



# M&G

Managing Maryland's Growth

**Planning for the  
Food System**

# 28

MODELS AND GUIDELINES



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**28**

*"It is, in every way, in the best interest of urban consumers to be surrounded by productive land, well farmed and well maintained by thriving farm families in thriving farm communities."*

Wendell Berry

*The Unsettling of America: Culture & Agriculture* (1977)

Mr. Berry is a novelist, essayist, poet, farmer, conservationist, and advocate for traditional agriculture



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## Cross Reference Index to Model and Guidelines #28

This reference provides a shortcut for locating the **best practices** illustrated in this report for the food planning process and for particular aspects of the food system. The headings below refer to the names of the chapters and the subheadings to an area to which best practices are provided.

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## Introduction and Purpose

People all over Maryland are excited about locally grown food. They demand fresh foods in the grocery stores. They fill the farmers markets that are proliferating across the state. They start community gardens in vacant lots. People in both the city and the countryside are taking part in this growing phenomenon. One thing unites them all: they want high quality food, at affordable prices, from local farms and processors.\* They also want a more active role in growing and selecting their food.

Unless we're directly involved in producing food and fiber here in Maryland, most of us think that food is produced somewhere else beyond the horizon and that local farms are temporarily using the land until houses, roads, schools, stores, ball fields, and other non-food uses replace them. However, agriculture is the largest commercial industry in Maryland, with over \$1.8 billion in agricultural products sold, according to the most recent Census of Agriculture (U.S. Department of Agriculture, 2007).

This publication outlines how the “food system”—production, processing, marketing, distribution, consumption, and waste management—is central to our current and future use of land, to our economy, and to our well-being, and is therefore a priority for planning.

A well-functioning local food system is important because of its connection to nutrition:

- Isolated communities in rural areas and low-income pockets in urban areas often lack places such as full-service grocery stores and farmers markets where residents can purchase a full array of high quality fresh fruit, vegetables, meat, and dairy products as alternatives to higher calorie processed foods.
- Locally produced farm products can replace some of the components of school lunches that are high in fat, sugar and salt as one way of addressing the alarming rates of childhood obesity.

A well-functioning local food system can help ensure that we have food when supplies from other places are disrupted:

- The rising price of petroleum raises the cost of fertilizers and pesticides. More importantly, our food supply depends on long distance transportation, so increases in fuel costs greatly affect the price of food. Tight petroleum supplies are also susceptible to disruption. Therefore, food security demands a full and reliable local supply of food.
- In summer of 2012, over half the counties in America were disaster zones due to drought.<sup>1</sup> In 2011, cropland in parts of the Midwest was devastated by floods. Food output by other large providers was curtailed by the elements in 2011 and 2012: widespread floods in Australia, drought in China, fires in Russia. These events, and competition for the dwindling water supply irrigating California's

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\* What does “local” mean? Officially, Maryland leaves that evaluation up to the individual. The Code of Maryland Regulations (COMAR) says that anyone “advertising a particular agricultural product for sale in this State” must disclose the state of origin. “The purpose of the disclosure is to allow a consumer to make his or her own determination as to whether an agricultural product advertised as local conforms to the consumer’s own definition of local or locally grown.” See COMAR 15 (Department of Agriculture) .01.09. This resulted from House Bill 421, signed into law in 2010, which required the Secretary of Agriculture to “convene and consult with an advisory group of interested stakeholders to determine the definition of the term ‘Locally Grown.’”

Imperial Valley—as well as rising fuel prices—point to a possible future of less food at higher prices.

Food-related businesses are an important part of the local economy and can play a more central role in economic development efforts:

- The real estate bust suggests that suburban development may not be the economic engine it was perceived to be.
- The retail sector—a traditional focus of economic development—has already undergone a tremendous expansion. In 1990 there were 18 square feet of retail space per person in the United States. By 2010 the figure was 40 square feet. Vacancy rates, at about 11%, are the highest in 20 years.<sup>2</sup> In addition, a greater share of shopping is done on line: 5% of retail sales in 2008, 7% just two years later. The National Retail Federation estimates that online sales will rise from \$155.2 billion in 2009 to \$248.7 billion in 2014.<sup>3</sup> Therefore, it seems likely that economic growth cannot be based on brick and mortar stores as it was before.
- Maryland's traditional manufacturing base is a shadow of what it once was. Food-related jobs provide an alternative for people who previously would have found industrial jobs.<sup>4</sup>
- The 2010 Policy Choices Survey by the University of Baltimore Schaefer Center for Public Policy found that 78 percent of Marylanders are more likely to buy produce that is identified as having been grown by a Maryland farmer. Further supporting agriculture, a full 94 percent of those surveyed said that it is at least “somewhat important” that the state preserve land for farming.



Photograph courtesy of La Verne Gray

- Maryland has an affluent and educated population who are willing to support the local food economy, judging by the popularity of farmers markets, community supported farms, and the like.
- Consumers like to know where their food comes from and who is growing it. Direct-to-consumer sales mean cutting out the middleman and raising incomes for local farmers. When local farmers stay in business, they contribute to the local economy.
- Virtually every county and municipal plan calls for Main Street revitalization, and outlets for local food are a good way to bring people downtown.
- Community gardens are an excellent way to reclaim vacant/underused land and to give residents a stake in the upkeep of their neighborhoods.

Indeed, the food system's potential to promote economic development and community revitalization is hard to overstate. The Appalachian Regional Commission, a federal agency that promotes economic development and enhanced quality of life in parts of thirteen states from New York to Mississippi, including Garrett, Allegany, and Washington Counties in Maryland, has concluded that food-related activities and enterprises are crucial to the region's economic growth and perhaps are the region's "most vibrant assets." Appalachia is home to

*...an ongoing tradition of small farming and home gardening; the Region's vast food diversity, knowledge of seed saving and cultivating heirloom varieties of local food; an emerging infrastructure of farmers markets, food processing facilities, shared-use kitchen incubators, and community canneries; a growing trend for chefs using locally grown ingredients in their menu offerings; a rich heritage of culinary foodways and of craft, music, storytelling, literature, and customs related to food; and some of the nation's most respected leadership in the local food movement....*

*Appalachian communities are discovering that attention to sustainability of agrarian landscapes, protection of clean water, conservation of heirloom seeds and plants, protection of local food products and connection of food to the rest of the Region's rich heritage have enormous benefits for community and economic development.<sup>5</sup>*

This *Models and Guidelines* report provides information to local governments and interested citizens about the food system—production, processing, marketing, distribution, consumption, and waste management—and how public policies, including planning, can improve the system to benefit Maryland's environment, economy, and citizens. After discussing the issues affecting the food system and establishing a role for planning, the report looks at the components of the food system and offers examples of how local governments, non-profit agencies, and other institutions have addressed shortcomings in their local food systems.

As the department responsible for implementing Maryland's smart growth policies, the Maryland Department of Planning produced this report because the food system is integral to many of our efforts. Without a healthy agricultural sector, containing sprawling residential development becomes more difficult; we cannot sustain a healthy agricultural sector without innovations in zoning and other regulations to accommodate the rapid changes in agriculture and food processing. A successful, well-functioning food system depends on mutual understanding and cooperation between the state and local governments. MDP hopes that this report will be useful to local governments and others who are interested in incorporating food policy into local comprehensive plans and want to learn more about implementation tools, such as zoning that can and have been used by



others to support and enhance local food systems. Innovative ideas are taking root every day. Laws, regulations, and practices should be as enabling as possible while being consistent with public health, safety, and welfare. The inclusion of gardens on commercial properties, for example, should not be prohibited merely because it has not been done before.

Of course, the degree to which any specific policy recommendation is appropriate depends upon the goals and needs of each individual community, and no single policy serves as a solution to the range of food issues.

NOTE: Occasionally this report will cite a program or farm operation that requires little input from planners but is presented as a good idea that readers may want to learn more about. And, as always, many enterprises involved in growing, selling, and processing food can benefit from input from the Maryland Department of Agriculture <http://www.mda.state.md.us/> and the University of Maryland Extension <http://extension.umd.edu/>. For information on the broader topic of keeping agriculture sustainable and profitable (which includes operations like wineries and distilleries that are not covered in this report), see *Understanding and Responding to the Changing Needs of Maryland Agriculture: Toolkit for Local Communities*, published by the Governor's Intergovernmental Commission for Agriculture: [www.mda.state.md.us/pdf/gica.toolkit.pdf](http://www.mda.state.md.us/pdf/gica.toolkit.pdf).



Baltimore City Farmers Market, Baltimore. Photograph courtesy of Emma Kantt

## Planning for the Food System and PlanMaryland

*PlanMaryland: A Sustainable Growth Plan for the 21<sup>st</sup> Century*, took effect in December 2011 through an executive order from Governor O'Malley. As the Governor said in his letter introducing the Plan, "PlanMaryland is our first strategic plan for long-term sustainability. It's a road map to better help us accommodate the 1 million additional residents Maryland is projected to have by 2035, while at the same time better protecting the Chesapeake Bay and saving [through a smaller development footprint] 300,000 acres of farmland and forest."

A way of life is sustainable when the present generation uses resources without depleting or damaging them to the detriment of future generations. Attention to the economy and ecology is crucial. Living sustainably means maintaining our health and prosperity while limiting the consumption of fossil fuels, water, land, and other resources and curbing the pollution of our water, air, and land. It means managing our investment in public facilities to make the most of existing infrastructure while phasing in new services in ways we can afford.

PlanMaryland provides a framework for communication and coordination among state agencies, local governments, and the private sector designed to support sustainability. The Plan establishes a process for identifying where future growth and revitalization will take place, and where preservation and conservation efforts should occur. It initiates a state-local collaboration to target public and private resources to promote healthy communities and protect the environment and natural resources upon which they depend.

Similarly, a local food system places our health and nutrition under greater local control. The food system's sustainability depends on the air, water, and land that we all share. The quality of life for future generations will be greatly affected by whether the food system—production, processing, marketing, distribution, consumption, and waste management—uses the air, water, and land well or poorly. A thriving local food system also provides jobs.

The food system, being central to a sustainable standard of living and quality of life in Maryland, is mentioned explicitly in PlanMaryland; Goal 3—"Ensure that a desirable quality of life in Maryland's communities is sustainable"—is followed by this objective: "Improve the access that all residents of Maryland's metropolitan and rural population centers have to locally produced, high quality, nutritious food...."<sup>6</sup> State and local evaluation of the food system, and steps to improve it, are important for implementing PlanMaryland.

**Ranking of Market Value of Ag Products Sold—Maryland**

Item	Farms	Sales	Rank by Sales	Percent of Total Sales
Poultry and Eggs	1,833	\$903,531,000	1	49.2
Grains, oilseed, dry beans, and dry peas	3,501	\$307,944,000	2	16.8
Nursery, greenhouse, floriculture, & sod	691	\$208,692,000	3	11.4
Milk and other dairy products from cows	676	\$192,426,000	4	10.5

Agriculture is the largest commercial industry in Maryland. According to the U.S. Department of Agriculture's most recent Census of Agriculture (2007), Maryland's farmers sold over \$1.8 billion worth of agricultural products. As the table below shows, about half of that value comes from the sale of poultry. A large part of the grain production, the

second most valuable agricultural item, is used to feed chickens. Clearly, poultry is the largest economic generator for Maryland agriculture and a major factor in keeping rural land rural, especially on the Eastern Shore. This report's recommendations for expanding the cultivation, processing, and sale of other agricultural products and value-added products are intended to grow other parts of the agricultural economy without diminishing the poultry industry. This report seeks to expand consumer choices and enlarge the economy through better planning for the food system.





## Definitions

Before examining what is being done in the realm of food policy and planning, it is important to establish some basic concepts and definitions. First, what is food policy and who is involved?

**Food policy** involves the application of guidelines, standards, incentives, and regulations to the food system. Food policy may be set at any level from local to state to federal, and may affect only part of, or the entire, food system. Policy is not confined to government action and can be initiated by institutions, corporations, and other entities that are applying guidelines, standards, incentives, and regulations.

This is a broad definition that utilizes other terms worth noting.

The **food system** can be thought of as the entire process of getting food to people for consumption, and includes production, processing, marketing, distribution, and selling. The food system encompasses access to food, availability of food, nutrition, waste, and the use of natural resources. A number of variables affect the viability of a food system: weather, land use and health regulations, barriers to market entry, subsidies to certain types of producers, farmers' profits, etc.

**Access to healthy foods, or food security**, is defined by, and dependent upon, four criteria:

- ▼ **Physical** – proximity to food stores and transportation to those stores;
- ▼ **Financial** – resources sufficient to purchase foods;
- ▼ **Nutritional** – availability of foods that meet nutritional requirements; and
- ▼ **Cultural** – availability and affordability of culturally-relevant/familiar foods.<sup>7</sup>

When one's access to healthy foods does not meet one or more of these criteria, an individual is food insecure, or in an environment of food insecurity.<sup>8</sup> Areas—both urban and rural—where access to healthy food is insufficient are often referred to as “**food deserts**.”

## But what are healthy foods?

The Access to Healthy Foods Coalition, an affiliate of the University of Washington, defines **healthy foods** as “a plant or animal product that provides essential nutrients and energy to sustain growth, health and life while satiating hunger.... [They] are usually fresh or minimally processed foods, naturally dense in nutrients, that when eaten in moderation and in combination with other foods, sustain growth, repair and maintain vital processes, promote longevity, reduce disease, and strengthen and maintain the body and its functions.... [They] do not contain ingredients that contribute to disease or impede recovery when consumed at normal levels.”<sup>9</sup>

The term “**food swamp**” is also increasingly used to describe areas with a preponderance of retailers (convenience stores, small markets, and fast food restaurants) selling more calorie-dense but less nutritious fare—cookies, soda, chips, ice cream, and other snacks—instead of healthier food choices such as fresh fruits and vegetables, milk, and meat.<sup>10</sup>

## Endnotes

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- 1 <http://news.blogs.cnn.com/2012/08/01/more-than-half-of-u-s-counties-now-disaster-zones-due-to-drought-officials-say/>
- 2 "Stripped: Once the heart of the suburbs, many strip malls are struggling." *The Economist*, February 11, 2011. <http://www.economist.com/node/18178507>
- 3 [http://www.nrf.com/modules.php?name=Pages&sp\\_id=1240#Growth](http://www.nrf.com/modules.php?name=Pages&sp_id=1240#Growth)
- 4 Between 1969 and 2001, the number of manufacturing employees in Maryland fell 35%, from 284,865 to 184,203. Manufacturing jobs declined from 17% of the total to 6%. More recent data are not comparable because Standard Industrial Classification codes, from which these data were derived, were replaced with North American Industrial Classification System.
- 5 Haskell, Jean, Ph.D., for the Appalachian Regional Commission. Assessing the Landscape of Local Food in Appalachia. 2012. Executive summary of research report available at [www.arc.gov](http://www.arc.gov).
- 6 Maryland Department of Planning. PlanMaryland: A Sustainable Growth Plan for the 21st Century. December 2011, page 3-13. <http://www.plan.maryland.gov/>
- 7 Center for Public Health and Nutrition, University of Washington. Opportunities for increasing access to healthy foods in Washington. Chapter 1: Purpose, definitions, and framework, page 2. Retrieved from [http://depts.washington.edu/waaction/tools/featured\\_resources/access\\_report.html](http://depts.washington.edu/waaction/tools/featured_resources/access_report.html) on September 28, 2010.
- 8 World Health Organization. Programmes and Projects: Trade, foreign policy, diplomacy, and health. Food Security. Retrieved from <http://www.who.int/trade/glossary/story028/en/> on September 28, 2010.
- 9 Access to Healthy Foods Coalition. Which foods does Access consider healthy or healthier? Retrieved from [http://www.accesstohealthyfoods.org/index.php?page\\_id=213](http://www.accesstohealthyfoods.org/index.php?page_id=213) on September 28, 2010.
- 10 Rose, D. et al. (2009). Deserts in New Orleans? Illustrations of urban food access and implications for policy. Retrieved from University of Michigan, National Poverty Center [http://www.npc.umich.edu/news/events/food-access/rose\\_et\\_al.pdf](http://www.npc.umich.edu/news/events/food-access/rose_et_al.pdf) on January 24, 2011.



## The Need for Food Planning

What is food planning? Food planning deals with the food system, which is the flow of edible goods from production through consumption, and can be thought of as planning for food from “farm to table” or “farm to fork.” Food planning can encompass other parts of the life cycle of food, such as the recycling of food byproducts and waste or the preservation of farmland.

Food planning is part of a larger policy linking the food system with public health and community well-being. Regionally, food policy can address issues of supply and demand, loss of farmland, and gains or declines in industrial sectors related to food processing and distribution. Locally, food policy can affect economic development, access to food, and the character of neighborhoods and communities.

At the individual level, there are many people in the United States for whom the food system does not contribute to healthy outcomes. Many people have ready access to unhealthy food. Rates of diabetes and obesity are growing.<sup>1</sup> Many low-income areas of the United States have populations who are food insecure—meaning that they lack some means or access to obtain healthy food—are obese, or a combination thereof.

Food system activities affect the built and natural environments both directly and indirectly. They take up both urban and rural land, require extensive infrastructure, and are an important part of local and regional economies. Food production, processing, and distribution can have both positive and negative effects on the natural environment.

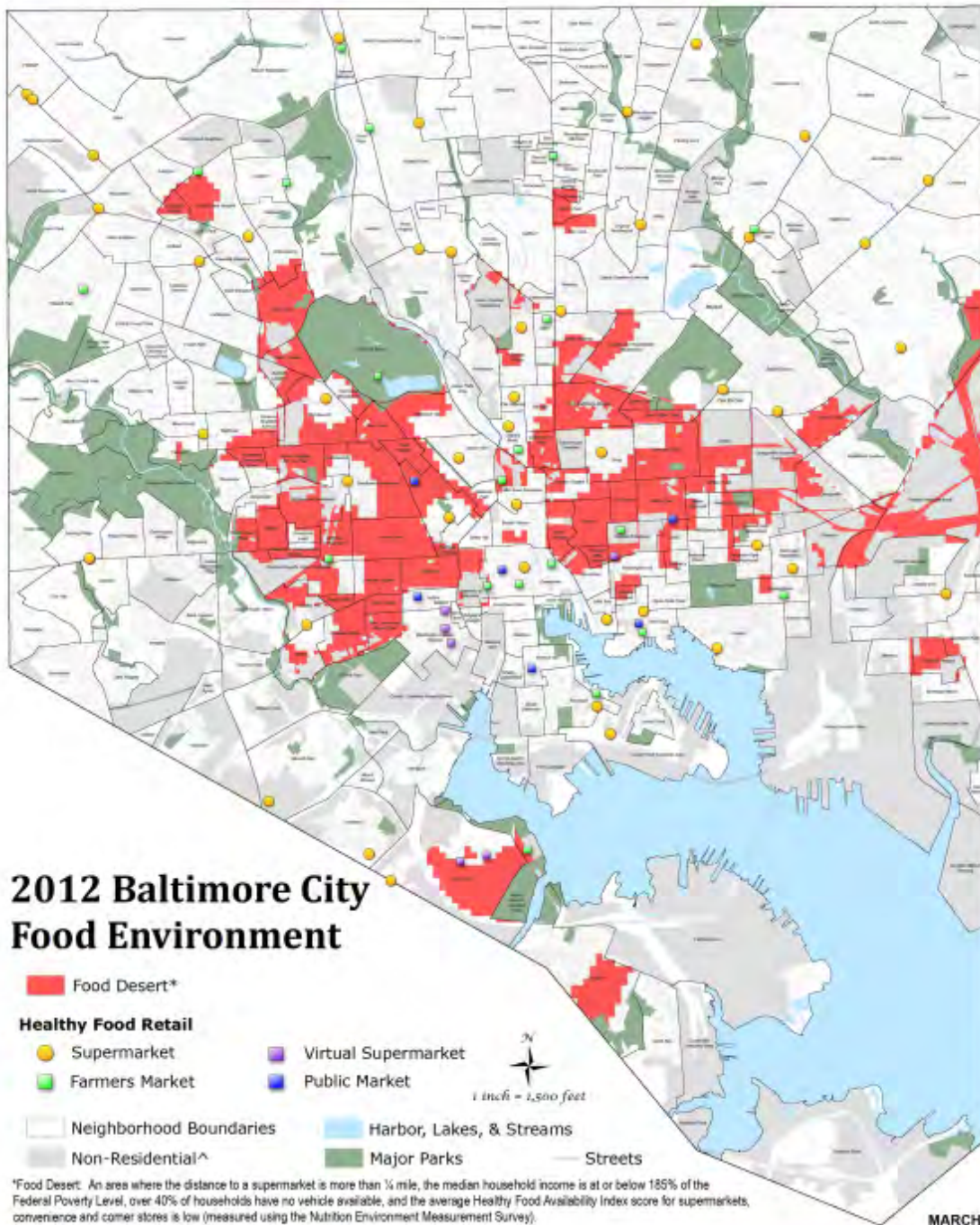
The following information is an introduction to the major issues inherent in food policy and planning.

### Access to Food

Many factors affect a person’s access to food. Distance is a factor: a 2009 study by the U.S. Department of Agriculture (USDA) found that 5.7 million households (5.2% of all households in the U.S.) live more than one-half mile from a supermarket and lack access to a vehicle. Income is another factor in food access: the USDA found that 23.5 million U.S. residents live in low-income areas that are more than one mile from a supermarket.<sup>2</sup> Many of these residents may have difficulty accessing as well as affording food. In Maryland, a 2008 Baltimore study found that almost 14% of low-income Baltimore families did not have “enough food for an active and healthy lifestyle.”<sup>3</sup> In addition to problems with access to food in general, access to *healthy* food is a problem in some areas. Several studies of Baltimore have measured the availability of certain healthy foods in retail food outlets; results indicated that low-income areas tended not to have as high a Healthy Food Availability Index as high-income areas.<sup>4</sup> Items in convenience stores and corner stores also tend to cost more.

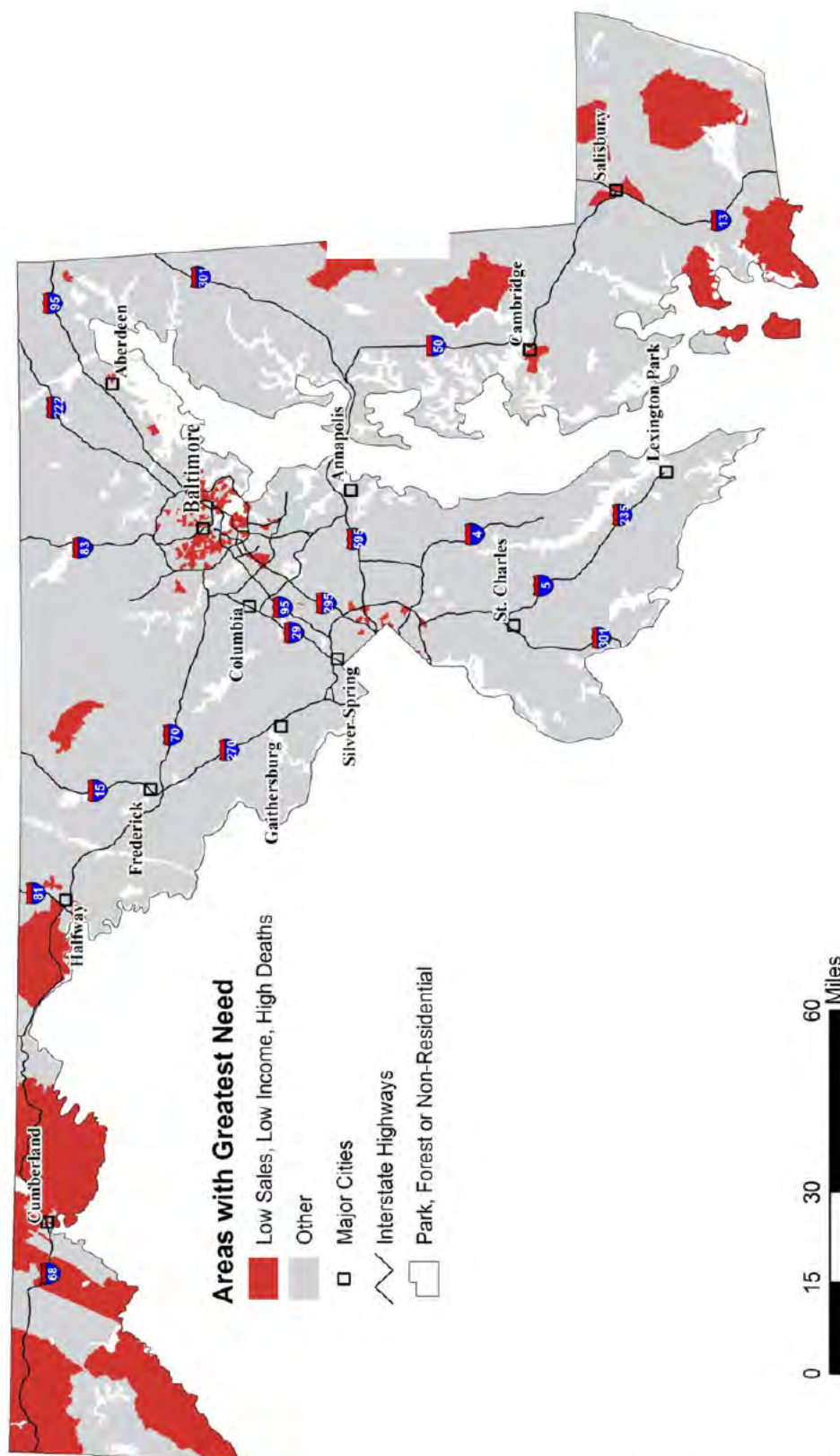
(See *Baltimore City Food Environment* map on the next page)





In 2009, the Johns Hopkins Center for a Livable Future (CLF) developed a food desert map for Baltimore City based on household income and access to supermarkets. In 2012, the Center partnered with Baltimore City's Office of Sustainability, as part of the Baltimore Food Policy Initiative, to create a new food desert definition and update the original food desert map.<sup>5</sup>

**MAP 6** Areas with Greatest Need



Data: TradeDimensions Retail Database, 2009; State of Maryland, 2010; US Census, American Community Survey, 2005 - 2009

This map reprinted with permission of The Food Trust of Philadelphia, shows that lack of access to supermarkets is not just an urban issue. *Areas with Greatest Need* displays lower-income communities where there is low access to supermarkets and a high number of deaths due to diet-related disease. These areas have the greatest need for more supermarkets. "Low sales" refers to "weekly sales volume at supermarkets that is lower than average for the population of the area."<sup>6</sup>



**As you shorten the distance between the consumer and producer, you increase the consumer's power to know and influence the quality of food.**

**Wendell Berry**

## **Health Outcomes**

Access to healthy, affordable, and culturally appropriate food is important to achieving positive health outcomes. So is access to a full variety of foods.

When talking about health outcomes, it's important to define the terms "overweight" and "obese." According to the Centers for Disease Control, "Overweight and obesity are both labels for ranges of weight that are greater than what is generally considered healthy for a given height.... For adults, overweight and obesity ranges are determined by using weight and height to calculate a number called the 'body mass index' (BMI). BMI is used because, for most people, it correlates with their amount of body fat.

- "An adult who has a BMI between 25 and 29.9 is considered overweight.
- "An adult who has a BMI of over 30 or higher is considered obese."

<http://www.cdc.gov/obesity/adult/defining.html>

Nationally, the percentage of children and adults who are obese or overweight is increasing, as are the rates of obesity-related illnesses, such as Type 2 diabetes and cardiovascular disease. In Maryland, 63% of adults were overweight or obese in 2009; obesity prevalence by itself increased from 20.2% of the Maryland adult population in 2000 to 26.8% in 2009.<sup>7</sup> As the U.S. Department of Agriculture reports, "easy access to all food, rather than lack of access to specific healthy foods, may be a more important factor in explaining increases in [Body Mass Index] and obesity."<sup>8</sup>

Both physical inactivity and poor diets contribute to these rates; less than half of Maryland adults engage in the recommended level of physical activity and less than a third of Maryland adults eat the daily recommended servings of fruits and vegetables.<sup>9</sup> See *Appendix 4* for USDA guidelines about daily servings of fruits and vegetables. Improving health outcomes requires both consumer education and a better food environment that promotes access to healthy foods.

## **Loss of Farmland**

Bumper stickers from the American Farmland Trust remind consumers: "No Farms, No Food." A variation could be "No Local Farms, No Local Food." A loss of farmland affects the sustainability of the food system and may hinder communities' access to locally-grown agricultural products. The American Farmland Trust found that "urban influenced counties" in the United States—i.e., those rural places most threatened by development—produced high percentages of the market value of agricultural products (91% of fruit, tree nuts, and berries; 78% of vegetables and melons; 67% of dairy; and 54% of poultry and eggs).<sup>10</sup>

As a densely populated state, Maryland has seen its share of farmland loss and has responded with an aggressive farmland preservation effort. See the "Locavore" chapter for more information on the loss and preservation of farmland in Maryland.

## Access to Markets

Since World War II, farming has become highly industrialized and centralized, making it hard for many farmers to stay in business. Consider these statistics:

- In 1945, it took up to fourteen labor-hours to produce 100 bushels of corn on two acres of land.
- By 1987, it took just under three labor-hours to produce that same 100 bushels of corn on just over one acre.
- In 2002, that same 100 bushels of corn were produced on less than one acre.<sup>11</sup>

*Between 1950 and 1997, the number of farms in the U.S. declined dramatically—from 5.4 million to 1.9 million. Because the amount of farmland did not decrease as much as the number of farms, the remaining farms have a larger average acreage. During the same period, farm production increased from one farmer supporting the food needs of 15.5 persons in 1950 to one farmer supporting 100 persons in 1990. By 1997, one farmer supported the food needs of almost 140 U.S. citizens.*<sup>12</sup>

Maryland farmers also face increasing competition from distant regions and countries which may have different growing seasons, labor forces, and processing and distribution systems, factors which contribute to pricing and efficiency.<sup>13</sup>

## Environmental Impacts

A healthy food system considers environmental impacts and sustainability. When farmland is paved over, the stormwater that runs off of roofs, streets, and parking lots degrades the water quality of streams, rivers, and the Chesapeake Bay. Fruit and vegetables trucked thousands of miles may be healthful but not fresh; they may not be picked at the ideal time, or they might be genetically modified to enable them to withstand shipping. In addition, transportation consumes a lot of fuel, contributing to greenhouse gas emissions and increasing our dependence on imported oil. Our food waste also has an impact on the environment: “wasting food squanders the oil and water used to produce it, and food rotting in landfills creates climate-changing greenhouse gas emissions.”<sup>14</sup>

## Food Safety

Outbreaks of illness caused by *E. coli* bacteria and other foodborne pathogens frequently make headlines and compromise the security of the food system. Drought in one state can severely affect the availability of food in another state. Planning a diverse and resilient food system helps ensure that the effects of drought or disease in one state, or of pathogens found at one processing plant, are minimal. Additionally, as fuel costs rise, so do food prices, due to production and transportation costs. Foods produced locally are less subject to price increases based on fuel cost increases and less subject to disruption of supply.

## Endnotes

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- 6 The USDA Economic Research Service created its own interactive "food-desert locator" map: <http://www.ers.usda.gov/data-products/food-desert-locator/go-to-the-locator.aspx> Its definition of "food desert" can be found at <http://www.ers.usda.gov/data-products/food-desert-locator/documentation.aspx>
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## The Role of Planning in the Food System

Planning for the food system became more common and more essential during the past several decades as U.S. policies and trends in global agriculture fostered large operations and the transportation of food over greater distances. In addition to farms themselves, stores and supermarket chains got bigger, while processors and distributors grew larger and more centralized. Small, local farms could not provide the huge, reliable, cheap quantities demanded by the market, so selling the farm for development became a rational economic decision for small farmers. Shifts in society also led large processors to develop more easy-to-cook food and food products with long shelf lives, a trend that worked to the detriment of small local farms.

The cheap food era also coincided with the era of cheap energy. Every calorie of food we eat today takes 10 calories of energy to produce, process, and deliver.<sup>1</sup> Given the rising cost of fossil fuels, not to mention the environmental effects of consuming it, this state of affairs cannot continue indefinitely without major disruption to the economics of food and the security of the supply. Add to that the rising rates of obesity and diabetes, soil depletion, water pollution, deforestation, and food-borne illnesses associated with the current food system, and the need for encouraging local alternatives becomes obvious.

While food planning may not be at the forefront of most planners' thoughts, many have probably thought about how food—and therefore the local food system—relates to health and community well-being. In 2000, Jerome Kaufman and Kameshwari Pothukuchi published an article in the *Journal of the American Planning Association* (APA) entitled "The Food System: A Stranger to the Planning Field."<sup>2</sup> They found that there was little discussion in both the academic literature and in municipal planning agencies about the food system and the role of planners, yet most of the planners surveyed for their study saw a need for planners to be more involved.

***Short- and long-term planning decisions can limit or expand, undermine or improve the local food system.***

Sessions on food planning took place at the APA national conference for the first time in 2005, and good attendance led to another track of food planning sessions at the 2006 conference. "Special journal issues devoted entirely to food planning have included the *Journal of Planning Education and Research* (Summer 2004) and *Progressive Planning* (Winter 2004)."<sup>3</sup> In 2009, an entire issue of *Planning* magazine was devoted to food planning.<sup>4</sup>

The ways in which traditional planning and the food system are related are many.

Short- and long-term planning decisions—including those related to land use, transportation, and economic development—can limit or expand, undermine or improve the local food system.

Traditional zoning, with its separation of land uses, can create significant distances between people and the food they need. For example, residents without easy access to personal vehicles or public transportation may find it

difficult to travel to commercial areas with supermarkets, much less discover on-farm markets or orchards in the countryside. It is not economically feasible for grocery stores or farmers markets to locate in every neighborhood, but improved transportation systems or



the development of additional alternate outlets for selling healthy foods can help residents overcome food-access issues.<sup>5</sup> Through their roles as facilitators and liaisons with other municipal agencies and local community groups, planners can help communities to formulate policies and programs such as institutional purchasing of locally produced food or the creation of community gardens that complement zoning and regulatory efforts designed to improve the food environment.

The degree to which any specific policy recommendation is appropriate depends upon the goals and needs of each individual community, and no single policy serves as a solution to the range of food issues.

Planning for the food system requires collaboration in developing and implementing local plans, including those components of comprehensive plans and any stand-alone plans related to land use, economic development, the environment, recreation and parks, and public health. The programs and policies called for in these plans should aim to preserve existing opportunities and promote new ones for both urban and rural agriculture; develop and protect the infrastructure that supports local and regional food systems; enhance community food security, especially among vulnerable populations; and promote good nutrition and health.

#### **The American Planning Association's Policy Guide on Community & Regional Food Planning**

This detailed policy contains many findings and specific policy recommendations. There are seven General Policies:

1. Support a comprehensive food planning process at the community and regional levels;
2. Support strengthening the local and regional economy by promoting local and regional food systems;
3. Support food systems that improve the health of the region's residents;
4. Support food systems that are ecologically sustainable;
5. Support food systems that are equitable and just;
6. Support food systems that preserve and sustain diverse traditional food cultures of Native American and other ethnic minority communities; and
7. Support the development of state and federal legislation to facilitate community and regional food planning as discussed in general policies #1 through 6.

<http://www.planning.org/policy/guides/adopted/food.htm>

This APA report can be accessed at <http://www.planning.org/policy/guides/adopted/food.htm>

The demand for local produce has created opportunities for farmers, but the extent to which they can grow food for local consumption depends on many factors, including weather, soil quality, available water and land, available markets, infrastructure limitations, the availability of labor, and profit per unit sold. Assessing existing resources and developing realistic and appropriate goals help communities to develop strategies that acknowledge the limitations and promote the opportunities of local and regional agriculture.

