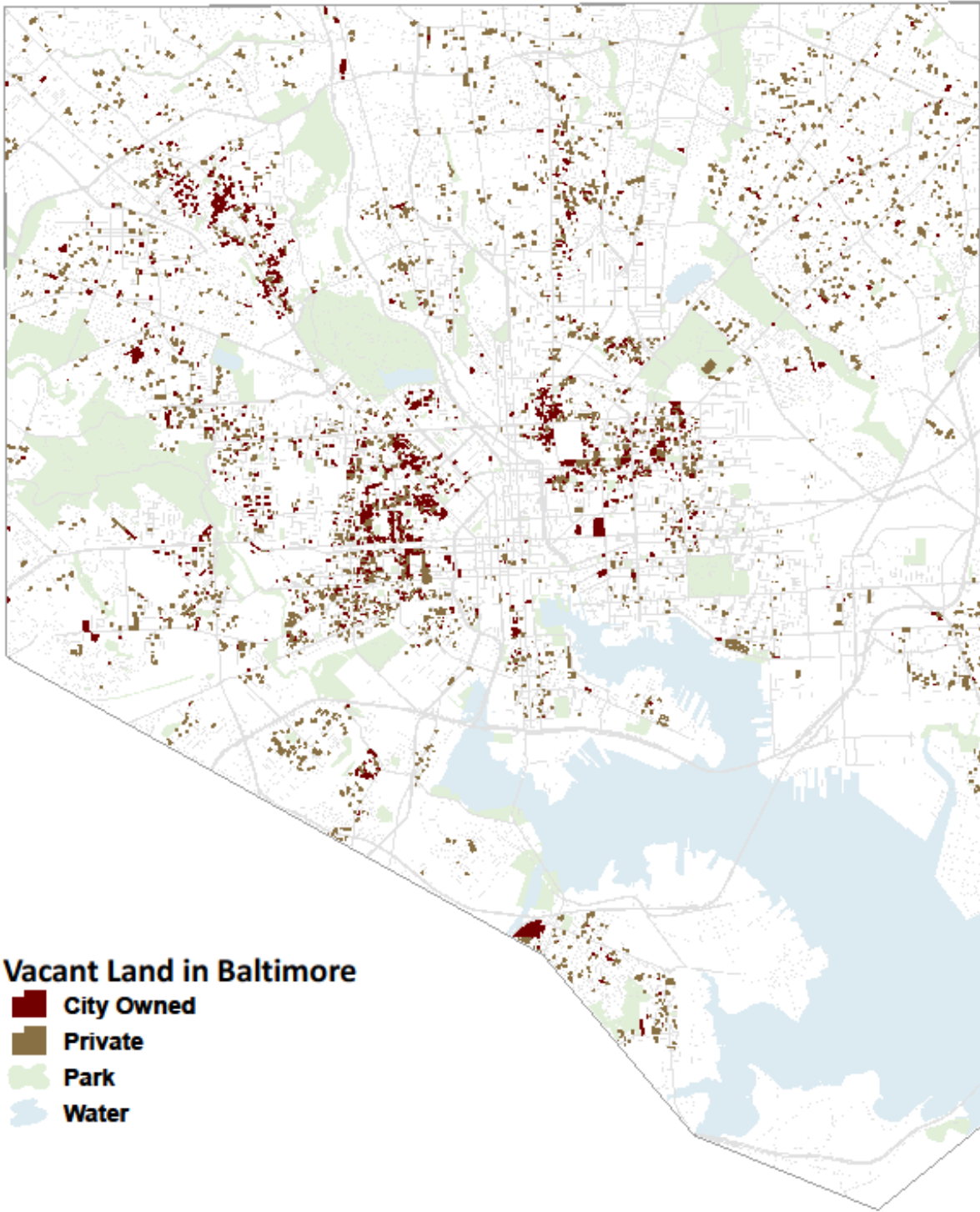
A 2012 analysis assessed the suitability of underutilized parklands for urban agriculture. Parkland included in the assessment was identified in collaboration with Baltimore City Department of Recreation & Parks maintenance staff. Of 24 sites identified as underutilized and potentially suitable for agriculture, totaling nearly 56 acres of land, six sites were identified as potentially being suitable for urban farms, seven for community gardens/open spaces, seven for the production of flowers for sale or for the production of essential oils, and four for fruit trees. This assessment is similarly preliminary in nature, and each site will be subject to vetting through the community or communities associated with the parks in question before development for agriculture would occur.

The following maps depict vacant land in Baltimore that could be used for urban agriculture. These include:

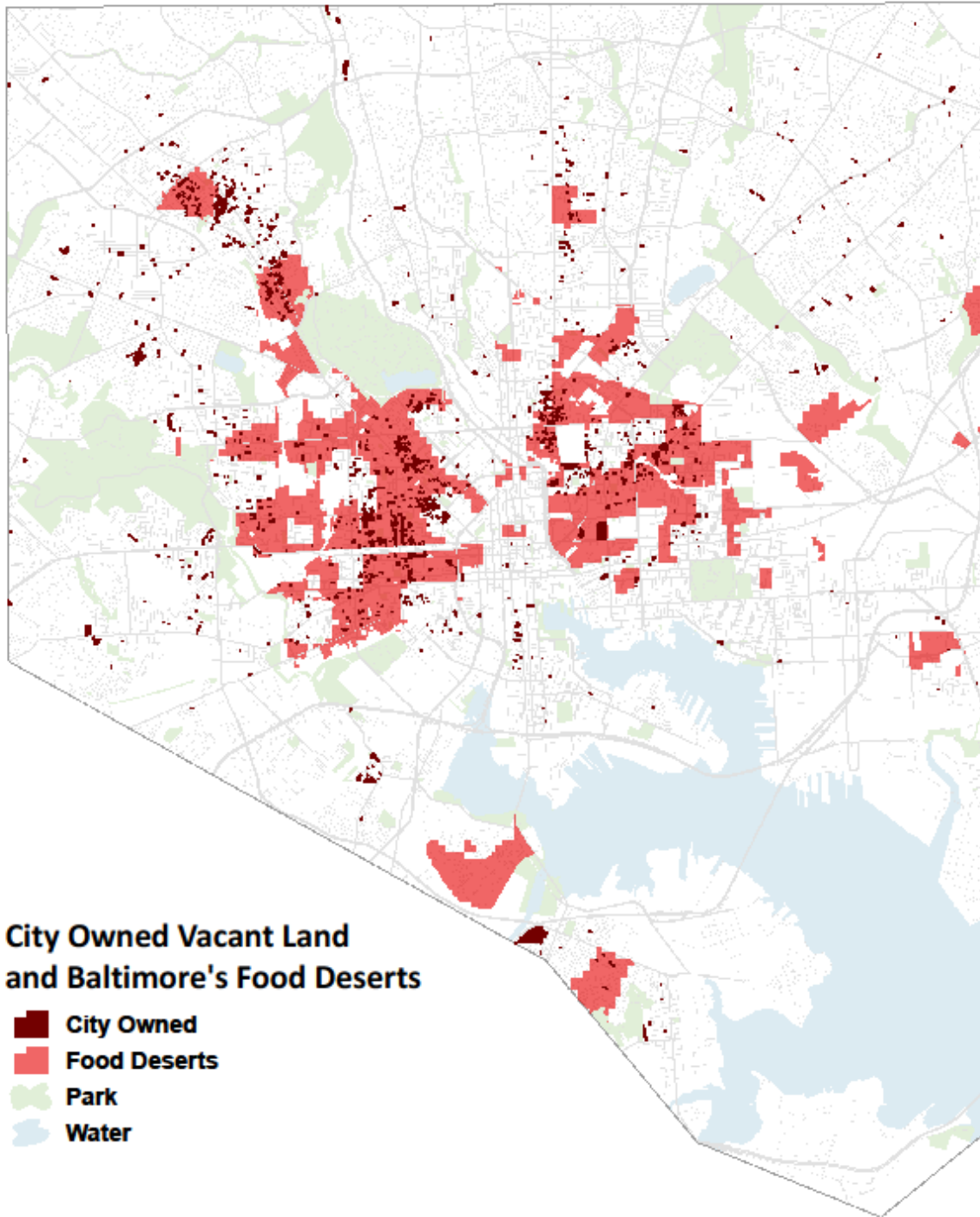
- Vacant land in Baltimore, both city-owned and privately-owned, excluding land in Heavy Industrial and Maritime Industrial Zones (2012)
- City-owned vacant land, excluding land in Heavy Industrial and Maritime Industrial Zones, and food deserts (2012)
- Privately-owned vacant land, excluding land in Heavy Industrial and Maritime Industrial Zones, and food deserts (2012)



## All vacant land in Baltimore (2012), excluding land in Heavy Industrial and Maritime Industrial Zones

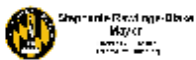


## City-owned vacant land in Baltimore (2012), excluding land in Heavy Industrial and Maritime Industrial Zones, with food deserts overlay

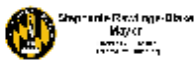
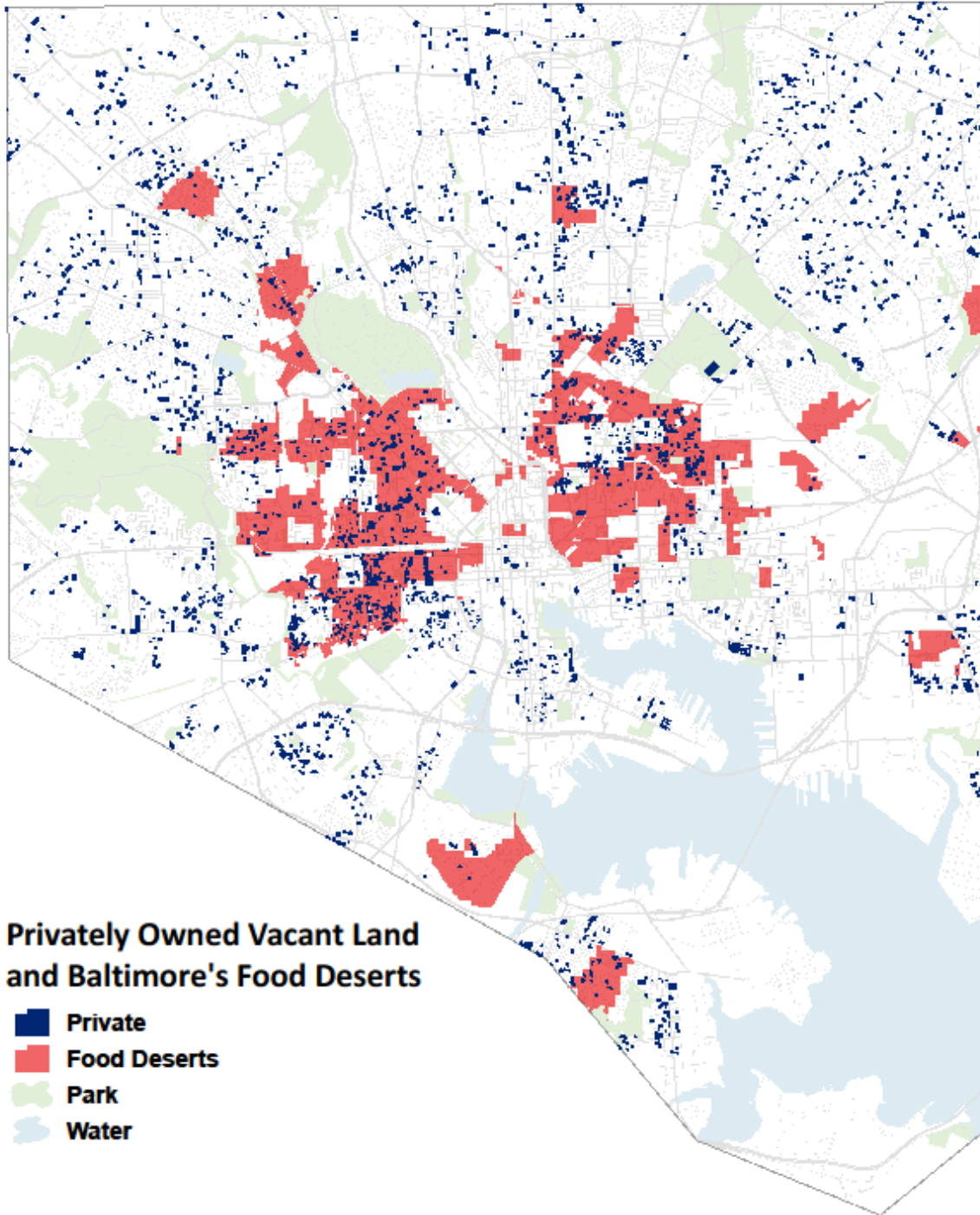


**City Owned Vacant Land and Baltimore's Food Deserts**

- City Owned
- Food Deserts
- Park
- Water



## Privately-owned vacant land in Baltimore (2012), excluding land in Heavy Industrial and Maritime Industrial Zones, with food deserts overlay



## IV. Current Policy Context

The following policies set the parameters for urban agriculture in Baltimore City.

### Zoning

In 2008, the Department of Planning began a process to review and rewrite the city's current zoning code. This update, called "Transform Baltimore," includes proposed changes intended to support urban agriculture. Specifically, definitions and use standards are provided for "urban agriculture" and "community-managed open space" (see **Box 1** and **Appendix B**). Previously, these activities were not defined in the zoning code as uses (permitted or conditional), and so they were not technically allowed in Baltimore City. The new code is currently under review; the City Council is expected to approve it in late 2013.

#### Box 1. Proposed definitions and inclusions for the rewrite of Baltimore's zoning code

Urban Agriculture
<p><u>Definition and Inclusions</u><sup>27</sup></p> <p>The cultivation, processing, and marketing of food, with a primary emphasis on operating as a business enterprise for income generation. It includes animal husbandry; aquaculture; agro-forestry; vineyards and wineries; and horticulture. It might involve the use of intensive production methods; structures for extended growing seasons; on-site sale of produce; and composting. A management plan is required for certain activities that addresses how the activities will be managed to mitigate impacts on surrounding land uses and natural systems (see Appendix B).</p> <p><u>Zoning Districts</u></p> <p><i>Conditional</i><sup>28</sup> use in the following zoning districts: open space, detached and semi-detached residential, rowhouse and multi-family residential, commercial, office</p> <p><i>Permitted</i> use in some industrial zoning districts (Office-Industrial Campus, Bio-Science Campus, Industrial Mixed-Use, Light Industrial)</p> <p><i>Not allowed</i> in Heavy Industrial and Maritime Industrial.</p>

<sup>27</sup> Note that for the purposes of the Zoning Code, "urban agriculture" has a more narrow definition than the definition used in this document and aligns more closely with the term "urban farm."

<sup>28</sup> *Conditional use* refers to a use that is considered on a case-by-case basis and is subject to a public hearing. *Permitted use* refers to a use that is permitted by default, but a permit must first be obtained.

### Community Managed Open Space

#### Definition

An open-space area that is maintained by more than one household and is used either for the cultivation of fruits, flowers, vegetables or ornamental plants, or as a community gathering space for passive or active recreation. Community-managed open spaces are limited to specific activities (see Appendix B).

#### Zoning Districts

*Permitted use* in the following zoning districts: open space, detached and semi-detached residential, rowhouse and multi-family residential, commercial, office, some industrial zoning districts (Office-Industrial Campus, Bio-Science Campus, Industrial Mixed-Use)

*Not allowed* in Light Industrial, Heavy Industrial and Maritime Industrial

### Hoop Houses/High Tunnels

In 2010, the Baltimore City Building Code was updated such that hoop houses (shade cloth or plastic film structures constructed for nursery or agricultural purposes) are explicitly exempted from the need to acquire building permits before their erection. This aligns Baltimore's Building Code with the International Construction Code. Hoop houses are commonly used on urban farms to extend the growing season, and this change to the building code removes one potential barrier to the expansion of urban agricultural activities.

### Animal Husbandry

The Baltimore City Health Department's Office of Animal Control updated its regulations for wild, exotic, and hybrid animals in February 2012 in collaboration with the Baltimore Office of Sustainability. This revision allowed for greater numbers of chickens and beehives to be kept, as well as allowing for the keeping of rabbits, and Miniature, Dwarf or Pygmy goats, changes intended to support urban agriculture. In September 2013, the regulations were further updated to allow community gardens and farms to apply to keep greater numbers of chickens than would normally be allowed on residential lots, with the requirement that they provide a management plan.

