

Overcoming Barriers to Cultivating Urban Agriculture

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Cultivating Urban Agriculture—Addressing Land Use Barriers to Gardening and Farming in Cities

“The soil is the great connector of lives, the source and destination of all. It is the healer and restorer and resurrector, by which disease passes into health, age into youth, death into life. Without proper care for it we can have no community, because without proper care for it we can have no life.”¹

I. Introduction

Urban agriculture is not a new concept; in fact, it has been with us for centuries.² What is relatively new is the relegation of farming to areas outside of cities since the adoption of Euclidean zoning nearly 100 years ago.³ Fortunately, municipalities around the country are recognizing the importance of agriculture within their borders and making efforts to realign their land use regulations to permit such

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¹WENDELL BERRY, THE UNSETTLING OF AMERICA: CULTURE AND AGRICULTURE 86 (1977).

²Patricia E. Salkin, *Trends in Urban Agriculture*, in ALI-ABA Course of Study Land Use Institute: Planning, Regulation, Litigation, Eminent Domain, and Compensation American Law Institute—American Bar Association at FN 18 (2011) (citing Katherine L. Adam, Community Gardening, National Sustainable Agriculture Information Service 7, available at <https://www.attar.ncat.org/attar-pub/PDF/communitygarden.pdf>); Richard Hoff et al., Sustainable Benefits of Urban Farming as a Potential Brownfield Site Remedy 3 (2010), <http://www.eswp.com/brownfields/Presentation/Hoff%205A.pdf>.

³Kristin Choo, *Plowing Over: Can Urban Farming Save Detroit and Other Declining Cities? Will the Law Allow It?* Aug. 1, 2011, ABA Journal available at http://www.abajournal.com/magazine/article/plowing_over_an_urban_farming_save_detroit_and_other_declining_cities_will/.

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activities. This article examines the benefits of urban agriculture, the barriers that unreasonable land use regulations can pose to agricultural activities and the actions taken by municipalities to allow agriculture to begin flourishing again within cities. It concludes with a suggested course of action to evaluate and make amendments to comprehensive plans, zoning ordinances and land use regulations to promote urban agriculture.

A. Definition of Urban Agriculture

Urban agriculture is a broad term that embraces many different undertakings relating to growing food in an urban setting, including activities involved in the planting, cultivation, processing, marketing, distribution and consumption of food.⁴ It includes community gardens, personal backyard gardens, rooftop farms, commercial greenhouses, farmers markets, community supported agriculture (CSA) operations, and apiaries among other activities. For purposes of this article, the term urban agriculture is broadly defined to encompass all of these undertakings and related activities.⁵

B. Urban Agricultural Trends

Urban agriculture has grown in popularity in the United States and has become a hot and trending topic on social media everywhere. Between 1994 and 2011 the number of farmers' markets in the U.S. has grown by over 300%⁶ and the Department of Agriculture estimates that roughly 15%

⁴Heather Wooten & Amy Ackerman, *Seeding the City: Land Use Policies to Promote Urban Agriculture* 4 (2011), available at http://www.changelabsolutions.org/sites/changelabsolutions.org/files/Urban_Ag_SeedingTheCity_FINAL_%28CLS_20120530%29_20111021_0.pdf (hereinafter Seeding the City).

⁵“While there is not yet a universally agreed-upon definition, Urban and Peri-urban Agriculture . . . is perceived as agriculture practices within and around cities which compete for resources (land, water, energy, labour) that could also serve other purposes to satisfy the requirements of the urban population. Important sectors of UPA include horticulture, livestock, fodder and milk production, aquaculture, and forestry.” Food and Agriculture Organization of the United Nations (FAO), *Urban and Peri-urban Agriculture*, <http://www.fao.org/unfao/bodies/COag/cOAG15/X0076e.htm> (last visited July 12, 2012).

⁶U.S. Dep’t of Agriculture, Farmers Markets and Local Food Marketing, <http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateS&leftNav=WholesaleandFarmersMarkets&page=WFMFarmersMarketGrowth&description=Farmers%20Market%20Growth&acct=frmrdirmkt> (last visited July 12, 2012).

of the world's food is now grown within urban limits.⁷ The growth and importance of urban agriculture is also evident with the significant expansion of the White House Kitchen Garden by First Lady Michelle Obama.⁸

Despite the recent boom in growing locally consumed produce, the concept is not new to the United States.⁹ In fact, during World Wars I and II, countries, including the United States, encouraged their citizens to use their land to grow victory or war gardens in order to relieve the demand on the public food supply.¹⁰

Now in 2012, as the country continues to face an economic downturn, it is witnessing a renewed movement towards locally grown food, and is beginning to accept the many corollary benefits of urban agriculture.

II. Benefits of Urban Agriculture

The benefits of urban agriculture are many and far-reaching. They include the promotion of healthier eating habits, the reclaiming of vacant and blighted property, and the reduction of impervious surface and associated stormwater runoff. These and other benefits of urban agriculture are discussed below.

A. Health Benefits

One of the primary benefits of urban agriculture is an increase in healthy eating. As has been noted “[p]ractical experience with fresh food—growing, harvesting, identifying varieties in stores and farm stands, understanding seasonality, cooking, and preserving—positively impacts dietary habits . . . Evidence is building that when gardeners and small-scale farmers ‘save food dollars’ by producing their

⁷U.S. Dep’t of Agriculture, Farms and Community, <http://www.afsic.nal.usda.gov/farms-and-community/urban-agriculture> (Last visited July 12, 2012).

⁸See generally, First Lady Michelle Obama, American Grown: The Story of the White House Kitchen Garden and Gardens Across America (2012).

⁹Salkin, Regional Foodsheds: Are Our Local Zoning and Land Use Regulations Healthy?, 22 Fordham Envtl. L. Rev. 599, 599 (2011) (citing Am. Planning Ass’n, Policy Guide on Community and Regional Food Planning 2 (2007), <http://www.planning.org/policy/guides/pdf/foodplanning.pdf> .).

¹⁰Claudia Reinhardt, Farming in the 1940s: Victory Gardens, http://www.livinghistoryfarm.org/farminginthe40s/crops_02.html (last visited July 12, 2012).

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own food, their overall food consumption patterns and dietary knowledge improve.”¹¹

Many cities have neighborhoods where residents lack access to fresh and healthy foods, including fruits and vegetables and low preservative meats. For example, within the four square mile City of Newburgh, New York, with a population of 28,173, there is not a single supermarket.¹² By providing an opportunity for people in these areas to have access to fresh and healthy foods, urban agriculture aids in the elimination of food deserts, reduction of obesity, and lessening of other disease that are spurred on by consuming an inadequate diet.

The populations that are most affected by the lack of nutritious food are the poor and mobility-constrained populations.¹³ Within Census Tract Four in Newburgh, New York, an area that is comprised of many vacant and dilapidated properties, it is estimated that as many as 40% of households are transit dependent, and as such, lack access to private vehicles to purchase groceries.¹⁴ The residents within this area must rely on processed foods offered at corner stores where prices are often 25 to 30% higher for staple goods.¹⁵ Implementing urban agriculture programs in these areas can help diminish the impacts of living in what is called a food desert, those areas without ready access to supermarkets such as Newburgh.¹⁶

In conjunction with healthy eating, engaging in urban

¹¹ Anne C. Bellows, Ph.D. et al., *Health Benefits of Urban Agriculture*, at 2, <http://www.foodsecurity.org/UAHealthArticle.pdf> (last visited July 12, 2012).

¹² Pathstone, A Plan for Green Urban Land Use in the City of Newburgh, Greenway community Grant Report 2 (Mar. 2012) (on file with authors).

¹³ See Barb Murphy, *Living in a Food Desert: How Lack of Access to Healthy Foods Can Affect Public Health*, Jan. 25, 2011, The National Academies Press, available at <http://notes.nap.edu/2011/01/25/living-in-a-food-desert-how-lack-of-access-to-healthy-foods-can-affect-public-health/>.

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ APA, Zoning Practice: Urban Agriculture (March 2010), available at <http://www.planning.org/zoningpractice/2010/pdf/mar.pdf>; “A ‘food desert’ is an area where residents have limited access to supermarkets and supercenter stores. The term originated in Europe to describe places with few food retailers. U.S. researchers have only recently begun to apply this concept to rural areas in the U.S.” U.S. Dep’t of Agriculture, Food and Nutrition Assistance Research Database, summary available at <http://162.>

agriculture tends to increase physical activity, in particular by children and young adults. By affording youth the proper dietary nutrition necessary to maintain a healthy and active lifestyle they will be fueled and more energized to play outdoors. The unfortunate truth is that over 16 million children in the United States are living in ‘food insecure’ conditions and are being deprived of the healthy and nutritious foods needed for their growing bodies.¹⁷

In addition, kids spend approximately half as much time outside as they did two decades ago.¹⁸ Creating outside gardens and getting children involved also will reduce the phenomenon coined by Richard Louv as “nature deficit disorder,” used to describe “human costs of alienation from nature.”¹⁹ Urban gardens provide a perfect outlet to allow children to be outside, connect with nature, learn about their neighborhood ecosystem, as well as educate them on where their food comes from and encourage them to make healthy food choices.²⁰

B. Economic Benefits

Urban agriculture can result in many economically beneficial impacts within a community. Vacant or dilapidated lots attract vermin, trash, loiterers, squatters, illegal activity and are generally an unsafe environment. Municipalities are turning to urban agriculture, and in particular community gardens, as a solution to their distressed and vacant properties issues.²¹ At least one recent study has shown that the

[79.45.209/data-products/food-and-nutrition-assistance-research-database/ridge-project-summaries.aspx?type=2&summaryId=113](http://www.ers.usda.gov/data-products/food-and-nutrition-assistance-research-database/ridge-project-summaries.aspx?type=2&summaryId=113).

¹⁷Feeding America, Child Hunger Facts, <http://www.feedingamerica.org/hunger-in-america/hunger-facts/child-hunger-facts.aspx> (last visited July 12, 2012).

¹⁸Dan, Shapley, *Encourage Children to Play (and Learn) Outside: The introduction of the No Child Left Inside Act of 2011 this week reminds us that kids need environmental education, citizen science projects and time to simply playing outdoors*, <http://www.thedailygreen.com/going-green/tips/no-child-left-inside-2011> (last visited July 12, 2012).

¹⁹Richard Louv, *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder* (2005).

²⁰National Gardening Association, About NGA, <http://assoc.garden.org/> (last visited July 12, 2012).

²¹The leading example of this effort is Detroit, Michigan. With over 91,000 vacant or abandoned parcels, the city and its residents are relying on urban agriculture to help deal with effects of population loss and urban decay while simultaneously strengthening community relationships and

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greening of these spaces reduces crime.²² Moreover, urban garden initiatives that replace dilapidated and unkempt lots boost community engagement, instill a sense of pride, and increase the overall attractiveness of a city thereby helping to revitalize a city that is reeling from the impacts of abandonment and apathy.²³ Jersey City, New Jersey has engaged in such an urban gardening initiative called Adopt-A-Lot. Under the city-wide program, interested community groups may lease city-owned vacant lots and underused park land for one dollar for two years to establish and maintain a community garden.²⁴ These efforts, like that in Jersey City, beautify and increase safety in urban areas, attract new residents, and often lead to increasing property values in the surrounding neighborhoods.²⁵

The implementation of urban agriculture can also economically aid a city by providing job training and internships for the young and unemployed. Those who grow their own foods and vegetables and then sell at a local farmers market or convenience store have the unique benefit of providing fresher and riper products due to the close proximity to the end destination.²⁶ With the United States Department of Agriculture estimating that the demand for locally grown food will nearly double, plenty of opportunities exist for local

providing healthier food. See Mogk et al., Promoting Urban Agriculture as an Alternative Land Use for Vacant Properties in the City of Detroit: Benefits, Problems and Proposals for a Regulatory Framework for Successful Land Use Integration, 56 Wayne L. Rev. FN. 10, (2010), available at [ht tp://www.law.wayne.edu/pdf/urban_agriculture_policy_paper_mogk.pdf](http://www.law.wayne.edu/pdf/urban_agriculture_policy_paper_mogk.pdf); see also, Kristine Choo, *Plowing It Over: Can Urban Farming Save Detroit and Other Declining Cities? Will the Law Allow It?*, A.B.A. J. (Aug. 1, 2011), http://www.abajournal.com/magazine/article/plowing_over_c an_urban_farming_save_detroit_and_other_declining_cities_will/ (last visited on July 12, 2012).

²²Charles C. Branas et al., *A Difference-in-Differences Analysis of Health, Safety, and Greening Vacant Urban Space*, American Journal of Epidemiology Advance Access, at 6–7 (Nov. 11, 2011), available at [ht tp://eddyburg.it/filemanager/download/2137/Epidem_Green.pdf](http://eddyburg.it/filemanager/download/2137/Epidem_Green.pdf).

²³Mogk, *supra* note 19, at 13-14.

²⁴Jersey City, N.J., Ordinance § 11-019 (2011).

²⁵Schumkoske, Community Development Through Gardening: State and Local Policies Transforming Urban Open Space, 3 N.Y.U. J. Legis. & Pub. Pol'y 351, 351–353 (1999-2000).

²⁶Jac Smit et al., *Urban Agriculture: Food, Jobs and Sustainable Cities*, Chapter 7: Benefits of Urban Agriculture 14-15 (2001), available at [ht tp://www.jacsmit.com/book/Chap07.pdf](http://www.jacsmit.com/book/Chap07.pdf).

farmers to grow and sell their own fruits and vegetables for profit to city residents.²⁷

Lastly, not only can urban agriculture create new jobs and training opportunities, but locally grown food products will often be purchased from people living in the city as well. By strengthening the local food economy, local money recirculates within the community thereby strengthening the local economy. Moreover, since the cost to preserve and transport locally produced food items is lessened, their overall price is reduced. This may result in greater savings to the consumer that may allow him or her to then spend those savings on other activities or products in the community.²⁸

C. Environmental Benefits

A number of environmental benefits also spring from urban agriculture activities. First, many contend that growing food locally reduces the length and costs of transporting foods from various regions to the consumer. The “average supermarket food item travels 1,400 miles” before reaching the end consumer.²⁹ By growing food locally in urban environments, the need to transport food items is significantly lessened thereby resulting in reduced greenhouse gas emissions.³⁰

²⁷Mogk, *supra* note 19, at 11 (citing Debra Tropp, *Emerging Opportunities for Local Food in the U.S. Consumer Markets*, U.S. Dep’t of Agric. 3, Aug. 2008, available at <http://www.ams.usda.gov/amsv1.0/getfile?ddocname=stelprdc5072587>; see also *USDA pushes buying local ag products for schools*, TheTandD.com, May 25, 2011, available at http://www.thetandd.com/business/article_c1c5f2b4-8343-11e0-afd4-001cc4c002e0.html.

²⁸Smit, *supra* note 24, at 2–3.

²⁹Salkin, *supra* note 1, at 2 (citing Peters, Creating a Sustainable Urban Agriculture Revolution, 23 J. Envt. L & Litig. 203, at 231 (2010) (quoting Center for Urban Education about Sustainable Agriculture, *Issues in a Nutshell: How Far Does Your Food Travel to Get to Your Plate?*, http://www.cuesa.org/sustainable_ag/issues/foodtravel.php (last visited Apr. 17, 2010))).

³⁰Natural Resources Defense Council, *Health Facts—Food Miles: How Far Your Food Travels Has Serious Consequences for Your Health and the Climate* (2007), <http://www.food-hub.org/files/resources/Food%20Miles.pdf> (last visited July 12, 2012); Some argue that the concern over “food miles” is not as simple as locally produced food is better from a sustainability perspective. David Owen in his book “Green Metropolis” explains that factors such as “how [food] is grown, how it got to where it is going, and what else was traveling with it” are just as critical in determining the carbon foot print of a particular food item. David Owen, *Green Metropolis: Why Living Smaller, Living Closer, and Driving Less are the Keys to Sustain-*

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Second, urban agricultural activities mitigate stormwater flows that often overwhelm municipal sewage systems. Due to the concentration of roads, buildings, parking lots and other impervious surfaces in an urban environment, stormwater flows from these areas are significant.³¹ By creating more green space through the establishment of urban gardens and farms, rainwater is absorbed into the soil instead of pooling or running off into urban sewage systems. Additionally, the use of rain barrels at many urban agriculture locations helps lessen stormwater runoff³² as does the use of rainwater to irrigate crops being grown on rooftop gardens.³³ In both instances, this use of rainwater has the added environmental benefit of reducing potable water usage.

Third, open space and vegetation provided by urban gardens and farms aids in reducing local excessive heat. The term “heat island” refers to urban areas consisting of roads, buildings, parking lots and other structures that are hotter than adjacent rural areas.³⁴ According to the United States Environmental Protection Agency, in such areas with populations of one million or more residents, the annual mean air temperature can be 1.8-5.4°F (1-3°C) warmer than its surroundings.³⁵ In the evening, the difference between

ability 300 (2009). Similarly, Christopher L. Weber and H. Scott Matthews in Environmental Science & Technology contend that “Transportation as a whole represents only 11% of life-cycle GHG emissions, and final delivery from producer to retail contributes only 4%. Different food groups exhibit a large range in GHG-intensity; on average, red meat is around 150% more GHG intensive than chicken or fish.” They suggest that “dietary shift can be a more effective means of lowering an average household’s food-related climate footprint than ‘buying local.’ Shifting less than one day per week’s worth of calories from red meat and dairy products to chicken, fish, eggs, or a vegetable-based diet achieves more GHG reduction than buying all locally sourced food.” Christopher L. Weber & H. Scott Matthews, Envt'l Science & Tech., available at http://www.psufoodscience.typepad.com/psu_food_science/files/es702969f.pdf.

³¹ Jon E. Barry, *Forests and Urban Stormwater*, Agriculture and Natural Resources 1, <http://www.privatelandonernetwork.org/pdfs/forests%20urban%20stormwater.pdf>.

³² *Id.*; *Every Drop Counts . . . Rain Barrel Benefits*, http://www.raingardenregistry.com/clientuploads/rain-barrel_benefits.pdf.

³³ Mogk, *supra* note 19, at 16.

³⁴ United State Environmental Protection Agency (“U.S. EPA”), *Urban Heat Island*, <http://www.epa.gov/hiri/> (last visited July 12, 2012).

³⁵ *Id.*

urban and exurban areas can be as high as 22°F (12°C).³⁶ These heat islands can impact communities by increasing summertime peak energy demand, air conditioning costs, air pollution and greenhouse gas emissions, heat-related illness and mortality, and reducing water quality.³⁷ Increasing vegetation through the planting of community gardens and establishment of roof top gardens and farms mitigates the heat island effect by providing shade and removing heat through evapotranspiration.³⁸

III. Concerns Raised by Urban Agriculture

While the benefits of urban agriculture are many, there are also a number of concerns that farming in the city raises that must be addressed if agriculture is to become an important component of a municipality's urban fabric. These concerns generally stem from three issues: neighboring properties, past property use, and resource inputs.

Given that density is an integral part of living in an urban setting, the effect of agricultural activities on neighbors must be considered. Noise from machinery, tools and animals like roosters and goats are inherent in agricultural production. Neighbors who may have formerly had a quiet lot next door are now faced with hearing these sounds early in the morning and on weekends.³⁹ Similarly, farming activity can give rise to significant odors that emanate from compost and manure piles and animals themselves if they are kept onsite.⁴⁰ Neighbor safety is another important consideration. There is the potential for injuries where farm animals escape their pens, and where apiaries are maintained, there is the risk that bees may sting neighbors.⁴¹ Additionally, traffic and parking concerns may be implicated where urban farmers maintain onsite sale of produce and other food items.⁴²

Urban agricultural operations also may pose risks to the participants themselves. Urban parcels that are or may be used for agricultural operations might have been previously

³⁶*Id.*

³⁷*Id.*

³⁸U.S. EPA, *Trees*, <http://www.epa.gov/hiri/mitigation/trees.htm> (last visited July 12, 2012); U.S. EPA, *Green Roofs*, <http://www.epa.gov/hiri/mitigation/greenroofs.htm> (last visited July 12, 2012).

³⁹See generally Mogk, *supra* note 19, at 22.

⁴⁰*Id.* at 22-24.

⁴¹*Id.* at 26-27.

⁴²*Id.* at 29.

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used as locations for gas stations, dry cleaners or other uses where soil contamination occurred. These soils may contain toxic levels of heavy metals, including lead, cadmium, mercury, nickel and copper.⁴³ Those working the soil might be exposed to these contaminants through ingestion (breathing and swallowing, the latter especially by children), while those who receive or purchase food from these lands risk indirect exposure by consuming items that may have absorbed the toxins.⁴⁴

Finally, there are concerns that arise due to the resource needs of urban agricultural activities. For example, onsite soil and water may become contaminated by overuse of fertilizer, insecticides and manure, and this contamination may flow onto adjacent property or into local water bodies.⁴⁵ Moreover, most agricultural activities require water to function properly, and as such, could tax existing municipal water supply systems that are already near capacity.

IV. Unreasonable Land Use Barriers to Urban Agriculture

Municipal governments are at the forefront of balancing the exercise of private property rights with the health, safety, and welfare of the public. One of their primary tools to accomplish this balance is zoning, which has been in use for nearly a century.⁴⁶ Applying zoning and related land use regulations to address the concerns caused by the resurgence of urban agricultural activities has been no exception.⁴⁷ In many instances, however, the application of zoning and other

⁴³ *Id.* at 16 (citing Natural Resources Conservation Service, *Heavy Metal Soil Contamination*, U.S. Dep't of Agriculture, 2000, available at [ht tp://www.soils.usda.gov/sqi/management/files/sq_utn_3.pdf](http://www.soils.usda.gov/sqi/management/files/sq_utn_3.pdf)).

⁴⁴ *Id.*

⁴⁵ Barry, *supra* note 29, at 1-5.

⁴⁶ See generally, Nolon, Historical Overview of the American Land Use System: A Diagnostic Approach to Evaluating Governmental Land Use Control, 23 Pace Envtl. L. Rev. 821 (2006).

⁴⁷ Amanda Powell Hodierne, *Livestock in the Suburban Landscape*, 7 Land Use Quarterly, Zoning, Planning and Land Use Section of the North Carolina Bar Association, Section No. 3, at 7 (Apr. 2012), where the author describes a recent conflict in Aberdeen, North Carolina between those raising chickens and those opposed. The conflict required the Aberdeen Board of Commissioners to mediate between the opposing groups and propose amends to the town ordinance to allow chickens in smaller residential lot zoning districts but with more restrictions on how they are kept. *Id.*, available at <http://www.zoningplanningandlanduse.ncbar.org/me dia/23775771/zplu042012.pdf>.

land use regulations to urban agricultural concerns has either pushed agriculture beyond the city boundary or has made it very difficult to conduct within city limits. This section begins with a brief discussion of the emergence of zoning and then highlights the more unreasonable zoning and related land use provisions that have impacted the ability of urban residents to engage agricultural-related activities.

As urban areas grew throughout the nineteenth century, so did the concerns of having incompatible land uses located adjacent to one another.⁴⁸ Then, in 1916, as a result of issues such as traffic congestion, inadequate waste disposal, overcrowding, and the spread of disease, New York City adopted the nation's first comprehensive zoning ordinance.⁴⁹ It segregated the city into various land use districts, allowing private property owners to use their parcels only for the purposes permitted in the applicable district.⁵⁰

In 1926, the United States Supreme Court upheld the constitutionality of zoning in the seminal case *Village of Euclid v. Ambler Realty Co.*⁵¹ Ambler Realty challenged the Village of Euclid, Ohio's adoption of a zoning ordinance that divided the village into six classes of use districts, three classes of height districts and four classes of area districts. Ambler argued that this type of regulation amounted to an illegal diminishing of its property value and was therefore an unconstitutional taking.⁵² In upholding the ordinance, the Supreme Court found that the village properly exercised its police power through the establishment of the various zoning districts.⁵³ Interestingly, in its analysis, the Supreme

⁴⁸ Nolon, *supra* note 44, at 829–830. (“During the 1800s, building on private lots in urban areas to respond to market demand again caused a tangle of construction, poor traffic circulation, inadequate waste disposal, and overcrowding. The spread of diseases such as tuberculosis and cholera was a result of these conditions, as were serious fires in 1828 and 1835 in New York City. As modern industrial cities emerged during the 19th century, the negative effects of uncontrolled urbanization became clear.”)

⁴⁹ *Id.* at 830.

⁵⁰ *Id.* at 830.

⁵¹ *Village of Euclid v. Ambler Realty*, 272 U.S. 365 (1926).

⁵² *Id. overturning Ambler Realty Co. v. Village of Euclid, Ohio*, 297 F. 307 (N.D.Ohio Jan 14, 1924).

⁵³ *Id.* at 397.

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Court likened the separation of land uses into various zoning districts to “a pig in the parlor instead of the barnyard.”⁵⁴

As a result of zoning’s constitutionality, municipalities around the country have adopted land use measures under their zoning code and other real property provisions that impact the ability to conduct urban agriculture. Some of these measures either prohibit urban agricultural activities or have the effect of significantly impacting its exercise.

A. **District or Zone Limitations**

In adopting zoning ordinances, some urban municipalities exclude agriculture or related activities as a permitted use within zoning districts. For example, until June 2010, the City of Los Angeles, California prohibited residents from growing crops in residential zoning districts and from the on-site sale of produce.⁵⁵ Other cities, like Portland, Oregon previously banned agriculture as a primary use in certain zoning districts.⁵⁶

The most prevalent of these prohibitions involves the keeping of farm animals. Albany, New York finds that the keeping of farm animals is inherently “incompatible with urban life” and excludes them from the city.⁵⁷ Similarly, Yonkers, New York prohibits the keeping of certain farm animals like: “cows, cattle, horses, ponies, donkeys, mules, pigs, goats, sheep, chickens, ducks, geese, or other animals or fowl usually known as ‘farm animals or fowl.’ ”⁵⁸

There are also situations where agriculture is not mentioned as either a permitted or special use in zoning

⁵⁴Id. at 388.

⁵⁵Sara B. Schindler, *Of Backyard Chickens and Front Yard Gardens: The Conflict Between Local Governments and Locavores*, 87 Tulane Law Review No. 2 at 10, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2030526.

⁵⁶Voigt, Pigs in the Backyard or the Barnyard: Removing Zoning Impediments to Urban Agriculture, 38 B.C. Envtl. Aff. L. Rev. 537, 550 and FN 125 (2011). Portland, Oregon, amended its zoning code in June 2012 to define and regulate various urban agricultural activities that City had previously prohibited or allowed to occur on temporary, ad hoc bases. Carrie A. Richter, *Urban Farming: Zoning for Growing and Distributing Food in Portland Neighborhoods*, Planning Law, 9 (Spring 2012).

⁵⁷Albany, N.Y., City Code § 115-30.

⁵⁸Albany, N.Y., City Code § 115-31; Yonkers, N.Y., City Code § 43-28 (The City of Yonkers, in its Use and Dimensional Regulation of Land, Buildings and Structures, explicitly prohibits the raising of livestock or fowl.).

districts.⁵⁹ This silence creates regulatory ambiguity and may lead to confrontations between neighbors or the land-owner and municipality when the resident attempts to engage in farming activity.⁶⁰

B. Lot Sizes and Setbacks

Urban municipalities have also implemented land use provisions regarding lot sizes and setbacks that impact agricultural activity. After finding that the keeping of certain farm animals on an inadequately sized and setback parcel constitutes the interference with the “quality of life of the public, property values and the public health, safety and welfare of the community,”⁶¹ the City of New Rochelle, New York adopted a requirement that farm animals may only be kept “on a parcel of land comprising [no] less than two acres with not less than one acre of land for each such animal.”⁶² While establishing a minimum lot size in and of itself is reasonable to address the concerns raised by animal husbandry, requiring that parcel of land be at least two acres may be excessive where urban lots are typically significantly smaller than the minimum required. Moreover, in the case of the New Rochelle, the provision does not distinguish between a cow, goat or chicken.⁶³ Thus, as written, the two-acre minimum lot size applies to a resident wishing to keep only one chicken.⁶⁴

⁵⁹For example, the City of Buffalo’s zoning code is silent regarding whether agricultural use is allowed either as a primary or accessory use in any of the city’s zoning districts. Kailee Neuner & Samina Raja, *Buffalo’s Food System: An Assessment of Current Municipal, County and State Policies that Regulate Buffalo’s Food System* at 8 (2012), available at <http://www.scribd.com/doc/80690710/Buffalo-Food-System-2011>.

⁶⁰Schindler, *supra* note 53 at 10-11. The author discusses the case where Dekalb County, Georgia cited a gardener for growing vegetables on his parcel is in a zone that does not explicitly permit growing vegetables as an allow use.

⁶¹New Rochelle, N.Y., City Code § 89-16.

⁶²New Rochelle, N.Y., City Code § 89-17.

⁶³New Rochelle, N.Y., City Code § 89-17.A.

⁶⁴In Chesire, Connecticut, a neighbor dispute over four pet chickens came before the city’s planning and zoning commission. During the course of the hearings, the commission members came to learn that the city code required a minimum of three acres for the keeping of any number of chickens. The city subsequently amended its code to allow up to twelve hens on a minimum of an 80,000 square foot lot. Roosters, however, are prohibited on lots smaller than three acres. Orbach and Sjoberg, Debating

C. Number and Licensing of Animals

In order to mitigate the concerns of urban agriculture, municipalities have also adopted animal limits that make it impermissible to have more than a certain number of individual animals or species. For example, in Buffalo, New York residents may keep up to five chickens or one cow, but they must first obtain a permit from the City.⁶⁵ To obtain a permit for keeping a cow, the city ordinance requires “conformity with the City Code and with the rules and regulations adopted by the Department of Health in the interest of public health.”⁶⁶ Determining which rules and regulations apply and where to find information on them is a daunting exercise for residents. To obtain a license for chickens, residents must follow a complicated license application which includes, among other things, “a signed statement from any resident residing on a property adjacent to the applicant’s property consenting to the applicant’s keeping of chicken hens on the premises” as well as “the addresses of all properties within a fifty-foot radius of the subject property.”⁶⁷ The annual licensing fee is \$25, however, any and all produce from the chickens may only be used for personal use, as sales are disallowed under the code.⁶⁸

D. Restrictions on Sale of Products from Urban Farms

Lastly, municipalities may prohibit or limit the sale of produce grown locally. For example, in Berkeley, California, a hotbed of the locavore movement,⁶⁹ residents are currently prohibited from selling produce grown on residential lots

Over Backyard Chickens, 44 Conn. L. Rev. 1, 22 (2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1742930.

⁶⁵ City of Buffalo, N.Y., City Charter and Code §§ 78-2 to 78-4 (1974); Kailee Neuner & Samina Raja, *Buffalo's Food System: An assessment of current municipal, county, and state policies that regulate Buffalo's food system*, available at http://www.mass-ave.org/wp-content/uploads/2012/02/HKHC-Policy-Brief-4_Food-Municipal-County-and-State.pdf.

⁶⁶ *Id.*

⁶⁷ Buffalo, N.Y., City Code Chapter 341.11.2.

⁶⁸ Buffalo, N.Y., City Code Chapter 341.11 *et seq.*

⁶⁹ See e.g., Cultivating a Movement: Putting a Face to Organic Farming in CA, Upcoming events & things to do, <http://www.upcoming.yahoo.com/event/9335619/CA/Berkeley/Cultivating-a-Movement-Putting-a-Face-to-Organic-Farming-in-CA/Jewish-Community-Center-of-the-East-Bay/>.

because it is neither a permitted or accessory use.⁷⁰ Fortunately, this may soon change.⁷¹ In May, 2012, the Berkeley Planning Commission adopted amendments to the zoning code establishing a definition of “Non-Processed Edibles,” which includes items such as fruit, vegetables, nuts, honey, and shell eggs, but not meat, and which makes the sale of such items a valid accessory use in residential districts subject to certain requirements.⁷² These proposed amendments will now go before the Berkeley City Council in July 2012.⁷³

Similarly, in 2010, Kansas City, Missouri adopted amendments to its Zoning and Development Code to further support agricultural and horticultural activities in residential neighborhoods.⁷⁴ However, some restrictions on the on-site sale of produce remain. For example, produce may be sold on-site for those agricultural operations that meet the definition of Community Garden, but only if the premises are vacant.⁷⁵

Other communities require vendors’ license to sell produce grown locally. Thus, in Troy, New York residents must obtain a peddler’s license to sell home grown produce offsite.⁷⁶ A resident must pay a \$75 fee if they are selling their goods on foot, while a \$500 permit fee is required if the produce is being sold out of vehicle.⁷⁷ While requiring a license is not an unreasonable requirement, the City of Troy mandates that the resident also maintain insurance naming the city as an

⁷⁰Berkeley, Cal., Code § 23D.16.030 (2012).

⁷¹Tracey Taylor, *Berkeleyans closer to being able to sell backyard produce*, Berkeleyside, May 17, 2012, available at <http://www.berkeleyside.com/2012/05/17/berkeleyans-closer-to-being-able-to-sell-backyard-produce/>.

⁷²Berkeley Planning and Development Department, Memorandum, May 16, 2012, available at <http://www.berkeleyside.com/2012/05/17/berkeleyans-closer-to-being-able-to-sell-backyard-produce/>.

⁷³Berkeley City Council Meeting Agenda for July 17, 2012, available at http://www.ci.berkeley.ca.us/Clerk/City_Council/2012/07Jul/City_Council_07-17-2012_-_Regular_Meeting_Agenda.aspx.

⁷⁴Food Not Lawns—Kansas City website, <http://www.foodnotlawnskc.org/a-guide-to-urban-agriculture-codes-in-kcmo/> (last visited July 12, 2012).

⁷⁵Kansas City, Missouri, City Code § 88-312-02-B.

⁷⁶Troy, N.Y., City Code § 224-2.

⁷⁷Troy, N.Y., City Code § 224-9.

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additional insured.⁷⁸ In the case of the peddler's license the insurance requirements are \$350,000 for general aggregate; \$350,000 for personal injury; \$350,000 per occurrence; \$100,000 for fire damage and \$5,000 for medical expenses.⁷⁹

V. Examples of Municipal Efforts Nationwide

While the land use-related code provisions of many municipalities continue to erect impediments to engaging in urban agricultural activities, a number of municipalities have started addressing these challenges with amendments to their local zoning ordinances and other land use regulations. In this section, the article examines several efforts occurring around the country.

A. Seattle, Washington

One of the nation's cities at the forefront of urban agriculture is Seattle, Washington. Known for being a green and environmentally friendly city, it is no surprise that Seattle has implemented many programs and ordinances permitting and aiding in the implementation of urban agriculture. Seattle has created the Office of Sustainability and Environment that, among other things, puts a heavy focus on local food initiatives including, "growing, harvesting, processing, packaging, transporting, distributing, buying and selling, cooking, eating, disposing of waste," in an effort to equitably make available affordable and healthy food to citizens of Seattle.⁸⁰ In aiding in this effort, the Mayor and City Council have supported many local food initiatives evidenced by the "passing of a resolution to establish the Local Food Action Initiative in 2008, declaring 2010 the Year of Urban Agriculture, and passing a resolution for the Seattle Farm Bill Principles."⁸¹ Resolution 31019, adopted April 28, 2008, acknowledges the importance and necessity of having fresh water and food available, in particular to lower income families, and sets forth goals and a policy framework to

⁷⁸Troy, NY Peddler's License Application, available at <http://www.troy.ny.gov/Libraries/permitslicenses/peddlerslicense.sflb.ashx>.

⁷⁹*Id.*

⁸⁰Office of Sustainability and Environment, <http://www.seattle.gov/environment/food.htm>.