## Endnotes

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## The Importance of Food Planning for Maryland

In Maryland agriculture, poultry and grain are the largest sectors. The nursery/greenhouse sector is also large and growing. Fruit and vegetable production accounted for \$76,000,000 in sales in 2007 (not including \$170,000,000 for corn, which was considered under grain). Also, many smaller producers are diversifying to tap into the demand for local products.<sup>1</sup>

With a projected increase of nearly 1,000,000 people over the next 25 years, Maryland needs careful planning to meet the needs of existing and new residents, aging and new infrastructure, and the environment, particularly the needs of the distressed Chesapeake Bay. Communities in Maryland are not immune to the food-related challenges seen across the United States: increasing obesity and related diseases, food-insecure households, lack of grocery stores in many areas, and a decline in agricultural land, among others.\* Policies should be adopted to help alleviate existing food challenges and address issues before they become problems.

In June 2010, *Principles of a Healthy, Sustainable Food System* were adopted by the American Dietetic Association, American Nurses Association, American Planning Association, and American Public Health Association. The Principles state that “we [the adopting organizations] support socially, economically, and ecologically sustainable food systems that promote health—the current and future health of individuals, communities, and the natural environment.”<sup>2</sup> Further, the Principles define a healthy, sustainable food system as being:

- Health-promoting
- Sustainable
- Resilient
- Diverse in size and scale, geography, culture, and choice
- Fair
- Economically balanced
- Transparent

These principles complement Maryland’s Twelve Planning Visions, created by the state legislature in 2009 (Chapter 176, Acts of Maryland, 2009):

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\* Of course, diabetes, obesity, and other illnesses are related not just to an intake of more calories but also to a decline in physical activity.

Maryland's Twelve Planning Visions	
<b>Quality of Life and Sustainability:</b> A high quality of life is achieved through universal stewardship of the land, water, and air and protection of the environment.	<b>Housing:</b> A range of housing densities, types and sizes provides residential options for citizens of all ages and incomes.
<b>Public Participation:</b> Citizens are active partners in the planning and implementation of community initiatives.	<b>Economic Development:</b> Promoting job growth, business vitality and employment opportunities for Marylanders is essential to continue Maryland's prosperity.
<b>Growth Areas:</b> Growth is concentrated in existing population and business centers.	<b>Environmental Protection:</b> Land and water resources, including the Chesapeake and coastal bays, are carefully managed to restore and maintain healthy air and water, natural systems and living resources.
<b>Community Design:</b> Compact, mixed-use, walkable design, consistent with existing community character and located near available or planned transit options, is encouraged to ensure efficient use of land and transportation resources.	<b>Resource Conservation:</b> Waterways, forests, agricultural areas, open space, natural systems and scenic areas are conserved.
<b>Infrastructure:</b> Growth areas have the water resources and infrastructure to accommodate population and business expansion in an orderly, efficient and environmentally sustainable manner.	<b>Stewardship:</b> Government, business entities and residents create sustainable communities by balancing efficient growth with resource protection.
<b>Transportation:</b> A well-maintained, multimodal transportation system facilitates the safe, convenient, affordable and efficient movement of people, goods and services within and between population and business centers.	<b>Implementation:</b> Strategies, policies, programs and funding for growth and development, resource conservation, infrastructure and transportation are integrated across local, regional, state and interstate levels.

Communities that provide amenities and opportunities related to food access are attractive to both current and potential residents. Community gardens nationwide have waiting lists, and an increasing proportion of food spending is on local foods. These same opportunities can happen in Maryland, too, improving the quality of life for existing and future residents alike.

## Endnotes

- 1 2007 is the date of the latest U.S. Census of Agriculture. The data collected in 2012 will be published in 2013.
- 2 American Planning Association. (2010). *Principles of a Healthy, Sustainable Food System*. 2010. Retrieved from [www.planning.org/nationalcenters/health/foodprinciples.htm](http://www.planning.org/nationalcenters/health/foodprinciples.htm) on January 5, 2011.

## The Food Planning Process

The headings for the first five sections of this chapter—Establishing a Vision and Goals, Funding and Technical Assistance, Setting Priorities, Responsibility for Implementation, and Incorporating Food Policy into Local Comprehensive Plans—serve as a checklist to help establish a process for planning for food. This list is not comprehensive, but does provide many of the steps necessary for successful food planning. The order in which these considerations are addressed is fairly flexible.

Assessing the existing conditions of the food environment is the first step and paramount to incorporating food into local plans. In food planning, a SWOT analysis (Strengths, Weaknesses, Opportunities, Threats)<sup>1</sup> is called a Community Food Assessment (CFA) and can involve a variety of methodologies and stakeholders. The CFA will depend upon available staffing and funding, and it may also depend upon the particular goals of the community.

Assessments vary in scope and focus but should be conducted so that the result is a picture of existing food assets and weaknesses in the community, as well as recommendations for improving the food system. The assessment process can be conducted by community members, health care professionals, planners, academic researchers, or any combination of these individuals and others. Three key features define most community food assessments: an asset-building approach, meaning that the assessment seeks to build upon existing resources; the engagement of community members to set the goals, conduct research, and make recommendations; and an “action orientation,” meaning that the assessments provide recommendations and often an implementation plan.<sup>2</sup>

### Key Elements of a Community Food Assessment

A Community Food Assessment:

Examines a range of food issues and the links between them and community goals;

Is designed to inform and build support for practical actions to enhance community food security;

Is a planned and systematic process of gathering information about and analyzing community food issues;

Addresses both needs and assets;

Focuses on a geographically defined place;

Involves a broad spectrum of stakeholders from the community;

Emphasizes collaboration among participants;

Requires significant time and resources to plan and implement; and

Focuses on a geographically defined place.

From *What's Cooking in Your Food System? A Guide to Community Food Assessment*. Kami Pothukuchi, Hugh Joseph, Hannah Burton, and Andy Fisher. Community Food Security Coalition, 2002.

Community food assessments can gather information about a wide range of things, including:

- population characteristics;
- socio-economic makeup of the community, including food insecurity status;
- anti-hunger resources and services;
- diet-related disease and other health and nutrition information, including the quality of diets and nutrition;
- the conventional food system, including wholesale and retail firms and employment;

- the number and acreage of farms;
- infrastructure and transportation;
- environmental concerns, such as water quality and waste disposal; and
- existing policies and plans.<sup>3</sup>

Some of the data gathered as part of a CFA can also be used for stand-alone assessments targeted at specific goals. For example, in higher density urban and suburban locations, an inventory of viable, vacant lots with good soil can be used to identify possible locations for community gardens, and surveys of residents without private vehicles can be used to assess the extent to which public transit links residents to food outlets.

## Establishing a Vision and Goals

A healthy, sustainable food system should be the goal of food planning. In many communities, the full array of policies and planning tools may not be necessary; targeted activities and policies are likely to receive more support. A community-based vision of the food environment builds support, guides the development of goals, and ensures focus during the implementation of the plan.

## Funding and Technical Assistance

Communities can incur costs when conducting a Community Food Assessment and providing technical assistance during the planning and implementation process. Some successful public-private partnerships have provided the necessary funding; examples are included Appendix II to this report: “Types of Financial Assistance Available for Improving the Food System.” Pairing food planning and healthy eating with other planning and public health efforts may leverage more funding than planning for food systems alone. Many communities have partnered with universities to conduct CFAs and other food planning research, involving such disciplines as medicine, public health, nutrition, planning, and law. Partnerships in Maryland have included Baltimore City and Johns Hopkins University, Baltimore City and Georgetown University, and Prince George’s County and the University of Maryland.<sup>4</sup> (The University of Maryland Extension provides assistance and information at no cost: <http://extension.umd.edu/>) See Appendix III: “Technical Reference.”

## Setting Priorities

Competing interests, limited funds, and, in many communities, a lack of professionals dedicated solely to improving the food system make prioritizing actions necessary. Conducting a community food assessment, establishing goals, and securing funding will help shape the priorities.

## Responsibility for Implementation

The capacity for planning for a healthy food system is different in each community. Even so, fostering a healthy food system anywhere takes broad support from many officials, municipal/county departments, community agencies, businesses, producers, and individuals.

While planners may have a natural inclination toward building partnerships and support, the ultimate responsibility for program and policy implementation



will more than likely be shared across a number of departments or organizations. It may not be feasible or appropriate, depending on the goals of the community, for planners to take lead responsibility for these efforts. Nonetheless, community health initiatives, many of which seek to improve the food environment, benefit from the wide support of government offices and community organizations. For example, in Harford County, the Department of Planning and Zoning is among the partners and sponsors of the Healthy Harford initiative.<sup>5</sup>

## **Incorporating Food Policy into Local Comprehensive Plans**

There are multiple ways to incorporate food policies into plans: through a separate food section; through existing sections, within related objectives or goals; or through other conceptual frameworks<sup>6</sup>. Creating a specific food section can increase the visibility of the recommendations but may result in less integration with other plan elements and be more difficult to accomplish. Including food policies into existing relevant sections is a common method, but communities wishing to take an aggressive stance toward improving the food environment may wish to develop a separate food section, or even a separate food plan.

Food policies can be organized and placed into relevant plan elements such as Natural Resources, Priority Preservation Areas, Economic Development, and Land Use. For example, suggestions for improving food access might be included in discussions about zones such as residential, commercial, industrial, and agricultural, or land uses such as urban, suburban, and rural.

Food policies can also be organized under objectives such as promoting local agriculture or improving access to healthy foods, or through specific action items related to other goals. Examples of the latter include an action item directed at increasing the markets for locally produced foods under a broader economic development goal or an action item directed at increasing space for community gardens under a broader community design goal.

Some communities are also developing stand-alone food, health, and sustainability plans. These plans can highlight food in ways that go beyond the local comprehensive plan but have policies and strategies that are compatible with it.

## **Baltimore County, MD**

The not-for-profit organization North County Preservation, Inc. commissioned the *Rural Baltimore County Agricultural Profitability Study and Action Plan*. Among the group's goals is the sustainability of agriculture and the conservation of natural, agricultural, and scenic resources. The report has three sections that reflect the planning process behind the report: Assess Current State (industry analysis, interviews with farmers and food professionals); Identify Opportunities for Improvement (market analysis, priority areas for improvements, review of counties with successful initiatives); and Recommendations (creation of working subgroups, list of actions, scope, leadership, top initiatives).

The recommendations are grouped into three Focus Areas:

### **Ag Development and Marketing**

- Improve Regional Market Access at Wholesale and Retail Levels
- Facilitate Integration of Agriculture within Financial Markets
- Create a Dedicated Economic and Business Development Gatekeeper to Support Agribusiness

### **Training and Education**

- Expand Education and Training Programs
- Support Regional Agricultural Leadership Development
- Enhance Labor Force Conditions
- Support Entrepreneurship and On-Farm Skills Development

## Public Policy and Regulation

- Create an Outreach and Public Relations Program
- Create a Regulatory Environment that Is Favorable to Agricultural Production
- Develop a Regulatory and Policy Action Program

Each recommendation is followed by “implementation responsibility,” “budget considerations,” “issue priority,” and “funding resources.” The report also contains a chapter on implementation of the recommendations. (For more details, you can access the report from [www.northcountypreservation.org/studies.htm](http://www.northcountypreservation.org/studies.htm) .)

## Watsonville, CA

Watsonville, CA, includes the following goal, policy, and implementation measures in the Land Use and Community Development Element of their General Plan, *Watsonville Vista 2030*:

- Goal 3.5. Preserve the Character of Established Neighborhoods. Encourage preservation and protection of long-established neighborhood qualities.
- Policy 3.5.2. Promote healthy neighborhoods and communities by encouraging neighborhood convenience stores to carry healthy food such as fresh fruit and vegetables.
- Implementation 3.5.21. Condition neighborhood markets (convenience stores) at the time of development review to incorporate the sale of fresh fruits and vegetables.<sup>7</sup>

## King County, WA

King County, WA, whose county seat is Seattle, included planning for food in several elements of its 2008 Comprehensive Plan. The following excerpts are taken from the Comprehensive Plan; the plan elements in which they appear are noted in brackets:

*Food is as essential to our health and well-being as air and water. For example, King County is experiencing a rise in the rate of obesity, and at the same time, an increase in food insecurity and malnutrition. Both can be caused by lack of access to adequate amounts of nutritious food.... King County plays an important role in guiding and supporting system improvements that will result in King County residents eating local, healthy food. [Introduction]*

*R-517. King County should explore ways of creating and supporting community gardens, farmers' markets, produce stands and other similar community-based food growing projects to provide and improve access to healthy food for all rural residents. [Rural Legacy and Natural Resource Lands]*

*R-650. King County commits to preserve APD (Agricultural Production District) parcels in or near the Urban Growth Area because of their high production capabilities, their proximity to markets, and their value as open space. King County should work with cities adjacent to or near APDs to minimize the operational and environmental impacts of urban development on farming, and to promote activities and infrastructure, such as farmers' markets and agriculture processing businesses, that benefit both the cities and the farms by improving access to locally grown agricultural products. [Rural Legacy and Natural Resource Lands]<sup>8</sup>*

## Stand Alone Food, Health, and Sustainability Plans

### ***Baltimore Sustainability Plan—Baltimore, MD***

The 2009 Baltimore Sustainability Plan sets 29 goals within seven themes, all aimed at addressing sustainability within the City of Baltimore:

- Cleanliness
- Pollution Prevention
- Resource Conservation
- Greening
- Transportation
- Education & Awareness
- Green Economy

The Greening section of the plan provides recommendations for improving tree coverage, increasing recreational opportunities, protecting ecosystems and biodiversity, and nurturing the local food system. Each of the following strategies includes suggestions for lead partners, funding, and more:

Strategy A: Increase the percentage of land under cultivation for agricultural purposes

Strategy B: Improve the quantity and quality of food available at local outlets

Strategy C: Increase demand for locally-produced, healthy foods by schools, institutions, supermarkets, and citizens

Strategy D: Develop an urban agriculture plan

Strategy E: Implement Baltimore Food Policy Task Force recommendations related to sustainability and food

Strategy F: Compile local and regional data on various components of the local food system.<sup>9</sup>

### ***Eating Here: Greater Philadelphia's Food System Plan—Delaware Valley Regional Planning Commission***



In early 2011, the Delaware Valley Regional Planning Commission released *Eating Here: Greater Philadelphia's Food System Plan*. Born of the research conducted during the Greater Philadelphia Food System Study, the plan identifies opportunities for regional economic development, strengthening the agricultural sector, decreasing waste, addressing hunger and public health, and protecting the environment. Six core values form the goals for improving the food system: farming and sustainable agriculture; ecological stewardship and conservation; economic development; health; fairness; and collaboration.<sup>10</sup>



### ***A Healthy Community Food System Plan for Waterloo Region— Waterloo, Ontario, Canada***

The Region of Waterloo Public Health staff published this plan in 2007 after conducting research studies, stakeholder forums, and roundtables on the state of the region's food system. The research and subsequent recommendations stemmed from the implementation of the Regional Growth Management Strategy, approved by the Waterloo Regional Council in 2003. Seven objectives were identified along with strategies to meet each objective. The strategies for achieving a healthy community food system, defined by the report as a system "where everyone has access to and can afford to buy safe, nutritious, and culturally-acceptable food that has been produced in an environmentally-sustainable way and that sustains our rural communities," include:



- Increase urban agriculture through a program to encourage school gardens; a fruit/nut tree/bush inventory; and marketing campaign to encourage "edible landscaping"
- Restrict unhealthy foods in identified neighborhoods
- Enable on-farm processing facilities
- Establish incubator kitchens
- Establish a local food label<sup>11</sup>

### **Other Plans**

#### ***Frederick County, MD***

The Frederick County Board of County Commissioners 2010-2014 Strategic Plan identifies six goals to preserve and enhance the quality of life for county residents. The fifth goal focuses on sustainable growth and development with regard to agricultural preservation, land use, and housing. Objectives six and seven of this goal are to: (6) "evaluate the need to establish a Community Gardens program in appropriate county parks. The concept could also establish a rental fee for using each plot.... [T]his concept could support the county's 'GO Green' effort" and (7) "support the establishment of year-round Farmers' Markets for Frederick County."<sup>12</sup>

#### ***Montgomery County, MD***

The 2012 *Park, Recreation and Open Space (PROS) Plan* serves as the planning policy for parks and recreation in Montgomery County to the year 2022 and beyond. The PROS Plan is Montgomery County's equivalent of what other counties call the *Land Preservation, Parks, and Recreation Plan*. It assesses needs and recommends strategies for the delivery of recreation facilities, protection of natural resource areas, and preservation of historic/cultural areas and agricultural lands. The *Vision 2030 Strategic Plan for Parks and Recreation (Vision 2030)*, completed in June 2011, guided the 2012 PROS Plan.

Perhaps the most significant trend recognized by the 2012 PROS Plan is the urbanization of the county and the trend for people to live in areas served by transit, with less reliance on the automobile. The plan recognizes that people in these urban areas need trail and sidewalk systems for recreational walking or biking or for commuting, as well as places for gathering, meditation, recreation, connecting to nature, etc. To respond to this need, the plan proposes a new urban park classification that

includes civic greens for gathering and urban wooded areas for connection to nature. The new classification should better reflect the important and evolving role that urban parks play in community life and their role in serving mixed-use, densely developing communities. The Plan includes community gardens as a suitable use in urban parks.

The text describing the change is found on page 19 of the PROS Plan:

#### *Existing and Proposed Urban Park Classification Descriptions*

##### **Park Type**

Existing urban park description: Very small parks, serving highly urban areas.

Proposed urban park description: new Walk-to Parks that serve residents, employees, and visitors in high density, mixed use, transit oriented development areas, and range in size from pocket urban parks to ½ to 2 acre civic greens to parks large enough for active and passive uses. They generally have more green space than paved surface and may be available 24 hours a day.

##### **Typical Facilities**

Existing urban park description: Landscaping, sitting/picnic areas, play equipment, courts, and shelters.

Proposed urban park description: Predominantly flexible space for community gatherings and festivals, as well as active and passive recreation activities that may include Frisbee, pickup sports, picnicking, skateboarding, community gardens, etc.

##### **Approximate Size**

Existing urban park description: 1 acre

Proposed urban park description: ¼ acre minimum

The PROS substantiates a growing desire for such gardens in the county. Montgomery County currently has 10 community garden sites including those on school property. Vision 2030 recommends strategically adding these facilities. Based on a needs analysis for Vision 2030, community gardens ranked 12th in importance for addition, expansion, or improvement. The PROS foresees a need for 18 more community gardens by 2022.



## Endnotes

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- 1 A SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis helps in developing a framework for understanding a system or an organization, and is often used to develop a strategic plan.
- 2 <http://www.whyhunger.org/programs/fslc/topics/community-food-assessment.html>
- 3 Pothukuchi, K. "Community food assessment: A first step in planning for community food security." *Journal of Planning Education and Research*, 23(4), 2004.
- 4 The Center for a Livable Future at Johns Hopkins University has worked on a number of food and health studies and projects in Baltimore; more information is available at <http://www.jhsph.edu/clf/>. The Harrison Institute for Public Law at Georgetown University Law Center prepared a report for the Baltimore City Food Policy Task Force detailing how zoning could be used to improve the food environment; the report is available at [http://www.law.georgetown.edu/clinics/hi/documents/HarrisonInstitute\\_UsingZoningtoCreateHealthyFoodEnvironmentsinBaltimoreCity.pdf](http://www.law.georgetown.edu/clinics/hi/documents/HarrisonInstitute_UsingZoningtoCreateHealthyFoodEnvironmentsinBaltimoreCity.pdf). The Department of Urban Studies and Planning at the University of Maryland, College Park, worked with planners and community leaders in Prince George's County to conduct a preliminary analysis of food deserts in the Developed Tier of the county; the report is available at [http://arch.umd.edu/student\\_work/planning/index.cfm/Studio\\_Reports](http://arch.umd.edu/student_work/planning/index.cfm/Studio_Reports).
- 5 Healthy Harford. (2011). Sponsors & Partners. Available at [www.healthyharford.org/pages/sponsors.html](http://www.healthyharford.org/pages/sponsors.html)
- 6 Food plans are not required in local comprehensive plans . Required plan elements, previously in Article 66B, § 3.05 of the Maryland Code, can now be found in the Land Use article, § 3-102 and following.
- 7 City of Watsonville. (2006). *WatsonvilleVISTA 2030 General Plan*. Available at: [http://www.ci.watsonville.ca.us/departments/cdd/general\\_plan/watsonvillevista.html](http://www.ci.watsonville.ca.us/departments/cdd/general_plan/watsonvillevista.html)
- 8 King County, WA. (2008). *King County Comprehensive Plan 2008 with 2010 Update*. Adopted October 6, 2008. Retrieved from: [www.kingcounty.gov/property/permits/codes/growth/CompPlan/2008\\_2010update.aspx#glossary](http://www.kingcounty.gov/property/permits/codes/growth/CompPlan/2008_2010update.aspx#glossary) on March 3, 2011.
- 9 Baltimore Office of Sustainability. (2009). *The Baltimore Sustainability Plan*. Accessed on March 4, 2011 from <http://www.baltimorecity.gov/Government/AgenciesDepartments/Planning/OfficeofSustainability.aspx>
- 10 Delaware Valley Regional Planning Commission. *Eating Here: Greater Philadelphia's Food System Plan*. 2011. Available at: [www.dvrpc.org/Food](http://www.dvrpc.org/Food)
- 11 Region of Waterloo Public Health. *A Healthy Community Food System Plan for Waterloo Region*. 2007. Available at: [http://chd.region.waterloo.on.ca/web/health.nsf/8f9c046037662cd985256af000711418/54ED787F44ACA44C852571410056AEB0/\\$file/FoodSystem\\_Plan.pdf?openelement](http://chd.region.waterloo.on.ca/web/health.nsf/8f9c046037662cd985256af000711418/54ED787F44ACA44C852571410056AEB0/$file/FoodSystem_Plan.pdf?openelement)
- 12 Frederick County, MD. *Frederick County Board of County Commissioners, 2010-2014 Strategic Plan (FY 2011-2015)*. 2010. Available at: <http://www.frederickcountymd.gov/documents/Board%20of%20County%20Commissioners/Strategic%20Plan%20FREDE RICK%20COUNTY%20FY2011-FY2015%204-7-2011.PDF>

## Implementing the Food Plan

### Agricultural Land Preservation

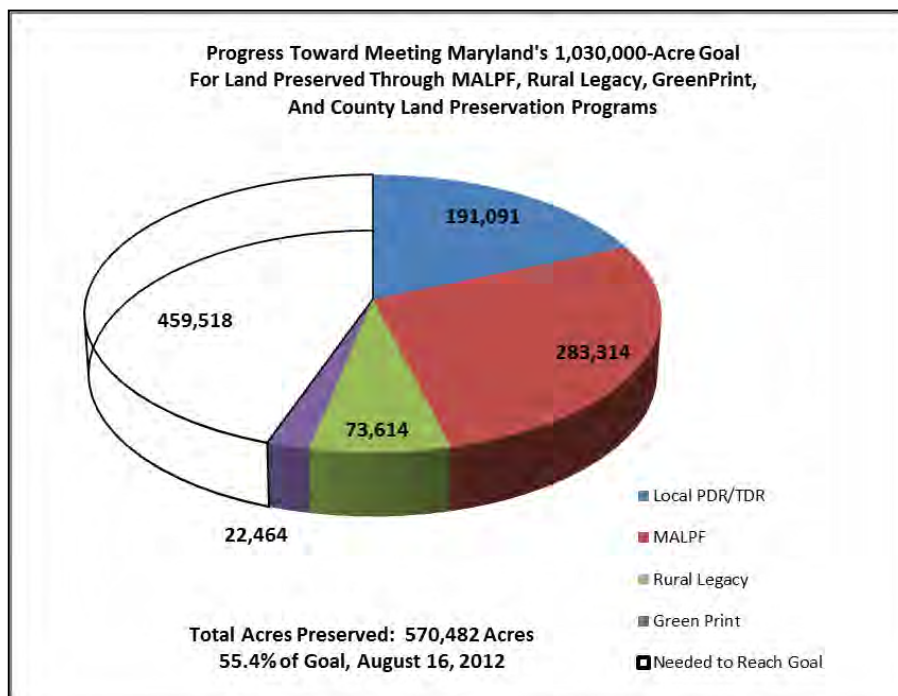
The most common food-related policies currently found in comprehensive plans pertain to agricultural land preservation. Efforts to preserve agricultural land, and the businesses that depend on it, have been significant throughout the United States. Maryland has one of the earliest and most successful statewide programs. The agricultural preservation tool kit includes protective zoning, programs to purchase or transfer development rights (PDR/TDR), property tax credits, right-to-farm laws, county designation of priority preservation areas, state certification of county farmland preservation programs, and more.<sup>1</sup>

Maryland added another tool to the preservation tool kit when the legislature passed and Governor O'Malley signed the Sustainable Growth and Agricultural Preservation Act of 2012 (SB 236). Colloquially known as the Septic Bill, SB 236 requires jurisdictions to create four "tiers" for inclusion in local growth plans to guide growth on central sewer and septic systems:

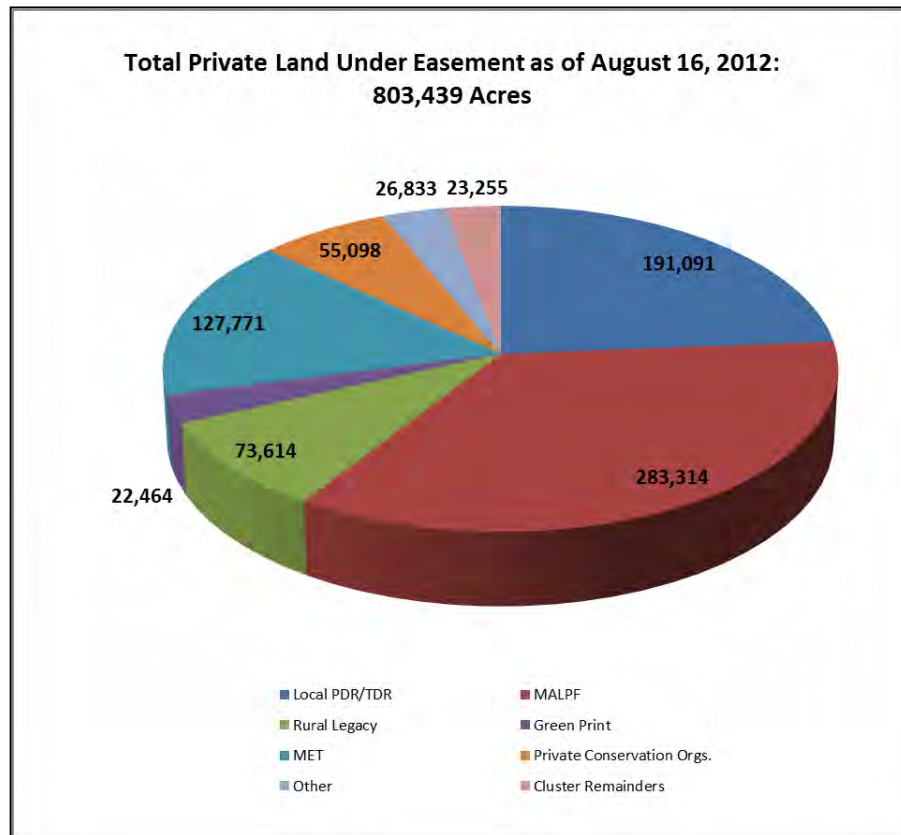
- Tier I: Areas identified for growth on sewer;
- Tier II: Areas identified for future growth on sewer;
- Tier III: Major subdivisions planned on septic using certain criteria; and
- Tier IV: Land identified for rural preservation.

In Tier IV, new subdivisions are limited to minor subdivisions only. The local jurisdiction itself defines "Minor subdivision," but the maximum number of lots allowed cannot exceed seven. This limit on rural residential development complements state and local land preservation efforts.

In 2002, the Maryland General Assembly set a goal of 1,030,000 acres to be preserved by the Maryland Agricultural Land Preservation Foundation (MALPF), Rural Legacy, GreenPrint (an easement program that is now sunsetted), and county preservation programs by 2022 (This goal represents 17% of all land in Maryland outside the City of Baltimore). The graph below shows where that effort stands.



In addition to the four easement programs that contribute to the preservation goal, other easement programs exist: local land trusts, the Maryland Environmental Trust, forest easements, federal easements, etc. When these programs are added in, the graph for all privately-owned preserved land looks like this:



When public land—parks, wildlife refuges, etc., but not military bases—is added to the total, about 1.5 million acres are preserved in Maryland: almost one-quarter of the state.

Most local land preservation programs rely on the purchase of development rights (PDR), but two counties in Maryland, Montgomery and Calvert, have successful transfer of development rights programs (TDR). A TDR program is a procedure, prescribed by local ordinance, whereby the owner of a parcel in a “sending area”—i.e., rural or environmentally sensitive land that is planned for preservation —may convey development rights to the owner of a parcel in the receiving district—i.e., where development is desired and planned for—so that the development rights are extinguished on the sending parcel and used on the receiving parcel in addition to the development rights already existing. TDR programs preserve land by allowing owners to realize the value of their properties without having to develop it; in addition, the development rights are purchased with private rather than public dollars.

The benefit of a TDR program is that land preservation is accomplished by private rather than public funds. The drawback is that few TDR programs work well: the incentives to buy and sell development rights have to be finely calibrated to the market for new dwelling units (and, in some programs, new commercial space); often the base density in receiving areas is high enough to accommodate demand, or there may be other options beside TDR for increasing density. The table below shows the incentives in Calvert and Montgomery Counties: that is, the difference between the number of rights one can develop on site in the sending zone compared to the number of rights that can be sold for transfer, and the number of units a developer can build by right in the receiving zones compared to the extra units he or she can build by purchasing development rights. (Note: In Calvert County, downzonings in 1999 and 2003 reduced density from one dwelling unit per five acres (1:5) to 1:20 in Priority Protection areas. Receiving areas were also downzoned.)

	On-Site density	TDR Sending Rate	Base density in Receiving Area	Density in Receiving Area w/TDR	Acres Preserved
<b>Calvert</b>	1:20	1:1	Forest Cons. Dist/Rural Pres. Dist 1:20 Rural Comm. Dist. 1:20 Rural Comm. w/in 1 mile Town Center 1:20 R-1 1:4 R-2 1:4 Town Center 1:1	1:10 1:4  1:1 4:1 4:1 14:1	13,260 (2008)
<b>Montgomery</b>	1:25	1:5	Residential RE-2/TDR 1:2 Residential RE-2C/TDR 1:2 Residential RE-1/TDR 1:1.1 Residential R-200/TDR 2.18:1 Residential R-150/TDR 2.18:1 Residential R-90/TDR 4.84:1 Residential R-60/TDR 7.26:1 Residential R30/TDR 14.5:1 Residential R20/TDR 21.8:1 Residential R10/TDR 43.5:1	4:1 2:1 2:1 11:1 6:1 28:1 28:1 40:1 50:1 100:1	52,052 (June 30, 2011)

## Zoning and Permitting

Local zoning can protect the local food system by limiting the number of houses that can be built on agricultural land and preventing the problems that arise for farmers when development moves into rural areas:

- The fragmentation of farmland has made it more difficult for the remaining farmers to assemble large enough parcels of productive farmland to achieve economies of scale in production\*;
- Conflicts between farmers and non-farm occupants of the landscape—including nuisance lawsuits over noise and odors, traffic, and liability concerns—constrain farming practices and affect efficiencies and profitability associated with the production and marketing of many agricultural commodities; and
- The disappearance of suppliers, repair services, processors, distributors, and the like reduces the profitability and feasibility of farming.

\* Some farms may need just small parcels, but that is not a rationale for extensive subdivision of the rural landscape.

The most protective agricultural/resource protection zoning in Maryland, which allows one house per twenty or more acres, is found in the following counties\*:

- Baltimore — Parcels 2-100 acres receive two lots, then one unit for each additional 50 acres. (The County also has a 1:25 environmental zone.)
- Calvert — One unit per each 20 acres (although use of TDRs in the Forest Conservation and Rural Preservation Districts can raise the density to 1:10).
- Cecil — One unit per 20 acres in the Southern Agricultural Reserve.
- Caroline — Four lots from the original parcel as of December 1, 1972. (Anything greater than 24 acres gets five units, with the existing house usually being the 5th unit.)
- Frederick — Three units per parcel, plus 1:50, plus one for the remainder, from original parcel as of August 18, 1976; mandatory cluster for lots after the first three.
- Kent — One unit per each 30 acres.
- Montgomery — 1:25 (development rights can be transferred at the rate of 1:5).
- Worcester — A maximum five lots (six with clustering) out of what was a single parcel of land as of July 25, 1967.

The Generalized Zoning map on the next page shows where most protective zoning for resource protection can be found in Maryland, along with less protective zoning and zoning for development.

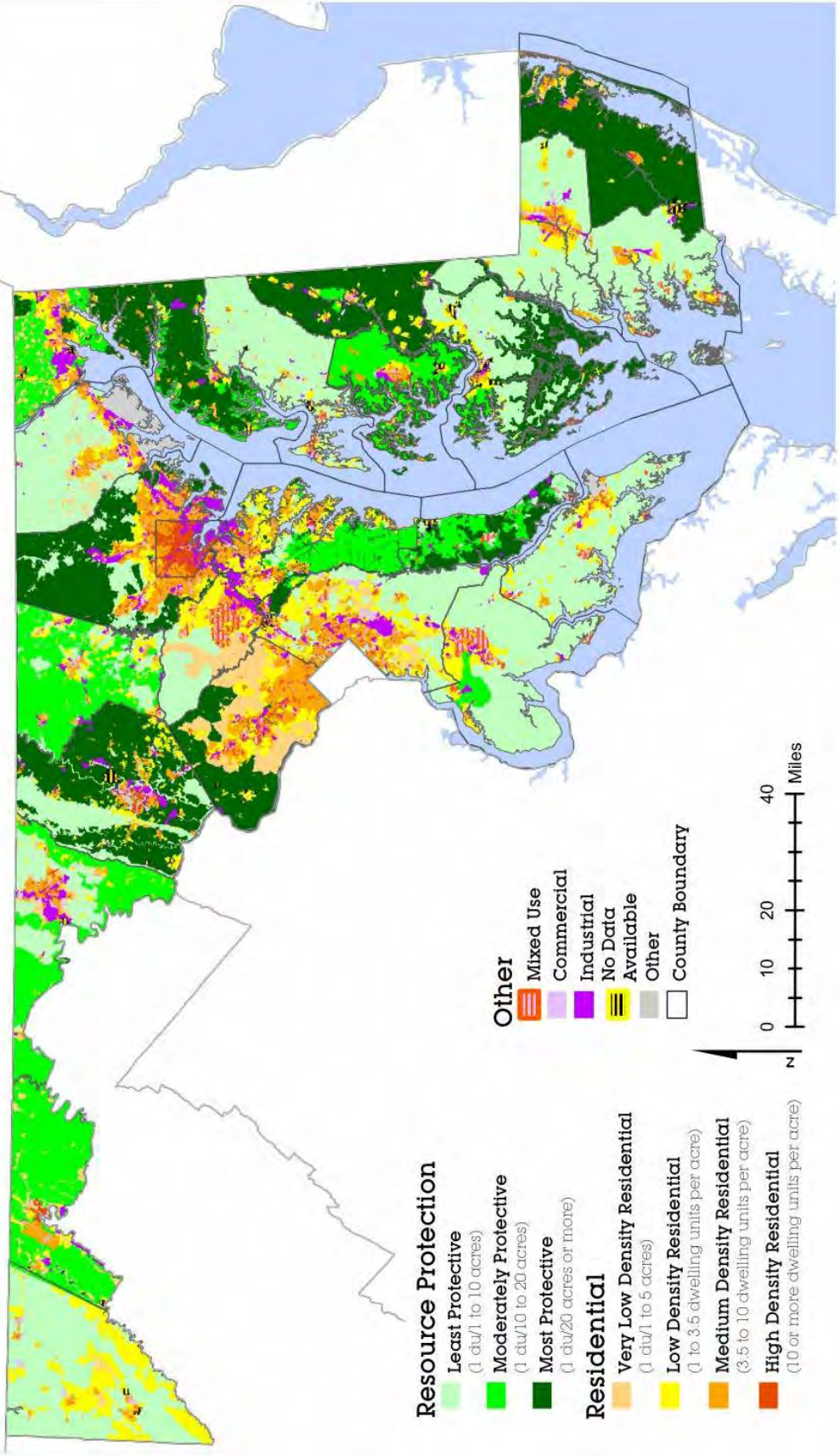
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\* Zoning density is not to be confused with lot size; one house *per* 20 acres does not mean one house *on* 20 acres. For example, a 100-acre parcel may be zoned for five houses, but the houses may be built on ten acres, with the remaining 90 acres available for farming, passive recreation, or resource conservation.