In order to keep animals in Baltimore City, proper permits must be obtained from the Office of Animal Control and animal owners must comply with specific regulations regarding the number of animals that may be kept on a lot, and how animals will be cared for. These regulations are available [here](#) and are also described, along with additional information, in the Farm Alliance of Baltimore's "[New Farmer How-To](#)" guide.

In addition to local regulations, state and federal laws apply to the keeping of animals in Baltimore City. Below are two examples most likely to be encountered by Baltimoreans keeping animals as part of urban agriculture endeavors.

Maryland Law requires beekeepers to register their colonies within 30 days of first obtaining a honey bee colony and then annually thereafter. Apiary inspectors work with registered beekeepers to help them maintain healthy colonies, visiting about two-thirds of Maryland's apiaries each year to examine colonies for diseases and pests. Beekeepers should register with the [Maryland Department of Agriculture](#).

Those keeping more than five chickens are also required to register their flocks with the Maryland Department of Agriculture's [Poultry Registration program](#).

## **Aquaculture**

Aquaculture is currently not regulated by the City of Baltimore. The Maryland Department of Natural Resources (DNR) regulates finfish and shellfish aquaculture to protect natural resources of the state and to provide information for prospective and current aquaculturists to assist with compliance of state laws. To practice finfish aquaculture, a free [permit](#) is required from DNR and must be renewed every 5 years. Commercial shellfish aquaculture is jointly regulated by DNR and the US Army Corps of Engineers, using a joint [lease and permit](#) application. Oyster aquaculture for ecological restoration (not consumption) is regulated by DNR using a [registration form](#).

## **Soil Contamination**

To avoid health threats associated with contaminated soil, the proposed zoning code rewrite requires that anyone cultivating food for human consumption on a community-managed open space or urban farm must test and, if necessary, remediate the soil in which they are growing, or else use imported soil and an impermeable barrier. The Office of Sustainability is currently in the process of developing comprehensive soil standards.

## **Composting**

Composting is defined in Transform Baltimore as “the natural degradation or controlled biological decomposition of organic waste material, such as yard and food waste, to yield a nuisance-free humus-like product.” The proposed zoning code rewrite allows on-site composting at urban farms and community gardens. Under the proposed code, composting on-site is allowed as an accessory use, so long as any compost pile is located at least 3 feet away from any lot line and composting areas and structures are maintained in a way that protects adjacent properties from nuisance odors and the attraction of rodents or other pests. Organic waste material for composting may also be accepted from outside sources.

For private residences, composting is considered a “permitted encroachment” in yards. Specifically, a compost pile is allowed as a permitted encroachment only in a rear yard (not a front, corner, side, or interior side yard) and must be contained within a bin. It must also be at least three feet from any lot line.

The Maryland Department of the Environment offers guidelines for the permitting of composting operations – backyard composting is not regulated, and on-site farm composting is exempt as long as it meets certain requirements, including that all compost produced is used on-site. Farms with larger composting operations, or that wish to engage in sales of compost (which does require a permit), should check these regulations to make sure they are in compliance: <http://www.mde.state.md.us/programs/Land/RecyclingandOperationsprogram/CountyCoordinatesResources/Documents/Combined%20Compost%20Summary%20Fact%20Sheet%202-3-12%20%20Final%20as%20posted.pdf>

## **Occupational Safety and Health**

Urban farms that employ workers must comply with the Occupational Safety and Health Administration’s regulations. For agriculture, these standards relate to safe operation of agriculture equipment; access to potable water, toilets, and hand-washing facilities; and monitoring to ensure employees are not exposed to airborne cadmium. A complete description of the standards can be found at <http://www.osha.gov/law-regs.html>.

## V. Current Urban Agricultural Activities

As described previously in **Table 1**, there are several potential urban agricultural uses for vacant land in Baltimore, including:

- Urban farms, both community-oriented and commercially-oriented
- Community gardens
- Youth gardens and farms
- Aquaculture/aquaponics projects
- Other uses such as apiaries and orchards

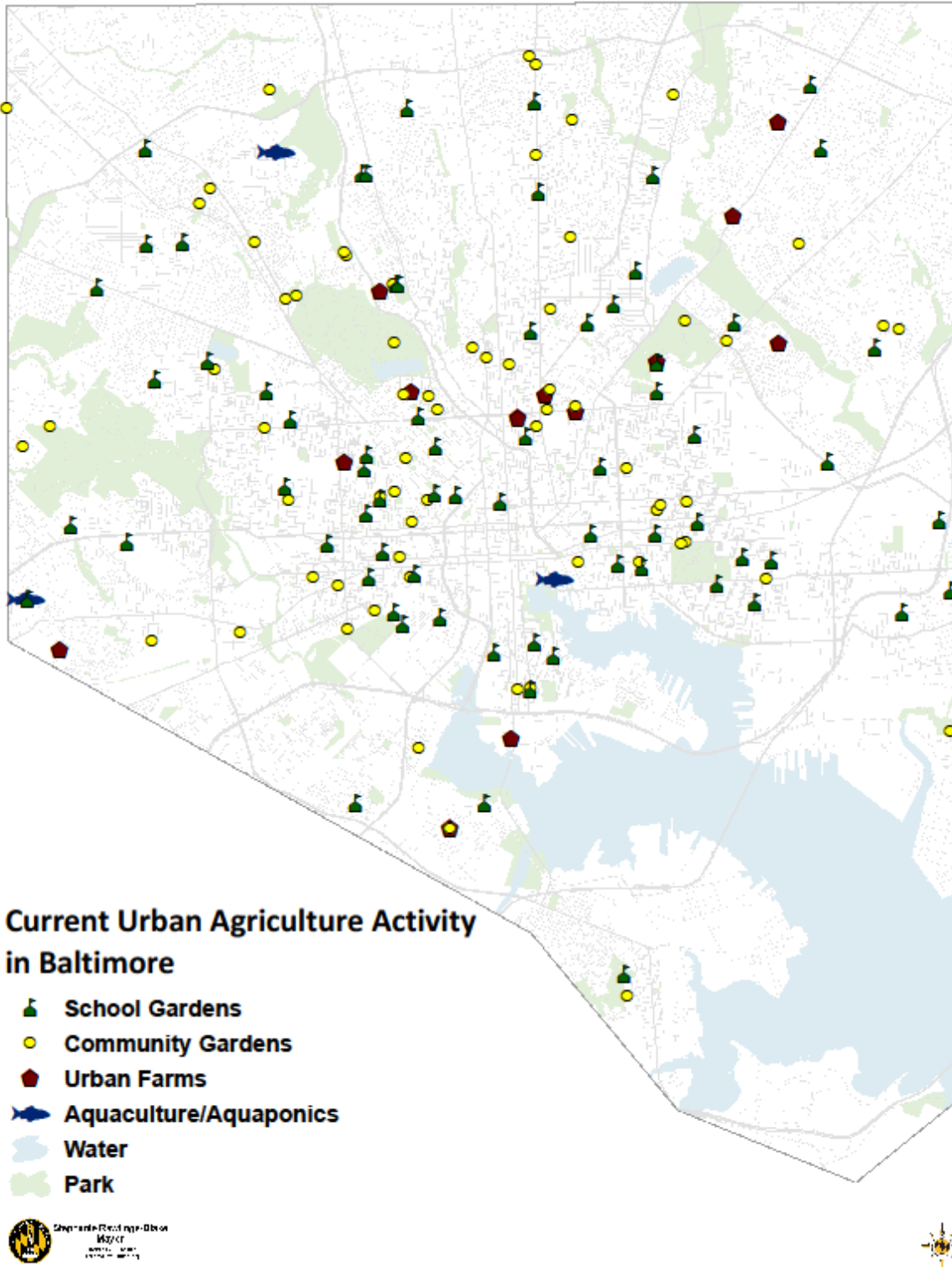
The following sections describe the current activities underway in Baltimore for each of these urban agricultural uses and the successes to date for each type of agriculture, including the initiatives and community-based organizations that support them. In addition, **Table 2** and the following map summarize current urban agricultural activities.

**Table 2.** Estimated number of current urban agriculture projects and existing City or community-based initiatives supporting each type of urban agriculture

Type of UA	Number	Existing Resources
Urban Farms (commercial and community)	~13	<ul style="list-style-type: none"> <li>• Homegrown Baltimore Land Leasing Initiative</li> <li>• Farm Alliance of Baltimore City</li> <li>• Future Harvest-CASA Beginning Farmer Training Program</li> <li>• Civic Works' Real Food Farm</li> <li>• Community Law Center's Urban Agriculture Law Project</li> <li>• Power in Dirt</li> <li>• Garden Irrigation Fund</li> <li>• Community Greening Resource Network</li> <li>• University of Maryland Extension</li> </ul>
Community Gardens	~72	<ul style="list-style-type: none"> <li>• Power in Dirt</li> <li>• Garden Irrigation Fund</li> <li>• City Farms Program</li> <li>• Community Greening Resource Network</li> <li>• Baltimore Green Space</li> <li>• Parks and People Foundation's Neighborhood Greening Grants</li> <li>• International Rescue Committee New Roots Program</li> <li>• University of Maryland Extension &amp; Master Gardeners Program</li> <li>• Community Law Center's Urban Agriculture Law Project</li> <li>• Civic Works' Real Food Farm</li> </ul>
Youth Gardens and Farms	~70	<ul style="list-style-type: none"> <li>• Great Kids Farm</li> <li>• Community Greening Resource Network</li> <li>• Green Schools Network</li> <li>• Parks and People Foundation's Neighborhood Greening Grants</li> <li>• University of Maryland Extension &amp; Master Gardeners Program</li> </ul>
Home & Rooftop Gardens	Unknown	<ul style="list-style-type: none"> <li>• Community Greening Resource Network</li> <li>• University of Maryland Extension &amp; Master Gardeners Program</li> </ul>
Aquaponics & Aquaculture	2	<ul style="list-style-type: none"> <li>• Center for a Livable Future Aquaponics Project</li> <li>• University of Maryland Aquaculture Research Center</li> </ul>
Other uses	Unknown	<ul style="list-style-type: none"> <li>• Baltimore Backyard Beekeeping Network</li> <li>• Baltimore Orchard Project</li> <li>• Tree Baltimore</li> <li>• Others, depending on use</li> </ul>



## Current urban agriculture activities, including all current urban farms, food-producing community gardens and school gardens, and aquaculture/aquaponics projects



## Urban Farms

There are currently about 13 urban farms in Baltimore City, though this number is constantly in flux. The following map shows current urban farms in Baltimore, labeled by name. **Table 3** provides additional details about each urban farm. Urban farms can be split into two main types, with some overlap between them – community farms and commercial farms. Either may be run as a for-profit or non-profit, the difference being how they are sited and developed, and how they interact with their surroundings. Generally, they are characterized as follows:

1) **Urban Community Farms** share some characteristics with both community gardens and urban commercial farms. They are often started on sites that are chosen because of their potential to positively influence their surroundings, for instance on vacant sites in the center of neighborhoods where blight elimination plays an important role in promoting community stability. As farms, they are focused on production and on at least some sales, but also on community involvement, education and development. Usually, though not always, run as non-profits, they often rely on volunteer support and at least some grant funding. Most are a half acre in size or smaller.

2) **Urban Commercial Farms** are more purely production-focused endeavors. They are often started very purposefully as entrepreneurial ventures. As such, they are usually started on sites chosen for being the most conducive to production farming in terms of size and amenities. In almost all cases, they are directed, or at least advised, by experienced growers. These farms may also be non-profit or for-profit, tending somewhat more often to be for-profit. They vary, but generally range between half an acre and three acres, and can support full-time and/or part-time employees.

### *Supporting Resources*

Several resources exist that support urban farming in Baltimore, including the Homegrown Baltimore Land Leasing Initiative, the Farm Alliance of Baltimore City, the Future Harvest-CASA Beginner Farmer Training Program, Civic Works' Real Food Farm, and the Community Law Center's Urban Agriculture Law Project. These are described below. In addition, some of the resources described in the "Community Gardens" section of this chapter also benefit Baltimore's urban farmers.

### Homegrown Baltimore: Land Leasing Initiative

In recognition of the important role that urban agriculture can play in the future of Baltimore City's food system and overall sustainability, the Department of Planning, in partnership with the Department of Housing and Community Development, issued a Request for Qualifications (RFQ) for urban farming in the City of Baltimore to identify qualified farmers to establish new, entrepreneurial urban agriculture ventures on city-owned land. Applicants qualified through the RFQ process are eligible to negotiate with the city for five-year leases on parcels of vacant, city-owned land with no short-to-mid-term development plans. A limited amount of capital bond funding is available to assist farms with infrastructure-related start-up costs.

The RFQ was released in March 2011, with responses due in May. The city received 10 applications and five organizations were ultimately selected for the program, based on criteria including experience, sound management and financial plans, and willingness to work with the local community in developing the farm plan and in hiring. The process of matching farmers to appropriate land parcels is ongoing, with two sites totaling three acres having been leased out to qualified farmers as of June 2013, with proximity to food deserts being a key determinate in

how land to be leased was identified. Additional rounds of the RFQ process are planned for the near future, building off the lessons learned from the initial round.

### **Farm Alliance of Baltimore City**

Formed at the beginning of 2012, the Farm Alliance of Baltimore City is a network of food producers working to increase the viability of urban farming and improve access to urban grown foods. Farmers are united by practices and principles that are socially, economically, and environmentally just. Members of the Alliance are required to meet defined standards around soil quality, inputs and food safety and are encouraged to improve their conservation and sustainable production practices. Current efforts of the Farm Alliance include launching a shared credit/debit/EBT machine, running joint sales to restaurants, operating a shared farmers market stand, increasing urban farmer training opportunities in Baltimore, and building a shared brand. In addition, the Farm Alliance website provides useful information to new and current urban farmers, including a “new farmer how-to” guide that outlines the steps to accessing land and water, getting supplies, keeping animals, and selling food.

### **Future Harvest-CASA Beginner Farmer Training Program**

Future Harvest-CASA hosts a Beginner Farmer Training Program each year to provide training to aspiring farmers. The program initially trained rural farmers, but in recent years has had a number of urban farmers graduate from the program, and in 2012 and 2013 collaborated with Civic Works’ Real Food Farm and Farm Alliance of Baltimore City to add a workshop series on urban farming. Currently, six of the urban farms and community gardens in Baltimore are run by a graduate of the Beginner Farmer Training Program. The program accepts 10-15 farmers into the program each year and is free to participants. The program includes:

- Attendance at the annual Future Harvest CASA conference
- An 8-week series of classes on market essentials, small farm business planning, soil fertility and conservation, season extension, management of pests, disease and weeds, GAP and post handling, and organic certification, and integrating livestock onto a small farm
- Weekly field training on a farm
- Farm tours and field days

Graduates of the program also receive a mini-grant of \$2,000 to start their farming project.

### **Civic Works’ Real Food Farm**

Civic Works, a long-running non-profit service corps for Baltimore City, started Real Food Farm in 2009. One of the primary missions of the farm is to develop an economically viable, environmentally responsible local agriculture sector. To achieve this goal, Real Food Farm trains youth and adults in agricultural and horticultural jobs, creates employment opportunities for Baltimore City residents on the farm, demonstrates replicable and sustainable models that show the potential for urban agriculture to boost Baltimore’s local economy, and partners with the City of Baltimore and others to encourage farming in the city. The farm has hosted numerous festivals and trainings boosting the urban agriculture movement, hosts field trips and tours for youth and adults interested in learning about urban agriculture, and freely shares information on composting, soil testing, stormwater management, and production methods with other city farmers.

### **Community Law Center’s Urban Agriculture Law Project**

The Community Law Center is currently working on their Urban Agriculture Law Project, which includes a blog and an online manual that will be published in the spring of 2013. Their goal is to assist individuals and groups practicing urban agriculture in Baltimore with a variety of legal issues, including:

- Nonprofit formation and governance
- Land use and zoning legal advice
- Lease agreements
- Employment law advice

The manual and blog help to explain complex legal concepts that affect urban agriculture in terms that anyone can understand. Once complete, this manual will be an important resource for the urban agriculture community, for many farmers and gardeners are unaware of the legal issues that may affect their urban agriculture projects.