⁸¹Office of Sustainability and Environment, <http://www.seattle.gov/environment/food.htm>.

achieve a stronger and more secure food system in Seattle.⁸² Resolution 31296 supports the efforts of Seattle Farm Bill Principles, particularly by providing a healthy food system within the city and calls for federal lobbying support to renew the Federal Farm Bill.⁸³

In addition to having political support for urban agriculture, Seattle's comprehensive plan includes elements of community gardening, and is reflected by Seattle's Department of Planning and Development Urban Agriculture Zoning Ordinance. Ordinance 123378, which took effect on September 23, 2010, now permits Urban Farms and Animal Keeping as accessory uses at statutorily specified set back and scale limitations.⁸⁴

B. Pittsburgh, Pennsylvania

Another City that has taken the lead in permitting urban agriculture within its boundaries is Pittsburgh, Pennsylvania. In 2011, the City amended its zoning ordinance to allow urban agriculture in many of its zoning districts either as a primary⁸⁵ or accessory use.⁸⁶ The outright commercial growing of crops and raising of livestock is only allowed in certain zoning districts and on parcels at least three acres, but certain beekeeping activity is allowed on 2,000 square foot lots and commercial growing of crops are permitted as a primary use on parcels.⁸⁷ The city allows for the housing of chickens and honeybees as an accessory use if lot-size and barrier requirements are met, for example two beehives for every 2,000 square feet of lot size and three

⁸²Seattle, Wash., Resolution 31019, available at <http://www.clerk.seattle.gov/~scripts/nph-brs.exe?s1=&s2=&s3=31019&s4=&Sect4=AND&l=20&Sect2=THESON&Sect3=PLURON&Sect5=RESN1&Sect6=HITOFF&d=RES3&p=1&u=%2F~public%2Fresn1.htm&r=1&f=G>.

⁸³Seattle, Wash., Resolution 31296, available at http://www.clerk.ci.seattle.wa.us/~archives/Resolutions/Resn_31296.pdf.

⁸⁴Seattle, Wash., City Code, §§ 23.42.51 and 23.42.52, available at <http://www.clerk.seattle.gov/public/toc/23-42.htm>.

⁸⁵Pittsburgh, Pa., City Code § 911.04.A.2(a) to (c).

⁸⁶Pittsburgh, Pa., City Code § 912.07.

⁸⁷Pittsburgh Department of City Planning, Urban Agriculture Zoning, http://www.pittsburghpa.gov/dcp/files/urbanagriculture/Urban_Agriculture_Handout.pdf (last visited July 12, 2012); Pittsburgh, Pa., Zoning Code § 911.04.A.2(a) to (c).

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chickens for a lot size of 2,000 feet, allowing an extra chicken for every 1,000 feet over the first 2,000.⁸⁸

C. Jersey City, New Jersey

Jersey City, New Jersey, has experienced a significant renewed interest in urban agriculture and has undertaken a number of initiatives to promote its growth within the city. Most importantly, on April 13, 2011, the Municipal Council adopted amendments to the city's Land Development Ordinance that enable urban agricultural practices.⁸⁹ These amendments permit community gardening, rooftop gardens and raised planters in all zones and redevelopment plan areas of the city, and exempt these uses from site plan approval.⁹⁰ The amendments also allow commercial agriculture operations in commercial, industrial and mixed use redevelopment plan area zones.⁹¹

Importantly, the amendments allow green roofs. The municipal ordinance defines green roofs as "vegetated roof system used in place of a conventional roof which typically involves a water proof membrane and root repellent system, a drainage system, filter cloth, a lightweight growing medium and species appropriate plants."⁹² These roofs are exempt from the rooftop limit of 20% for rooftop appurtelements and, in certain circumstances exempt from site plan approval.⁹³

In addition to amending its zoning ordinance, Jersey City has also enhanced or established several programs to encourage more urban agricultural activities. For example, as mentioned above, the city recently amended its Adopt-a-Lot Program⁹⁴ that allows community and non-profit organizations to lease City-owned vacant lots and City-owned open space in need of improvement for \$1 for two years to develop and maintain community gardens.

In 2011, the City also applied for funding to construct and

⁸⁸ Pittsburgh Department of City Planning, Urban Agriculture Zoning, http://www.pittsburghpa.gov/dcp/files/urbanagriculture/Urban_Agriculture_Handout.pdf (last visited July 12, 2012); Pittsburgh, Pa., Zoning Code § 912.07.B(8) to (9).

⁸⁹ Jersey City, N.J., Resolution 11-041.

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² *Id.*

⁹³ *Id.*

⁹⁴ Jersey City, N.J., Ordinance 11-019 (Jan. 31, 2011).

operate two hydroponic greenhouses (operated by Garden State Urban Farms, Inc.) and 250 grow boxes.⁹⁵ The project will be built in one of Jersey City's most food-insecure neighborhoods, near a shopping center and light rail station. A local food cooperative will distribute food grown from these structures to local food banks, senior centers, and low-income housing projects. The greenhouses will also be used to provide educational opportunities and employment training. This initiative will coordinate with a municipal chapter of "Buy Fresh, Buy Local." Buy Fresh, Buy Local is part of the national non-profit FoodRoutes Network, headquartered in Pennsylvania.⁹⁶ Jersey City will be the first municipality in New Jersey to participate in this program, which allows local restaurants, schools, food banks and hospitals to buy local, fresh food at wholesale rates.

D. New York, New York

Although urban agriculture has occurred in New York City for more than a century, its modern programs and influences were spurred in the 1970s when the City faced a crippling financial crisis.⁹⁷ Heralded as the driving force behind convincing the city and other New Yorkers of the benefits and worth of gardening efforts in New York, Liz Christy's efforts brought about the first community garden in New York City known as the "Bowery Houston Community Farm and Garden."⁹⁸ In the wake of this initial success, the City established the Green Thumbs program in 1978 funded in large part by federal Housing and Urban Development Community Development Block Grants.⁹⁹

Vacant and blighted properties were leased by the City to community groups who turned the dilapidated properties

⁹⁵ Jersey City, N.J., Resolution 11-168; Matt Hunger, *Jersey City Unveils Ambitious "365 Days of Green" Blueprint for Sustainability Initiatives*, available at <http://www.jerseycityindependent.com/2011/04/13/jersey-city-unveils-ambitious-365-days-of-green-blueprint-for-sustainability-initiatives/> (press release based on statements by Jersey City Mayor Healey).

⁹⁶ Buy Fresh, Buy Local, <http://www.buylocalpa.org/>.

⁹⁷ N.Y.C. Dep't of Parks and Recreation, *The Community Garden Movement: Green Guerrillas Gain Ground*, <http://www.nycgovparks.org/about/history/community-gardens/movement> (last visited July 12, 2012).

⁹⁸ *Id.*

⁹⁹ *Id.* ("GreenThumb is still funded largely by community block grants from the federal Housing and Urban Development program.").

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into lush and vibrant gardens.¹⁰⁰ Although these leases were initially offered on a temporary basis, 1984 and 1989 gave rise to ten-year leases and designations of “preservation sites,” which allows for permanent community garden use so long as they are in use and being cared for, respectively.¹⁰¹ These program aspects have been important in shaping community garden growth in New York City and have paved the road for Green Thumb to be the largest urban gardening program in the nation. Similarly, the use of long-term leases and designations as “preservation sites” have paved the road for Green Thumb to become the largest urban gardening program in the nation.¹⁰²

New and existing community gardens in New York City are now regulated by the Department of Parks and Recreation through Section 6 of the agency’s Rules and Regulations.¹⁰³ These rules provide the details of the Garden Review process, and after entering into a Retention Agreement with the City, the garden’s use must not be contrary to law, amount to a public nuisance, or threaten the health or safety of the community it is located, else a default and loss of license may occur.¹⁰⁴

Recently, the New York City adopted amendments to its zoning ordinance in order to promote sustainable communities throughout the five Boroughs.¹⁰⁵ As part of these amendments, termed “Zone Green,” the City eliminated limitations on floor area and building height that had previously constrained opportunities for rooftop greenhouses and

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

¹⁰² *Id.*; Mindy Goldstein et al., *Urban Agriculture: A Sixteen City Survey of Urban Agriculture Practices Across the Country* 37-39, available at <http://www.georgiaorganics.org/Advocacy/urbanagreport.pdf> (“Green Thumb is ‘nation’s largest urban gardening program, providing assistance and support to over 600 gardens and nearly 20,000 garden members throughout the city . . . [and] community gardens account for over 32 acres of parkland in the city . . .’” (quoting N.Y.C. Dep’t of Parks and Recreation, *The Community Garden Movement: Green Guerrillas Gain Ground*, <http://www.nycgovparks.org/about/history/community-gardens/movement>)).

¹⁰³ N.Y.C. Dep’t of Parks and Recreation, Rules and Regulations, available at <http://www.nycgovparks.org/rules>.

¹⁰⁴ *Id.* at § 6, available at <http://www.nycgovparks.org/rules>.

¹⁰⁵ N.Y.C. Dep’t of City Plan’g, Zone Green text Amendment, available at <http://www.nyc.gov/html/dcp/html/greenbuildings/index.shtml> (last visited July 12, 2012).

farms.¹⁰⁶ These changes allow greenhouses and agricultural activity on industrial, commercial and school buildings to enable year-round local food production and provide valuable educational opportunities. By certification of the Chair of the City Planning Commission, a greenhouse is now exempt from floor area and height limits, provided that it is located on top of a building that does not contain residences or sleeping accommodations. These greenhouses must not exceed 25 feet in height, must be set back six feet from the roof edge, and must include practical measures to limit water consumption.¹⁰⁷

New York City's adoption of these amendments is timely given the likelihood for significant expansion of rooftop farming within the City. Recently, Gotham Greens, a 20-employee operation began harvesting bok choy, basil and oak leaf lettuce from its hydroponic greenhouse on a rooftop in the Greenpoint section of Brooklyn.¹⁰⁸ The company, which sells its produce to Wholefoods and other area concerns, plans to open three more rooftop greenhouses next year in Brooklyn, Queens and the Bronx.¹⁰⁹ In March 2012, the company BrightFarms announced that it would establish a 100,000-square foot hydroponic greenhouse on a roof in Sunset Park, Brooklyn.¹¹⁰ When it opens in 2013, BrightFarms anticipates that the operation will grow a millions pounds of produce per year, which it will sell to the A&P supermarket chain.¹¹¹ And on June 11, 2012, the city's Economic Development Corporation released a request for proposals for the development and operation of a rooftop farm at an approximately 200,000 square foot property on Food Center Drive in Hunts Point.¹¹² This location currently serves as the city's primary food distribution facility, the 329-acre Food Distribution

¹⁰⁶ New York City Zoning, Article VII, § 75-01 (Certifications for Rooftop Greenhouses).

¹⁰⁷ *Id.*

¹⁰⁸ Lisa W. Foderaro, *To Find Fields to Farm in New York City, Just Look Up*, New York Times, July 11, 2012, available at <http://www.nytimes.com/2012/07/12/nyregion/in-rooftop-farming-new-york-city-emerges-as-a-leader.html?hp>.

¹⁰⁹ *Id.*

¹¹⁰ *Id.*

¹¹¹ *Id.*

¹¹² N.Y.C. Economic Development Corporation, *Request for Proposals: Rooftop Farming* (June 11, 2012), available at <http://www.nycedc.com/opportunity/rooftop-farming-consulting-services-rfp> (last visited July 12, 2012).

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Center (“FDC”), which serves over 15 million customers in the greater metropolitan region.¹¹³

VI. Recommendations for Further Cultivation

Where an urban municipality believes that the promotion and implementation of agriculture within its borders can greatly benefit the community, there are a number of concrete steps that it may take to ensure that agriculture becomes a permanent component of its urban fabric. Based upon the initiatives highlighted above, the following discussion suggests four-step process for an urban municipality to put in place the land use framework to encourage agriculture.

A. Adopt a Policy Statement or Municipal Resolution Supporting Urban Agriculture

The local legislature or chief municipal executive such as a mayor can lay the ground work for urban agriculture through the adoption of resolutions, policy statements, or executive orders. These policy tools help initiate local action on urban agriculture by identifying goals and allocating responsibilities to local boards, officers and in some instances, a task force.

Such a resolution or executive order may begin by setting forth the community benefits generated by urban agriculture and the establishment of a local food system, detailing the city’s current farming-related activities, and discussing the perceived barriers to advancing urban agriculture.¹¹⁴ This resolution may also institute goals that the community wants to achieve regarding urban agriculture.¹¹⁵ These goals may include expanding the production of and increasing access to locally grown food, promoting healthy eating habits, and supporting the development of enterprises related to urban agriculture and food enterprises. The resolution may also establish an interdepartmental team to support existing and future city-wide urban agricultural efforts.¹¹⁶ Lastly, the resolution may look to establish partnerships with com-

¹¹³ *Id.* at 6.

¹¹⁴ City of Seattle, Wash., Resolution 31019 (Apr. 28, 2008).

¹¹⁵ See *id.*

¹¹⁶ See, e.g., City of Burlington, VT, Resolution (March 2011), available at <http://www.burlingtonvt.gov/docs/3958.pdf>. This resolution states that the City of Burlington will create an Urban Agriculture Task Force to recommend to the City Council a “cohesive urban agriculture policy, improved rules and regulations addressing urban agriculture, and steps to better promote urban agriculture in Burlington.”

munity gardening organizations, county, regional and state-level agencies, and educational institutions at all levels.¹¹⁷

B. **Establish an Urban Agriculture Task Force**

Assuming that a municipality has not previously engaged in efforts to promote urban agriculture, it is advisable that the resolution establish a task force to examine and make recommendations to the community so that it may strengthen its support of urban farming through its land use regulatory system.¹¹⁸ Specifically, the task force should be authorized to retain consultants, gather information and data, conduct surveys, evaluate the results of these efforts, engage local residents, and work with experts to develop recommendations for land use regulatory amendments.

Where the local legislature or municipal executive chooses to establish a task force, the first consideration is the task force's composition. Assembling key stakeholders may include representatives of community gardens and farms, local schools and universities, religious institutions, soup kitchens and food pantries, municipal, county and regional governments, community land banks, local businesses, including food-related purveyors and restaurateurs, as well as developers, community activists, and local environmental organizations.

1. ***Inventory Current Agricultural Activities and Determine Future Needs***

One of the first responsibilities of the task force will be to make sure that it understands what existing urban agricultural activities are occurring within the municipality. The

¹¹⁷ See *id.*

¹¹⁸ A community may also wish to consider establishing a food policy council. There are currently over 100 food policy councils in the United States with most organized at the municipal or county level. "Food policy councils bring together stakeholders from diverse food-related sectors to examine how the food system is operating and to develop recommendations on how to improve it Food policy councils have been successful at educating officials and the public, shaping public policy, improving coordination between existing programs, and starting new programs. Examples include mapping and publicizing local food resources; creating new transit routes to connect underserved areas with full-service grocery stores; persuading government agencies to purchase from local farmers; and organizing community gardens and farmers' markets." North American Food Policy Council, <http://www.foodsecurity.org/FPC/> (last visited July 12, 2012). Here, because of the article's focus on changes to a municipality's land use system, a task force is a more appropriate body to make recommendations for land use regulatory amendments.

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task force should inventory these efforts, including identifying all back yard, community and school-related gardens, farmers' markets, local grocery stores, soup kitchens, and restaurants in the city. As part of this effort, the task force may consider conducting a communitywide survey that seeks the residents' input on these activities. This information could then be presented through an interactive website to gain further community input.

The task force should also seek to identify where urban agricultural activities are needed and are most appropriate within the city. This examination would include an understanding of the community's vacant and abandoned parcels; what prior activities may have occurred there, including activities that might have contaminated the soil and water; which parcels have ready access to water; and how often citizens purchase produce and meats from local and regional farmers' markets and other purveyors among many other issues. Information developed from this work would help the task force understand that the scope and extent of urban agriculture's future in the city.

2. *Determine Land Use Regulatory Barriers*

After gathering and evaluating the above information, the task force should next examine the barriers imposed by the comprehensive plan and existing land use regulations to promoting and growing urban agricultural activities.¹¹⁹ This assessment should include an examination of the comprehensive plan's existing goals as they may relate to agriculture, health, environmental protection, economic development and community interaction.

With respect to the municipal zoning ordinance and development regulations, the task force should look to see whether existing definitions and regulations encompass urban agriculture or create confusion about its inclusion. In particular, the task force should pay attention to the permitted uses and accessory uses within the various zoning

¹¹⁹Keep in mind that such an evaluation may also be conducted as part of a more comprehensive assessment of the current and future use of urban agriculture in a community. An excellent example of this comprehensive approach is evident in the work of Rochester, New York. In September 2011, the city's Department of Neighborhood and Business Development published "Urban Agriculture and Community Gardening Feasibility Study: A Vision for a More Sustainable Future." This 309-page document examines all aspects urban agriculture and ways to create a more sustainable community food system, including an assessment of Rochester's zoning ordinance and development regulations.

districts, the requirements for setbacks and height limitations, and whether the definition of home occupation would prohibit the sale of locally produced food items.

A good example of this auditing effort is demonstrated by Milwaukee, Wisconsin. With support from Region 5 of the United State Environmental Protection Agency, under an Environmental Justice Showcase Pilot Project, the city and its partners engaged in an evaluation of the city's zoning ordinance as well as its building code.¹²⁰ This review revealed that while "agricultural uses" are defined in the zoning code, there is no discussion of scale of operations (i.e. home garden versus community garden versus urban farm), which may create confusion about the types of urban agricultural operations and accessory uses that may be permitted within specified zoning districts.¹²¹ The zoning code review also determined that other provisions of the city's code, such as that pertaining to the keeping of animals, conflicted with the terms of the zoning code.¹²² Additionally, the audit showed that some agriculture-related uses associated with community gardens in residential neighborhoods, such as sales, educational uses, community centers, offices and parking, were not being addressed the same way by the city.¹²³ In some instances, the sponsors of community gardens sought special use permits. In other circumstances, the sponsors actually sought rezonings from residential to Planned Development District to create site-specific zoning. Another area of confusion that exists within the zoning code is the siting of gardens; it does not contain specific language where urban gardens may be located on a lot.¹²⁴ Finally, through the audit, the city discovered that there are many additional items that should be defined and regulated under the provisions of the zoning code. These include:

- Consider refining the use definition for Agricultural Use

¹²⁰U.S. EPA, Region 5, Urban Agriculture Code Audit: Milwaukee, Wisconsin (Apr. 2012) (hereinafter "Audit"), available at http://www.city.milwaukee.gov/ImageLibrary/Groups/cityDCD/Urban-Agriculture/pdfs/MilwaukeeCodeAudit_acknowledge.pdf.

¹²¹*Id.* at 12.

¹²²*Id.* at 12. Chapter 78 of Milwaukee's City Code of Ordinances permits only the keeping of bees and chickens, while Section 295-203-14.b of the zoning code allows the raising of a multitude of livestock. Milwaukee, Wis., City Code ch. 78 § 295-203-14.b.

¹²³Audit, *supra* note 118, at 13.

¹²⁴*Id.* at 14.

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as appropriate to include considerations such as scales of agricultural use, accessory versus principal use, whether agricultural products are intended for sale, and regulation of sales in residential districts.

- Consider expanding the definition of agricultural use to include a general category for agricultural structures, developing standards regarding where such structures can be located, and addressing structural considerations.
- Consider adding a definition, structural standards and permissible use categories for rainwater harvesting systems such as cisterns to the building and zoning code.
- Consider adding use definitions and classifications to the zoning code for food processing and commercial/industrial scale composting operations.¹²⁵

3. ***Make Recommendations for Amendments***

As it evaluates the information derived from the work discussed above, the task force should consider five key questions as suggested by Heather Wooten and Amy Ackerman, authors of *Seeding the City*:

1. What form(s) of urban agriculture should the community allow?
2. Where should different forms of urban agriculture occur?
3. Should urban agriculture be a “permitted” or “conditional” use?¹²⁶
4. What operating standards should be placed on urban agriculture activities?
5. What activities related to urban agriculture should the community allow and what conditions should be placed on those activities?¹²⁷

Answering these questions will help the task force prepare its recommendations to the local legislature or mayor. Once answers to these questions have been obtained, then the task force can prepare a report detailing its findings with specific recommendations for amendments to the comprehensive plan and land use regulations.

¹²⁵ *Id.* at 5.

¹²⁶ A community may also want to consider certain types of urban agriculture as an accessory use in residential districts as Berkeley, California is doing with respect to the sale of produce from home gardens. Berkeley Planning and Development Department, *supra* note 70.

¹²⁷ Wooten, *supra* note 2, at 4.

4. ***Public Engagement***

Throughout all of these efforts, the municipality and the task force should ensure that the public is thoroughly engaged. At various stages during the task force's work, public meetings should be held, including those that are communitywide and those conducted in neighborhoods. The task force may also consider establishing a website that is regularly updated to keep the residents well informed of its efforts.¹²⁸ It will be important that the municipality's residents have opportunities to provide input on each of the items outlined above, including an ability to comment on and provide changes to the task force report with recommended changes.

C. **Amend the Comprehensive Plan**

Once the task force has completed its work, it will be the responsibility of the local legislature to make the necessary amendments to the comprehensive plan. Ensuring that the comprehensive plan contains explicit policy statements recognizing the community benefits of urban agriculture and establishes the promotion of urban farming activities as a comprehensive plan goal are critical to a municipality's efforts to become more urban agriculture friendly. Moreover, this step is essential in those states that require land use regulations be consistent with comprehensive master plans.¹²⁹ The failure to at least mention the need to address urban agricultural concerns in the comprehensive plan could leave subsequent urban agriculture-related land use provisions subject to legal challenge.

In the case of Newburgh, New York, it determined that previous versions of its master plan failed to address local food production. Thus, during the revision of its master plan

¹²⁸ A good example of this is seen in the website maintained by the Burlington, Vermont Food Policy Council. The Council has continually updated a page on its website with information regarding the activities of Burlington's Urban Agriculture Task Force. Burlington Food Council, Urban Agriculture Task Force, <http://www.burlingtonfoodcouncil.org/our-projects/uatf/> (last visited July 12, 2012). Additionally, using the Food Policy Council's website, the Task Force established an online survey for Burlington residents to provide information about their involvement with urban agriculture. Local Food Economy Survey, <http://www.surveygizmo.com/s3/620413/UATF-Public-1> (last visited July 12, 2012).

¹²⁹ See e.g. New York. New York's zoning enabling statutes for cities, towns and villages all require that zoning laws be adopted in accordance with a comprehensive plan. N.Y.S. Dep't of State, *Zoning and the Comprehensive Plan*, at 1 (2009).

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in 2008, the city provided a description of the circumstances regarding food availability and production within the municipal limits and the highlighted its desire to increase urban gardening and greenhouses so that the city would be less reliant on distant food supplies.¹³⁰ The City then establishes two goals and related targets and strategies in the master plan to help it achieve its local food vision.¹³¹

D. **Amend the Zoning Ordinance and Related Land Use Regulations**

Having amended the comprehensive plan, the municipality will then have to amend its zoning ordinance and related land use regulations. Which specific amendments are made will vary greatly from municipality to municipality and will depend upon the extent to which the community wants agriculture to continue or grow within its borders. As discussed above, amendments that may be incorporated include defining what activities constitute urban agriculture; making agriculture a primary or accessory use in all or some zoning districts; allowing locally food produced to be sold despite being generated on land in residential districts; reducing minimum lot sizes, setbacks and height requirements; establishing or eliminating licensing requirements for animal husbandry and bee keeping; determining whether agricultural activities will be allowed only upon the issuance of a special use or conditional permit; and clarifying the types of accessory structures that may be permitted in support of urban agricultural activities, among other provisions.

E. **Other Municipal Efforts to Promote Urban Agriculture**

Finally, in addition to amending the comprehensive plan, zoning ordinance and land use regulations, communities around the country have also implemented other strategies to augment their urban agricultural efforts that other municipalities may wish to consider.

One such strategy may include establishing a community land bank. While not permitted in every state, a number of states have enacted legislation that allows municipalities to

¹³⁰City of Newburgh, New York, Plan-It Newburgh: Sustainable Master Plan, at 72–73 (Dec. 8, 2008), available at http://www.cityofnewburgh-ny.gov/masterplan/docs/MasterPlanDraft120808ann_accepted_changes-FINAL.pdf.

¹³¹*Id.* at 75-76.

form land banks.¹³² Generally, land banks are authorized to acquire, manage, maintain, and repurpose vacant, abandoned, and foreclosed parcels so that these properties may be put to back to productive use.¹³³ Several municipalities have begun to use their land banks to promote urban agriculture.¹³⁴ In these communities, the land banks have acquired title to vacant property and then leased or sold the land to community garden organizations or urban farms. Because the cost of land may be significant, the role of land banks is important as they are able to provide land at prices that are affordable. Columbus, Ohio is one of the first communities to use this strategy.¹³⁵

A second strategy that municipalities have employed is the creation of partnerships with local or regional land trusts to support a city's urban agricultural efforts. A land trust is a not-for-profit organization that actively works to conserve land by either taking title to or acquiring a conservation easement in land for the purpose of preserving the land's important ecological, agricultural or historical characteristics.¹³⁶ Some land trusts work in conjunction with municipalities to secure land for urban agricultural activities. For example, the organization Baltimore Green Space has a special agreement with the city whereby it may purchase city-owned vacant lots for \$1.¹³⁷ A community group or not-for-profit organization may then seek to lease the land from Baltimore Green Space to establish a community garden. Baltimore Green Space maintains liability insurance for the parcels of land that it owns further reducing the concerns of

¹³² States that have passed enabling legislation authorizing the creation of land banks are Georgia, Indiana, Kentucky, Maryland, Michigan, Missouri, Ohio, and Texas. Smart Growth America, *Restoring Prosperity*, at 1, http://www.smartgrowthamerica.org/documents/sga_statepolicy_to_olkit.pdf (last visited July 8, 2012).

¹³³ United States Environmental Protection Agency, *Land Revitalization Fact Sheet—Land Banking*, at 1 (Apr. 2011), available at http://www.epa.gov/landrevitalization/download/fs_land_banking.pdf.

¹³⁴ Wooten, *supra* note 2, at 11.

¹³⁵ Land Redevelopment Division, Department of Development, City of Columbus, Ohio, <http://www.development.columbus.gov/landredevelopment/content.aspx?id=40112> (last visited July 12, 2012).

¹³⁶ Land Trust Alliance website, <http://www.landtrustalliance.org/land-trusts> (last visited July 2, 2012).

¹³⁷ Renee Beck, *Cultivating Community: Garden Sprout in Former Vacant Spaces*, bmoremedia.com, <http://www.bmoremedia.com/features/powerofdirt061212.aspx> (last visited July 12, 2012).

ZONING AND LAND USE PLANNING

organizations cultivating the property for urban farming activities.¹³⁸

VII. Conclusion

Urban agricultural activities are vital to establishing and maintaining a city's sustainability efforts. How a municipality plans for and regulates urban farming through its comprehensive plan, zoning ordinance and land use regulations are critical components to ensuring the long-term viability of this increasing and important urban movement.

¹³⁸Baltimore Green Space website, <http://www.baltimoregreenspace.org/pages/how-neighborhoods-benefit.html> (last visited July 12, 2012).

Burlington Urban Agriculture Task Force

Report to Burlington City Council



"Put your faith in the two inches of humus that will build under the trees every thousand years"

—Wendell Berry

September 2012

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Executive Summary

Many Burlington residents participate in urban food production in some capacity, either through gardening, keeping chickens, or growing or purchasing food from Burlington's peri-urban agricultural area, the Intervale. These people are motivated by values such as a love of local food, the recreational benefits of gardening, and the benefits that urban agriculture can provide to individuals, the environment, and the community.

Despite this broad range of activities, the City lacks policies specific to urban food production and residents often face barriers resulting from current policies or other factors that could be addressed through municipal policy. The City has a role to play in governing urban agriculture due to the fact that urban food production includes issues related to land use, public health, food safety, water quality, neighbor relations, and animal welfare.

In order to identify a set of policy recommendations to better support and govern urban agriculture in Burlington, the Urban Agriculture Task Force engaged community stakeholders in a year-long process and researched policy approaches used by other cities. This research informed the development of policy recommendations by incorporating stakeholder needs and considerations specific to the Burlington context. In order to address a variety of policy goals and priorities, a variety of approaches were identified, including ordinance revisions, education and outreach, and the coordination of multiple actors for specific urban agriculture projects.

The Urban Agriculture Task Force developed a set of more than 50 recommendations, which are detailed in the full report. A table summarizing the policies is included in Appendix A of the report. The pursuit of all of these recommendations will require a coordinated effort on the part of city offices, departments, leaders, organizational partners, and residents. For this reason, the Urban Agriculture Task Force also developed a set of implementation recommendations, which includes the creation of a City Food Office.

The Task Force identified a series of **crosscutting recommendations** that apply to many different urban agriculture activities. These include revisions to the zoning code, revisions to the general ordinance, outreach on urban agriculture policies, education on urban agriculture resources, encouraging communities of practice, adopting a mediation mechanism, coordinating with the state Agency of Agriculture, research needed to support future policy and measure progress against goals, incorporating food and agriculture into local planning efforts, adopting a Burlington Food Charter, and supporting access to land.

Home garden policy recommendations stipulate that the zoning code include a definition for home gardens and allow them in all residential zones to specifically protect the use of private

“...[A] local food supply accelerates economic development, fosters a stronger and more sustainable community, improves the health of those who live and work in Burlington, and supports a system that regenerates and protects our natural resources and the environment.”
- Plan BTV, 2012

yards for food production; that the city should facilitate soil testing for contaminants; that the city should promote sustainable management practices; and that the city should explore ways to connect home food production practices to stormwater management.

Community garden policy recommendations focus on expanding the amount of community garden space in the city in order to accommodate the number of people interested, especially in underserved neighborhoods. The Task Force also recommended expanding the definition for community gardens to include the sale of produce and encouraging the incorporation of shared garden space into new developments. Other recommendations include partnering with local experts and organizations to leverage access to land and educational programming, streamlining permitting for structures to reduce barriers to building garden sheds, and providing infrastructural support to community gardens for water and soil testing.

The recommendations for **urban farms** include that the city could facilitate access to farmland outside the floodplain and support local agricultural economic activity to support Burlington's commercial farmers.

The **livestock and poultry** recommendations include that the city should adopt an animal welfare general ordinance to regulate humane treatment, that livestock and poultry structures should be regulated through zoning, that the city should create a registration system for urban livestock and poultry to track metrics and communicate with practitioners, that the city should adopt a general ordinance clarifying that slaughtering is legal as long as certain provisions are followed, and that roosters should continue to be regulated using the nuisance ordinance. Other recommendations include that the city should promote education on livestock care and slaughtering by disseminating information on resources through print and online media, and manage neighbor conflicts through the mediation mechanism.

The policy recommendations for **beekeeping** include that the city should revise the zoning code to specifically allow beekeeping and a certain number of hives outright (more allowed pending review) and set a minimum setback from property lines. A general ordinance recommendation includes additional requirements for beekeepers, such as requiring renters to obtain permission from their landlord and displaying the name and contact information for the beekeeper on each hive, thus placing some minimal additional burden on beekeepers for the sake of reducing risks. Other recommendations include that the city should promote outreach on policies, provide educational resources, and consider bees and other pollinators in city landscaping.

The recommendations for **hoophouses and greenhouses** include that the city should adopt definitions specific to these structures to differentiate them from buildings and that these structures should be exempt from zoning and building permits up to 400 ft².

The Task Force recommendation for **greenbelts**¹ is that the city should adopt an ordinance that prohibits food production in the greenbelt.

¹ The use of the term "greenbelt" in Burlington refers to the strip of land between the sidewalk and the street, which is a public right-of-way.

The **composting** recommendations suggest that the city should explore a community composting system to close the nutrient loop at a community level and the recently adopted state law (H.485) that phases in mandatory composting of organic waste by 2020.

Rooftop garden recommendations task zoning with exploring the use of incentives to encourage rooftop gardens and suggest that the city should explore the feasibility of putting rooftop gardens on city properties and Burlington Town Center Mall.

The **urban food forestry** recommendations similarly suggest that the city could initiate projects to map existing food-producing trees, identify potential tree planting locations, and establish and edible landscaping demonstration site.

The **school garden** recommendations address the feedback heard by the Task Force that the extent of garden education varies greatly between schools in Burlington. Although City Council does not have authority over school district curricular decisions, the Task Force felt that it was important to include recommendations for this important urban agriculture activity.

Recommendations included that the school district should establish curricular support for school gardens and promote local awareness of program successes.

Recommendations for **food processing and sales** focus on providing support and permit exemptions to small-scale food processing outfits and those selling food grown in the city.

The pursuit of all of these recommendations will require a coordinated effort on the part of city offices, departments, leaders, organizational partners, and residents. For this reason, the Urban Agriculture Task Force also developed a set of implementation recommendations to begin to develop an implementation plan. The successful adoption of the Task Force recommendations will likely rely on the simultaneous use of the following strategies:

- Partner with the Burlington Food Council as it builds capacity to address these issues through work with local agencies and organizations on both urban agriculture and other local food system issues, supporting the organization through the provision of in-kind resources, as a formal support when obtaining grants, and as a “fee for service” consultant on food system matters;
- Establish a Burlington City Food Office, starting with a City Food Coordinator position, to advance the recommendations identified in this report, manage the production and dissemination of educational materials, organize workshops and events, and coordinate with the Agency of Agriculture, city departments, and local organizations on issues related to food production, processing, and sales in the city;
- Utilize existing city departments for the adoption and implementation of zoning and ordinance changes, and the creation of new outreach materials to support awareness of urban agriculture policies and how-to resources; and
- Partner with local experts and organizations to leverage resources and expertise in support of policy implementation and project coordination.

The Urban Agriculture Task Force also identified a set of recommendations for funding these efforts, which are located in Appendix B of the report. Potential funding sources include grant agencies focused on community development and sustainability, as well as those focused on specific urban agriculture activities such as community gardens and urban food trees.

1 Introduction

The city of Burlington, VT, has a strong local food culture, and many residents and urban farmers grow food within the city. However, the city lacks clear municipal policies on various practices related to growing food and keeping animals. In late 2010, the Burlington Food Council began work to address this issue. In March, 2011, Burlington's City Council created the Urban Agriculture Task Force, charged with "generating a cohesive urban agriculture policy informed in part by current research, best practices, and the needs of City residents."²

This report to City Council is the basis for the creation of a set of cohesive policies to better govern and support urban agriculture activities in Burlington. This report answers both broad policy questions and policy changes for specific urban agriculture activities changes so that urban agriculture can thrive in Burlington.



The research and deliberations that contributed to the creation of this report involved a year-long data collection process that started with a literature review and included an assessment of current policies, consultation with local stakeholders, and research on urban agriculture policies in other cities. Data collection methods included 27 semi-structured interviews, 7 public forums, and 5 stakeholder meetings. Public participation was integral to the process.

The introduction serves to ground the Task Force policy recommendations by providing an overview of urban agriculture in general, outlining the current state of urban agriculture in Burlington, and offering an overview of the Task Force recommendations with some vision for the future.

² Burlington City Council. (2011). Resolution relating to creation of Urban Agriculture Task Force. Burlington, VT.

History of the Urban Agriculture Task Force

This story starts with a chicken. In 2010, an urban homesteader in Burlington's Old North End was cited by code enforcement for having too many chickens. Upon researching the law, he found that the zoning ordinance being used to justify the removal of a good portion of his flock served a rather narrow purpose: to define whether a collection of animals comprised a "Boarding Operation" so that these types of facilities could be appropriately regulated. The regulation had nothing to do with the realities of raising animals for food or consider the type of animal under consideration. In fact, many Burlington households, having more than four animals in a combination of cats, dogs, birds, and hamsters, were in violation of the ordinance. This four-animal rule was the only thing that could be used to provide code enforcement with legal ground for asserting authority in response to a complaint that involved animals.³

Many city officials agreed that the ruling made little sense. As he made the calls to the city attorney's office, called planning and zoning, and went to hearings at the board of health, the resident found a lot of support for his cause, both from the city representatives and the other residents who attended the meetings and hearings.

More generally, there was sharp contrast between the feeling that Burlington is at the forefront of the local food movement and the realization that city policy does not adequately address issues specific to food production.

However, food system issues cross jurisdictional boundaries. It was unclear which city department was responsible for regulation of animals, when considered in the context of agriculture, and, more generally, the overall issue of food production within the city.

It became clear that the chicken issue was a symptom of a larger problem. While stakeholders could lobby for a change in the number of chickens, creating a very specific exemption for this one animal, this would not fix the structural issues regarding growing food in the city. What would happen when someone wanted a goat? When a driveway was converted to a garden? When home gardeners, seeking to provision themselves with three-season greens, put up hoop houses on their front lawn?

Seeing a broader need, the Burlington Food Council—a consortium of food-related organizations and interested residents—worked with Burlington's City Council to pass a resolution creating the Urban Agriculture Task Force (UATF), charged with the task of developing a cohesive urban agriculture policy for the city. The full City Council resolution may be found in Appendix C.