# Maryland Generalized Zoning

**MDP**  
Maryland Department of Planning  
January 2012



In addition to limiting development densities to protect farmland, local zoning can allow value-added processing and on-site sales from operations such as dairies. Defining approved value-added operations in the zoning code can help to reduce legal challenges to these agricultural activities.<sup>2</sup>

Food access in development zones can be promoted through an ordinance that allows urban agriculture, community gardens, farmers markets, rooftop gardens, mobile food vendors, and supermarkets and other food stores in food deserts. Additionally,

zoning can limit undesirable food outlets, such as fast food restaurants, in areas that are swamped with such food options. (The same limits can apply to big box retailers that drive out smaller supermarkets and thereby increase food insecurity.) Some communities have successfully implemented zoning ordinances to limit or prevent fast food restaurants based on community character or an interest in limiting traffic.<sup>3</sup> Communities can also encourage new developments to provide space for community gardens, greenhouses, farmers markets, and the like.



In 2009, The Governor’s Intergovernmental Commission for Agriculture (GICA) sent out a survey to county officials in order to learn more about county zoning and land use practices that affected agriculture. \*

The results show the relatively wide range of products that are considered agricultural in county zoning codes and the agricultural operations/value-added processes allowed on agriculturally-zoned land. The first table below shows what products qualify as farm or agricultural products in the fifteen counties that responded to the questionnaire (Allegany, Calvert, Caroline, Carroll, Charles, Dorchester, Frederick, Garrett, Harford, Kent, St. Mary’s, Somerset, Talbot, Washington, and Worcester Counties).<sup>4</sup>

Product	By Right	Special Exception	Conditional Use	Prohibited
Grain and field crops	15			
Livestock and Poultry	14		1	
Fruits, nuts, vegetables	15			
Seafood/Aquaculture	12	2	2	2
Honey	12	2		
Earthworms	12			
Other				

The table below shows permitted uses on agricultural land:

Use	By Right	Special Exception	Conditional Use	Prohibited
All agricultural buildings and activities	14	3	1	
Roadside stands for sale of products grown on site	13	4	2	
Ag processing and warehousing	5	7	2	2
Slaughter facilities	1	8	2	3
Composting of materials brought onto farm	7	5	3	1
Greenhouses	14	5		

GICA also recommends that the local comprehensive plan and zoning ordinance be used to limit the density of “food swamps” and promote retail land uses that stock healthy food options. Zoning can also be used to restrict development of fast-food restaurants and convenience stores around school and recreation centers in order to limit access to unhealthy food choices.<sup>5</sup>

## Food Policy Councils

Formed at the local, regional, and state level, food policy councils are tasked with examining the food system in their areas. Councils are typically composed of—though not limited to—farmers, consumers, anti-hunger advocates and food bank managers, labor representatives, members of religious and civic organizations, food processors, food wholesalers and distributors, food retailers and grocers, chefs and restaurant owners, officials from farm organizations, community gardeners, and academics involved in food policy and law. Councils can also include officials from state and local government agencies including agriculture, economic development, inspections, education,

\* GICA, according to the survey, was established in 2006 to “promote the economic profitability of agriculture in the State by ensuring that all appropriate State agencies work in a cooperative, coordinated manner with local government and industry groups in planning, implementing, overseeing and evaluating intergovernmental initiatives related to agricultural affairs of the State.” The 2009 survey was an update of a 2005 survey sent out by the Maryland Department of Agriculture.

health, human services, planning, and transportation. Food Policy Councils provide ideas and recommendations to address the wide range of food issues—hunger, nutrition, access, community development, and urban agriculture opportunities—as well as grower-related issues.<sup>6</sup>

The Governor’s Intergovernmental Commission for Agriculture (GICA) here in Maryland sees itself as a food policy council since it is an interagency council dealing with agriculture.

State Food Policy Councils can be found in Alaska, Arkansas, Connecticut, Florida, Georgia, Illinois (plus a tri-state Food Policy Council for Illinois, Iowa, and Missouri), Iowa, Kansas, Massachusetts, Michigan, Montana, New York, North Carolina, South Carolina, and Virginia. State, county, and local Councils are listed at [www.foodsecurity.org/FPC/council.html](http://www.foodsecurity.org/FPC/council.html)

### ***Montgomery County, MD***

The Montgomery County Food Council, which began in 2012, was formed by individuals and is independent of the government...although members of the government serve on the board and committees. The Food Council’s mission is “to bring together a diverse representation of stakeholders in a public and private partnership to improve the environmental, economic, social and nutritional health of Montgomery County, Maryland through the creation of a robust, local, sustainable food system.”<sup>7</sup> Its mission comprises the following:

1. Serve as a forum for food system work in Montgomery County through connecting action groups, communities, businesses, and state agencies
2. Address challenges and opportunities in the local food system with a comprehensive and collaborative approach
3. Engage constituents with the local food system through job opportunities, volunteer projects, and purchasing practices
4. Educate Montgomery County residents and institutions to promote a greater awareness of the entire food cycle: where food comes from, where it ends up, and its social, environmental, and economic impacts.<sup>8</sup>

Its goals consist of the following:

**Goal 1: Food Economy:** To develop and sustain an economically viable local food system in Montgomery County that supports producers, processors, distributors, and retailers of local foods

**Goal 2: Food Access:** To increase access to locally produced, healthy food among county residents, especially communities with limited access, over the next six years

**Goal 3: Food Literacy:** To increase Montgomery County residents’ understanding of the importance of local, healthy food through education opportunities that lead to healthier food choices by residents over the next four years

**Goal 4: Environment:** To improve agricultural soils and reduce the environmental impacts of local land and water use, and the environmental footprint from non-local food in Montgomery County over six years.<sup>9</sup>



## Other Food Policy Councils

**The Knoxville-Knox County Food Policy Council**, established in 1982, was the first of its kind in the U.S. The Food Policy Council is tasked with assessing and evaluating the performance of Knoxville's food system, identifying problems, suggesting solutions, communicating findings and recommendations to public officials, and serving as a forum for community-wide efforts to improve the food system. Some of the achievements of this Council include recommendations that led to the hiring of a nutrition educator for the public schools and the establishment of many school gardens. Additionally, the Food Policy Council provides guidance on food access to the regional transportation authority when they consider altering bus routes. <http://www.ci.knoxville.tn.us/boards/food.asp>

**The Cleveland-Cuyahoga County Food Policy Coalition (FPC)** was established in 2007 from an initiative called Steps to a Healthier Cleveland, a program of the Cleveland Department of Public Health. The FPC is co-convened by a branch of the Ohio State University extension and Case Western Reserve University, and has received grant funding from several foundations.

Coalition members—from government, the nonprofit and private sectors, and other organizations—can join any of five working groups: Community Food Assessment, Food Waste Recovery, Health and Nutrition, Land Use and Planning, and Local Purchasing.

The Land Use and Planning group has worked to revise the zoning code to be more permissive of urban agricultural activities, including the keeping of small livestock and bees, and to identify vacant lots suitable for community gardens and agriculture. <http://cccfoodpolicy.org>

**Missoula City and County, Montana, Community Food and Agriculture Council**—Even in this most rural of places, local government recognized “a number of threats to and concerns about the long-term security of Missoula County’s food and farming system,” and concerns about food quality and food safety. The Food and Agriculture Policy is intended to “contribute to the healthy and affordable eating patterns of all City and County residents” and “promote regional self-reliance through a sustainable agriculture that is environmentally sound, economically viable, socially responsible, and non-exploitative.” (Joint Resolution No. 6889, accessed from <http://www.foodsecurity.org/>).

## Food and Resource Assessments

### ***Johns Hopkins Center for a Livable Future and Operation ReachOut Southwest – Baltimore***

The Center for a Livable Future and Operation ReachOut Southwest partnered in 2007 to conduct a community food assessment of thirteen neighborhoods in southwest Baltimore. A survey of food stores to measure cost and availability of food, as well as a survey of residents, identified individual and institutional barriers to accessing healthy food. Opportunities for raising awareness about healthy diets and food access were identified.<sup>10</sup> Since then, three other assessments have been conducted and two are ongoing. Over 400 surveys have been conducted with community members. The Center for a Livable Future works with Maryland communities that are interested in being trained to conduct the survey in their area.

### ***Sustainable Food Systems in Calvert County***

The Calvert County Sustainable Agriculture Work Group, created to explore new opportunities for Calvert County farmers, represents a number of stakeholders: Calvert County Health Department, Maryland Cooperative Extension Service, Southern Maryland Agricultural Development Commission, Department of Economic Development, Department of Planning and Zoning, Calvert County Soil Conservation District, and the Department of General Services. Tasks for the Work Group include linking consumers with farmers to create markets, teaching the next generation about the importance of local food production, and building a more sustainable and secure community food system. Projects initiated by the Work Group include value-added and retail marketing workshops, enhanced communication among regulatory agencies and farmers, a quarterly newsletter, farm-to-school lunch-week activities, an on-line local farm products directory, a buy-local

challenge, and local agricultural forums to promote farmer/consumer dialogue. (www.co.cal.md.us/assets/Planning\_Zoning/Slideshows/SustainableAgrProgressReport-Oct09.pdf and www.co.cal.md.us/assets/Planning\_Zoning/Slideshows/SustainAgricultureProgress042010.pdf.)

### ***Greater Philadelphia Food System Study—Delaware Valley Regional Planning Commission***

In the *Greater Philadelphia Food System Study*, the Delaware Valley Regional Planning Commission examined the 100-mile “foodshed” around Philadelphia, which includes parts of Maryland, during 2008 and 2009. Issues studied include land use, food access, transportation, energy consumption, and economic development. Analysis is provided for the following: agricultural resources, food distribution, the food economy (both food demand as well as industrial sectors such as manufacturing and wholesalers), and stakeholder analysis. The study led to the 2011 *Eating Here: Greater Philadelphia’s Food System Plan*.<sup>11</sup>

### ***The Diggable City: Making Urban Agriculture a Planning Priority—Portland, OR***

*The Diggable City* study, conducted by planning students, inventoried and mapped public lands in Portland, OR, to identify parcels suitable for community gardens or urban agriculture. The study included interviews, surveys, and focus groups with key stakeholders, along with site visits, and provided criteria for evaluating the available parcels.<sup>12</sup>

### ***The Local Food Movement Inspires Community Design***

“Edible landscape,” “urban agriculture,” “city farms,” and “foodprint” are part of a new and evolving language that has grown out of the local-food-for-local-consumption movement. The terms refer to concepts used in incorporating food production in or near existing and planned communities. Effective community design strategies can contribute to community sustainability by providing a healthy, affordable, and accessible food supply.

### ***Making Room for Agriculture in Suburbia***

In 2008, Andres Duany, of Duany Plater-Zyberk & Company (DPZ), a founder of the Congress for the New Urbanism and a planner of international renown, led a charrette to design the community of Southlands, located south of Vancouver, British Columbia, in the Tsawwassen area of the Corporation of Delta. Southlands is based on the concept of agricultural urbanism:

*Agricultural Urbanism is an approach to integrating growth and development with preserving agricultural resources and enhancing elements of the food system. The cornerstone of agricultural urbanism is creating an urban environment that activates and sustains urban agriculture with important elements such as educational programs, small scale processing opportunities, and a farmer’s market or other local sales conduits. Agricultural urbanism offers an alternative to the practice of separating places where people live and where agricultural activities occur. Central to the concept of agricultural urbanism is the idea of integration not separation, transitions not buffers.*<sup>13</sup>

The developer of Southlands envisions the following for the project:

- Transfer 80% of the lands [430 acres] to public ownership;
- Provide mix of housing choices;
- Farm the best soils sustainably and in an ecologically responsible way;
- Maximize public access and enjoyment; and
- Maintain pastoral viewsapes and character.

## Chattahoochee Hills, GA

The community of Serenbe, in the city of Chattahoochee Hills, is just over 1,000 acres, with almost 80% permanently preserved. The development includes a working organic farm, where residents raise their own vegetables. The community sponsors its own Community Sustainable Agriculture (CSA) program, and the 25-acre farm also supplies fresh produce for three restaurants in the settlement. "Serenbe embraces the concept of new urbanism by offering residents a rural retreat with amenities associated with in-town living, including shops, restaurants, art galleries and an overall master plan that emphasizes organic and eco-friendly living."<sup>14</sup>

## Lakewood, CO

A planner and farmer named Matthew Redmond is working on his version of house-meets-farm that he is calling "agriburbia." Redmond's version of agriculture-based development is notable because one of its marketing strategies is to feature a secure food supply; his marketing slogan is "Growing sustainable communities by the bushel!" As concerns rise around the country about food health and safety, a community that produces a trusted food source is a community that is clearly in touch with the values of those who prefer local food for local consumption. "Redmond recalls being laughed out of the room for a similar idea back in 2003, though developers now seem to be taking him more seriously."<sup>15</sup>

## Making a Place for Agriculture in the City

The idea of growing food in the city to sustain urban residents is at least as old as Sir Ebenezer Howard's *Garden Cities of To-morrow*, published in 1898. He was inspired by the thought of connecting working-class households with a viable food supply in order to relieve some of their financial stress. (He set twelve dwelling units per acre as the required density for self-sufficiency with affordability, and he worked out a form of common land ownership to help it along.)<sup>16</sup>

Today, other innovative ideas are bringing food production back to cities.

Daniel Nairn works as a planner. In his free time he plays with ideas, mainly about cities of all sizes and how they are used by people. His idea for feeding the city with garden block turns Andres Duany's vision on its head:

*Instead of embedding hamlets within a rural landscape, the garden block embeds pockets of agriculture within the urban landscape. It is not a stand-alone community but just another gene sequence to be spliced into the DNA of existing inner suburbs and cities.*

*Start with the standard grid. It can be found all over North America, but the following sketch is based on the 340-by-340-foot block in the Fan neighborhood of Richmond [VA]. Cobble together property ownership for the whole block into something like a community land trust. Households would own their home individually but share ownership of the land*



Daniel Nairn renderings <http://grist.org/article/food-greening-and-feeding-the-city-with-a-garden-block/>

*with the other 38, in this case, units on the block. Certain commitments to planting and maintaining the garden, either personally or through payment, would be built into an HOA [Home Owners' Association] contract.*

*The exterior of the block functions as in any other urban area. The public streets are activated by the fronts of the buildings and streetscape features, and the full range of transportation*

*access to the rest of the city is available. The interior, on the other*

*hand, is devoted to the more constrained social scale of the block community, and the structures serve as a wall protecting this garden area. Enclosure is necessary to provide a degree of privacy, to protect produce from theft and vandalism, and to keep animals from wandering.*

*By the numbers, this block allows a density of 15 DUA [dwelling units per acre] while keeping 28 percent of all land for growing produce.<sup>17</sup>*

### **Philadelphia, PA**

“Farmadelphia” proposes to transform the urban environment by introducing farmland into the city’s urban fabric. The insertion of incongruous rural elements assigns a new use for abandoned parcels, creating juxtapositions between farm and city that challenge residents to revitalize their surroundings and daily lives. The project comes from the concepts of Front Studio Architects of Philadelphia. They described their project to the University of Pennsylvania Department of City and Regional Planning as a proposal to transform the vacant lots of Philadelphia into a thriving agricultural zone with crops grown for local consumption and soil remediation, as well as tourism with petting zoos, hay rides, and even a corn maze.

The project also addresses the rehabilitation of the existing city by proposing ideas for vacant buildings that would allow the urban character to continue to exist while creating new uses. For example, an abandoned building could have its walls and ground lined with non-permeable membrane to prevent new plantings from being harmed by contaminated soil. Then layers of a weed barrier, soil bed, loam and mulch could be added on top. In addition to providing adaptive reuse of abandoned buildings for agricultural purposes, the nurseries would provide year-round job opportunities from the production of food and flowers.

The Farmadelphia concept endorses the cultivation of whole sections of the city. The architects suggest the following:

- Start with low maintenance, easy to grow, and profitable crops; consider perennial crops such as asparagus, shallots, garlic, and herb varieties.
- Add shade-tolerant, easy to grow kale, sweet potatoes, and lettuce.
- Other crops that do well in Philadelphia’s climate: collard greens, broccoli, mustard greens, corn, and raspberry bushes.

With care and time, those plants, in particular, would form something like a cultivated permaculture.<sup>18</sup>

### **Milwaukee, WI**

Growing food, growing minds, growing communities: that’s the agenda of former basketball player Will Allen, whose organization, Growing Power, teaches inner-city children about the rewards, the challenges, and the science of farming. Growing Power has demonstrated the potential of urban farming with six greenhouses on barely two acres of land in Milwaukee: this small plot grows 40 tons of food a year by using a very intense and integrated food system. Now Allen and the Board of Directors of his nonprofit corporation are looking to finance a five-story farm in the middle of the city on that same two acres. He is literally taking urban agriculture to new heights.<sup>19</sup>

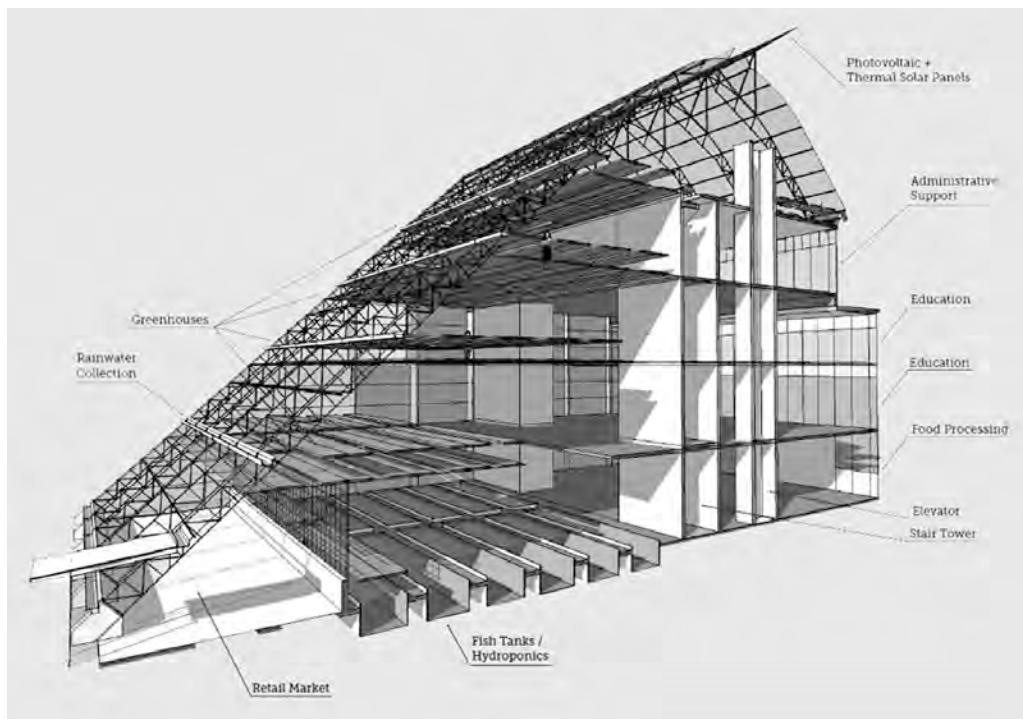
The Vertical Farm has been a dream of Allen for nearly two decades. The high-rise urban farm designed to intensively produce vegetables and fish could be a model for how cities can grow affordable, tasty, healthy, and accessible food for a population that wants those qualities in the food they eat. The vertical farm could create a whole new industry with thousands of jobs for urban farmers and those that build city farms. The new farm would have 23,000 square feet for classrooms, a demonstration kitchen, offices, staff locker room, retail store, food processing facilities, loading docks, and freezers. Fish tanks for



perch and tilapia would be trenched in the ground. Dramatic in shape, the farm would have a sloped glass front to absorb natural light. The building would have rooftop solar panels and would capture rainwater to be recycled for watering plants. In Milwaukee, the Mayor and City Council support the vertical farm building and have passed the zoning requirements for Growing Power to build the vertical farm, which is located five blocks from the largest housing project in the Milwaukee.<sup>20</sup> Growing Power is raising \$7 million to \$10 million for the project.

A vertical farm is also being planned for an abandoned food factory in Chicago. Designed to be a zero-energy facility, it is expected to be operational in 2016.<sup>21</sup>

**Allen has proven that you can't really conceive of community-development plans anymore and leave food off the map. It has to be the central organizing element, and other issues, like literacy, crime reduction, urban revitalization, improvements in physical and mental health, will naturally follow.<sup>22</sup>**



Conceptual design of Growing Power's proposed Vertical farm  
[www.growingpower.org/verticalfarm.html](http://www.growingpower.org/verticalfarm.html)

### **Profile: Will Allen**

Will Allen grew up on a small farm in Rockville, Maryland. His parents were sharecroppers in South Carolina before they moved to Maryland and purchased that farm. The former NCAA athlete is the founder and CEO of Growing Power Inc. He is widely considered a leading authority in the expanding field of urban agriculture. In 1993, Growing Power was an organization with teens that needed a place to work. Allen designed a program that offered teens an opportunity to work at his store and renovate the greenhouses to grow food for their community. What started as a simple partnership to change the landscape of the north side of Milwaukee has blossomed into a national and global commitment to sustainable food systems.

Allen's work has brought him much recognition and many awards. He was a 2008 winner of a MacArthur "Genius Award" and was named one of Time magazine's 100 Most Influential People in the World in 2010. As Time put it, "[t]he movement's aim is not just healthier people but a healthier planet. Food grown in cities is trucked shorter distances. Translation: more greenhouses in the 'hood equals less greenhouse gas in the air."

About the young people who work alongside him producing food, Allen says, "There is a lot of life-skill-building that happens when kids do a project like this, when they really have to take care of something and nurture something. That struck a chord with people."

[www.growingpower.org/blog/archives/830](http://www.growingpower.org/blog/archives/830)

<http://growingpower.org/index.htm>

[www.time.com/time/specials/packages/article/0,28804,1984685\\_1984949\\_1985243,00.html](http://www.time.com/time/specials/packages/article/0,28804,1984685_1984949_1985243,00.html)

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- 13 [www.cityfarmer.info/2008/04/28/southlands-a-vision-for-agricultural-urbanism/](http://www.cityfarmer.info/2008/04/28/southlands-a-vision-for-agricultural-urbanism/) For the Southlands Working Plan, see <http://www.imaginesouthlands.ca/downloads/Southlands-eBrochure-July2011.pdf>
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## Production

### Community Gardens and Urban Agriculture

The discussion of growing food in urban (or suburban) areas benefits from the use of specific terms\*:

**“Urban agriculture”** is an umbrella term that describes a range of food-growing practices, from backyard gardens to urban farms.

**“Home gardens”** are food-producing spaces on private, residential property (multifamily or single family) that are used primarily by the property’s residents or guests.

**“Community gardens”** are shared, smaller-scale urban agriculture sites (often serving a neighborhood) where individuals and families grow fresh produce and flowers primarily for personal consumption or donation. Community garden plots are typically available on a sign-up or first-come, first-served basis. They provide healthy foods for residents, add much needed green space, and promote social interaction and cultural exchanges among participants

**“Urban farms”** are larger-scale, more intensive sites where food may be grown by an organization or private enterprise, and often include entrepreneurial opportunities such as growing food for sale.

**“Demonstration and institutional gardens”** are types of community gardens that typically have an educational purpose. They may provide food for students or employees, but they also teach the community about food production, health, and the environment.

Community gardens and urban farms can range in size from a few square feet to an acre or more. These spaces, depending on their size, may include animal agriculture using poultry, rabbits, and even goats or sheep.

Cities and towns are increasingly more innovative and efficient with their space, planting gardens on rooftops and in parks too small to be programmed for recreational use.

There are many examples of community gardens throughout Maryland, administered in a variety of ways. In Carroll County, the City of Westminster provides two community garden plots. Community nonprofits are responsible for garden plots in Annapolis and Howard County. The Grow It, Eat It program of the University of Maryland Extension provides information about these and other community gardens, as well as resources for starting new community gardens.<sup>1</sup> The community gardens in Middletown, Frederick County, are sponsored by the Middletown Valley Community Garden Association, and have a focus on bringing children into contact with nature.<sup>2</sup> Baltimore City Parks and Recreation started their City Farms program in 1978, which, for a small fee, provides fenced plots in parks with access to water, compost, and wood chips.<sup>3</sup>

**Community gardeners eat significantly more fruits and vegetables than both home gardeners and nongardeners**

**Seeding the City: Land Use Policies to Promote Urban Agriculture**

(Citing American Journal of Public Health)

\* Definitions are from two sources:

*Seeding the City: Land Use Policies to Promote Urban Agriculture*. National Policy & Legal Analysis Network to Prevent Childhood Obesity, a project of Public Health Law & Policy. Written by Heather Wooten, MCP, and Amy Ackerman, JD. Published October 2011.

Raja, S., B. Born, and Russell J. Kozlowski. *A Planners Guide to Community and Regional Food Planning*. Planning Advisory Service Report Number 554. American Planning Association. 2008.

## ECO City Farms—Edmonston, Prince George's County, MD

Through an agreement with the Maryland-National Capital Park and Planning Commission, ECO City Farms operates a one-acre urban farm in Edmonston, MD. They grow dozens of varieties of greens, lettuces, herbs, root vegetables, shoots, and other crops. In addition, they raise chickens for eggs and keep bees. The solar- and geo-thermal-powered site currently includes four hoop houses that provide the opportunity to grow year-round.

Eco City Farms chooses to go beyond organic farming. Their produce is grown without chemical fertilizers, nor do they use petroleum-based or non-organic herbicides, pesticides, or fungicides. They practice no-till farming and purchase only non-genetically-modified, organic seeds from small seed producers. Their philosophy is that a healthy (alive) soil produces healthy plants that are resilient to pests and disease. The goal of the farm is to grow the healthiest food possible without sacrificing the environment.

ECO City Farms has a large educational component, training others in innovative urban agricultural methods and demonstrating how agriculture can be integrated into developed areas.<sup>4</sup> They are currently working on the development of a commercial kitchen and teaching space. The project will utilize two “upcycled” sea shipping containers to serve as a space for washing, processing, storing and refrigerating food produced on the farm. The space will make maximum use of renewable energy technologies, low-tech solutions, and recycled materials. In addition, the project will demonstrate low cost solutions for urban farmers and enable value-added and farm-to-school entrepreneurial ventures. Documentation of the project will be shared as an open source design to local urban and small farmers throughout the region. (<http://ecocityfarms.org/> .)

## School Gardens and Farm—Baltimore, MD

Examples of school gardens exist throughout Maryland; two examples in Baltimore serve as good models for other schools. At Hampstead Hill Academy, the Food for Life program engages students to plant gardens, learn to cook healthy foods, and participate in student-prepared community dinners for families and community members.<sup>5</sup> The Baltimore Montessori Public Charter School also has a school garden where children collect eggs, tend to a compost heap, and learn about nutrition. More information about the curriculum used in these schools can be found at the Food Studies Institute (<http://www.foodstudies.org>).







Hoop house at Eco City Farms (Photograph courtesy of La Verne Gray)

The Baltimore City Public Schools also operate Great Kids Farm in Catonsville to teach students about organic agriculture, nutrition, and science. Students engage in the activities on the farm through field trips and service learning, and the farm also features a model schoolyard garden to teach students about growing a garden at their own schools. An internship program teaches young people the skills for working on a farm. The farm's products are sold through Community Supported Agriculture (CSA), farmers markets, and restaurant sales; the proceeds go directly back into the programs of Great Kids Farm.<sup>6</sup>

GICA also recommends gardening and farming on school property to provide food for schools and to educate children about food and where it comes from.

### **Government-led Community Gardens**

The Montgomery County Department of Parks operates or manages ten community gardens, with plots for 600 community gardeners.<sup>7</sup> Prince George's County Department of Parks and Recreation has a community garden initiative and a youth gardening initiative.

**Community Gardens become social structures around which to build a new economy.**

Deborah Popper, Geographer  
City University of New York, Staten Island<sup>8</sup>



## Let a Farmer Do Your Yard Work—Denver, CO

Denverites who are tired of mowing, watering and weeding can let a farmer use their yards for growing food. In return, the home owner receives a share of the produce. Sundari Kraft, author of *The Complete Idiot's Guide to Urban Homesteading*, is one such farmer.

"We have a stack of applications, enough to double what we do now."<sup>9</sup>



A garden is planned for a parking lot in Davenport, IA

## Replacing Urban Asphalt with a Garden—Davenport, IA

An inner-city parking lot is being transformed into “a fruit and nut orchard, vegetable garden, and park space.”<sup>10</sup> Davenport’s Capital Improvements Program allocated \$370,000 for construction of the garden, “with ongoing maintenance supplied by volunteers from United Way, Big Brothers Big Sisters, students from local grade schools and universities, and even the proprietor of the Thai restaurant across the street. (The produce he will plant and harvest—such as Thai eggplants, chilies, and basil—is essential to his authentic cuisine, but difficult to source in Davenport.)”<sup>11</sup>

## Replacing a Strip Mine—Frostburg, MD

If growing food on a former parking lot is a marvel, imagine food growing where coal was once strip-mined. Outside Frostburg, five acres of such a site—most recently used by the Federal Emergency Management Agency to store mobile homes for disaster victims—will become home to greenhouses. At first they will grow tree seedlings for restoration efforts

but will later supply local fruits and vegetables... perhaps to feed students at Frostburg State University.<sup>12</sup>

### **Big Sales from a Small Farm—Somerton Tanks Demonstration Farm, Philadelphia**

Some urban farm plots are for personal use, some for community or charitable use. But can one make a business from really small plots? Can they produce a revenue stream ...say, \$68,000 from a half-acre? In northeast Philadelphia, the Institute for Innovations in Local Farming (IILF), with a grant from the state, partnered with the Philadelphia Water Department to generate some revenue from the lawn around the Somerton water tanks in Northeast Philadelphia. In its fourth year, the demonstration farm grossed \$68,000 from slightly more than a half-acre, with another quarter-acre occupied by pathways, parking, and farm structures. When wages were figured in, the farm ran at a loss in each of the three years after start-up: approximately \$9,000, \$13,000, and \$1,800, respectively. However, a *Feasibility and Next Steps* report on the Somerton Tanks Demonstration Farm, conducted by Urban Partners in 2007, concluded the following:

*A farmer couple or other two-farmer group with the productivity from five years' experience can produce \$120,000 annually. The resulting \$60,000 net income [including health insurance] places a two-farmer household above the Philadelphia median household income. \$120,000 in sales exceeds the [Somerton Tanks Farm] experience (\$68,000 in 2006) and is accomplished through increased farm and farmer productivity (\$20,000); expanded use of part-time labor (\$13,000); and extending the production area or season (\$19,000) through use of hoop houses, minimal additional acreage planted in low-labor crops, and adding highly valuable shoot [pea and sunflower, e.g.] production.<sup>13</sup>*

The goal of the Somerton Tanks Demonstration Farm is “to help cultivate a rebirth of commercial agriculture in Philadelphia through the efforts of dedicated, entrepreneurial urban farmers using specialized agricultural techniques to meet market demand” with a model “to support full-time occupational farmers on one-half to one-acre farms.”<sup>14</sup> To achieve such a high yield from such a small piece of land, the IILF used the SPIN—Small Plot Intensive—approach developed in Saskatchewan. The Somerton Tanks farm planted three or four times annually with 60 different vegetables.



Somerton Tanks Demonstration Farm

For more information, see <http://www.somertontanksfarm.org/> and <http://www.spinfarming.com/> The executive summary and full report for *Farming in*

Philadelphia: *Feasibility Analysis and Next Steps* can be downloaded from <http://www.spinfarming.com/media/>.

### Local Food Is Good for Maryland's Air, Too

In 2009, Governor O'Malley and the Maryland General Assembly passed the Greenhouse Gas Emission Reduction Act of 2009 (GGRA). The law requires the state to develop and implement a Plan (the GGRA Plan) to reduce 2006 greenhouse gas emission levels by 25 percent by 2020. The purchase of local food will play a part in helping Maryland to reach its goal. Plants absorb carbon dioxide. Increased agricultural production yields increased rates of carbon sequestration in agricultural biomass, increased amounts of carbon stored in harvested crops, and increased availability of renewable biomass for energy production.

### Zoning for Urban Agriculture<sup>15</sup>

Urban agriculture, like other land uses, must be operated so that it achieves the private and public good without threatening public health and safety. Since the popularity of community gardens and other forms of urban agriculture are a relatively new phenomenon, local planning and zoning may not have achieved the balance of encouraging and accommodating the land use while avoiding negative effects.

The National Policy and Legal Analysis Network to Prevent Childhood Obesity (nplan) published *Seeding the City: Land Use Policies to Promote Urban Agriculture*. The document, which contains model language for the comprehensive plan and zoning ordinance, can be downloaded from [www.cityfarmer.info/2011/10/26/seeding-the-city-land-use-policies-to-promote-urban-agriculture/](http://www.cityfarmer.info/2011/10/26/seeding-the-city-land-use-policies-to-promote-urban-agriculture/). It cites five "Key Questions" for local jurisdictions to consider when planning and zoning for agriculture in developed areas:

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?
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?

Landowners and community gardeners also have some matters to tend to before they turn over the first spadeful of earth. Does the property have suitable soil and slope, adequate sunlight, and access to water? Of utmost importance for previously occupied sites in urban areas: is the site contaminated? The model zoning ordinance recommends three levels of soil testing, depending on how the property is used:

- For home gardens: No regulation, though home gardeners should be educated about soil safety and encouraged to test for lead and other contaminants.\*
- For community gardens: Users shall inquire into the historical use of the property and have a soil test performed.
- For urban farms: Users shall inquire into the historical use of the property, have a soil test performed, and submit the results (and proposed remediation measures, if needed) to the jurisdiction.

\* It's also a good idea to test for nutrients needed and overuse of fertilizers and chemicals. For more information on safely cultivating sites that were previously developed, see *Brownfields and Urban Agriculture: Interim Guidelines for Safe Gardening Practices*, EPA, summer 2011. [www.epa.gov/swerosps/bf/urbanag/pdf/bf\\_urban\\_ag.pdf](http://www.epa.gov/swerosps/bf/urbanag/pdf/bf_urban_ag.pdf)

In Cleveland, the Urban Garden District is included in the zoning code to “ensure that urban garden areas are appropriately located and protected to meet needs for local food production, community health, community education, garden-related job training, environmental enhancement, preservation of green space, and community enjoyment on sites for which urban gardens represent the highest and best use for the community.” The permitted uses are “community gardens which may have occasional sales of items grown at the site; [and] market gardens, including the sale of crops produced on the site.” Accessory uses and structures permitted include greenhouses and hoop houses, rain barrel systems, chicken coops, and children’s play areas.<sup>16</sup>

In Chattanooga’s Urban Agricultural Zone, livestock are also permitted, as is Planned Unit Development if at least 50% of the total land area is set aside for agricultural use or open space. The minimum lot size for a parcel in the Urban Agricultural Zone is 20 acres.<sup>17</sup>

### **City of the Big Shoulders and Green Roofs**

Chicago is a leader in the green roof movement, with more than 600 rooftop gardens and green roofs covering more than seven million square feet constructed or underway on top of public or private buildings around Chicago. In Chicago, the green roof effort was begun as part of the Urban Heat Island Initiative, which seeks to lower temperatures and improve air quality, but many of the gardens also grow food. The Fresh Market at Fairbanks, located in Prentice Women’s Hospital, uses 32 organic vegetables and herbs grown on the roof of the hospital to prepare its menu items. A nonprofit focused on researching sustainable practices in urban areas, Urban Habitat Chicago worked with True Nature Foods, an organics cooperative, to obtain a grant from the City of Chicago to install a rooftop garden in 2006. The \$5,000 grant, coupled with extensive volunteer labor, has yielded a 960-square-foot garden producing over 20 varieties of vegetables and herbs.