### **Farm Service Agency's [Microloans Program](#)**

The Farm Service Agency (FSA) administers and manages farm commodity, credit, conservation, disaster, and loan programs as laid out by Congress through a network of federal, state and county offices. In winter 2013, FSA launched a new Microloan program to serve the unique financial operating needs of beginning, niche and the smallest of family farm operations by modifying its Operating Loan application, eligibility and security requirements. The program is designed to offer more flexible access to credit, especially for niche farmers such as specialty crop producers and operators of community supported agriculture enterprises. Loans are for \$35,000 or less and can be used for everything from seeds and supplies to building hoop houses, but may not be used to purchase real estate. While this program is very new, it has already disbursed over \$30 million in loans and is expected to be a resource for Baltimore's urban farmers who have some experience farming, do not have major financial or credit problems and do not otherwise have access to commercial agricultural loans.

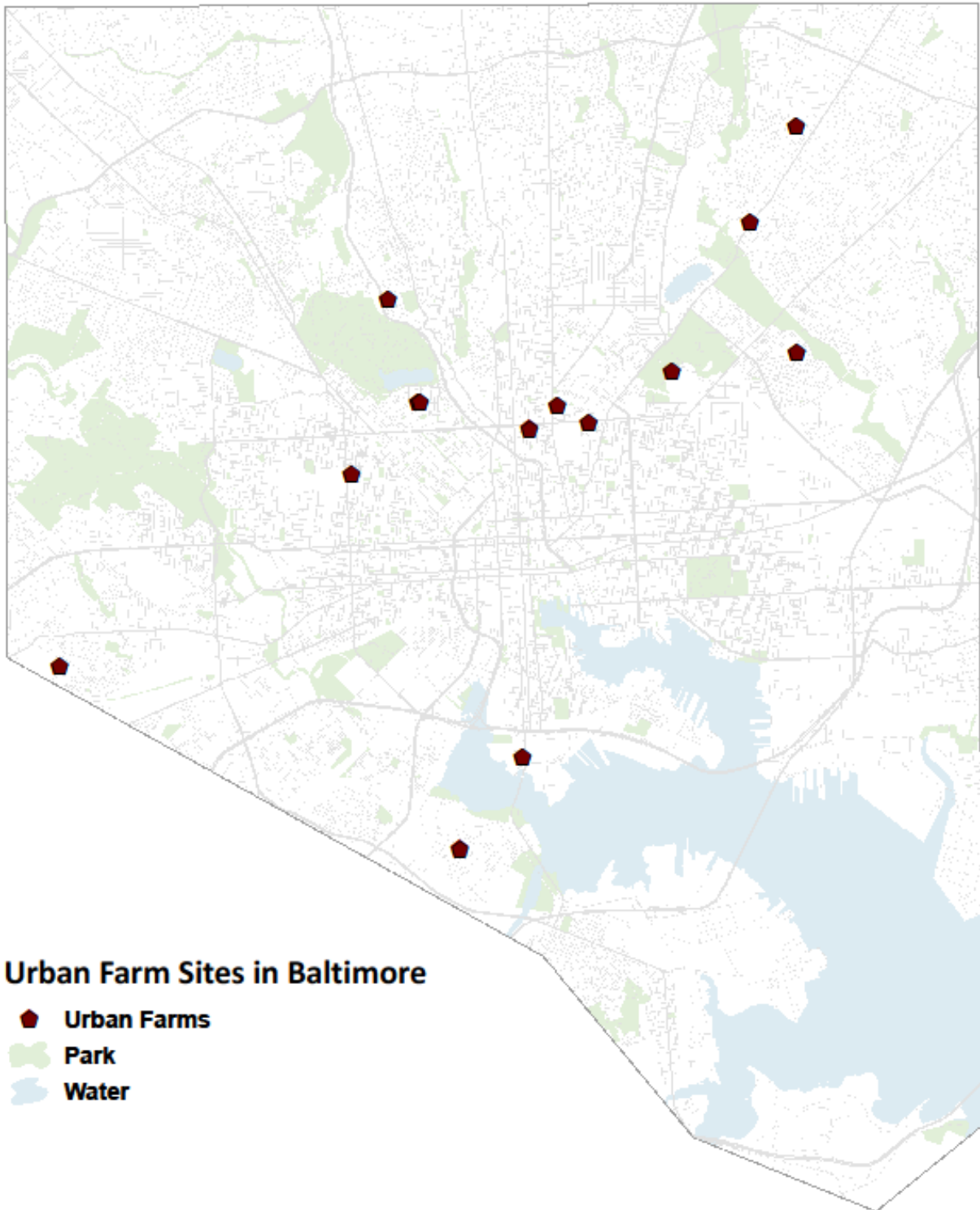
### **Mid-Atlantic Farm Credit's [Farm Fresh Financing Program](#)**

Mid-Atlantic Farm Credit, a member of the nationwide Farm Credit Network of customer-owned lending institutions, announced in July 2013 a new lending program for "new generation" farmers, a term that refers to producers who distribute their products through local food channels, and who practice sustainable farming methods, often on a small scale basis." This offers a new funding avenue for urban farmers aiming to start or expand commercial operations.




### **Marbidco's [Urban Agriculture Lending Incentive Grant](#)**

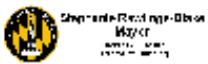
The Maryland Agricultural & Resource-Based Industry Development Corporation, or Marbidco, is a quasi-public agency designed to enhance the profitability of Maryland's agricultural sector. In July 2013, Marbidco launched the "Urban Agriculture Commercial Lending Incentive Grant", which offers grants of \$1,000-\$7,500 to supplement commercial loans. This unique program is designed to encourage commercial urban farmers to access private lending when they might otherwise not be able, or not feel secure enough to do so.

## Urban farms in Baltimore (2012)



### Urban Farm Sites in Baltimore

-  Urban Farms
-  Park
-  Water



**Table 3.** Urban farming projects in Baltimore City

Name	Organization	Neighborhood	Date started	Cult. Acres	Hoop Houses	Animals	Land Ownership
<a href="#">Baltimore Free Farm</a>	Community Farm, Non-Profit	Hampden	2010	½	0	Chickens, Bees	Public and private
<a href="#">Big City Farms</a> (2 sites)	Production Farm, Benefits Corporation	Spring Garden Industrial Area, Sandtown-Winchester	2010, 2012	2	12	No	Public and private
<a href="#">Boone Street Farm</a>	Community Farm, Non-Profit	Greater Greenmount	2010	>½	1	Chickens, Rabbits	Public
<a href="#">Butterbee Farm</a> (2 sites)	Production Farm, Individually run	Reservoir Hill, Clifton Park	2013	½	0	No	Public
<a href="#">Cherry Hill People's Garden</a>	Community Farm, run by Towson University & Cherry Hill residents	Cherry Hill	2010	¾	0	No	Public
<a href="#">Five Seeds Farm</a>	Production Farm	Belair-Edison	2008	½	0	Bees	Public
Greener Garden Farm	Backyard Production Farm, Individually run	Hamilton/Lauraville	2005	¾	0	No	Private
<a href="#">Hamilton Crop Circle</a>	Community Farm, Individually run with volunteer support	Hamilton/Lauraville	2008	½	1	Bees	Public
<a href="#">Hidden Harvest Farm</a>	Community Farm, Individually run with volunteer support	Greenmount West	2011	½	0	Bees	Public
<a href="#">Pescatore Backyard Delicacies</a>	Backyard Production Farm, Individually run	Hamilton/Lauraville	2005	>½	0	No	Private
<a href="#">Real Food Farm</a>	Educational Production Farm, Non-profit, run by Civic Works	Clifton Park	2009	3	7	Bees	Public
<a href="#">The Samaritan Women Farm</a>	Production Farm, Non-profit, run by The Samaritan Women	Beechfield	2007	3	1-2	Chickens, Bees	Private
<a href="#">Whitelock Community Farm</a>	Community Farm, Non-profit	Reservoir Hill	2010	>½	1	No	Public

## Community Gardens

Available data shows that there are approximately 72 community gardens in Baltimore as of 2012. An in-progress inventory of community gardens, being conducted by the Baltimore Neighborhood Indicators Alliance and other partners, will provide a more accurate estimate and information as to how many of these gardens produce food. The following map shows the estimated distribution of community gardens in Baltimore; this map will be updated once the community garden inventory is complete.

Data from the Community Greening Resource Network (CGRN) – the most comprehensive network of gardeners and gardening resources in Baltimore – shows that of the approximately 70 food-producing community gardens in the CGRN network in 2012, 75% were located in areas where residents live below 185% of the poverty rate (qualifying them for SNAP benefits). This indicates that the majority of community gardens are located in areas where there is great need for fresh, affordable food.

### *Supporting Resources*

Numerous resources exist to support community gardening in Baltimore, including Baltimore City initiatives such as Power in Dirt, the Garden Irrigation Fund and the City Farms Program; non-profit initiatives such as the Community Greening Resource Network, Baltimore Green Space, the Parks and People Foundation's Neighborhood Greening Grant program, and the International Rescue Committee's New Roots program; and education-based programs such as those offered by the University of Maryland Extension. These are described below. The Community Law Center's Urban Agriculture Law Project and Civic Works' Real Food Farm also support community gardeners (described previously in the Urban Farms section of this chapter).

### Power in Dirt Initiative

Part of the Mayor's Vacants to Value and stepUP! Baltimore initiatives, Power in Dirt reduces systemic barriers that prevent residents and organizations from revitalizing vacant lots. The initiative simplifies the process of starting a community-managed open space and provides residents with resources to overcome the barriers to vacant lot revitalization. Through the Power in Dirt initiative, residents can easily identify a city-owned vacant lot for adoption by viewing a [map](#) of available city-owned vacant lots. The initiative has also simplified the process of adopting a lot – individuals or community groups can apply to adopt the land through a simple online application, and once they have received a license, are free to steward the lot, but may not build permanent structures. The initiative also provides licensees with water access during the growing season, with no charge for installing a garden setter into an existing water meter pit; licensees pay a yearly fee of \$120 for unlimited water access from March through November (water is turned off during the winter to keep pipes from freezing). The Power in Dirt Initiative also employs AmeriCorps service members to help residents and organizations in the community navigate the entire process of revitalizing a vacant lot, though AmeriCorps staffing is slated to come to a close in June 2014.

### Garden Irrigation Fund

This grant program, funded by the City of Baltimore and managed by the Parks & People Foundation, was opened to the general public in early 2013 after a round of pilot grants in 2012. It provides up to \$3,000 of support for the installation of direct lines into garden sites in need of water access. So far, a total of seven sites have received funding out of eighteen applications received. A second round of open funding is expected to occur in fall 2013. Costs for water

installation regularly exceed \$3,000, in which case Parks & People can provide technical assistance to help awardees find sources of additional funding.

### **City Farms Program**

Started in 1978, Baltimore City Farms is a Recreation and Parks program that offers garden plots for rent to Baltimore residents. Plots are located in 10 city parks including: Carroll, Clifton, Dewees, Druid Hill, Cimaglia (formerly Fort Holabird), Leakin, Patterson, Roosevelt, Light Street, and Heath Street. The 11<sup>th</sup> City Farm is planned for Rockrose Park. Most plots offer about 150 square feet of gardening space and rent for \$30 per year. The gardener also pays a one-time key fee of \$10, which gives access to a fenced and locked garden. All City Farms gardens have city water and hoses and wheelbarrows for use by gardeners. Wood chips and manure are also provided.

Participants are responsible for the tilling, planting and seasonal maintenance of their plots as well as the common areas. Gardeners are invited to participate in the “Best Gardens of Baltimore”, a contest judged by local horticulturalists. Ribbons and prizes are awarded at the annual City Farms Supper, a celebration of the efforts and rewards of urban gardening. The program is open to anyone wishing to garden, regardless of their level of experience. On-site garden managers and experienced gardeners eager to share their knowledge mentor novice gardeners. The program employs a Community Liaison who provides additional support in the form of hands-on gardening seminars, training manuals and bulletins.

### **Community Greening Resource Network (CGRN)**

Founded by the Parks & People Foundation and University of Maryland Extension, and housed at Parks & People, the Community Greening Resource Network (CGRN) is the most widely known and far-reaching of the organizations supporting community gardeners in Baltimore. CGRN is an annual membership program that supports community gardens, school gardens and home gardeners throughout the City; membership fees are \$20 per year. CGRN's annual membership is approximately 200 members, including many food-producing community and school gardens, and its mailing list reaches over 3,000 individuals.

Originally modeled after Detroit's Garden Resource Program, CGRN member benefits include gardening material give-away days, access to five lending tool libraries, free educational workshops, a quarterly newsletter and bi-weekly calendar of events, networking events, and help finding additional support through volunteers and experts. However, its most important role is in building a wide-ranging network to support community gardening in Baltimore. This support network links gardeners to one another and also forms partnerships with non-profits, academic institutions, government agencies and businesses, leveraging the resources available through these diverse organizations to better support gardening efforts. It is through these partnerships that CGRN is able to provide so many resources to gardeners. In being at the center of this network, CGRN has naturally become a central repository of information for gardeners; one of the primary services CGRN provides is communicating information to gardeners and connecting gardeners with other resources.

### **Baltimore Green Space**

Baltimore Green Space is a nonprofit organization that was founded in 2007 by a group of community gardeners who wanted to see their communities' treasured open spaces remain available to residents. It is a land trust that partners with communities to preserve and support community gardens, pocket parks, and other community-managed open spaces. The land trust



serves to protect open spaces from redevelopment, provide liability insurance for open spaces, and provide ongoing technical support to help these open spaces thrive over the years. To become a member of the land trust, community gardens and other community-managed open spaces must benefit a neighborhood by contributing to community life and environmental improvement, have long-term viability, and demonstrate adequate environmental quality. In addition, the land must be owned by Baltimore City, which sells qualifying sites to the land trust for \$1, or be donated by the landowner. Baltimore Green Space has also played a leading role in policy issues, having authored the City's policy on disposition of vacant lots, helped develop the Garden Irrigation Fund, and most recently written a white paper on the value of forest patches in Baltimore.

### **Parks and People Foundation's Neighborhood Greening Grants**

The Parks and People Foundation's Neighborhood Greening Grants provides communities with seed funding of up to \$1,000 to encourage community-led greening projects to start and grow. The purposes of the program are to increase resident stewardship of natural resources, improve environmental conditions, and support Baltimore's neighborhood green spaces. Using a grassroots community organizing approach to neighborhood revitalization, grantseekers are encouraged to develop ideas and implement projects to improve their communities through hands-on greening projects that provide multiple environmental benefits. Beyond the seed funding, interested community members are encouraged to contact Parks & People to discuss greening project ideas, seek advice, and find resources for technical assistance. Free or low-cost trainings are provided to develop community capacity for greening. The community-driven nature of the projects fosters sustainability and encourages projects appropriate for the community served. Examples of greening projects eligible for a grant include, but are not limited to: vacant lot clean-up and restoration projects, community gardens, rain gardens, tree plantings, alley gating, neighborhood clean-ups, schoolyard greening, water quality improvement and environmental education activities.