<http://7dvt.com/2010burlington-chicken-owners-say-four-hens-isn-t-enough>

³ In another recent incident, a household was ordered by an Animal Control Officer to stop keeping goats in their yard. See Ives, M. (2008). Get your goat, Seven Days. <http://www.7dvt.com/2008get-your-goat>.

1.1 What is urban agriculture?

Urban agriculture can be broadly defined as **growing food within a city**. The term can embody a range of activities, including home, school, rooftop, and community gardens, urban livestock and poultry, beekeeping, commercial farming, and the use of agricultural structures such as greenhouses and hoop houses.⁴ Some definitions of urban agriculture encompass post-production activities such as processing, distribution, and marketing.⁵ Urban agriculture can be commercial, noncommercial, or a hybrid.⁶ In terms of scale, urban food production can occur in a space as small as a container on a balcony all the way up to agricultural fields many acres in size.

Urban agriculture practitioners include commercial farmers, city residents, recent refugees and immigrants, school children, and the elderly. Many urban agriculture projects are run by businesses, restaurants, community centers, government entities, or nonprofit organizations. People grow food in urban areas motivated by a wide range of reasons, including enjoyment of the recreational aspects of gardening, improved health and household security associated with self-provisioning, and values related to economic relocalization and food system sustainability.

Food grown in urban areas may be consumed by the person who grew it, shared with family, friends, or neighbors, or sold to other urban consumers. People who grow food may also have flower or rain gardens, but these are not technically urban agriculture since they do not produce food. Urban agriculture can occur on land held under a variety of property ownership models, including private property, public property, or institutional land. In some cities, urban land trusts hold property for community gardens to protect the spaces from competing land uses.

Many people participate in urban agriculture because they value the potential benefits it has to offer, including positive social, economic, environmental, and health outcomes. People may practice urban agriculture as a means to self-sufficiency, recreation, saving money, a sense of security, exercise, get outdoors, connect with family and neighbors, embody values in practical action, and even activism.

1.1.1 Benefits of urban agriculture

In response to concerns about a lack of food and agricultural knowledge, food insecurity, disparities in access, and corporate control over the food system, many people participate in urban agriculture projects motivated by interests in the **social benefits** it can provide, including education, increased access to healthy food, community development, and social justice.

Education is a core goal of many organizational urban agriculture programs, particularly those targeting youth, and urban gardening programs can have a measurable impact on the relationship that young people have to the food they eat. At an individual or household level,

⁴ Masson-Minock, M., & Stockmann, D. (2010). Creating a legal framework for urban agriculture: Lessons from Flint, Michigan. *Journal of Agriculture, Food Systems, and Community Development*, 1(2), 91-104.

⁵ Bingen, J., Colasanti, K., Fitzpatrick, M., & Nault, K. (2009). Urban Agriculture. In L. E. Phoenix & L. Walter (Eds.), Critical food issues: Problems and state-of-the-art solutions worldwide: Greenwood.

⁶ Hodgson, K., Caton Campbell, M., & Bailkey, M. (2011). Urban Agriculture: Growing healthy, sustainable places: American Planning Association.

urban agriculture can increase **access to healthy food** either through self-production or knowing someone who is growing food. Raising vegetables, fruits, herbs, and meat, coming together to grow, prepare or store food, and sitting around a table and sharing a meal, are fundamentally shared acts that **bring us together as a community**.

Urban food production offers an opportunity to build closer and more **direct economic connections** between producers and consumers, allowing farmers to receive a higher share of the money spent on food. Community gardens can have positive effects on **property values**, which can lead to better neighborhood conditions and increased tax revenues over time. It has even been suggested that urban agriculture has the potential to decrease cost of maintaining public land, increase local employment opportunities, and take advantage of underutilized resources. Urban agriculture can also offer opportunities for food **microenterprises**.

Urban agriculture can provide **open space benefits** and an opportunity for people to obtain food not grown in the conventional food system—a system associated with adverse environmental impacts. Urban agriculture can offer the opportunity for **ecological restoration** through the restoration of degraded land and reduced stormwater runoff. Urban agriculture has the potential to increase local biodiversity and provide green space micro-climate benefits such as mitigation of the urban heat island effect, humidity regulation, wind reduction, and shade provision.

From a **food system** perspective, there are many potential sustainability advantages to local agricultural production, including reduced energy usage, recycling of organic waste, and the use of ecological production methods. Although an urban area will not have enough land to completely support food production for its residents, urban agriculture can offset some amount of food that would otherwise be produced through conventional means. In addition, urban food projects can increase awareness about sustainable production methods such as organic agriculture, agroecology, and permaculture.



<http://studio-g-architects.blogspot.com/2010/11/sustainable-and-sustaining-communities.html>

1.1.2 Common challenges and risks

Although urban food production can be as straightforward as the right combination of soil, water, seeds, and sun, many social and physical characteristics of urbanized areas can pose barriers to agriculture in cities. Common **challenges** for urban agriculture relate to the inherent difficulties of growing food in an urban environment, including soil contamination, land access, and water access.

Despite the potential benefits from urban agriculture, care must be taken to minimize the potential for negative outcomes resulting from urban food production. Potential negative outcomes include risks to health, social systems, and the environment. **Health risks** can arise from historical land use patterns (e.g. contaminated soil) or unsafe practices (e.g. use of pesticides). **Social risks** include the promotion of patterns of privilege, inequity, and oppression.⁷ In addition, user conflicts can arise from conflicting values and cultural norms. **Environmental risks** include soil and water pollution from chemicals or nutrients.

1.2 The opportunity for municipal policy

The community values and potential positive outcomes associated with urban agriculture highlight the importance of supporting urban residents in producing their own food and promoting the growth of urban agriculture projects. Given the risks and challenges noted above, there is a need to alleviate barriers and reduce the risks of negative outcomes. Municipal governments have an important role to play in meeting this need.

Municipal governments have a role to play in governing urban food production because urban agriculture can affect land use, human health, neighbor relations, animal wellbeing, and the local environment, all of which fall under the purview of municipal governments.

As recent interest in urban food production has grown, many cities are in the process of revamping their ordinances and zoning regulations to address the agricultural activities happening in their jurisdictions. Cities as diverse as Vancouver, BC, San Francisco, CA,

The municipal policy toolbox

There are a variety of mechanisms available for the governance of urban agriculture. Each has advantages and disadvantages depending on the policy goal. Municipal policy tools common to urban agriculture include:

- City-run programs
- Zoning ordinances
- General ordinances
- Information/Education
- Planning
- Partnerships
- Research
- Grant-funded initiatives

The Urban Agriculture Task Force considered these policy tools and developed recommendations based on the governance needs specific to each urban agriculture activity.

⁷ While participation in a local food economy can contribute to a sense of connection to a broader community, it is important to recognize that culinary differences exist along lines of class, race, gender, and ethnicity. Food education programs should be sensitive to this fact so as not to reinforce existing oppressive social power dynamics. In addition, the importance of farmers getting a fair price for sustainably and fairly produced food can be at odds with anti-hunger and food security efforts. Sustainable agriculture projects should intentionally integrate those most affected by social inequality, otherwise social exclusion is likely to occur.

and Raleigh, NC have developed policies to govern and support urban agriculture. Many have also pursued food system planning and innovative initiatives to support urban agriculture projects.

1.3 Current food production activities in Burlington

The city of Burlington has a strong local food culture and contains examples of many of Vermont's most successful community food system models, including community supported agriculture from the city's peri-urban farms, a year-round farmers' market (several others operate on a seasonal basis), a downtown food co-op that sources a significant amount of local produce, meat and value-added products, restaurants featuring local food and seasonal ingredients, and a variety of community garden and food security organizations. The value of local food systems is widely appreciated.

1.4 A vision for Burlington's future

The City of Burlington can benefit in many ways from continuing its commitment to an equitable, healthy, and sustainable food supply through a commitment to urban agriculture. In doing so, the city can strengthen a local food system grounded in community and linked to rapidly developing state and regional efforts. This work can accelerate economic development, foster a stronger and more sustainable community, improve the health of those who live and work in Burlington, and put in place a system that regenerates and protect natural resources and the environment.

We envision a city where everyone who wants to grow or raise their own food has the space, information, and support to do so safely, responsibly, and in solidarity with their neighbors and the greater community. We envision an urban agriculture system that integrates with local and regional systems for a food system that is place based, sustainable, resilient, socially just, and secure.

Taking advantage of this opportunity will require a creative style of leadership that nurtures a growing community of practitioners and organizations through encouraging collaboration, engaging in proactive policy development that removes barriers, and very strategic high leverage investment. Rather than build a hierarchy, we recommend connecting existing resources through a networked approach.

The opportunity for innovative leadership

The city of Burlington has a long history of innovative community initiatives. The Community and Economic Development Office (CEDO), created in 1983 by city council resolution, and funded largely through Housing and Urban Development community development block grants, has provided leadership in the area of affordable development and related community based programs. The Legacy Project, initiated by Mayor Peter Clavelle in 2000, was on the forefront of sustainability planning. The Church Street Marketplace is at the core of a nationally recognized downtown, and the bike path, championed by Local Motion is one of the “Jewels of Lake Champlain.” This pride in community and past achievements was expressed quite frequently during our research interviews with city officials.

The city could continue this tradition by taking a leadership role in providing a robust, proactive policy framework for urban agriculture practitioners throughout the city, and, more broadly, in making community food system development one of the core drivers of economic development. Such a policy focus dovetails well with city initiatives in the areas of climate change, sustainability, and fostering a high quality of life for all city residents.

1.4.1 Laying the policy groundwork for local food system development

The City of Burlington has an opportunity to support urban agriculture by removing policy barriers and initiating projects to facilitate local food production. When developing policy recommendations for urban agriculture in Burlington, the Task Force research process actively engaged those most affected by the issues and in order to meet the needs of stakeholders. This included balancing the needs of urban agriculture practitioners, city officials, and other community members. The Task Force also considered the implications for implementation and attempted to develop recommendations that utilize the existing regulatory frameworks and organizational relationships.

The Task Force developed more than 50 policy recommendations to address urban agriculture broadly as well as specific activities. The policy recommendations range from ordinance revisions that outline the humane treatment of livestock to zoning changes that exempt agricultural structures up to a certain size from the permitting process. For a summary table of the recommendations, see Appendix A.

2 Research activities

The research and deliberations that contributed to the creation of this report involved a year-long data collection process that started with a literature review and included an assessment of current policies, consultation with local stakeholders, and research on urban agriculture policies in other cities. Data collection methods included 30 semi-structured interviews, public forums, and stakeholder meetings. Public participation was integral to the process.

Review of current policies (Burlington and VT): The Task Force assessed the Burlington Municipal Charter, Comprehensive Development Ordinance, and General Ordinances, Vermont Accepted Agricultural Practices regulations, apiary laws, slaughtering and meat inspection laws, animal cruelty laws, and definitions of agriculture in various state laws. (See Appendix D and Appendix E for a complete overview of these laws.)

Interviews with local practitioners and experts. Task Force members conducted 10 semi-structured interviews conducted with local farmers, organizational representatives, and individuals engaged in urban food production.

Interviews with Burlington city officials and Agency of Agriculture employees. Task Force members conducted 7 semi-structured interviews with officials from a wide range of city departments and consulted with 4 representatives from the Vermont Agency of Agriculture.

Neighborhood Planning Assembly presentations. The Task Force presented at meetings of all 5 Neighborhood Planning Assemblies representing the city's 7 Wards to inform attendees about the project and solicit feedback.

Burlington Food Council forums. The Task Force consulted with local organizational representatives, city officials, and community members during forums held at Burlington Food Council meetings.

Residential livestock and poultry workshop. In January of 2012, the Task Force hosted a workshop for community members that drew 50 attendees. Participants broke into working groups to discuss various issues related to urban livestock



Backyard Livestock Policy Workshop, January 2012

Review of policies in other cities. The Task Force conducted an academic literature search and reviewed urban agriculture policies in dozens of cities, including Denver, CO, San Diego, CA, Santa Monica, CA, Portland, OR, Seattle, WA, Vancouver, BC, South Portland, ME, Baltimore, MD, and New York, NY.⁸

Interviews with urban agriculture policy experts and officials in other cities. The Task Force conducted 6 semi-structured interviews with urban agriculture policy experts and officials in other cities primarily regarding urban livestock and beekeeping, and corresponded with others through email. Cities included in this review are Albuquerque, NM, San Diego, CA, Seattle, WA, South Portland, ME, and Vancouver, BC. These cities were chosen because they represented a range of policy approaches to common urban agriculture policy areas. An urban agriculture policy expert at ChangeLab Solutions (formerly Public Health Law and Policy) was also interviewed.

Public review of draft report. A draft report was released in June, 2012. During June and July, the Task Force hosted 2 meetings with city officials and one meeting with the general public to obtain feedback on draft recommendations. The Task Force also collected community feedback through an online survey. During the month of August, the recommendations were revised based on stakeholder feedback.



<http://www.wbur.org/2011/07/29/city-bees>

⁸ We recognize that many of these cities are substantially larger than Burlington. It should be noted that many smaller cities are undertaking urban agriculture policy changes similar to Burlington, but the larger cities are leading the way in urban agriculture policy because they have greater resources. This does not mean that approaches taken by large cities should be dismissed for our context; rather, Burlington has the opportunity to draw inspiration from the resources and experiences of larger cities, be creative with a relatively limited set of resources, and thus become a leader for other cities of comparable size.

3 Policy development process

Public policy develops through the political process, and may or may not be based in science or best practices. During our review of policies adopted in other cities, we identified many ways in which the unique characteristics of that city contributed to the policy approach ultimately chosen by that city. In order to create our recommendations, we developed specific goals based on the feedback from our community, utilized available science on specific issues, and worked with local stakeholders to identify potential policy approaches for Burlington. We have looked to other cities for inspiration, but we have not followed in their footsteps in cases where we see an approach that may better suit our community.

3.1 Policy tools approach

When considering the potential policy approaches that could be utilized, the Task Force considered the various policy tools that the city has at its disposal. As we identified policy goals, we chose to recommend policy tools that the city currently uses or could use in the future, including:

- City-run programs
- Zoning ordinances
- General ordinances
- Information/Education
- Planning
- Partnerships
- Research
- Grant-funded initiatives

There are various advantages and disadvantages associated with each type of policy approach. For example, a public education campaign on humane care of livestock may result in greater community awareness than an ordinance, but an informational campaign does not carry the weight of the law. In this case, we recommend both approaches be employed in order to both provide a legal basis for enforcement in cases of mistreatment and realize high rates of compliance. In this way, any or all tools may be employed towards the same objective.

4 A vibrantly agricultural city

The city of Burlington has a strong local food culture and contains examples of many of Vermont's most successful community food system models, including community supported agriculture from the city's peri-urban farms, a year-round farmers' market (several others operate on a seasonal basis), a downtown food co-op that sources a significant amount of local

produce, meat, and value-added products, restaurants featuring local food and seasonal ingredients, and a variety of community garden and food security organizations. The value of local food systems is widely appreciated.

Burlington residents currently participate in a wide variety of urban agriculture activities ranging from residential gardens and chickens to community gardens and commercial farms (Table 1). A number of nonprofit organizations provide gardening and agriculture coordination and education, including Friends of Burlington Gardens, City Market, the

Intervale Center, Grow Team O.N.E., Burlington Permaculture, UVM Extension Master Gardeners, NOFA-VT, and the New Farms for New Americans program. Commercial farmers vend their produce at 4 weekly farmers markets during the growing season and one biweekly winter market.

Table 1. Scope of urban agriculture in Burlington

| Activities | Infrastructure |
|--|---|
| Home, community, school, and rooftop gardens | Small-scale infrastructure (raised beds, cold frames, etc.) |
| Commercial farming | Hoophouses |
| Poultry and livestock | Greenhouses |
| Beekeeping | Livestock structures |
| Composting | Community kitchens |
| Preservation & processing | Farm stands |
| Produce sales | Farmers' markets |

4.1.1 Home gardening and urban homesteading

Many Burlington residents participate in urban agriculture activities at their homes by gardening, practicing permaculture, and keeping bees, livestock, and poultry. These activities occur at a variety of scales, ranging from containers and window boxes to large gardens and animal structures.

4.1.2 Commercial farming

Burlington's peri-urban commercial agriculture is located predominately in the Intervale. Once home to Abenaki tribes and later the famous Vermont Revolutionary, Ethan Allen, the Intervale comprises 350 acres of agricultural land, trails, and wildlife corridors along the Winooski River. The Intervale is home to 11 organic farms, the city's largest community garden, and a garden supply store. The Intervale land is managed by the Intervale Center, a non-profit

organization that supports the Intervale's independent farms through its Farms Program, and runs a conservation nursery and a multi-farm delivery CSA.

Much of the Intervale land is part of the Winooski River floodplain, which both imposes some regulatory issues from the federal level and also offers highly fertile soils. In addition to the Intervale, commercial farming occurs at the Ethan Allen Homestead (see section on New Farms for New Americans, below) and privately-held farmland to the north. These areas are also in the Winooski River floodplain.

Local commercial farmers sell their products through both retail and direct market outlets. City Market, a cooperatively-owned grocery store in downtown Burlington with over 7,000 member-owners, features a wide range of locally produced food, including a significant amount from Intervale farms. The co-op actively promotes the local agriculture and offers community classes on gardening and cooking. Many urban farms sell directly to residents through Community Supported Agriculture (CSA) shares. One farm operates a produce truck that vends in the Old North End once a week. Four weekly farmers' markets operate throughout the growing season; the downtown farmers' market operates every other week throughout the winter.

Farming in a floodplain

Much of Burlington's agriculturally zoned land is located in the Winooski River floodplain and is prone to flooding after major rainfall events. Although this contributes to the high soil fertility found on this land, it also increases the financial risk that these farmers face year after year. The most significant recent flood resulted from Tropical Storm Irene in August 2011 at the height of harvest season, resulting in the loss of \$750,000 worth of crops and equipment¹.

4.1.3 Community gardens

The City's Parks and Recreation Department administers the Burlington Area Community Gardens program, which was founded in 1972 and currently comprises 12 community gardens with approximately 500 allotment style plots. The program is run by one staff member and a network of volunteer site coordinators and has the goal of providing people with the opportunity to benefit from the recreational and community-building aspects of community gardens. Residents pay for garden space based on plot size (low-income participants are eligible for a 50% scholarship). The city's oldest community garden still in operation, founded in 1980, is located in the Intervale, and other gardens are scattered throughout the city. Most garden sites are on privately-owned land; only two are on city-owned land (Starr Farm and Callahan).

Who is growing food in Burlington?

The Burlington urban agriculture community includes people who are actively thinking about their role in the food system as well as people who simply like the taste of fresh tomatoes.

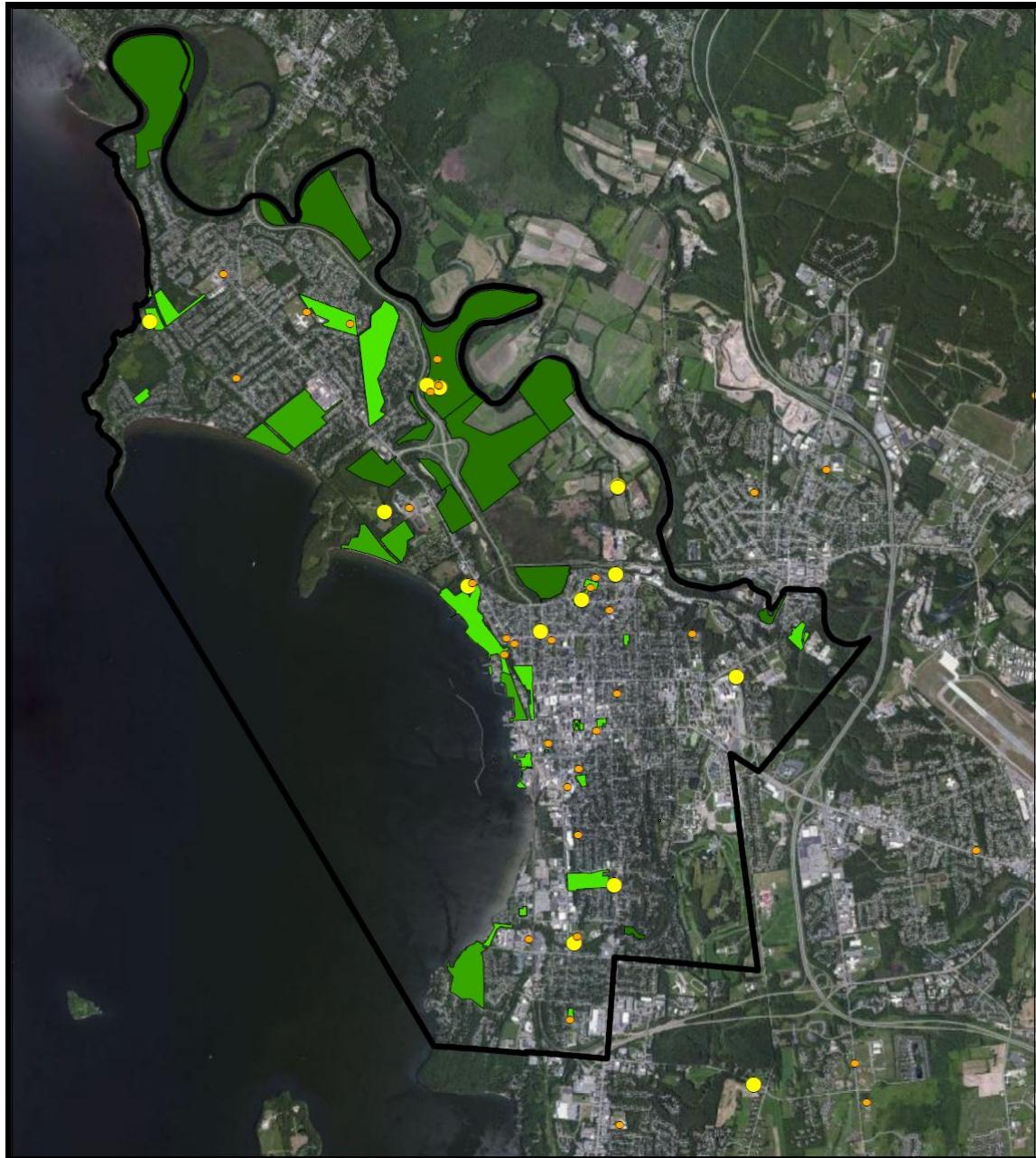


Figure 1. Community garden locations in Burlington⁹

⁹ Map created by Elizabeth Brownlee

The city is also home to several independent gardens, including the Archibald and Riverside neighborhood gardens managed by Grow Team O.N.E., a grassroots community group in the Old North End. The two gardens on reclaimed land have space for 33 households.

4.1.4 New American integration through farming

The Association of Africans Living in VT (AALV) administers the New Farms for New Americans (NFNA) program, which aims to support refugee and immigrant households in growing food for their own use and support new farm and food-based enterprises. The program connects new Americans to agricultural land at the Ethan Allen Homestead and the Intervale, and offers educational programming on farming and business management. Over 90 families farm six acres, many of whom have agricultural expertise from their home countries. Around 40 households grow food for a mixed vegetable CSA and a Bhutanese CSA, and the program has plans to offer a West African CSA.

NFNA is notable for its successful efforts to provide new Americans with access to agricultural land and resources. Participants have the opportunity to grow culturally-appropriate food, save money on food, generate supplemental income, and achieve accelerated social integration and job outcomes. Many new Americans have extensive agricultural experience from their home countries, and have the potential to be productive members of Vermont's agricultural economy. In addition, NFNA is uniquely positioned to connect low income and marginalized communities to affordable local produce due to the low cost of production and personal connections to customers.

NFNA faces some unique challenges due to the nature of its work. The biggest challenge has been managing rapid program growth due to the popularity of the program. Although the program has expanded onto new land each year, it would benefit from access to more land with infrastructure for agriculture that is close to Burlington or Winooski.

Transportation is a perpetual barrier, as most participants lack their own transportation, and the program van makes multiple trips from the AALV office to the fields at the Ethan Allen Homestead several days each week. Participants would benefit from public transportation to the Homestead and permanent market infrastructure such as farm stands in public housing, which would facilitate sales of fresh produce to neighbors. In general, the community would also benefit from more community gardens sites in the Old North End and Winooski.

NFNA is a model for small-scale agricultural entrepreneurship and access to growing space. Other populations could benefit from similar programs. There is tremendous potential for Burlington to support this important program through resources, information, and by coordinating on funding.



<http://www.nytimes.com/2012/05/19/us/vermonts-refugee-farmers-rebuild-after-irene-floods.html>

4.1.5 Organizational support for urban agriculture

Many local institutions and organizations provide land and resources for urban agriculture in Burlington (see Appendix F). Burlington College provides free garden space to families from the

Food security facts

Despite a strong local agricultural economy, many Burlington residents live in food insecure households. In Vermont, 14% of households, and one in seven children in Chittenden County, are food insecure.¹ The Farm to Plate Initiative has identified goal that by 2020 “all Vermonters will have access to fresh, nutritionally balanced food they can afford.”¹

Somali and Burundi communities as part of the college’s newly launched Sustainability and Urban Gardening Project. The Visiting Nurse Association Family Room and Friends of Burlington Gardens both operate garden programs at Ethan Allen Homestead. Friends of Burlington Gardens has supported the development of school, senior, group, and neighborhood gardens all over the city since 2001. The organization also manages the half-acre Healthy City Youth Farm at Hunt Middle School in partnership with the Burlington School Food Project. The hands-on farm-to-school program is designed to teach basic cooking and gardening skills, boost physical activity and increase healthy lifestyle choices for Burlington K-12 students. Burlington High

School, Champlain Elementary School, Integrated Arts Academy, Sustainability Academy, Edmunds Elementary, C.P. Smith, and Flynn Elementary all have garden programs.

Burlington Permaculture is a community organization that facilitates education on permaculture and gardening by connecting neighbors, offering workshops, and sharing resources. The group aims to build a community and knowledge base in support of urban agriculture and a sustainable community in general.

In summary, Vermont’s agricultural heritage provides an appropriate backdrop to the Task Force work to develop policies to support and govern urban agriculture in Burlington. Burlington residents participate in a broad range of urban agriculture activities, including home gardening and keeping livestock, commercial farming, organized farming programs, and community gardens. Many organizations support agricultural activities in the city, including several nonprofit organizations, the food co-op, and city departments. Despite this array of urban food production activities, many Burlington residents live in food insecure households.

4.2 Community values

During the Task Force policy process, many residents expressed that their interest in urban agriculture is motivated by a variety of personal and community values. The values articulated focused on the importance place-based food production with the goal of building an environmentally sustainable, resilient, socially just, and secure food supply. People grow their own food out of interest in having control over where their food comes from and for the recreational benefits of gardening. People involved in community gardens see the social capital benefits of sharing a space with neighbors, including fostering a neighborhood community and involving children and others who would not usually be involved in gardening and agriculture. In addition, many local farmers are inspired by an ethic of environmental stewardship and social justice ideals.

4.3 Barriers to urban agriculture in Burlington

Despite this diversity of urban agriculture activities, the Task Force identified a series of barriers to urban agriculture in Burlington, which are divided into **policy barriers** and **challenges**.

Policy barriers to urban agriculture arise from current laws, governance decisions, or implementation conventions that restrict urban agriculture activities, including:

- Lack of policies specific to urban agriculture activities
- Lack of clarity on existing urban agriculture policies
- Lack of agricultural expertise at city level
- Lack of coordination between organizations and city
- Restrictive zoning rules for structures, including setbacks and lot coverage
- Onerous permit process for structures and selling produce
- Prohibitive farm stand regulations
- Prohibitive home occupation regulations

Local stakeholders also noted that urban agriculture faces **challenges** that arise from the basic context of growing food in urban areas. While these challenges do not arise from current policy, they do have the potential to be addressed by future policy. Challenges for urban agriculture in Burlington include:

- Lack of practitioner knowledge on best practices
- Lack of access to land
- Soil contamination
- Language barriers
- Neighbor conflicts
- Economic viability of projects

The policy recommendations outlined in the Section 5, “Urban agriculture policy recommendations,” address these general barriers, as well as issues for specific activities.

4.4 Stakeholder feedback on future policy

The task force solicited feedback from local stakeholders through interviews with farmers, vetting the research agenda with policy and food system experts, presenting and discussing a variety of urban agricultural activities at neighborhood planning assemblies, and meeting with city officials. From these conversations, these general themes emerged.

4.4.1 Local practitioners

The local urban agriculture practitioner stakeholder group included committed hobbyists and people involved in urban agriculture in some professional capacity. Participants from this stakeholder group advocated for policy approaches that remove current barriers, support their efforts, and do not create new barriers. They also provided valuable information regarding some of the technical aspects of urban agriculture activities.

Local practitioners would not like to see fees implemented for any urban agriculture activities, as this would pose new barriers to participation, especially for low-income practitioners. Also,

they would like regulation to be minimal, flexible, and scale-appropriate so that local residents may continue to produce food using a variety of techniques and approaches.

This stakeholder group expressed that urban agriculture best practices should be encouraged and promoted by the city, but that the city should not get involved in regulating them. However, in cases where an absence of regulation creates problems (e.g. in the case of the lack of animal cruelty laws for livestock), regulations should be adopted.

Across the board, this stakeholder group prefers that the city promote communities of practice rather than adopting prescriptive regulations. The idea of a community of practice was likened to hunter training courses, where experienced hunters pass on their knowledge and best practices to new hunters. Supporting a community of practice for a particular urban agriculture activity could involve facilitating events, workshops, and educational materials.

Local practitioners emphasized that outreach to neighbors can go a long way in terms of gaining their trust and support. One local beekeeper hosts a “bees and beer” night when he opens the hives.

4.4.2 City officials

The municipal officials involved in the Task Force research process were employees of the City of Burlington whose area of responsibility deals with urban agriculture in some regard. In general, city officials were very supportive of urban agriculture activities, though they noted the difficulty in balancing the needs and concerns of practitioners and neighbors. Participants from this stakeholder group emphasized an interest in ensuring that new regulations are in place to manage the small percentage of people who cause problems, but that regulations should not negatively affect the majority of people who follow best practices.

In terms of implementation, Code Enforcement expressed a strong desire for measurable standards to ease enforcement when needed. However, both the Department of Public Works and Code Enforcement expressed that exemptions from regulation would be useful where appropriate in order to reduce the burden of enforcement. Code Enforcement also emphasized that access to urban agriculture experts would greatly ease the burden of decision making in the field, as such partnerships could provide the expertise currently lacking in the city.

4.4.3 Burlington Community

Members of the Burlington community are people who live in Burlington but do not identify as urban agriculture practitioners. Participants from the Burlington community generally expressed support for urban agricultural activities, though some expressed concerns regarding the potential risk of water pollution from nutrient runoff (from manure and compost). This stakeholder group also emphasized the need to protect animal welfare.

The community identified the need for some basic standards to prevent problems from arising, but also felt that policies should be flexible to allow for the wide variety of situations in Burlington. For conflicts between neighbors, participants from this stakeholder group expressed that people should try to communicate directly with their neighbors instead of involving the city with the hope that most cases could be resolved before code enforcement, zoning, or the police need to be involved.

5 Urban agriculture policy recommendations

The recommendations below are comprehensive in scope and utilize state and nongovernmental resources in addition to city resources. The city should partner with the state in circumstances where the Agency of Agriculture has jurisdiction. Where the city has authority, general and zoning ordinances should be adopted that provide measurable standards for critical issues. Whenever possible, the city should partner with other governmental and nongovernmental organizations in order to leverage expertise and resources. Beyond regulation, the city can make significant gains by encouraging urban agriculture practitioners to network and share knowledge with each other. Neighbor relations can be improved through the use of mediation in dispute situations.

5.1 Crosscutting recommendations

This section outlines policy recommendations that apply to a variety of urban agriculture and food production activities. These suggestions seek to create a framework that support a range of policies addressing specific activities, such as livestock and gardens that are provided in following sections.

Our crosscutting recommendations include creating zoning and ordinances that specifically address the needs of urban agriculture practitioners, as well as supporting this community through a combination of education, outreach and community support.

5.1.1 *Revise zoning ordinance to accommodate urban agriculture*

→ PRIORITY ACTION

Land use priorities are expressed to a large degree through planning and zoning. Providing a cohesive framework for urban agriculture, therefore, requires a set of changes to zoning that clearly identifies and calls out urban agricultural practices so that they can be addressed in a holistic manner that recognizes the nature of food production. This can be supported by a clear articulation in city planning documents that food production is a priority, is supported by the city, and is integrated with other land uses. Looking to a broader context, it is important to “critically examine existing zoning codes and licensing regulations to determine if they create barriers for creating a healthful food environment in the community”¹⁰

The UATF has identified a range of recommended changes to zoning that would, in addressing urban agriculture as a distinct set of activities, more appropriately govern these practices and ease the level of conflict that comes with any activity in a close, urban environment. In addition to those specific to the topics in the following sections, there are several overarching recommendations for changes to zoning that rest on a foundation of adopting definitions to differentiate between agricultural and non-agricultural activities.

5.1.1.1 Adopt zoning definitions for urban agriculture activities

As a critical first step, and in coordination with the general ordinance, Planning and Zoning should develop distinct definitions to differentiate between food production uses and non-food

¹⁰ “A Planners Guide to Community and Regional Food Planning”, American Planning Association

production uses and to capture the variety of scales at which agricultural activities take place in Burlington. We suggest:

- **Urban agriculture:** is the production of food in a city at a household, community, or commercial scale and can involve a range of activities including the cultivation of plants, keeping animals, and aquaculture. Urban agriculture can address issues as broad as food security, community and economic development, environmental sustainability, and conservation of open space.
- **Peri-urban agriculture:** the production of food on relatively large areas of open land within the city limits. [Intervale farms, Tamarack Hollow, and NFNA would all be peri-urban]
- **Agricultural structure:** a structure used in conjunction with food production that qualifies for the state's definition of "agricultural structure" (exempt from municipal permitting per state law)
- **Urban agricultural structure:** a structure used in conjunction with food production that does not qualify for the state's definition of "agricultural structure,"¹¹ including, but not limited to, garden sheds, hoophouses, greenhouses, and livestock structures.
- **Urban livestock:** animals used for food production (including eggs, milk, and meat) in the city.
- **Urban farm:** A private, not for profit, or public farm used primarily for a commercial or educational agriculture.
- **Community garden:** A private, not for profit, or public garden used by a group of households to grow and harvest food crops or non-food crops (e.g., flowers) for personal or group consumption, for donation, or for sale. Community gardens may be principal or accessory uses and may be located on a roof or within a building.
- **Home garden:** A garden at a single-family or multifamily residence used for food production by the residents of the property, guests of the property owner, or a gardening business hired by the property owner. Home gardens include the front, side, or back yard, rooftop, courtyard, balcony, windowsills, fence, and walls.

Building on base of definitions, we recommend the following actions with for changes in zoning:

5.1.1.2 Streamline permitting process for urban agricultural structures

Urban agricultural structures (as defined above) up to 24 ft² for livestock or up to 400 ft² for other agricultural uses should be exempt from zoning permit process and lot coverage calculations. If they have water or electrical, they should be subject to the DPW permit process and inspection. Up to 2 structures shall be allowed; additional structures shall be subject to a site review.

Urban agricultural structures larger than the exempt sizes (but which do not qualify for the state's Accepted Agricultural Practices exemption¹²) shall be subject to a zoning permit, as well as a DPW building permit if they have water or electrical.

¹¹ See Appendix D for an explanation of Vermont's Accepted Agricultural Practices regulations.

Planning and Zoning should have at least one administrator who is very familiar with processes for urban agriculture situations, including who to contact at the state when people need to apply for exemptions. This applies to community gardens, livestock, and season extension structures, which are addressed specifically in the following sections on those activities.

5.1.1.3 Exempt small scale infrastructure

General small-scale infrastructure shall be exempt from city permitting processes because the scale of these technologies does not warrant city involvement. Small scale structures include, but are not limited to, cold frames, trellises, arbors, benches, temporary fences, bike racks, raised/accessible planting beds, terracing, compost or waste bins, picnic tables, garden art, rain barrel systems, barbecue grills, outdoor ovens, and children's play areas.

5.1.1.4 Establish zoning that recognizes the benefits of food production

Much like we give height bonuses in return for providing social goods such as affordable housing units, we should establish analogous bonuses that recognize the ecosystem services provided by land used for well-managed food production.