<http://cityparksblog.org/2010/10/27/chicagos-green-mayor-the-legacy-of-richard-daley/>

<http://freshmarketatfairbanks.com/FMCurrent.html>

<http://www.urbanhabitatchicago.org/blog/buildingintegrated-food-production-faq/>



The grounds of both the Vermont state house in Montpelier and the Wisconsin Capitol Building in Madison (shown above) are planted with produce gardens. Madison's produce is given to a food pantry.

<http://www.flickr.com/photos/beautifulcataya/4757484321/sizes/m/in/photostream/>

## Legal Issues Involving Community Gardens on Private Land

The National Policy and Legal Analysis Network to Prevent Childhood Obesity (nplan), mentioned previously, also published *Ground Rules: A Legal Toolkit for Community Gardens*, which provides guidance, a model community garden lease, model community gardener's agreement, and model community garden rules. As for liability to which volunteer gardeners might be subject if someone gets injured in a community garden, nplan reports that "a federal law—the Volunteer Protection Act—provides volunteers with significant protections from liability associated with volunteer activity."<sup>18</sup> For more information on volunteers, liability, and the federal Volunteer Protection Act, visit <http://changelabsolutions.org/publications/volunteers-and-liability-federal-volunteer-protection-act>.

## What Difference Does it Make?

Beyond their benefits to nearby residents, do small-scale farms and community gardens make a real contribution to the food supply? Or are they just a plaything taking up space until a higher and better use for the land comes along, while the real business of feeding people belongs to large industrial agricultural operations and biotechnology? In The Washington Post of November 9, 2011, Barbara Damrosch—landscape architect, farmer, author (most notably of *The Garden Primer*), and co-host for ten years of *Gardening Naturally* on the Learning Channel—discussed a 2008 report from the International Assessment of Agricultural Science and Technology for Development (IAASTD), a project of the World Bank. More than 400 agricultural scientists from 61 countries concluded that "small-scale, diverse, sustainable farms (and even home gardens)" had great potential to solve the world's hunger problems.<sup>19</sup> The report, according to Ms. Damrosch, "concluded that 'small farms are often among the most productive in terms of output per unit of land and energy,'" though "an increasing percentage of the funding of university science tends



to be concentrated in areas of commercial interest or in advanced studies such as satellite imaging, nanotechnologies and genomics rather than in applications deeply informed by knowledge of farming practice and ecological contexts.”<sup>20</sup>

Three of the nations participating in the creation of the report did not approve it: Canada, Australia, and the United States. The report noted that, among other reasons, “The U.S.A. does not believe there is sufficient balance reflecting the use/range of new technologies, including modern biotechnology.”<sup>21</sup>

A study in Cleveland, where a declining population has left a lot of vacant land behind, concluded that if 80% of every vacant lot were converted to farming, Cleveland could meet “between 22% and 48% of [its] demand for fresh produce (vegetables and fruits) depending on the vegetable production practice used (conventional gardening, intensive gardening, or hydroponics), 25% of both poultry and shell eggs, and 100% of honey.”<sup>22</sup> Higher outcomes would come from using public lands and the roofs of buildings.

### **By the Way, What Does “Organic” Actually Mean?**

The legal definition of “organic” is contained in the Organic Foods Production Act (OFPA) of 1990 and regulations in Title 7, Part 205 of the Code of Federal Regulations. The Maryland Department of Agriculture summarizes it this way:

Organic food is produced by farmers who emphasize the use of renewable resources and the conservation of soil and water to enhance environmental quality for future generations. Organic meat, poultry, eggs, and dairy products come from animals that are given no antibiotics or growth hormones. Organic food is produced without using most conventional pesticides; fertilizers made with synthetic ingredients or sewage sludge; bioengineering; or ionizing radiation. Before a product can be labeled ‘organic,’ a Government-approved certifier inspects the farm where the food is grown to make sure the farmer is following all the rules necessary to meet USDA organic standards. Companies that handle or process organic food before it gets to your local supermarket or restaurant must be certified, too.

[http://www.mda.state.md.us/md\\_products/certified\\_md\\_organic\\_farms/index.php](http://www.mda.state.md.us/md_products/certified_md_organic_farms/index.php)

More information on certification, compliance, training, and many other related topics can be found on the website of the U.S. Department of Agriculture’s Agricultural Marketing Service: <http://www.ams.usda.gov/AMSV1.0/nop>



Credit: Joe Wirtheim, The Victory Garden of Tomorrow



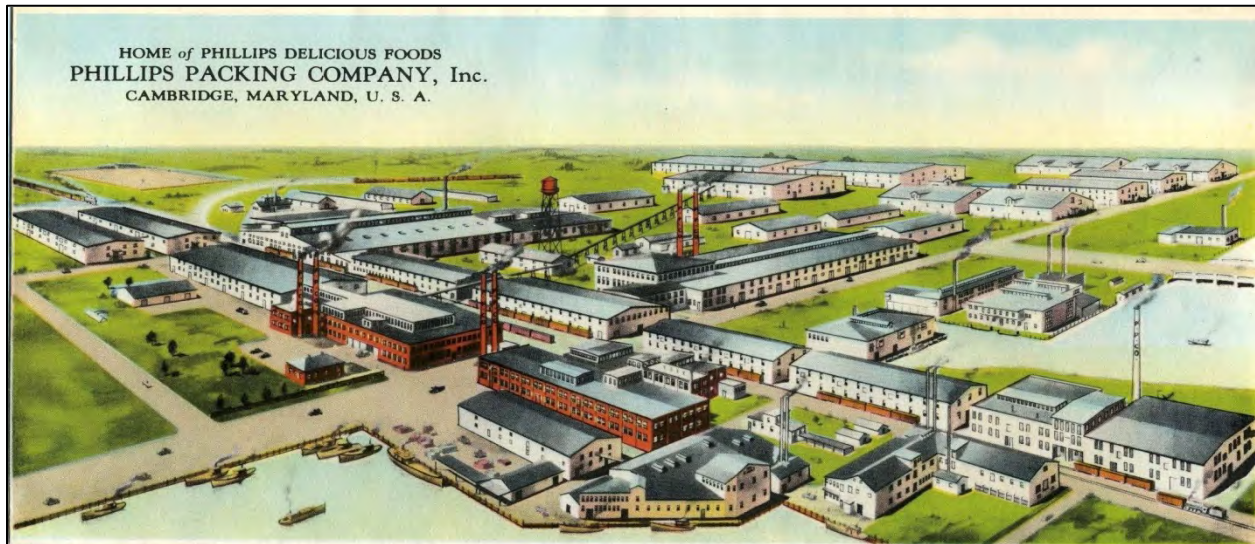
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## Processing



### A History of Food Processing in Maryland: “The Silicon Valley of the Food Industry from the 1830s to the 1950s”<sup>1</sup>

In 1889, there were 1,042 canneries in the United States, and 387 of them—37%!—could be found in Maryland. In Baltimore City alone, 110 canneries and packers were operating in 1889. The mid-Atlantic region had good soil and climate for many crops, and the booming population on the eastern seaboard was well connected by railroads. In 1927, 392 vegetable processors operated 430 plants in Maryland, and tomatoes were king: 328 of those firms and 363 of those plants processed tomatoes. At one point, the Phillips Packing Company in Cambridge, Maryland, was the world’s largest tomato packer.



Scenes from the Phillips Packing Company of Cambridge, MD  
From the Library of Congress image collection

<http://www.loc.gov/search/?q=phillips%20packing%20company&fa=digitize&d:true>

Unfortunately, the numbers also tell the tale of decline. By 1938, with the United States still in the Depression, the number of vegetable processors in the state fell to 184. However, even in the booming postwar period the number of processors fell to 123 in 1959 and 40 in 1980. Today? Just three firms operate three plants to process vegetables in Maryland. The number of tomato packers?

Zero.

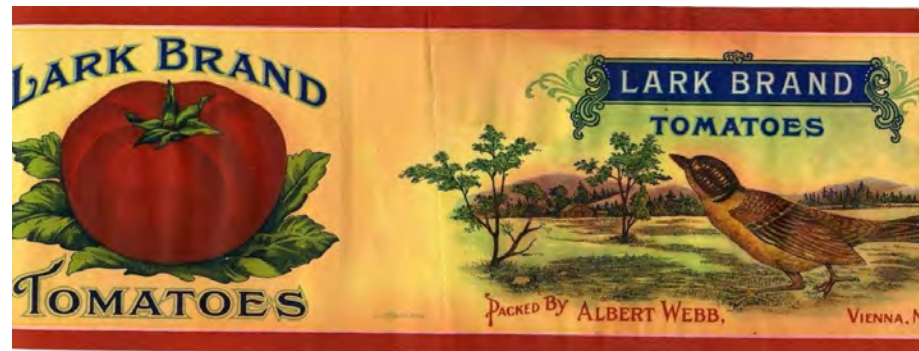
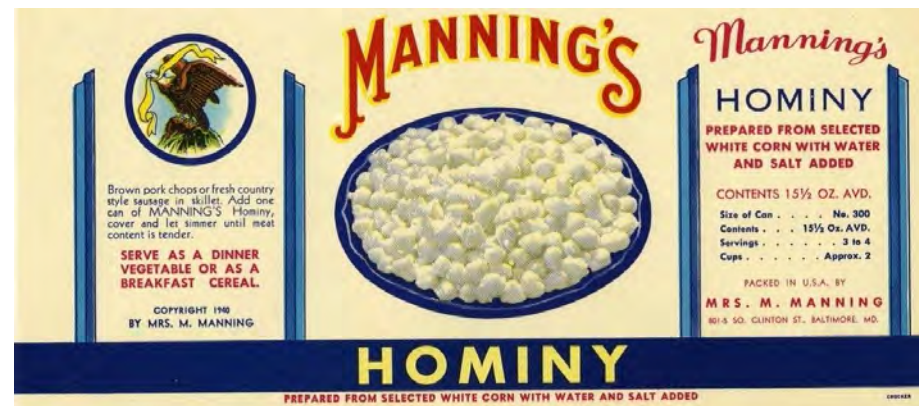
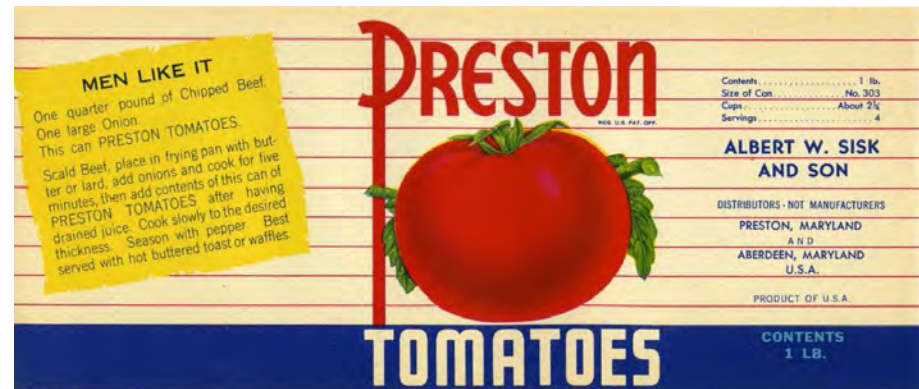
Today, 95 percent of processed tomatoes (i.e., those not sold fresh) come from California. Yet Maryland was the leader until 1924 and Maryland, Delaware, and New Jersey together were the leader until 1954.

What happened? Other places had good climates and grew more vegetables more cheaply than Maryland did.

Tomatoes, for example, grew at 30 tons per acre in California in 1975, a 50% higher yield than in Maryland.

Overproduction nationwide drove down the price. Labor was cheaper elsewhere, and California profited from tax-payer financed systems of irrigation and interstate highways. Processing plants in California were newer and larger. Environmental regulations meant costly upgrades for small Maryland packers.

Some businesses, such as the makers of slide rules or horse-drawn



Illustrations from a presentation by Edward Lee, Secretary of Agriculture, State of Delaware. "Lessons Learned for the Future." Presentation to the Governor's Agricultural Forum, 2025: *Developing a Vision for Maryland Agriculture*, Annapolis, MD, February 19, 2010. <http://www.mda.state.md.us/pdf/edkeeagforum.pdf>

buggies, disappear because their products have been replaced by new inventions. However, everyone still has to eat. So why didn't the vegetable packers survive in Maryland? Did the competitive advantages of other places necessarily mean the death of a significant Maryland industry?

According to Delaware Secretary of Agriculture, Ed Kee, the answer is "No." In a 2010 presentation to the (Maryland) Governor's Agriculture Forum in Annapolis, Mr. Kee presented a history of vegetable processing in Maryland (some of which is excerpted above) and highlighted a number of things that



the government could have done to prevent Maryland from squandering its competitive advantage in processing:

- Investments in agricultural research and technology.
- Publicly financed promotions that emphasized Maryland or the region in large markets: 75 million people live within an 8-hour drive.
- Public investment in new water/water pollution mitigation technologies.

Today, we tend to accept the fact that much of what we formerly produced nearby is now purchased from far away. This history lesson shows just how much processing we did in Maryland and that the enormous decline was not necessarily inevitable.

## **Zoning for Value-Added Agriculture**

Some Maryland counties help to support agricultural businesses by modifying their zoning codes to permit value-added operations in agricultural zones. For example, Carroll County provides for the following conditional uses with Planning Board approval: “Food processing and packing plants, wineries, slaughterhouses, and plants for the processing of animal by-products, provided that such use shall be located 3 times the distance requirements specified in § 223-16 [200 feet from residences, schools, and other facilities].”<sup>2</sup>

In Calvert County, the following activities are conditionally permitted in multiple zones: agritourism enterprises, commercial kitchen (farm), farm brewery, farm distillery, farm stand, and farm winery; ecotourism enterprises and hunting services are permitted.<sup>3</sup> Dorchester County permits, and provides special exceptions for, similar activities in multiple zones: agricultural processing and farm winery (including a restaurant by special exception in the agricultural conservation district).<sup>4</sup>

Worcester County provides a thorough list of special exception uses within the agricultural district, including agricultural processing plants and storage; commercial repair of seafood harvesting and agricultural equipment; aquaculture processing facilities; roadside stands and garden centers; agritainment facilities, which are permitted to have festivals that promote farm products and farm-related education; and wineries, including tasting rooms (§ ZS-1-201).<sup>5</sup>

Frederick County also provides for value-added businesses on agricultural land. Uses permitted by the zoning code include wineries, breweries, and the on-farm processing of milk, cheese, poultry, etc. Some uses are allowed with site plan approval and some just need a zoning certificate.

Baltimore County changed its zoning regulations to clarify that a creamery could operate in an agricultural zone and that such a use involved the processing and sale (both retail and wholesale) of products raised on the adjoining farm.

## **Overcoming Other Obstacles to On-Farm Processing**

When it comes to the health regulations for food processing, the counties actually play a small role compared to the federal and state governments. The table below provides an insight into the layers of regulation that an agricultural entrepreneur may face. For help learning about applicable regulations and complying with them, the GICA Toolkit recommends that agricultural entrepreneurs contact the Maryland Department of Agriculture (MDA) Marketing Office, which regularly works with local farmers and communities, and has “experience with the pertinent issues, rules, and regulations that are coming into play with the changes in agriculture.”<sup>6</sup> (See [http://www.mda.state.md.us/md\\_products/index.php](http://www.mda.state.md.us/md_products/index.php) ). GICA also recommends contacting the Agriculture Ombudsman in the relevant state agencies, especially in the Department of Health and Mental Hygiene (DHMH). Finally, many counties have an Agricultural Marketing Professional (AMP) on staff, often in the economic development office. This person can serve as a liaison between farmers and officials and help farmers meet the requirements for value-added processing imposed by each level of government.

The Maryland Department of Agriculture's Food Quality Assurance Program offers audits of fruit and vegetable producers and handlers to determine compliance with Good Agricultural Practices and Good Handling Practices. The program is conducted through a cooperative agreement with the U.S. Department of Agriculture's Agricultural Marketing Service. Conducting the audits through USDA provides national recognition for producers and handlers to the many buyers now requiring audits for compliance with the guidelines. Additional information concerning the Good Agricultural Practices and Good Handling Practices Audits can be found at [www.ams.usda.gov/fv/fpbgapghp.htm](http://www.ams.usda.gov/fv/fpbgapghp.htm) .

<b>Jurisdiction</b>	<b>Regulatory Jurisdiction</b>	<b>Type of Regulation</b>
<b>Maryland Dept. of Agriculture</b>	Eggs, limited numbers of poultry and rabbits, bison processed on-farm, and fresh fruits and vegetables	<p>Training and annual certification by MDA allows slaughter and processing of rabbits, less than 20,000 poultry annually, and bison for intrastate sales to restaurants, grocers, and wholesalers. Additional permit needed to sell at farmers markets.</p> <p>Annual registration of producer/packers and wholesalers allows egg sales.</p> <p>Voluntary USDA and/or MDA certification programs for the quality of grain, meat, poultry, fruits, vegetables, and eggs. Voluntary USDA and/or MDA Good Agricultural Practices certification for production of fruits and vegetables.</p> <p>For eggs, MDA's Egg Quality Assurance Plan (voluntary) can earn eggs the Maryland's Best logo.</p>
<b>Maryland Dept. of Health and Mental Hygiene (DHMH)</b>	<p>Milk and Dairy Products</p> <p>Wholesale Food Processing, including</p> <p>On Farm and Producer Mobile Farmers Market Unit</p>	<p>DHMH Center for Milk Control inspects/licenses dairy farms and issues a Milk Processing Plant-Milk Processor license to dairy bottlers and processors. Regulations for the Center of Milk Control are specified in the FDA Pasteurized Milk Ordinance. DHMH licenses value-added dairy products. Butter and yogurt require a Grade A Processor license, cheese requires a Manufacturer Grade Processor license, and ice cream requires a Frozen Dessert license.</p> <p>DHMH issues the On-Farm Home Processing license, which isn't needed for baked goods and certain jams and jellies made at home for sale at farmers markets, unless sales are over \$40,000 per year, requiring a commercial kitchen and professional processing. This license can be obtained if one wants to sell to restaurants or retailers.</p> <p>A Producer Mobile Farmers Market Unit license allows food produced under an On-Farm Home Processing license to be sold at any farmers market, event, or festival in Maryland without the need to obtain additional local licenses.</p> <p>DHMH licenses maple syrup (processed) but not honey (raw agricultural product). DHMH will not approve an On-Farm Home Processing license unless the operation has local approval.</p>
<b>Maryland Dept. of the Environment</b>	Wastewater	<p>Wastewater from processing may require an Industrial Groundwater Discharge Permit from MDE.</p> <p>Making compost for sale requires a National Pollutant Discharge Elimination System General Discharge Permit for Storm Water Associated with Industrial Activities, for stormwater coming in contact with composting materials. An Industrial groundwater discharge permit may be needed as well, though the two permits could be combined.</p>
<b>U.S. Food &amp; Drug Administration</b>	Acidified Food	Registration with the FDA and specialized training needed for on-farm processing of acidified foods.



<b>U.S. Dept. of Agriculture—Food Safety and Inspection Service (FSIS)</b>	Meat processing	<p>Has jurisdiction to inspect meat slaughter and processing plants under the Federal Meat Inspection Act.</p> <p>Has jurisdiction to inspect poultry slaughter and processing plants under the Federal Poultry Inspection Act.</p> <p>Authorizes animal slaughter facilities ("grant of inspection"). Inspector stays at facility as long as it meets federal standards.</p> <p>"Grant of inspection" and continuous inspection for poultry processors over 20,000 birds per year. Quarterly for smaller processors.</p>
<b>County Health Departments</b>	Retail Food Service Facilities	<p>County Health Departments license food service facilities but not processors (except Baltimore City, Charles, and Prince George's Counties). Counties may adopt more stringent regulations.</p> <p>Counties do not regulate milk.</p>

Sources: Making On-Farm Processing a Viable Economic Option in Maryland: Developing Policy and Technical Support Systems to Accommodate Small-Scale Food Processing in Maryland. Ginger S. Myers: Regional Marketing Specialist Agriculture and Natural Resources, University of Maryland Extension, Western Maryland Research and Education Center, May 2009.

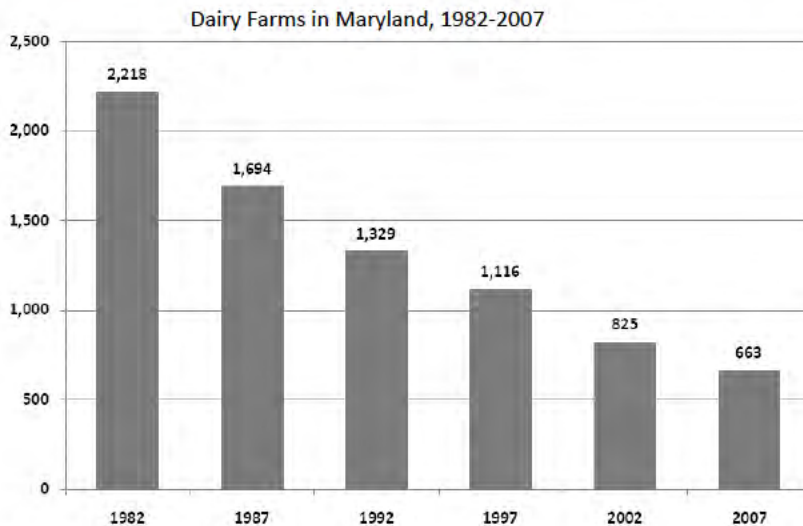
Deanna Baldwin, Program Manager, Food Quality Assurance, Maryland Department of Agriculture, May 2012.

Robin Henderson, Chief, Division of Food Processing, Maryland Department of Health and Mental Hygiene, June 2012.

Understanding and Responding to the Changing Needs of Maryland Agriculture: A Toolkit for Local Communities. Governor's Intergovernmental Commission for Agriculture, May 2011. (See especially pages 31-37 on food safety.)

## A Local Success Story and the Concept of the “Agricultural Enterprise Zone”

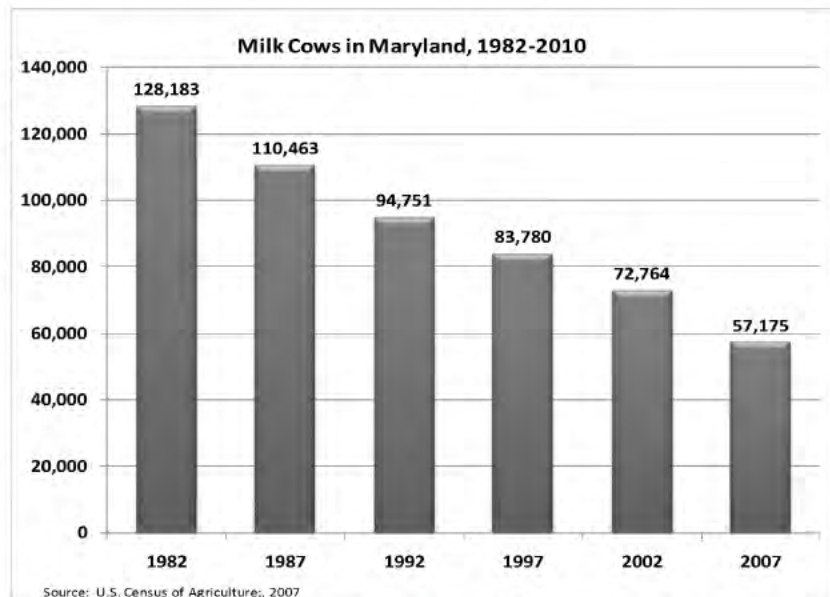
The number of dairy farms in Maryland has fallen by over 76% in the past 25 years, while the number of dairy cows has declined by over 55% (see graphs below). Cows give more milk than they used to, and the price for milk has remained flat while the costs for producing it keep going up. But some dairy farms have found an alternative to “get big or get out”: creating value-added products from their milk and cream, while raising awareness and support for agriculture through agritourism.



Source: U.S. Census of Agriculture, 2007

Bill and Phyllis Kilby, coming from a long line of dairy farmers who have worked in Cecil County for 50 years and elsewhere for 50 years before that, slipped the economic squeeze by making a value-added product: thirty flavors of ice cream! A few years after the successful launch of Kilby Cream in 2005, the family started their own bottling plant. In addition to ice cream they now sell their own milk—chocolate milk and strawberry milk included—at their ice cream parlor and in farmers markets and retail shops. They also offer home delivery.

They use glass bottles because, they say, milk just tastes better that way. Their milk hits the shelves about a day after it left the cow, as opposed to the five days that large commercial dairies usually take to stock the supermarkets. The appeal for consumers is not just the quality of the product but knowledge that one is buying a local product and supporting a local family business that has given back to the community by donating a preservation easement on one of its farms.







Source: U.S. Census of Agriculture, 2007

But financing their business expansion wasn't easy. Loans usually available from Maryland's industrial development offices were not an option for the Kilby's because agriculture is not viewed as quite the same as other industries. Small agricultural enterprises would benefit from a government perspective that saw them as equal to other business ventures that merited strategic public investment.

Agricultural businesses also do wonders for the local tourism economy. Kilby Cream is a regular stop for tourist buses, as is a nearby herb farm. Pick-your-own fruit operations, cut-your-own Christmas tree farms, seasonal agricultural festivals, rural bed and breakfasts: all attract a steady flow of

customers. Sandy Maruchi-Turner, Tourism Coordinator for Cecil County, notes that the more agricultural products available, the better a county can market its agricultural tourism (or “agritourism”). Farms appear as attractions in the main “Visit Cecil County” booklet, and the county also publishes a special “Tourism Guide to Agricultural Attractions and Events.” Ms. Maruchi-Turner can foresee an “agricultural passport” promotion where visitors get their passport stamped at every farm business they visit, much as “passports” to our national parks are stamped now. The state and local governments can assist agricultural tourism in a number of other ways:

-  Ensure that a tourism official—one conversant with agritourism—is included in planning efforts that affect agricultural land and the food system;
-  Add farm-related signs to Maryland’s interstate highways and other roads;
-  Agricultural Enterprise Zones. One opportunity that government could consider is to create and support agricultural enterprise zones as they currently support industrial enterprise zones. Kilby Cream is one of a number of mutually supportive agricultural businesses that employ well over 100 people within a five-mile radius of Colora, MD. These include Thymly Products, producer of mixes and other food ingredients; Colora Orchards, which sells apples, peaches, and nectarines to grocery chains as well as directly to the public; and the diversified equine business at Hilltop Farm. Advocates of economic development for agriculture in Cecil County believe that such *de facto* agricultural enterprise zones should be designated by the counties (possibly with their own land use category) and recognized by the state for the assistance awarded to other enterprise zones. In addition, farms in the agricultural enterprise zones could be a county and state priority for land preservation. Local land use and zoning codes could also be more flexible to support onsite services and products, including auxiliary commercial buildings; and
-  Create a farm-related logo for road signs like the cluster of grapes that indicates the location of local wineries. (Mark Powel, Chief of Marketing Services at the Maryland Department of Agriculture, reports that approximately 170 farms have identified themselves as opportunities for agritourism, meaning that they can provide entertainment, education, and/or sell their products directly to consumers. MDA is working with State Highways to create signage to direct motorists to agritourism sites.)

## Processing in Residential Areas

In June 2012, the Montgomery County Council approved a countywide zoning change that added “accessory commercial kitchen” to the zoning code. In addition, the bill reversed a 2004 County regulation that forbade churches located in residential areas from using institutional kitchens to produce food that is sold commercially. Churches and other places will now be able to better feed the hungry and provide small scale food entrepreneurs the space to prepare value-added food for public sale.

Defined as “a food preparation area, for food that could be sold to the public,” the accessory commercial kitchen “is not an eating and drinking establishment.”<sup>7</sup> It is allowed in R-60 and R-90 zones, but only in “a service use that is permitted without a special exception.... The only service uses that would be allowed to have an accessory commercial kitchen are ambulance or rescue squads, houses of worship, fire stations, and publicly owned or operated uses.”<sup>8</sup> They are prohibited “in home occupations, day care facilities, and adult foster care homes. The commercial kitchen must be less than 5% of the floor area on the property.”<sup>9</sup>

An early beneficiary of the bill is the Takoma Park Presbyterian Church. The Church sees its kitchen as a means for feeding the hungry and helping people of modest means to start food-related businesses: “A shared-use community commercial kitchen can be a key piece in building economic opportunity, environmental sustainability, and community health. It can also play a critical role in developing a healthy, safe, and secure local food supply on an ongoing basis and during times of crisis.”<sup>10</sup>

### **A County Processing Effort**

The Harford County Executive's Division of Agriculture works with the Harford County Agricultural Marketing Cooperative, Inc. to provide annual grants to farms pursuing value-added products and niche marketing (marketing efforts are described later in this report). \$75,000 for grants was available for 2011 and again in 2012. According to the Cooperative's Web site, priority "will be given to a new product from the existing operations and to new marketing for new or existing products or services. Additional weight will be given to a new enterprise over the expansion of an existing enterprise. Grant funds are generally intended to fund immediate needs of the proposed project, and can fund a variety of things including marketing or equipment for a product. A three-year commitment to continue the enterprise is required. The Cooperative's Board of Directors may monitor the enterprise during the initial three-year period."

<http://www.harfordfarms.com/farmDetails.php?farmID=323>

At the beginning of this chapter we discussed the history of tomato processing in Maryland, and we end with a look at part of its future. In 2011, the University of Maryland's Maryland Industrial Partnerships Program (MIPS) awarded a \$256,362 grant to Princess Anne-based Luke's Premier Foods, LLC and Jurgen G. Schwarz, director of agriculture, food, and resource sciences, University of Maryland, Eastern Shore, "for developing and testing a fixed, then prototype mobile processing facility in Maryland for efficiently processing fresh heirloom tomatoes from Maryland farmers into tomato nectar."<sup>11</sup>



## A Flexible State Financing Program

The Maryland Agricultural and Resource-Based Industry Development Corporation (MARBIDCO)

A quasi-public corporation created by the Maryland legislature and completing its fifth year in FY 2012, MARBIDCO, according to its annual report, has "invested almost \$8 million in 180 projects in 21 counties, while leveraging \$22 million in private commercial lender capital. Some 64 of these investments were for value-added processing activities, a key business strategy for farm profitability. MARBIDCO has also helped 47 young or beginning farmers buy their first farm or expand their business operations."

**MARBIDCO's programming falls into three broad categories:**

**Core Rural Business Development:** Several loan and grant financing programs meet key investment needs for agriculture, forestry, or seafood businesses. Loans can be used for land purchases, facilities construction or renovation, equipment acquisition, or working capital. Loans range from \$10,000 to \$400,000 and must be fully collateralized. Grant programs, assisted by family farm viability planning, helped producers with partial matching funds for energy efficiency and value-added projects, and provided local governments with matching economic development cost share funds.

**Rural Land Preservation Facilitation:** These financing opportunities are offered in conjunction with other agencies, with MARBIDCO serving as a conduit financing agent. This includes an "installment purchase agreements" program with the Maryland Agricultural Land Preservation Foundation to assist with purchasing agricultural land conservation easements.

**Higher Risk or Micro-Credit Lending:** These loan programs are funded by partnering organizations for targeted purposes, such as the Rural Business Energy Efficiency Loan Program (offered with support from the Maryland Energy Administration), and the Maryland Shellfish Aquaculture Financing Fund Program (offered with support from the Department of Natural Resources and the Federal Government).

MARBIDCO's most popular program, the Maryland Resource-Based Industry Financing Fund, offers low interest loans to agricultural or resource-based business for the purchase of land and equipment for production and processing. MARBIDCO provides up to 50% of needed financing. Other MARBIDCO funds provide loans for planting grapes and developing wineries or for energy efficiency projects undertaken by food and fiber producers and processors implementing the recommendations of a third-party energy auditor.

<http://www.marbidco.org/>

<http://www.marbidco.org/AR%20FY%2011%20Web.pdf>



## Endnotes

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- 1 Lee, Edward (Secretary of Agriculture, State of Delaware). “Lessons Learned for the Future.” Presentation to the Governor’s Agricultural Forum, 2025: Developing a Vision for Maryland Agriculture, Annapolis, MD, February 19, 2010. <http://www.mda.state.md.us/pdf/edkeeagforum.pdf>
- 2 Carroll County, Maryland, Code of Public Local Laws and Ordinances, § 223-71, Adopted 12/01/04, Amended 04/07/09.
- 3 Calvert County Zoning Ordinance, Article 3, Adopted 05/01/06.
- 4 Dorchester County Code, Chapter 155, Attachment 1, Table of Permitted Uses by Zoning District, Amended 02/03/09.
- 5 Worcester County Code, §1-201, County Commissioners of Worcester County, MD, Emergency Bill 09-1, Amended November 3, 2009.
- 6 GICA Toolkit.
- 7 Zoning Text Amendment No.: 11-08 Concerning: Residential Zones—Accessory Commercial Kitchen  
[http://www6.montgomerycountymd.gov/content/council/pdf/zta/2011/Zta\\_11-08.pdf](http://www6.montgomerycountymd.gov/content/council/pdf/zta/2011/Zta_11-08.pdf)
- 8 Zyontz, Jeff. Memorandum to Montgomery County Council Planning, Housing, and Economic Development Committee. February 27, 2012.  
[http://www6.montgomerycountymd.gov/content/council/pdf/agenda/cm/2012/120229/20120229\\_PHED3.pdf](http://www6.montgomerycountymd.gov/content/council/pdf/agenda/cm/2012/120229/20120229_PHED3.pdf)
- 9 Zoning Text Amendment No.: 11-08.
- 10 Fact Sheet: A Shared---Use Community Commercial Kitchen.  
[http://takotra.org/Commercial\\_Kitchen\\_Fact\\_Sheet\\_ML.pdf](http://takotra.org/Commercial_Kitchen_Fact_Sheet_ML.pdf)
- 11 <http://www.newsdesk.umd.edu/vibrant/print.cfm?articleID=2348>





## Marketing

Before Marylanders can enjoy the bounty of Maryland's farms, we have to know what's available, and where and when we can find it. The Maryland Department of Agriculture leads the effort to market local agricultural products. In addition to its national and international marketing efforts, MDA offers an online, downloadable directory of farmers markets for Maryland consumers

[http://www.mda.state.md.us/pdf/2012\\_fm\\_directory.pdf](http://www.mda.state.md.us/pdf/2012_fm_directory.pdf) as well as an interactive online map

[http://www.mda.state.md.us/md\\_products/farmers\\_market\\_dir.php](http://www.mda.state.md.us/md_products/farmers_market_dir.php). The Maryland's Best website allows you to find producers by product, whether you're looking for herbs, fruit and vegetables, pasture fed beef, local kosher or halal food, Christmas trees, fish, wine, etc.

(<http://marylandsbest.net/search.php>). Did you know that Maryland even has an ice cream trail?

([http://marylandsbest.net/pdf/ictrail\\_geocache\\_passport.pdf](http://marylandsbest.net/pdf/ictrail_geocache_passport.pdf)). Be sure to get your passport stamped.