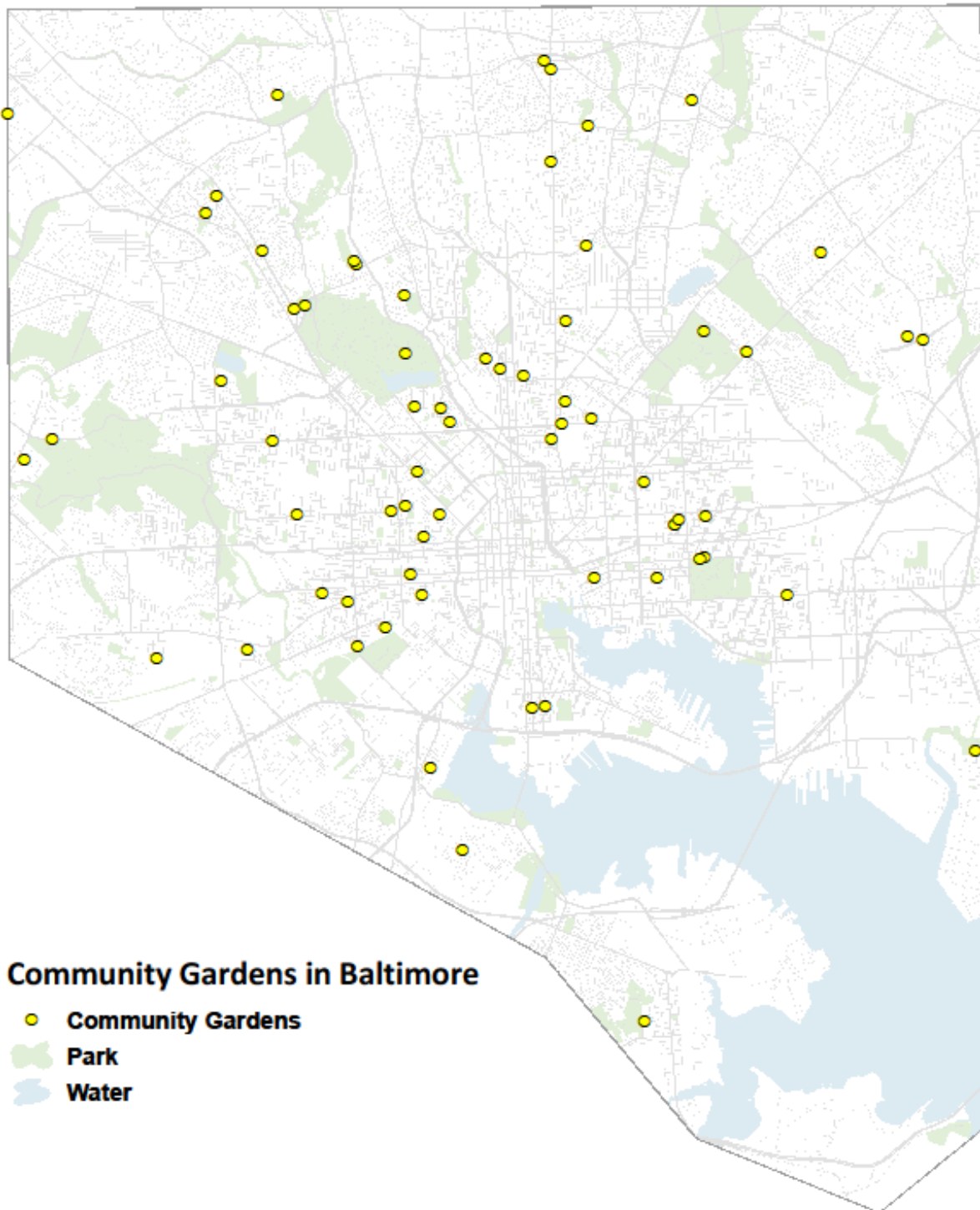
### **International Rescue Committee's "New Roots" Program**

The International Rescue Committee – which helps thousands of refugees integrate into life in America each year – runs a program called "New Roots" that provides refugees with agricultural opportunities. Through community gardening, nutrition education and small-business farming, New Roots gives refugee farmers the tools and training they need to grow healthy and affordable food and become self-sufficient. Two New Roots sites were started in Baltimore in 2012.

### **University of Maryland Extension**

The Master Gardener program at the University of Maryland Extension (UME) aims to educate residents about safe, effective and sustainable horticultural practices. It started in 1978 and is now present across Maryland, including Baltimore City. The program trains volunteer horticultural educators for UME. Participants receive 40-50 hours of training and then agree to work in their communities to teach Marylanders how to cultivate garden spaces and manage landscapes sustainably. Master Gardeners work on a range of activities, including offering community gardening, youth gardening, and composting classes. In addition, UME has a focus on urban farming, and offers resources and trainings focused on entrepreneurial agriculture in several Baltimore City neighborhoods, and also works with numerous youth gardens.

## Food-producing community gardens in Baltimore (2012)



## Youth Gardens and Farms

Youth gardens and farms refer to gardens or farms that are oriented toward the involvement of youth, including sites at schools and youth recreation centers, and community gardens with a strong youth component. Many of the community gardens in Baltimore welcome and involve youth in an informal capacity, and some gardens work with local recreation centers to involve children. School gardens and, more rarely, farms, are becoming more popular in Baltimore. According to data aggregated from several partners, in 2012 there were approximately 70 public school gardens in Baltimore total, 60-70% of which produced food (out of 187 school sites and 197 school programs total in the Baltimore City public school system). These numbers change from year to year depending on whether there is a teacher or parent who is motivated to manage the site. At least two of these sites, including Green Street Academy and the Academy of Success, engage in entrepreneurial activities, and could be considered youth farms.

### *Supporting Resources*

The greatest asset supporting school gardens and student learning about food production in Baltimore is Great Kids Farm, described below. The Office of Sustainability's Green, Healthy, Smart Challenge grant program provides financial support for school gardens. School gardens can also become members of the Community Greening Resource Network, can benefit from the Parks and People Foundation's Neighborhood Greening Grants, and can take advantage of the expertise of Civic Works' Real Food Farm and the University of Maryland Extension (described above in the Urban Farms and Community Gardens sections of this chapter).

### Great Kids Farm

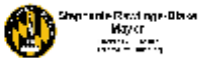
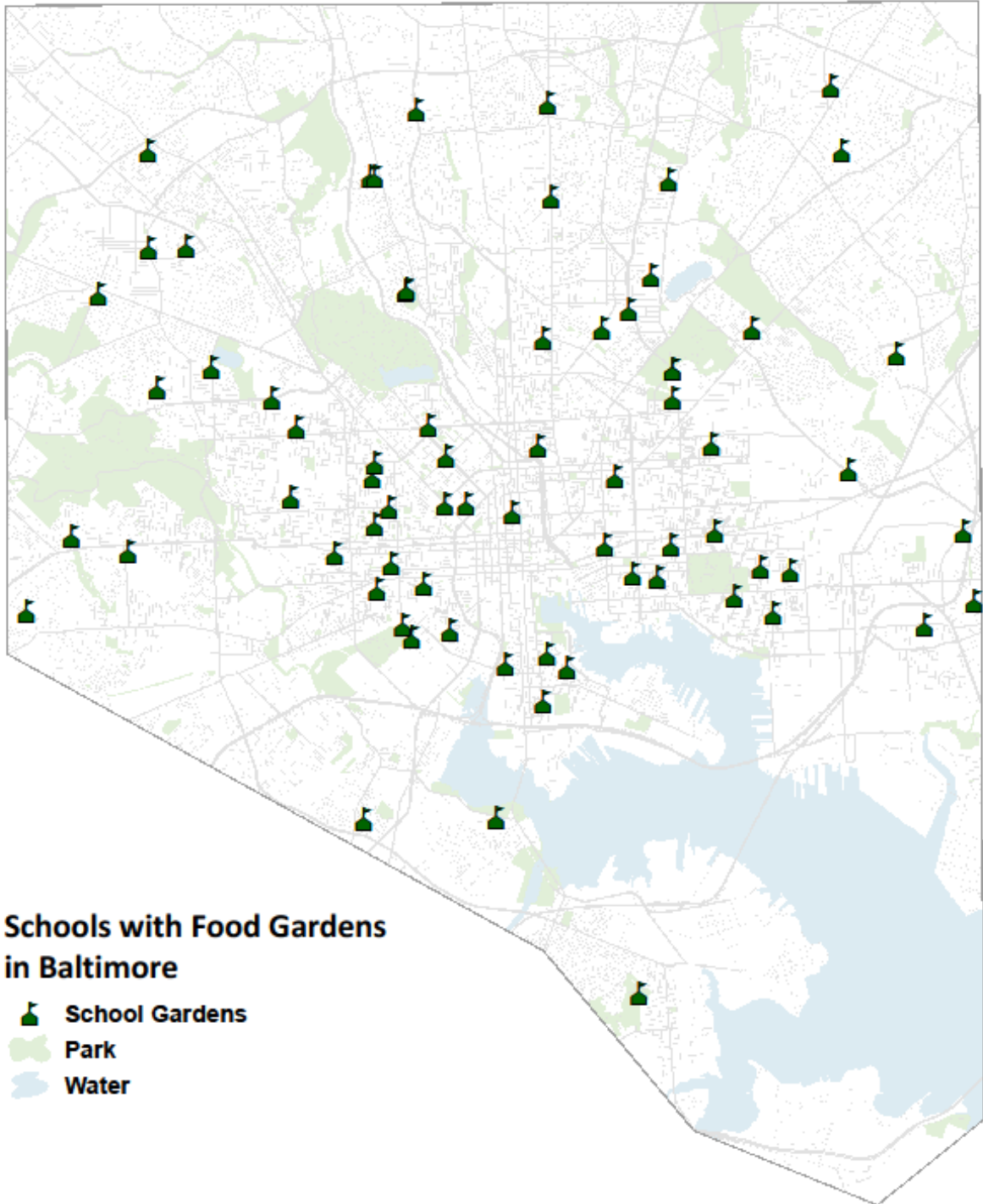
Started in 2008 by the Baltimore City public school system, Great Kids Farm (GKF) is a 33-acre farm in Baltimore County that acts as an educational resource campus for Baltimore City school children. The farm provides opportunities for students to participate in every aspect of food preparation and prepares them to lead 21st century sustainability efforts. In the 2012-2013 school year, students and staff at more than 162 City Schools took advantage of the farm's programs; including more than 3,300 students from 107 schools who visited the farm. With its classrooms, fields, forest, café, and certified kitchen, the farm serves as both a resource and destination for learning -- with the goal of creating programs that have a district-wide capacity to support students from pre-kindergarten through graduation. While students and teachers leverage the farm for resources and experiences that support a wide-range of common core and cross-curricular learning objectives, "sustainability" and "healthy eating, healthy living" are themes that are infused into every program and lesson developed by Great Kids Farm. A sampling of farm programs includes:

- Classroom field trips to the farm that allow students to participate in the farm's activities and taste the harvest and teachers to gain access to an outdoor, living classroom
- Support for school-based gardens and food education programs through the distribution of classroom kits, living educational materials, gardening resources, professional development and other trainings, and assistance with planning
- A work-based learning program whereby high-school seniors complete a 14-month paid internship, developing career skills, industry experience, and leadership abilities. These skilled and trained students grow, taste-test, process, and brand ready-to-eat produce for distribution to City Schools cafeterias.

### **The Green, Healthy, Smart Challenge Grant Program**

This small grant program is administered by the Baltimore Office of Sustainability in partnership with the Baltimore City Public Schools System, the Baltimore Energy Challenge, and the Baltimore Community Foundation, and has been integral in supporting the creation of new school gardens. The program provides \$1,000 grants for student-run projects that increase school sustainability, and supported the creation of 20 new schoolyard gardens in the 2011/2012 school year. Through the grant program, schools are connected to other youth and educators in the field of sustainability and learn from each other's successes and challenges.

## Food-producing school gardens in Baltimore (2012)



## Home Gardens & Rooftop Gardens

There are many home gardeners in Baltimore, though the prevalence of row houses with small or nonexistent yards makes community gardening the only opportunity that many Baltimoreans have for growing food. Rooftop gardens are also gaining in popularity, particularly since row house rooftops tend to be flat. There are also ample commercial and industrial buildings that could house large rooftop vegetable gardens, though none are currently known to exist in the city.

### *Supporting Resources*

Home and rooftop gardeners are supported by the Community Greening Resource Network, and can also benefit from the University of Maryland Extension Master Gardener's Program (both described in the Community Gardens section of this chapter). While no incentive programs are yet in place, the City of Baltimore has no regulations against edible yards, which some other municipalities do.

Aspiring rooftop gardeners should consult with a qualified contractor before beginning a new project, to ensure that their roof's load-bearing capacity is sufficient for their purposes. Local water quality non-profit Blue Water Baltimore provides [a list of recommended contractors](#).

## Aquaculture and Aquaponics

While Baltimore residents have experimented with aquaculture and aquaponics in their homes for years, it is only recently that projects have emerged that aim to produce fish and seafood at a larger scale. Currently there are several aquaponics projects underway in the city. The Johns Hopkins University's Center for a Livable Future is running an Aquaponics Project at Cylburn Arboretum. Green Street Academy, a city public school in southwest Baltimore, has three operational tilapia tanks in the basement of its building. Finally, a commercial scale aquaculture system is currently under design by University of Maryland researchers. The following map shows the location of current aquaculture and aquaponics projects in Baltimore.

### *Supporting Resources*

Resources currently available to new aquaponics or aquaculture projects include the Cylburn Aquaponics Farm and the University of Maryland Aquaculture Research Center.

### **Demonstration projects as models for potential growers**

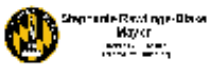
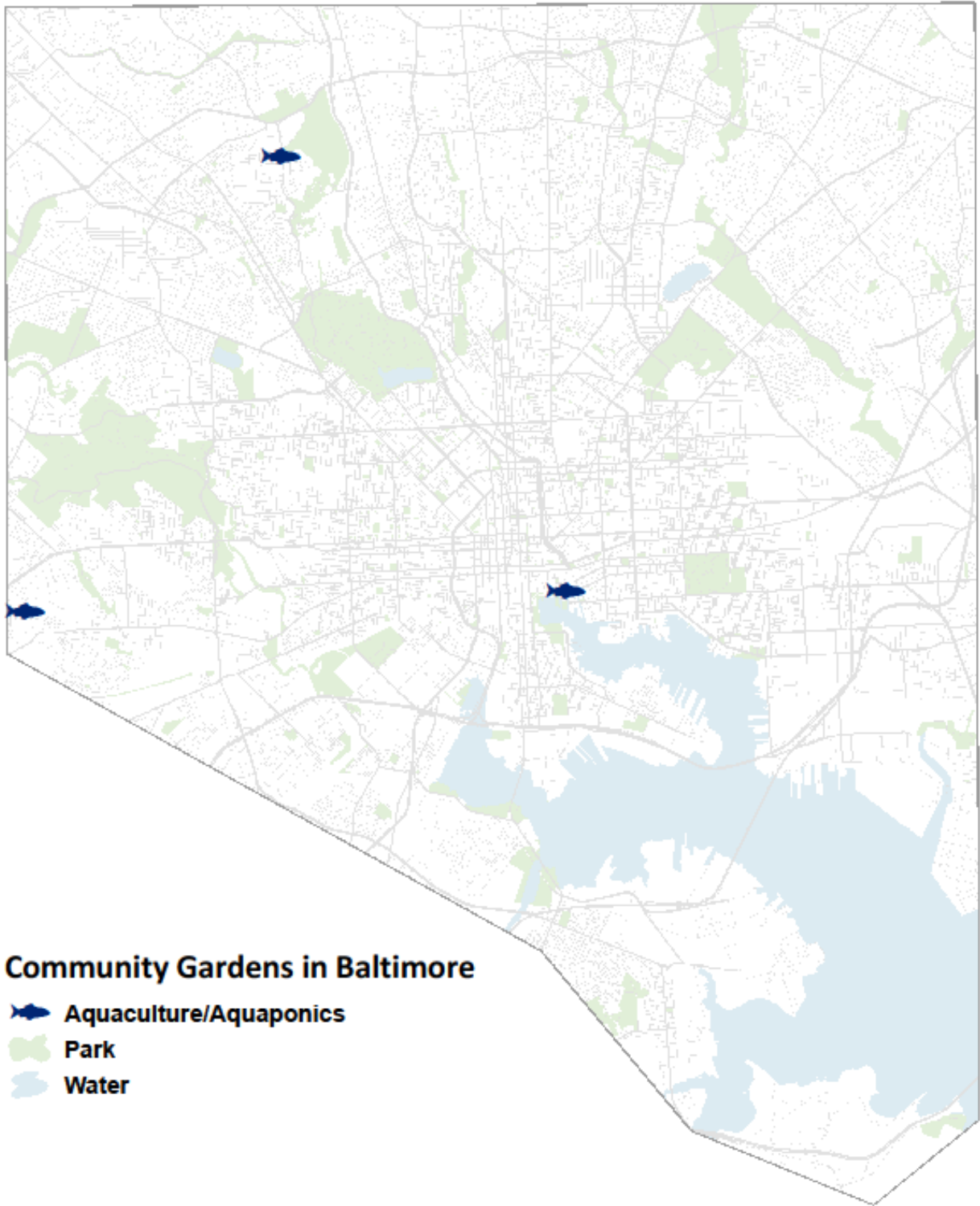
Commercial aquaponics requires training, knowledge, and proficiency in both commercial aquaculture and hydroponics growing methods. Commercial aquaponics is reliant on mechanical systems to maintain fish health. For example, a failure of an air or water pump or an electrical source (to power the pump), without appropriate back-up sources, can lead to fish mortalities. For this reason, taking on an aquaponics project requires dedication to monitor the system daily and anticipate and prevent potential failures.