Land used for gardening provides benefits over and above the food produced. The conversion of impermeable surfaces to permeable surfaces can help to mitigate stormwater issues. When managed properly, the process of building soil sequesters carbon and can support brownfield remediation.

As with land use, our report contains specific recommendations that would coordinate with this bonus system, including require all new affordable housing units to contain designated yard or other shared space for residents to grow food, and encourage multifamily residential, commercial, institutional, and public new construction to incorporate green roofs, edible landscaping, and encourage the use of existing roof space for community gardening, where appropriate.

Just as there are minimum parking requirements for development, the city should consider minimum garden space requirements or incentives. Such a policy would be best developed in conjunction with planning for public and non-motorized transit, which would work alongside these requirements to reduce reliance on the private automobile.

Although it may not always be appropriate to prioritize food production over other uses, food production and access should be an important component of any development. We recommend:

- Allowing parking requirements to be offset by the provision of arable land under gardening/urban agriculture easements.
- Relaxing height restrictions to allow for rooftop gardening structures such as trellises, raised beds, and implement storage.

¹² See Appendix D for an explanation of Vermont's Accepted Agricultural Practices regulations.

- Allowing higher density development to be permitted if residence structures sited to maximize open land for food production and storm water management as protected uses, and to maximize solar energy gain.

In addition to the incentives above, we recommend the consideration of a policy that encourages the provision of garden space in all multi-unit developments. This requirement could be satisfied by neighboring properties or proximity to a community garden.

5.1.2 Adopt an urban agriculture general ordinance

→ **PRIORITY ACTION**

The Task Force is recommending that the City of Burlington adopt a general ordinance for several urban agriculture activities that would benefit from some regulatory oversight, including the humane treatment of livestock, livestock slaughtering, beekeeping, and greenbelt gardening. The specific ordinance recommendations are contained in subsequent sections 5.5.3, 5.6.3, and 5.8.3.

5.1.3 Promote awareness of policies related to urban agriculture

→ **PRIORITY ACTION**

The city should make information on urban agriculture policies available to the public through web and print resources. A special effort should be made to distribute these resources to non-English speaking communities by coordinating with the Association of Africans Living in Vermont.

Examples from other cities include:

- Chicago
(http://www.cityofchicago.org/city/en/depts/dcd/supp_info/urban_agriculturefaq.html)
- Vancouver
(<http://vancouver.ca/commsvcs/LICANDINSP/animalcontrol/chicken/index.htm>)
- Seattle (http://www.seattle.gov/environment/food_grow.htm)
- Portland, OR (<http://www.portlandonline.com/bps/index.cfm?c=55279&a=362065>)
- Philadelphia (<http://www.phila.gov/green/growLocal.html>)

5.1.4 Promote awareness of urban agriculture resources

→ **PRIORITY ACTION**

The City should play an active role in connecting practitioners with information on local and state regulations, as well as best practices. These resources should be available electronically as well as in print. These resources could take the form of an online clearinghouse, or a simple handbook, and include, but not be limited to:

- How-to (technical) information
- Local and statewide organizations
- Local and statewide programs and services

These resources should be translated into other languages to meet the needs of the city's diverse agricultural communities. Additionally, the City should strongly encourage the use of organic gardening and farming practices.

5.1.5 Encourage communities of practice

The city should encourage urban agriculture communities of practice by facilitating workshops and events and supporting local urban agriculture organizations. This would provide local residents with an opportunity to rely on a community of other practitioners for technical support and information on best practices, thus reducing some of the risks associated with improper management. Many groups in Burlington already engage with residents on urban agriculture issues, but there is the opportunity for this work to be expanded, especially when it comes to urban livestock.

Examples from other cities include:

- Vancouver Urban Agriculture Network (<http://www.vuan.blogspot.com/>)
- PDXBackyardChix (<http://groups.yahoo.com/group/PDXBackyardChix/>)
- Chicago Backyard Poultry Meetup Group (<http://www.meetup.com/ChicagoBackyardPoultry/>)
- Seattle Tilth (<http://seattletilth.org/>)
- Philly Urban Creators (<http://phillyurbancreators.org/>)

5.1.6 Develop and implement a mediation mechanism

Community mediation offers the opportunity to resolve conflicts between neighbors on a case-by-case basis rather than adopt restrictive ordinances that are not flexible enough to adapt to the variety of situations that will be encountered in developing a robust local food system. The city's Community Justice Center serves a similar function now, though that program is intended to facilitate justices in cases where a crime has been committed. The Community Justice Center is funded by a combination of city, state, and grant funding, and is supported by community volunteers. A similar, though less extensive, approach could be taken to create a small urban agriculture mediation program.

The city should convene a small group of volunteers with mediation experience who are willing to facilitate communication and problem solving in situations where agricultural activities are causing tensions between neighbors. If such an approach would be useful for other issues as well, it could be established as a more comprehensive program that also includes urban agriculture.

5.1.7 Coordinate with the Agency of Agriculture, Food and Markets

The Agency of Agriculture, Food and Markets has jurisdiction over Accepted Agricultural Practices that affect water quality regardless of the size of an agricultural operation. This means that anyone composting or keeping livestock must follow compost and manure management practices that adhere to the Accepted Agricultural Practices (AAPs), which often cannot be met without a variance on small urban lots.

The city should coordinate with the Agency of Agriculture, Food and Markets and the Agency of Natural Resources to develop a clear process for urban agriculture practitioners to follow in

order to comply with AAP regulations for compost and manure management. This may include the city advocating for the revision of the AAPs in order to accommodate smaller scale activities.

Additionally, this information should be disseminated through online and print outlets to ensure that Burlington practitioners are familiar with the state laws that affect them.

The city should maintain a list of contacts at the state level to consult with when issues come up that require agricultural expertise.

5.1.8 Monitor indicators to guide policy and measure progress

5.1.8.1 Maintain maps to inform urban agriculture decision making

As urban agriculture is a place-based activity, maps are critical. Maintain maps of current farming activities, community garden locations, and prime agricultural soils. Identify prime locations for future food production. Maps provide a basic foundation that can be used to inform policy and support program development. Many planning and academic mapping efforts are already underway, which can provide a basis for urban agriculture mapping in the future, including the Open Space Protection Plan update, which will include a map of agricultural production in the city.

5.1.8.2 Develop food system metrics

Metrics drive policy. We cannot assess or guide progress without information. The city should develop and maintain a set of metrics that reflect the policy recommendations developed out of this report. Basic tracking metrics could include the acres of land in public gardens, the number of households maintaining livestock, the number and sales volume of farmer's markets, and the an estimate of the percentage of food consumed locally that is produced from urban agricultural activities in the city.

The metric set should be consistent with those being developed at the state level by the Farm to Plate initiative.

A starting point for metric development could be the update of the local food assessment, first conducted by the Burlington Food Council in 2002, which served as a basis for the development of the Burlington School Food Project. We recommend contracting with the Burlington Food Council, in partnership with the UVM Food Systems Spire, to complete this work.

Many food system issues can be tracked using indicators that are already tracked or are easily available, while other indicators may be more difficult to obtain. There is an opportunity for the city to partner with local organizations and universities to compile this information into a comprehensive and ongoing food system assessment for Burlington. Examples metrics for food system issues include:

- **Livestock:** # of animals registered through the city system (see livestock recommendations below), # beehives in the city (see beekeeping section below)
- **Economy:** # farmers' markets in Burlington, # participating vendors at farmers' markets, value of sales from farmers' markets

- **Food security:** poverty rate, food security statistics, school children qualifying for free and reduced lunch, food shelf meals served
- **Community gardens:** # acres in community gardens, # participants, # people on waiting list, % returning gardeners
- **School gardens:** # acres in school gardens, # children participating
- **Composting:** # pounds of food scraps and yard waste composted in the city

There are a number of studies and reports that could be used as starting points for this effort, such as:

- “Community Food Security Coalition Recommendations” for Food Systems Policy in Seattle”
- “Charting Growth to Good Food – Developing indicators and measures of Good Food”
- “Estimates of the Genuine Progress Indicator (GPI) for Vermont, Chittenden County and Burlington, from 1950 to 2000”
- “Whole Measures for Community Food Systems – Values Based Planning and Measurement”

5.1.9 Incorporate food and agriculture into local planning efforts

For food policy – including urban agricultural policy – to remain vital and effective, it must be visible, and articulated as a priority in city planning documents. The benefits of planning for urban agriculture in a robust, sustainable manner dovetail with other city objectives, such as protecting open space, mitigating climate change and ensuring the fostering of a sustainable community.

To this end, the task force recommends incorporation of sections that detail the articulation of urban agriculture and food systems policy into the city’s planning documents:

- City Master Plan
- Burlington Climate Action Plan
- Sustainably Planning/Legacy Plan Update
- Open Space Protection Plan
- Housing and Community Development Action Plan
- Plan BVT

5.1.10 Increase public transportation to food production areas

Consider areas with concentrated urban agricultural activities during transportation planning, for example bus service to current agricultural lands such as the Ethan Allen Homestead and the Intervale, bus service to future agricultural land within and outside the city, and sidewalks on Intervale Road.

5.1.11 Adopt a Burlington Food Charter

An overarching food policy in the form of a Food Charter can provide a mission statement about a community’s food goals and values and be used as a basis for a city’s food policy by guiding future decision making.

An important piece of the food charter as a foundational document is an assertion of the basic human right of community members to save seed, grow, process, consume and exchange food and farm products.

The city council should formalize the commitment to local food expressed explicitly in the resolution that created the task force and implicitly throughout city planning and policy documents by endorsing a food charter that contains priorities related to security and safety, ecological sustainability, economic benefits, accessibility and affordability, health, education, community, and civic engagement. Reflecting the values of the community, a food charter would be developed through an efficient and well-facilitated public engagement process, with legal authority ratified by the City Council and the Mayor.

Examples from other cities include:

- Toronto (http://www.toronto.ca/food_hunger/pdf/food_charter.pdf)
- Philadelphia (http://www.leadershipforhealthycommunities.org/images/stories/philadelphia_food_charter1.pdf)
- Vancouver (<http://vancouver.ca/commsvcs/socialplanning/initiatives/foodpolicy/policy/charter.htm>)
- New York City (http://www.mbspo.org/free_details.asp?id=179)

5.1.12 Support access to land at multiple scales

→ PRIORITY ACTION

The city can support access to land for food production through making more land available for urban agricultural activities, and through enabling more efficient use of existing land.

The city should encourage the development of programs that match land with households and farmers that could make use of it. Whether hosted at the city, as a municipal program, or within another organization such as the Burlington Food Council, city support is instrumental in ensuring that these programs are successful. We recommend that the city take the first steps towards developing these programs by supporting the convening of stakeholder meetings.

The City could also develop model language for shared use agreements.

5.1.12.1 Facilitate farmer/institutional land matching

This program would match larger parcels of land, owned by institutions such as the colleges with farmers looking for fields. The city could participate both in terms of developing this program and as a participant. The need for “higher and dryer” land was made painfully obvious during the past growing season, in which the bulk of the cities agricultural land, located in the Intervale, experienced both spring and fall flooding.

In addition to providing matchmaking services, the program would provide technical assistance to farmers and land-owners, to ensure that the permitting process is not a barrier.

5.1.12.2 Facilitate homeowner/gardener land matching

Some homeowners would enjoy seeing gardens on their properties, but for a variety of reasons, do not want to garden themselves. And, some residents, particularly those in the denser neighborhoods, would like to garden, but do not have the land. This program would encourage homeowners to allow other residents to garden on their property. While the core of the program would be a matchmaking facility – perhaps web based – the program would include a strong educational and technical assistance component.

5.1.12.3 Explore alternative conservation mechanisms

Some tracts of city land that are viable for agriculture have easements or other development restrictions that, while intended to protect against development, also preclude their use for growing food. While it is important to keep some land in “pure conservation” – untouched by any development, low impact cultivation is a use that keeps land open, ensures the continued provision of environmental services and so is in keeping with the spirit, if not the letter of these restrictions.

Two examples are McKenzie Park and the Urban Reserve.

McKenzie Park, an area of conservation land at the northern edge of the Intervale, is an area of open space that would be productive agricultural land. However, there are use restrictions for that land due to the federal Land and Water Conservation Funds that were used to purchase it and new uses need to be approved by the National Park Service. New activities must be available and accessible to anyone who wants to participate. Community gardening is considered allowable, as are educational activities. This land could be used for new community garden space or agriculture education programs.

The formerly industrial area known as the “North Forty” – which has been set aside as the “Urban Reserve” – is now coming under consideration in the planning process. Although the soil in this area is contaminated, this land could be used for greenhouse or other forms of food production that do not require soil cultivation

There are a variety of mechanisms that could be explored that would allow this land to be conserved as protected open space while at the same time being made available to practitioners. Several of these, including transfer of development rights, have been explored in a guide produced by the Vermont Law School Land Use Clinic “Facilitating Innovative Agricultural Enterprises”.

We recommend that the city continue to guide this process for these parcels in particular, and for others as they are identified by ongoing planning efforts.

5.1.13 Promote urban agriculture on public land

The city owns many properties that could support food production. Urban agriculture activities should be considered and encouraged on public land as long as the project includes some sort of public benefit, including, but not limited to, education, workforce development, programs targeted at underserved or food insecure populations, or gleaning. Specific production activities could include crop production, livestock grazing, aquaculture, greenhouse production, orchards, or beekeeping.

Land could be made available through the existing community gardens program, or by arranging for use by existing programs, such as New Farms for New Americans. Alternatively, the city could explore the development of new programs that either match city land with practitioners, or re-direct city resources from ornamental uses to food production.

Several sections of this report include specific recommendations for this type of effort including Bees (Section 5.6) and Urban Food Forestry (Section 5.1.1). At the citywide level, we recommend adopting these as part of a comprehensive set of proactive policies that maximizes the use of city land for agricultural purposes. Developed by a working group that could include the Burlington Food Council, the city land steward, the city arborist, and Friends of Burlington Gardens, these policies could become part of an expanded city Open Space Protection plan, which is currently being updated.

5.1.14 Promote sustainable management practices

As with community gardens, food production throughout the city should follow organic practices. While we recognize that there are jurisdictional issues at the state and federal levels, the city should consider working towards a ban on non-organic pesticides and herbicides.

The city's Pesticide Ordinance forbids the use of pesticides or herbicides, or products containing them, within 500 feet of Lake Champlain or its tributaries without special permission from the Board of Health. Anyone who applies pesticides or herbicides, or products containing them, outside of the 500 foot buffer zone (or within the zone with permission) must notify the occupants of the property and adjacent residents between 24 hours and 10 days before application. The notice must include a fact sheet stating when and where the pesticide will be applied with warning label details and other information. Failure to post before application may result in fines of up to \$500.¹³ Additionally, the Burlington Board of Health actively encourages non-toxic approaches to weed and pest control and recommends Integrated Pest Management (IPM).

The recent persistent herbicide contamination at Green Mountain Compost and other commercial compost facilities in Vermont, and its consequences for gardeners and farmers across the city, while still unfolding, provides a stark warning about the ease with which these compounds can enter our food supply.

¹³ Burlington, Vermont – Code of Ordinances, Sec. 17-9.

5.2 Home Gardens

Many local residents have gardens on their properties, either in the ground, in raised beds, or in container gardens. Home gardens have the advantage of being close to where people live, which means that people can easily harvest fruit and vegetables just by walking out their door.

One risk associated with home gardens is that urban soils are notoriously contaminated from past industrial uses, unauthorized waste disposal, lead paint, and vehicle exhaust. While this is a consideration for urban agriculture throughout the city, the perimeter of old homes are particularly at risk because of lead paint chips falling on the ground. Additionally, improper application of pesticides, herbicides, or fungicides can be detrimental to the health of both gardeners and their neighbors.

5.2.1 How current policy applies

CEDO has occasionally offered free soil lead testing to Burlington residents, based on availability of funding from the Burlington Lead Program. The Burlington Lead Program already offers educational materials regarding the risk of lead in vegetable gardens.

5.2.2 Policy examples from other cities

Most cities do not regulate home gardens, but may include a zoning definition for the activity and provisions related to fencing or other infrastructure.

5.2.3 Recommended actions

Home gardens, due to their private nature, do not warrant regulation. However, there are some basic zoning, programmatic, and educational efforts that can protect home gardens as a valuable use and ensure that home gardens are managed in safe ways.

5.2.3.1 Facilitate soil testing

Educational materials on soil contamination should also be made available on an urban agriculture website (in addition to the Lead Program website). The city should offer or connect people to free or subsidized soil testing that at minimum tests for lead and ideally tests for other contaminants as well.

5.2.3.2 Link home food production to stormwater management

The City should explore efforts to connect home food production into stormwater management, such as greywater irrigation, rain gardens, and rainwater catchment.

5.3 Community Gardens

In addition to providing space for people who don't have access to land to grow their own food in a safe environment, community gardens have many economic, social, and environmental benefits. They have been proven to improve the quality of life for people in the garden, provide a catalyst for neighborhood and community development, stimulate social interaction, encourage self-reliance, beautify neighborhoods, produce nutritious food, conserve resources, create opportunity for recreation, exercise, therapy, and education, reduce crime, preserve green space, create income opportunities and economic development, reduce city heat from streets and parking lots, and provide opportunities for intergenerational and cross-cultural connections.

There are several types of community gardens:

- Allotment gardens – sites divided into plots that are rented to gardeners. Neighborhood gardens are a subset of this type, with plots used by residents of designated neighborhood or area.
- School gardens – educational garden sites on school grounds involving students, teachers, and often, community volunteers.
- Group gardens – programs serving a group of participants such as youths, seniors, or immigrants.

Burlington has a long history of community gardening, dating back to the city's first community garden at Cliffside Park (now Oakledge) in 1972. By 1976, the city had 23 sites and nearly 1,000 plots. By 1985, those numbers had dropped to 255 plots, with only 190 rented. The City of Burlington Parks and Recreation Department took over management of the remaining eight gardens in 1986.

The Burlington Area Community Gardens (BACG) program now encompasses 12 community gardens with approximately 500 allotment style plots. The program is run by one staff member, along with a network of volunteer site coordinators, and overseen by a volunteer advisory board. Residents pay for garden space based on plot size and low-income participants are eligible for a 50% scholarship. The city's oldest existing community garden, founded in 1976, is located at Ethan Allen Homestead and other gardens are scattered throughout the city (see map below). Just under half of the garden sites (5) are on privately owned land. Two of the sites on public land are on parcels not managed by Parks and Recreation (Ethan Allen Homestead, Champlain Community Garden). Between these two sites and the 5 parcels on privately owned land, Parks and Recreation enters into a land use agreement between the city and the land owner for most of the community garden sites.

The city is also home to several independent gardens, including the Archibald and Riverside neighborhood gardens managed by Grow Team O.N.E., a grassroots community group in the Old North End. The two gardens on reclaimed land have space for 33 households.

The Winooski Valley Parks District's Ethan Allen Homestead site hosts several gardens and garden education programs: a BACG garden, the Visiting Nurse Association Family Room summer gardening/outdoor education program and the Friends of Burlington Gardens Community Teaching Garden.

5.3.1 How current policy applies

Under existing Burlington zoning, a community garden is defined as “A private not for profit or public common area used for gardening by a group of households.” Community gardens are an approved use in all districts except Urban Reserve and Downtown Waterfront Public Trust districts. The minimum off-street parking requirements for community gardens are 1 parking spot per 10 plots in the neighborhood and shared use districts and none in the downtown district.

The city’s municipal development plan identifies community gardens as a strategy to enhance neighborhood identity and character (I-25) and a site for agricultural entrepreneurship (VI-8).

In 2002, Burlington City Council approved a resolution in support of the maintenance and long-term expansion of the Burlington Area Community Gardens, including that city departments support the BACG program, that ordinances should be strengthened to support community gardens, the BACG program should be expanded to reach marginalized populations, and that the city should take advantage of opportunities to partner with local organizations on programs and grants.¹⁴

Although Burlington has a vibrant community garden culture and is often cited as a model for a city-supported system, there are several barriers to providing access to all residents who want to garden. The areas of greatest need for more garden space are the Old North End and South End.

- There is a waitlist for the city’s community garden plots and independent neighborhood plots.
- Permit requirements for structures are burdensome and/or prohibitive.
- Community garden information and educational programming is only available in English.
- McKenzie Park could be used for new community gardens, but federal policy preclude commercial use of the land.
- Current community garden definition is limited to gardening and does not allow for livestock or bees.
- City needs land use permits to undertake capital projects and park amenity additions.
- Lack of large tracts of available land.
- Contaminated soil in dense residential areas.

Plot fees support BACG, but only cover approximately 60% of the cost of the city’s program. Remaining funding comes from The Conservation Legacy Program (CLP) stewardship fund and the City’s tree and greenway fund. The main funding sources for new garden development are the city’s Conservation Legacy Program (CLP) fund¹⁵ and Penny for Parks fund¹⁶, which was created for the “capital improvement needs of city parks and community gardens” and is

¹⁴ <http://www.burlingtongardens.org/GardenResolution.html>

¹⁵ For CLP program details, visit <http://www.enjoyburlington.com/Parks/ConservationLegacy.cfm>

¹⁶ For Penny for Parks program details, visit <http://www.enjoyburlington.com/AboutUs/PennyforParks1.cfm>

funded by an annual assessment. Community gardens are currently budgeted at 1.4% of the annual total.

The only mention of community gardens in state statute is in the chapter on downtown development where community gardens are mentioned as a public space that promotes social interaction. (24 V.S.A. § 2791. Definitions) The house of representatives passed a joint house resolution in 2004 supporting the establishment and expansion of community, neighborhood, and youth gardens and to increase their accessibility to disadvantaged population groups. (J.R.H. 47).

5.3.2 Policy examples from other cities

Municipalities around the country have adopted a variety of policies that support the creation and maintenance of community gardens, including providing financial support, technical assistance, and education. Communities can also promote community gardens by encouraging interim or temporary use of underutilized land for gardens, assisting in land acquisition for gardens, and helping manage community gardens and related educational programming. Here are some examples of government actions promoting community gardens compiled by Public Health Law & Policy

(http://www.michigan.gov/documents/mdch/communitygardenpolicies_303374_7.pdf)

Community Gardens on Vacant Public and Private Land

- The City of Escondido, California, has an “Adopt-a-Lot” policy allowing community gardens to be operated as an interim use on both publicly and privately owned vacant land. A city employee works with landowners and the community to develop an agreement for the conditions and tenure of use of the land as a garden.
- Des Moines has a community garden program that allows the establishment of community gardens on city right-of-ways and real property.
- New York City has a law protecting and promoting the use of vacant lots for gardens.
- A number of cities, including Washington, DC, and Hartford, CT, collect and maintain an inventory of public or private vacant land suitable for gardens.

Financing and Acquiring Land for Community Gardens

- Seattle has provided parks with bond monies, public housing funds, and neighborhood matching grants to purchase land for and help maintain garden plots.
- Minneapolis allows use of tax-forfeited land (properties seized by the city from the landowner due to unpaid taxes) as garden sites without charge.
- Chicago formed a nonprofit called NeighborSpace with the Chicago Park District and the Forest Preserve District of Cook County. Each entity contributed funds to purchase lands for community gardens.
- Madison, Wisconsin, has used federal Community Development Block Grant funds to support community gardens.
- A number of cities, including Boston, Philadelphia, Providence, and New York City, have begun using land trusts to acquire and preserve community gardens.

Municipal Community Garden Programs

- Like Burlington, many cities around the country have municipally-operated community garden programs, such as Hartford, CT, Palo Alto, CA, Portland, OR, and Sacramento, CA.

Public-Private Partnerships

A number of communities have created partnerships with nonprofit organizations to acquire land for and operate community gardens.

- Chicago has a city-funded nonprofit called NeighborSpace to acquire property to preserve land for community gardens. It also enters into operating agreements with local groups to use and maintain the spaces.
- The City of Seattle's P-Patch Community Garden Program works with the nonprofit Friends of P-Patch and the City Housing Authority to acquire, build, protect, and advocate for the gardens.
- The Tacoma-Pierce County Community Garden Program is a collaborative effort of the City of Tacoma, Tacoma-Pierce County Health Department, Metro Parks, Pierce County, Forterra , and other community groups.
- The gardens in Madison, Wisconsin are coordinated by the Community Action Coalition for South Central Wisconsin, Inc. A city-wide Committee on Community Gardens is made up of gardeners, and representatives of city bodies including the Plan Commission, Parks Commission, and the Community Development Block Grant (CDBG) Committee.

5.3.3 Recommended actions

5.3.3.1 Revise zoning for community gardens

Community gardens may be principal or accessory uses in all zones and may be located on a roof or within a building.

5.3.3.2 Increase the number of community gardens, especially in underserved neighborhoods

- Set the goal of ensuring that every city resident has access to a community garden site within a 10 minute walk, bike, or drive from their home or workplace. Identify areas that do not meet this standard and prioritize the establishment of new gardens in neighborhoods.
- Identify existing and potential community garden sites on public property, including parks, as well as commercial property, vacant land, and brownfields (as appropriate for remediation).
- McKenzie Park, an area of conservation land at the northern edge of the Intervale, is an area of open space that would be productive agricultural land. However, use of this land is restricted for commercial agriculture use due to the federal Land and Water Conservation Funds that were used to purchase it. New uses need to be approved by the National Park Service and activities must be available and accessible to anyone who wants to participate. This land currently can be used for new community garden space or agriculture education programs, but commercial agriculture is prohibited.

- Use Penny for Parks and Conservation Legacy funds to purchase available land for new gardens and improve infrastructure at existing gardens where needed. Penny for Parks currently dedicates \$5,000 annually to proposals for garden site improvements.

5.3.3.3 Partner with local experts and organizations

- Increase support for community gardens through partnerships with other governmental agencies and private institutions including the school district, neighborhood groups, senior centers, businesses, and nonprofit gardening organizations.
- Secure additional community garden sites through long-term leases or through ownership as permanent public assets by the city, nonprofit organizations, and public or private institutions like universities, colleges, school districts, hospitals, and faith communities.
- Partner with local organizations to develop comprehensive, community-garden based educational programming.

5.3.3.4 Streamline permitting for structures in community gardens

- Community garden structures, including, but not limited to sheds, greenhouses, hoop houses, cold frames, compost bins, arbors, raised beds, shade structures, water collection systems, etc. (as defined in recommendation 5.1.1.3) up to 400 sq. ft. should be exempt from zoning permit process. If they have water or electrical, they should be subject to the DPW building permit process and inspection.

5.3.3.5 Ensure safe and secure garden operations

- Community garden land shall be served by a city water supply sufficient to support the cultivation practices used on the site.
- The city will provide soil testing for heavy metals and other contaminants in all community gardens.

5.3.4 Cost considerations and potential funding sources

The city has several options for expanding its network of community gardens, including purchasing land; using city-owned land, such as Oakledge Park (which was the site of Burlington’s first community garden) or the landfill site in the Old North End; leasing land from private landowners, such as Burlington College; and incorporating independent gardens into the city’s system.

The most costly of these options is purchasing land. One potential funding source is the city’s Conservation Legacy Fund and the Penny for Parks fund, which was created for the “capital improvement needs of city parks and community gardens” and is funded by an annual assessment.

Plot fees can help support the BACG program, but do not cover the entire cost of the city’s program.

5.4 Urban Farms

Urban farms are large-scale agricultural activities that are either managed as for-profit or nonprofit enterprises. Burlington's urban farms are located along the Winooski River, predominately in the Intervale. Much of this land is part of the Winooski River floodplain, which both offers highly fertile soils and imposes some regulatory issues from the federal level. In addition to the Intervale, commercial farming occurs at the Ethan Allen Homestead (see Section 4.1.3 on the New Farms for New Americans program) and privately-owned farmland to the north.

Burlington's urban farms sell their products through both retail and direct market outlets. City Market, a cooperatively-owned grocery store in downtown Burlington with over 7,000 member-owners, features a wide range of locally produced food, including a significant amount from Intervale farms. The co-op actively promotes the local agriculture and offers community classes on gardening and cooking. Many urban farms sell directly to residents through Community Supported Agriculture (CSA) shares. One farm operates a produce truck that vends in the Old North End once a week. Four weekly farmers' markets operate throughout the growing season; the downtown farmers' market operates every other week throughout the winter.

5.4.1 How current policy applies

Vermont's Limitations on Municipal Bylaws¹⁷ (24 V.S.A. § 4413) prohibits the city from regulating "accepted agricultural practices" and structures used for agricultural purposes (see Appendix D for the Accepted Agricultural Practices criteria for structures to qualify as "agricultural structures").

However, the state does recognize the role of zoning as a viable municipal tool for determining where agricultural activities take place. Burlington's Comprehensive Development Ordinance (zoning law) designates certain areas of the city as agricultural zones. Currently, these areas include the Intervale, the Ethan Allen Homestead, and privately-owned farmland northwest of the Homestead.

In combination, these two policies effectively eliminate the city's regulatory authority over Burlington's commercial farms. For this reason, the Task Force did not investigate or develop any regulatory recommendations for these activities.

Although the city has little power at a federal level, it should be noted that FEMA policy on building agricultural structures in the floodway has posed barriers to the installation of hoop houses in certain areas.

5.4.2 Policy examples from other cities

Some cities adopt separate zoning definitions for urban farms in order to separate them as a separate activity from other types of urban agriculture. Some cities allow urban farms as a permitted use in certain zones and a conditional use in other zones. Some cities may require

¹⁷ <http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=24&Chapter=117&Section=04413>

that urban farms test their soils, have a farm management plan, or disclose certain information such as when pesticides will be sprayed or the hours of operation. Cities may limit the size of urban farms, regulate the types of activities that can take place there, or place restrictions on agricultural infrastructure. However, as noted above, Burlington effectively lacks the authority to impose such regulations.

5.4.3 Recommended actions

Although the city does not have regulatory jurisdiction over commercial scale agriculture on land that is zoned for agriculture, urban farms could be better supported through actions that facilitate sustainable production and strengthen the local food economy.

5.4.3.1 Facilitate access to farmland outside floodplain

Farmers in the areas most at risk of flooding would benefit greatly from access to land on higher ground, especially considering the importance of developing adaptation strategies for climate change, which is likely to increase the frequency of extreme weather events in the northeast. The city could play a role in connecting farmers in the floodplain with institutional landowners in other parts of the city or in surrounding peri-urban or rural areas (see crosscutting recommendation 5.1.12.1).

5.4.3.2 Coordinate with state and federal agencies

The Agency of Agriculture has significant regulatory authority over commercial agriculture. The city should maintain relationships with Agency staff to understand the implications of new regulations and advocate on behalf of Burlington farmers.

FEMA policy on structures in the floodway has posed barriers to the installation of hoop houses in certain areas. The city has already played a valuable advocacy role with FEMA, and should continue to provide this support in coordination with the Intervale Center.

5.4.3.3 Support local agricultural economic activity

As mentioned in section 5.14 on food sales, the city should support the local food economy by supporting Burlington's several farmers' markets and instituting a city policy that prioritizes local food purchases. This could also include research on entry barriers to new markets such as supermarkets and local restaurants.

5.5 Livestock and Poultry

Many urban residents keep livestock and poultry for the production of eggs or meat. The most common livestock and poultry in Burlington are chickens. Some people also keep rabbits, and others have kept goats and pigs in the past, though we know of no pigs or goats currently in the city.

The livestock and poultry section is divided into subsections on various policy issues related to keeping animals in the city.

How many chickens?

How many chickens does a household need? The answer to that question depends on how many eggs you want! A variety of factors contribute to the hen productivity of hens, including breed, time of year, and the age of the hen. When chickens are at the height of laying, the general rule of thumb is that 3 hens will provide an average of 2 eggs per day.

As hens age, they lay less frequently. Anyone considering keeping laying hens should have a plan for their hens when this time arrives. Some people keep them for pets, some people try to find another home for them, and some people find that these hens make a tasty soup!

When deciding how many hens to keep, another factor to consider is the size coop and run you will need to have. The Task Force is recommending a minimum of 1.5 ft² per chicken for indoor coop space, which means that someone wishing to keep 6 chickens must have enough space to accommodate (at minimum) a 9 ft² coop and a 18 ft² enclosed run. See Appendix G for a full table showing space requirements and egg production for different numbers of chickens. Supporting material and calculations are provided in Appendix H.

5.5.1 How current policy applies

Vermont's Accepted Agricultural Practices (AAPs) regulations¹⁸ (6 V.S.A. § 4810) address water pollution from manure. These water quality laws apply to agriculture regardless of the number of animals kept. The AAPs require that manure be kept at least 100 ft. from property lines, a requirement that is very difficult for most urban lots to meet. The AAPs also require that manure be kept at least 100 ft. from surface waters. It is possible to apply for a variance from the Agency of Agriculture. Variances carry additional requirements to containerize manure or remove it regularly from the property.

Nuisance ordinance. Burlington's general code includes a nuisance ordinance that may be used for offensive odors, noises, and aesthetics. Because the city may define what constitutes a nuisance, the nuisance clause may be used in a variety of situations. Although there is no rule against keeping roosters in the city of Burlington, the nuisance ordinance is currently used in cases when neighbors complain about roosters.

Number of Animals. Burlington limits the number of animals a household may have through its zoning definition of "Boarding." A resident may not have more than 4 animals without being

¹⁸ <http://www.vermontagriculture.com/ARMES/awq/AAPs.htm>

considered an animal boarding facility, an activity that is not allowed in residential areas. Therefore, only four animals in total, of any kind, are allowed. This ordinance has been stretched to apply to livestock and poultry, despite the fact that it was put in place to govern non-agricultural activities.

Structures. All structures less than 16 ft² are exempt from zoning permits; there is no specific size cutoff for DPW building inspections (garden sheds require a permit, but doghouses do not). Regardless of structure type, all structures are subject to the following:

- A five foot setback from property lines
- Permitting and inspection of electrical work
- Maximum lot coverage¹⁹ restrictions (for structures larger than 16 sq. ft.)

Any structure meeting the criteria to be considered an “Agricultural Structure” is exempt from the permitting process (see Appendix D for a discussion of how the state’s Limitations on Municipal Bylaws apply to agriculture.)

Humane treatment. Unlike companion animals, livestock and poultry are not governed by strict humane treatment laws because “livestock and poultry husbandry practices” are exempt from the regulation. The state does have humane standards for slaughterhouses. Humane Society and Livestock Cruelty experts expressed the need for a legal basis to take action in cases of inhumane treatment.

Registration. No laws of this kind currently apply to livestock and poultry. However, Burlington currently requires dogs to be licensed annually for a fee of \$26-48.

Slaughtering. Vermont does not regulate slaughtering of livestock and poultry for personal consumption. If the intention is to sell meat, non-poultry livestock must be processed at an inspected slaughterhouse. The on-farm slaughter of poultry for sale is exempt from this requirement, as long as certain provisions are followed and not more than 1000 whole birds are sold in one year. The laws apply at all scales, so hobby livestock keepers are also eligible for the exemptions.

5.5.2 Policy examples from other cities

Number of animals. Some cities list outright in their land use code how many of each animal is allowed given a certain amount of space on a property. Seattle allows 8 hens on any lot, in addition to various other livestock, for spaces that are over a certain square footage.

New York City Health Code gives residents the liberty to keep as much livestock as they want, so long as it doesn’t commit a nuisance.

Structures. Cities may govern the size, location, or construction of the structure. Location requirement can include:

¹⁹ Any structure contributes to a property’s lot coverage, which is a calculation of the percentage of the lot with impervious surfaces. Lot coverage limitations are intended to mitigate storm water runoff and provide open space benefits. Lot coverage restrictions vary by zoning district, listed in Appendix B of Burlington’s Comprehensive Development Ordinance //insert URL.

- Placement on property
- Distance from dwellings and/or property lines
- Mobile vs. stationary
- On pervious vs. impervious surface

In addition, the overall zoning classification can affect what types of structures are permissible.

Cities approach each issue differently.

- Some limit coops to single family residential lots, others allow them on multi-unit properties as well. Seattle allows coops in community gardens. Albuquerque does not allow them in high-density zones.
- Some cities require that coops be placed in rear and/or side yards only (with special provisions for corner lots)
- Most cities have setback requirements for coops, either from the nearest dwelling or the property line.
- Baltimore requires that coops be mobile with the intention of spreading the manure around the property (though this is not enforced)

Humane treatment. Some cities require that structures housing animals must be impermeable to predators and that chickens must be confined at all times. Some cities also provide minimum space requirements.