A number of counties have hired agricultural marketing specialists and also publish their own producer directories, among other efforts (for example, Cecil County

[www.ccgov.org/dept\\_ecdev/business\\_agriculture2.cfm](http://www.ccgov.org/dept_ecdev/business_agriculture2.cfm) and Montgomery County

[www.montgomerycountymd.gov/content/ded/agsservices/pdffiles/2008\\_2mb\\_farmdirectory.pdf](http://www.montgomerycountymd.gov/content/ded/agsservices/pdffiles/2008_2mb_farmdirectory.pdf) or a combined effort by Caroline, Dorchester, and Talbot Counties

[http://www.easternshoreagriculture.com/files/Mid-Shore\\_Farm\\_Directory.pdf](http://www.easternshoreagriculture.com/files/Mid-Shore_Farm_Directory.pdf)).

Below is a closer look at local and regional marketing efforts. A website operated by farmer's pal will direct you to organic products in Maryland: <http://www.farmerspal.com/region/maryland/page/1/>.

You can also search the web for restaurants that serve locally raised food.

### A County Marketing Program: Harford "Buy Local"

In July 2010, The National Association of Counties gave an award to the "Buy Local" campaign of the Harford County Executive's Division of Agriculture. According to a county press release, "The Harford County Division of Agriculture, part of the Office of the County Executive, implemented the Buy Local campaign in the summer of 2008 with the printing and distribution of informational brochures and bumper stickers, and the launching of the HarfordFarms.com website. In June 2009, the Division of Agriculture painted the Buy Local logo and slogan on the sides of two barns in the county, and has since placed a photo of one of the barns on a billboard along Route 40."

<http://www.harfordfarms.com/>

<http://www.harfordcountymd.gov/Press/Press3051.pdf>





## A County Marketing Program: Grown In Washington County, Maryland



After a career in banking, Leslie Hart became Washington County's first Agriculture Marketing Specialist in 2008. Her office is part of the The Hagerstown-Washington County Economic Development Commission. Knowing what she does now, she would have chosen this work years before.

Ms. Hart enjoys her new career: matching local producers to local consumers, helping small farmers create their own brands, guiding entrepreneurs over the regulatory and licensing hurdles, creating promotional opportunities, using social media, and nurturing small enterprises in tough economic times.

In 2009, apples served in Washington County Schools endured cross-country trucking from Washington State. Now, thanks to Ms. Hart, a local grower meets demand. Salads are more common in school lunches, and some students even have access to local cheese. Getting more local food into County schools is difficult, though, because two central kitchens provide meals to the schools, where they are just heated and served. For more local food to be served, kitchen facilities may need to be renovated so that the staff can handle preparation, cooking, and storage of the local food.

The County does not provide a premium for locally grown food; it has to be priced competitively. But as Ms. Hart points out, local fruit and vegetables in season are plentiful and comparable in price to other outlets...contrary to the widespread belief that farmers markets are always more expensive.

Ms. Hart has tried many things to interest lower income populations in fresher local food. It helps when coupons for the Women, Infants, and Children program (WIC) are distributed at the farmers market in addition to the local social service office. But challenges remain. Classes for a lower income population about food, nutrition, cooking, canning, and preserving—even when mothers could bring their children or on-site daycare was provided—were poorly attended.

The future of agriculture is also one of Ms. Hart's concerns. She works with young farmers in the Future Farmers of America and the 4-H Club to create business plans, develop a marketing strategy, and handle their own sales.

Among the many things Ms. Hart wants to accomplish is to reacquaint consumers with the idea of eating seasonally. For example, strawberries, peaches, and apples are fantastic when they are local and in season; the ones shipped thousands of miles to the supermarket just don't compare. Once consumers give local food a chance to speak for itself, they will become regulars at the local farmers market.

<http://www.washco-agmarket.net/> Photograph courtesy of La Verne Gray.



## A Regional Value-Added Food Marketing Network

Shore Gourmet is a non-profit food business development initiative of the Mid Shore Regional Council (MSRC). Supported by the U.S. Department of Agriculture, Shore Gourmet works with value-added food producers throughout the Eastern Shore of Maryland and in Delaware. Their overall purpose is to assist existing and potential value-added food producers, predominantly small farmers, with increasing income through consultation, promotion, and marketing services.

As stated on their website, <http://www.shoregourmet.com/>, Shore Gourmet provides their services free of charge to farmers and individual food producers. While primary markets, to date, have been small retail stores and restaurants, an initiative is underway to organize buying clubs within office complexes and communities and promote on-line sales. Recognizing the growth in popularity of specialty meat products such as bison, rabbit, goat, and lamb, Shore Gourmet is examining the feasibility of establishing a meat processing center in the area. Currently, most producers must have their animals processed out of state.

Further, Shore Gourmet is cooperating with the Eastern Shore Entrepreneurship Center to establish a network of technical business service providers much like the Small Business Administration's SCORE program (Service Corps of Retired Executives). A unique feature of Shore Gourmet is its Chef's Panel. The Panel samples potential products and examines labeling, packaging, and price points in order to provide expert advice to producers.

In addition to specialty meats, other products include artisanal cheeses, dips, marinades, crab cakes, crab soup, and baked goods such as Smith Island style cakes.



## A Regional Marketing Initiative: So. Maryland, So Good.

According to their website, <http://www.somarylandsogood.com/>,

**"So. Maryland, So Good"** is a campaign designed to help consumers identify truly Southern Maryland products and buy accordingly. By building a direct link between buyers and growers of the five Southern Maryland counties [Anne Arundel, Calvert, Charles, Prince George's, and St. Mary's], and promoting the advantages of buying local, we hope to help keep farming vibrant and vital in Southern Maryland."

A special label identifies local food in stores and restaurants, and the website helps consumers find local products they are looking for in local farms and restaurants.

So. Maryland, So Good provides custom marketing materials for restaurants and a store that features Southern Maryland farm products. It also develops print and radio ads to promote local food.

The Southern Maryland Agricultural Development Commission, which runs "So. Maryland, So Good," assists farmers with a number of other efforts in its five-county area:

Land Preservation

Agribusiness Development and Research

Regulations

Grants

Resources, Networking, and Education/Training for Farmers

Educating the Next Generation



## Distribution

Food distribution is the method of moving food from the farmer's field to an outlet for consumer purchase.

In Maryland, small and mid-sized farmers have difficulty gaining access to distribution networks because the system is highly centralized and benefits large farming operations, contract farmers growing food for large corporations, and processed food operations. Regional distribution and agricultural brokers are typically not economically feasible for small and medium sized Maryland farms; small and medium sized farmers do not produce enough to create economies of scale that would allow them to sell their crops at a reduced price to a wholesale distributor or broker. This is one possible reason that regional and local food distributors have, for the most part, disappeared in Maryland. In addition, if Maryland farmers were to increase their utilization of regional distribution systems and brokers, their products would lose one of their market advantages by taking longer to reach consumers.

Selling directly to customers is one approach that Maryland farmers are using to improve their profits by providing consumers with fresher food. There are currently 137 farmers markets in Maryland. In fact, there are not enough farmers participating to fully supply them all.<sup>1</sup> Other means of boosting direct agricultural sales to Maryland consumers include Community Supported Agriculture (CSA), on-line sales and delivery, and social networking activities.

## Farmers Markets

These fixed-location, seasonal (and sometimes year-round) recurring markets allow farmers to sell their products directly to consumers. Though these markets can be retail venues for other goods such as the work of local artisans, they are predominantly for agricultural and value-added products. Strategic sites, such as those with high foot traffic, proximity to transit stops, high visibility, or easy access, must be selected for most markets to be successful. There must also be a customer base for these markets.<sup>2</sup>

Farmers markets are not, however, a silver bullet for increasing access to fresh fruit, vegetables, dairy products, and meat. As with any business venture, a market analysis is a best practice to identify a customer base, location opportunities, and potential suppliers.<sup>3</sup>

Nationally, farmers markets have become incredibly popular. The U.S. Department of Agriculture reports that 340 existed in 1970, and fewer than 3,000 in the year 2000. In 2011 there were over 7,000, found in every state.<sup>4</sup> The Maryland Department of Agriculture provides a directory of farmers markets across the state. It also provides resources for starting new farmers markets, administers the Farmers Market Nutrition Program (a federal program that provides checks to low-income women, infants, children, and seniors to use at markets to purchase fresh fruit, vegetables, cut herbs, and honey), and hosts an annual Farmers Market Conference to provide technical assistance and information to farmers and market masters. (The presentations are available on the MDA website [http://www.mda.state.md.us/md\\_products/farmers\\_market\\_conference.php](http://www.mda.state.md.us/md_products/farmers_market_conference.php).)<sup>5</sup>

The Union of Concerned Scientists, in *Market Forces: Creating Jobs through Public Investment in Local and Regional Food Systems*, reports that “modest public funding for 100 to 500 otherwise-unsuccessful farmers markets a year could create as many as 13,500 jobs over a five-year period.”<sup>6</sup> Obstacles that farmers markets face include “market viability; vendor standards; market administration; risk management associated with insurance, liability, permitting, taxes, and regulation; marketing and outreach; and market infrastructure investments.”<sup>7</sup> The types of marketing assistance needed include advertising and publicity, promotion campaigns, targeting consumers, merchandising, market research, and business planning.<sup>8</sup>



## **Year-Round, Indoor Farmers Markets and Main Street Revitalization**

### ***Princess Anne, Somerset County, MD***

Maryland is home to eleven year-round farmers markets...ten of them indoors. A year-round, indoor farmers market seems to be an ideal way to help revitalize older downtowns and main streets, as called for in most county and municipal comprehensive plans. Princess Anne, in Somerset County, is trying to start one.\*

The current weekly farmers market was moved from a park on the edge of town, where it contributed little activity to downtown, to an empty lot closer in. A vacant gas station with a three-bay garage stands next to the lot. The underground tanks were removed years ago. The town would like to convert the former gas station into a permanent farmers market with a commercial kitchen attached. The year-round stands (meat, dairy, nursery and value-added products, etc.) would be inside the garage; during the growing season, the doors would be open and vendors of fresh fruit and vegetables could set up tables outside on the lot. One vendor that is seeking to expand is amenable to serving as the site manager.

Processors would schedule times to use the commercial kitchen and show that they are properly credentialed and licensed for the products they are making.

(For more information on where to find Maryland's farmers markets, see <http://www.marylandsbest.net/>.)

### ***Brunswick, Frederick County, MD***

When asked why she chose West Potomac Street as the place to establish her farmers market and her personal enterprise, A Better Choice Bakery, Beth Johnson replied: "I wanted it downtown because downtown is the heart of the city. That's the heart and everybody knows everybody."<sup>9</sup>

Starting her downtown enterprise was what she called a six-month social experiment. Mrs. Johnson envisioned a year-round indoor market to stock the best in local produce, meats, and value-added food products. She wanted to see if people would shop at a local farmers market that is open all year and for more than one or two days per week. The experiment was a success. More than a year has passed and Beth Johnson is still downtown. She attracts customers seven days a week.

Johnson is known for her gluten/dairy free baked goods. Brownies are her specialty. Before moving to Potomac Street, Johnson sold her baked goods at the local farmers market. This new main street venture allows her to expand her business and give others a chance to sell their specialty products. For example, a young girl makes dog treats that she sells in the market. The child uses the profits to help a local animal shelter.

In addition to fresh produce, her refrigerator is full of a variety of local products including fresh eggs from Little Foot Farm in Knoxville and premium cheeses from Buttercup Valley Farm in Jefferson. The eggs are produced by free range chickens that eat organic feed. Organic meats, including goat, and dairy products are also available.

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\* Local fruit and vegetables will be in short supply during the winter, so market vendors might acquire them from elsewhere.



A Better Choice Bakery and Market, Brunswick, MD. (Photograph courtesy of La Verne Gray.)

The shelves in the market are laden with jars of locally produced apple butter and honey, maple syrup, beeswax candles, and homemade soaps. Bottles of Nature's Gardens Herbal Tinctures, manufactured right in Brunswick, sparkle in the sunlight streaming through the large storefront window. Homemade quilts are draped near a freezer filled with locally made pork sausage and organic beef. Bags of Kettle Corn from Summers Farm in Frederick are there to satisfy your sweet tooth. The local Girl Scout troop finds the market a great outlet for their hand knit hats.

The business plan for operating the market is not complicated. The vendors pay a flat rate per month to sell in the market. Aside from that they are independent. They determine the price of their goods. They handle all health and safety regulations. "So the market is the result of their efforts and mine as well," Johnson said.

The Maryland Main Street program also promotes area producers. In 2011 Brunswick Main Street offered the Brunswick Wine and Chocolate Walk, which celebrated the rich agricultural heritage of Maryland and Virginia by spotlighting the area's wineries, chocolatiers, brew houses, and distillers. Attendees enjoyed fine wine and fair-trade chocolates as they strolled through downtown. Main Street decided to grow the festival for 2012, offering 30 beverage and food tastings at twelve venues in the historic downtown.

Mrs. Johnson looks forward to a success on Brunswick's main street. She points out the Railroad Museum and the variety of specialty stores along West Potomac Street. There's plenty to do downtown so plan to stay awhile! Johnson notes that businesses along Main Street work together to promote local food products. By marketing and chatting with old and potential customers through the social networks, Johnson attracts people from all over the region to downtown Brunswick. She envisions that the MARC commuter train will eventually run on Saturdays and bring people from Baltimore and Washington, DC, to shop there.

### ***Updating Zoning to Encourage Farmers Markets—Fresno, CA***

Despite being home to almost 500,000 people and being the heart of one of the most productive agricultural regions of the world, Fresno had fewer farmers markets than many other California cities. Why? One reason is that until recently, the city's zoning code did not actually define farmers markets, so establishing one had been very difficult, if not impossible, under the city's regulations.

However, the Fresno Green strategy, launched under the leadership of Mayor Autry and Council member Henry T. Perea on Earth Day of 2007, calls for promoting public health and the environmental benefits of supporting locally grown and organic foods. Under this directive, City of Fresno planning staff has partnered with Fresno Metro Ministries and the Central California Regional Obesity Prevention Program, along with other farmers market stakeholders, to amend the zoning code to define farmers markets and allow them in all commercial zones and even the most basic residential zoning district R-1 (with a conditional use permit). By allowing farmers markets in residential areas, fresh food can be available in neighborhoods where it is most needed.

An additional benefit of the new rules is more economic opportunities for small local farmers, many of whom traveled to the San Francisco Bay Area to sell their produce. Now that Fresno's rules are more permissive, the hope is to encourage these local farmers to stay closer to home and sell in Fresno.

### ***Farmers Markets Help the Elderly—Baltimore County, MD***

As part of the Farmers Market Nutrition Program, Baltimore County's twenty senior centers distribute \$30 vouchers, redeemable at Baltimore County farmers markets, to residents over 60 who have incomes up to 85% above the poverty level (i.e., \$20,147 for a one-person household, \$27,214 for a two-person household). The program benefits both people in need and local food producers.<sup>10</sup>

### **Community Supported Agriculture**

Community supported agriculture (CSA) allows farmers to bypass the grocery store food distribution chain and sell directly to consumers. CSAs also allow farmers to enjoy greater economic certainty. Farmers sell shares of their upcoming harvest at the beginning of the season to their customers, which may be individuals, small groups, or even restaurants. At set intervals, usually weekly, consumers pick up or receive through delivery a "share" of what was harvested that week. Consumers benefit through a relationship with their farmers and reliable, pre-paid produce. Farmers benefit because they have access to capital at the beginning of the growing season when costs are often higher; additionally, consumers now share the risk of a poor harvest.<sup>11</sup>

Community supported agriculture operations exist throughout Maryland. Maryland's Best provides a directory of CSAs on their website (<http://www.marylandsbest.net>).<sup>12</sup>

A program in Worcester County uses a CSA to help feed the poor. The Local Eastern Shore Sustainable Organic Network (LESSON) is attempting to provide a forum and central information location for local farms and their products. LESSON also administers a fund (created in the memory of a young woman who worked summers on organic farms and passed away shortly after graduating college) to assist families in need by helping them acquire fresh produce through a share in a local CSA. The family pays just a fraction of the cost for the season and has to pick the food up at the farmers market, while LESSON pays the rest. Over six years, the fund has helped 60 families. Sometimes, however, some recipients are not able to pick up their food, and instruction in how to prepare much of it would also be beneficial (perhaps volunteers could help fill this gap). <http://www.shorefood.org/> .

Shareholders of One Straw Farm, the largest organic vegetable farm and CSA in Maryland, can pick up their food at Govans Presbyterian Church in Baltimore. For every ten shares sold and picked up at the church, one share is donated to the church's food pantry. In 2012, Sunnyside Farm will be doing the same thing with eggs and chickens if enough orders come through the church.<sup>13</sup>

## Distribution Outlets

Maryland farmers face increasingly competitive markets for their products, and processing and distribution centers are often not located near farms. Small distribution and processing centers can help small farms aggregate their products for efficiency, assist farmers with reaching markets, and strengthen a regional food system.<sup>14</sup>

### *Loveville, St. Mary's County, MD*

The Loveville Produce Auction, in St. Mary's County, provides a place for farmers from Charles, Calvert, and St. Mary's Counties to sell to wholesale bidders.<sup>15</sup>

### *Vernon County, WI*

The Vernon County Economic Development Association (VEDA) secured a \$2 million grant from the U.S. Economic Development Administration in 2010.<sup>16</sup> The grant will be used to convert an empty manufacturing plant into a regional food processing and distribution center.<sup>17</sup> Small producers will have easier access to markets, and local food businesses can rent space within the facility. This food hub will hold such businesses as the newly-formed Fifth Season Cooperative, which offers membership to producers, processors, distributors, and others involved in the local food system.<sup>18</sup>

## Other Programs

In addition to farmers markets and CSAs, other direct marketing programs include farm sales directly to restaurants or institutions, such as the Farm-to-School program. On-farm sales are also an alternative to traditional food retailing. The zoning code can protect on-farm sales by listing farm stands as an approved use in agricultural zones. Farm stands located off the farm can also be allowed in other zones, enabling farmers to bring their products closer to consumers, particularly in locations where an established farmers market does not exist.

### **A “Personalized” CSA**

Star Hollow Farm, in south-central Pennsylvania, has developed a personalized on-line ordering system in conjunction with a CSA. One issue for some CSA customers is a lack of choice and excessive amounts of food. For childless couples, single individuals, and small families, the amount of food provided by a CSA can be too much to eat before it spoils. In addition, customers many times are unable to choose the foods they want in a CSA. For instance, if a customer doesn't like spinach but receives two pounds of it, it is a waste of money (and possibly of the food itself). The CSA established by Star Hollow Farm addresses these problems using the internet. Customers establish an account with an opening balance of \$300 for food purchases. They manage their accounts online on a weekly basis by selecting the type of fruit and/or vegetables and the quantity they desire using that initial \$300 investment. After receiving the order for a particular week, Star Hollow Farm packs a “personalized” box of produce for delivery to the pickup location in the Adams Morgan neighborhood of Washington, DC. If customers don't submit an order in a particular week, they don't pay any money or penalty while the money in their CSA accounts is reserved for future use. This “personalized” approach to the CSA provides the direct connection Maryland farmers desire but allows the customer to buy only what they believe they can eat at any given time and better manage the money they spend on local food.

## Improving Food Distribution in Underserved Communities

In areas identified as “food deserts,” multiple strategies can be used to improve the food environment.<sup>19</sup> Attracting a new grocery store is a difficult and lengthy process, but existing stores can increase the access to healthy foods. Other services can fill the gap.

## Making Dollars Go Further at Farmers Markets

Wholesome Wave is an organization that “fosters strong linkages between local agriculture and underserved communities” ([www.wholesomewave.org](http://www.wholesomewave.org)). They operate two programs to improve the food choices of low income people by providing financial incentives for shopping at farmers markets:

- The Fruit and Vegetable Prescription Program (FVRx)—Health care providers, in partnership with Wholesome Wave and Ceiling and Visibility Unlimited (CAVU), provide “prescriptions” for fresh fruit and vegetables that can be redeemed at local farmers markets. “Doctors will track participants to determine how the program affects their eating patterns and to monitor health indicators like weight and body mass index....”<sup>20</sup> The “prescriptions” can be filled at farmers markets.
- The Double Value Coupon Program (DVCP)—This program doubles the value of federal SNAP (Supplemental Nutrition Assistance Program) benefits when they are used at participating farmers markets. In March 2011, Wholesome Wave received a \$600,000 grant from Kaiser Permanente for the effort, which is active at 160 farmers markets in 20 states.<sup>21</sup> Partners in Maryland include Maryland Hunger Solutions (markets in Baltimore), FRESHFARM Markets (markets in Silver Spring), and Crossroads Farmers Markets (markets in Takoma Park). Crossroads was the first market in the country to do such a program; see <http://eatfreshmd.wordpress.com/>.<sup>22</sup>

## Improving Existing Stores

- Baltimore, MD—The Baltimore Healthy Eating Zones (BHEZ) is a community-based program tasked with improving diet and reducing obesity among low-income African American children in Baltimore. BHEZ helps small food stores and carryouts to provide affordable, healthier food options. BHEZ also works in thirteen Baltimore City Recreation Centers to encourage healthy eating among youth through peer education programs and to improve the food environment in the areas surrounding the recreation centers.<sup>23</sup>

The Baltimore Healthy Stores (BHS) program works with local corner stores and small supermarkets to increase the availability and consumer purchasing of healthy foods. The program combines efforts to stock more healthy foods with efforts to educate customers through signs, coupons, and store promotions.<sup>24</sup>



Double Value Coupons

From PowerPoint by Gus Schumacher, Executive Chairman of Wholesome Wave on 2012 Farm Bill to National Association of State Departments of Agriculture [www.nasda.org/File.aspx?id=28659](http://www.nasda.org/File.aspx?id=28659)

**There's a preconceived notion that people in predominantly African American, low-income areas choose to eat unhealthy food. But we had people lining up in the rain the first day we opened.**

**Sheela Muhammad of Fresh Moves, Chicago<sup>25</sup>**

Fresh Moves is a mobile produce market on a remodeled Chicago Transit Authority Bus

- Philadelphia, PA—Through the Fresh Food Financing Initiative, grocery stores, corner stores, and farmers markets have been developed in 34 underserved communities in Pennsylvania, including neighborhoods in the greater Philadelphia area. The financing program is possible through private investment and public funding.<sup>26</sup>

The Food Trust, a partner in developing the Fresh Food Financing Initiative, also recognized that grocery stores could not be the only solution to improving access to healthy foods. Their Healthy Corner Store Initiative comprises the Snackin' Fresh campaign, which encourages youth to make healthier food choices, and the Philadelphia Healthy Corner Store Network, which connects stores, local farmers, and community organizations in order to increase the availability of fresh produce in corner stores.<sup>27</sup>

- Charlottesville, VA—The Local Food Hub is a nonprofit local food distribution program with a warehouse that purchases and aggregates locally grown produce from 50 farms in the Charlottesville area. The food is then distributed to schools, hospitals, restaurants, and markets. Institutional purchasing is made easier through the aggregation of products. The Local Food Hub also has an educational farm with a variety of classes and learning opportunities and a mission to donate 25% of its produce to local food banks.<sup>28</sup>
- Health Food Commerce Initiative—The goal of this initiative, begun in 2011 by Wholesome Wave, is “to direct capital and business development assistance to mission-driven food distribution and processing enterprises, also referred to as ‘healthy food hubs.’ These hubs are centrally located facilities with a business management structure facilitating aggregation, storage, processing, distribution, and marketing of regionally produced food products.”<sup>29</sup> Through these efforts, local food producers will be able to provide for institutional buyers more consistently and reliably.

Many food-insecure neighborhoods lack grocery stores, placing an extra burden on residents seeking healthy food. Some of these areas face significant disinvestment but may have a population that could support a grocery store. Programs such as the Fresh Food Financing Initiative help make investments in areas not served by traditional financing institutions.<sup>30</sup>

Some areas do not have the necessary land, population, or financing for grocery store development. Alternatives to large grocery stores may be appropriate to address food insecurity.

- Seattle, WA—Stockbox Grocers adapted the model of the espresso stand to bring fresh food to underserved neighborhoods. Stockbox Grocers “is a miniature grocery that is tucked inside a reclaimed shipping container and placed into the parking lot of an existing business or organization. The stores are designed to offer the essential grocery items and fresh produce to communities that don’t currently have access to good food.”<sup>31</sup>

A prototype Stockbox store opened in Seattle from September to November in 2011, and the first permanent store opened on August 15, 2012. The \$20,000 in start-up funds came from 195 donors to the Kickstarter web-based funding platform for creative projects.<sup>32</sup>

When planning for the food system, it's important to remember that some important innovations are very small scale, even portable, but have an impact out of proportion to their size.





Stockbox prototype <http://stockboxgrocers.com/>



Stockbox's first permanent store (an existing structure rather than a shipping container)

<http://www.facebook.com/stockboxgrocers#!/photo.php?fbid=344175655666585&set=a.118263394924480.30020.108620942555392&type=1&theater>

### *Virtual stores*

- **Baltimore, MD: Baltimarket - Virtual Supermarket Project**

Baltimarket, Baltimore's Virtual Supermarket Project, connects residents of food deserts with Santoni's Supermarket, a local grocery store, through libraries and an elementary school. The program was started in early 2010 at two locations and has since expanded. Residents place an order at one of three branches of the Enoch Pratt Free Library or at George Washington Elementary School during set days and times; they return the following day to pick up their order. Delivery is free, and payment can be made through cash, credit, debit, or EBT (foodstamps). At the Baltimarket sites, computers and assistance are provided to patrons. Baltimarket is a program of the Baltimore City Department of Health; the partners are Maryland Institute College of Art, Enoch Pratt Free Library, Santoni's Supermarket, Baltimore City Public Schools, the Y of Central Maryland, and the Cherry Hill Development Corp.<sup>33</sup>

### *Mobile Produce Vendors*

- **Baltimore, MD: Arabbers**

These mobile Baltimore food vendors (pictured below) sell fresh produce via horse-drawn carriage throughout the city, but particularly in areas with low food access. They sell produce year-round, but work more in the summer when produce is more available. Their produce is purchased from the Jessup wholesale market.<sup>34</sup> Arabbers have been operating since the early 19<sup>th</sup> century; in recent years, pickup trucks have replaced many horse-drawn carriages.



Photograph courtesy of La Verne Gray

### ***Baltimore: Big Blue Rolls to the Rescue***

Mobile Market or “Big Blue,” which served as a Washington Post delivery truck in a previous life, brings fresh produce to five neighborhoods in East Baltimore that were identified as food deserts. While the average produce sold in an American grocery requires large amounts of fossil fuel to travel from farm to consumer, the produce in Big Blue is grown on the Real Food Farm, an urban agricultural enterprise developed by Baltimore’s Civic Works, a nonprofit youth-service organization, just a few blocks away near Lake Clifton High School. One of the reasons Real Food Farm’s mobile market exists is to supply fresh vegetables in food deserts and to reach people who have mobility issues. The Mobile Market exemplifies the Real Food Farm motto: Connecting Baltimore to Real Food.

You can find Big Blue at local community gathering spots throughout northeast Baltimore. Every Monday, Wednesday, and Friday, Big Blue is loaded up with fresh produce and rolls out to make “community market” stops at places like a senior citizens’ residence, local schools, and Shepherd’s Clinic, which provides health care to Baltimore’s uninsured. At the Green School of Baltimore, Big Blue arrives at dismissal time to capitalize on the traffic from parents picking up their children. The stops last for 30-45 minutes, depending on customer turnout. Big Blue can also make dropoffs at local homes upon request. Their website says, “If you are unable to make it to any of our stands for any reason do not worry, we will come to you.”

The success of this mobile market is due not just to residents who wanted to practice a healthier lifestyle, but also the Baltimore Department of Recreation and Parks, which turned over six acres in Clifton Park for farming, and to partnerships with agencies and organizations that are concerned with the well-being of the residents of Baltimore City.

Big Blue followed a long and winding road to reach its current delivery route. Real Food Farm bought it in March 2011, then called the Maryland Institute College of Art’s Center for Design Practice for help. After weeks of research and even hands-on work at the farm and markets, students developed for the farm a new visual identity that has been splashed across the farm’s website, stationery, advertisements, and reusable shopping bags. “The goal was to incorporate a design that would increase public awareness, entice potential shoppers, and be easy to use for both workers and customers,” said Mike Weikert, director of the Center for Design Practice. “Everyone loves it,” said Maya Kosok, the community outreach coordinator for Real Food Farm. Kosok seemed genuinely impressed by the students’ ambition and dedication; the students, in turn, learned how design can improve communities.<sup>35</sup>

Real Food Farm was awarded a Farmers Market Promotion Program grant by the U.S. Department of Agriculture in October, 2011. USDA distributed more than \$9 million among 149 projects to improve consumer access to healthy food nationwide. Real Food Farm will use its grant to expand the farm’s mobile market program. Part of the grant was used to hire a full-time mobile market manager, responsible for community outreach, advertising, and promoting the mobile market.

Big Blue was recently overhauled to run on biodiesel, with help from the Baltimore Biodiesel Co-op. The farm looks forward to the day when Big Blue will run on straight vegetable oil, but for now they are excited about reducing their carbon footprint as they bring fresh produce to their neighbors.





Big Blue is mostly green

<http://www.realfoodfarm.org/wp-content/uploads/2011/07/mobile-view1.jpg>

### ***Bladensburg, MD: Americana Grocery Courtesy Van***

This international market provides a courtesy van to drive home patrons who purchase a minimum \$50 worth of groceries.<sup>36</sup>

### ***Charles, Montgomery, and Prince George's Counties, MD: Top Banana Grocer***

Top Banana Grocer is a non-profit grocery delivery service for seniors and people with disabilities, providing groceries to over 500 residents in the Maryland/DC metropolitan area. The organization purchases most of its products from the same suppliers as area grocery stores, and the prices are reasonable. Delivery charges are based on affordability, and payment is accepted in a variety of forms, including EBT and pay-ahead accounts or gift cards. Deliveries are made weekly, and customers are not required to sign a contract. Top Banana has been recognized by the Catalogue for Philanthropy and received a Top 10 Best Practices Award from the U.S. Department of Housing and Urban Development and Prince George's County.<sup>37</sup>

### ***New York City: Green Carts***

Since 2008, New York City has licensed 1,000 new street vendors to sell only raw fruit and vegetables in designated neighborhoods. More than half the carts are operated by immigrants, using a method for entering the economy that generations of immigrants have used before. To reduce the risk for such enterprises, the city has hired one group to provide low-interest loans to vendors and another to provide business consulting services such as "how to construct profit and loss statements, understand the (byzantine) food cart regulations, fill out permits and tax forms, engage with customers, and build up support from peers."<sup>38</sup>



### ***Farm to Family's Food Bus: Lessons learned***

A variation of Community Supported Agriculture is Urban Supported Agriculture (USA), such as that practiced by Farm to Family. The organization grows its own food, plants, herbs, and flowers, but also purchases from local farms and artisan food makers. (Consumers still buy shares to support the producers. For every 20 memberships, Farm to Family donates a share to a needy family.)

In the beginning Farm to Family, instead of relying entirely on drop sites, used its Farm Bus to deliver directly to residents in Washington and Richmond. The results of the effort were mixed. According to Suzi Lilly, who owns Farm to Family with her husband:

*We have been very challenged by our efforts in underserved neighborhoods for a number of reasons—cultural, sociological, lack of community support, lack of city support[.] [W]e find most people need a lot of cooking/nutritional support and education; many expect food to be free[.] [D]espite the fact that we take food stamps and our local produce is frequently at or lower than grocery store prices, many people have said it is too expensive for them (when asked where they shop, it's usually Walmart, etc.). We haven't been equipped by ourselves to do the outreach necessary to make it more successful in underserved areas. People respond positively to it—it has just been difficult to get them to support it financially.*

*We are currently focusing on our Market and Urban Farm, which is located on the edge of two underserved neighborhoods here in Richmond.... At this point, our bus primarily goes out on weekends and goes to special events—it works as a wonderful multi-sensory promotional tool.<sup>39</sup>*

Ms. Lilly recommends partnering with an active neighborhood anchor such as a hospital, church, or community center in poorer areas, and also with others who can help educate customers about cooking and nutrition. A model that can subsidize the food sales would also be helpful.

*My husband is taking the Growing Power urban ag training program, and we hope to replicate their efforts as a training center. We recently got our first honey bee hive. We are also going non-profit... with a lot of our initiatives (urban farm, education bus that visits schools—it's still evolving)....*

*We are also currently partnering with a program via Virginia Commonwealth University—CAUSES—which pairs underserved youth (YMCA, Boys and Girls Club, Girls Scouts) with seniors who teach them about eating right. We receive a subsidy and each participant gets a \$10 voucher to shop. It was very successful and we look forward to more events with them.<sup>40</sup>*

Ms. Lilly and her husband also hope to partner with Wholesome Wave (described above) "...but would like to partner with other produce stands/farmers markets to do a co-operative application with the three major hospital systems in the Richmond, VA, area."<sup>41</sup>

Pictures from <http://thefarmbus.com/mobile/>



## Endnotes

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- 18 Fifth Season Cooperative. *Membership and News*. 2011. Available at <http://fifthseason.coop/>
- 19 The concept of "food desert" is not without controversy. The New York Times on April 17, 2012, reported the results of two studies, that used different methods to acquire data on the location of poor children, their weight, and the location of food outlets. ("Studies Question the Pairing of Food Deserts and Obesity.") The results? Poor neighborhoods "not only have more fast food restaurants and convenience stores than more affluent ones, but more grocery stores, supermarkets, and full-service restaurants, too." In addition, there was no connection between obesity and the type of food available for sale.  
  
The next day, however, The Times published another article ("Conquering Food Deserts with Green Carts, by David Bornstein) that cited the USDA's conclusion that 23.5 million people live more than a mile from a supermarket. (The studies cited in the previous day's article considered stores within a square mile and within 1.5 miles, respectively.) In addition, a number of city governments determined for themselves that such a lack of access to fresh food does exist. No doubt the debate will continue. See  
  
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<http://opinionator.blogs.nytimes.com/2012/04/18/conquering-food-deserts-with-green-carts/>
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## Consumption

### Farm-to-School

These programs link schools to local farms in order to serve healthier school meals, improve student nutrition, provide opportunities to educate students about health and nutrition, and support local farmers. The farm-to-school model is expanding rapidly; programs exist at more than 400 school districts in 23 states.<sup>1</sup>

The Jane Lawton Farm to School Program, named in honor of the late Maryland House of Delegates member Jane Lawton of Montgomery County, was created during the 2008 Session of the Maryland General Assembly with the passage of SB 158 ("Farm-to-School Program - Activities and Promotional Events").<sup>2</sup> In Maryland, according to the Farm to School website, over 70 million lunches and 24 million breakfasts are served in our public school systems annually. What if just one local item was included in the school lunch of all the 950,000 Maryland public school students? Farmers would have additional income, thereby strengthening the local economy, keeping farm land open and productive, and providing our children with nutritional, fresh, local products. Maryland is the only state where all school districts are participating, according to the National Farm to School Network. Local capacity to sustain or increase this program varies, as some schools have limited cold storage, and purchasing programs vary by school district, with rural areas tending to buy directly from farmers and urban areas purchasing through distributors. The program also had the support of more than 30 different Maryland farms providing fresh product to the schools.