The Center for a Livable Future's Aquaponics Demonstration Project, in collaboration with the Baltimore City Department of Recreation and Parks, provides a valuable resource to those interested in starting an aquaponics or aquaculture project. Individuals can learn what equipment and materials are required, the costs involved, and the technical requirements of operating for such a system, and will benefit from the lessons learned through the demonstration project. This demonstration project is critical to giving budding aquaculturalists a leg up in starting their own projects.

### **Infrastructure resources available for aquaculture**

For aquaculture projects that plan to produce year-round, heating and cooling systems must be in place, necessitating the need for indoor spaces to house larger-scale aquaculture projects. Hoop houses, greenhouses, warehouses, and vacant buildings all provide potential space for aquaculture. Baltimore has ample vacant land and structures that could be used for this purpose.

## Current aquaculture/aquaponics projects (2012)





## Other Uses

Beyond the types of urban agriculture already discussed, Baltimore City also allows and encourages other uses such as animal husbandry, apiaries, orchards, hops farms, herb farms, and vineyards.

### *Beekeeping*

Baltimore's beekeepers play an important role in the city's agriculture movement and overall ecological health, starting and maintaining the colonies that pollinate plants. In 2012, there were 62 registered beekeepers with 85 apiary locations and 160 colonies. All beekeepers must register with the Maryland State Apiary Inspector.

Some of the resources available to Baltimore's beekeepers include:

- [Maryland State Beekeepers Association](#)
- [Central Maryland Beekeepers Association](#) offers a beginning beekeeping class
- [Baltimore Backyard Beekeepers Network](#) provides a forum for Baltimore's beekeepers
- [Eastern Apiculture Society](#) certifies Master Beekeepers
- [Beltsville Bee Research Laboratory](#) operates a bee disease diagnostic service
- [Mid-Atlantic Apiculture Research and Extension Consortium](#) focuses on addressing pest management and provides educational bulletins on beekeeping practices in the region

Some of the current urban apiary projects in Baltimore include:

- [Baltimore Honey](#) runs a Community Supported Apiary, providing members with honey
- [Oak Hill Honey](#) sells honey at restaurants and markets
- [Five Seeds Farm & Apiary](#) sells honey at restaurants and markets

### *Fruit Trees and Orchards*

Fruit trees are found throughout Baltimore. The Baltimore Orchard Project works to glean the fruit from these trees and promote more planting of fruit trees, while Baltimore City's Tree Baltimore Initiative works to increase Baltimore's tree canopy, including fruit trees.

#### **Baltimore Orchard Project**

The Baltimore Orchard Project is made up of a diverse group of people who have joined together to plant, grow, glean and share fruit throughout the neighborhoods of Baltimore. They have two main goals. The first is gleaning fruit from existing fruit trees that would otherwise go to waste and distributing it to those in need. The second is partnering with individuals and organizations in Baltimore to plant fruit trees, orchards and "food forests" for the benefit of the community. The project harvested and distributed 1,800 pounds of food in 2012 and planted 120 fruit trees in 2012-2013, just one year after the organization formed.

#### **TreeBaltimore Initiative**

TreeBaltimore is a mayoral initiative spearheaded by the Baltimore City Department of Recreation and Parks. This program strives to increase the urban tree canopy through the establishment, management and preservation of trees. Activities include tree planting and care of existing trees. Residents and neighborhood associations are also eligible for tree giveaways and discounts on tree purchases. Fruit trees for public spaces, such as at schools, in

community gardens, or in parks, are available for free through the initiative to those who are willing to commit to their care (which can be intensive), as is assistance with planting.

## VI. Key Recommendations

As demonstrated in the previous chapter, numerous urban agriculture activities are successfully underway, supported by Baltimore City policies, an extensive programmatic network, and local community members. However, barriers remain that should be addressed in order to better support and expand Baltimore’s urban agriculture sector. This chapter delineates the challenges and opportunities for expanding urban agriculture and makes associated recommendations. These are divided into the following categories: (1) land, (2) water, (3) soil, (4) capital, and (5) support. Each recommendation includes a timeframe, key partners for implementing the recommendation, and indicators for measuring success. **Table 4** on the following page provides an overview of the recommendations.

Timeframe	
Short-term	Within 1 year
Mid-term	1-3 years
Long-term	More than 3 years

### Determining a Long-Term Vision for the Scope of Urban Agriculture

The recommendations provided in this section are based on a model that prioritizes supporting and expanding urban agriculture in Baltimore without any specific limits. However, such a model is unrealistic, for despite the many benefits of urban agriculture to urban communities, there is a limit to the extent of agricultural activity that is possible in a city if the social and environmental benefits of cities are to be maintained. As some cities begin large-scale urban agriculture projects on the order of hundreds of acres, questions have arisen as to whether such projects risk suburbanizing the city, ultimately diluting the walkability and density that defines city life. It is important to consider how urban agriculture can operate at a scale that is viable for growers without displacing the benefits of urbanism.

Some argue that urban agriculture will never threaten urbanism, for it will be replaced by development as economic conditions improve and land becomes more valuable. Historically, economic conditions have been the driving force behind urban agriculture, with community gardens and other projects springing up in times of economic depression, and disappearing once conditions improve. This is not a desirable model either, as it dismisses the possibility of making urban agriculture sustainable, discourages long-term investment in infrastructure and soil health, and ignores the many benefits that come with urban agriculture, including employment, increased green space, local self-sufficiency, and resilience. Such a model also discounts the sweat equity community members put into their urban agriculture projects. In order to capture these benefits, some gardens and farms should be prioritized for preservation in the long-term.

Finally, it is important to note that, while low-income Baltimore residents have long been heavily involved in community gardening projects, these residents are under-represented in current urban farming efforts. In order to support involvement by those who could most benefit from urban farming, access and equity should be considered in determining the scope of urban agriculture and in implementing this plan.

Taking all of these factors into account, the City of Baltimore can determine the extent to which the city would most benefit from land being used for urban agriculture and in which areas, prioritizing community gardens in food deserts and small farms in weak market areas with high unemployment. Based on this long-term vision, the City can then commit to protecting the urban agriculture projects that are developed within this scope and draw from the recommendations in this chapter to provide an appropriate level of support for urban agriculture in Baltimore.

## **Implementation of Recommendations**

The Urban Agriculture Subcommittee of Baltimore's Food Policy Action Committee will oversee the implementation of this plan in conjunction with the Office of Sustainability. In the past, the Subcommittee has convened intermittently to address issues around soil contamination and other topics. This group is made up of an array of people working in the private, nonprofit, governmental, and academic sectors. The Office of Sustainability will be responsible for convening meetings and facilitating tracking of implementation.

**Table 4.** Summary of recommendations for supporting urban agriculture in Baltimore by category

BOS=Baltimore Office of Sustainability, DHCD=Department of Housing & Community Development, DPW=Department of Public Works

Recommendation	Timeframe	Governmental Partners	Nonprofit, Academic, Private Partners	Indicator
<b>1. Land</b>				
1a. <b>Develop Automatic Notification of License Renewal:</b> Simplify process for growers with adopted lots licenses by developing an automatic annual renewal notification process.	Short-Term	DHCD	Baltimore Green Space, Parks & People, Farm Alliance, Community Law Center	% of Adopt-a-Lots renewed each year
1b. <b>Streamline Community Managed Open Space Process:</b> Create a clear and accessible process for adopted lots to be considered for Community Managed Open Space status and thus be removed from the Vacants to Value for sale list.	Short-Term	DHCD, Power in Dirt	Baltimore Green Space, Parks & People, Farm Alliance, Community Law Center	% of adopted lots with Community Managed Open Space status
1c. <b>Incorporate Community Farms Into Existing Land Trust:</b> Develop a process for community farms to be eligible for protection under Baltimore Green Space’s land trust.	Mid-Term	BOS, DHCD	Baltimore Green Space, Farm Alliance, Future Harvest	# of community farms protected under Baltimore Green Space
1d. <b>Approve Direct Land Purchasing:</b> Where appropriate, encourage farmers and gardeners to purchase their land directly, whether from a private owner or from the City.	Mid-Term	BOS, DHCD	Baltimore Green Space, Parks & People, Farm Alliance, Community Law Center	# of parcels purchased by farms and gardens
1e. <b>Improve Land Leasing Initiative:</b> Strengthen the Homegrown Baltimore: Land Leasing Initiative by accepting applications on a rolling basis and re-assessing available vacant land on a regular basis.	Short-Term	BOS, DHCD	Farm Alliance, Future Harvest	# of new leases issued to farmers
1f. <b>Strengthen Tenure of Adopt-a-Lot program:</b> Amend the current license so that it cannot be terminated before the term of the license has ended.	Short-Term	BOS, DHCD	Parks & People, Community Law Center	# of new licenses issued to gardeners
1g. <b>Support Incentives for Commercial Farms on Privately-Owned Vacant Land:</b> Implement State supported property tax relief programs for agricultural use, develop sample lease agreement and partner with local organizations for support.	Short-Term	Office of the Mayor	Community Law Center, Farm Alliance, Future Harvest	Acres of private land being used for farms and gardens

2. Water				
2a. <b>Improve Payment Process for Water Access Program:</b> Incorporate the water access program into the City's billing system	Short-Term	DHCD	Baltimore Green Space, Parks & People, Farm Alliance, Community Law Center	Time of processing requests for water access
2b. <b>Develop Options for Winter Water Access:</b> Develop year round fee.	Mid-Term	DHCD, DPW	Baltimore Green Space, Parks & People, Farm Alliance, Community Law Center	# of year-round water access agreements
2c. <b>Provide Resources for Sites without a Water Meter Pit:</b> Offer follow-up resources for growers on lots that do not have a live water pit.	Short-Term	BOS, DPW	Parks & People, Blue Water Baltimore	Creation of follow-up resource for growers # of gardens that use these resources for water access
2d. <b>Preserve Existing Water Infrastructure:</b> Preserve water supply lines during the demolition process to facilitate water access for future green spaces.	Immediate	DHCD, DPW		Change in demolition specifications
2e. <b>Support the Development of Rainwater Capture Systems:</b> Support rainwater capture to cut costs and protect the Bay	Mid-Term	BOS, DPW, DHCD	Blue Water Baltimore, Parks & People	# of urban agriculture sites using rainwater capture to supplement water needs

Recommendation	Timeframe	Governmental Partners	Nonprofit, Academic, Private Partners	Indicator
3. Soil				
3a. <b>Increase Equipment Availability:</b> Investigate feasibility of leveraging City resources and equipment to help make vacant lots more viable for agriculture	Mid-Term	DPW, Recreation & Parks	Farm Alliance, Future Harvest	New opportunities to access equipment for site improvements
3b. <b>Develop Soil Standards:</b> Provide effective, accessible standards and guidance around identifying and managing soil contamination.	Short-Term	BOS	Johns Hopkins Center for a Livable Future, Community Gardening Resource Network, Farm Alliance	Creation of guidelines and standards for testing and managing contamination Incorporation of new guidelines into gardener and farmer training programs
3c. <b>Provide Soil Testing:</b> In-state soil testing services for urban growers could include an affordable contaminants screening	Mid-Term		University of MD Extension, Johns Hopkins University, other private labs	Availability of in-state soil testing and contaminants screening
3d. <b>Support Composting at All Levels:</b> Promote composting from backyard to commercial operations, and share information about responsible composting	Mid-Term	BOS, DHCD	Community Greening Resource Network, Farm Alliance of Baltimore City, Future Harvest	#of growers composting their own agricultural waste responsibly # of commercial composting operations

4. Capital				
4a. <b>Funding Assistance:</b> Support local lenders in developing grants and unsecured loans for urban farms	Mid-Term		MARBIDCO, Mid-Atlantic Farm Credit, other private lenders, Farm Alliance, Future Harvest	# of farmers accessing new avenues for capital
4b. <b>Support Garden Irrigation Fund:</b> Ensure continuity of the Garden Irrigation Fund to help with water access expenses	Mid-Term	BOS	Parks & People, private foundations	# of grantees receiving irrigation funds each year
5. Support				
5a. <b>Designate DHCD Staff Position:</b> Create a designated staff position within DHCD to oversee urban agriculture initiatives	Mid-Term	BOS, DHCD		Creation of a dedicated staff position at DHCD to support urban agriculture
5b. <b>Create and Support Staff Positions:</b> Fund staff at partner organizations in order to sustain support to farms and gardens.	Short-Term	BOS	Parks & People, Farm Alliance	Creation of a support staff position housed at a nonprofit
5c. <b>Support Farm Incubator Development:</b> Support the creation of a farm incubator in Baltimore City.	Long-Term	BOS, DHCD	Civic Works, Farm Alliance, Future Harvest, University of MD Extension	# of new farmers being trained on incubator yearly
5d. <b>Assess New Zoning Code's Permit Process:</b> Ensure new zoning code and permits foster rather than impede the development of farms and gardens.	Short-Term	BOS, Baltimore City Municipal Zoning and Appeals Board	Baltimore Green Space Community Greening Resource Network, Community Law Center, Farm Alliance	Supportive zoning and permits for farms and gardens
5e. <b>Assess Animal Regulations:</b> Ensure animal regulations are clear, supportive, and meet best practices for animal husbandry and beekeeping.	Short-Term	BOS, Baltimore City Health Department	Community Law Center, Farm Alliance	Regular assessment of animal regulations Availability of user-friendly materials
5f. <b>Explore Liability Insurance Options:</b> Explore options for liability insurance for growers	Mid-Term	BOS, Power in Dirt	Community Law Center, Farm Alliance	Availability of affordable, accessible liability insurance for farms and gardens
5g. <b>Ensure Citizen Education and Engagement:</b> Support efforts to educate citizens about urban agriculture and engage them as growers	Mid-Term	BOS, Baltimore City Health Department	Community Greening Resource Network, Farm Alliance of Baltimore City, Future Harvest, University of Maryland Extension	% of city residents with an awareness of urban agriculture % of city residents with a positive view of urban agriculture # of city residents engaged in growing their own food # of city residents engaged in entrepreneurial food production

BOS=Baltimore Office of Sustainability, DHCD=Department of Housing & Community Development, DPW=Department of Public Works

## 1. Land | *Challenge: Lack of land tenure*

*Opportunity:* Offer tiered solutions for increased land security relevant to a range of growers from community gardeners to commercial farmers

Land tenure is a critical issue for any type of urban agriculture; without it, urban agriculture is not a sustainable contributor to the local food system and economy. However, the lack of land tenure affects urban farmers most profoundly, as they must make improvements to the land or infrastructure investments in order to produce on a larger scale. Growers are understandably hesitant to make any long-term investments or improvements to a site if they do not have a multi-year lease on the land. For example, growers may be hesitant to invest in soil improvements, irrigation systems, electricity hookups, refrigeration, and more without a commitment from the land owner—in most cases the City—that they will have rights to the land for a long enough period to make their investments worthwhile. Additionally, securing a loan for start-up costs or infrastructure investments is nearly impossible without long-term land tenure.

### **Recommendation 1a:** *Develop Automatic Notification of License Renewal. (Short-Term)*

All first year lot adopters get a one-year Adopt-a-Lot agreement, and the burden is on the adoptee to renew their agreement. However, adoptees are almost invariably volunteers – lack of time to keep track of paperwork, as well as turnover within community organizations, can cause confusion and lead to lots that are being cared for but without current agreements. A system should be created to automatically notify a grower when it is time to renew their agreement. At the same time, they should also be notified that they may be eligible for up to a 5-year agreement if they have no citations. These steps will help ensure that cared-for lots are formally adopted and therefore marked with the “do not dispose” flag in the Vacants to Value database that all adopted lots receive.

#### **Key Partners**

- **Governmental:** Department of Housing & Community Development—set up automatic notifications
- **Nonprofit Organizations:** Baltimore Green Space, Parks & People, Farm Alliance, Community Law Center—incorporate information into materials and trainings about adopting vacant lots

#### **Indicator**

- Percentage of Adopt-a-Lot agreements renewed each year

### **Recommendation 1b:** *Streamline Community Managed Open Space Process. (Short-Term)*

DHCD and Baltimore Green Space currently work together to assign Community Managed Open Space (CMOS) status to adopted lots that have been improved. These lots are then taken off of the list of lots advertised for public sale, which adds some security for those sites. However, there is not currently a clear way for growers to know about this process, to indicate that they have made improvements on their adopted lot, or to know whether their lot has CMOS status other than asking. When someone adopts a new lot, they should receive information about how to share the improvements they make and why this is important. This could include sending photos or a short status update to Baltimore Green Space so that the improvements can be verified. Partner organizations should incorporate this information into their materials and trainings about starting gardens and adopting vacant lots.