Registration. Many cities require residents to register their animals with the city in order to keep track of who is raising which kinds of livestock. This is similar to requirements to register your dog. The intention is to monitor how many people are engaging in these activities, to facilitate communication with practitioners, and, in the case of fees, to provide a revenue source for the city to cover the cost of implementing and enforcing urban livestock laws.

Registration may be free (e.g. Vancouver) or up to \$80 per coop (e.g. Baltimore). It may be one-time (e.g. Baltimore and Vancouver) or annual (e.g. South Portland, ME). Higher fees may be associated with lower registration rates.



Slaughtering. Most cities either do not specifically address slaughtering in their code, or they do not allow it; however a few cities as diverse as Albuquerque, NM, Austin, TX, and Memphis, TN, specifically do allow slaughtering. In Rogers, AK, slaughtering is permitted inside only.

5.5.3 Recommended actions

Because of the complicated nature of livestock management and state law, the Task Force carefully considered which issues should be supported with new regulation and which issues should be addressed through public information and building a “community of practice”. The idea of a community of practice was identified as an important method for promoting best practices that the city may not have the authority to regulate or that are otherwise unsuited for regulation.

As the catalyst for the formation of the Task Force, the question of how many livestock animals are appropriate in an urban yard remained a challenging one to answer. A variety of factors contribute to such a determination, including the type of livestock, the amount of space needed for humane management, the size of the property, and the size structure the property can accommodate. We have chosen to recommend flexible policies that are based on current structure size exemptions and the humane treatment of livestock.

5.5.3.1 Adopt a livestock welfare ordinance to regulate humane treatment ²⁰

→ PRIORITY ACTION

The city should adopt a general ordinance with regulations that provide the following minimum standards for humane care, as well as minimum space requirements based on livestock species:

- Animals must be provided with appropriate shelter from the elements
- Fresh water must be provided at all times
- Housing must protect from predators
- During daylight hours, animals must be kept in an enclosure unless under direct supervision. During non-daylight hours, animals must be kept in an enclosure that provides protection from predators.
- In cases where livestock will be kept in a non-residential situation, additional care should be taken to limit public access to the animals.
- Animals must be kept in a manner that is appropriate to their needs and allows them to express their natural behavior. Anyone keeping livestock must be familiar with the educational materials on caring for the species they are keeping [developed in coordination with the Humane Society, see below]. Humane Investigators²¹ shall have the authority to assess animal appearance and behavior to determine whether animals are being cared for in a manner that is “appropriate to their needs” and allows them to express their “natural behavior.”

²⁰ The humane treatment policy recommendations were developed in coordination with the Humane Society of Chittenden County.

²¹ Humane Investigators are employed by the Humane Society of Chittenden County.

Species-specific minimum space requirements:

| Species | Minimum indoor area | Minimum outdoor run area |
|----------------------------------|---|--|
| Chickens | 1.5 ft ² /chicken | 3 ft ² /chicken |
| Pigs | Enough space for each pig to lay down and turn around | Per pig: six ft ² for every 250 pounds of body weight |
| Goats | | |
| Goats (buck/doe) | 16 ft ² | 27 ft ² |
| Kids | 4 ft ² | 5.5 ft ² |
| Doe with one kid | 22 ft ² | 33 ft ² |
| Any additional kid | 4 ft ² | 5.5 ft ² |
| Sheep | | |
| Adult sheep (ram/ewe) | 16 ft ² | 27 ft ² |
| Lambs | 4 ft ² | 5.5 ft ² |
| Ewe with one lamb | 22 ft ² | 33 ft ² |
| Any additional lamb | 4 ft ² | 5.5 ft ² |
| Rabbits | | |
| Male or female adult | 3 ft ² | 8.5 ft ² |
| Doe and litter | 8.5 ft ² | 9 ft ² |
| Rabbit from weaning to 8 weeks | 1.5 ft ² | 1.5 ft ² |
| Rabbit from 8 weeks to slaughter | 2.5 ft ² | 2.5 ft ² |

Prior to adoption of the ordinance, the city should consult with the Humane Society of Chittenden County to develop similar minimum space requirements for other types of livestock including cows, horses, ducks, turkey, and geese.

5.5.3.2 Regulate livestock and livestock structures through zoning

The city should make urban livestock a permitted use in all zones provided the welfare ordinance requirements can be met. Through the adoption of a new definition for livestock, a distinction should be made between livestock (provisioning animals) and pets (companion animals) so that livestock are no longer regulated under the definition of boarding.

Livestock structures should be exempt up to 24 ft² (50% larger than non-agricultural accessory structures), therefore allowing for certain numbers of livestock based on the minimum space requirements in the general livestock welfare ordinance.

- **Chickens:** Based on a minimum coop space requirement of 1.5 ft² per chicken and a 24 ft² livestock structure exemption, 16 chickens are allowed outright (without a permit).
- **Goats and Sheep:** Based on a minimum shelter space requirement of 16 ft² per goat and a 24 ft² livestock structure exemption, one goat or sheep is allowed outright (without a permit).

- **Rabbits:** Based on a minimum shelter space requirement of 3 ft² per adult rabbit and a 24 ft² livestock structure exemption, 8 adult rabbits are allowed outright (without a permit). A greater number of young and adolescent rabbits may be kept (based on the table above).
- **Other livestock:** Once minimum space requirements are developed for other types of livestock, similar calculations should be done to indicate the maximum number of animals that may be kept without a permit for a larger structure.

In all cases, Accepted Agricultural Practices (manure management regulations) must be met.

For structures larger than 24 ft², residents must apply for an urban agriculture structure zoning permit unless they qualify for the state exemption²². Outdoor run area is not calculated towards structure size.

Supporting material and calculations for chickens are provided in Appendix H.

5.5.3.3 Create livestock registration system

Burlington should adopt a general ordinance requiring all practitioners to complete a free registration to support a variety of educational and practice based efforts. Some type of incentives should be provided to encourage people to register (e.g. the city could partner with a local business to offer coupons to people who register). Registration would provide the following functions:

- Communicate with livestock owners in case of loose animals or disease
- Advertise classes and events relevant to people keeping urban livestock
- Serve as a networking tool to connect farmers with one another
- Share information on city regulations and FAQs
- Provide a metric for how many people are keeping livestock



5.5.3.4 Adopt a slaughtering ordinance

The city should allow slaughtering that is consistent with state laws (see Appendix D). The city should adopt a general slaughtering ordinance that includes the following:

1. Waste material must be kept out of stormwater system
2. Appropriate disposal methods (including composting)
3. Neighbors with sightlines to the area where slaughtering occurs must be notified with one week notice regarding the day and time the activity will happen so they can choose not to be present while the slaughtering occurs

²² See Appendix D for detail on Vermont's Accepted Agricultural Practices exemptions for agricultural structures.

Additionally, the city should revise the Animals and Fowl ordinance (Chapter 5) to exempt slaughtering of livestock from the provision against “illegally kill[ing]” an animal (Sec. 5-26).

5.5.3.5 Regulate roosters through nuisance ordinance

Roosters should continue to be addressed using the nuisance ordinance. This will allow people to keep roosters where they do not create a nuisance and provide a means to restrict the keeping of roosters in areas where they do.

5.5.3.6 Promote education on livestock care and slaughtering

→ PRIORITY ACTION

The city should partner with local practitioners and organizations (including the Humane Society) to develop educational resources on caring for livestock, including best practices literature, local organizational resources, and options for dealing with unwanted roosters, injured or sick livestock, and old hens that aren’t laying anymore. Educational materials should be distributed online and in print.

The city should partner with the Humane Society and other local organizations to develop educational materials on slaughtering for web and print distribution that include the following:

1. Overview of state slaughtering laws as they pertain to the urban context
2. Overview of Burlington’s slaughtering ordinance
3. Best practices resources
4. Information on cultural differences and religious practices
5. Advice on respecting neighbors (talk with them beforehand)

5.5.3.7 Manage neighbor conflict

In cases of neighbor conflict outside the realm of city ordinance, a mediation method should be applied. In the case of roosters, the nuisance ordinance should be applied.

5.5.3.8 Track livestock metrics

The city should use information collected through the livestock registration system to track the number of people keeping animals in the city. The web administrator should report on the number of downloads.

5.6 Bees

Bees provide pollination services to wild and cultivated crops, as well as honey for human consumption. The domesticated honeybee (*Apis mellifera*) is of European descent, brought to America with early settlers in the 1600s. Honeybees have specially evolved to pollinate many agricultural crops, which native bees are not suited for. Within the last several years, Colony Collapse Disorder has been afflicting bees throughout the US, causing bee populations to plummet.

Urban beekeeping offers residents the opportunity to produce their own honey and pollinate their gardens. In addition, because bees will fly for several miles to find pollen, urban bees will also pollinate nearby agricultural areas. Bees can even be kept on rooftops, for example on top of Chicago's City Hall²³.

There are an estimated 20 or so active beekeepers in Burlington, with possibly 30-40 hives in the 05401 zip code²⁴. Several hives are located in the Intervale, both for commercial honey production and pollination services. Rock Point School also has bees.



<http://theselby.com/galleries/annie-novak/>

5.6.1 How current policy applies

Vermont's apiary law requires that beekeepers complete a free, one-time registration with the Agency of Agriculture so that the state may track where apiaries are located and communicate with beekeepers in the case of disease or aerial pesticide spraying near an apiary. The state apiculturist visits apiaries throughout the state, including in the city of Burlington.

The apiary law also contains provisions to prevent the spread of disease. Beekeepers must report any disease in their hive and the state apiculturist has the authority to inspect hives and make determinations regarding the identification of disease. In addition, used equipment or colonies from another state must be certified as free of disease. Hives must be constructed with removable comb frames and an apiary may be located anywhere on the property.

The law also includes provisions specific to commercial beekeepers, including that beekeepers must report the breeding of bees for commercial sales and regulations regarding the establishment of new apiaries within certain distances of existing commercial apiaries.

For the full text of the Vermont apiary law, see

<http://www.leg.state.vt.us/statutes/fullchapter.cfm?Title=06&Chapter=172>

²³ http://www.huffingtonpost.com/2011/07/29/beehives-thrive-in-chicag_n_913030.html

²⁴ Personal communication, Steve Parise, State Apiculturist, 2011.

Common beekeeping concerns

When it comes to bees, many people have fears related to swarms and stings. Following sound management practices is the best way for beekeepers to minimize interactions between people and bees, while education about swarms and stings provides an opportunity to mediate the fears of neighbors. One beekeeper emphasized the importance of engaging neighbors, for example by inviting neighbors over for “bees and beer” when opening his hives.

Swarms: Bees swarm when a colony outgrows its hive. When this happens, the colony splits and the queen leaves the hive with part of the colony to locate a new hive. Bees generally swarm near the original hive, for example in a tree, while scouts are sent to identify a viable new hive. Bees are quite docile when they swarm because they are not protecting a hive. Certain management practices can prevent swarming. When swarming does occur, it is an opportunity for a current or new beekeeper to establish a new hive. Experienced beekeepers know how to capture the swarm safely.

Stings: Bees sting when they feel their hive is threatened. For this reason, the greatest risk of stinging occurs close to the hive. A small portion of the population is allergic to bee stings, and a much smaller portion still may have an anaphylactic reaction to bee stings. There is little information available on the number of people who die each year from bee stings, but deaths from hornets, wasps, and bees average around 61 per year for the entire US¹. (For a point of comparison, approximately 52 people per year die from lightning strikes¹, while approximately 30 people per year die from dog attacks in the US¹). Death from bee sting is more common among Africanized honeybees, which cannot live in Vermont due to cold winters. The risk of stings is best reduced by practices that minimize the opportunity for interactions between bees and people. People who know they have an allergic reaction to stings should take caution near hives and carry an epi-pen with them.

The most common risk associated with beekeeping is the spread of disease from one hive to the next, which would threaten the health of the colony. Best management practices can reduce this risk.

Because domestic bees displace native bees, it is also important to remember that local ecosystems have a carrying capacity for European bees that should not be exceeded.

5.6.2 Policy examples from other cities

Some cities allow bees outright, but offer educational outreach on best practices in order to minimize risks (e.g. Vancouver). Other cities have minimal or extensive beekeeping ordinances, including requirements and/or fees to register hive(s) (e.g. Seattle, Santa Monica, and South Portland). Some cities require that hives must be on the property of the hive owner, while others are more flexible in allowing bees to be located on other properties. Some cities allow bees in community gardens (e.g. Denver).

5.6.3 Recommended actions

Because bees are partially wild animals that leave a person's property and interact with local ecosystems within a radius of several miles, they pose unique challenges. The main governance considerations for beekeeping are to minimize interactions between humans and bees, minimize the spread of disease between one hive and another, and provide educational information to the public regarding bee behavior.

5.6.3.1 Revise zoning ordinance to accommodate beekeeping

→ PRIORITY ACTION

The City should adopt zoning code language to allow beekeeping as an allowed use in all zones (including at schools and community gardens), provided minimum standards can be met (see general ordinance below). Because of the size of beehives, they should be exempt from zoning and building permit processes.

- 2 hives allowed outright; more hives will be allowed based on criteria to be developed, including lot size and ability to adhere to practices required in the ordinance
- 5 foot setback from property line

5.6.3.2 Adopt a general beekeeping ordinance

→ PRIORITY ACTION

The City should adopt a general ordinance that includes:

- Beekeeping is allowed in Burlington provided zoning requirements are met (see above)
- Renters must obtain permission from their landlord before keeping bees on their property.
- If hives are to be established at a multiunit apartment, all residents must be notified of the placement of hives on the property.
- The name and contact info of the beekeeper should be displayed on each hive.
- In case of swarms, the beekeeper must remove the swarm or contact a professional to do so.

5.6.3.3 Promote education on beekeeping

The City should partner with State Apiculturist and VT Beekeepers Association to develop educational materials on state law and best practices for web and print distribution that include the following:

- Summary of state apiary laws for urban beekeepers
- Encourage Burlington beekeepers to register with the state apiary program (<http://www.vermontagriculture.com/ARMES/plantindustry/apiary/index.html>)
- Encourage Burlington beekeepers to participate in VT Beekeepers' Association (<http://www.vermontbeekeepers.org/>) and Chittenden County Beekeepers Association
- Provide links to educational resources on best practices, including that hive entrances should be oriented away from human foot traffic, preferably with a tall bush or similar object placed in front of the hive to encourage bees to fly up when they emerge from

the hive, and that beekeepers should provide water to discourage bees from visiting neighbor's pools and birdfeeders.

- Create accompanying material for the non-beekeeping public regarding the reasons for urban beekeeping, explaining bee behavior, and information on who to contact in the case of questions or a swarm sighting.

5.6.3.4 Consider bees and other pollinators in city landscaping decisions

- City landscaping decisions should be made with bees and other pollinators in mind
- City landscaping should provide water sources for pollinators

5.7 Hoophouses and Greenhouses

Hoophouses and greenhouses are used by farmers and gardeners for season extension. Greenhouses are permanent structures with glass or hard plastic windows. Hoophouses (also called “high tunnels”) are less permanent versions of greenhouses made of lightweight materials. In both cases, the glass or plastic allows UV rays to enter and heat the air in the enclosed space, thus encouraging plants to grow at a faster rate than in the colder outdoors. Both commercial farmers and urban gardeners use hoophouses and greenhouses, and they can be erected at a variety of scales.



<http://www.kerrcenter.com/publications/hoophouse/index.htm>

5.7.1 How current policy applies

State level limitations on municipal bylaws prohibit the city from regulating “agricultural structures” used for commercial purposes (24 V.S.A. § 4413).

Structures that do not qualify for this exemption are currently regulated like all other structures in Burlington:

- Structures are subject to 5 ft. setbacks from property lines
- Any structure with a foundation and in place for fewer than 30 days qualifies as a “temporary” structure
- Structures less than 16 sq. ft. are exempt from the zoning permit process and are not calculated into a property’s lot coverage
- Structures greater than 16 sq. ft. require a permit and are calculated into a property’s lot coverage
- Foundations are required for any structures greater than 400 sq. ft.
- All electrical work requires an inspection by DPW

Under the current interpretation, a hoophouse is a permanent structure if it is erected for more than 30 days, thus requiring a zoning permits. In one recent situation, a neighbor complained to the Planning and Zoning department about 2 hoophouses on South Willard St.²⁵ The complaint appears to have been based on aesthetics.

Farmers in the Intervale have encountered problems with FEMA regarding the use of hoophouses in the floodway. In times of flood risk, the plastic on hoophouses can rolled up to allow for the free flow of water through the infrastructure (similar to a fence). The Intervale

²⁵ See <http://7d.blogs.com/blurt/2012/05/burlington-couple-busted-for-gardening-structures-in-front-yard.html>

Center and city officials continue to engage with state agencies and FEMA officials to advocate for the use of these structures in that area.

5.7.2 Policy examples from other cities

Few other cities have policies specific to hoophouses and greenhouses. In Seattle, WA, both types of structures are allowed height exemptions.

5.7.3 Recommended actions

Greenhouses and hoophouses are important tools for season extension. Although they are structures, they should not be treated like buildings.

Note: These recommendations apply only to hoophouses and greenhouses that do not qualify for the state agricultural exemption. Thus, commercial farms (e.g. in the Intervale) should continue to follow the state exemption process.

5.7.3.1 Revise zoning ordinance for greenhouses and hoophouses

→ PRIORITY ACTION

Burlington Planning and Zoning should adopt definitions of greenhouses and hoophouses that distinguish them from other types of structures. Example definitions:

- “A **greenhouse** shall mean a temporary or permanent structure typically made of, but not limited to, glass, plastic, or fiberglass in which plants are cultivated.”
- “A **hoophouse** shall mean a temporary or permanent structure typically made of, but not limited to, piping or other material covered with translucent plastic, constructed in a “half-round” or “hoop” shape, for the purposes of growing plants.”

Zoning code should specifically reference the state law regarding agricultural structures.

Hoophouses and greenhouses that do not qualify for state exemption should be defined as “urban agriculture structures”.

- Greenhouses and hoophouses should be allowed as both primary and accessory structures in all zones but conservation. Hoophouses and greenhouses with electrical work must apply for building permits. Up to 2 structures shall be allowed; additional structures shall be subject to a site review.
- Hoophouses should not have foundations.
- Hoophouses less than 400 ft² should be exempt from zoning permits and lot coverage calculations.
- Hoophouses greater than 400 ft² must apply for zoning permits and shall be subject to lot coverage calculations unless provisions are made to capture stormwater runoff.
- Hoophouses may have plastic on them for part of the year or the whole year.
- Greenhouses less than 400 ft² do not require foundations and should be exempt from zoning permits and lot coverage calculations.
- Greenhouses greater than 400 ft² must have foundations, must apply for zoning and building permits, and shall be subject to lot coverage calculations.

5.8 Greenbelts

Greenbelts are the city-owned strip of land between the sidewalk and the street. They hold plowed snow in the winter and can mitigate stormwater runoff in the warm months. Given the limited availability of open space for some city residents, greenbelts are sometimes used for both flower and vegetable gardening. However, concerns exist regarding soil contamination, right-of-way access, and maintenance.



Greenbelts areas are important pervious surfaces in the city landscape, as they can reduce stormwater runoff and mitigate water pollution. However, the receiving end of the pollution is the soil, which means that contaminants can accumulate. The primary concern for growing food in greenbelts is the human health risk of eating food grown in soil contaminated from the road and nearby impervious surfaces (including buildings). When snow is plowed from the road in winter, salt and other chemicals from the road are deposited onto the greenbelt. Other potential contaminants include runoffs from buildings such as lead paint and chemical contaminants from traffic (dusts from tire and road wear can wash off building exteriors). If the sidewalks are set next to the buildings, then the first infiltration site is the greenbelt.²⁶

Although outside the scope of this document, there are important considerations for greenbelt management to maximize stormwater mitigation benefits.

5.8.1 How current policy applies

The greenbelts are owned by the City of Burlington. By city charter, property owners are required to maintain the greenbelt areas in front of their homes and businesses. Currently there are no policies regarding food production in the greenbelt. The major policy applying to greenbelts is that they are legally City right-of-way. The Department of Parks and Recreation is responsible for maintaining all trees located in the City right-of-way.

5.8.2 Policy examples from other cities

The Task Force was only able to locate one city (Seattle) with a policy regarding the cultivation of greenbelts for food. Seattle's policy is that residents can grow vegetables in the greenbelt, but cannot sell them.

²⁶ Garrett 2012, personal email communication.

5.8.3 Recommended actions

Given the concern about soil contamination risks and the important role greenbelts play in stormwater mitigation, we recommend that Burlington not allow food production in the greenbelt.

5.8.3.1 Adopt a greenbelt ordinance

The city should adopt a general ordinance, developed in coordination with DPW, Code Enforcement, and Parks and Recreation, that distinguishes between food crops and non-food plants and encourages appropriate stewardship, stating that:

- Food production in the greenbelt is prohibited.
- Flower gardening in the greenbelt is permitted. Perennials and rain gardens are preferred, as bare dirt does not mitigate stormwater as well as established plants. Gardeners should be aware that occasional maintenance by the city may require greenbelts to be dug up.
- Trees are permitted in the greenbelt based on approval from the city arborist.
- When possible, greenbelts should be lowered below the grade of the sidewalk and street to maximize stormwater mitigation.

The construction of any type of infrastructure may conflict with the city's right-of-way or handicapped access laws. Before a new policy is adopted, the city should consult with attorneys at ChangeLab Solutions, an organization that deals with both urban development and handicapped access laws on a regular basis.

5.9 Composting

Compost is both an agricultural nutrient input and a food system waste product. In this way, compost is the final link in the cycle from soil to plate and back to soil. Food scraps, plant material from gardens, and residuals from food processing represent a valuable stream of nutrients that should be conserved and cycled back to city residents. It is important that the city protect this resource stream and keep it accessible to city residents.

Chittenden Solid Waste District operates a commercial composting facility in Williston (Green Mountain Compost) and accepts food waste at all its drop-off centers. Several private haulers (including one bike-based business) collect food waste from homes, schools, businesses, and other institutions.

5.9.1 How current policy applies

The recent passage of the mandatory recycling bill (H.485) establishes a ban on organic materials from landfills starting in 2020.

5.9.2 Recommended Actions

5.9.2.1 Explore a community compost system

The city should explore how best to establish neighborhood scale composting operations. These would be located so that most residents are within walking/biking distance from a drop off point.

The city should start considering, perhaps as part of the food charter, the means to establish and ensure that this resource stream is protected as a common good and remains available for city residents.

5.9.2.2 Establish a pilot composting program for Church Street restaurants

The Church Street marketplace has more than 30 restaurants and regular street vendors within a four block area. Most restaurants currently compost their food waste, but there is no coordinated effort. The city should pilot a composting program for these businesses. Food waste could be picked up by a public hauling service similar to the curbside recycling service offered by Burlington Public Works. The waste could be brought to Chittenden Solid Waste District. With appropriate signage and outreach, this program would serve the dual role of diverting more organic matter from the waste stream and educating the public about waste management practices and soil health.

5.10 Rooftop Gardens

Rooftop gardens provide the opportunity to utilize the roofs of buildings for food production. A rooftop garden differs from green roof in that it is mainly for aesthetic or recreational purposes, whereas a green roof is usually built to cover a large area in the most economical and efficient means possible with a focus on improving the insulation or overall energy efficiency of cooling and heating costs within a building.

Typically, rooftop gardens are constructed on a flat roof common to many city commercial, institutional or industrial buildings, although they can be built on private residences as well. Rooftop gardens are generally composed of a structural support, a roofing membrane, water drainage and storage, a growing medium, and vegetation. Products such as grow bags are available, which are lightweight and allow just the right amount of water to be drained so that the plant does not get flooded in heavy rain.

Rooftop gardens and green roofs can offer many benefits. A home rooftop garden provides readily available food, rainwater absorption, and air filtration. The use of vegetation on a roof also maintains temperature control by reflecting heat, providing shade, and helping to cool the surrounding air through evapotranspiration. Plants also absorb solar radiation, reducing the “Urban Heat Island Effect” (which describes the higher overall temperatures caused by heat trapped and given off by pavement and buildings in dense urban environments) by minimizing the total area of dark, heat-absorbing surfaces such as rooftops and pavement.

There are, however, some risks involved with rooftop gardening, such as structural issues, weather, and cost. Structural issues are the most important risk to consider when creating a rooftop garden. Not all buildings are suitable, safe, structurally adequate, or have the weight capacity for growing a rooftop garden.

Another risk associated with rooftop gardening is weather. Because rooftop gardens have minimal shelter and often tend to heat up more than traditional gardens, extreme heat, wind, or other weather occurrences can cause damage to the garden, even destroying it completely.

In Burlington, there are currently green roofs on top of UVM’s University Heights North building, Fletcher Allen Health Care, and the Seventh Generation office building.

5.10.1 How current policy applies

The city encourages the use of green roofs and other alternative strategies when it is not possible to meet other stormwater management standards. The city’s Comprehensive Development Ordinance encourages green roof technologies (with a clearly articulated maintenance plan) and gray water collection.²⁷ Additionally, the Burlington Planning Commission has proposed providing regulatory incentives (via zoning) for green roofs. This effort is currently pending.

²⁷ Comprehensive Development Ordinance, Sec. 6.3.2 Review Standards

5.10.2 Policy examples from other cities

From Portland, Oregon to Toronto, Canada to New York City, many cities throughout the U.S. and around the world have begun to invest in rooftop gardening.

Chicago, IL, has long been a national leader in the use of green roofs. As of Fall 2010, Chicago has 359 green roofs that are built, totaling 5.5 million square feet. Chicago's City Hall Rooftop Garden, a 20,300 square-foot green roof was installed in 2001 as part of the city working with the EPA on the Urban Heat Island Initiative.

Many cities – including New York City, Washington DC, and Chicago - offer tax incentives and subsidies to encourage green rooftops. Toronto also has a new law, called the Green Roof Bylaw, requiring buildings of a certain size to have a green roof. While the law has received some criticism, it has been popular among residents as a means of becoming a greener city.

Setting standards to ensure specific objectives are met provides even more incentives for green roofs. Based on meeting the standards set by the municipality, developers can be offered incentives such as expedited permits for green projects and bonuses for density. Combined with monetary assistance in the form of tax incentives, fee rebates, or grants, investment in green roofs become more attractive.

Incentives may also be provided for rooftop gardens due to weather and climate issues. For example, Toronto's Eco-Roof Incentive Program provides incentives to commercial, industrial and institutional property owners to improve the sustainability of Toronto's infrastructure and its resilience to climate change. Financial incentives are also often provided for the construction of green roofs that support vegetation and cool roofs that reflect the sun's thermal energy. The program, launched in March 2009, supports the City's Climate Change Action Plan and complements the City's Green Roof Bylaw and the Green Standard by encouraging owners of existing buildings to retrofit their roofs. Also, because of their ability to decrease stormwater runoff and prevent flooding during intense rain events, incentives may be given to rooftop gardens that are sized to cover a specified percentage of the roof, have a minimum depth of planting medium, and are located in an area of concern.

5.10.3 Recommendations

5.10.3.1 Encourage rooftop gardening and green roofs

The city should explore zoning policy, including the use of incentives, to encourage rooftop gardening and green roofs.

5.10.3.2 Consider rooftop garden atop Burlington Town Center

The Plan BTV Downtown and Waterfront Master Plan includes recommendations for green roofs in several areas. The Burlington Town Center has a significant amount of flat surface that may be suitable for green roofs. The city should establish a working group to investigate the feasibility of constructing a green roof on the mall buildings and adjacent parking structures and develop cost estimates and potential funding sources.

5.11 Urban Food Forestry²⁸

Urban food forestry refers to the planting, mapping, and harvesting of perennial food-producing plants (“food trees”) in urban areas. Over the past decade, a variety of such initiatives have sprung up around North America and Europe. Planting initiatives typically draw inspiration from permaculture, forest gardening, and agroforestry, and go by a variety of names including urban orchards, urban food forests, edible parks, and urban forest gardens. Mapping initiatives focus on mapping urban food trees that fall within the public domain (typically located in public parks or overhanging fences onto public land); maps can be hand-drawn, Google-map based, or smartphone app based. Harvesting initiatives use various models, typically focusing on gleaning fruit from privately owned urban trees that are “donated” by their owners via a website; volunteers are then sent out to harvest fruit, and the resulting harvest is divided between tree owners, local food banks, and volunteers. Each of these three types of initiatives has been rapidly gaining popularity in recent years, in part due to the unique role food trees can play in urban agriculture.

Food trees offer a number of advantages over annual vegetable crops, and bring many of the benefits of urban forestry to urban agriculture. For instance, in contrast to vegetable crops, fruit and nut trees have a greater capacity for purifying air and absorbing carbon dioxide, providing shade, establishing wildlife habitat, stabilizing soil, providing pollinator fodder, are generally more resilient to extreme weather events such as cold and drought, and only needed to be planted once. Food trees can be planted in areas where other forms of urban agriculture, such as allotment gardens, are not feasible or are undesirable, and their perennial nature makes them better suited for “public produce,” i.e. producing food that is free and open for anyone to pick.

Food trees also present some unique challenges in urban agriculture and planting requires careful research and execution. In an ideal scenario, urban food trees require minimal pruning and maintenance, yield large crops of attractive and palatable fruit that is physically accessible to members of the public, are resistant against diseases and pests, and do not attract undesirable wildlife or insects. The two most important factors in meeting these needs are species and cultivar selection, as well as site selection. Given climate change projections, coupled with the uniquely harsh conditions often presented by urban environments, selecting species that are resilient to extreme weather conditions, particularly cold and drought, is recommended. In addition to selecting appropriate species, cultivars with high levels of disease and pest resistance, low maintenance requirement, wildlife and bee value, aesthetic value, and high fruit quality with a wide appeal should be sought out.

²⁸ This section is based on research conducted by Kyle Clark for a master’s thesis. The thesis contains valuable data on example programs in other cities, matrices of tree species based on various criteria, and a quantitative assessment of the opportunity for food-producing trees in Burlington. For more information, see: Clarke, KH. 2011. Urban Food Forestry: Low-hanging fruit for improving urban food security? Lund University. Lund, Sweden. Available online from http://www.lumes.lu.se/database/alumni/09.11/Thesis/Clark_Kyle_Thesis_2011.pdf

5.11.1 Policy examples from other cities

A wide variety of food tree planting, mapping and harvesting have been established in cities around North America and Europe over the past decade. Planting initiatives range from small scale urban orchards such as the Ben Nobleman Community Orchard in Toronto, to large plantings such as the seven acre Beacon Food Forest in Seattle. Additionally, some initiatives have focused on planting single orchards, while others have focused on spreading multiple orchards throughout public land in the city; for instance, the Philadelphia Orchard Project has planted 29 urban orchards in the past five years.

Harvesting initiatives have been widely successful, harvesting substantial amounts of high-quality organic produce for food banks and attracting large numbers of volunteers. For example, between 2008 and 2010, Toronto-based Not Far From the Tree went from harvesting 3,000 pounds of fruit to almost 20,000 pounds; during the same period, the number of volunteers increased from 293 to 719. Such initiatives commonly receive awards and recognition for their contribution to urban sustainability, and attract a diversity of funders.

Urban municipalities are increasingly integrating food security into urban planning. For instance, while still relatively uncommon, a number of cities in British Columbia and California have integrated food trees into their urban forestry master plans (UFMPs), in part due to strong public support. The city of Selchelt, British Columbia, for instance, devotes an entire section of their UFMP to food security and discusses how encouraging the planting of urban food trees can contribute to the local food movement and build social capital within the city by establishing new and unique partnerships.

City officials have utilized a variety of strategies to pilot urban food tree plantings. One of the most comprehensive approaches is that of the City of Calgary, which is testing seven fruit- and nut-bearing species planted in five configurations: alongside community gardens, in public parks, as regional orchards, along pedestrian routes, and in urban domestic gardens. Evaluating the performance of each configuration will allow city officials to determine which strategy is best suited to meet their goals, which include bolstering local food production, fostering community involvement, and enhancing public education.

Mutual interest in urban food trees by members of the public and municipal authorities has spawned a variety of innovative private-public collaborations. One such example is the Seattle Orchard Stewards program, a component of City Fruit (<http://www.cityfruit.org>), which has trained over 30 volunteer stewards to work in five public parks containing fruit trees. This project is funded by a grant from the Washington State Department of Natural Resources and the U.S. Forest Service, and involves a three-part curriculum dealing with pruning, pest management, and harvest of fruit trees, and includes a permaculture component. In addition to performing maintenance operations, orchard stewards help to create policies around their orchards and hold community events.

5.11.2 What's the opportunity in Burlington?

Burlington has great potential to contribute to local food production and food security by incorporating food trees into its urban landscape. There are over 400 acres of public land that could potentially be utilized for edible landscaping around Burlington, where community

support is high, and such plantings would likely draw volunteer support and potentially lead to harvesting and mapping initiatives. Given the success in other cities around North America with similar demographics, urban food trees would likely be a successful addition to Burlington's urban forest and urban agriculture.

At present, there are a few small trial sites around Burlington that contain food trees, most notably the Callahan Garden, the newest garden in the city's Burlington Area Community Gardens system, established in 2011. The site consists of 40 garden plots that are surrounded by a fence. On the other side of the fence is a border planted with a variety of fruit and nut plants including gooseberries, currants, aronia berries, honeyberries, beach plums, hazelnut hybrids, blueberries, and more. Set further back from the planted border are a number of larger fruit trees including sour cherries. These plants are intended to provide free, high quality produce to the community.

Given the unique values that food trees provide within the urban forest, Burlington could leverage edible landscaping to help meet goals relating to climate change, public health, and food security, particularly by incorporating food trees into the urban forestry master plan and collaborating with neighborhoods interested in planting food trees.

5.11.3 Recommended actions

There is the potential for the city of Burlington to increase the number of food trees in Burlington in collaboration with the City Arborist. Potential next steps include:

5.11.3.1 Map existing urban fruit trees

Map existing urban fruit trees to determine distribution, species diversity, and opportunities for "retrofitting" existing ornamental fruit trees with high-quality varieties (e.g. grafting honey crisp onto a well-established crab-apple tree).

5.11.3.2 Identify potential locations for trees

Identify open spaces that present opportunities for urban orchards, food forests, or individual fruit and nut trees. Examples of such areas might be underutilized public spaces, edges of parks or sports fields, or sites alongside sections of the bike path.

5.11.3.3 Establish edible landscaping demonstration sites

Edible landscaping demonstration sites would engage communities with the idea of public produce and determining which model(s) of edible landscaping work best in Burlington. Assessing the successes and failures of existing pilot projects should also be part of this process. Prioritize new fruit and nut bearing species based on suitability for Burlington's climate, desirability by public, maintenance requirements, wildlife value, aesthetics, and other criteria.

5.12 School Gardens

The Burlington School District has a variety of school garden plots, ranging from two raised beds and hundreds of raspberry bushes, grapes and blueberries at the Integrated Arts Academy, to the ½-acre Youth Farm at Hunt Middle School. All schools have some garden space, but the usage varies in depending on staff and parent involvement, financial support, and usage by extracurricular programs like City Kids. Burlington's school gardens are supported by Burlington School Food Project in partnership with Friends of Burlington Gardens.

The Burlington School Food Project is a collaboration of the Burlington School District, Healthy City Youth Initiative/ Friends of Burlington Gardens, City Market, Vermont FEED, and Shelburne Farms, and is managed by the school food service. The project focuses on putting healthy local foods into Burlington cafeterias, and making community connections. In 2009, the Burlington School Food Project was asked to be a part of the USDA's Farm 2 School Team, and served as a model for other similar beginning projects throughout the country.

The school gardens do not have a dedicated source of financial support from the school district or the city. Working with the Burlington School Food Project, Friends of Burlington Gardens (FBG) manages the Healthy City Youth Farm at Hunt Middle School, assists with other school gardens in the district, and provides hands-on garden education through afterschool and summer programming. The nonprofit FBG is funded through grants, individual and business contributions, and fee-for-service programming. Plans are in the works to transition management of the school gardens to the Burlington School Food Project.

5.12.1 How current policy applies

School gardens are managed by the individual schools, partner organizations, and connected community members. The garden sites follow the same zoning and permitting rules as other properties.

Most of the policies are therefore established by these independent organizations when they convene as the School Food Project, which is managed by the school food service. The district's food service receives some funding from the federal government based on current food regulations, but finances are always a barrier to expanding programming.