Kent County Middle School's Victory Garden won a \$100 prize in the Fabulous Food Garden contest sponsored by Mother Earth magazine. The garden was created in April 2010 through the leadership of Sabine Harvey, Master Gardener and Horticulture Program Assistant with the University of Maryland Extension, Kent County, and the participation of students, parents, local civic groups and businesses, and community volunteers. The goals for the garden are the following:

1. to help students understand how food is grown;
2. to provide students with hands-on opportunities to plant, tend, and harvest a garden;
3. to teach students how to use fresh produce and to encourage healthy eating; and
4. to connect students to their community by participating in a project that supports economically disadvantaged families.<sup>3</sup>



Victory Garden at Kent County Middle School

<http://groweat.blogspot.com/2011/10/vote-for-kent-county-ms-victory-garden.html>

On the other side of the continent, the Los Angeles Unified School District is home to 100 school gardens. “Considering that over 70 percent of children in the LA public schools live below the poverty line, school gardens can be the first step in linking low-income families to a localized, sustainable food system. These gardens are often a joint effort with community organizations.”<sup>4</sup>

Many schools and school districts are creating comprehensive plans to encourage healthier eating habits and better nutrition, more physical activity, and healthier lifestyles for children. These efforts have stemmed from federal mandates to school districts that receive meal funding to create wellness policies. While planning policies may not be directly involved in a school district’s internal programming, they can assist by placing zoning restrictions on areas around schools and recreational centers, limiting children’s access to fast-food restaurants and convenience stores that sell mostly snacks, candy, and sodas.<sup>5</sup>

The Governor’s Intergovernmental Commission for Agriculture (GICA) recommends farm-to-school programs to provide better nutrition in school and to educate students about nutrition as well. GICA also recommends institutional purchasing programs for colleges, hospitals, prisons, and nursing homes.<sup>6</sup>

## **Other Institutional Purchasing**

### ***Farm to Hospital—Cecil County, MD***

Union Hospital of Cecil County’s strategy for obtaining healthy foods for its cafeteria and patient meals is to increase the purchase of meat, poultry, and produce from local farms that practice sustainable agriculture. The hospital cultivated relationships with local farmers to advance its initiatives. As a result, some farmers have increased their acreage for produce, while others use greenhouses for production in the winter. In addition, farmers have increased the options for meat. Some have increased the size of their poultry flocks to meet the hospital’s needs. One beef farmer is now raising chickens and hogs.

“Between our Balanced Menus initiative and Buy Local Challenge opportunities we were able to reduce beef purchases by using more chicken and switching 46% of our beef purchases to a local sustainable source,” says Holly S. Emmons, Food Service Manager. During Fiscal Year 2011, 49 percent of Union Hospital of Cecil County’s meat and 100 percent of its beef was purchased locally. In addition, 14 percent of the hospital’s fruits and vegetables came from local sources. In Fiscal Year 2010, purchases of local meat accounted for only 9% of the hospital’s meat purchases and just 9% of vegetable and fruit came from local sources.

The hospital purchases extra volumes during the local harvest and freezes the food for use through the fall and winter months.

Union Hospital has earned awards for their sustainable initiatives, including the MD H2E (Maryland Hospitals for a Healthy Environment) Trailblazer Award for Leadership in Sustainable Practices in 2011, Governor Martin O’Malley’s first Smart, Green, and Growing Buy Local Agricultural Challenge Award in 2011, Outstanding Maryland Rural Health Achievement Award 2011, Maryland Green Registry Leadership Award 2010, and the Cecil County Recycling Award 2010.

### ***Farm-to-College ([www.farmtocollege.org](http://www.farmtocollege.org))***<sup>7</sup>

The Community Food Security Coalition has compiled information on farm-to-college programs throughout the U.S. and Canada. Their databases are searchable by program characteristics, and graphs and charts indicate some of the best practices for this type of institutional purchasing program, which can be applied to other institutions, particularly those that use contract food service operators.

Health Care without Harm ([www.noharm.org](http://www.noharm.org)) offers a guide to healthy food systems within the medical field. They provide recommendations for increasing the amount of healthy food being served in hospitals and other facilities.<sup>8</sup> The Maryland Hospitals for a Healthy Environment (MD H2E) ([www.e-commons.org/mdh2e](http://www.e-commons.org/mdh2e)) has a sustainable food coordinator who works with hospitals within the state to increase their purchasing of local and sustainable foods.<sup>9</sup> The guidelines and programs from

both of these organizations serve as models for other institutions. They reported that in 2009 that “30 hospitals, representing more than a third of the state’s 74 hospitals, purchased local foods throughout the year.”<sup>10</sup>

### **County purchasing**

- Albany County, New York, established a Local Food Purchasing Policy “[w]hereby the Albany County Purchasing Agent shall request the assistance and advice of the Commissioner of Agriculture and Markets to establish the percentage of food products qualified as locally produced food for purchase for Albany County’s Residential Healthcare Facilities and the Albany County Correctional Facility....” In addition to citing reductions in energy use and greenhouse gasses, and improved business opportunities for local farmers, the resolution establishing the Purchasing Policy said, “While produce that is purchased in the supermarket or a big-box store has been in transit or cold-stored for days or weeks, produce purchased locally has often been picked within 24 hours, providing fresh produce that not only improves the taste of food, but also the nutritional value of food which declines over time....”<sup>11</sup> (Resolution No. 496-a, accessed through <http://www.lavidalocavore.org/diary/1033/>. The site notes that food for inmates and nursing home residents in Albany County totals \$3 million annually.)
- Woodbury County, Iowa, passed a Local Food Purchase Policy “to increase regional per capita income, provide incentives for job creation, attract economic investment, and promote the health and safety of its citizens and communities.”

*Woodbury County shall purchase, by or through its food service contractor, locally produced organic food when a department of Woodbury County serves food in the usual course of business. The Woodbury County Jail, Work Release Center, and Juvenile Detention facilities are presently serving food in their usual course of business. The contractor may cover for unavailable local organic supply through its current procurement practices with preference to be given to local non-organic food products.*<sup>12</sup>

### **Municipal purchasing**

- In Multnomah County, Oregon, whose county seat is Portland, a bill approved in 2009 allows a preference for local foods in purchasing contracts by state and local government agencies. They can spend a premium to purchase foods grown and transported within Oregon.<sup>13</sup>
- The Los Angeles Unified School District, the largest food purchaser in the city, set a target of purchasing 50 percent of its food from within a 200-mile radius.<sup>14</sup>

### **Zoning to Limit Fast Food Restaurants**

A small number of communities throughout the country have passed zoning ordinances designed to limit the number of or ban outright fast food restaurants. The basis for the limits or bans varies, but some have done so on the basis of preserving community character. Concord, MA, has a ban on fast food establishments to preserve character and lessen congestion (Section 4.7.1 of the Town of Concord Zoning Bylaw), while Calistoga, CA, bans “formula” restaurants in their downtown area (Section 17.22.020(D)(2) of the Calistoga Municipal Code).<sup>15</sup>

Others seek to regulate the number or density of fast food restaurants, or their distance from other uses. Berkeley, CA, has a quota system in one of their commercial districts (three carry-out restaurants and seven “quick service” restaurants (Section 23E.44.040 of Berkeley Municipal Code and Zoning Ordinance)); Warner, NH, requires a certain distance between fast food restaurants (Article XI(H) of the Town of Warner, NH Zoning Ordinance).<sup>16</sup>

Los Angeles is the only city to ban new fast food restaurants on the basis of public health concerns. South Los Angeles, an area of 30 square miles, was home to 1,000 such restaurants. The poverty rate was higher in South Los Angeles than in other older neighborhoods, and the obesity rate twice as high. In 2008, the City Council passed a one-year moratorium on new stand-alone fast food establishments in South Los Angeles. In 2010, the ban became permanent. “Since then one new grocery store has opened in South Los Angeles—the first one in over a decade.”<sup>17</sup>

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## Waste and Nutrient Management

Are you considering ways to reduce and reuse food waste and related packaging? If so you are part of a growing number of individuals and local governmental that are doing the same thing...and for good reason: the United States generates more than 34 million tons of food waste each year. Nationally, it's estimated that food scraps make up about 14 percent of the waste stream.<sup>1</sup> Less than three percent of the 34 million tons of food waste generated in 2009 was recovered and recycled. The rest —33 million tons—was thrown away. Food goes to waste in fields, manufacturing plants, commercial kitchens, markets, schools, and restaurants—perhaps 40% of all calories produced, according to the National Institutes of Health.<sup>2</sup>

And while we might lament the waste philosophically, it also creates a practical problem that now looms large: what do we do with the waste? Dumping is expensive and landfills are filling up, while incineration increases air pollution. The separate collection of food waste (also known as source separated organics) allows us to dispose of food wastes in ways not applicable to other wastes. The benefits are economic as well as environmental.

### Recovering Food to Feed Hungry People

The first and perhaps the best way to minimize food waste is to use excess food to feed the hungry and not waste it in the first place.

Gleaning is the ancient practice of collecting food that has been missed or dropped during harvesting or left in the field for other reasons. In biblical times, the poor would follow the reapers in the field and glean the fallen grain, and farmers would leave the corners of their fields for the poor to harvest.<sup>3</sup> Gleaning can also include the collection of already harvested food at packing sheds. Non-perishable food and unspoiled perishable food can be donated to local food banks, soup kitchens, and shelters. Local and national food recovery programs frequently offer free pick-up and provide reusable containers to donors.

The Mid-Atlantic Gleaning Network and the United Way of Central Maryland are two organizations that use volunteer gleaners to link farmers who have crops that are edible but not marketable with those who distribute food to the needy. Their staffs organize teams to go to local farms and harvest fruits and vegetables to be given to low-income individuals and families, as well as to agencies or communities that serve the hungry. When a farmer in the network calls with available produce, the staff contact one or more of their gleaning groups to go to the fields for a “gleaning event.” These volunteers include church groups, service clubs, schools, college organizations, Boy Scouts, Girl Scouts, 4-H Clubs, senior citizens, and residents of public housing, among others. In the fields, gleaners harvest the produce that would otherwise be plowed under or left to rot.

#### ***Baltimore, MD***

The Baltimore Orchard Project, a nonprofit organization formed in 2012, “will glean otherwise unwanted fruit from trees on public and private land and donate the harvest to food banks, congregations and soup kitchens.”<sup>4</sup> The group is inventorying trees on public and private sites, and has set up a registry where people interested in participating can include their trees in the program. Volunteers, with help from professionals who contribute their time and expertise, assess the trees and help with the harvest. “Another aspect of the project, which will incorporate properties in Baltimore City and Baltimore County, will be to encourage public and private landowners to plant fruit trees with the express purpose of donating their bounty.”<sup>5</sup> (See [www.baltimoreorchard.com](http://www.baltimoreorchard.com).)

### The Economic and Environmental Benefits of Managing Food Waste

When food is disposed in a landfill, it quickly rots and becomes a significant source of methane—a potent greenhouse gas with 21 times the global warming potential of carbon dioxide. Landfills account for 20 percent of all methane emissions. Reducing, recovering,

and recycling food wastes divert organic materials from landfills and incinerators, reducing greenhouse gas emissions and waste combustion.<sup>6</sup>

Anaerobic digestion, which can be done at wastewater treatment plants (WWTPs) or for the waste of dairy herds, can also be used for the organic portion of municipal solid waste. Anaerobic digestion produces two main products, biogas and a soil amendment. Biogas can be used to generate electricity, as a natural gas substitute, or for vehicle fueling.<sup>7</sup>

Composting is the process by which organic matter is biodegraded to a soil-like product called compost or humus. When organics are composted, they become natural soil additives for use on lawns and gardens. Compost adds essential nutrients to the soil, improves soil texture, moderates temperatures, and increases the ability of the soil to absorb air and water. It also suppresses weed growth, decreases erosion, and reduces the need to apply commercial soil additives, thereby reducing costs. In addition, the reduction of food waste through composting improves sanitation, public safety, and health for the family and the community. Food wastes dumped in standard trash cans and dumpsters may attract rodents and insects as well as generate bad odors. On the other hand, if food scraps are placed in a closed, leak proof, durable, and reusable container and are picked up for composting, these problems can be reduced or eliminated.

### ***Rockville, MD***

Several years ago, the city of Rockville was beset with sewage spills and basement backups due to grease blockages in the sewer system. The grease came from both commercial and residential kitchens throughout the city. Many of the commercial kitchens had no grease management equipment, had equipment that was too small for the amount of grease being generated, or did not maintain the equipment they had. The city adopted a grease management requirement and began routine inspections of commercial kitchens. The program has proven to be both cost effective and successful at reducing the amount of grease in the sewer, thus saving the city, its sewer crews, residents, and businesses money that would have been spent cleaning and repairing the sewers and damage from the spills. The program has also resulted in a vigorous recycling industry that collects brown and yellow grease for reuse and fuel.

### ***Silver Spring, MD***

A not-for-profit group called growingSOUL (Sustainable Opportunities for Universal Learning), staffed mainly by volunteers, has a mission to “fill bellies instead of landfills.” The organization grows food “using compost they make from food scraps they collect from local restaurants, senior centers, and other establishments.... They also teach classes in practical skills like building hoop houses and aquaponics growing systems, composting with worms, and cooking and preserving garden-fresh produce. Much of their compost is donated back to local farmers who use it to grow food for a nearby food bank.”<sup>8</sup> The group also uses waste vegetable oil from the tortilla fryers at Chipotle Mexican Grill to fuel their diesel vehicles.

growingSOUL collects ten tons of compostable food waste every week. It is brought to several Montgomery County farms to feed their animals or mixed with yard waste to be turned into *Soil with SOUL* compost.<sup>9</sup> (They also sell vermicompost.)

In the spring of 2012, growingSOUL worked with students at Burning Tree Elementary School in Bethesda, MD. For two weeks, “plastic buckets were set up in the cafeteria and PTA volunteers helped children sort recycling, compost materials and trash from their lunches. GrowingSOUL gave presentations showing how to compost: all food waste except meat, plus paper items such as towels and bags in moderation, breaks down into a mixture that can be used to fertilize.” The waste was picked up and composted, and some of it may be returned to the school for use in its gardens.<sup>10</sup>

Once a proper receiving site is established, growingSOUL will begin a partnership with the City of Takoma Park, where “over 3,000 households will be able to add their pre-consumer plant-based compostables to their small yard waste for weekly municipal collection.”<sup>11</sup> (See <http://www.growingsoul.org/> for more information about their efforts to develop a closed loop, sustainable food system.)

### ***Montgomery County, MD***

The Montgomery County Ten-Year Solid Waste Management Plan recommends that the county “Examine the feasibility of targeting additional material types for recycling, including food wastes generated at restaurants, schools, and institutions.” How much food waste exists? The county notes that food waste was 19% of its waste stream (second to paper, at 28%). Food waste comprised 80% of the total solid waste stream for county restaurants, with the percentage being 73% for supermarkets and 60% for the public schools. In absolute terms, annual food waste totaled 28,769 tons for restaurants, 14,014 tons for supermarkets, and 5,301 tons for the public schools.

The county’s Department of Solid Waste Services developed a test project to evaluate and determine best management practices for businesses that generate waste, with the goal being to most effectively separate their food waste and transport it to a composting facility. A successful non-residential food waste composting program could be emulated by other businesses in the county.

The study uncovered many opportunities. For example, the collection of food scraps is a fast-growing business. The private sector is strongly interested in investing, but the greatest obstacle is the lack of receiving facilities.

### ***Frederick County, MD***

In April 2011, the Board of County Commissioners provided county planning staff conceptual approval to: (a) develop zoning ordinances that provide definition and usage, as well as text amendments allowing Limited Commercial On-Farm Food Waste Composting with On-Site Use and Limited Commercial On-Farm Anaerobic Digestion of Food Waste; (b) amend the Solid Waste Management Plan to allow Limited Commercial On-Farm Food Waste Composting with On-Site Use and Limited Commercial On-Farm Anaerobic Digestion of Food Waste. The county is currently working on language to allow the on-farm composting of food waste. It is planning for two types of compost. The first type will be both pre- and post-consumer food waste that can be used as organic fertilizer and soil amendments only for the farm that is composting the products. The farm cannot give away or sell the compost. The second type is basically the same thing; however, the final product can be sold off the farm if the food waste is run through an anaerobic digester before it is composted.

### ***Cecil County, MD***

Union Hospital of Cecil County was noted in the chapter titled “Consumption” because of its initiatives to purchase local food for its cafeteria and patients meals. The Union Hospital of Cecil County also started composting food materials in March 2011. In the first six months, Union diverted 20,122 pounds of food waste to a composting facility. The compost is in turn used by the hospital for landscaping. The hospital diverts other food waste to a local hog farmer for feed.

### ***Howard County, MD***

San Francisco does it. Portland, Oregon, does it. On the east coast, Howard County will soon be one of the few jurisdictions doing it: curbside pickup of compostable food waste to feed a large-scale composting program. The Baltimore Sun reports:

*The county is asking almost 5,000 Elkridge and Ellicott City residents this month to participate in the recycling program, which will begin in September and turn more than 20 percent of landfill waste into compost, reducing disposal costs.*

*The county will provide residents with a 35-gallon container that will be collected once a week, the same day as yard waste. The food scraps will be taken to Recycled Green in Woodbine, where they will be composted and sold as a soil nutrient....<sup>12</sup>*

The composting effort will cost less than the \$37 per ton the county pays now to dump its trash in a landfill, a cost that will rise when the current contract expires in 2013. In addition, food waste that goes down kitchen garbage disposals costs ten times more to treat at the wastewater treatment plant than to handle as compost.

Homeowners need to be educated about what can and cannot be composted. Fruit, vegetables, and grain products can be composted, as well as “used paper towels, soiled food boxes, chopsticks, coffee filters—items that, when contaminated by food, cannot otherwise be recycled. Meats, fish, dairy products, diapers, Styrofoam and plastic products are among the items not permitted in the new collection. The meat and dairy products increase odors, attract animals and do not decompose as easily....”<sup>13</sup> Because the items would have gone out in the garbage anyway, there is little odor that would not have been there in the first place. It helps to “layer... the food waste with pizza boxes or other soiled paper waste or yard waste, to help prevent a lingering odor.”<sup>14</sup>

### ***Prince George’s County, MD***

Vermicomposting produces high quality compost by using worms to digest the food waste. ECO City Farm in Prince George’s County offers this description of their vermicomposting operation:

*We have 16 worm bins located at our Edmonston site filled with Eisenia fetida (commonly known as red wiggler worms) that thrive in decomposing matter. They are the hardest working livestock on our urban farm. Red wiggler worms consume their body-weight in organic matter every single day, and reproduce every two to three months. These precious animals produce some of the finest soil one can find, known as worm castings.*

*We use worm castings throughout our farm, and beyond. The castings are added to our soil to grow our produce, they can be sold as soil amendments to other growers, and they can be used to create a living organic liquid fertilizer known as compost tea....*

*Our red wiggler worms will live in high tunnel #4, in our 16 worm bins, each filled with 4,000 pounds of worm castings....*



Quote and photograph from <http://www.ecoffshoots.org/programs/compost/>

### ***New York State Prisons***

In 1997, 47 of 70 correctional facilities in the New York State Department of Corrections composted at 30 sites, which accepted one-half to four tons of food discards a day. Participating facilities recovered 90% of their food waste and other organic discards. Through composting, the correction facilities realized a net savings of \$564,200 per year in avoided disposal costs.<sup>15</sup>

### ***Burlington, VT***

In Burlington, Vermont, the 700-acre floodplain known as the Intervale, along the Wisnooski River, was a dangerous dumping ground in the 1980s. Today it provides more than 500,000 pounds of food per year. Beginning in 1987, Intervale Compost Products recycled leaf and yard waste into compost for Chittenden County. Now known as Green Mountain Compost and located outside Burlington, the operation handles 30,000 tons of yard waste, wood waste, and kitchen waste per year under the Chittenden Solid Waste District. Food scraps constitute 1/3 of the county's solid waste. The county has a number of drop-off sites and private haulers can pick up food waste from schools, businesses, and other institutions that separate food scraps from the rest of the waste stream. In addition to compost, local organic waste is also recycled into raised bed mix, topsoil, potting soil, seed starter mix, mulch, tree and shrub mix...even Green Roof Growing Medium.





Intervale (now Green Mountain) Compost

Of course, people can do their own composting (or vermiculturing). It doesn't take much space. Advice is offered all over the Web. Baltimore County offers lessons on composting—even a video—on the county's website. In 2011 and again in 2012, Baltimore County offered residents 80-gallon compost bins (made from recycled plastic), valued at \$100, for \$35.

<http://www.baltimorecountymd.gov/Agencies/publicworks/recycling/composting/>

## On-Farm Nutrient Management

As Kentucky farmer and writer Wendell Berry points out, "Once plants and animals were raised together on the same farm—which therefore neither produced unmanageable surpluses of manure, to be wasted and to pollute the water supply, nor depended on such quantities of commercial fertilizer." He adds that we have "take[n] a solution and divide[d] it neatly into two problems."

Maryland farms, fortunately, are among the best in the nation for installing and maintaining "best management practices" to protect natural resources and the health and vitality of the Chesapeake Bay<sup>16</sup>

Still other techniques, more complicated and expensive than most best management practices, can create a closed system that generates little waste and pollution, going a long way toward turning problems back into solutions. Such a system exists on the Kilby farm, which we visited earlier in this report. Here is how their manure handling process works:

- The floors, barns, and stalls are hosed down to clean them.
- The water flows into pond lined with impermeable material.
- The wastewater is pumped up to a methane digester, essentially another pond covered by a rubber tarp. Bacteria "digest" the wastewater and small solids into methane, which is piped to an engine that burns the methane and produces electricity for the dairy. (Excess methane is burned off.) This method of generating electricity saves the business, on average, a couple of thousand dollars *per month*.
- The bigger solids that are not pumped to the digester dry out and are used for fertilizer on the corn fed to the cows.
- The water from the digester is pumped to another pond to be further purified by light and air, after which it's pumped to a tank and used to clean barns and stalls.

## Methods of Promoting Food Recovery and Waste Reduction Programs

States and local governments are finding that food recovery programs and efforts to limit the amount of food going to the dump dovetail nicely with efforts to reduce, reuse, and recycle waste; conserve energy and other resources; and protect the environment.

To promote food recovery and recycling, officials can do the following:

- Designate a staff person to encourage food recovery and organic diversion.
- Sponsor tours or demonstrations of successful programs.
- Consider initiating a food recovery grant program.
- Fund a pilot program.
- Develop a local composting facility.
- Work with local trash haulers and composters to provide pick-up service for food discards; it is possible to include food discard pick-ups along with regular trash pick-ups.
- Establish a voluntary household composting program.
- Explore local and regional strategies for composting food waste.
- Create zoning that allows composting in urban garden sites.
- Distribute community kits to encourage backyard composting.<sup>17</sup>
- Increase recycling of waste related to food processing and packaging.
- Encourage restaurant grease recycling.<sup>18</sup>



The Wilmington, DE, Organic Recycling Center, run by the Peninsula Compost Group. Opened in 2009, it can compost 160,000 tons of material annually. <http://peninsula-compost.com/facilities/WORC.html>

## Endnotes

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- 1 <http://www.baltimoresun.com/news/maryland/howard/bs-md-ho-food-scrap-recycling-20110720,0,6760571, print.story>
- 2 See Rastogi, Nina Shen. "Much food goes to waste, which squanders resources and adds to greenhouse gases." Washington Post: June 15, 2010. <http://www.washingtonpost.com/wp-dyn/content/article/2010/06/14/ AR2010061405170.html> The article cites different figures from other research.
- 3 See, for example, Deuteronomy 24:19-21: <sup>19</sup>When thou cuttest down thine harvest in thy field, and hast forgot a sheaf in the field, thou shalt not go again to fetch it: it shall be for the stranger, for the fatherless, and for the widow: that the LORD thy God may bless thee in all the work of thine hands. <sup>20</sup>When thou beatest thine olive tree, thou shalt not go over the boughs again: it shall be for the stranger, for the fatherless, and for the widow. <sup>21</sup>When thou gatherest the grapes of thy vineyard, thou shalt not glean it afterward: it shall be for the stranger, for the fatherless, and for the widow. (King James Version.) See also Leviticus 19:9 and 23:22.
- 4 Holzberg, Janene. "Plan to feed hungry is bearing fruit." The Baltimore Sun, April 22, 2012, page A-6. <http://www.baltimoresun.com/features/bs-gl-goodworks-orchard-20120420,0,7011.story>
- 5 Ibid.
- 6 [www.epa.gov/waste/conserva/materials/organics/food/fd-ge](http://www.epa.gov/waste/conserva/materials/organics/food/fd-ge)
- 7 [www.epa.gov/greenpower/events/17aug11\\_webinar.htm](http://www.epa.gov/greenpower/events/17aug11_webinar.htm)
- 8 <http://fooddaydc.wordpress.com/2011/10/24/growing-food-and-farmers-for-the-future-jessica-weiss-and-growingsoul/>
- 9 <http://www.mwcog.org/uploads/committee-documents/b11fV9b20111128083427.pdf>
- 10 <http://www.gazette.net/article/20120509/NEWS/705099499/1070/bethesda-students-sort-trash-make-soil&template=gazette>
- 11 Ibid, and email with Jessica Weiss, June 19, 2012.
- 12 <http://www.baltimoresun.com/news/maryland/howard/bs-md-ho-food-scrap-recycling-20110720,0,6760571, print.story>
- 13 Ibid.
- 14 Ibid.
- 15 [www.epa.gov/osw/conserva/materials/organics/pubs/throw](http://www.epa.gov/osw/conserva/materials/organics/pubs/throw)
- 16 For more information, see the Maryland Agricultural Water Quality Cost-Share (MACS) Program <http://www.mda.state.md.us/pdf/2011macsar.pdf> and Agricultural Conservation Highlights
- 17 <http://www.baltimorecountymd.gov/Agencies/publicworks/recycling/composting/binsale.html>
- 18 U.S. Environmental Protection Agency. *Waste Not Want Not - Feeding the Hungry and Reducing Solid Waste through Food Recovery*. USDA EPA 530-R-99-040 [http://www.epa.gov/osw/conserva/materials/organics/pubs/wast\\_not.pdf](http://www.epa.gov/osw/conserva/materials/organics/pubs/wast_not.pdf)



## The 1,500-Mile Dinner

In 2007, the New Oxford American Dictionary named “locavore” its Word of the Year. The announcement defined the word as follows:

*The “locavore” movement encourages consumers to buy from farmers’ markets or even to grow or pick their own food, arguing that fresh, local products are more nutritious and taste better. Locavores also shun supermarket offerings as an environmentally friendly measure, since shipping food over long distances often requires more fuel for transportation....*

*‘Locavore’ was coined two years ago [2005] by a group of four women in San Francisco who proposed that local residents should try to eat only food grown or produced within a 100-mile radius....<sup>1</sup>*

In addition to helping the local economy and eating better food, many locavores want to reduce the environmental consequences of shipping food over long distances. Conventional wisdom says that the items on our dinner plate travelled an average of 1,500 miles to get there...but where did this number come from?

The statistic—1,518 miles, to be exact—appeared in a 2001 report published by a team of researchers at the Leopold Center for Sustainable Agriculture at Iowa State University. The researchers “examined how far 33 fruits and vegetables that had been grown in the United States traveled to a produce market in Chicago” in order to calculate the amount of carbon dioxide released in transporting it.<sup>2</sup> The study has many flaws: it does not account for meat, milk, or products from overseas, and all the food shipped from a state is assumed to be grown in the geographical center of the state. Other studies have different results: an analysis done at Maryland’s terminal market in Jessup in 2001 concluded “that U.S.-grown produce traveled an average of more than 1,685 miles.”<sup>3</sup>

Though the “1,500 mile-dinner” is not entirely accurate, the phrase encourages some people to think more about where their food comes from. Others take it as a challenge to discover just how much of their food they can acquire locally. Contributors to the Eat Local Challenge (<http://eatlocalchallenge.com/>) are committed to challenging themselves to eat mainly local food during a specific period of time during the year. The site includes accounts of Thanksgiving dinners cooked all over the country using local ingredients. (A web search shows that the “100-mile Thanksgiving” is a popular effort. A web search for “100 mile dinner” will also yield many results.)

For an idea of the economic potential of the local food system, consider the table below. It shows that while five Southern Maryland counties produced \$66.6 million in food (according to the 2007 U.S. Census of Agriculture), households in Southern Maryland spent almost \$3.6 billion on food. If just 5% of food dollars from southern Maryland households were spent on local food, local farmers would be selling almost \$177,000,000 in product—over \$110,000,000 more than they sell now.



County	Households <sup>1</sup>	Population	Median Income <sup>2</sup>	Dollars Spent on Food per Household <sup>3</sup>	Total \$ Spent on Food for All Households	Total \$ for Local Farmers if 5% of So. MD Food Expenditures Were Spent on Local Food
Anne Arundel	199,378	537,656	\$83,456	\$6,041	\$1,204,351,837	\$60,217,592
Calvert	30,873	88,737	\$88,862	\$6,432	\$198,569,936	\$9,928,497
Charles	51,214	146,551	\$87,007	\$6,298	\$322,523,579	\$16,126,179
Prince George's	304,042	863,420	\$71,260	\$5,158	\$1,568,187,463	\$78,409,373
St. Mary's	37,604	105,151	\$88,444	\$6,402	\$240,724,891	\$12,036,245
<b>Total</b>	<b>623,111</b>	<b>1,741,515</b>			<b>\$3,534,357,705</b>	<b>\$176,717,885</b>

Total value of products sold in 2007 for the 5 counties = \$66,607,000<sup>4</sup> which is approximately 1.7% of the total household income spent on food.

Total value of sales of vegetables, melons, potatoes, sweet potatoes, fruits, tree nuts, berries, and poultry and eggs in 2007 for the five Southern Maryland counties was approximately \$8.8 million, according to the USDA agricultural census<sup>5</sup>

The estimated food budget for Southern Maryland is \$3.534 billion. \$8.8 million is 0.23% of the total Southern Maryland Food Budget.

<sup>1</sup> 2010 Census.

<sup>2</sup> 2010 Census for Calvert, Charles and St. Mary's. Census QuickFacts 2006–2010 for Anne Arundel and Prince George's Counties.

<sup>3</sup> 2010 USDA estimate was 9.4% of disposable income (after tax) on all food. <http://www.ers.usda.gov/data-products/food-expenditures.aspx> Assume average tax is 23%: the percentage of income paid by the average Marylander in Maryland taxes (sales, income, property, etc.) is 9.3% of income (*Who Pays? A Distributional Analysis of the Tax Systems in All 50 States*, Institute on Taxation & Economic Policy, Third Edition, November 2009 ) <http://www.itepnet.org/whopays3.pdf> while the middle quintile of federal taxpayers pays 13.9% of their income to the IRS (Citizens for Tax Justice, [http://ctj.org/ctjreports/2012/04/who\\_pays\\_taxes\\_in\\_america.php](http://ctj.org/ctjreports/2012/04/who_pays_taxes_in_america.php) According to their websites, The Institute on Taxation & Economic Policy describes itself as "a non-profit, non-partisan research organization that works on federal, state, and local tax policy issues," while Citizens for Tax Justice, "founded in 1979, is a 501 (c)(4) public interest research and advocacy organization focusing on federal, state and local tax policies and their impact upon our nation. CTJ's mission is to give ordinary people a greater voice in the development of tax laws."

<sup>4</sup> USDA – National Agricultural Statistics Service 2007.

<sup>5</sup> USDA county data at [www.agcensus.usda.gov](http://www.agcensus.usda.gov) .

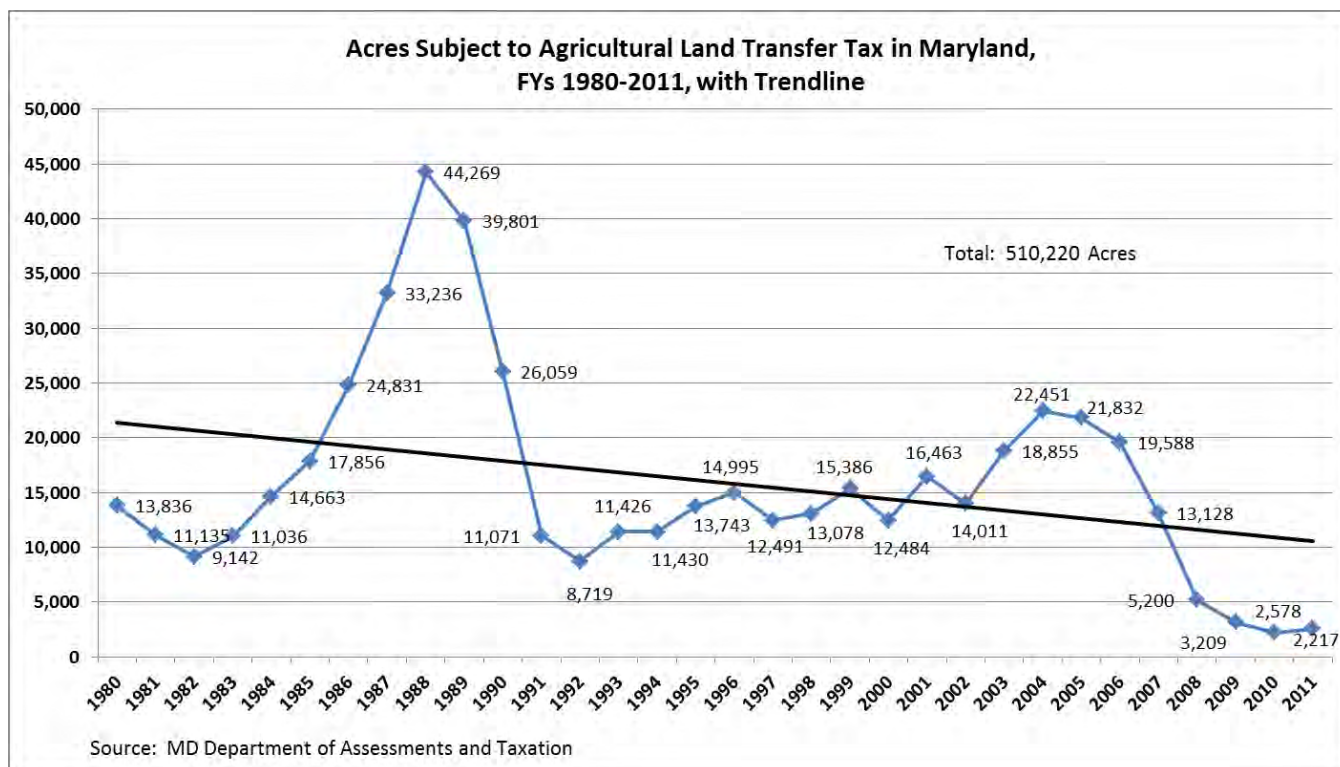
Thanks to Greg Bowen, former planning director of Calvert County and currently Director of Planning for the Tri-County Council for Southern Maryland, for allowing us to adapt this table he created.

## Local Food Depends on Local Farmland

In order for Marylanders to benefit from an agricultural economy and to enjoy local food in the future, Maryland needs farmland in the future. A lot of it. Corn and soybeans, eventually used mostly to feed animals, occupy over 900,000 acres in Maryland (according to the 2007 U.S. Census of Agriculture). Wheat, oats, and barley use over 200,000 acres more, while vegetables and orchards occupy another 38,000 acres.