### Key Partners

- **Governmental:** Department of Housing & Community Development—include information about CMOS status in initial letter to lot adopters; Power in Dirt—add information about acquiring CMOS status to their website
- **Nonprofit Organizations:** Baltimore Green Space, Parks & People, Farm Alliance, Community Law Center—incorporate information into materials and trainings about adopting vacant lots

### Indicator

- Percentage of adopted lots with “Community Managed Open Space” status
- Decrease in number of improved lots advertised for sale

### Recommendation 1c: *Incorporate Community Farms Into Existing Land Trust.* (Mid-Term)

To date, Baltimore Green Space has only ever taken on responsibility for community-managed open spaces, leaving entrepreneurial farms, even those of a community-oriented nature, without this option for long-term protection. Many community farms begin on Adopt-a-Lot agreements, then make significant infrastructure improvements and become an ingrained part of the surrounding neighborhood. These farms may have a commercial component, but typically have strong community-driven goals and provide valuable green space. With a strong relationship with a partner organization such as a local community association, the Farm Alliance of Baltimore City, or the Parks & People Foundation, these community farms could be incorporated into the existing land trust and preserved for long-term community greening and food production.

### Key Partners

- **Governmental:** Department of Housing & Community Development and Baltimore Office of Sustainability—continue to work with Baltimore Green Space on acquisition process
- **Academic Institutions and Nonprofit Organizations:** Baltimore Green Space, Farm Alliance, Future Harvest, University of Maryland Extension—devise a system to ensure long-term management of community farms under land trust protection

### Indicator

- Number of community farms protected under Baltimore Green Space’s land trust

### Recommendation 1d: *Approve Direct Land Purchasing.* (Mid-Term)

The greatest land tenure comes with land ownership, and, while the land trust offers excellent long-term protection for many community green spaces, some farms and gardens may be better served by purchasing the land on which they are growing directly from the City. Where appropriate, farmers and gardeners should be encouraged to purchase their land directly, whether from a private owner or from the City. Examples of situations in which direct purchasing might be appropriate are where farmers or gardeners live adjacent to the land in question, desire direct control of the land’s future, and/or are making significant investments in the long-term value of the land for agriculture, such as the installation of water lines and improvements to the soil.

### Key Partners

- **Governmental:** Department of Housing & Community Development and Baltimore Office of Sustainability—develop a process to alter growers to opportunities to purchase land and of potential sales of land

- **Academic Institutions, Nonprofit Organizations, and Private Partners:** Baltimore Green Space, Parks & People, Farm Alliance, Community Law Center, Marbidco, Mid-Atlantic Farm Credit, University of Maryland Extension—incorporate information on purchasing land into materials about starting a farm or garden, work with farmers to develop business plans that can allow them to purchase land

#### Indicator

- Number of parcels purchased by farmers and gardeners

#### Recommendation 1e: *Improve Land Leasing Initiative.* (Short-Term)

The current Homegrown Baltimore: Land Leasing Initiative is a good first step to providing longer-term leases and greater land tenure for urban farmers, but the timeline and qualifications for the initial round limited who could apply. Applications for this program should be accepted on a rolling basis to allow greater flexibility for applicants and enable the City to get a jump start on securing future leases. The Land Leasing Initiative should also ensure that available vacant land is re-assessed on a regular basis to ensure accuracy of available lots and should formalize a process to gauge community buy-in for proposed lease sites.

#### Key Partners

- **Governmental:** Department of Housing & Community Development and Baltimore Office of Sustainability—adapt leasing processes and communicate changes to urban growers
- **Nonprofit Organizations:** Parks & People, Community Law Center, Farm Alliance, Future Harvest—promote updated leasing process to current and prospective City growers

#### Indicator

- Number of new leases issued to growers

#### Recommendation 1f: *Strengthen tenure of Adopt-a-Lot program.* (Short-Term)

Currently, the Adopt-a-Lot program license can be terminated by the City with 30-days notice. Though a provision in the license stipulates that growers will be given until the end of the growing season before being asked to leave in the event that their license is terminated, this lack of security has had a negative impact on the willingness of some potential adoptees to take on licenses. The Adopt-a-Lot program's license should be changed so that it cannot be terminated before the term of the license has ended except in cases of negligence by the adoptee. This will allow adoptees to feel more secure in devoting sweat equity and investment into project on vacant lots. In addition, adoptees that do have their leases terminated should be given assistance with relocating, if desired.

#### Key Partners

- **Governmental:** Department of Housing & Community Development and Baltimore Office of Sustainability—adapt licensing processes and communicate changes to urban growers
- **Nonprofit Organizations:** Parks & People, Community Law Center—promote updated licensing process to current and prospective City growers

#### Indicator

- Number of new licenses issued to growers

**Recommendation 1g:** *Support financial relief for commercial farms on privately-owned vacant land by adopting provisions of Maryland Tax Code Section 9-253 ‘Urban Agricultural Property’.* (Short-Term)

The City owns only approximately 40% of Baltimore’s vacant land, leaving a significant amount of private land that is inaccessible for commercial farming through the City programs. To support an increase in commercial urban agriculture and the number of jobs associated with urban farming and commercial food processing, City government can enact legislation that provides limited property tax relief on certain agricultural sites. The 2013 Maryland General Assembly adopted legislation enabling the City of Baltimore to create legislation to provide tax credits on properties used for urban agriculture (Title 9, Subtitle 2, Section 9-253 Urban agricultural property). These credits have a time limit, and allow City government to terminate the credit if the site is no longer used for farming. Additional local eligibility criteria should be considered, such as restricting the tax credit to sites with a low maximum assessed value to assure farms are not located on highly developable properties.

Partner organizations can also help make growers aware of resources for getting started on private land, and could develop a sample lease that could further facilitate gardening and farming on private land.

**Key Partners**

- **Governmental:** Office of the Mayor—Implement local enabling legislation for limited property tax relief for commercial urban farms.
- **Academic Institutions and Nonprofit Organizations:** Community Law Center—develop a sample lease agreement; Farm Alliance and Future Harvest, University of Maryland Extension—incorporate private land access into training and materials about land access

**Indicator**

- Acres of private land being used for farms and gardens

## 2. Water | **Challenge: Lack of reliable water access**

**Opportunity:** Ensure maximum water access for current and future growers by streamlining the process and preserving more water supply lines

A major constraint for farms and gardens in Baltimore is growers’ lack of access to a reliable source of water to irrigate crops. The City has successfully addressed the water access issue for many who have adopted lots through Power in Dirt’s water access program, which taps into existing water meter pits. However, some urban farms and community gardens are unable to use this program because there are no functioning water meter pits near their lots. Considering that this land is only temporarily licensed to farmers/gardeners, with no guarantee of future land tenure, growers are generally unwilling to invest their own money to install water access, an endeavor that often costs \$3,000-\$10,000. According to several stakeholders, the issue of water access is the determining factor as to whether existing farmers will stay in Baltimore City. If the city hopes to keep its farmers and encourage new farming projects, the issue of water access must be made a priority and be addressed as soon as possible.

**Recommendation 2a: *Improve Payment Process for Water Access Program.* (Short-Term)**

Currently, growers must mail a check or money order to pay their seasonal water fee and must repeat the process every year. By incorporating the water access program into the City's billing system, growers could pay their seasonal \$120 fee by credit card or bank transfer.

**Key Partners**

- **Governmental:** Department of Housing & Community Development—enable payment by credit card and bank transfer as well as auto renewal options
- **Nonprofit Organizations:** Baltimore Green Space, Parks & People, Farm Alliance, Community Law Center—incorporate information into materials and trainings about water access

**Indicator**

- Time of processing requests for water access

**Recommendation 2b: *Develop Options for Winter Water Access.* (Mid-Term)**

As more and more gardeners and farmers employ season extension techniques and winter growing methods, it would be helpful to be able to offer winter water access for those sites that have a live meter. DPW and DHCD should create an appropriate fee for year-round water access and incorporate this option into the Adopt-a-Lot and water access programs. Any agreement for year-round water access will need to address potential freezing to prevent water line breaks.

**Key Partners**

- **Governmental:** Department of Housing & Community Development, Department of Public Works—devise a winter water fee and incorporate this option into water agreements
- **Nonprofit Organizations:** Baltimore Green Space, Parks & People, Farm Alliance, Community Law Center—incorporate information into materials and trainings about water access

**Indicator**

- Number of year-round water access agreements

**Recommendation 2c: *Provide Resources for Sites without a Water Meter Pit* (Short-Term)**

For many years, community gardeners could access water via special permits to use fire hydrants. This program was discontinued in 2010 due to concerns about the integrity of the hydrants in favor of the current water meter access program. However, some community gardens that previously relied on hydrants do not have water meters available near their sites, and still do not have reliable water access, due to the high costs of installing new lines, which cannot always be met by resources like the Garden Irrigation Fund program or other small grant programs. There are very few of these sites, but where they exist, special efforts should be made to meet the need for water so that in these few exceptional cases, the City does not to lose the value and energy generated by these sites.

In addition, some new gardens do not have water access easily available from a live water meter pit. Efforts should be made to find solutions to help these gardens access water. A simple handout or webpage should be created to provide growers with next steps, including: apply for the water irrigation fund, who to contact for an estimate of the cost of water installation, select

another lot (and how to ensure that one has water access), and contact Blue Water Baltimore to learn more about rainwater collection options.

#### Key Partners

- **Governmental:** Baltimore Office of Sustainability, Department of Public Works—create resource and distribute to appropriate growers
- **Nonprofit Organizations:** Parks & People, Blue Water Baltimore—share information

#### Indicator

- Creation of follow-up guide for growers without on-site water access
- Number of gardens that successfully use these resources to get water access

### **Recommendation 2d:** *Preserve Existing Water Infrastructure.* (Immediate)

When completing blight demolition on new sites, at least one water supply line in a cluster should be abandoned at the meter (a point of connection in the sidewalk) rather than at the main. This would leave important infrastructure intact and could save a grower thousands of dollars in water access expenses down the road. If a demolition cluster is divided by a road or alley, the demolition process should preserve at least one live meter in each section.

#### Key Partners

- **Governmental:** Department of Housing & Community Development, Department of Public Works—adjust demolition specifications to preserve greater water access for future sites

#### Indicator

- Change in demolition specifications

### **Recommendation 2e:** *Support the Development of Rainwater Capture Systems.* (Mid-Term)

Most forms of agriculture require significant inputs of water for success. This water comes at a cost, whether to growers or to the City, and is a limited resource. Simultaneously, rainwater that flows from impervious surfaces into the storm drain system creates overloading and pollution issues for Baltimore’s sewer system and for the Chesapeake Bay. Nonprofits, as well as individual growers, are experimenting with capturing rainwater for their irrigation needs. This work should be encouraged via information-sharing, demonstration projects, and possibly financial support.

#### Key Partners

- **Governmental:** Baltimore Office of Sustainability, Department of Public Works, Department of Housing & Community Development—collect information, support demonstration sites, investigate feasibility of providing funding
- **Nonprofit Organizations:** Blue Water Baltimore, Parks & People Foundation—continue to work on pilot projects and host workshops

#### Indicator

- Number of urban agriculture sites using rainwater capture to supplement water needs.

### 3. Soil | *Challenge*: Lack of tillable soil and concerns about contamination

*Opportunity*: Build rich, safe urban soils through access to equipment, compost, and local soil testing.

Using vacant lots for farming and gardening is one important solution to addressing the problem of vacant land in Baltimore. Unfortunately, such land is usually not ideal for growing because vacant lots are often heavily compacted and may have contaminated soils. Farms and gardens are only as strong as the soil they grow in, and finding solutions to ensure tillable, safe, quality soil is an important part of expanding urban agriculture in Baltimore.

#### **Recommendation 3a: *Increase Equipment Availability.* (Mid-Term)**

The soil in vacant lots is often so heavily compacted that heavy equipment and significant inputs are needed to make the land productive. Baltimore City has multiple successful tool banks, enabling gardens and farms to access many hand tools, wheelbarrows, and even some power tools for work days. However, heavily compacted sites can often benefit significantly from deep tilling or even grading, which is very difficult for most citizens to accomplish on their own. City agencies, such as the Departments of Public Works and of Recreation & Parks, have access to trucks and equipment that may be useful for site preparation. The City should assess the feasibility of connecting growers to city-owned heavy machinery and/or trained personnel so that sites can be successfully established on more vacant lots. Previous efforts to connect growers to these services encountered difficulties and were not continued, so it would be important that such an effort be well thought out and that requests for services be vetted through a City agency or knowledgeable partner non-profit. Additionally, the Horticultural Division of Baltimore City's Department of Recreation and Parks used to deliver leaf mold and wood chips to community gardens and other public spaces. With budget cuts, leaf composting was discontinued and deliveries of wood chips to gardens outside of City Farms were discontinued. Gardeners still talk about how helpful this service was and would like to see it return. The City should consider reinvesting in this service to better support growers.

#### **Key Partners**

- **Governmental:** Department of Public Works, Baltimore City Department of Recreation & Parks—identify equipment, inputs, and other resources that can be used to improve vacant lots for urban agriculture
- **Nonprofit Organizations:** Parks & People, Farm Alliance, Future Harvest—explore additional options for equipment access such as through regional farmers or other local organizations

#### **Indicator**

- New opportunities to access equipment and inputs for site improvements

#### **Recommendation 3b: *Develop Soil Standards.* (Short-Term)**

Due to the variety of pollutants present in urban environments, the contamination of city soils is an important health concern for urban gardeners and farmers. The Johns Hopkins Center for a Livable Future conducted a study assessing gardeners' perceptions of soil contamination and developed draft guidelines about soil testing and best management practices. However, these resources need to be developed into user-friendly print materials that can be widely distributed, and training should be offered to ensure that these materials are understood and that best practices are adopted and shared. The Baltimore Office of Sustainability and the Farm Alliance are also developing soil testing standards to help farms and gardens identify which

contaminants to test for and safe ranges for food production, versus when to use raised beds or consider alternate sites. Considering the many benefits of gardening and farming to individuals and to the community, it is important that any guidance that is developed empower gardeners and farmers to understand soil contamination risks without scaring people away from growing food. Clear, accessible resources need to be made available to a broad range of gardeners and farmers city-wide.

#### Key Partners

- **Governmental:** Baltimore Office of Sustainability—develop soil standards
- **Academic Institutions and Nonprofit Organizations:** Johns Hopkins Center for a Livable Future, University of Maryland Extension, Community Greening Resource Network, Farm Alliance—help review and disseminate information

#### Indicator

- Creation of guidelines and standards for testing and managing contamination
- Incorporation of new guidelines into gardener and farmer training programs

### Recommendation 3c: *Provide Soil Testing.* (Mid-Term)

In order to ensure healthy and safe community green spaces, soil testing needs to be accessible and affordable. Currently, many growers are using out-of-state labs with mixed results. Some of these labs have taken months to return results, some have provided erratic results, and some are prohibitively expensive to test heavy metals and other contaminants. Partner organizations and agencies that have the equipment and expertise to offer soil testing services locally could help address a significant barrier by making these services available to Baltimore City growers. This would also have the effect of standardizing testing results amongst agricultural sites, making it easier to collect consistent information about the state of Baltimore's soils. Access to soil testing resources should be paired with recommendations and resources for mitigating or removing hazardous soils.

#### Key Partners

- **Academic Institutions:** University of Maryland, Johns Hopkins University—explore the feasibility of providing testing
- **Private sector:** Explore other private labs in the area that could do the testing

#### Indicator

- Availability of in-state soil testing and contaminants screening

### Recommendation 3d: *Support Composting at all Levels.* (Mid-Term)

Composting is an important tool for the improvement of soil, development of successful agriculture, and reduction of waste. When managed poorly, in minimally-tended piles, it can create a nuisance. However, when done responsibly, in such a way that odors and pest harborage are not created, it is nuisance-free and of great value. All scales of composting should be promoted, from backyard compost bins to commercial composting operations, along with information about how to compost responsibly.