5.12.2 Policy examples from other cities

Some city governments have enacted overreaching policies or legislation to give financial support and community support to healthy school programs. In May of 2010, the DC City Council passed the Healthy Schools Act of 2010 (B18-0564). This legislation is a comprehensive law to ensure that schools are a healthy place for all students. The Healthy Schools Act covers topics including



nutrition, health education, physical education and physical activity, Farm-to-School programs, school gardens and other wellness topics.

Many cities also have forged City partnerships with City Council, City Manager, Parks and Recreation and Public Works Departments. In New York City, the Legislative Director for the City Council spearheaded the development of new programs in response to needs in the city, including Grow to Learn NYC: Citywide School Gardens Initiative, a public-public-private partnership with the Mayor's Fund to Advance NYC created to inspire, promote and facilitate the creation of sustainable school gardens in every New York City public school.

5.12.3 Recommended actions

Many of the recommendations in other sections of this report relate to the physical infrastructure of the school gardens. The following recommendations are targeted to the School District and general city support of school garden and farm to school initiatives.

5.12.3.1 Establish curricular support for school gardens

The district needs to include garden-based programming in its curriculum development and provide training for educators to ensure they have the resources and confidence to fully integrate garden programming into standards-based curriculum. Partner organizations could assist with this training.

Additional potential curricular ties for school gardens are available through the Burlington Technical Center, which currently has a culinary arts program that does not have required standards related to agriculture, nor connections to Farm to School projects.

5.12.3.2 Focus on education and outreach

While achieving national recognition among practitioners, many city residents are not aware of the extent of the Burlington School Food Project. Increasing awareness would increase public support for fully funding these initiatives. Coordinated outreach efforts to educate the public about school food and gardens could include the following:

Speaker series to help with outreach and education (Professional Development through school district): a cultural shift is needed for teachers to support the school garden work and integrate it into the curriculum, and proper professional development and training opportunities will help with this transition. Professional development can focus on incorporating gardens into classroom design and curriculum. A speaker series could also target parents to help garner parent support for the school gardens and Farm to School programs.

Marketing opportunities to highlight Burlington's Farm to School work: Community-wide outreach is needed to highlight projects that the organizations have undertaken, and encourage Burlington schools or other organizations to advertise their work to the parent and business community.

5.13 Food Processing

The Task Force research has uncovered the need for community processing facilities that range from simple kitchens to canning and slaughter facilities. In addition to a variety of functionality, the need extends exists at a variety of scales – we have a need for small scale that supports home/micro enterprise production, as well as a larger space that could support mid- to large-scale commercial ventures.

Community kitchens and canneries can provide a place for residents to preserve extra produce from their gardens, have community suppers, and process food harvested through gleaning and donations for use in food shelves and elder/youth meal programs.

A micro-enterprise processing and preserving facility would not need to be that much larger than some of the existing “public” kitchens that currently exist in churches and other non-profit institutions. Working at this scale, the issues are different from a full-on food venture center. While funding is an issue, the fact that these are not huge, capital intensive operations means that establishing sites and financing issues are not the major obstacles. Rather, the regulatory burden involved in ensuring that the kitchen is commercial grade, can obtain required permitting, and identifying the organizational structure is robust and able to maximize access are the bigger challenges.

5.13.1 How current policy applies

Food safety concerns are governed by health department regulations.

Rooms and meals tax/regulations may apply if food is served.

Home scale processing may be governed by home occupation ordinance.

5.13.2 Examples from other cities

The town of Keezletown, VA, has a community cannery that provides local residents with a community facility that supports canning large batches of vegetables and fruits. The cannery has been open since 1942. See <http://www.keezletowncommunitycannery.com/>.

In Toronto, ON, the West End Food Coop has a community cannery that was opened in 2010 with the goal of increasing local residents’ knowledge of food preservation. See <http://westendfood.coop/cannery>.



<http://digital.library.unt.edu/ark:/67531/metadc549/>

5.13.3 Recommended actions

5.13.3.1 Conduct a needs and assets assessment

The city should undertake an assessment of the need for community scale food processing facilities and the potential sites already available in the community. For example, a list of all the school, community center, and church kitchens available in the city, with information on the times they are available and the cost to rent them, would be a valuable resource for residents and small businesses looking for local facilities.

5.13.3.2 Support new food enterprises

CEDO already provides business development support to new businesses in the city, including food enterprises. CEDO should continue to provide this support, with a focus on small-scale food ventures, in order to better support local food system economic development.

5.13.3.3 Exempt home food processing from home occupation requirements

In cases where food is produced on-site or at the resident's community garden plot, residents should be able to process food intended for sale at a home kitchen without a home occupation permit. One criterion for the exemption could be that only small food businesses qualify (for example less than \$1,000 in sales a year). State-level health regulations for kitchens should still apply.

5.14 Food Sales

The sale of food produced in the city can range from backdoor sales and barter to sales by commercial farms at farmers markets to wholesale sales to city market. The local food and agriculture economy is supported by providing urban food producers with outlets to sell their products at all of these scales.

Farmers markets are appropriate venues for commercial farms and small-scale food enterprises. Farm stands are appropriate venues for selling extra products from home production or micro-scale enterprises. Mobile vending offers the opportunity for local farms and food producers to sell their products throughout the city's neighborhoods. Additionally, producers may barter with other producers through informal exchanges.

The creation of more market outlets will lead to many desirable benefits:

- Farmers have the opportunity for more direct sales
- Start-up entrepreneurs and new farms have access to new markets
- Consumers have improved access to locally produced food,
- Neighborhoods and the community have more opportunities to gather in a social setting
- Community areas can be revitalized by hosting such large gatherings
- Low-income, poor-access areas can have improved access to fresh food

Municipal governments can play a supportive role in promoting a healthy and active community by supporting local food economy through zoning ordinances that streamline the process for markets in desirable areas and ensure that low-income neighborhoods are gaining access to fresh produce. There are opportunities available through Federal Food Assistance Programs for low-income community members to utilize and gain better access to local, fresh produce.

City property and parks can be utilized for hosting markets throughout the week. Institutional and/or private partnerships are also underutilized opportunities for markets in the Burlington community.

Clear, minimal regulation and streamlined policy will play a supportive role in encouraging community organizations, like the Burlington Food Council and New Farms for New Americans, to establish markets in appropriate areas throughout Burlington. The city (or an organization in cooperation with the city) should also investigate how to utilize Federal Food Assistance Programs to promote Farmer's Markets in low-income areas.

In the meantime, local community organizations involved in food systems should be encouraged to establish markets in areas where markets are already permitted uses. This could be a potential fundraising tool for the organizations that wish to organize and host these markets, as well as good testing grounds to measure the viability of new markets in Burlington.

Finally, Burlington should adopt language that specifically allows producers to participate in informal barter exchanges for their products.

5.14.1 How current policy applies

At the State level: In Burlington's Municipal Charter, when it comes to regulating both markets and mobile food vending... "the city council shall not have power to license, tax, or prohibit farmers selling the produce of their own farm." (24 V.S.A. § 3-48)²⁹

Zoning is the main mechanism for governing farmers' markets and farm stands in Burlington. The specific activity of a Farmers' Market and a Farm Stand fall under separate definitions in the zoning ordinance and, therefore, are subject to different zoning restrictions and allowances.

Farmers' markets fall under the definition of "open air markets" and are either a permitted or conditional use in certain zones. This allows for potential partnerships with private companies with space to host markets as a Conditional Use. However, the Conditional Use process is not an efficient mechanism for encouraging markets and it poses a barrier for small markets to gain access to such private or institutional spaces.

Farmers' markets are also prohibited in zones that would be ideal hosts, such as:

- Institutional: church, university, school areas
- Recreation, Conservation and Open Space: Parks, fields, and other public lands of similar nature.

Most of the farmers' markets in Burlington cannot meet the demand for spaces from all the farms in the area. This situation is leading to waiting lists, application processes, higher entry-fees for the farmers, and exclusion of some farmers from gaining access to sales in Burlington.

Farm Stands have been interpreted to fall under the definition of "Agriculture/ Agricultural Use" in the zoning ordinance. Farm Stands are permitted in city owned parks and public land, as well as on institutional. However, beyond these opportunities, Farm Stands are prohibited in most zones, including downtown, mixed residential, and enterprise zones where they have the potential to thrive. This interpretation also precludes the sale of produce from residential gardens and community gardens.

Residential gardens are further hindered from engaging in sales to any market through home occupation rules in the Burlington Comprehensive Development Ordinance (CDO). These rules are designed to govern occupations that are non-agricultural in nature, but prohibit activities like customers coming to the premises and external alterations to the property.

Farmers who wish to sell their produce through mobile vending throughout the streets of Burlington are exempt from Burlington's laws for Peddlers and Solicitors. However, Burlington gives no preferential treatment or discernment for mobile vendors who wish to sell healthy foods for the community.

There are no rules governing informal bartering exchanges.

5.14.2 Policy examples from other cities

The city of Minneapolis has created a definition for "Mini Markets" and outlined specific terms for how they should operate and where they may be located. All that is required is a permit to

²⁹ <http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=24APPENDIX&Chapter=003&Section=00048>

operate, which greatly reduces the time and expense of establishing a new market, and they are kept small and manageable by only allowing 5 or fewer vendors who sell only their own locally grown produce. Various community organizations have taken initiative to establish these mini markets, and they are allowed in any location that complies with the preexisting health and zoning codes for locations with food sales.

The city of San Diego has adopted comprehensive guidelines for farmers wishing to sell produce throughout the city. Farmers may operate stands and sell their produce by-right in certain zoning areas so long as they follow the guidelines in the code. On City property, farmers who wish to sell must have a public liability insurance policy and include the city as an additional insured.

San Diego permits community gardens to sell their produce in all zones, with the exception that in residential zones sales are only allowed once per week.

San Francisco has given community gardens and residential gardeners even further freedoms by allowing outright the on-site and off-site sale of their produce. The new changes in the planning code created a definition for Neighborhood Agriculture that set the parameters for which sales and activities must operate within.

New York City has created a classification for “green cart” vendors in an effort to increase access to fresh fruit and vegetables in lower-income areas. The city has begun an initiative to issue 1,000 permits over the next two years to vendors who only sell fresh uncut produce in designated neighborhoods. This program is a win-win for vendors and the community they serve, as it creates opportunities for new vendors to enter the market and brings fresh, nutritious food to underserved areas.

5.14.3 Recommended Actions

5.14.3.1 Create a more supportive regulatory environment for Farmers' Markets

The city of Burlington should take initiative to revise its zoning policy to allow the establishment of Farmers' Markets and Farm Stands in more zones and with guidelines to streamline the process. The Conditional Use Review should not apply to activities related to the sale of food by growers.

Such zones and their respective areas that should be included are:

- Institutional Zones (school grounds, churches, hospital grounds, university/college campuses)
- Enterprise zones (Light Manufacturing, Pine Street businesses)
- Recreation/Greenspace, Conservation zones (public parks and fields)
- Residential High Density (parks in neighborhood zones)

The city should work with those seeking to establish markets to ensure that permitting does not present a barrier, and to provide stable sites from year to year.

By clearly defining the parameters of a Farmers' Market the city can streamline the process for those who wish to establish a market. With a streamlined process, the city will be less burdened and play a more passive role in the establishment and operation of such markets. San Diego provides a good model ordinance to set limitations to the markets, such as parking requirements, liability insurance, lot coverage, frequency of markets per week and limitations to sales.



<http://www.foodsystemresearch.net/weekly-food-events-21/>

5.14.3.2 Exempt sales of food grown on-site from home occupation requirements

It is easy to grow more of a particular type or kind of food than can be used immediately in a given household. To prevent this food from going to waste, as well as to allow households to increase their economic security, residents should be able to sell food that they have grown with a minimum of regulation. One criterion for the exemption could be that only small operations qualify for the exemption (for example less than \$1,000 in sales a year). State-level health regulations for kitchens should still apply.

Informal sharing or bartering of food among neighbors should be an unrestricted activity in Burlington and should not count towards the value of sales.

5.14.3.3 Incentivize food vendors selling food produced locally

The city should provide an incentive to healthy food vendors to operate throughout Burlington, such as lower licensing fees or permitting access to school areas. By creating a classification for "healthy food carts" and delineating their special rights and responsibilities, Burlington can create an incentive for entrepreneurs to bring healthy and nutritious foods to more parts of the city.

5.14.3.4 Use city purchasing power to support local food

The city should develop a policy that prioritizes the purchase of food for city functions to come from local sources wherever possible.

6 Implementation recommendations

The recommendations contained within this report will not be realized as policy changes without intentional efforts on the part of city staff and local food system advocates. Those city departments involved in the revision and adoption of new policies should be directed to undertake such policy changes in a timely manner, with urgent attention given to recommendations identified within this report as priority actions.

With dedicated resources, efforts to improve Burlington's urban food system can go much further much faster. Therefore, efforts should be taken to support the Burlington Food Council as it continues its work and to establish a Food Office within city government.

6.1 Utilize existing city departments to adopt and implement new policies

6.1.1 Ordinance changes

- The proposed general and zoning ordinance changes should be considered and adopted following the standard city process
- In the case of high priority ordinance changes, every effort should be made to ensure that the process moves swiftly
- New ordinances should be enforced through the standard mechanisms (code enforcement and police department)
- Livestock registration should be managed by Burlington Police in a similar manner to dog licensing, with the option of online registration
- Zoning should designate an administrator as a contact point for urban agriculture issues
- One year after the new ordinances have been established, the city should endeavor to evaluate the new ordinances for effectiveness and ease of implementation, among other considerations.

6.1.2 Education and outreach

- CEDO should attempt to obtain a grant for the coordination, development, and dissemination of online and print materials that cover the basics of Burlington's urban agriculture regulations, best practice guidelines, and resources such as local organizations, websites, and educational literature. This work could be done through the Burlington Food Coordinator position mentioned above, in coordination with local organizations.
- The city web administrator should develop and maintain a new web area for urban agriculture information, similar to the "Bicycling and Walking" section.³⁰

6.2 Support the Burlington Food Council

The city should support the Burlington Food Council as it continues its work with local agencies and organizations on both urban agriculture and other local food system issues. This support

³⁰ See <http://www.burlingtonvt.gov/DPW/Transportation/Bicycling-and-Walking/Walk---Bike-In-Burlington/>

may come in the form of in-kind support such as meeting space and the provision of city services, or it may come in the form of formal support when obtaining grants.

6.3 Establish Burlington City Food Office

While the Burlington Food Council will continue to serve an important role as a coordinating organization outside the city, there is also the potential for resources to be dedicated towards food policy staff within the city. Some larger cities such as New York City, Boston, and Baltimore have paid food policy coordinator positions located within the city government.

The city should create a City Food Office as a department reporting directly to the mayor. The first staff position should be a Food Coordinator, who will work to advance the recommendations identified in this report, manage the production and dissemination of educational materials, organize workshops and events, and coordinate with the Agency of Agriculture, city departments and boards, and local organizations on issues related to food production, processing, and sales in the city. The Food Office can also serve as a resource for other city departments during implementation.

6.4 Partner with local experts and organizations

Set up partnerships with experts who can provide code enforcement and the police department with expert knowledge when needed. In some cases (such as with the livestock humane treatment ordinance), experts recommendations could carry weight of law. The Burlington Food Council can manage this process. A provisional list is provided here:

- Animal welfare: Humane Society of Chittenden County (JoAnn Nichols, Humane Investigator)
- Bees: State Apiculturist (Steve Parise)
- Soil contamination: UVM Extension

6.5 Explore costs and funding mechanisms

Determining the potential costs of implementing these recommendations was outside the scope of the Task Force work, though rough cost estimates are provided in Appendix A. The City Food Office should conduct a study to understand the resources needed to implement these recommendations and potential funding mechanisms to support city administration and urban agriculture initiatives.

7 Funding recommendations

The policy recommendations outlined in this report may incur minimal or significant costs, depending on the combination and scale of efforts pursued. For an overview of cost estimates for all the policy recommendations contained in this report, see the summary table in Appendix A. The revision of zoning and general ordinance codes should not incur costs beyond normal city duties. Liaising with the state agencies and local organizations to develop educational materials will require a small amount of city staff time. Revising the city's website to post the educational materials will require city website development staff time. Printing the same educational materials will require minimal printing costs.

The expansion of programs, such as Burlington Area Community Gardens, or the creation of new programs, such as planting community orchards, will require more significant funding. For parks-based agriculture infrastructure and activities, the city could allocate a portion of the Penny for Parks fund. For city-wide food and agriculture initiatives that are not on city park land, the city could adopt a small tax (similar to Penny for Parks). This could support land purchases, infrastructure, staff time, and program development.

The city could also pursue grants to support specific programs and projects in the city. For a full list of potential funders, see Appendix B

8 Future research

Despite the significant research that went into the Task Force policy development process, many unanswered questions remain about the nature of urban agriculture in Burlington and the potential for increasing urban food production. Future research efforts by students or professionals could provide valuable contributions that could guide policy or inspire new projects. Future research efforts could include, but are not limited to:

- Understanding and explaining the legal system currently in place at both state and local levels
- Collecting data on the scope of urban agriculture activities in Burlington (e.g. number of houses with chickens, amount of food grown annually, etc.)
- Investigating the potential need for a community slaughterhouse (possibly publically or cooperatively owned)
- Assessing the feasibility of rooftop gardens on city properties
- Evaluating the impact of community gardens on food security
- Evaluating the impact of urban agriculture on local food system security
- Identifying land opportunities for increasing food production both within the city and regionally
- Evaluating the environmental impacts of urban agriculture
- Conducting an energy audit of urban food products in comparison with conventionally-produced products
- Evaluating the impact of urban agricultural production on the local economy

9 Conclusion

The City of Burlington has a rich local food culture yet it lacks policies specific to urban food production. In order to identify a set of policy recommendations to better support and govern urban agriculture in Burlington, the Urban Agriculture Task Force engaged community stakeholders in a year-long process and researched policy approaches used by other cities. The Task Force developed a comprehensive strategy to address a variety of policy goals and priorities through ordinance revisions, education and outreach, and the coordination of multiple actors for specific urban agriculture projects.

We envision a city where everyone who wants to grow or raise their own food has the space, information, and support to do so safely, responsibly, and in solidarity with their neighbors and the greater community. We envision an urban agriculture system that integrates with local and regional systems for a food system that is place based, sustainable, resilient, socially just, and secure.

The Task Force identified a series of crosscutting recommendations that apply to many different urban agriculture activities. These include revisions to the zoning code, revisions to the general ordinance, outreach on urban agriculture policies, education on urban agriculture resources, encouraging communities of practice, adopting a mediation mechanism, coordinating with the state Agency of Agriculture, research needed to support future policy and measure progress against goals, incorporating food and agriculture into local planning efforts, adopting a Burlington Food Charter, and supporting access to land.

Of the more than 50 recommendations, these are the high priority issues:

- Revise zoning ordinance to accommodate urban agriculture
- Adopt an urban agriculture general ordinance
- Promote awareness of policies related to urban agriculture
- Promote awareness of urban agriculture resources
- Support access to land at multiple scales
- Adopt a livestock welfare ordinance to regulate humane treatment
- Promote education on livestock care and slaughtering
- Revise zoning ordinance to accommodate beekeeping
- Adopt a general beekeeping ordinance
- Revise zoning ordinance for greenhouses and hoop houses

Enacting these recommendations will require a coordinated effort by city offices, departments, leaders, organizational partners, and residents. For this reason, the Urban Agriculture Task Force also developed a set of implementation recommendations. The successful adoption of the Task Force recommendations will likely rely on the following:

- 1) Approval of this report by Burlington City Council.
- 2) Additional capacity within the Burlington Food Council to assist city departments with proposed ordinance changes and the production and dissemination of educational materials, and to continue its work with local agencies and organizations on both urban agriculture and other local food system issues.
- 3) Establish a Burlington City Food Office, starting with a City Food Coordinator position to manage the production and dissemination of educational materials, organize workshops and events, and coordinate with the Agency of Agriculture, city departments, and local organizations on issues related to food production, processing, and sales in the city.
- 4) Use existing city departments for the adoption and implementation of zoning and ordinance changes.
- 5) Partner with local experts and organizations to leverage resources and expertise in support of policy implementation and project coordination.

There is tremendous opportunity to expand the level of food production in Burlington by clarifying current agricultural rules and developing new policies that support the production, processing, and sale of food grown in the city at a variety of scales ranging from home to community-based to commercial production. The city can play a valuable connecting people with information, resources, land, and each other to encourage a resilient agricultural community in Burlington. Together, we can shape the city's working landscape in a way that ultimately improves the quality and availability of food for all of its residents.



Healthy City Youth Farm at Hunt Middle School

Further Reading

The research that contributed to this report is outlined in greater detail in a Master's Thesis prepared by Alison Nihart, which contains an in-depth analysis of stakeholder feedback, policies from other cities, and the potential implications of the policy recommendations developed by the Task Force. See Nihart, A. (2012). Developing a cohesive urban agriculture policy for Burlington, VT. Master's Thesis: University of Vermont.

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Acknowledgements

The authors wish to express a heartfelt thanks to all the people who provided information or otherwise contributed to the development of this report. Many individuals and organizations participated in the research processes through interviews, meetings, workshops, public forums, and informal conversations. In particular, we would like to express our appreciation for the time and input provided by the following organizations:

- Burlington Parks and Recreation
- Burlington City Attorney's office
- Burlington Planning and Zoning
- Burlington Police Department
- Burlington Department of Public Works
- Burlington Code Enforcement
- Burlington Community and Economic Development Office
- Vermont Agency of Agriculture, Food and Markets
- Friends of Burlington Gardens
- Humane Society of Chittenden County
- Vermont Humane Federation
- Vermont Animal Cruelty Task Force
- Association of Africans Living in Vermont
- Intervale Center
- Burlington Permaculture
- Tamarack Hollow Farm
- Old North End Farmers' Market
- Diggers' Mirth Farm
- Backyard Farm VT
- Rural Vermont
- NOFA-VT
- University of Vermont
- Vermont Farm to Plate Initiative
- ChangeLab Solutions (formerly Public Health Law and Policy)
- Advanced Geospatial Systems, LLC

Appendix A. Summary of recommendations

| Rec. No. | Action | Type of Action | Cost range | Primary implementing body |
|------------|---|-------------------|------------|---------------------------|
| 5.1 | Crosscutting recommendations | | | |
| 5.1.1 | Revise zoning ordinance to accommodate urban agriculture | Zoning | Low | Planning and Zoning |
| 5.1.1.1 | <i>Adopt zoning definitions for urban agriculture activities</i> | " | " | " |
| 5.1.1.2 | <i>Streamline permitting process for urban agricultural structures</i> | " | " | " |
| 5.1.1.3 | <i>Exempt small scale infrastructure</i> | " | " | " |
| 5.1.1.4 | <i>Establish zoning that recognizes the benefits of food production</i> | " | " | " |
| 5.1.2 | Adopt an urban agriculture general ordinance | General ordinance | Low | City Council |
| 5.1.3 | Promote awareness of policies related to urban agriculture | Communications | Med | Burlington Food Council |
| 5.1.4 | Promote awareness of urban agriculture resources | Communications | Med | Burlington Food Council |
| 5.1.5 | Encourage communities of practice | Coordination | Med | Burlington Food Council |
| 5.1.6 | Develop and implement a mediation mechanism | Programmatic | Med | TBD |
| 5.1.7 | Coordinate with the Agency of Agriculture, Food and Markets | Coordination | Low | TBD |
| 5.1.8 | Monitor indicators to guide policy and measure progress | Planning | Med | TBD |
| 5.1.8.1 | <i>Maintain maps to inform urban agriculture decision making</i> | Planning | Med | Planning and Zoning |
| 5.1.8.2 | <i>Develop food system metrics</i> | Evaluation | Med | TBD |
| 5.1.9 | Incorporate food and agriculture into local planning efforts | Planning | Low | Planning and Zoning |
| 5.1.10 | Increase public transportation to food production areas | Planning | High | Planning and Zoning |
| 5.1.11 | Adopt a Burlington Food Charter | Public process | Low | TBD |
| 5.1.12 | Support access to land at multiple scales | Programmatic | Med | TBD |
| 5.1.12.1 | <i>Facilitate farmer/institutional land matching</i> | " | " | " |
| 5.1.12.2 | <i>Facilitate homeowner/gardener land matching</i> | " | " | " |
| 5.1.12.3 | <i>Explore alternative conservation mechanisms</i> | " | " | " |
| 5.1.13 | Promote urban agriculture on public land | Programmatic | Med | Parks and Recreation |
| 5.1.14 | Promote sustainable management practices | Communications | Med | Burlington Food Council |
| 5.2 | Home Gardens | | | |
| 5.2.3.1 | Facilitate soil testing | Programmatic | Med | TBD |
| 5.2.3.2 | Link home food production to stormwater management | Research | Med | DPW |
| 5.3 | Community Gardens | | | |
| 5.3.3.1 | Revise zoning for community gardens | Zoning | Low | Planning and Zoning |
| 5.3.3.2 | Increase the number of community gardens | Programmatic | High | Parks and Recreation |

| | | | | |
|-------------|--|-------------------|------|-------------------------|
| 5.3.3.3 | Partner with local experts and organizations | Coordination | Low | Parks and Recreation |
| 5.3.3.4 | Streamline permitting for structures in community gardens | Zoning | Low | Planning and Zoning |
| 5.3.3.5 | Ensure safe and secure garden operations | Programmatic | Med | Parks and Recreation |
| 5.4 | Urban Farms | | | |
| 5.4.3.1 | Facilitate access to farmland outside floodplain | Programmatic | Med | TBD |
| 5.4.3.2 | Coordinate with state and federal agencies | Coordination | Low | Multiple |
| 5.4.3.3 | Support local agricultural economic activity | Programmatic | Med | Multiple |
| 5.5 | Livestock and Poultry | | | |
| 5.5.3.1 | Adopt a livestock welfare ordinance to regulate humane treatment | General ordinance | Low | City Council |
| 5.5.3.2 | Regulate livestock and livestock structures through zoning | Zoning | Low | Planning and Zoning |
| 5.5.3.3 | Create livestock registration system | Programmatic | Med | TBD |
| 5.5.3.4 | Adopt a slaughtering ordinance | General ordinance | Low | City Council |
| 5.5.3.5 | Regulate roosters through nuisance ordinance | General ordinance | Low | Code Enforcement |
| 5.5.3.6 | Promote education on livestock care and slaughtering | Communications | Med | Burlington Food Council |
| 5.5.3.7 | Manage neighbor conflict | Programmatic | Med | TBD |
| 5.5.3.8 | Track livestock metrics | Evaluation | Med | TBD |
| 5.6 | Bees | | | |
| 5.6.3.1 | Revise zoning ordinance to accommodate beekeeping | Zoning | Low | Planning and Zoning |
| 5.6.3.2 | Adopt a general beekeeping ordinance | General ordinance | Low | City Council |
| 5.6.3.3 | Promote education on beekeeping | Communications | Med | Burlington Food Council |
| 5.6.3.4 | Consider bees and other pollinators in city landscaping decisions | Programmatic | Low | DPW |
| 5.7 | Hoophouses and Greenhouses | | | |
| 5.7.3.1 | Revise zoning ordinance for greenhouses and hoophouses | Zoning | Low | Planning and Zoning |
| 5.8 | Greenbelts | | | |
| 5.8.3.1 | Adopt a greenbelt ordinance | General ordinance | Low | City Council |
| 5.9 | Composting | | | |
| 5.9.2.1 | Explore a community compost system | Research | Med | TBD |
| 5.9.2.2 | Establish a pilot composting program for Church Street restaurants | Programmatic | High | CSWD |
| 5.10 | Rooftop gardens | | | |
| 5.10.3.1 | Encourage rooftop gardening and green roofs | Zoning | Low | Planning and Zoning |
| 5.10.3.2 | Consider rooftop garden atop Burlington Town Center | Research | Med | Planning and Zoning |
| 5.11 | Urban Food Forestry | | | |
| 5.11.3.1 | Map existing urban fruit trees | Planning | Med | Planning and Zoning |

| | | | | |
|--|---|----------------|------|-------------------------|
| 5.11.3.2 | Identify potential locations for trees | Planning | Med | Planning and Zoning |
| 5.11.3.3 | Establish edible landscaping demonstration sites | Programmatic | High | Parks and Recreation |
| 5.12 | School Gardens | | | |
| 5.12.3.1 | Establish curricular support for school gardens | Programmatic | Med | TBD |
| 5.12.3.2 | Focus on education and outreach | Communications | Med | TBD |
| 5.13 | Food Processing | | | |
| 5.13.3.1 | Conduct a needs and assets assessment | Research | Med | CEDO |
| 5.13.3.2 | Support new food enterprises | Programmatic | Med | CEDO |
| 5.13.3.3 | Exempt home food processing from home occupation requirements | Zoning | Low | Planning and Zoning |
| 5.14 | Food Sales | | | |
| 5.14.3.1 | Create a more supportive regulatory environment for farmers' markets | Zoning | Low | Planning and Zoning |
| 5.14.3.2 | Exempt sales of food grown on-site from home occupation requirements | Zoning | Low | Planning and Zoning |
| 5.14.3.3 | Incentivize food vendors selling food produced locally | Programmatic | Low | Planning and Zoning |
| 5.14.3.4 | Use city purchasing power to support local food | Programmatic | Low | City Council |
| 6 | Implementation recommendations | | | |
| 6.1 | Utilize existing city departments to adopt and implement new policies | Coordination | Low | - |
| 6.2 | Support the Burlington Food Council | Coordination | Med | - |
| 6.3 | Establish Burlington City Food Office | Coordination | High | - |
| 6.4 | Partner with local experts and organizations | Coordination | Med | - |
| 6.5 | Explore costs and funding mechanisms | Research | Med | Burlington Food Council |
| Highlight = High priority recommendation | | | | |
| Cost range based on informal estimates: | | | | |
| Low: <\$1,000. Costs could likely be absorbed by normal departmental operating budgets | | | | |
| Med: >\$1,000 and <\$10,000. City may need to obtain grant funding or create budget line specific to this work | | | | |
| High: >\$10,000. City would likely need to obtain grant funding or create a new mechanism to generate revenue | | | | |

Appendix B. Grant funding resources

Vermont and New England-based foundations

- VT Community Foundation
- Lintilhac Foundation
- Orton Foundation
- High Meadows Fund
- Castenea
- New England Grassroots Environmental Fund
- Vermont Community Foundation
- VT Food Funders Network
- Sustainable Agriculture and Food System Funders Network

Grants available for urban agriculture projects

Fruit Tree Planting Foundation

America the Beautiful Fund - Provides free seeds to garden projects.

Captain Planet Foundation - Is committed to supporting hands-on environmental projects for young people, and provides grants from \$250 to \$2,500 to school and community groups.

Fiskars®- Project Orange Thumb - Offers an annual grant program, Project Orange Thumb. Community garden groups can apply to receive up to \$1,500 in Fiskars® garden tools and \$800.00 in supplies, such as seeds and mulch. Grant recipients also receive t-shirts for garden volunteers/members.

Lindbergh Grants program - Grant categories include agriculture, aviation/aerospace, education, health, adaptive technology, waste minimization and management, and conservation of natural resources.

The Lorrie Otto Seeds for Education Fund - Provides small grants to schools and other organizations that work towards creating outdoor education areas.

Mott Foundation - Facilitates effective planning, networking, organizing, and communication among individuals and groups fighting for environmental, economic, and social justice. Lists more than 400 grant opportunities, resource and legal groups from 40 states, Washington D.C., Puerto Rico, Canada, and Mexico.

National 4-H Council - Provides opportunities for young people and adults to take action on issues critical to their lives, their families, and their communities. Youth and adults work in partnership in the design of the project, the proposal writing process, the implementation, and the evaluation of funded projects. Grants are awarded to 4-H/ Extension groups and are not available to individuals.

National Gardening Association - Each year 400 schools and youth groups are awarded tools, seeds, garden products, and educational materials. NGA also has an online tool that will allow you to search for funding opportunities in your region.

Profits for the Planet Program - Provides funding to efforts that affect positive and meaningful change and have measurable outcomes. Stonyfield Farm also donates product to organizations.

SeaWorld/Busch Gardens/Fujifilm Environmental Excellence Awards - Schools and community groups are eligible for these grants. Previous award-winning projects have tackled a wide variety of environmental problems, including habitat restoration, school yard beautification, energy and waste reduction, environmental education and community outreach, wildlife protection, and natural resource conservation.

Seeds of Change® - Provides organic seeds to organizations promoting learning and sustainable living through school, community and outreach-based organic gardening projects.

Sustainable Agriculture Research and Education (SARE) - This is a program of the United States Department of Agriculture, and awards are given to projects which actively address sustainable agriculture, including urban agriculture.

National Geographic Young Explorers Grant - Provides grants for 18-25 year-olds to pursue research, exploration, and conservation-related projects consistent with National Geographic's existing grant programs. Grants vary from \$2,000 to \$5,000 depending on the significance of the project.

Youth Venture - Provides seed money grants of up to \$1,000 for new youth-created, youth-led, sustainable ventures that benefit the community. Youth ages 12-20 who want to start a new ongoing environmental club or organization can get guidance on how to plan, organize, and launch their venture, along with funds for start-up expenses.

New England Grassroots Environment Fund - Provides grants to community environmental projects rural, suburban, and urban areas throughout New England. Since its inception 15 years ago, NEGEF has built up a core grantmaking program that has funded over 1,000 different community groups located in over 50% of New England's cities and towns, putting over \$3.6 million directly into these communities. These grants range from \$500 to \$2,500 for its region wide small grants program, and from \$500 to \$10,000 for its urban grants program.

Specific to urban food forestry

The cost of implementing an urban orchard or food forest can vary widely depending on the size of the planting, maturity of the trees chosen, and royalties paid for specialty varieties. Additionally, the quality of soil at the planting site, and the potential for volunteer workers can affect implementation costs. As a general guideline, bare root fruit trees from a wholesale nursery range from \$0.50 to \$5.00, and can reach up to \$100 for mature trees that have been specially bred.

When considering the cost of planting urban food trees, one should also consider the economic benefits of the trees being planted. Burlington's Department of Parks and Recreation website cites an estimated benefit of \$60,000 over the life of a 50-year old tree, not including less easily measured benefits such as aesthetic, recreational, and psychological benefits. Many of these benefits are unique to woody perennial species, and thus food trees should be considered as part of any comprehensive urban agriculture strategy.

Urban food forestry initiatives, particularly those focused on edible landscaping, have attracted a wide variety of both public and private funders; their ability to address multiple sustainability challenges opens up funding opportunities that are otherwise not available for urban agriculture projects. There are a number of grants specifically targeted towards urban food trees, such as those provided by the Fruit Tree Planting Foundation, a non-profit organization, and Communities Take Root, a project funded by Nestle that sponsors 12 community orchards in cities around the United States each year (last year one of these grants was awarded to the town of Waitsfield). It is not uncommon for urban orchards to attract a diverse body of funding partners; for instance the Ben Nobleman Community orchard currently has six partners, including the City of Toronto, Wal-Mart, and Fiskars; City Fruit has 15 funders and over 20 partners including United Way, the Seattle Department of Parks and Recreation, and the Seattle Tree Fruit Society; and the London Orchard Project has 15 funders including the City of London, Green & Black Organic, and the Lottery Fund, as well as 8 local authority partners, 5 housing association partners, and 3 university and school partners. This diverse mixture of funding streams highlights the broad interest urban food trees have begun to generate in recent years.