### Loss of Farmland

In a small, densely populated state like Maryland, however, farmland is often worth more for development than for farming. The statistics on farmland conversion confirm this. Whenever a farm is sold for development and no longer qualifies for assessment as agricultural land, the State levies an agricultural land transfer tax. A total of 510,000 acres have been subject to the tax since 1980, with the annual losses of farmland showing a wide variation:

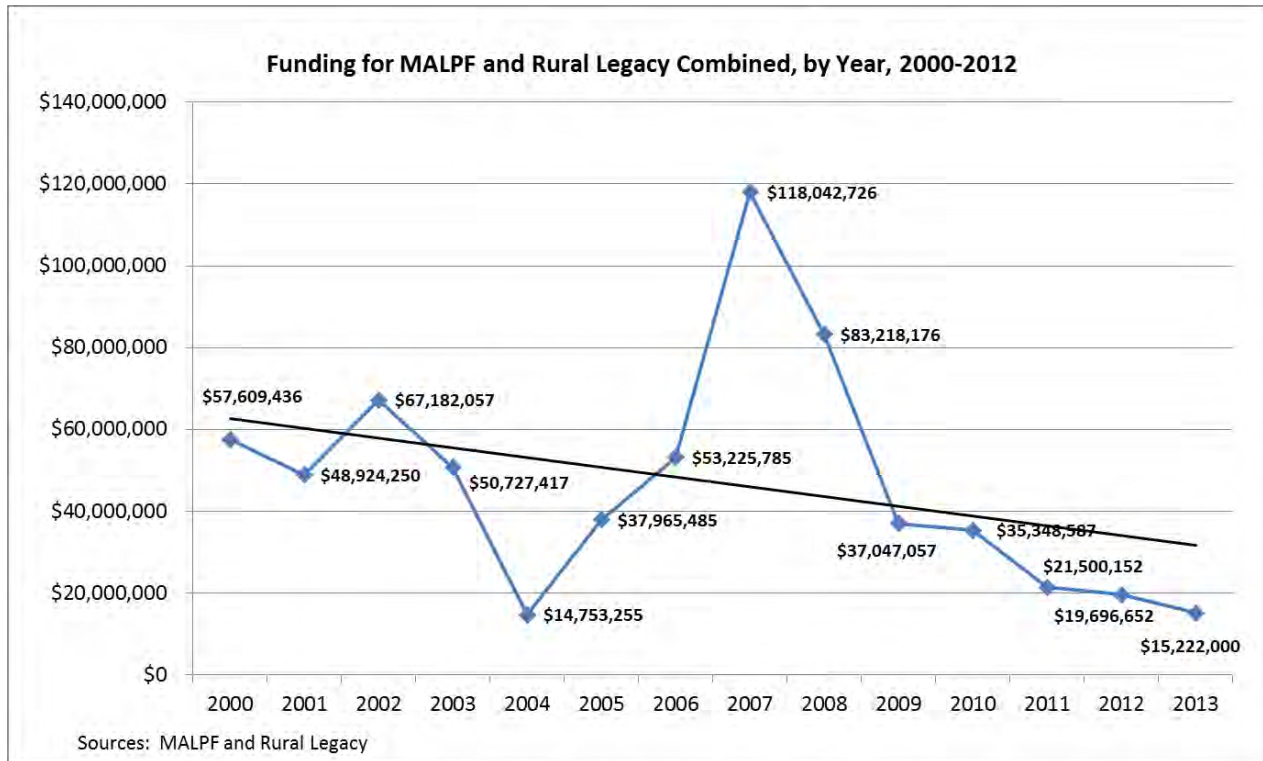


The acres subject to agricultural land transfer tax is a useful measure of farmland loss because the acreage is definitely going out of production and the data have been collected the same way every year for over 30 years. Other measures of farmland loss show the same thing. The Census of Agriculture, which relies on surveys and is published every five years, shows that “land in farms” for Maryland declined by 563,000 acres for the 29 years from 1978 to 2007. MDP’s Land Use/Land Cover analysis, which uses a combination of aerial photography and parcel data, shows a loss of 613,151 acres of farmland from 1973 through 2010.<sup>4</sup>

### Preservation of Farmland

Luckily, Maryland was first in the nation with a statewide farmland preservation program: the Maryland Agricultural Land Preservation Foundation (MALPF), which acquired its first easement in 1980. To date it has preserved over 280,000 acres and has been joined by other state programs that purchase easements (e.g., Rural Legacy) or accept donated easements (e.g., the Maryland Environmental Trust). Federal and local programs, and not-for-profit land trusts, are also active in Maryland. All told, these efforts have protected almost 800,000 acres; they remain in private

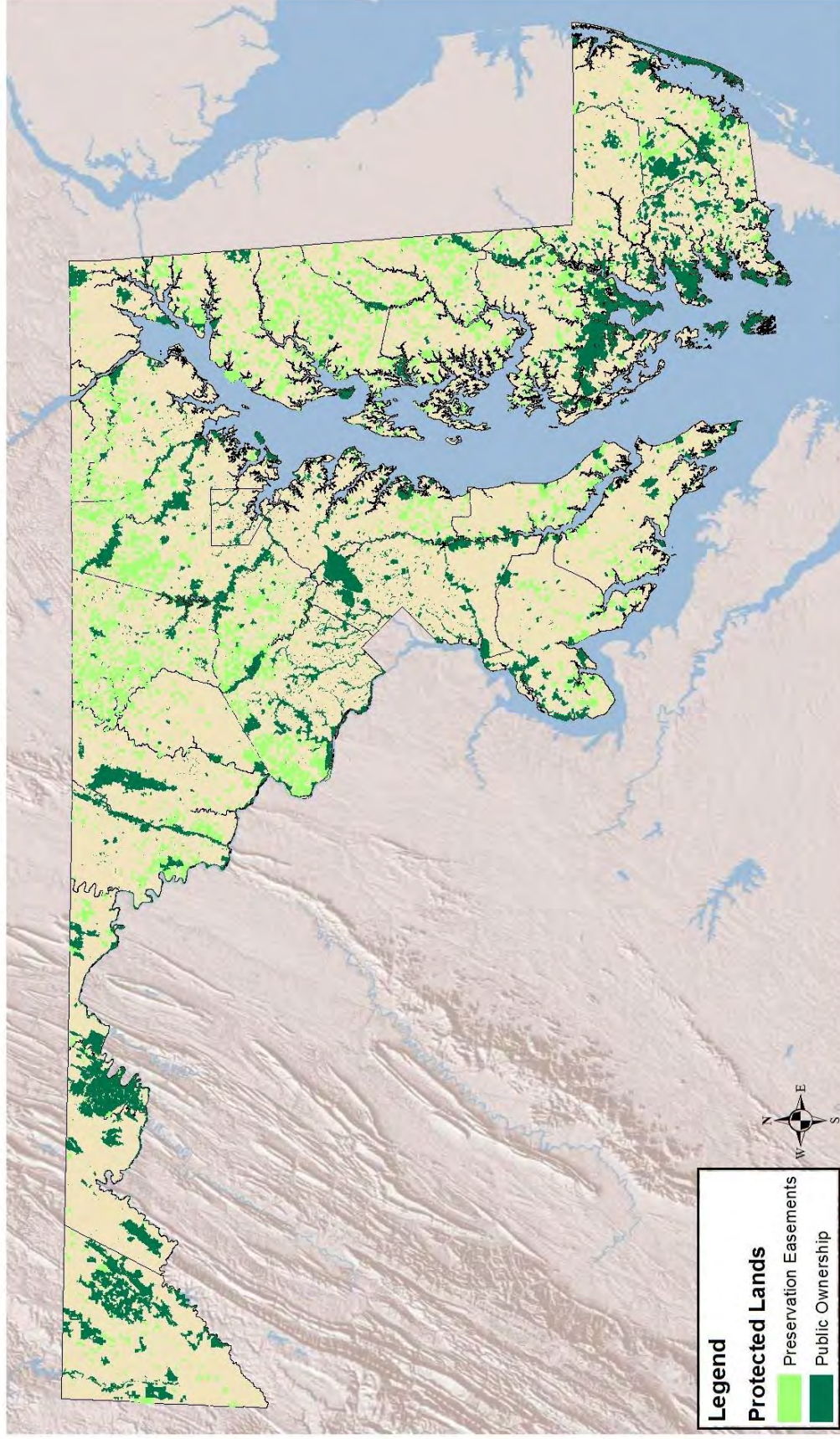
ownership for private use, but cannot be developed. Over 700,000 acres more are publicly owned for use as federal, state, and local parks, wildlife refuges, and the like. State funding, however, which depends primarily on the real estate transfer tax and to a lesser extends on the separate agricultural land transfer tax, track the economy; therefore, funding has steeply declined during the economic downturn, as shown by the following graph.



Below is a map that shows land in Maryland protected by easement and public ownership.



# State of Maryland, Protected Lands 2012



## Land Use Stability as an Indicator of Viable Farmland

The bounty of Maryland's farms, and the restaurants that serve it up in creative and delicious dishes, were showcased in a documentary called "The Maryland Harvest: A Guide to Seasonal Eating." First broadcast on Maryland Public Television on April 17, 2012, the show demonstrated how well Marylanders can eat locally and seasonally.<sup>5</sup> Beyond the scope of the program, however, lay the issue of farmland conversion. Farms do not exist in isolation; they are influenced by what happens on the land around them. If the land is under pressure of development, and farmers face conflicts from neighbors and the loss of suppliers and processors, they are more likely to sell for development. On the other hand, a farm is more likely to remain a farm if it is surrounded by preserved farms, in a Priority Preservation Area where state and local resources are dedicated to preserving agriculture, and can sell its products at a profit.

The American Farmland Trust reports that in the United States, 91% of fruit, 78% of vegetables, 67% of dairy products, and 54% of poultry and eggs are produced on the urban fringe, or places described as "urban influenced counties." ("Urban influenced counties" are those assigned a 2003 Urban Influence Code of 1, 2, 3, 4 or 5 by the USDA Economic Research Service."<sup>6</sup> An update of these codes is expected in 2013.) Maryland is a small and densely populated state, so its farmland is vulnerable to development pressure; almost all the food produced in Maryland comes from urban influenced counties, with only Garrett County having an Urban Influence Code above five:<sup>7</sup>

County	2003 Urban Influence Code	Definition of Urban Influence Code
Anne Arundel	1	Large-in a metro area with at least 1 million residents or more
Baltimore	1	
Calvert	1	
Carroll	1	
Cecil	1	
Charles	1	
Frederick	1	
Harford	1	
Howard	1	
Montgomery	1	
Prince George's	1	
Queen Anne's	1	
Baltimore city	1	
Allegany	2	Small-in a metro area with fewer than 1 million residents
Somerset	2	
Washington	2	
Wicomico	2	
St. Mary's	3	Micropolitan adjacent to a large metro area
Talbot	3	
Caroline	4	Noncore adjacent to a large metro area
Kent	4	
Dorchester	5	Micropolitan area adjacent to a small metro area
Worcester	5	
Garrett	7	Noncore adjacent to a small metro and does not contain a town of at least 2,500 residents

The Maryland Department of Planning conducts its own analysis to show the extent of existing and potential development in rural Maryland. When areas zoned for agriculture or conservation are unlikely to be developed, we say that the land use is stable. The stability analysis is done with the assistance of MDP's Geographic Information System (GIS), which takes data associated with the land and displays them visually on a map.

The analysis starts with land that is locally zoned for the preservation of agriculture or the conservation of natural resources, i.e. "resource land." (Land that is zoned for something else is included in the stability analysis if the Department of Natural Resources determines that it contains green infrastructure, rare species habitats, aquatic life hot spots, or forests important for protecting water quality.) The computer mapping system then covers Maryland with a grid consisting of 100-acre cells. The following data are then attributed to these 100-acre cells:

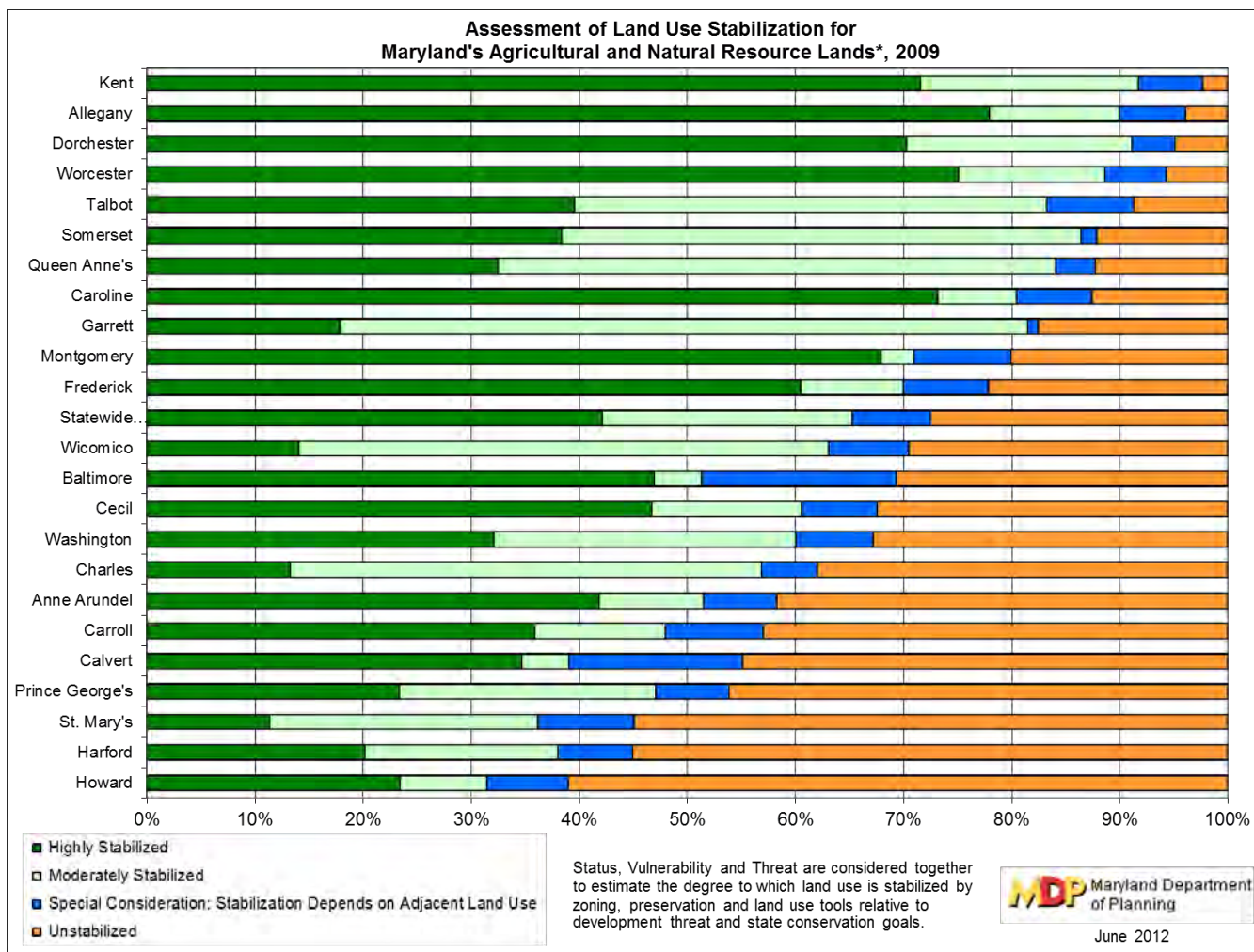
- **Status of Resource Lands:** This is a measure of the number of residential parcels (improved or un-improved) per 100 acres. The more houses and small parcels in an area, the less hospitable the area is for agriculture. Each 100-cell was assigned one of the following values:  
Highly Fragmented – More than 5 Residential Lots per 100 Acres  
Moderately Fragmented – Between 3 and 5 Residential Lots per 100 Acres  
Largely Un-fragmented – 2 or Fewer Lots per 100 Acres
- **Vulnerability of Resource Land:** Vulnerability is a measure of susceptibility to future residential subdivision and development, based on the current zoning and land use management tools. For each 100-acre grid cell, the estimated development capacity of all parcels in the cell and the eight surrounding grid cells are summed:  
High Vulnerability – More than 45 Residential Lots per 900 Acres  
Moderate Vulnerability – Between 19 and 45 Residential Lots per 900 Acres  
Limited Vulnerability – Fewer than 18 Residential Lots per 900 Acres
- **Threat to Resource Land:** Development threat is estimated by using the amount and location of recent development to project the distribution throughout a county's rural resource lands of new households expected by 2030. Residential parcels subdivided or improved between 1999 and 2009 were counted in each 100 acre grid cell. 2030 household projections were then distributed to grid cells in proportion to their share of subdivision and improvement activity from 1999 to 2009. As with the vulnerability analysis, an eight-cell neighborhood grid around each cell was used to represent development pressure in a more generalized way, i.e. in a 900-acre area centered on each cell.  
High Threat – Pressure for more than 45 Residential Lots per 900 Acres  
Moderate Threat – Pressure for 18-45 Residential Lots per 900 Acres  
Low Threat – Pressure for fewer than 18 Residential Lots per 900 Acres
- **Status + Vulnerability + Threat = Land Use Stabilization.** Areas of high stability appear to have a fairly strong ability to support conservation goals in light of status, vulnerability, and threat. Areas of low stability appear to have limited prospects to support conservation goals in light of these measures. Moderately stable lands are somewhere in between, and may be somewhat stabilized or simply not yet subject to much pressure. Prospects for areas of special assessment—places where a particular resource of interest can be protected with a limited amount of undeveloped land instead of the large landscapes needed to support agriculture or forestry—depend on what is happening to land around the resource.

The map below depicts land use stability across Maryland. (The gray areas are not locally zoned for the preservation of agriculture or the conservation of natural resources and do not contain green

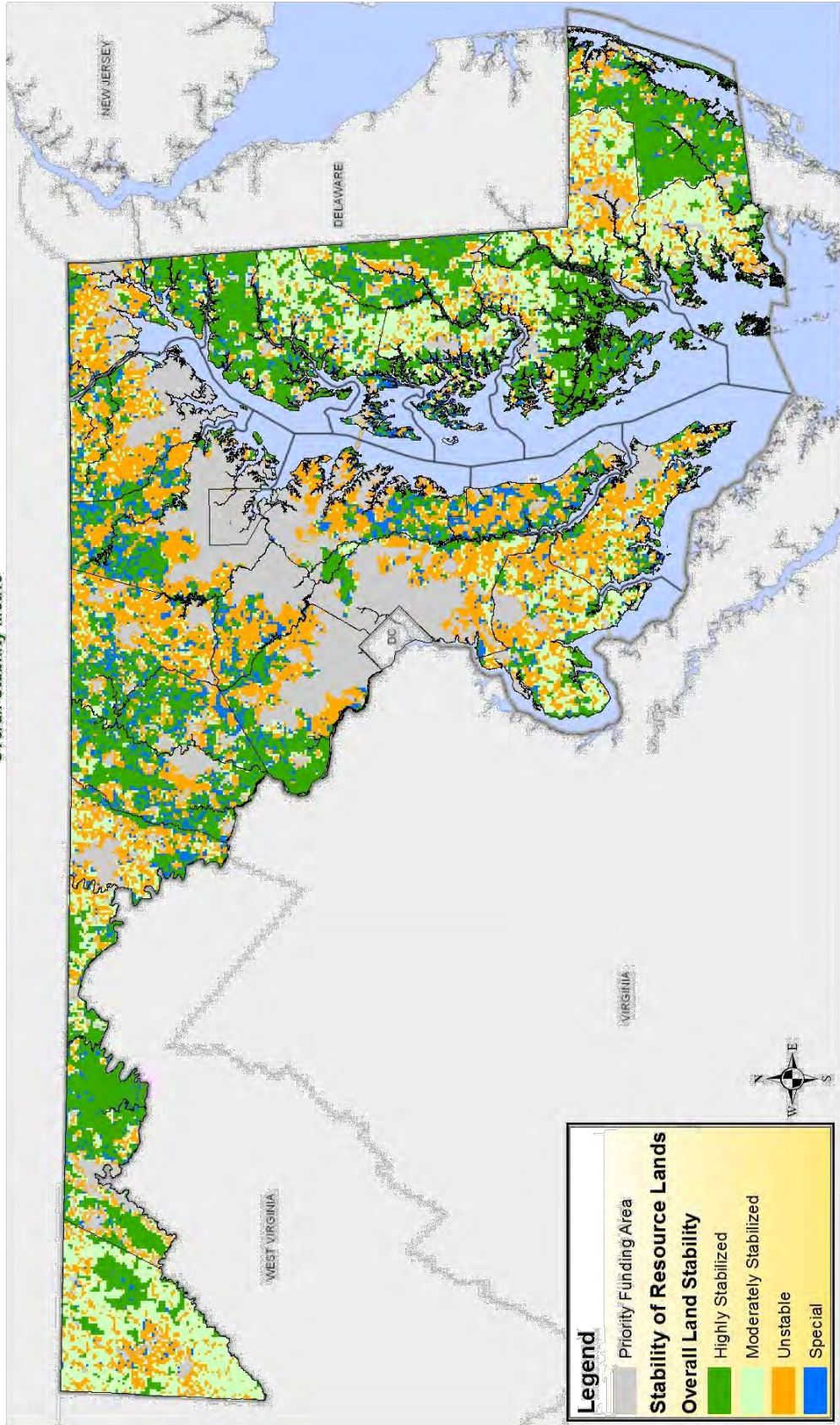


infrastructure, rare species habitats, aquatic life hot spots, or forests important for protecting water quality.)

The data underlying the land use stability maps can be displayed in a graph. The graph arranges the Counties in descending order, starting with Kent, which has the highest percentage of agricultural and resource land either “Highly Stabilized” or “Moderately Stabilized,” and ending with Howard.



# State of Maryland, Land Stability Analysis 2009 Overall Stability Metric



**Legend**

- Priority Funding Area

**Stability of Resource Lands**

**Overall Land Stability**

- Highly Stabilized
- Moderately Stabilized
- Unstable
- Special

Data compiled from MPD Land Stability Analysis 2009  
based on MDPV 2009 and MDP Growth Model 2009 points.  
By Ryan Sigworth, AICP

0 4.25 8.5 17 25.5 Miles

The land use stability model helps the State decide which potential easement acquisitions offer the best return on the investment of public funds because the area around them is likely to remain in agriculture or forest. The interactive AgPrint map—<http://www.agprint.maryland.gov/map.html>—shows preserved land, publicly owned land, and rural land where the land use is most stable. When you zoom in on the map, you will see which unprotected, undeveloped parcels should be a priority for easement acquisition and which parcels are not a priority because there are fewer easements nearby and the land use is less stable.

## **Local Farmers Speak about Local Food**

For this report, a number of farmers profiled in Maryland Public Television's "The Maryland Harvest: A Guide to Seasonal Eating" provided their insights into the opportunities and challenges that their businesses face.

### **Cottingham Farm, Easton, Talbot County**

#### **The Need for Change**

Cleo Braver of Cottingham Farm believes that we must return to the times of organically grown, healthy, and nutritious food for people to eat—and there is no better place for this to happen than on Maryland's Eastern Shore. It has a long agrarian history and good reputation—and is a short drive to large metropolitan centers in addition to small Eastern Shore towns.

Mr. Braver expresses "the need for change" by citing the costs to the nation of the present "cheap" food system: crop subsidies, overuse of antibiotics in livestock, soil degradation, reliance on fossil fuels, nitrogen and phosphorus that flow into local waters and degrade water quality, outbreaks of food borne-diseases, and rising rates of obesity and diabetes. For these and other reasons, Mr. Braver concludes that the current food system is not sustainable.

### **Chapel's Country Creamery Easton, Talbot County**

#### **"Back to basics"**

That is what Holly Foster calls the farming methods that she uses at Chapel's Country Creamery. It's simple to just let the cows graze, but time consuming: Ms. Foster has to rotate the cows to a new part of the pasture every day, sometimes twice a day.

"It's healthier for the cows, so they give healthier milk," Ms. Foster says. "You can see it in the color of our cheeses and they have more flavor." Chapel's Country Creamery's artisanal cheese starts with fresh, raw milk produced on the farm. The grass-fed dairy herd produces milk that is rich in cream and contains no synthetic hormones or antibiotics.

"By producing our own cheese from start to finish, we insure the highest quality possible," Ms. Foster says.

"We feel that because of the size of our farm we can serve a niche market that enables us to do what we like," Ms. Foster adds. What they like is the experience of a small family farm. They get attached to their cows. Their children give them names. Some of the cows are almost as old as the operation.

Ms. Foster and her husband have been working their 116-acre farm for fourteen years. In addition to tending their 54 cows, they grow corn and alfalfa.

"The back to basic technique is not only good for the cows, it is good for the environment," says Foster. "We are near the Chesapeake Bay and we don't want to add pesticides or use diesel fuel on the land. By letting the cows graze and rotating the grazing fields, the land doesn't get overused."

Chapel's Country Creamery received the Talbot County Soil Conservation Award for environmentally friendly operation for soil, air, and water quality concerns.

### **Black Rock Orchard, Lineboro, Carroll County**

Why farm?

“The social contact with the working urban population at market” is one of the answers that David Hochheimer of Black Rock Orchard will give you. “There are a wide variety of customers who seem to rely on the produce as part of their weekly grocery needs.”

Major crops from the 65-acre farm located near the Mason and Dixon Line in Carroll County include apples, pears, peaches, plums, nectarines, cherries, apricots, strawberries, blueberries, and blackberries. Black Rock Orchard participates in seven farmers markets in the Maryland, Virginia, and the District of Columbia.

### **Truck Patch Farms, New Windsor, Carroll County**

Bryan Kerney and his wife, the owners of Truck Patch Farm, come from a line of farmers that goes back three generations in his family and five generations in hers. They raise beef, pork, poultry, and produce. The couple hopes to pass their farm down to their children.

One of the signs of development pressure near Truck Patch Farm is the increase in traffic. With the barn and facilities on one parcel and the pasture across the street, Mr. Kerney must see that the cattle get across safely. In addition he drives his tractor across the road every day. With three county roads dividing the farm, navigating the movement of traffic from new subdivisions requires continuous caution.

The Kerneys have considered entering their farm into one of the land preservation programs. They discovered, however, that in order to do that they have to have a minimum of 50 acres to sell a preservation easement to Carroll County or the Maryland Agricultural Land Preservation Foundation. However, only 48 acres of their 51-acre farm is in Carroll County the other three acres are in Frederick County, so they don't qualify.

The possibility that other farms near them might sell their land for development is becoming an issue for Truck Patch Farm. The pressure to sell the farm is real. The possibility of starting over again is almost unthinkable. For one thing, the cost of land is high, and the thought of leaving the land that has been in Mrs. Kerney's family for five generations is not an option that they want to face. The couple has worked for hard for fifteen years to bring the farm to a level of production and profit that they can give all their time to farming without taking on supplemental employment. They find it troubling that all their effort could be lost due to the encroachment of non-agricultural development.

### **Whitmore Farm, Emmitsburg, Frederick County**

The Demand for Local Food Confronts the Demand for Developable Land: Frederick County Farmer William Morrow in His Own Words

*I have a small (30 acres), diversified farm in a rural part of Frederick County, in a rural part of MD. If you look at the 2007 USDA Ag Census for MD, approximately 50% are 50 acres or less.\* Those are the farms that are most susceptible to development pressure because it is very hard to be economically viable on that scale. The demand for locally grown food is white hot. Farmers markets, grocery stores, restaurants, are all clamoring for locally raised food. I have no reason to believe the demand will lessen anytime soon.*

*We are approaching the holding capacity of our 30 acre farm, if we are to continue farming environmentally sustainably. The biggest obstacle holding us back from expansion is access to affordable land... This has resulted in farmers asking for development prices when they put their farm up for sale... If you look at cities like Portland, [Oregon,] and most cities in Europe, there is a very clear demarcation where urban development stops and ag land begins. The hurdle for rezoning ag land needs to be raised. Otherwise, that 50% of farms [that are]... less than 50 acres is nothing more than a parking lot for future development.*

\* The 2007 USDA Census of Agriculture shows harvested cropland on 8,278 farms. Of those, 4,876, or 59%, are 49 acres or smaller. There were 12,834 farms in the state overall, with cropland on 10,235.



## **Shlagel Farms, Waldorf, Charles County**

Some threats to farming may come from strategies to save the Chesapeake Bay.

Shlagel Farms is a diversified, third-generation family farm in Waldorf Maryland, celebrating its 100th anniversary in 2012. During the MPT documentary Russ Shlagel talked about the importance of farming in an environmentally conscious way to take care of the Chesapeake Bay. Recently, the Shlagels were informed by County officials that “they may decide to take approximately 5 acres of our land through a forced sale to create a concrete sediment pond to rectify a drainage problem in a forty year old subdivision that is adjacent to our farm. This will be the seventh forced sale of our land by Charles County or the State of Maryland to improve roads or drainage. Apparently the Maryland Department of the Environment has tasked each county with coming up with projects to improve the Bay watershed area. Our understanding of it is that these projects will be scored on a point system and each county will have to produce a required amount of points. That leads us to believe that this project will carry a lot of points regardless of the damage it will do to us. The sediment pond that will redirect a creek and combine it with subdivision yard run-off will not be suitable for us to use for irrigation due to the undesirable nitrate content and it may very well dry up our existing irrigation pond. If our current irrigation pond dries up that will put us out of business.”

Mrs. Shlagel laments, “It seems to us that every time there is a problem to solve, the Maryland farmer pays the price of the solution....Our farm has been an active family farm for 100 years this year. We have serious concerns that we will not be able to hold on to our way of life through all of the pressures placed on us by our government.”

She then states pointedly: “If not us, then who is going to grow the fruits and vegetables that feed the country?”

## **Simmer Rock Farm, Baltimore County**

A new farmer takes root.

Mary Cawunder is a young entrepreneur and farmer. She enjoys realizing her dream of growing vegetables at Simmer Rock Farm, a small transitioning-to-organic operation on land she rents from Springfield Farm in Sparks, Baltimore County. Simmer Rock promotes local food systems, community-supported agriculture, and environmentally safe and sustainable growing practices. A farmer for three years, Mary sells produce at the farmers market in the North Station Arts District on Charles Street in Baltimore and to a number of restaurants in the Baltimore area including Atwaters, Woodberry Kitchen, The Oregon Grill, and Goucher College.

Mary knows that grants are available to farmers; her concern is how to get to them. Research takes time and writing a grant is a specialty unto itself. She wishes there were a place that could provide assistance in sorting through mounds of data and writing the grant application. Mary also notes that while farmers markets are popular, the smaller markets, such as the one on Charles Street, could use many more customers and would benefit from more advertising and marketing expertise. The Charles Street market is in its second season. Every week people stop to say that they did not know about the market; commuters at Penn Station seem to just walk by. Advertising and marketing cost money she stated. Another challenge is finding employees to work in small operations such as hers.

In addition to growing produce Mary enjoys working with students in local schools. She participates in the Days of Taste program, a discovery-based program for 4th & 5th grade schoolchildren. Developed by The American Institute of Wine & Food in 1995, Days of Taste inspires children to learn about the food we eat, discover how ingredients taste, and understand how they weave their way into our daily lives, from farm to table.

Mary knows that farming is in transition and looks forward to exploring new farming techniques.



## Historical Farm, Innovative Farming

Springfield Farm, Sparks, Baltimore County

In October 2000 the United States Department of Agriculture Natural Resource Conservation Services included Springfield Farm, located in Sparks, Maryland, as an Alternative Farm Enterprise – Agritourism Success Story.

“This farm has been in our family since the early 1700’s,” says David Smith, farmer and proprietor. “It was originally part of a 5,000- to 10,000-acre farm granted by the King of England. My great grandfather was deeded this current farm (65 acres) in the mid-1800’s. I grew up here.”

The alternative enterprise which brought them acclaim is raising pasture-fed chicken using the Joel Salatin cage method: Floorless pens that are moved once or twice a day around a pasture, providing the chickens with fresh air, grass, and insects, and also protection from predators.

Mr. Smith said that they chose the alternative enterprise because the farm was not big enough to make a profit on corn, wheat, and beans. He researched what small-scale enterprises were not being done in the area and decided on pasture-fed broilers, free-range eggs, and veal. The farm now raises about 2,200 layers, 5,000 nonlaying chickens, 400 turkeys, 100 geese, and 250 ducks each year; in conjunction with other local farmers, who adhere to Springfield’s strict growing standards, it also rears 500 rabbits, 100 lambs, three dozen beef cattle, two dozen pigs, and a dozen goats.

The Smith family adheres to conservation practices. They use no-till cultivation on a fifteen-acre pasture and worked with the USDA’s Farm Service Agency and Natural Resources Conservation Service to improve their pond and creek and better understand the soil characteristics of the farm.

Twelve years later Springfield Farm has new challenges to face that have nothing to do with chickens or eggs. The new challenge is to expand their operation in a way that will improve the distribution of their products. The Smiths decided to build a proper retail facility on their land, a bank barn that would look just like the barn that was built in 1850 by his grandfather and destroyed in a storm a century later. In addition to allowing direct marketing of their product to consumers, the new 2,000-sqaure-foot barn would also contain refrigeration, a commercial egg washing facility, and storage for dry goods. By moving the current operation out of their house and garage to the new barn, the Smiths would have more space to operate efficiently and a better space to present their products to the growing local food movement.

Many of the neighbors, however, rejected the proposal. Their objections have held up the proposal for seven years. And even though the agricultural operations that the Smith’s propose are the same as what they do now, the neighbors perceive the barn to be a problem. Although the proposed facility is allowed by Baltimore County zoning, the neighbors continue their challenge, keeping the matter tied up in court for years.

It is interesting to note that the neighbors live on land that was once part of the larger Springfield Farm. Also, the neighbor’s houses were built after the barn was destroyed by the storm.

## Two Local Restaurants that Rely on Local Food

Waterfront Kitchen, located in the Fells Point section of Baltimore, describes itself as a seed-to-plate restaurant. The restaurant purchases ingredients as locally and as seasonally as possible. The relationship with regional farmers is a source of pride and extraordinarily good food. Waterfront Kitchen also partners with Living Classroom's BUGS (Baltimore Urban Gardening with Students) program, which teaches inner-city grade school children gardening, nutrition, applied academics, life skills, and more. Year-round donations from the restaurant and the investment of time on the part of the restaurant's chefs and partners will make it possible to grow much of their produce in conjunction with BUGS kids during the growing season.

On the other side of the Bay Bridge, Berlin is the first Worcester County town with a full production brewery: Burley Oak. Owner Bryan Brushmiller thought it was important to use local sources, so he buys hops and other ingredients from local farmers. He believes that his commitment to sourcing and buying locally makes good business sense. The revenue produced from local purchases stays in the community to be used again and again, strengthening the community and its businesses.

"That was my idea for the brewery, to help the local economy with new options," Mr. Brushmiller says. "An example of this is the farmer in Snow Hill, which is 15 miles away that we buy grain from. We grew thirteen acres of two-row barley with him this year. This is a base grain we use in the brewing process. We are currently trying to malt this grain and utilize it in hopes of growing twice as much next year."

Another reason Mr. Brushmiller uses local sources is that he is assured of the quality of the ingredients. His customers, he says, trust him to deliver a quality product.

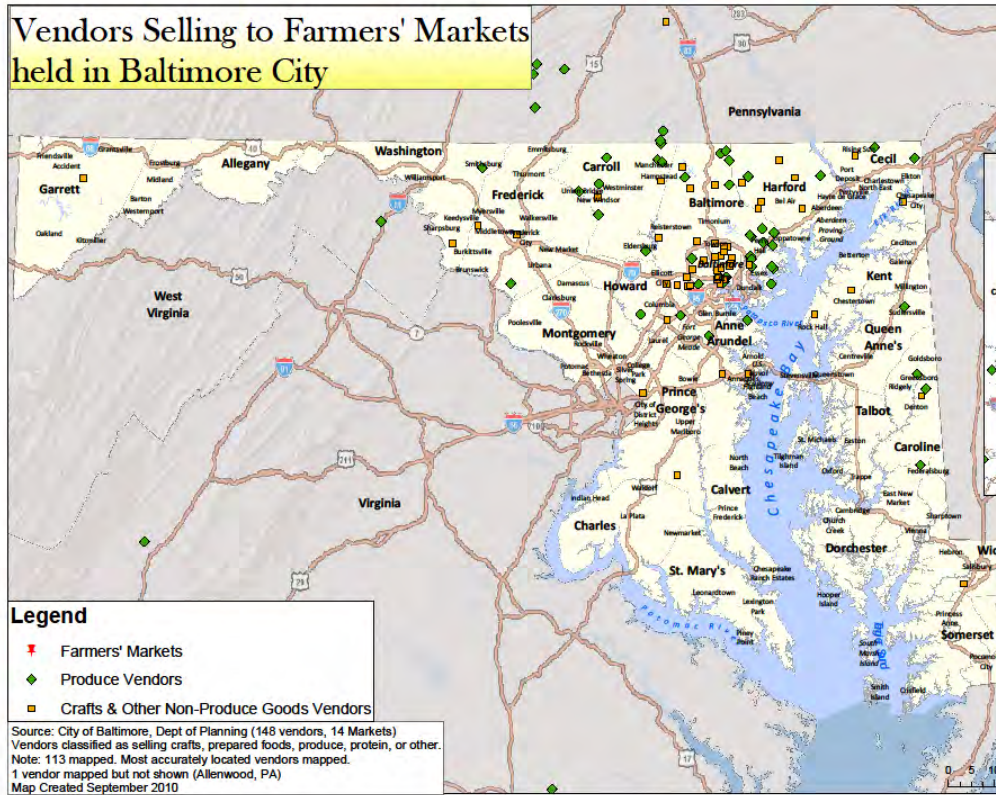
Brushmiller realized that he needed a certain kind of license to be able to sell beer by the pint but current state law didn't allow him to obtain the proper license for those kinds of sales. After Brushmiller explained his dilemma to the town council members they voted to endorse his request for a legislative change that would permit a microbrewery with a class D tavern license, like Burley Oak Brewery, to operate in Berlin. A law passed by the General Assembly last year made Burley Oak similar to other micro-breweries in other areas that may serve pints of beer and growlers without a restaurant on the premises. Another law added Worcester County to the list of jurisdictions in which the holder of a pub-brewery license could sell growlers, half-gallon containers of beer, for off premises consumption.