#### Key Partners

- **Governmental:** Baltimore Office of Sustainability, Department of Housing & Community Development—collect and disseminate information, revise codes where necessary, host compost bin give-aways or sales
- **Nonprofit Organizations:** Community Greening Resource Network, Farm Alliance of Baltimore City, Future Harvest—share information, hold workshops

### Indicator

- Number of growers composting their own agricultural waste responsibly
- Number of commercial composting operations

## 4. Capital | Challenge: Lack of access to capital for start-up and infrastructure improvements

**Opportunity:** Leverage local and regional resources to help growers expand

A significant barrier to starting an urban farm is a lack of access to capital to pay the up-front costs, which can be substantial. Some urban farms are started in collaboration with non-profit organizations, a partnership that greatly benefits the urban farm project. Non-profits can help with some of the start-up costs, but capital can still be a significant obstacle. Resources may be available through government grants, non-profits, or by partnering with businesses, but such resources are limited. One of the main barriers to accessing capital is urban farmers' lack of land tenure and collateral. New and improved programs for small loans and grants can help expand urban agriculture and make it accessible to a broader range of growers.

### Recommendation 4a: *Expand Funding Assistance.* (Mid-Term)

Many urban farmers lack the land tenure and collateral required for traditional business or agricultural loans. Local lending agencies such as Marbidco and Mid-Atlantic Farm Credit are currently launching new grant and loan programs to support urban growers. As these programs develop, they will likely require help with advertising their services, and tweaking them to better meet the needs of urban growers. A partner organization that supports farmers such as Future Harvest CASA or the Farm Alliance would be well-positioned to work with lenders to help facilitate increased access to capital for urban farms. This could especially benefit aquaponics projects, which have more significant start-up costs.

#### Key Partners

- **Lenders:** Maryland Agricultural and Resource-Based Industry Development Corporation (MARBIDCO), Mid-Atlantic Farm Credit, other private lenders—explore new options and programs for lending to small-scale urban farms
- **Nonprofit Organizations:** Farm Alliance, Future Harvest—facilitate conversations between lenders and growers, help identify next steps to creating access to capital

#### Indicator

- Number of farmers accessing new avenues for capital

### Recommendation 4b: *Support Garden Irrigation Fund.* (Mid-Term)

Work with government and private funding to continue to provide gardens and farms with assistance on accessing water at sites without live water meter pits. Aim to increase this pot of funding, so that larger amounts can be awarded to individual sites, and more sites overall can receive support.

#### Key Partners

- **Governmental:** Baltimore Office of Sustainability—continue to facilitate program
- **Nonprofit Organization:** Parks & People—administer program and help secure funding for the future
- **Private Foundations/Other Funders:** Support this important program for water access

#### Indicator



- Number of grantees receiving irrigation funds each year

**5. Support | Challenge:** Supportive agencies, nonprofits, regulations, and training all need to be bolstered to expand urban agriculture and strengthen existing operations

**Opportunity:** Streamline operations, regulations, and staffing to support growers

Baltimore City is fortunate to have very supportive networks and resources for gardens and farms. However, the organizations and agencies and regulations that support new growers need to be strengthened in order to support a growing movement, and to help existing operations thrive and expand

**Recommendation 5a: Designate DHCD Staff Position. (Mid-Term)**

DHCD currently administers Adopt-a-Lot agreements, water access requests, and RFQ leases with existing staff, but could expand efforts and reach more gardens and farms with the addition of a dedicated position for urban agriculture initiatives. This individual could also connect growers operating on city land with connecting to other information and resources.

**Key Partners**

- **Governmental:** Department of Housing & Community Development, Baltimore Office of Sustainability

**Indicator**

- Creation of a dedicated staff position at DHCD to support urban agriculture

**Recommendation 5b: Fund Non-Profit Staff Position. (Short-Term)**

Once lots are adopted, adoptees need ongoing support to be successful, including access to resources, training, and networking opportunities. Power in Dirt, the Community Greening Resource Network, the Farm Alliance of Baltimore City, and other partners have all been instrumental in getting more new farms and gardens started and sustained across the City. The on-the-ground staff support provided by these programs is critical, since growers benefit most from having hands-on assistance, as opposed to being referred to a manual. However, these programs are jeopardized by a lack of long-term funding to support staff members, and are often understaffed, underfunded, and at capacity. Often, their very existence is dependent on grant funding that could dry up at any time. In order to support an expanding urban agriculture movement, increased stability is needed. By directly funding a dedicated staff position within an experienced partner organization, the City of Baltimore can ensure continuity of support for growers, and can make sure that relevant programs are connected to each other and to City initiatives.

**Key Partners**

- **Governmental:** Baltimore Office of Sustainability—identify funding source and structure for support staff position housed at a partner non-profit
- **Nonprofit Organizations:** Civic Works, Farm Alliance, Parks & People

**Indicator**

- Creation of support staff position housed at an experienced non-profit

**Recommendation 5c: Support Farm Incubator Development. (Long-Term)**

A significant way to improve land access and training opportunities would be to create a farm incubator. Such a site would offer new farmers the opportunity to gain production experience without having to deal with the myriad challenges that come with urban farming (getting community buy-in and managing community relations, clearing and grading a site, procuring equipment and building infrastructure, dealing with potential soil contamination, etc.). A farm incubator is a large site that is sub-divided into smaller sites independently managed by trainees who are often connected to mentors, equipment, financing, marketing, and more. The City could support such an effort by providing a large plot of land for the incubator and assisting with the initial land improvements and infrastructural needs. A partner organization could then run the farm incubator. Strong models for this include: Agricultural & Land-Based Training Association, The Intervale Center, New Roots Community Farm, and others. These organizations can provide important guidance on structure and operations. A Baltimore City farm incubator could not only address existing gaps in training, but also provide avenues for unemployed and low-income individuals without growing experience to access hands-on learning opportunities.

**Key Partners**

- **Governmental:** Department of Housing & Community Development, Baltimore Office of Sustainability—identify a suitable site location and resources to make improvements
- **Academic Institutions and Nonprofit Organizations:** Civic Works, Farm Alliance, Future Harvest, University of Maryland Extension—help select a viable model and identify an operator

**Indicator**

- Number of new farmers being trained on a Baltimore City farm incubator and proportion coming from low-income neighborhoods

**Recommendation 5d: Assess New Zoning Code’s Permit Process. (Short-Term)**

New definitions and the inclusion of urban agriculture in the proposed new Zoning Code will be a positive change in city policy by recognizing urban agriculture as a legitimate activity. However, the new Zoning Code requires growers to acquire permits for their activities, which was not previously the case. There is a great level of concern within the urban agriculture community regarding new permitting requirements, as it adds additional costs to their activities and may put an onerous burden on growers. Even small fees may be out of reach for low-income, volunteer growers, particularly those who are most food insecure. The City should reassess whether permits are necessary for most urban agriculture activities, or if associated fees can be reduced or eliminated. In particular, fees should be waived for low-income residents and projects that will increase access to fresh healthy food in food desert neighborhoods. In addition, prior to instituting requirements for permits, a streamlined process should be developed for applying for permits, with simple, straightforward applications that are available online and in hard copy from the various organizations involved in urban agriculture and the Office of Sustainability. It should be determined who will process the permits, with an emphasis on processing permits in a reasonable timeframe. Permitting requirements for improvements such as paths, fences, and irrigation systems should be made as simple, clear, and inexpensive as possible for growers, and information should be promoted so that growers have clarity about what permits are needed and where. Additional options for growers working on abandoned land without owner permission should be investigated.

**Key Partners**

- **Governmental:** Baltimore Office of Sustainability, Baltimore City Zoning Office

- **Nonprofit Organizations:** Baltimore Green Space, Community Greening Resource Network, Community Law Center, Farm Alliance—help gardens and farms understand new permitting process

#### Indicator

- Supportive zoning and permits for farms and gardens

#### Recommendation 5e: *Assess Animal Regulations.* (Long-Term)

Revisions in 2012 to the Health Department's animal regulations expanded the number of animal species that can be kept in Baltimore City, but barriers remained. The regulations recently underwent another revision, addressing concerns about burdens on beekeepers, signage requirements, caps on the number of animals for gardens and farms, and general clarity of language and intent. The Baltimore City Health Department and Baltimore Office of Sustainability should continue to work with partner organizations to assess the effectiveness of the new regulations on an ongoing basis, ensuring that they are appropriate, supportive of urban agriculture, and can be readily understood by Baltimore residents. Existing user-friendly materials from groups like the Community Law Center and the Farm Alliance should be made available through the BCHD and BOS websites.

#### Key Partners

- **Governmental:** Baltimore Office of Sustainability, Baltimore City Health Department—assess new revisions to the animal regulations to ensure they are clear and supportive
- **Academic Institutions and Nonprofit Organizations:** Community Law Center, Farm Alliance, University of Maryland Extension—incorporate regulation changes into training materials and share materials with City agencies

#### Indicator

- Regular assessment of the regulations
- Availability of user-friendly materials

#### Recommendation 5f: *Explore Liability Insurance Options.* (Short-Term)

Through Power in Dirt, urban farmers and gardeners who adopt a lot agree to take on all liability in any way connected with or arising from the activities carried on at the property. Though the risk of an accident occurring is relatively low, a single incident could result in an enormous financial burden for a farmer or gardener. Farmers and gardeners are now looking for liability insurance policies to cover these plots of land. However, urban farming and gardening are not activities most insurance agents are familiar with, and farmers and gardeners have no legal rights to the land licensed to them through Power in Dirt. Baltimore City and partner organizations should consider building a relationship with an insurance agency who understands urban agriculture in Baltimore and to which farmers and gardeners can be referred for liability insurance.

#### Key Partners

- **Governmental:** Baltimore Office of Sustainability, Power in Dirt—take the lead on building a relationship with an insurance agency able to insure farms and gardens
- **Academic Institutions and Nonprofit Organizations:** Baltimore Green Space, Community Law Center, Farm Alliance, University of Maryland Extension—refer farms and gardens to insurance opportunities as appropriate

#### Indicator

- Availability of affordable, accessible liability insurance for farms and gardens

**Recommendation 5g: *Ensure Citizen Education and Engagement.* (Mid-Term)**

Urban agriculture works best when its presence is desired and supported by neighbors, and when local residents have a chance to participate. While the profile of the urban agriculture movement has risen sharply in the last five years, there are still many city residents who are not familiar with the idea of growing food in the urban setting, or who have a negative impression of some or all aspects of urban agriculture. Those who do have an interest in urban agriculture and a desire to get involved may face barriers due to lack of funds or training. The adoption of this plan provides an opportunity to support and expand existing citizen education and engagement campaigns, with the key goals of ensuring that more city residents know about the gardens, farms, and other food production projects in Baltimore City, and have the tools to get involved as growers. Both of these avenues should be actively pursued by the City of Baltimore and its partners, and should be paired with ongoing support for resources, many identified or recommended in this plan, that can reduce barriers to engagement. Examples include free materials, informational packets, and free or low-cost training opportunities. Special emphasis should be given to reaching low-income residents in Baltimore’s food deserts, where the need for access to healthy foods is highest. These campaigns must be coordinated with the Baltimore Office of Sustainability’s overall communications plan, as well as other complementary public outreach campaigns, especially those focused on health.

**Key Partners**

- **Governmental:** Baltimore Office of Sustainability, Baltimore City Health Department—create and distribute informational materials, support resources for engagement
- **Nonprofit Organizations:** Community Greening Resource Network, Farm Alliance of Baltimore City, Future Harvest, University of Maryland Extension—continue to host public education and engagement events, hold workshops and trainings, provide resources for engagement

**Indicator**

- Percentage of city residents with an awareness of urban agriculture
- Percentage of city residents with a positive view of urban agriculture
- Number of city residents engaged in growing their own food
- Number of city residents engaged in entrepreneurial food production

## VII. Buy Local, Eat Local

In addition to growing local, Baltimore City is also pursuing a variety of strategies to encourage residents to “buy local” and “eat local.” This includes strategies to connect local urban farmers and gardeners with markets, as well as to increase demand for locally grown food. A number of strategies for these components of *Homegrown Baltimore* are listed below.

### Buy Local

Buying local involves linking local food producers – both urban and rural – to consumers and marketing opportunities. New marketing opportunities for supporting local producers include:

- ❖ Bringing fresh local produce to Baltimore’s ubiquitous corner stores by helping to install refrigeration, incentivizing store owners to try selling produce, and advertising produce to encourage sales
- ❖ Ensuring urban farmers and gardeners have opportunities to sell their produce at one of the City’s many farmers markets
- ❖ Establishing stalls at the City’s covered markets where local farmers and gardeners can sell their produce
- ❖ Connecting local farmers with large institutions that purchase food such as schools and hospitals

### Eat Local

Eating local involves encouraging consumers to purchase the healthy, fresh foods produced by local urban and rural growers. Strategies around eating local include:

- ❖ Promoting participation by City employees in CSAs
- ❖ Supporting the school district in developing food processing and farm-to-school capacity
- ❖ Promoting public education about healthy eating, nutrition, and cooking

## VIII. Conclusion

Numerous successful urban agriculture projects are underway in Baltimore, including community-oriented and commercially-oriented urban farms, community gardens, youth gardens and farms, home and rooftop gardens, aquaculture projects, apiaries, and the planting of fruit trees. These projects provide a multitude of benefits to the City and its citizens. New policies related to urban agriculture support the development of these projects, and the current rewrite of Baltimore's Zoning Code may further promote agricultural uses of land lying within the city boundaries. A wide range of governmental initiatives and community-based organizations also provide critical resources to support these projects. Urban agriculture is flourishing in Baltimore, and the city is recognized as an increasingly supportive environment for urban agriculture projects, yet significant challenges remain to making these projects sustainable and accessible to more people.

Urban agriculture is a key element to the development of a livable, healthy, and resilient city. Based on the input of stakeholders across Baltimore's urban agriculture community, and from multiple city agencies, this report proposes numerous recommendations that could help the City of Baltimore and its partners better support current urban agriculture projects and encourage the development of new projects. These recommendations are based on an assessment of existing barriers facing urban growers, including needs for infrastructure, training and information, greater support for existing organizations that promote urban agriculture, clearer communication around policy, and concerted efforts to expand urban agriculture in Baltimore's most food insecure neighborhoods.

Baltimore is uniquely situated to transition from a post-industrial city hampered by its vacant land into a sustainable city where various forms of agriculture are woven into the urban fabric. Through the development of a diverse mix of small-scale sites (between a half acre and three acres), urban agriculture can contribute to life of the city while maintaining the social and environmental benefits of density and urbanism. It will be an important, ongoing task to develop and maintain a vision for the extent to which the City would most benefit from land being used for urban agriculture and in which areas. A commitment to protecting urban agriculture at sites that fall within this scope will ensure a maximum return on investment, both for gardeners and farmers, and for the city as a whole.

## Appendix A: Acknowledgement to Contributors

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The following individuals also contributed to the development of this document, either through participating in interviews with the report authors, or by giving public lectures. Their time and input is greatly appreciated.

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- Department of Housing & Community Development: Michael Braverman, Rashelle Celestin, Mara D'Angelo, Julie Day, Wendi Redfern
- Department of Public Works: Darrell Owens, Greg Scheihing, Art Shapiro
- Health Department: Mary Beth Haller and Sharon Miller
- Power in Dirt: Vu Dang

### **Growers:**

- Boone Street Farm: Cheryl Carmona (lecture at the Beginner Farmer Training Program hosted by the Farm Alliance of Baltimore City, Civic Works, and Future Harvest-CASA May 9, 2012)
- Calvert's Gift Farm: Jack Gurley
- Center for a Livable Future Aquaponics Project: Dave Love
- Cherry Hill Urban Garden: Nadine Braunstein
- Five Seeds Farm: Denzel Mitchell
- Real Food Farm: Tyler Brown

### **Support Agencies, Organizations, and Businesses:**

- Baltimore Backyard Beekeepers Network: Beth Passavant
- Baltimore Green Space: Miriam Avins
- Baltimore Orchard Project: Nina Beth Cardin
- Chesapeake Center for Youth Development: Toma Solano
- Chesapeake Compost Works: Vinnie Bevivino
- Community Greening Resource Network: Katie Dix, Anna Evans-Goldstein
- Community Law Center: Kristine Dunkerton, Robin Jacobs, Becky Witt
- Farm Alliance of Baltimore City: Maya Kosok
- Friends of Great Kids Farm: Jill Wrigley
- Future Harvest/CASA: Cathy Tipper
- MARBIDCO: Steve McHenry
- Natural Resources Conservation Service: Tim Clippinger
- The Prawn Shop: Peter May
- University of Maryland Extension: Elizabeth Hill
- US Department of Agriculture: Rufus Cheney (public lecture at Cylburn Arboretum May 15, 2012)
- US Environmental Protection Agency, Office of Brownfields and Land Revitalization: Ann Carroll (lecture at the Beginner Farmer Training Program hosted by the Farm Alliance of Baltimore City, Civic Works, and Future Harvest-CASA May 9, 2012)
- West Baltimore MARC Farmer's Market: Joyce Smith

## Appendix B: Design Standards for Urban Farms

Under the current Zoning Code, design of urban farms is not addressed. This will change under Transform Baltimore, Baltimore's new Zoning Code. The full text of Transform Baltimore may be found [here](#). Under Transform Baltimore, as the draft code is currently written, new urban farms will be considered:

- Conditional uses in most zoning districts,
- Permitted uses in Office-Industrial Campus, Bio-Science Campus, Industrial Mixed-Use, and Light Industrial zones, and
- Disallowed in General Industrial and Maritime Industrial zones.