Appendix C. Enabling legislation

RESOLUTION RELATING TO CREATION OF URBAN AGRICULTURE TASK FORCE

(As amended & adopted 03/21/11, signed by Mayor 03/23/11)

In the year Two Thousand Eleven

Resolved by the City Council of the City of Burlington, as follows:

WHEREAS, a strong community-based food policy can provide benefits to the citizens of the City of Burlington including access to a healthier diet, a stronger local economy, a more robust food supply, and environmental benefits;

WHEREAS, Burlington is home to innovative, community-based food projects including the Burlington School Food Project, the Burlington Area Community Gardens, the Food Systems Spire at the University of Vermont, Friends of Burlington Gardens, and the Intervale Center, a nationally recognized leader in food system innovation;

WHEREAS, Burlington residents are engaging in urban agriculture, defined broadly as “the growing of food and related activities within city boundaries,” including urban homesteading, permaculture, gardening, and community farming and raising livestock including but not limited to chickens, rabbits, sheep or goats; and

WHEREAS, the City of Burlington currently lacks sufficiently clear regulations or a cohesive policy addressing urban agriculture; and

WHEREAS, there are locations in Burlington where urban agriculture is appropriate and other areas of the City in which it may not be appropriate;

WHEREAS, this lack of sufficiently clear regulations or policy can cause confusion and creates an obstacle to engaging in these activities;

WHEREAS, there currently is no single governing board devoted to review issues related to urban agricultural activities;

WHEREAS, the City of Burlington currently supports the continued development of a healthy, equitable, and sustainable food policy through the Burlington Food Council;

NOW, THEREFORE, LET IT BE RESOLVED that the Burlington City Council hereby creates the Urban Agriculture Task Force (“Task Force”) which is charged with recommending to the City Council a cohesive urban agriculture policy, improved rules and regulations addressing urban agriculture, and steps to better promote urban agriculture in Burlington;

BE IT FURTHER RESOLVED that the Community and Economic Development Office will facilitate Task Force meetings and will coordinate staff for the Task Force as appropriate and as necessary by the Planning & Zoning Department, the Code Enforcement Office, the Parks & Recreation Department, the City Attorney’s Office, and the Public Works Department; and

BE IT FURTHER RESOLVED that the Task Force shall consist of one (1) member of the Burlington Food Council appointed by the Burlington Food Council, one (1) member of the Board of Health appointed by the Board of Health, one (1) member of the Planning Commission appointed by

the Planning Commission, and up to 4 additional community members appointed by the Burlington Food Council;

BE IT FURTHER RESOLVED that, in particular, the Task Force is to

- (1) Generate a cohesive urban agriculture policy informed in part by current research, best practices, and the needs of City residents,
- (2) Review the current rules and regulations that govern urban agriculture in Burlington, including but not limited to city ordinances and zoning regulations,
- (3) Seek input from residents, stakeholders, and experts as appropriate, such as the Intervale Center and the UVM Food System Spire;
- (4) Identify potential inconsistencies or gaps in the current regulations and make recommendations on clarifying and improving them,
- (5) Identify barriers to urban agriculture and make recommendations on how the city can better promote and govern urban agriculture, where appropriate
- (6) Make recommendations on how to integrate the needs of city residents with statewide and regional food system development efforts, and
- (7) Create a written action plan including actionable next steps for the City Council and city departments, a timeline and outline of necessary work, and potential funding sources for further policy development and implementation;
- (8) Consider where urban agriculture may be appropriate in Burlington and that shall include hearing from the Burlington Police Department and the office of code enforcement; and

BE IT FURTHER RESOLVED, that the Task Force shall provide a final, written action plan as outlined above to the City Council within 1 year after adoption of this Resolution by the City Council, with interim reports to the City Council at three-month intervals describing activities to date.

Appendix D. Applicable state laws

Many state laws affect urban agriculture directly or interact with municipal laws affecting urban agriculture. Although several of the laws were designed for commercial agriculture, the generous definitions associated with “agriculture”, “farming,” “agricultural practices,” and “agricultural structures” result in applicability at a wide range of scales, and many hobby urban agriculture practitioners are affected by these laws.

The **Burlington Municipal Charter**³¹ (24 V.S.A. § 3-48) grants authority to the City of Burlington on a wide range of governance topics. It is relevant to urban agriculture because it prohibits the city from having “power to license, tax, or prohibit farmers selling the produce of their own farm”. This raises some questions about the limitations that have previously been imposed regarding when and where farmers markets may occur, as well as the need to license a mobile vending unit operated by one of the farms. The Municipal Charter also grants authority to the city to define and site slaughterhouses.

Vermont’s **Limitations on Municipal Bylaws**³² (24 V.S.A. § 4413) prohibits the city from regulating “accepted agricultural practices” and structures used for agricultural purposes. (See Accepted Agricultural Practices section below for definition of “agricultural structure”.) The on-the-ground implications for this law are that all authority to prohibit or allow agricultural practices rests with the Agency of Agriculture. However, the state does recognize the role of zoning as a viable municipal tool for determining where such activities take place, and although the law exempts agricultural structures from the permitting process, farmers must still notify the city zoning department in writing and provide a sketch of the site, structure, and appropriate setbacks.

Vermont’s **Accepted Agricultural Practices** (AAPs) regulations³³ (6 V.S.A. § 4810) are primarily concerned with protecting water quality in the state. The regulations address nutrient management (manure, compost, and fertilizer) by requiring setbacks from property lines and surface waters. The notable consideration for Burlington residents is that these regulations apply at all scales, regardless of whether the practice is used in conjunction with a farm business. Thus, the storage of manure or compost on urban lots would be subject to setbacks, which at 100 feet are significantly greater than most urban lots in Burlington can accommodate. The Agency of Agriculture and the Agency of Natural Resources are responsible for enforcing these regulations, though at small scales enforcement is complaint-based. A variance is possible in some cases when the requirements cannot be met, though variances come with additional requirements to containerize the nutrient source or remove it regularly from the property.

The AAPs also provide definitions for “agricultural structures” (section 4.07) that are used to determine whether a municipality has the authority to permit the structure or whether it falls under the jurisdiction of the Agency of Agriculture (see section on Limitations on Municipal Bylaws, above). A structure is considered an “agricultural structure” if it:

³¹ <http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=24APPENDIX&Chapter=003&Section=00048>

³² <http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=24&Chapter=117&Section=04413>

³³ <http://www.vermontagriculture.com/ARMES/awq/AAPs.htm>

- is used in connection with the sale of \$1000 or more of agricultural products in a normal year; or
- is used in connection with the raising, feeding, and management of at least the following number of adult animals: four equines; five cattle or American bison; fifteen swine; fifteen goats; fifteen sheep; fifteen fallow deer; fifteen red deer; fifty turkeys; fifty geese; one-hundred laying hens; two-hundred and fifty broilers, pheasant, Chukar partridge, or Coturnix quail; three camelids; four ratites (ostriches, rheas, and emus); thirty rabbits; one hundred ducks; or one-thousand pounds of cultured trout; or
- is used by a farmer filing with the Internal Revenue Service a 1040 (F) income tax statement in at least one of the past two years; or
- is on a farm with a business and farm management plan approved by the Secretary.

Vermont's **Apiary Law**³⁴ (6 V.S.A. § 3021) applies to both professional and hobby beekeepers, and includes a requirement that all beekeepers complete a free, one-time registration with the Agency of Agriculture so that the state may track where apiaries are located and communicate with beekeepers in the case of disease or aerial pesticide spraying near an apiary. The State Apiculturist is responsible for enforcing the law, and visits apiaries throughout the state, including in the city of Burlington. The apiary law also contains provisions to prevent the spread of disease. Beekeepers must report any disease in their hive and the state apiculturist has the authority to inspect hives and make determinations regarding the identification of disease. In addition, used equipment or colonies from another state must be certified as free of disease. Hives must be constructed with removable comb frames and an apiary may be located anywhere on the property. The law also includes provisions specific to commercial beekeepers, including that beekeepers must report the breeding of bees for commercial sales, and regulations regarding the establishment of new apiaries within certain distances of existing commercial apiaries.

Vermont's **slaughtering and meat inspection laws**³⁵ (6 V.S.A. § 3301) allows the on-farm slaughter of animals for personal use, but animals for sale must be taken to an inspected slaughterhouse. The on-farm slaughter of poultry for sale is exempt from this requirement³⁶, as long as certain provisions are followed and not more than 1000 whole birds are sold in one year. The laws apply at all scales, so hobby livestock keepers are also eligible for the exemptions.

Vermont's **animal cruelty law**³⁷ (13 V.S.A. § 351) exempts "livestock and poultry husbandry practices" from the regulation, but does not define these practices. This means that livestock owners are not required to follow specific provisions to ensure that their animals are treated humanely. The enforcement implications of this exemption are that humane investigators and enforcement officials lack a clear legal mechanism to persecute offenders in cases of mistreatment.

³⁴ <http://www.leg.state.vt.us/statutes/fullchapter.cfm?Title=06&Chapter=172>

³⁵ <http://www.vermontagriculture.com/fscp/meatInspection/regulations.html>

³⁶ <http://www.leg.state.vt.us/statutes/sections.cfm?Title=06&Chapter=204>

³⁷ <http://www.vactf.com/manual/chap7/>

Appendix E. Applicable Burlington laws

The city of Burlington uses two regulatory mechanisms: a Code of Ordinances, with general codes for the city³⁸, and a Comprehensive Development Ordinance³⁹, the land use and zoning code for the city. Penalties for noncompliance include tickets and fines.

General ordinances

Chapter 5 of the Code of Ordinances, **Animals and Fowl**, includes general provisions for the keeping of animals, establishes a pound, and outlines enforcement and impoundment. Despite the title, this section of the code does not mention any regulations related to fowl. It does contain a provision for nuisance animals (Sec. 5-4), which is currently used to regulate roosters. Sec. 5-26, Cruelty, prohibits “torture, torment or [...] neglect” as well as prohibiting someone from “illegally kill[ing]” an animal. However, it does not address whether there is any exemption for “legal” killing in the case of slaughtering animals for food.

Chapter 8 of the Code of Ordinances, **Buildings and Construction**, outlines the requirements for obtaining a building permit for any structure to be constructed in Burlington. Agricultural structures are not required to be designed by a registered architect or engineer.

Chapter 17 of the Code of Ordinances, **Health**, prohibits the sale of “fruit or merchandise” in the “street or other public place” without the approval of city council (Sec. 17-5). Sec. 17-6 requires that any outside display for “fruits, vegetables or other foodstuffs” be “properly protected from insects, dust, dirt or any other foreign or unwholesome material by suitable coverings.” Sec. 17-7 outlines the license provisions for the sale or delivery of milk.

Chapter 29 of the Code of Ordinances, **Vegetation**, prohibits the planting of trees in public parks or right-of-ways without the prior approval of the board of parks commissioners.

Zoning ordinances

Burlington’s **Comprehensive Development Ordinance** (CDO) contains definitions for “animal boarding,” which outlines that any person keeping more than four animals greater than three months of age shall be considered to be operating a boarding operation, which is a regulated use in the city. The boarding definition does include an exception for livestock in areas approved for agricultural use. However, in nonagricultural areas this effectively limits the number of livestock a person may have to four. The CDO also includes definitions and associated uses for “agriculture,” “community garden,” “composting,” and “farm structure.”

The CDO includes a requirement that the construction of any structures greater than 16 sq. ft. requires a zoning permit. Community gardens are allowed in most zones with the exception of the Downtown Transition and Urban Reserve zones, and one parking spot per ten plots is required in the neighborhood and shared use districts. The CDO also includes rules regarding “Home Occupations,” which limits the type of businesses that people may operate out of their homes. Finally, the CDO includes a definition for “Open Air Markets,” which allows for locally grown produce, crafts, and baked goods, which is used to govern the city’s farmers markets.

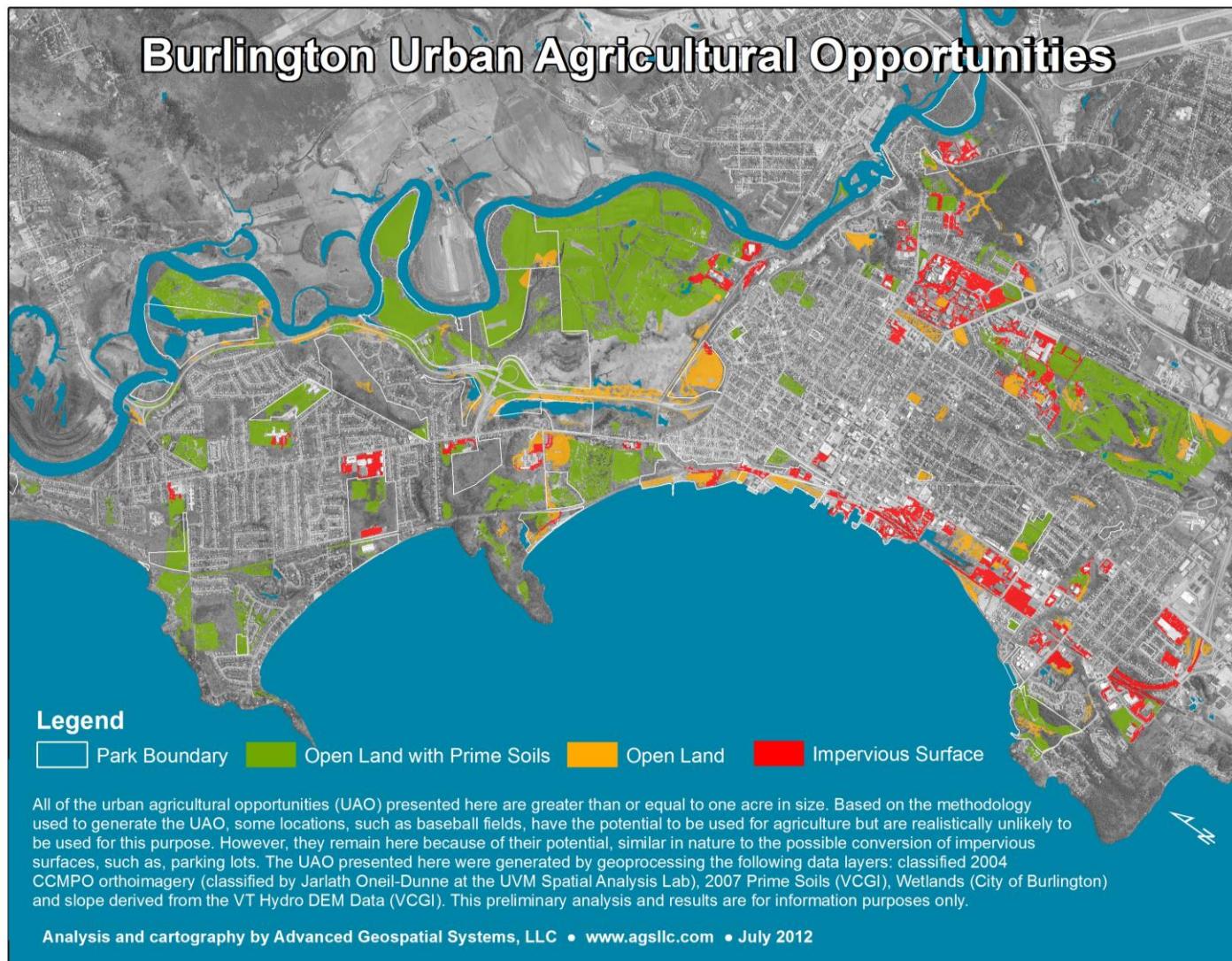
³⁸ Available at: <http://library.municode.com/index.aspx?clientId=13987>

³⁹ Available at: <http://www.burlingtonvt.gov/PZ/Zoning/Zoning-Ordinance/>

Appendix F. Burlington urban agriculture organizations

| Organization | Website |
|--|---|
| Burlington Permaculture | http://burlingtonpermaculture.weebly.com/ |
| City Market | http://www.citymarket.coop/ |
| Farm to Plate | http://www.vsjf.org/project-details/5/farm-to-plate-initiative/ |
| Flashbulb Institute | http://www.theflashbulb.org/ |
| Fletcher Free Library | http://www.fletcherfree.org/ |
| Friends of Burlington Gardens | http://www.burlingtongardens.org/ |
| Friends of the Hort Farm | http://www.friendsofthehortfarm.org/ |
| Gardener's Supply | http://www.gardeners.com/ |
| Green Mountain Compost | http://www.greenmountaincompost.com/ |
| Grow Team ONE | http://www.growteamvt.com/ |
| Intervale Center | http://www.intervale.org/ |
| National Gardening Association | http://www.garden.org/ |
| NOFA-VT | http://nofavt.org/ |
| Rural VT | http://www.ruralvermont.org/ |
| Small Business Development Center | http://www.vtsbdc.org/ |
| UVM Center for Rural Studies | http://www.uvm.edu/crs/ |
| UVM Center for Sustainable Agriculture | http://www.uvm.edu/~susagctr/ |
| UVM Entomology Lab | http://www.uvm.edu/~entlab/ |
| UVM Extension | http://www.uvm.edu/extension/ |
| UVM Farmer Training Program | http://learn.uvm.edu/sustainability/farmer-training/ |
| UVM Food System Research Collaborative | http://www.uvm.edu/crs/?Page=projects/fsrc.html&SM=projects/projectsubmenu.html |
| UVM Food System Spire | http://www.uvm.edu/foodsysteams/ |
| UVM Master Gardeners | http://www.uvm.edu/mastergardener/ |
| UVM Plant Pathology Lab | http://pss.uvm.edu/pd/pdc/ |
| Women's Agriculture Network | http://www.uvm.edu/wagn/ |
| Vermont Farm and Garden Exchange | http://www.vtfarmandgardenexchange.com/ |
| Vermont New Farmer Project | http://www.uvm.edu/newfarmer/ |

Appendix G. Urban agriculture opportunities



(previous page) Figure 2. Urban agriculture opportunities greater than one acre

The map on the previous page identifies land opportunities for urban agriculture production on land parcels one acre or greater. Some areas may already be in agricultural production and therefore do not represent new opportunities.

Impervious and Open spaces:

Count: 76 polygons/opportunities
Minimum: 1.00462 acres
Maximum: 17.4897 acres
Sum: 228.228759 acres
Mean: 3.00301 acres
Standard Deviation: 3.039489 acres

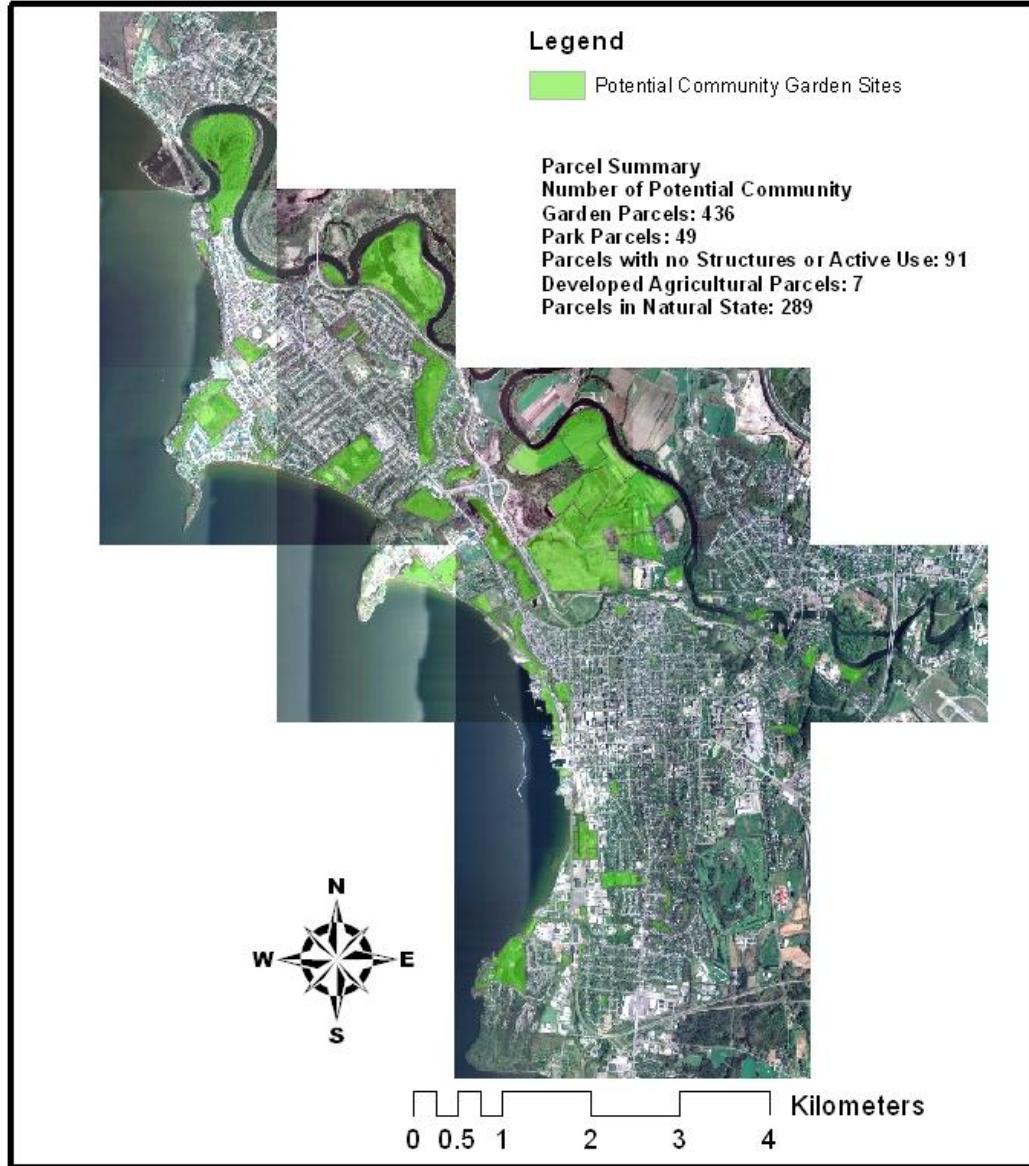
Open space with prime soils

Count: 136 polygons/opportunities
Minimum: 1.012431 acres
Maximum: 101.081993 acres
Sum: 1053.363084 acres
Mean: 7.745317 acres
Standard Deviation: 14.031538 acres

Marginal Open Land

Count: 85 polygons/opportunities
Minimum: 1.074526 acres
Maximum: 82.883575 acres
Sum: 328.617701 acres
Mean: 3.866091 acres
Standard Deviation: 8.987759 acres

Advanced Geospatial Systems, LLC did this analysis and map production pro bono



Criteria: Parcels which are parks, vacant, undeveloped or agriculture on soils which are prime based on state or regional criteria.

Data Layer: Chittenden County RPC Land Use Data (2008) and Agriculturally Important Soil Units from SSURGO Soil Data

Data Source: VCGI

Map Projection: Vermont State Plane Meters

Map Composition and Analysis by: Cole Talbot

Figure 3. Potential areas for new community gardens in Burlington

Appendix H. Chicken policy supporting material

Table 2. Overview of proposed minimum space requirements for chickens and egg production estimates

| Number of chickens | Sq. ft. minimum coop space requirement (1.5 ft ² /chicken) | Sq. ft. minimum outdoor run space requirement (3 ft ² /chicken) | Eggs/day | Eggs/week | Dozen/week |
|--------------------|---|--|------------|-------------|------------|
| 2 | 3 | 6 | 1.3 | 9.2 | 0.8 |
| 3 | 4.5 | 9 | 2.0 | 13.9 | 1.2 |
| 4 | 6 | 12 | 2.6 | 18.5 | 1.5 |
| 5 | 7.5 | 15 | 3.3 | 23.1 | 1.9 |
| 6 | 9 | 18 | 4.0 | 27.7 | 2.3 |
| 7 | 10.5 | 21 | 4.6 | 32.3 | 2.7 |
| 8 | 12 | 24 | 5.3 | 37.0 | 3.1 |
| 9 | 13.5 | 27 | 5.9 | 41.6 | 3.5 |
| 10 | 15 | 30 | 6.6 | 46.2 | 3.9 |
| 11 | 16.5 | 33 | 7.3 | 50.8 | 4.2 |
| 12 | 18 | 36 | 7.9 | 55.4 | 4.6 |
| 13 | 19.5 | 39 | 8.6 | 60.1 | 5.0 |
| 14 | 21 | 42 | 9.2 | 64.7 | 5.4 |
| 15 | 22.5 | 45 | 9.9 | 69.3 | 5.8 |
| 16 | 24 | 48 | 10.6 | 73.9 | 6.2 |
| 17 | 25.5 | 51 | 11.2 | 78.5 | 6.5 |
| 18 | 27 | 54 | 11.9 | 83.2 | 6.9 |
| 19 | 28.5 | 57 | 12.5 | 87.8 | 7.3 |
| 20 | 30 | 60 | 13.2 | 92.4 | 7.7 |
| 21 | 31.5 | 63 | 13.9 | 97.0 | 8.1 |
| 22 | 33 | 66 | 14.5 | 101.6 | 8.5 |
| 23 | 34.5 | 69 | 15.2 | 106.3 | 8.9 |
| 24 | 36 | 72 | 15.8 | 110.9 | 9.2 |
| 25 | 37.5 | 75 | 16.5 | 115.5 | 9.6 |
| 26 | 39 | 78 | 17.2 | 120.1 | 10.0 |

With the proposed minimum space requirements and the permit exemption for structures under 16 sq. ft., 10 chickens may be kept without a permit. Any residents wishing to keep more than 10 chickens must apply for a permit to build a larger chicken coop.

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ARTICLE 89

URBAN AGRICULTURE (Article inserted on Month Day, Year)

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SECTION 89-1. Statement of Purpose. The purpose of this Article is to establish zoning regulations for the operation of Urban Agriculture activities and to provide standards for the siting, design, maintenance and modification of Urban Agriculture activities that address public safety, and minimize impacts on residents and historic resources in the City of Boston.

SECTION 89-2. Definitions. The words and phrases used in this Article, whether or not capitalized, shall have the meanings set forth in Article 2A, except as set forth in this Section 89-2 or as otherwise specified in this Article. For the purposes of this Article, the following words and phrases shall have the meanings indicated:

1. "Aquaculture," means the cultivation of aquatic animals in a recirculating environment to produce whole fish that are distributed to retailers, restaurants and consumers.
2. "Aquaponics," means the cultivation of fish and plants together in a constructed, re-circulating system utilizing natural bacterial cycles to convert fish wastes to plant nutrients, for distribution to retailers, restaurants and consumers.
3. "Beekeeper," means a person or persons managing and maintaining Honey Bees in a Hive or Hives.
4. "Chick," means a chicken under the age of fourteen (14) weeks.
5. "Coldframe," means a temporary, unheated outdoor structure, no higher than thirty-six (36") inches, used for protecting seedlings and plants from the cold. Coldframes may be erected for up to 6 months during any given calendar year.
6. "Colony," means a natural group of Honey Bees having a queen or queens.
7. "Composting," means a process of accelerated biodegradation and stabilization of organic material under controlled conditions yielding a product which can safely be used as fertilizer.
8. "Comprehensive Farm Review," means an evaluation by the Urban Design staff of the Boston Redevelopment Authority for the overall design and siting of an Urban Farm and Farm Structures. Activities defined as Urban Agriculture must conform to the Zoning Code, specifically this Article 89, in all other respects, and must be processed and approved by the Inspectional Services Department for the City of Boston.

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9. "Controlled Environment Agriculture (CEA)," means any agricultural technology that enables the grower to manipulate the environment to desired growing and /or cultivation conditions.
10. "Coop," means an enclosed shelter in which a chicken lives.
11. "Farm Area," means the area of a Lot designated for activities and uses defined as Urban Agriculture.
12. "Farmers' Market," means a public market administered by a market manager and held multiple times per year to connect and mutually benefit Local farmers, communities and shoppers. Vendors may include Local farmers, farmers' cooperatives and producers selling any of the following: whole produce; value-added agricultural products such as jams, jellies, and pickles; prepared food; all agricultural, horticultural and aquacultural products including but not limited to whole produce; plants; flowers; meats; dairy products; shellfish and finfish; and other food-related products.
13. "Farm Stand," means a Farm Structure such as a table, stall or tent, in use during that Urban Farm's growing season, and operated by a sole vendor for the sale of agricultural or horticultural products.
14. "Farm Structures," means those structures that may include but are not limited to sheds (tool and packing), compost bins, shade pavilions, Farm Stands, trellises or other vertical supports for growing crops, and structures used to extend the growing season such as Greenhouses, Hoophouses, Coldframes, Freight Containers, and similar structures.
15. "Freight Container," means a standardized reusable steel box previously used for the storage and movement of materials and products within an intermodal freight transport system and repurposed for an ~~Urban Agriculture use~~ Controlled Environment Agriculture (CEA) use, such as Hydroponics and/or Aquaponics.
16. "Greenhouse," means a permanent structure made of glass, plastic, or fiberglass in which plants are cultivated year round under controlled temperature and humidity settings.
17. "Ground Level Urban Farm," means the use of a Lot on the ground plane for Urban Agriculture for commercial purposes, whether for profit or non profit.

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18. "Hen," means a mature egg-laying female chicken.
19. "Hive," means a manufactured receptacle or container prepared for the use of Honey Bees that includes movable frames, combs and substances deposited into the Hives by Honey Bees.
20. "Honey Bee," means a subset of bees in the genus Apis, primarily distinguished by the production and storage of honey and the construction of perennial, colonial nests out of wax.
21. "Hoophouse," means an outdoor structure made of flexible PVC piping or other material covered with translucent plastic, constructed in a "half-round" or "hoop" shape, generally tall enough for a person to enter standing up.
22. "Hydroponics," means the propagation of plants using a mechanical system designed to circulate a solution of minerals in water, for distribution to retailers, restaurants and consumers.
23. "Local," means from Massachusetts, New England States and New York State.
24. "Open Air Rooftop Farm," means an unenclosed area of a rooftop that is used for Urban Agriculture for commercial purposes, whether for profit or non profit.
25. "Pullet," means a Hen under the age of one (1) year.
26. "Raised Bed," means a method of cultivation in which soil is placed over a geotextile barrier, and raised and formed into three (3) to four (4) foot wide mounds. The soil may be enclosed by a frame generally made of untreated wood. Raised beds are not considered a Structure.
27. "Roof Level Urban Farm," means the use of a roof for Urban Agriculture for commercial purposes, whether for profit or non profit.
28. "Rooftop Greenhouse," means a permanent structure located on a roof made of glass, plastic, or fiberglass in which plants are cultivated year round.
29. "Run," means an outdoor enclosure generally made of wire mesh.
30. "Urban Agriculture," means the use of a Lot for the cultivation of food and/or horticultural crops, Composting, Aquaponics,

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Aquaculture and/or Hydroponics. Such use may include the Accessory Keeping of Animals or Bees where Allowed by Underlying Zoning, ~~and on-site sales where retail uses are Allowed by Underlying Zoning.~~

31. "Urban Farm, Ground Level, Large," means a Ground Level Urban Farm with a Farm Area greater than one (1) acre that is used for Urban Agriculture for commercial purposes, whether for profit or non profit.
32. "Urban Farm, Ground Level, Medium," means a Ground Level Urban Farm with a Farm Area greater than or equal to ten-thousand (10,000) square feet but no greater than one (1) acre that is used for Urban Agriculture for commercial purposes, whether for profit or non profit.
33. "Urban Farm, Ground Level, Small," means a Ground Level Urban Farm with a Farm Area less than ten-thousand (10,000) square feet that is used for Urban Agriculture for commercial purposes, whether for profit or non profit.
34. "Urban Farm, Roof Level, Large," means a Roof Level Urban Farm with a Farm Area greater than one (1) acre that is used for Urban Agriculture for commercial purposes, whether for profit or non profit.
35. "Urban Farm, Roof Level, Medium," means a Roof Level Urban Farm with a Farm Area greater than or equal to five-thousand (5,000) square feet but no greater than one (1) acre that is used for Urban Agriculture for commercial purposes, whether for profit or non profit.
36. "Urban Farm, Roof Level, Small," means a Roof Level Urban Farm with a Farm Area less than five-thousand (5,000) square feet that is used for Urban Agriculture for commercial purposes, whether for profit or non profit.
37. "Vertical Agriculture," means an exterior building wall or other vertical structure designed to support the growing of agricultural or horticultural crops.

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SECTION 89-3. Applicability. No Urban Agriculture activity shall be conducted, or Farm Structure erected, except in compliance with the provisions of this Article. The provisions of this Article apply to all Urban Agriculture activities, whether such activity is a primary use or an Accessory Use or subuse; provided, however, that the provisions of this Article shall not apply to any of the following:

1. Any Urban Agriculture activity for which appeal to the Board of Appeal for any Zoning Relief has been made prior to the first notice of hearing before the Zoning Commission for adoption of this Article, and provided that such Zoning Relief has been or is thereafter granted by the Board of Appeal pursuant to such appeal; or
2. Any Urban Agriculture activity conducted or Farm Structure erected pursuant to a building permit issued prior to the first notice of hearing before the Zoning Commission for adoption of this Article.

Notwithstanding the above, any replacement of either such Urban Agriculture activity or Farm Structure described in Sections 89-3.1 and 89-3.2 with another Urban Agriculture activity or Farm Structure must comply with all the requirements of this Article.

Exceptions to the provisions of this Article, pursuant to Article 6A, shall not be available except to the extent expressly provided in this Article or Article 6A.

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SECTION 89-4. **Urban Farm, Ground Level.**

1. Urban Farm, Ground Level.

| ZONING | USE REGULATIONS: URBAN FARM, GROUND LEVEL | | |
|--|--|--------------------------------|--------------------------------|
| | Small (less than 10,000 sf) | Medium (10,000 sf - 1 acre) | Large (greater than 1 acre) |
| Residential (i.e., 1F, 2F, MFR) | Allowed | Allowed | Conditional Use |
| Commercial (i.e., L, LC, NS, B, CC, EDA) | Allowed | Allowed | Conditional Use |
| Industrial (i.e., I, M, LI) | Allowed | Allowed | Allowed |
| Institutional (i.e., IS, NI, CF) | Allowed | Allowed | Conditional Use |

*See Appendix C for all Zoning Districts and Subdistricts corresponding to these generalized zoning categories

- (a) Use Regulations. The primary activity to be performed on an Urban Farm shall be the cultivation of plants and horticultural crops; other activities may be subject to permitting.
- i. Urban Farm, Ground Level, Small.
Small Ground Level Urban Farms are Allowed in all Districts and Subdistricts.
 - ii. Urban Farm, Ground Level, Medium.
Medium Ground Level Urban Farms are Allowed in all Districts and Subdistricts.
 - iii. Urban Farm, Ground Level, Large.
Large Ground Level Urban Farms are Allowed in all Industrial Districts and Subdistricts.
Large Ground Level Urban Farms are Conditional in all other Districts and Subdistricts.
- (b) Maximum Height of Farm Structures. Farm Structures, including but not limited to Hoophouses, sheds and shade pavilions, shall be subject to the applicable height limits in the Underlying Zoning.

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(c) Setbacks for Farm Structures.

- i. Subject to Article 10 (Accessory Uses), all Farm Structures shall be set back five (5) feet from all property lines in all Districts and Subdistricts.

(d) Design Review. The following Farm Structures on an existing and/or expanded Ground Level Urban Farm are subject to the Design Component of Small Project Review pursuant to subsection (b) (iv) of Section 80E-2.1 of the Boston Zoning Code (Design Review Required by Underlying Zoning):

- i. Any proposed Freight Container in any District or Subdistrict except Industrial; and
- ii. Any proposed Farm Structure greater than 300 square feet located on an existing Ground Level Urban Farm or proposed Ground Level Urban Farm not undergoing Comprehensive Farm Review (See Section 89-6), and located in a Neighborhood Design Overlay District; and
- iii. For all other Districts and Subdistricts not within a Neighborhood Design Overlay District, any proposed Farm Structure greater than 750 square feet located on an existing Ground Level Urban Farm or proposed Ground Level Urban Farm not undergoing Comprehensive Farm Review (See Section 89-6).

(e) Signage. The following regulations shall apply to signage used for Urban Farms:

- i. Types of Signage:
 - a. All Ground Level Urban Farms shall be required to post one (1) identification sign, not exceeding ~~two-six~~ (62) square feet in total area, attached at a height of no more than four (4) feet high to a structure or fence stating only the name of the Ground Level Urban Farm and contact information.

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- b. One (1) temporary sign shall be Allowed for a Farm Stand and may be displayed during sales hours but must be removed from the premises and stored inside a structure when the Farm Stand is not in operation. Temporary Farm Stand signs shall not encroach upon sidewalks, driveways and / or other rights of way, and shall be displayed so as not to create a nuisance or hazard.

ii. Sign Design Review.

- a. Urban Farms subject to Comprehensive Farm Review (See Section 89-6) shall provide, as part of their CFR submittal, a signage plan showing proposed signage and related architectural features on the sign frontage (See Section 89-6.5(a)v).
- b. Urban Farms not subject to Comprehensive Farm Review (See Section 89-6) and exceeding the requirements of Section 89-4.1(e)i.a shall be subject to Article 11 of the Boston Zoning Code, or, alternatively, shall submit plans for signs under the Comprehensive Sign Design provisions of Article 80, Section III-80E-2 of the Boston Zoning Code.