Since opening in August 2011, Burley Oak has kept about a dozen beers on tap; consumers can sample a pint or take home a half-gallon growler. The names of beers reflect the local flavor: *Pale Ryeder* is described as a farm fresh pale ale made with local rye from Clayville farm in Snow Hill; Assawoman *Amber* is named after a lagoon that is located between Ocean City, Maryland and Gee *Willy's* is named after Berlin's Mayor, Gee Williams.

The brewery takes its name from local history. The name of the town, Berlin, is a shortened version of a local tavern, "Burleigh Inn"—derived from the Burley Plantation—and the brewery building was once a cooperage: hence, Burley Oak. The Burley Oak Brewing Company was awarded \$10,000 from Berlin's Façade Program, an initiative funded by the Maryland Department of Housing and Community Development's Community Legacy program. Burley Oak Brewing Company will initially employ four to six people, with the hopes of growing to fifteen employees within three years.

Mr. Brushmiller said that he perceives no threat of development to the farmland on which he relies.

To reinforce the idea that local food often comes from land that is under development pressure, look at the following map. It shows that most of the vendors supplying the farmers markets in Baltimore City lie within the metropolitan area, often close to major interstate highways. It's no surprise, therefore, that the counties near Baltimore operate three of the most accomplished farmland preservation programs in the United States: Carroll County (#4, according to Farmland Preservation Report), Baltimore County (#6), and Harford (#11). Two of the other top twelve programs can be found in metropolitan Washington, DC: Montgomery County (#2) and Frederick County (#10).<sup>8</sup>



## Endnotes

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- 1 "Oxford Word Of The Year: 'Locavore.'" Oxford University Press Blog, posted November 12, 2007.  
<http://blog.oup.com/2007/11/locavore>
- 2 Black, Jane. "What's in a Number? How the press got the idea that food travels 1,500 miles from farm to plate." Slate, posted Sept. 17, 2008. [www.slate.com/articles/life/food/2008/09/whats\\_in\\_a\\_number.html](http://www.slate.com/articles/life/food/2008/09/whats_in_a_number.html)
- 3 Ibid.
- 4 According to the American Farmland Trust, the United States as a whole, between 1982 and 2007, lost 41,324,800 acres of rural land, "an area the size of Illinois and New Jersey combined.... Between 2002 and 2007, 7,491,300 acres of rural land were converted to developed uses...." <http://www.farmland.org/resources/fote/default.asp>
- 5 <http://www.mpt.org/bayweek/programming.shtml> . Sponsors include the USDA Specialty Crop Block Grant Program awarded by the Maryland Department of Agriculture, MARBIDCO, Baltimore County Development Corp., and Mid-Atlantic Farm Credit.
- 6 <http://www.farmland.org/programs/localfood/fresh-food-grown-on-the-urban-fringe.asp>
- 7 <http://www.ers.usda.gov/data-products/urban-influence-codes.aspx>
- 8 <http://www.farmlandpreservationreport.com/2011/11/11/nov-dec-2011/>

## Appendix I: A Few Words about Agricultural Education

The inclusion of agricultural education into the school curriculum, as described below, is a good idea. The education can be reinforced by the creation of garden clubs as an extracurricular activity.

### The Maryland Agricultural Education Foundation



In Maryland, when you pay extra for an orange and yellow agricultural tag for your automobile—they say “Our Farms, Our Future” in the lower right hand corner—a portion of the funds support the Maryland Agricultural Education Foundation, Inc. MAEF is a 501 (c) 3 non-profit, non-governmental organization established in 1989 as recommended by a Governor’s Task Force. The

Foundation's mission is to promote the understanding and appreciation of the importance of agriculture in our daily lives. In October 2011, MAEF reported that 43 Maryland high schools offer agricultural classes. There are 74 agricultural educators to teach the classes, which enroll 4,561 high school students. In addition, Hereford Middle School in Baltimore County supports programs in agricultural education for 800 students per year.



### Anne Arundel County, MD

Southern High School, located in Harwood, now offers students a chance to learn about the many opportunities in agriculture through a program titled Curriculum for Agricultural Science Education (CASE). Currently there is one full-time teacher with plans to add additional teachers as the program grows. The project was spearheaded through the efforts of Anne Arundel County Ag Marketing Specialist Lisa Barge at the Anne Arundel Economic Development Corporation. Lisa worked with the Anne Arundel County Public Schools, University of Maryland College of Ag and Natural Resources, Maryland State Department of Education, Anne Arundel County Farm Bureau, members of the local farming community, and others. <http://www.southernhighffa.org/>



## Prince George's County, MD

Prince George's Community College and ECO City Farms are proud partners in the Certificate in Commercial Urban Agriculture program. The program, which began in September 2011, is the first of its kind in the region and offers students a comprehensive introduction to starting their own urban farms. A total of six courses (28 hours of instruction) make up the Certificate in Commercial Urban Agriculture. The courses are taught at ECO City Farms in Edmonston, Maryland, by ECO City Farms staff. The courses may be taken individually, but the completion of all six is required to receive the Certificate. Course offerings include "Urban Farming: The New Frontier," "Starting Your Urban Farm," "Composting for Urban Agriculture and Sustainable Landscaping," "High Tunnel Construction & Applications," "Introducing Urban Livestock on Your Farm," and "Post-Harvest Processing and Marketing."



Samuel P. Massie Academy Garden Kickoff (Courtesy Maryland-National Capital Park and Planning Commission Park Rangers Program)

## Maryland House Bill 680

Passed by the Maryland Senate and House of Delegates in 2012 and signed into law by Governor O'Malley, HB 680 requires "the State Board of Education and the University of Maryland Extension, after consultation with local boards of education, the Maryland Agricultural Education Foundation, and other organizations that promote education about sustainable agriculture, to create a task force to explore options for incorporating the subject of agriculture, including sustainable agriculture and other agricultural issues, in all existing curricular areas...."<sup>1</sup> In their testimony supporting the bill, the Maryland Horse Council stressed the importance of reconnecting children to nature, teaching them about where their food comes from, and demonstrating how the land that sustains them can be preserved for future use.<sup>2</sup>

## Endnotes

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- 1 <http://mlis.state.md.us/2012rs/billfile/hb0680.htm>
- 2 Testimony of Maryland Horse Council in support of HB 680  
<http://mhc-legislative.blogspot.com/2012/02/testimony-of-mhc-in-support-of-hb-680.html>



## **Appendix II: Types of Assistance Available for Improving the Food System**

### **USDA Community Food Projects**

The USDA Community Food Project Competitive Grant Program (CFPCGP) awards money to community food projects that reduce food insecurity in low-income communities. Key components of eligible projects include increasing access to fresher, more nutritious foods, increasing community self-reliance, creating innovative marketing activities for producers and consumers, and responding comprehensively to food, farm, and nutrition issues. Previously funded projects developed community gardens, established community kitchens for micro-enterprise, and planned projects to assess food issues and develop collaborations leading to future projects.<sup>1</sup>

### **Health-related programs**

#### ***Health Impact Assessments***

Health Impact Assessments (HIAs) are used to study the impact of a proposed policy, program, or project on health. HIAs have been applied to food-related policies such as the creation of an Agriculture Development Plan in Hawaii and proposed legislation that would create a Farm to School program in Oregon.<sup>2</sup> The Health Impact Project, a program of the Robert Wood Johnson Foundation and the Pew Charitable Trusts, provides grants to nonprofit organizations, educational institutions, and government agencies that wish to study the health impacts of a proposed policy, project, or program. The Health Impact Project encourages collaboration among groups and provides technical assistance and support throughout the grant process. More information can be found at <http://www.healthimpactproject.org>.

#### ***Community Transformation Grants***

The Centers for Disease Control and Prevention (CDC) provide Community Transformation Grants (CTGs) to state and local government agencies, tribes and territories, and national and local community organizations. Grantees use the CTG to evaluate and share information, and implement what they learn, about preventive health activities aimed at reducing the risk factors of chronic diseases.<sup>3</sup> The U.S. Department of Health and Human Services lists eliminating food deserts, improving school nutrition, and bringing healthier food to convenience stores as examples of the types of projects that could qualify for CTGs.<sup>4</sup>

#### ***School Gardens in Maryland***

The Maryland Agricultural Education Foundation (MAEF) provides grants for new and existing gardens at urban schools. The hands-on gardening and classroom activities meet the Maryland State Department of Education's curriculum requirements and allow students to make better connections to agriculture, the food system, and nutrition. At least half of the plants grown must be edible plants, and the garden must be incorporated into the core curriculum.<sup>5</sup>

***Pennsylvania's Fresh Food Financing Initiative – [www.thefoodtrust.org](http://www.thefoodtrust.org), [www.trfund.com](http://www.trfund.com), <http://www.uac.org/>***

Though this program is not in Maryland, we can learn a lot from it. The Fresh Food Financing Initiative (FFFI) is a statewide financing program that provides grants and loans for the development of retail food outlets carrying healthy and affordable foods in underserved neighborhoods. Since 2004, 88 projects in 34 Pennsylvania counties have benefited from funding through FFFI, which has helped to provide access to healthy and

affordable food for about half a million Pennsylvania residents, create or preserve over 5,000 jobs, and revitalize neighborhoods and communities.<sup>6</sup>

FFFI is a public-private partnership between the Commonwealth of Pennsylvania, The Food Trust, the Urban Affairs Coalition, and The Reinvestment Fund (TRF), the non-profit financing institution in the partnership. An initial allocation of \$10 million from the state of Pennsylvania, through the advocacy efforts of the Food Trust and support from State Representatives Dwight Evans, Frank Oliver, and Jake Wheatley, led to the creation of FFFI in 2004.<sup>7</sup> With an additional \$20 million added to the initiative from the state, TRF leveraged the state's \$30 million grant 3: 1 to create a \$120 million financing pool. Grants and loans were made available through FFFI to projects located in a low- to moderate-income census tracts and in a trade area that is underserved. A store may still qualify for FFFI resources even if it is not located in a low- or moderate-income census tract if more than 50 percent of the customer base is from a low-income census tract.

In late 2010, bills were introduced by a bipartisan coalition in both the U.S. House and Senate to authorize a \$500 million Healthy Food Financing Initiative (HFFI) based on the FFFI model.<sup>8</sup> In 2010 the Obama Administration released details of an over \$400 million multi-year Healthy Food Financing Initiative to eliminate food deserts across the country within seven years through a partnership between the U.S. Department of Agriculture, the U.S. Department of Health and Human Services (HHS), and the U.S. Community Development Financial Institutions Fund (CDFI Fund).<sup>9</sup> In May 2011 and again in April 2012, HHS announced the availability of up to \$10 million in grants for Community Development Corporation projects located in food deserts and designed to improve access to healthy, affordable food.<sup>10</sup> Sixteen CDCs were recipients of HHS HFFI funds in 2011.<sup>11</sup> In September 2011, the CDFI Fund announced \$25 million in HFFI Awards to twelve recipients.<sup>12</sup> HFFI is the first time the Federal government has coordinated its efforts to eliminate food deserts around the country.



## Endnotes

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- 1 <http://www.nifa.usda.gov/fo/communityfoodprojects.cfm>
- 2 Health Impact Project. Grantees. 2011. Available at: <http://www.healthimpactproject.org/project/grantees>
- 3 Centers for Disease Control and Prevention. Community Transformation Grants. 2011. Available at: <http://www.cdc.gov/communitytransformation/index.htm>
- 4 U.S. Department of Health and Human Services. *\$100 million in Affordable Care Act grants to help create healthier U.S. communities*. 2011. Available at: <http://www.hhs.gov/news/press/2011pres/05/20110513b.html>
- 5 Maryland Agricultural Education Foundation, Inc. Garden Grants. 2011. Available at: [http://www.maefonline.com/Garden\\_Grants.php](http://www.maefonline.com/Garden_Grants.php)
- 6 [http://www.trfund.com/resource/downloads/Fresh\\_Food\\_Financing\\_Initiative\\_Comprehensive.pdf](http://www.trfund.com/resource/downloads/Fresh_Food_Financing_Initiative_Comprehensive.pdf)
- 7 Raja, S., B. Born, and Russell B. Kozlowski. *A Planner's Guide to Community and Regional Food Planning*. Planning Advisory Service Report Number 554. American Planning Association, 2008.
- 8 National Sustainable Agriculture Coalition. *Healthy Food Financing Initiative Introduced in House, Senate* (blog post). 2010. Accessed at <http://sustainableagriculture.net/blog/hffi-bill-introduced/> on January 29, 2011.
- 9 <http://www.hhs.gov/news/press/2010pres/02/20100219a.html>
- 10 <http://www.thefoodtrust.org/php/programs/hffi.php>
- 11 [http://www.acf.hhs.gov/programs/ocs/ced/HFFI\\_grantee\\_summaries.html](http://www.acf.hhs.gov/programs/ocs/ced/HFFI_grantee_summaries.html)
- 12 [http://www.cdfifund.gov/news\\_events/CDFI-2011-18-CDFI-Fund-Announces-\\$25-Million-in-Healthy-Food-Financing-Initiative-Awards.asp](http://www.cdfifund.gov/news_events/CDFI-2011-18-CDFI-Fund-Announces-$25-Million-in-Healthy-Food-Financing-Initiative-Awards.asp),



## Appendix III: Technical Reference

### ***Community Food Assessments***

A number of tools already exist for assessing the local food environment. Depending on the interests of the community and the scope of the assessment, some of the following may be helpful:

#### ***Community Food Security Assessment Toolkit***

***<http://www.ers.usda.gov/publications/efan02013/>***

This toolkit from the USDA Economic Research Service includes a guide for data collection and analysis, guides and materials for conducting focus groups, and an instrument for surveying food stores.

#### ***What's Cooking in Your Food System? A Guide to Community Food Assessment***

***[www.foodsecurity.org/pubs.html](http://www.foodsecurity.org/pubs.html)***

Offered as a free PDF download from the Community Food Security Coalition, *What's Cooking in Your Food System?* is a step-by-step guide to planning, designing, and conducting a community food assessment. The guide includes nine case studies and suggestions for how to use the findings to improve the local food environment.

#### ***Food Environment Atlas***

***[www.ers.usda.gov/FoodAtlas/](http://www.ers.usda.gov/FoodAtlas/)***

Another offering from the USDA Economic Research Service, this tool provides a spatial overview of access to healthy food and areas of food insecurity. While some data is only provided at the state level, much of the data is available at the county level and can help a community determine what aspects of the food environment it may wish to study.

#### ***Alternative Farming Systems Information Center, National Agricultural Library, U.S. Department of Agriculture (AFSIC)***

***<http://afsic.nal.usda.gov/>***

AFSIC specializes in identifying resources about sustainable food systems and practices in support of USDA's effort to ensure a sustainable future for agriculture and farmers worldwide.

#### ***American Farmland Trust***

***[www.farmland.org](http://www.farmland.org)***

Recognizable for their "No Farms No Food" bumper stickers, the American Farmland Trust works to preserve agricultural land from development. Their website provides a number of reports and studies about the need for agricultural preservation and the demand for local food.

#### ***Change Lab Solutions***

***<http://changelabsolutions.org/>***

Formerly called Health Law & Policy, Change Lab Solutions offers a number of resources for practitioners seeking information on policies and practices to improve public health. They provide a number of fact sheets, toolkits, and model documents related to access to healthy food, land use, and economic development.

#### ***Community Gardening***

The American Community Gardening Association exists to support and assist community gardeners and to link them to one another. See ***[www.communitygarden.org/](http://www.communitygarden.org/)***

### ***Design For Health***

***www.designforhealth.net***

The Design for Health (DFH) project provides tools to help practitioners integrate health into urban planning and design. An entire section of their website is devoted to food access and includes information on promoting food through comprehensive plans and ordinances. Additionally, DFH provides a Comprehensive Plan Review Checklist to assist planners in considering many dimensions of health, including access to healthy food, in their comprehensive plans.

### ***Food Hubs***

The United States Department of Agriculture, Agriculture Marketing Service published a report called Regional Food Hub Resource Guide: Food hub impacts on regional food systems, and the resources available to support their growth and development. It can be downloaded from

***<http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5097957>***

### ***The Food Trust***

***www.thefoodtrust.org/***

The Food Trust, a nationally recognized nonprofit based in Philadelphia, strives to make healthy food available to all. For 20 years, The Food Trust has worked with neighborhoods, schools, grocers, farmers, and policymakers to develop a comprehensive approach to improving the health of America's children. The Food Trust's innovative initiatives integrate nutrition education with increased availability of affordable, healthy foods.

### ***Johns Hopkins Center for a Livable Future***

***<http://www.jhsph.edu/clf/>***

Located in Baltimore in the Bloomberg School of Public Health, the Center for a Livable Future states that its goal "is to promote research and to develop and communicate information about the complex interrelationships among diet, food production, environment and human health, to advance an ecological perspective in reducing threats to the health of the public and to promote policies that protect health, the global environment and the ability to sustain life for future generations." Two of their core programs are "Farming for the Future" and "Eating for the Future" ***<http://www.jhsph.edu/clf/projects/index.html#fff>***. Among their projects in Maryland is the creation of an interactive Maryland Food System Mapping Resource ***[http://www.jhsph.edu/clf/projects/food\\_system\\_mapping/index.html](http://www.jhsph.edu/clf/projects/food_system_mapping/index.html)***.

### ***Local Food Systems***

The United States Department of Agriculture, Economic Research Service published a report called *Local Food Systems: Concepts, Impacts, and Issues* (Economic Research Report Number 97, May 2010). It can be downloaded from

***[www.ers.usda.gov/Publications/ERR97/ERR97.pdf](http://www.ers.usda.gov/Publications/ERR97/ERR97.pdf)***

### ***Maryland Food System Mapping Project***

***www.mdfoodsystemmap.org***

The Johns Hopkins Center for a Livable Future has developed a comprehensive mapping resource that examines the food system in Maryland, from production to consumption. Data about agriculture, processing, distribution, food access, and population demographics, including health status and outcomes, is being collected on an ongoing basis. Data and printable maps are available for free download, in addition to the online interactive map.

***Northeast Center for Food Entrepreneurship (at the New York State Food Venture Center, Cornell University)***

***<http://necfe.foodscience.cornell.edu/publications/initial-guide.php>***

For start-up food processing ventures, NECFE offers a publication called *Small Scale Food Entrepreneurship: A Technical Guide for Food Ventures*. The Center also offers a number of fact sheets on a variety of topics of concern for the small food-entrepreneur, from *Small Scale Processing Equipment* to *Business Plan Basics* to *Steps to Start a Specialty Food Business*, and *Cheese Production* to *Low Acid Foods*.

***Sustainable Maryland Certified***  
***[www.sustainablemaryland.com](http://www.sustainablemaryland.com)***

Sustainable Maryland Certified is a new initiative of The Environmental Finance Center at the University of Maryland (EFC). EFC has created the initiative “to support Maryland's 157 municipalities as they look for cost-effective and strategic ways to protect their natural assets and revitalize their communities.” It accomplishes this “by helping municipalities choose a direction for their sustainability efforts, improve access to resources needed to implement action, measure their progress, and gain recognition for their accomplishments.”<sup>1</sup> To achieve certification, municipalities gain points for sustainable best practices in a variety of areas, including a community based food system.

The food-related categories and subactions consist of the following (quoted from the website:

**Local Food Consumption**

**Subaction 1: Conduct a Local Food Fair.** Goal: To educate local consumers on the variety of locally produced foods and their availability.

**Subaction 2: Local Food Consumption & Preservation Classes.** Goals:

- To provide local consumers with knowledge and skills that will enable them to feel confident about purchasing and preparing local foods.
- To promote and support the expanded use of local farmers markets.
- To encourage the community to eat healthy using local food resources.

**Subaction 3: Establish Local Farmers Market; Subaction 4: Promote Local Farmers Market.** Goal... [P]romote existing farmers markets, either in the municipality or its vicinity, to increase attendance and sales at the markets thereby providing benefit to both farmer and consumers. If a farmers market does not already exist in a municipality, a determination should be made as to whether enough interest exists to start a farmers market in the municipality. If it is determined that the municipality can support a farmers market, one should be established and promoted.

**Local Food Production**

**Subaction 1: Community Gardens.** Goal: To encourage the individuals and groups to produce some of their own food organically and sustainably.

**Subaction 2: Spring Transplant Sale.** Goal: Increase locally grown food production by getting fruit, herb and vegetable plants into the hands of consumers to grow their own fresh food.

**Subaction 3: Fall Transplant Sale.** Goals:

- Increase locally grown food production by getting fruit, herb and vegetable plants into the hands of consumers to grow their own fresh foods.
- By holding a Fall Transplant Sale, you encourage eating locally grown foods year around and beyond the traditional summer season.

Establish CSA Drop-off Location. Goals:

- To establish an easily accessible and convenient drop-off location (specifically for municipal workers) for a CSA, to encourage support of local agriculture.
- To increase the purchase and consumption of local agricultural products by municipal employees....

### **Innovative Demonstration Projects**

Innovative Demonstration Project Examples

**Gleaning Program** —Gleaning is going over a field or area that has just been harvested and gathering by hand any usable parts of the crop that remain and most often given to those who would otherwise not be able to afford them....

**Composting Program** —Commercial and/or residential.

**Food Coop** —Food cooperatives are worker or customer owned businesses that provide grocery items of the highest quality and best value to their members. Coops can take the shape of retail stores or buying clubs. All food coops are committed to consumer education, product quality, and member control, and usually support their local communities by selling produce grown locally by family farms....

### ***Urban Agriculture***

An early example of urban agriculture, City Farmer has operated in Vancouver, Canada, since 1978. Their website — <http://www.cityfarmer.info/> — is a collection of stories about the work going on at City Farmer in Vancouver and about urban farmers around the world.

### Endnotes

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1 [www.sustainablemaryland.com](http://www.sustainablemaryland.com)



## Appendix IV: Daily Recommended Servings

### How much fruit is needed daily?

The amount of fruit you need to eat depends on age, sex, and level of physical activity. Recommended daily amounts are shown in the table below.

Daily recommendation*		
Children	2-3 years old	1 cup**
	4-8 years old	1 to 1 ½ cups**
Girls	9-13 years old	1 ½ cups**
	14-18 years old	1 ½ cups**
Boys	9-13 years old	1 ½ cups**
	14-18 years old	2 cups**
Women	19-30 years old	2 cups**
	31-50 years old	1 ½ cups**
	51+ years old	1 ½ cups**
Men	19-30 years old	2 cups**
	31-50 years old	2 cups**
	51+ years old	2 cups**

\* These amounts are appropriate for individuals who get less than 30 minutes per day of moderate physical activity, beyond normal daily activities. Those who are more physically active may be able to consume more while staying within calorie needs.

\*\* See table below

[http://www.choosemyplate.gov/food-groups/fruits\\_amount\\_table.html](http://www.choosemyplate.gov/food-groups/fruits_amount_table.html)

### What counts as a cup of fruit?

In general, 1 cup of fruit or 100% fruit juice, or ½ cup of dried fruit can be considered as 1 cup from the Fruit Group. The following specific amounts count as 1 cup of fruit (in some cases equivalents for ½ cup are also shown) towards your daily recommended intake:

	Amount that counts as 1 cup of fruit	Amount that counts as ½ cup of fruit
Apple	½ large (3.25" diameter)	
	1 small (2.5" diameter)	
	1 cup sliced or chopped, raw or cooked	½ cup sliced or chopped, raw or cooked
Applesauce	1 cup	1 snack container (4 oz)
Banana	1 cup sliced	1 small (less than 6" long)
	1 large (8" to 9" long)	

<b>Cantaloupe</b>	1 cup diced or melon balls	1 medium wedge (1/8 of a med. melon)
<b>Grapes</b>	1 cup whole or cut-up	
	32 seedless grapes	16 seedless grapes
<b>Grapefruit</b>	1 medium (4" diameter)	1/2 medium (4" diameter)
	1 cup sections	
<b>Mixed fruit (fruit cocktail)</b>	1 cup diced or sliced, raw or canned, drained	1 snack container (4 oz) drained = 3/8 cup
<b>Orange</b>	1 large (3-1/16" diameter)	1 small (2-3/8" diameter)
	1 cup sections	
<b>Orange, mandarin</b>	1 cup canned, drained	
<b>Peach</b>	1 large (2 3/4" diameter)	1 small (2" diameter)
	1 cup sliced or diced, raw, cooked, or canned, drained	1 snack container (4 oz) drained = 3/8 cup
	2 halves, canned	
<b>Pear</b>	1 medium pear (2.5 per lb)	1 snack container (4 oz) drained = 3/8 cup
	1 cup sliced or diced, raw, cooked, or canned, drained	
<b>Pineapple</b>	1 cup chunks, sliced or crushed, raw, cooked or canned, drained	1 snack container (4 oz) drained = 3/8 cup
<b>Plum</b>	1 cup sliced raw or cooked	
	3 medium or 2 large plums	1 large plum
<b>Strawberries</b>	About 8 large berries	
	1 cup whole, halved, or sliced, fresh or frozen	1/2 cup whole, halved, or sliced
<b>Watermelon</b>	1 small wedge (1" thick)	6 melon balls
	1 cup diced or balls	
<b>Dried fruit (raisins, prunes, apricots, etc.)</b>	1/2 cup dried fruit is equivalent to 1 cup fruit: 1/2 cup raisins 1/2 cup prunes 1/2 cup dried apricots	1/4 cup dried fruit is equivalent to 1/2 cup fruit 1 small box raisins (1.5 oz)
<b>100% fruit juice (orange, apple, grape, grapefruit, etc.)</b>	1 cup	1/2 cup

[http://www.choosemyplate.gov/food-groups/fruits\\_counts\\_table.html](http://www.choosemyplate.gov/food-groups/fruits_counts_table.html)

## How many vegetables are needed daily or weekly?

Vegetable choices should be selected from among the vegetable subgroups. It is not necessary to eat vegetables from each subgroup daily. However, over a week, try to consume the amounts listed from each subgroup as a way to reach your daily intake recommendation.

The amount of vegetables you need to eat depends on your age, sex, and level of physical activity. Recommended total daily amounts are shown in the first chart. Recommended weekly amounts from each vegetable subgroup are shown in the second chart.

Daily recommendation*		
Children	2-3 years old	1 cup**
	4-8 years old	1½ cups**
Girls	9-13 years old	2 cups**
	14-18 years old	2½ cups**
Boys	9-13 years old	2½ cups**
	14-18 years old	3 cups**
Women	19-30 years old	2½ cups**
	31-50 years old	2½ cups**
	51+ years old	2 cups**
Men	19-30 years old	3 cups**
	31-50 years old	3 cups**
	51+ years old	2½ cups**

\* These amounts are appropriate for individuals who get less than 30 minutes per day of moderate physical activity, beyond normal daily activities. Those who are more physically active may be able to consume more while staying within calorie needs.

\*\* See table below.

Vegetable subgroup recommendations are given as amounts to eat WEEKLY. It is not necessary to eat vegetables from each subgroup daily. However, over a week, try to consume the amounts listed from each subgroup as a way to reach your daily intake recommendation.

		Dark green vegetables	Red and orange vegetables	Beans and peas	Starchy vegetables	Other vegetables
<b>Children</b>	2–3 yrs old	½ cup	2½ cups	½ cup	2 cups	1½ cups
	4–8 yrs old	1 cup	3 cups	½ cup	3½ cups	2½ cups
<b>Girls</b>	9–13 yrs old	1½ cups	4 cups	1 cup	4 cups	3½ cups
	14–18 yrs old	1½ cups	5½ cups	1½ cups	5 cups	4 cups
<b>Boys</b>	9–13 yrs old	1½ cups	5½ cups	1½ cups	5 cups	4 cups
	14–18 yrs old	2 cups	6 cups	2 cups	6 cups	5 cups
<b>Women</b>	19–30 yrs old	1½ cups	5½ cups	1½ cups	5 cups	4 cups
	31–50 yrs old	1½ cups	5½ cups	1½ cups	5 cups	4 cups
	51+ yrs old	1½ cups	4 cups	1 cup	4 cups	3½ cups
<b>Men</b>	19–30 yrs old	2 cups	6 cups	2 cups	6 cups	5 cups
	31–50 yrs old	2 cups	6 cups	2 cups	6 cups	5 cups
	51+ yrs old	1½ cups	5½ cups	1½ cups	5 cups	4 cups

[http://www.choosemyplate.gov/food-groups/vegetables\\_amount\\_table.html](http://www.choosemyplate.gov/food-groups/vegetables_amount_table.html)

## What counts as a cup of vegetables?

In general, 1 cup of raw or cooked vegetables or vegetable juice, or 2 cups of raw leafy greens can be considered as 1 cup from the Vegetable Group. The chart lists specific amounts that count as 1 cup of vegetables (in some cases equivalents for  $\frac{1}{2}$  cup are also shown) towards your recommended intake:

	Amount that counts as 1 cup of vegetables	Amount that counts as $\frac{1}{2}$ cup of vegetables
<b>Dark Green Vegetables</b>		
Broccoli	1 cup chopped or florets	
	3 spears 5" long raw or cooked	
Greens (collards, mustard greens, turnip greens, kale)	1 cup cooked	
Spinach	1 cup, cooked	
	2 cups raw is equivalent to 1 cup of vegetables	1 cup raw is equivalent to $\frac{1}{2}$ cup of vegetables
Raw leafy greens: Spinach, romaine, watercress, dark green leafy lettuce, endive, escarole	2 cups raw is equivalent to 1 cup of vegetables	1 cup raw is equivalent to $\frac{1}{2}$ cup of vegetables
<b>Red and Orange Vegetables</b>		
Carrots	1 cup, strips, slices, or chopped, raw or cooked	
	2 medium	1 medium carrot
	1 cup baby carrots (about 12)	About 6 baby carrots
Pumpkin	1 cup mashed, cooked	
Red peppers	1 cup chopped, raw, or cooked 1 large pepper (3" diameter, 3 $\frac{3}{4}$ " long)	1 small pepper
Tomatoes	1 large raw whole (3") 1 cup chopped or sliced, raw, canned, or cooked	1 small raw whole (2 $\frac{1}{4}$ " diameter) 1 medium canned
Tomato juice	1 cup	$\frac{1}{2}$ cup
Sweet potato	1 large baked (2 $\frac{1}{4}$ " or more diameter)	
	1 cup sliced or mashed, cooked	
Winter squash (acorn, butternut, hubbard)	1 cup cubed, cooked	$\frac{1}{2}$ acorn squash, baked = $\frac{3}{4}$ cup

<b>Beans and Peas</b>		
Dry beans and peas (such as black, garbanzo, kidney, pinto, or soy beans, or black eyed peas or split peas)	1 cup whole or mashed, cooked	
<b>Starchy Vegetables</b>		
Corn, yellow or white	1 cup	
	1 large ear (8" to 9" long)	1 small ear (about 6" long)
Green peas	1 cup	
White potatoes	1 cup diced, mashed	
	1 medium boiled or baked potato (2½" to 3" diameter)	
	French fried: 20 medium to long strips (2½" to 4" long) (Contains added calories from solid fats.)	
<b>Other Vegetables</b>		
Bean sprouts	1 cup cooked	
Cabbage, green	1 cup, chopped or shredded raw or cooked	
Cauliflower	1 cup pieces or florets raw or cooked	
Celery	1 cup, diced or sliced, raw or cooked	
	2 large stalks (11" to 12" long)	1 large stalk (11" to 12" long)
Cucumbers	1 cup raw, sliced or chopped	
Green or wax beans	1 cup cooked	
Green peppers	1 cup chopped, raw or cooked	
	1 large pepper (3" diameter, 3¾" long)	1 small pepper
Lettuce, iceberg or head	2 cups raw, shredded or chopped = equivalent to 1 cup of vegetables	1 cup raw, shredded or chopped = equivalent to ½ cup of vegetables
Mushrooms	1 cup raw or cooked	
Onions	1 cup chopped, raw or cooked	
Summer squash or zucchini	1 cup cooked, sliced or diced	

[http://www.choosemyplate.gov/food-groups/vegetables\\_counts\\_table.html](http://www.choosemyplate.gov/food-groups/vegetables_counts_table.html)



## Conclusion

This report provided examples and best practices that address the growing interest in the food system and how planners and interested residents can improve the food system to benefit communities and individuals.

Food policy is an important consideration in creating and maintaining sustainable communities and enhancing the quality of life in those communities. The purpose of this report was to stimulate new ideas and consider well tested ideas that planners and non-planners alike can use to be involved—or be inspired to stay involved—with local food issues. The enterprises and activities highlighted in this report point not to a food fad but to changes in the food system and land use that people are committed to and invested in.

Every day brings news of innovations in the food system: production, processing, marketing, distribution, consumption, and waste management. Every day in communities all over Maryland and the United States, exciting ideas are taking root thanks to the efforts of farmers, businesses, government, not-for-profit organizations, and community-minded individuals. Every day, more people recognize the benefits of local food for our health, the economy, and the environment.



This report demonstrates many best practices that can be replicated through one or a combination of policy and/or regulatory means to accommodate and facilitate improvements to the food system. People with creative ideas who get involved with the food system can accomplish good things, especially when they join with their neighbors and local governments in a common effort. Everyone has to eat, and few things bring us together like food does.


If you are a planner and believe that the best practices described in this report are a good idea, consider and explore whether your community is ready to accommodate or implement them. Community gardens on vacant or public land, portable markets in reused shipping containers, mobile markets, value-added processing on agriculturally zoned land, farm-to-school programs, sites for composting operations...do your zoning code and other regulations need updating to accommodate and encourage some of these uses? Does your

community want to conduct a community food assessment, include aspects of the food system in the local comprehensive plan, or create a stand-alone food plan? Consider starting with an assessment of what the needs might be in your area, what local projects are being carried out by citizen organizations, nonprofits, government, and businesses. After an assessment of what you have, consider where you want to go and a plan to get there. Did you find a good idea in this report that you want to recreate in your neighborhood? Are you looking for data or maps that depict development patterns and preserved lands in your area? Contact the Maryland Department of Planning for assistance.

The Maryland Department of Planning encourages you to find out more about what we do and how it applies to the food system. A good place to start is our website at <http://planning.maryland.gov>. Also, look at the state's Smart, Green, and Growing efforts (<http://green.maryland.gov/smartgrowth.html>), PlanMaryland (<http://plan.maryland.gov/>), and AgPrint (<http://www.agprint.maryland.gov/>). As always, you can call us at (410) 767-4500, and we will be happy to answer your questions or tell you where you can find more information.







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