Where urban farms are Conditional uses (e.g. in any residential or commercial areas), they will be required to go through:

- Site Plan Review Committee (SPRC) design review, and
- A Baltimore City Municipal Zoning and Appeals Board (BMZA) hearing.

In the SPRC process, the design of new farms will be reviewed by representatives from relevant city agencies to ensure that regulations, as well as good design principles, have been met. Full guidelines for submissions to SPRC may be found [here](#). Note that agricultural uses are exempt from normal stormwater management requirements. See below for a list of agencies that participate in SPRC and what they look for (A).

In the BMZA process, the Board will consider the size, shape, and arrangement of structures, impacts to traffic and parking, the extent to which the use might impair present and future development of the surrounding area, proximity to other structures, the character of the neighborhood, and other matters considered to be in the interest of the general welfare when deciding whether to impose any conditions on the development of the site for the proposed use. Additional information on the BMZA may be found [here](#). See below for a full list of BMZA considerations (B).

While new urban farms in zones where they are Conditional uses will be subject to the strictest set of reviews, all new farms, whether Conditional or Permitted, will be required to adhere to a set of Use Standards under Transform. These include limits on the type, size, and combined area of permanent accessory structures. Greenhouses, including hoop houses (impermanent structures to extend the growing season, consisting of steel pipes covered in translucent plastic), are exempt from these limits on their number and square footage. All structures must be set back at least 5' from any lot line, and must not be greater than 25' in height, unless they are designed for capturing wind energy. See Appendix C for a full list of the Use Standards that would apply to urban farms under Transform.

In line with the International Building Code, the Baltimore Building Code exempts hoop houses from building permits, but requires that they be made out of fire-safe materials. See below for the relevant Baltimore Building Code language (C).

### **A. SPRC Participants, Focus Areas, and Interest**

The Site Plan Review Committee review consists of representatives and issues addressed by the following City departments:

- Department of Planning: Focuses on conformity with the Baltimore City Comprehensive Plan, applicable downtown, urban renewal and neighborhood plans; elements of good urban design; subdivision requirements; applicable Planned Unit Developments;



ordinances; State Forest Conservation and Critical Area ordinances; historic districts and zoning.

- Office of Sustainability: A Division of the Department of Planning that focuses on compliance with local and State environmental regulations and policies such as landscaping, forest conservation, waterway and wetlands protection, flood plains, steep slopes, Baltimore City Green Building Standards program, and the Chesapeake Bay Critical Area.
- Fire Department: Focuses on plans' conformity with fire safety requirements and standards including fire access routes and fire protection.
- Department of Housing and Community Development: Focuses on conformity with the Baltimore City Zoning and Building Codes.
- Parking Authority: Reviews proposals for off-street surface lots and garage parking.
- Department of Public Works: Coordinates proposed development with stormwater management, underground utilities, and solid waste needs.
- Department of Transportation: Focuses on traffic, circulation, parking, and loading requirements and standards. Their Planning Division coordinates required Traffic Impact Studies (TIS) and traffic impact mitigation.

**B. BMZA Considerations for Conditional Uses (as per the current draft of Transform Baltimore)**

*REQUIRED CONSIDERATIONS.*

- AS A FURTHER GUIDE TO ITS DECISION ON THE FACTS OF EACH CASE, THE BOARD OF MUNICIPAL AND ZONING APPEALS MUST CONSIDER THE FOLLOWING, WHERE APPROPRIATE:
- (1) THE NATURE OF THE PROPOSED SITE, INCLUDING ITS SIZE AND SHAPE AND THE PROPOSED SIZE, SHAPE, AND ARRANGEMENT OF STRUCTURES;
- (2) THE RESULTING TRAFFIC PATTERNS AND ADEQUACY OF PROPOSED OFF-STREET PARKING AND LOADING;
- (3) THE NATURE OF THE SURROUNDING AREA AND THE EXTENT TO WHICH THE PROPOSED USE MIGHT IMPAIR ITS PRESENT AND FUTURE DEVELOPMENT;
- (4) THE PROXIMITY OF DWELLINGS, CHURCHES, SCHOOLS, PUBLIC STRUCTURES, AND OTHER PLACES OF PUBLIC GATHERING;
- (5) ACCESSIBILITY OF THE PREMISES FOR EMERGENCY VEHICLES;
- (6) ACCESSIBILITY OF LIGHT AND AIR TO THE PREMISES AND TO THE PROPERTY IN THE VICINITY;
- (7) THE TYPE AND LOCATION OF ADEQUATE UTILITIES, ACCESS ROADS, DRAINAGE, AND OTHER NECESSARY FACILITIES THAT HAVE BEEN OR WILL BE PROVIDED;
- (8) THE PRESERVATION OF CULTURAL AND HISTORIC LANDMARKS AND STRUCTURES;
- (9) THE CHARACTER OF THE NEIGHBORHOOD;
- (10) THE PROVISIONS OF THE CITY COMPREHENSIVE MASTER PLAN;
- (11) THE PROVISIONS OF ANY APPLICABLE URBAN RENEWAL PLAN;
- (12) ALL APPLICABLE STANDARDS AND REQUIREMENTS OF THIS CODE;
- (13) THE INTENT AND PURPOSE OF THIS CODE;
- (14) ANY OTHER MATTERS CONSIDERED TO BE IN THE INTEREST OF THE GENERAL WELFARE.

**C. Building Code Regulations Relating to Hoop Houses**

*Baltimore Building Code, Section 105.2 Permits shall not be required for the following:*

10. Shade cloth or plastic film structures commonly known as “hoophouses,” constructed for nursery or agricultural purposes, not including service systems. The covering of the structure must be a material that conforms to National Fire Protection Association’s NFPA 701 Standards.

## Appendix C: Zoning Code

The following language for community-managed open space and urban agriculture is currently under review by the Baltimore City Council.

### *COMMUNITY-MANAGED OPEN SPACE.*

“COMMUNITY-MANAGED OPEN SPACE” MEANS AN OPEN-SPACE AREA THAT:

- (1) IS MAINTAINED BY MORE THAN 1 HOUSEHOLD; AND
- (2) IS USED EITHER:
  - (I) FOR THE CULTIVATION OF FRUITS, FLOWERS, VEGETABLES, OR ORNAMENTAL PLANTS; OR
  - (II) AS A COMMUNITY GATHERING SPACE FOR PASSIVE OR ACTIVE RECREATION.

### **§ 14-307. COMMUNITY-MANAGED OPEN SPACES.**

#### (A) *PERMITTED ACTIVITIES.*

- (1) COMMUNITY-MANAGED OPEN SPACES ARE LIMITED TO:
  - (I) THE CULTIVATION OF HERBS, FRUITS, FLOWERS, OR VEGETABLES;
  - (II) THE CULTIVATION AND TILLAGE OF SOIL; AND
  - (III) THE PRODUCTION, CULTIVATION, GROWING, AND HARVESTING OF ANY AGRICULTURAL, FLORICULTURAL, OR HORTICULTURAL COMMODITY.
- (2) COMMUNITY-MANAGED OPEN SPACES MAY ALSO INCLUDE COMMUNITY GATHERING SPACES FOR ACTIVE OR PASSIVE RECREATION. HOWEVER, PLAYGROUND EQUIPMENT IS PROHIBITED.
- (3) THE KEEPING OF LIVESTOCK AND ANIMALS IS PERMITTED, BUT MUST ADHERE TO ALL BALTIMORE CITY HEALTH DEPARTMENT AND MARYLAND DEPARTMENT OF AGRICULTURE REGULATIONS.

#### (B) *PLANTS FOR HUMAN CONSUMPTION.*

FOR ANY COMMUNITY-MANAGED OPEN SPACE USE THAT INVOLVES THE CULTIVATION OF PLANTS FOR HUMAN CONSUMPTION, MEASURES MUST BE TAKEN TO TEST AND, IF NECESSARY, REMEDIATE THE SOIL IN ACCORDANCE WITH GUIDELINES ADOPTED BY THE DEPARTMENT OF PLANNING.

#### (C) *PERMANENT STRUCTURES.*

- (1) EXCEPT AS PROVIDED IN THIS SUBSECTION, PERMANENT STRUCTURES ARE PROHIBITED.
- (2) TEMPORARY GREENHOUSES, INCLUDING HIGH TUNNELS, HOOP-HOUSES, COLD-FRAMES, AND SIMILAR STRUCTURES ARE PERMITTED TO EXTEND THE GROWING SEASON.
- (3) ACCESSORY STRUCTURES, SUCH AS SHEDS, GAZEBOS AND PERGOLAS, ARE ALSO PERMITTED.

#### (D) *FARMSTANDS.*

- (1) FARMSTANDS FOR THE DISPLAY AND SALE OF AGRICULTURAL PRODUCTS GROWN AT THE SITE ARE PERMITTED.
- (2) FARMSTANDS MUST BE REMOVED FROM THE PREMISES OR STORED INSIDE A STRUCTURE ON THE PREMISES DURING THAT TIME OF THE YEAR WHEN THE OPEN SPACE IS NOT OPEN FOR PUBLIC USE.
- (3) ONLY 1 FARMSTAND IS PERMITTED PER LOT.

#### (E) *COMPOSTING.*

COMPOSTING ON-SITE IS ALLOWED AS AN ACCESSORY USE, SUBJECT TO THE FOLLOWING CONDITIONS:

- (1) ANY COMPOST PILE MUST BE LOCATED AT LEAST 3 FEET AWAY FROM ANY LOT LINE;
- (2) COMPOSTING AREAS AND STRUCTURES MUST BE MAINTAINED IN A WAY THAT PROTECTS ADJACENT PROPERTIES FROM NUISANCE ODORS AND THE ATTRACTION OF RODENTS OR

OTHER PESTS; AND

(3) ORGANIC WASTE MATERIAL FOR COMPOSTING MAY BE ACCEPTED FROM OUTSIDE SOURCES

*URBAN AGRICULTURE.*

(1) *GENERAL.*

“URBAN AGRICULTURE” MEANS THE CULTIVATION, PROCESSING, AND MARKETING OF FOOD, WITH A PRIMARY EMPHASIS ON OPERATING AS A BUSINESS ENTERPRISE FOR INCOME GENERATION.

(2) *INCLUSIONS.*

(I) “URBAN AGRICULTURE” INCLUDES:

(A) ANIMAL HUSBANDRY;

(B) AQUACULTURE;

(C) AGRO-FORESTRY;

(D) VINEYARDS AND WINERIES; AND

(E) HORTICULTURE.

(II) “URBAN AGRICULTURE” MIGHT INVOLVE THE USE OF:

(A) INTENSIVE PRODUCTION METHODS;

(B) STRUCTURES FOR EXTENDED GROWING SEASONS;

(C) ON-SITE SALE OF PRODUCE; AND

(D) COMPOSTING.

**§ 14-337. URBAN AGRICULTURE.**

(A) *MANAGEMENT PLAN FOR CERTAIN ACTIVITIES.*

URBAN AGRICULTURE USES THAT INVOLVE ANY OF THE FOLLOWING ACTIVITIES MUST PREPARE A MANAGEMENT PLAN, SUBJECT TO APPROVAL BY THE DIRECTOR OF PLANNING, THAT ADDRESSES HOW THE ACTIVITIES WILL BE MANAGED TO MITIGATE IMPACTS ON SURROUNDING LAND USES AND NATURAL SYSTEMS:

(1) ANIMAL HUSBANDRY, INCLUDING CHICKEN COOPS, APIARIES AND AQUACULTURE. THE KEEPING OF LIVESTOCK MUST ADHERE TO ALL BALTIMORE CITY HEALTH DEPARTMENT AND MARYLAND DEPARTMENT OF AGRICULTURE REGULATIONS.

(2) PROCESSING OF FOOD PRODUCED ON SITE.

(3) SPREADING OF MANURE, SLUDGE, OR OTHER NUTRIENT-RICH FERTILIZERS.

(4) SPRAYING OF AGRICULTURAL CHEMICALS, INCLUDING FERTILIZERS, FUNGICIDES, AND PESTICIDES.

(5) USE OF HEAVY EQUIPMENT SUCH AS TRACTORS.

(B) *GREENHOUSES, ETC.*

(1) GREENHOUSES (PERMANENT OR TEMPORARY), HIGH TUNNELS, HOOP-HOUSES, COLD-FRAMES, AND SIMILAR STRUCTURES USED TO EXTEND THE GROWING SEASON ARE PERMITTED.

(2) THERE IS NO LIMIT ON THE NUMBER OR SQUARE FOOTAGE ON THESE STRUCTURES.

(C) *PLANTS FOR HUMAN CONSUMPTION.*

FOR ANY URBAN AGRICULTURE USE THAT INVOLVES THE CULTIVATION OF PLANTS FOR HUMAN CONSUMPTION, MEASURES MUST BE TAKEN TO TEST AND, IF NECESSARY, REMEDIATE THE SOIL IN ACCORDANCE WITH GUIDELINES ADOPTED BY THE DEPARTMENT OF PLANNING.

(D) *PERMANENT ACCESSORY STRUCTURES.*

(1) PERMANENT ACCESSORY STRUCTURES ARE LIMITED TO:

(I) TOOL SHEDS;

(II) SHADE PAVILIONS;

(III) BARNs;

(IV) TOILET FACILITIES;

(V) PLANTING PREPARATION HOUSES; AND

(VI) POST-HARVEST PROCESSING FACILITIES.

(2) ALL STRUCTURES MUST BE SET BACK AT LEAST 5 FEET FROM ANY LOT LINE

(3) NO STRUCTURE MAY EXCEED 25 FEET IN HEIGHT, EXCEPT FOR STRUCTURES DESIGNED TO CAPTURE WIND ENERGY.

(E) *COMBINES AREA OF ACCESSORY STRUCTURES.*

(1) THE COMBINED AREA OF ALL STRUCTURES IS LIMITED TO 25% OF THE LOT AREA.

(2) FOR MULTIPLE ADJOINING LOTS THAT ARE UNDER COMMON OWNERSHIP AND USED AS COMMUNITY-MANAGED OPEN SPACE, THE LIMIT FOR THE COMBINED AREA OF STRUCTURES IS APPLIED OVER THE ENTIRE SITE RATHER THAN EACH INDIVIDUAL LOT. THE LIMIT FOR THE COMBINED AREA OF STRUCTURES FOR THE INDIVIDUAL LOTS MAY NOT EXCEED THAT OF THE UNDERLYING ZONE.

(F) *FARMSTANDS.*

(1) FARMSTANDS FOR THE DISPLAY AND SALE OF AGRICULTURAL PRODUCTS ARE PERMITTED.

(2) FARMSTANDS MUST BE REMOVED FROM THE PREMISES OR STORED INSIDE A STRUCTURE ON THE PREMISES DURING THAT TIME OF THE YEAR WHEN THE FACILITY IS NOT OPEN FOR PUBLIC USE.

(G) *COMPOSTING.*

COMPOSTING ON-SITE IS ALLOWED AS AN ACCESSORY USE, SUBJECT TO THE FOLLOWING CONDITIONS:

(1) ANY COMPOST PILE MUST BE LOCATED AT LEAST 3 FEET AWAY FROM ANY LOT LINE;

(2) COMPOSTING AREAS AND STRUCTURES MUST BE MAINTAINED IN A WAY THAT PROTECTS ADJACENT PROPERTIES FROM NUISANCE ODORS AND THE ATTRACTION OF RODENTS OR OTHER PESTS; AND

(3) ORGANIC WASTE MATERIAL FOR COMPOSTING MAY BE ACCEPTED FROM OUTSIDE SOURCES AND EITHER USED ON SITE OR DISTRIBUTED AT NO COST, BUT MAY NOT BE SOLD.