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SECTION 89-5. Urban Farm, Roof Level.

| USE REGULATIONS: URBAN FARM, ROOF LEVEL AND ROOFTOP GREENHOUSE | | | | |
|---|-------------------------------|-------------------------------|--------------------------------|-----------------|
| ZONING | Open Air | | Rooftop Greenhouse | |
| | Small (less than 5,000 sf) | Medium (5,000 sf - 1 acre) | Large (greater than 1 acre) | Any Size |
| Residential (i.e., 1F, 2F, MFR) | Allowed | Conditional Use | Conditional Use | Conditional Use |
| Small-scale Commercial (i.e., L, LC, MFR/LS) | Allowed | Conditional Use | Conditional Use | Conditional Use |
| Large-scale Commercial (i.e., NS, B, CC, EDA) | Allowed | Allowed | Allowed | Allowed |
| Industrial (i.e., I, M, LI) | Allowed | Allowed | Allowed | Allowed |
| Institutional (i.e., IS, NI, CF) | Allowed | Allowed | Allowed | Allowed |

*See Appendix C for all Zoning Districts and Subdistricts corresponding to these generalized zoning categories

1. Rooftop Greenhouse.

- (a) **Use Regulations.** The primary activity to be performed on an Urban Farm shall be the cultivation of plants; other activities may be subject to permitting.
 - i. Rooftop Greenhouses are Allowed in all Large-scale Commercial, Industrial, and Institutional Districts and Subdistricts.
 - ii. Rooftop Greenhouses are Conditional in all other Districts and Subdistricts.
- (b) **Maximum Height.** Rooftop Greenhouses shall be no higher than twenty-five (25) feet from the roof surface.

2. Urban Farm, Roof Level.

- (a) **Use Regulations.** The primary activity to be performed on an Urban Farm, or within a Farm Structure, shall be the cultivation of plants; other activities may be subject to permitting.
 - i. Urban Farm, Roof Level, Small.

Small Roof Level Urban Farms are Allowed in all Districts and Subdistricts.

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ii. Urban Farm, Roof Level, Medium.

Medium Roof Level Urban Farms are Allowed in Large-scale Commercial, Industrial and Institutional Districts and Subdistricts. Medium Roof Level Urban Farms are Conditional in all other Districts and Subdistricts.

iii. Urban Farm, Roof Level, Large.

Large Roof Level Urban Farms are Allowed in Large-scale Commercial, Industrial and Institutional Districts and Subdistricts. Large Roof Level Urban Farms are Conditional in all other Districts and Subdistricts.

(b) **Maximum Height of Farm Structures.** Farm Structures, including but not limited to Hoophouses, sheds and shade pavilions, shall be subject to the applicable height limits in the Underlying Zoning except for Rooftop Greenhouses (See Section 89-5.1(b)).

(c) **Design Review.** The following Farm Structures on an existing and/or expanded Roof Level Urban Farm are subject to the Design Component of Small Project Review pursuant to subsection (b) (iv) of Section 80E-2.1 of the Boston Zoning Code (Design Review Required by Underlying Zoning):

- i. Any proposed Farm Structure that is visible from a public street or public open space in any District or Subdistrict, other than Industrial which does not abut a Residential District or Subdistrict.

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SECTION 89-6. Comprehensive Farm Review.

1. **Purpose of Comprehensive Farm Review.** The purpose of the Comprehensive Farm Review (“CFR”) requirement of this Section 89-6 is to ensure that Urban Farms, subject to Comprehensive Farm Review, and Farm Structures are sited and designed in a manner that is sensitive to the surrounding neighborhood. In addition, any Urban Agriculture activities that are designed as part of a new building, including but not limited to Rooftop Agriculture, should be integrated into the overall design and architecture of the new building through Comprehensive Farm Review.
2. **Applicability of Comprehensive Farm Review.** Comprehensive Farm Review shall be required for the following:
 - (a) Any Proposed Ground Level or Roof Level Urban Farm, or Rooftop Greenhouse, as set forth in the

| USE REGULATIONS AND CFR REQUIREMENT | | | |
|--|-----------------------------------|-----------------------------------|--------------------------------|
| URBAN FARM, GROUND LEVEL | | | |
| ZONING | Small (less than 10,000 sf) | Medium (10,000 sf - 1 acre) | Large (greater than 1 acre) |
| Residential (i.e., 1F, 2F, MFR) | Allowed/ No CFR ² | Allowed / CFR | Conditional Use |
| Commercial (i.e., L, LC, NS, B, CC, EDA) | Allowed/ No CFR ² | Allowed / CFR | Conditional Use |
| Industrial (i.e., I, M, LI) | Allowed/ No CFR ^{1,2} | Allowed/ No CFR ^{1,2} | Allowed / CFR |
| Institutional (i.e., IS, NI, CF) | Allowed/ No CFR ² | Allowed / CFR | Conditional Use |

¹. Exception: Any Ground Level Urban Farm in any Industrial (without residential uses) Subdistrict where the property abuts a Residential Subdistrict

². Exception: Any Ground Level Urban Farm in a Neighborhood Design Overlay District (NDOD) or Greenbelt Protection Overlay District (GPOD)

following tables:

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| USE REGULATIONS AND CFR REQUIREMENT | | | | |
|---|--------------------------------------|--------------------------------------|--------------------------------|--------------------|
| ZONING | URBAN FARM, ROOF LEVEL | | | Rooftop Greenhouse |
| | Small (less than 5,000 sf) | Medium (5,000 sf - 1 acre) | Large (greater than 1 acre) | Any Size |
| Residential (i.e., 1F, 2F, MFR) | Allowed / No CFR ^{2,3} | Conditional Use | Conditional Use | Conditional Use |
| Small-scale Commercial (i.e., L, LC, MFR/LS) | Allowed / No CFR ^{2,3} | Conditional Use | Conditional Use | Conditional Use |
| Large-scale Commercial (i.e., NS, B, CC, EDA) | Allowed / No CFR ^{2,3} | Allowed / CFR | Allowed / CFR | Allowed / CFR |
| Industrial (i.e., I, M, LI) | Allowed / No CFR ^{1,2,3} | Allowed / No CFR ^{1,2,3} | Allowed / CFR | Allowed / CFR |
| Institutional (i.e., IS, NI, CF) | Allowed / No CFR ^{2,3} | Allowed / No CFR ^{2,3} | Allowed / CFR | Allowed / CFR |

1. Exception: Any Roof Level Urban Farm in any Industrial (without residential uses) Subdistrict where the property abuts a Residential Subdistrict
2. Exception: Any Roof Level Urban Farm in any Subdistrict that contains a Farm Structure visible from a public street or public open space
3. Exception: Any Roof Level Urban Farm in a Neighborhood Design Overlay District (NDOD) or Greenbelt Protection Overlay District (GPOD)

- (b) Any existing Ground Level Urban Farm greater than 10,000 sf that proposes to expand the land area devoted to Urban Agriculture by thirty (30%) percent or more; and
- (c) Any existing Roof Level Urban Farm greater 5,000 sf that proposes to expand the roof area used for Urban Agriculture activities by thirty (30%) percent or more.
3. **Abutter Notification.** In connection with Comprehensive Farm Review, the Boston Redevelopment Authority shall notify Abutters, the Mayor's Office of Neighborhood Services, the relevant neighborhood group or association (if applicable), and the relevant District City Councilor within five (5) days of its receipt of all final materials required under such review for all Ground Level and Roof Level Urban Farms and Rooftop Greenhouses listed in Section 89-6.2. A fourteen (14) day public comment period concerning the Ground Level Urban Farm, Roof Level Urban Farm and/or Rooftop Greenhouse shall commence upon the issuance of this notice. As long as all information required for a Complete Application is received, Boston Redevelopment Authority approval of Comprehensive Farm Review shall take no longer than forty five days (45) days. Upon completion and approval of

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Comprehensive Farm Review, the Boston Redevelopment Authority shall submit its approval to the Inspectional Services Department.

4. **Boston Landmarks Commission Review.** Any proposed Ground Level or Roof Level Urban Farm or Rooftop Greenhouse in a Neighborhood Design Overlay District is subject to review by the Boston Landmarks Commission, as set forth in this Section 89-6.4. Within five (5) days of its receipt of the application, the Boston Redevelopment Authority shall transmit a copy of the application to the Boston Landmarks Commission for its review. The Boston Landmarks Commission may, within thirty (30) days after its receipt of the application, file with the Boston Redevelopment Authority a report with recommendations, together with maps, plans, and other materials to aid the Boston Redevelopment Authority in determining consistency with the design requirements and guidelines set forth in Section 89-6.6 (Design Guidelines) and Section 89-6.7 (Design Requirements) of this article. The Boston Redevelopment Authority shall not transmit its findings to the Inspectional Services Department until the Boston Redevelopment Authority has received and considered the Boston Landmarks Commission report with recommendations, provided that if the Boston Redevelopment Authority has not received such report within thirty (30) days, it may transmit the Director's certification to the Inspectional Services Department without such report.
5. **Information Required to be a Complete Application for Comprehensive Farm Review.**
 - (a) The information required for Comprehensive Farm Review shall include:
 - i. At minimum, a sketch plan showing planted areas, footprints for all Farm Structures, driveways, parking areas, and landscape buffers; and
 - ii. At minimum, a sketch drawing for Farm Structures; and
 - iii. Photographs of existing site and adjacent properties to provide site context; and

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- iv. Proposed plans for irrigation, and controls for storm water runoff as required by Boston Water and Sewer Commission (BWSC); and
 - v. Proposed signage plan showing proposed signage and related architectural features on the sign frontage (See Section 89-4.1(e)).
- (b) Such submission materials shall describe or illustrate the dimensions, location and appearance of:
- i. All Proposed Urban Agriculture activities, materials used, screening, fencing, landscaping, and the like, in a manner that is sensitive to the surrounding area; and
 - ii. Any existing buildings which will remain along with the Proposed Urban Agriculture activities, if applicable, and any Farm Structures within the visible context of such activity.
6. **Design Guidelines.** This subsection establishes the following design guidelines for all Proposed Urban Farms subject to Comprehensive Farm Review.
- (a) **Site Plan.**
- i. Site planning, including location of Farm Structures, vehicular access, and parking areas, should be designed to enhance the street frontage and surrounding buildings and spaces. In addition, Placement of Farm Structures should respect significant landscape features on the site, such as rock outcroppings, drainage areas, and mature trees.
 - ii. Vehicular access and egress to and from an Urban Farm should minimize traffic impacts on the adjacent roadways and provide safe visual access for drivers and pedestrians.

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- iii. Composting, equipment storage, and disposal areas should not be located in the front setback, unless there are special circumstances that make it necessary. While a driveway may be allowed in the front setback, the parking zone shall only be permitted within the side or rear setbacks of the property.
 - a. Composting which is accessory to an Urban Farm shall be used primarily to support onsite operations, and shall comprise no more than seven and a half (7 ½) percent of the Lot area (See Section 89-8.1(e)).

(b) Structures.

- i. New Farm Structures should be compatible with the size, scale and material of the surrounding built and natural environment.

(c) Perimeter Fencing.

- i. Any perimeter fencing for Ground Level Urban Farms may be made of one or more materials, such as masonry (piers or walls), metal pickets, decorative metal, post and rail, wrought iron, shadow box, vinyl coated chain link, or board-type wood. The use of un-coated metal chain link fencing is discouraged. The use of plywood sheeting also is discouraged. Two or more materials may be used in combination with each other, and piers and walls may be used in combination with fences.

(d) Screening.

i. Walls and Fences.

Screening walls and fences may be made of one or more materials, such as masonry (piers or walls), decorative metal, shadow box, or board-type wood. The use of un-coated metal chain link fencing is discouraged. The use of plywood sheeting also is discouraged. Two or

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more materials may be used in combination with each other, and piers and walls may be used in combination with fences.

ii. Landscape Screening.

Street-facing landscape elements, such as fencing, street trees, plantings and signage, should be compatible with the surrounding architecture and environment provided pursuant to this Section 89-6 may be all deciduous or all evergreen, or a mixture of both types. Shrubs shall be densely planted. Trees required by this Section 89-6 may be evergreen or a combination of deciduous and evergreen, and of a sufficient size to provide adequate screening. Existing mature trees and shrubs shall be maintained unless this is not possible.

(e) Lighting.

i. Lighting for Ground Level Urban Farms, Roof Level Urban Farms, and Rooftop Greenhouses should be limited to that required for operational and safety purposes of any activity defined as Urban Agriculture so as not to create a nuisance through excessive brightness to abutting residential uses. For Ground Level Urban Farms, Roof Level Urban Farms and Rooftop Greenhouses abutting residential uses, Applicant shall supply a lighting schedule and plans to mitigate fugitive light.

(f) Materials.

- i. For Greenhouses, at least seventy percent (70%) of all roofs and walls should consist of transparent materials.
- ii. For Hoophouses, materials should consist of flexible PVC or metal tubing and transparent or translucent plastic covering. Hoophouses shall be secured to the ground.

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7. **Design Requirements.** This subsection establishes the following design requirements for Proposed Urban Farms **subject to Comprehensive Farm Review.**
 - (a) **Screening and Buffering.**
 - i. Any Composting, loading or disposal areas that abut (a) a public street, (b) a public park, (c) a Residential District or Subdistrict or Residential Use shall be screened from view as provided. Such screening can include trees, shrubs [See Section 89-6.6(d)ii], and perennial borders and/or screening walls and fences [See Section 89-6.6(d)i]. Any fencing shall not be less than fifty (50%) percent opaque and shall be no less than three (3) feet and no more than six (6) feet high.
 - ii. Any material or equipment stored outdoors shall be surrounded by a wall or fence or vegetative screen of such height, not less than six (6) feet high, as may be necessary to screen such material or equipment from view from any public street or public open space.
 - (b) **Maintenance.**
 - i. All Urban Farms required to comply with this Article shall be maintained exclusively for the activities defined as Urban Agriculture so long as a use requiring them exists.
 - ii. Urban Farms shall be used in such a manner in which at no time shall they constitute a nuisance or a hazard to the surrounding neighborhood. Urban Farms shall be maintained in a healthy growing condition, especially in the off-season.
 - iii. There shall be no parking of vehicles or equipment between a fence, hedge or other landscape screening and the public way, such as the street or sidewalk. Inside storage of any materials, supplies, or products is preferred.

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SECTION 89-7. **Soil Safety.**

- i. All new Urban Farms using soil will be required to comply with the Soil Safety Protocol issued by the Boston Public Health Commission.

SECTION 89-8. **Composting.**

1. Accessory Composting.

- (a) Use Regulations. Accessory Composting shall be Allowed where any Ground Level Urban Farm, Roof Level Urban Farm is permitted.
- (b) State Requirements. Accessory Composting on an Urban Farm is subject to regulation by the Massachusetts Department of Agricultural Resources (MDAR) under 330 CMR 25.00, Agricultural Composting Program.

(c) Maximum Height.

- i. Maximum height of Composting structures or bins shall not exceed ten (10) feet for Ground Level and Roof Level Urban Farms in any District or Subdistrict.
- ii. On a Roof Level Urban Farm, any Composting must be contained within an enclosed bin that does not have direct contact with flammable materials.

(d) Setbacks.

- i. Subject to Article 10 (Accessory Uses), compost bins, structures and windrows shall be set back five (5) feet from all property lines on Ground Level Urban Farms in all Districts and Subdistricts.
- ii. Compost bins, structures and windrows shall not be located in the front yard or in a side yard that abuts a street in all residential and commercial Districts and Subdistricts.

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(e) Lot Coverage.

- i. Composting which is accessory to an Urban Farm shall be used primarily to support onsite operations, and shall comprise no more than seven and a half (7 ½) percent of the Lot area (See Section 89-6.6(a)iii.a.)

2. Composting as Primary Use.

(a) Use Regulations.

- i. When the primary use to be performed on a Lot is Composting, the activity shall be Conditional in all Industrial Districts and Subdistricts and Forbidden in all other Districts and Subdistricts.

(b) State Requirements.

- i. Composting operations are subject to regulations administered by the Massachusetts Department of Environmental Protection (DEP) under 310 CMR 16.00.

(c) Setbacks.

- i. Subject to Article 10 (Accessory Uses), compost bins, structures and windrows shall be set back five (5) feet from all property lines on Ground Level Urban Farms in all Districts and Subdistricts.
- ii. Compost bins, structures and windrows shall not be located in the front yard or in a side yard that abuts a street in all residential and commercial Districts and Subdistricts.

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SECTION 89-9. Accessory Keeping of Hens.

1. **Use Regulations.** See Underlying Zoning for applicable use regulations.
 - (a) For all areas covered under the Base Code, see Article 8 – Use No. 76.
 - (b) For all other areas not covered under the Base Code, see Use Regulation Table in specific Article.
 - (c) Where the Accessory Keeping of Animals is a Conditional Use in the applicable Underlying Zoning, the Board of Appeal shall not grant a Conditional Use Permit for the Accessory Keeping of Hens unless the following conditions are met.
 - (d) The maximum number of adult Hens in all Districts and Subdistricts not covered under the Base Code shall be six (6) per Lot.
 - (e) The maximum number of non-egg-laying replacement Chicks or Pullets in all Districts and Subdistricts not covered under the Base Code shall be six (6) per Lot.
 - (f) Roosters are expressly Forbidden.
 - (g) The on-site slaughtering of Hens is prohibited.
2. **Dimensional Regulations.**
 - (a) **Maximum Height.**
 - i. **Coop.** Enclosed Coop space shall not exceed eight (8) feet in height.
 - ii. **Run.** Runs shall not exceed eight (8) feet in height.
 - (b) **Size.**
 - i. **Coop.** Coop space must allow a minimum of two (2) square feet per Hen and one (1) nest box per three (3) Hens within, and shall not

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exceed a maximum size of eight (8) feet by six (6) feet.

- ii. Run. Runs must allow a minimum of four (4) square feet per Hen, but in no case shall occupy more than twenty-five percent (25%) of the rear yard.

(c) Setbacks.

- i. Subject to Article 10 (Accessory Uses), Coops and Runs shall be set back five (5) feet from all property lines in all Districts and Subdistricts unless there is a solid, opaque barrier such as a wall of fence along the property line.
- ii. Coops and Runs shall not be located in the front yard or in a side yard that abuts a street in all residential and commercial Districts and Subdistricts.
- iii. Coops and Runs shall not be within a fifteen (15) foot buffer of habitable structures on adjacent properties in all residential Districts and Subdistricts unless prior permission is granted in writing by the neighboring property owner(s).

(d) Materials.

- i. All Coops shall be made of washable and sanitizable material such as fiberglass reinforced plastic.
- ii. All Runs shall have a securely built frame, preferably wooden; shall be covered in wire mesh material such as hardware cloth; and designed to be predator proof.

(e) Screening.

- i. Any portion of the Coop or Run directly visible from a street at any distance shall be screened by either a fence that is constructed to be at least sixty percent (60%) opaque or a

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landscaped buffer of at least four (4) feet in height.

(f) Free Ranging.

- i. Free-ranging of adult egg-laying Hens shall be supervised and is Allowed exclusively in fenced yards with consent of all residents and property owners who have legal access to the premises.

3. Permitting Requirements.

- (a) Draft Permitting Requirements for the Keeping of Hens are found in Appendix A.

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SECTION 89-10. Accessory Keeping of Honey Bees.

1. Use Regulations. For proposed ground level or roof level Hives, see Underlying Zoning for applicable use regulations.
 - (a) For all areas covered under the Base Code, see Article 8 – Use No. 76.
 - (b) For all other areas not covered under the Base Code, see Use Regulation Table in specific Article.
 - (c) Where the Accessory Keeping of Animals is a Conditional Use in the applicable Underlying Zoning, the Board of Appeal shall not grant a Conditional Use Permit for the Accessory Keeping of Honey Bees unless the following conditions are met.
2. Maximum Number of Hives.
 - (a) The maximum number of Hives on any given Lot or roof for personal consumption of Honey Bee products shall be two (2).
 - (b) ~~The maximum number of Hives on any Ground Level or Roof Level Urban Farm shall be three (3).~~
3. Maximum Height and Size.
 - (a) No Hive shall exceed five (5) feet in height and twenty (20) cubic feet in size on any Lot or roof.
4. Specific Ground Level Beekeeping Requirements.
 - (a) Setbacks.
 - i. Where there is a wall, fence or similar barrier between the subject property and adjacent property, no setback from the property line is required. Where there is no wall, fence or similar barrier between subject property and adjacent property, Hives shall be set back five (5) feet from the property line.

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- ii. Hives shall not be located in the front yard or in a side yard that abuts a street in all residential and commercial Districts and Subdistricts.
- iii. No Hive shall be located closer than ten (10) feet from a public sidewalk.

(b) Hive Placement and Flyways.

- i. For any ground level Hive that is within twenty (20) feet of the doors and/or windows of the principal building on an abutting Lot, either of the following conditions must exist:
 - a. The Hive opening must face away from doors and/or windows; or
 - b. A flyway of at least six (6) feet in height comprising of a lattice fence, dense hedge or similar barrier must be established in front of the opening of the Hive such that the Honey Bees fly upward and away from neighboring properties. The flyway shall be located within three (3) feet of the entrance to the Hive and shall extend at least two (2) feet in width on either side of the Hive opening.

5. Specific Rooftop Beekeeping Requirements.

(a) Setbacks.

- i. Hives shall be set back six (6) feet from the edge of the roof.

(b) Hive Placement and Flyways.

- i. For any roof level Hive that is within twenty (20) feet of the doors and/or windows of the principal building on an abutting Lot, either of the following conditions must exist:
 - a. The Hive opening must face away from doors and/or windows; or

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- b. A flyway of at least six (6) feet in height comprising of a lattice fence, dense hedge or similar barrier must be established in front of the opening of the Hive such that the Honey Bees fly upward and away from neighboring properties. The flyway shall be located within three (3) feet of the entrance to the Hive and shall extend at least two (2) feet in width on either side of the Hive opening.

6. Compliance with State and Local Laws.

- (a) All beekeeping shall comply with applicable State and local laws and regulations.

7. Permitting Requirements.

- (a) Draft Permitting Requirements for the Accessory Keeping of Honey Bees are found in Appendix B.

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SECTION 89-11. Aquaculture, Aquaponics, Hydroponics, and Freight Containers.

1. Aquaculture and Aquaponics.

| AQUACULTURE/ AQUAPONICS | Primary | Accessory (up to 750 sf) | | Accessory (>750 sf) | |
|----------------------------|--------------------------|--------------------------|----------------------------------|---------------------|----------------------------------|
| | Use Regulation | Use Regulation | Exception: Freight Containers | Use Regulation | Exception: Freight Containers |
| Industrial | Allowed | Allowed | Allowed | Allowed | Allowed |
| Institutional | Conditional | Allowed | Allowed | Allowed | Allowed |
| Large-scale Commercial | Conditional ¹ | Allowed | Allowed | Allowed | Allowed |
| Small-scale Commercial | Conditional | Allowed | Conditional | Conditional | Conditional |
| Residential | Forbidden | Allowed | Forbidden | Conditional | Forbidden |

¹Allowed in Waterfront Commercial

(a) Aquaculture and Aquaponics Facilities as a Primary Use.

- i. Aquaculture and Aquaponics facilities as a primary use are Allowed in Industrial Districts and Subdistricts, as well as in the following Commercial Districts and Subdistricts:

WC -Waterfront Commercial
- ii. Aquaculture and Aquaponics facilities as a primary use are Conditional in Institutional, Large-scale Commercial (Exception: WC), and Small-scale Commercial Districts and Subdistricts.
- iii. Aquaculture and Aquaponics facilities as a primary use are Forbidden in Residential Districts and Subdistricts.

(b) Aquaculture and Aquaponics Facilities Up To 750 Square Feet.

- i. Aquaculture and Aquaponics facilities up to 750 square feet are Allowed in all Districts and Subdistricts with the following exceptions:
 - a. Freight Containers of any size are Conditional in Small-scale Commercial Districts and Subdistricts.

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- b. Freight Containers of any size are Forbidden in Residential Districts and Subdistricts.
- (c) Aquaculture and Aquaponics Facilities Greater Than 750 Square Feet.
 - i. Aquaculture and Aquaponics facilities greater than 750 square feet are Allowed in Industrial, Institutional, and Large-scale Commercial Districts and Subdistricts.
 - ii. Aquaculture and Aquaponics facilities greater than 750 square feet are Conditional in Small-scale Commercial and Residential Districts and Subdistricts with the following exception:
 - a. Freight Containers of any size are Forbidden in Residential Districts and Subdistricts.

| HYDROPONICS | Primary | | Accessory | |
|------------------------|----------------|-------------------------------------|----------------|-------------------------------------|
| | Use Regulation | Exception: Freight Containers | Use Regulation | Exception: Freight Containers |
| Industrial | Allowed | Allowed | Allowed | Allowed |
| Institutional | Allowed | Conditional | Allowed | Allowed |
| Large-scale Commercial | Allowed | Conditional | Allowed | Allowed |
| Small-scale Commercial | Allowed | Conditional | Allowed | Conditional |
| Residential | Conditional | Forbidden | Allowed | Forbidden |

2. Hydroponics.

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- (a) Hydroponics Facilities as a Primary Use.
 - i. Hydroponics facilities as a primary use are Allowed in all Industrial, Institutional, Large-scale Commercial, and Small-scale Commercial Districts and Subdistricts with the following exception:
 - a. Freight Containers of any size as a primary use are Conditional in Institutional, Large-Scale Commercial,

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and Small-scale Commercial Districts and Subdistricts.

- ii. Hydroponics facilities as a primary use are Conditional in Residential Districts and Subdistricts with the following exception:
 - a. Freight Containers of any size are Forbidden in all Residential Districts and Subdistricts.

(b) Hydroponics Facilities as an Accessory Use.

- i. Hydroponics facilities as an Accessory use are Allowed in all Districts and Subdistricts with the following exceptions:
 - a. Freight Containers of any size are Conditional in Small-scale Commercial Districts and Subdistricts.
 - b. Freight Containers of any size are Forbidden in Residential Districts and Subdistricts.

- 3. Applicability with Federal and State Regulations. Applicant must comply with applicable federal and State regulations for water use and discharge, and for the possession, propagation, culture, sale and disposition of living marine organisms.
- 4. Design Review. Except when part of an Urban Farm subject to Comprehensive Farm Review as per Section 89-6.2, any of the following types of Aquaculture, Aquaponics or Hydroponics facilities shall be subject to the Design Component of Small Project Review pursuant to subsection (b) (iv) of Section 80E-2.1 of the Boston Zoning Code (Design Review Required by Underlying Zoning):

- (a) Any proposed Freight Container of any size in any District or Subdistrict except Industrial; and
- (b) Any proposed Aquaculture, Aquaponics or Hydroponics facility greater than 300 square feet, in a Neighborhood Design Overlay District; and

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- (c) Any proposed Aquaculture, Aquaponics or Hydroponics facility greater than 750 square feet in any District or Subdistrict that is not located in a Neighborhood Design Overlay District.

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SECTION 89-12. Farmers Markets and Farm Stands.

1. Farmers Markets.

(a) Use Regulations. Farmers Markets shall be subject to the following use regulations:

- i. Farmers Markets on a Lot or Lots are Allowed where Retail is Allowed by the applicable Underlying Zoning.
- ii. Farmers Markets on a Lot or Lots are Conditional where Retail is not Allowed by the applicable Underlying Zoning.

(b) Permitting Requirements.

- i. The operation of a Farmers Market requires a permit from the City of Boston's Inspectional Services Department – Division of Health Inspections.

2. Farm Stands. Up to one (1) Farm Stand may be constructed given the following regulations:

(a) Use Regulations.

- i. Accessory Farm Stands selling and/or distributing only horticultural and agricultural products are Allowed where Urban Farms are Allowed [See Section 89-4.1(a)] provided that a single stand does not exceed two-hundred (200) square feet in total floor area.
- ii. Accessory Farm Stands are Conditional in all other Districts and Subdistricts where Retail is not Allowed by the applicable Underlying Zoning.

(b) Placement and Safety.

- i. Accessory Farm Stands shall not encroach upon sidewalks, driveways and / or other rights of way, and shall be erected so as not to create a nuisance or a hazard.

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SECTION 89-13. Abandonment.

1. **Removal Requirements.** Any Small Urban Farm, Medium Urban Farm or Large Urban Farm which has been abandoned shall be cleared and restored to its original state. The owner/operator shall physically remove all Farm Structures no more than one hundred and eighty (180) days after the date of discontinued operations. More specifically, site clearing shall consist of:
 - (a) Physical removal of all Farm Structures, farm equipment and machinery;
 - (b) Disposal of all Composting and agricultural waste in accordance with local and state waste disposal regulations; and
 - (c) Stabilization of re-vegetation of the site as necessary to minimize erosion. The Inspectional Services Department may allow the owner to leave landscaping in order to minimize erosion and disruption to vegetation.
2. **Abandonment.** The former Small Ground Level or Roof Level Urban Farm, Medium Ground Level or Roof Level Urban Farm, Large Ground Level or Roof Level Urban Farm site shall be considered abandoned when it fails to operate for more than one year without the written consent of the Inspectional Services Department. The Inspectional Services Department shall determine what proportion of the site is inoperable for the facility to be considered abandoned. If the applicant fails to remove the Farm Structures, farm equipment and machinery in accordance with the requirements of this Section within one hundred and eight (180) days of abandonment, the Inspectional Services Department shall have the authority to enter the property and conduct all removal activities.

SECTION 89-14. Regulations. The Boston Redevelopment Authority may promulgate regulations to administer this Article.

SECTION 89-15. Severability. The provisions of this Article are severable, and if any provision of this Article shall be held invalid by any decision of any court of competent jurisdiction, such decision shall not impair or otherwise affect any other provision of this Article.

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Appendix A: Permitting Requirements for Accessory Keeping of Hens¹.

- (1) If Coop will be located in common open space, the application for a permit must be accompanied by written approval from all residents and property owners who have legal access to the common open space.
- (2) If the property is rented, Renter must get written permission to locate Coop on premises from the Landlord.
- (3) The Applicant shall notify direct abutters of the request to keep Hens on the Applicant's property.
- (4) Except where arrangements are made for free-ranging pursuant to Section 89-9(2)(f)(i), Hens must be confined to an enclosed Coop or outdoor enclosure at all times.
- (5) Roosters are expressly Forbidden within the City of Boston limits.
- (6) All storage containers for feed for Hens shall be rodent-proof.
- (7) Except for sick Hens being quarantined or requiring special care, all adult Hens must be kept outdoors and are expressly Forbidden from habitable structures and structures used for personal storage.
- (8) Each Coop must be kept clean, free of all odors and materials that can attract rodents.
- (9) Hens must be provided with access to well-constructed, draft-free, well-ventilated shelter that provides suitable protection from inclement weather.
- (10) Hens must have access to clean potable water at all times.
- (11) No person shall surrender Hens to the City of Boston's Animal Control Department.

¹ These requirements would not be part of Article 89, but rather be incorporated into the permit required by the City's Inspectional Services Dept – Division of Health Inspections for the Accessory Backyard Keeping of Hens.

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- (12) In the event a Hen is known or suspected to be sick or injured, the Owner is responsible for providing adequate home care or veterinary care or for humanely culling and disposing of the Hen.
- (13) All Hens must be sourced from a Salmonella Pullorum-free flock or a hatchery participating in NPIP (National Poultry Improvement Program). All Hens over the age of 16 weeks should be tested for Salmonella Pullorum and banded prior to transfer to another owner.

Best Practices

The BRA and Mayor's Office would ask that Boston Hen experts and advocates come forward with a guide of "Best Practices" for the keeping of Hens which could be distributed to applicants for the keeping of Hens. Among the issues to be addressed by the Best Practices guide might be the following:

-Run Ceilings. Runs should be constructed with a roof or ceiling to help keep Hens dry.

-Litter. The use of 4-6" of pine shavings for litter (bedding) is recommended for the Coop. Regular raking to keep the litter in top condition is also recommended along with periodic removal of wet, caked litter.

-Predator Proofing Coops and Runs. Any ventilation holes or gaps in the Coop should be covered with wire mesh. Runs should have a securely built frame with securely attached ½" open chicken wire or hardware cloth. The bottom of the Run should fit snugly against the ground.

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Appendix B: Permitting Requirements for Accessory Keeping of Honey Bees².

- (1) Registration: Pursuant to 330 CMR 8.00: Apiary Inspection Regulations, Hives must be registered with the Commonwealth of Massachusetts – Department of Agricultural Resources and thus subject to inspection.
- (2) Education: Hives must be managed by experienced or educated Beekeepers. Applicants must provide documentation of a beekeeping course or describe beekeeping experience. Applicants must also indicate that they have basic knowledge about preventing disease and unintended swarms.
- (3) Open to Inspection: Registered Hives should be open to inspection by the City or State at any time.
- (4) A constant supply of fresh water shall be maintained in a location readily accessible to all Hives to prevent Honey Bees from congregating at neighboring swimming pools or other sources of water on nearby properties.
- (5) A notice shall be posted on the Hive or Hive site indicating that there is an active Hive onsite. All Hives shall be conspicuously marked with the name of the owner and telephone contact to be easily found by a City or State Inspector and/or member of the public with questions or concerns.
- (6) Ownership, care and control of the Hive shall be the responsibility of a resident of the dwelling on the Lot.
- (7) If Hive will be located in common open space, the application for a permit must be accompanied by written approval from all residents living in the building and all property owners on the property.
- (8) If the Beekeeper rents or leases the property, written approval to locate the Hive on premises must be obtained from the Landlord.

² These requirements would not be part of Article 89, but rather be incorporated into a permit that will be required by the City's Inspectional Services Dept – Division of Health Inspections for the Accessory Backyard Keeping of Bees.

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- (9) The Applicant shall notify direct abutters of the request to keep Honey Bees on the Applicant's property.
- (10) For any ground level or roof level Hive that is within twenty (20) feet of the principal building on an abutting Lot, permission must be granted in writing by those neighboring property owner(s).
- (11) If a Hive becomes abandoned or unmanaged, permit will be revoked.

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Appendix C: Zoning Districts and Subdistricts Corresponding to General Zoning Categories Referred to in Article 89

| RESIDENTIAL | | COMMERCIAL | | INDUSTRIAL | INSTITUTIONAL |
|---------------|---------------|----------------------------|-----------------------------|--------------|---------------|
| 53 districts | | Large-scale 9 districts | Small-scale 22 districts | 17 districts | 5 districts |
| 1F - 3000 | 3F - G - 4000 | CC | LC | IDA | CF |
| 1F - 4000 | 3F - G - 5000 | CC-1 | LC-.5 | LI | CUF |
| 1F - 5000 | 3F - G - 6000 | CC-2 | LC-1 | LI-1 | IS |
| 1F - 6000 | 3F - D - 2000 | EP | NS | LI-1 (7) | NI |
| 1F - 7000 | 3F - D - 3000 | CE | NS-.5 | LI-2 | WCF |
| 1F - 8000 | 3F - D - 4000 | EDA | NS-1 | LI-2 (1) | |
| 1F - 9000 | R-.5* | EDA (3) | NS-2 | M-1* | |
| S-.3* | R-.8* | NDA | NS-3 | M-2* | |
| S-.5* | MFR | WC | L-.5* | M-4* | |
| 2F | MFR-1 | | L-1* | M-8* | |
| 2F - 2000 | MFR-2 | | L-2* | I-2* | |
| 2F - 3000 | MFR-3 | | B-1* | MER | |
| 2F - 4000 | MFR/LS | | B-2* | MER-2* | |
| 2F - 5000 | MFR/LS-2 | | B-3-65* | WM | |
| 2F - 5000(A) | MFR/LS-3 | | B-4* | W-2* | |
| 2F - 6000 | H-1-40* | | B-6-90a* | LIA | |
| 2F - 7000 | H-1-50* | | B-6-90b* | WS | |
| 2F - 9000 | H-1* | | B-8-120a* | | |
| 3F - 2000 | H-2* | | B-8-120b* | | |
| 3F - 3000 | H-3-65* | | B-8-120c* | | |
| 3F - 4000 | H-3* | | B-8* | | |
| 3F - 5000 | H-4* | | | | |
| 3F - 6000 | H-5* | | | | |
| 3F - 7000 | RH | | B-10* | | |
| 3F - G - 2000 | RH-1500 | | | | |
| 3F - G - 3000 | RH-2000 | | | | |
| CPS | WR | | | | |

* indicates Base Code District