

may 2010



GREATER PHILADELPHIA
FOOD SYSTEM STUDY
executive summary



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OUR MISSION

The Delaware Valley Regional Planning Commission is dedicated to uniting the region's elected officials, planning professionals and the public with the common vision of making a great region even greater. Shaping the way we live, work and play, DVRPC builds consensus on improving transportation, promoting smart growth, protecting the environment, and enhancing the economy. We serve a diverse region of nine counties: Bucks, Chester, Delaware, Montgomery and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester and Mercer in New Jersey. DVRPC is the federally designated Metropolitan Planning Organization for the Greater Philadelphia Region — leading the way to a better future.

The symbol in our logo is adapted from the official DVRPC seal, and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole, while the diagonal bar signifies the Delaware River. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey.

DVRPC is funded by a variety of funding sources including federal grants from the US Department of Transportation's Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), the Pennsylvania and New Jersey departments of transportation, as well as by DVRPC's state and local member governments. The authors, however, are solely responsible for the findings and conclusions herein, which may not represent the official views or policies of the funding agencies.

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INTRODUCTION



A food *system* is a set of interconnected activities or sectors that grow, manufacture, transport, sell, prepare, and dispose of food from the farm to the plate to the garbage can or compost pile. Greater Philadelphia is comprised of many community food systems, but is also served by a regional food system, and fits within a global food system.

Our food system has immensely interesting and often confounding components. For example, food can be a crucial aspect of homeland security and emergency preparedness, human services, private industry and business, environmental stewardship, land use, and public utility, among countless other categories. Food can also be a vehicle for economic development by providing green jobs, like sustainable farming. Food is produced by countless private enterprises, such as farmers and retailers, and regulated by public agencies.

As the metropolitan planning organization for the nine-county region, the Delaware Valley Regional Planning Commission

(DVRPC) is envisioning and actively preparing for a sustainable future amidst energy and climate uncertainties. Interest in the food system began when it became apparent how much food affects and is affected by many issues central to DVRPC's work, including land use planning, transportation, economic development, and natural resources and open space preservation.

The *Greater Philadelphia Food System Study* was undertaken to better understand the complicated regional food system that feeds Greater Philadelphia. While the global food system is extraordinarily complicated and affected by geopolitics, free trade, fossil fuel reserves, and climate, DVRPC's food system study focuses on the agricultural resources, distribution infrastructure, regional economy, and stakeholders acting within the regional foodshed.

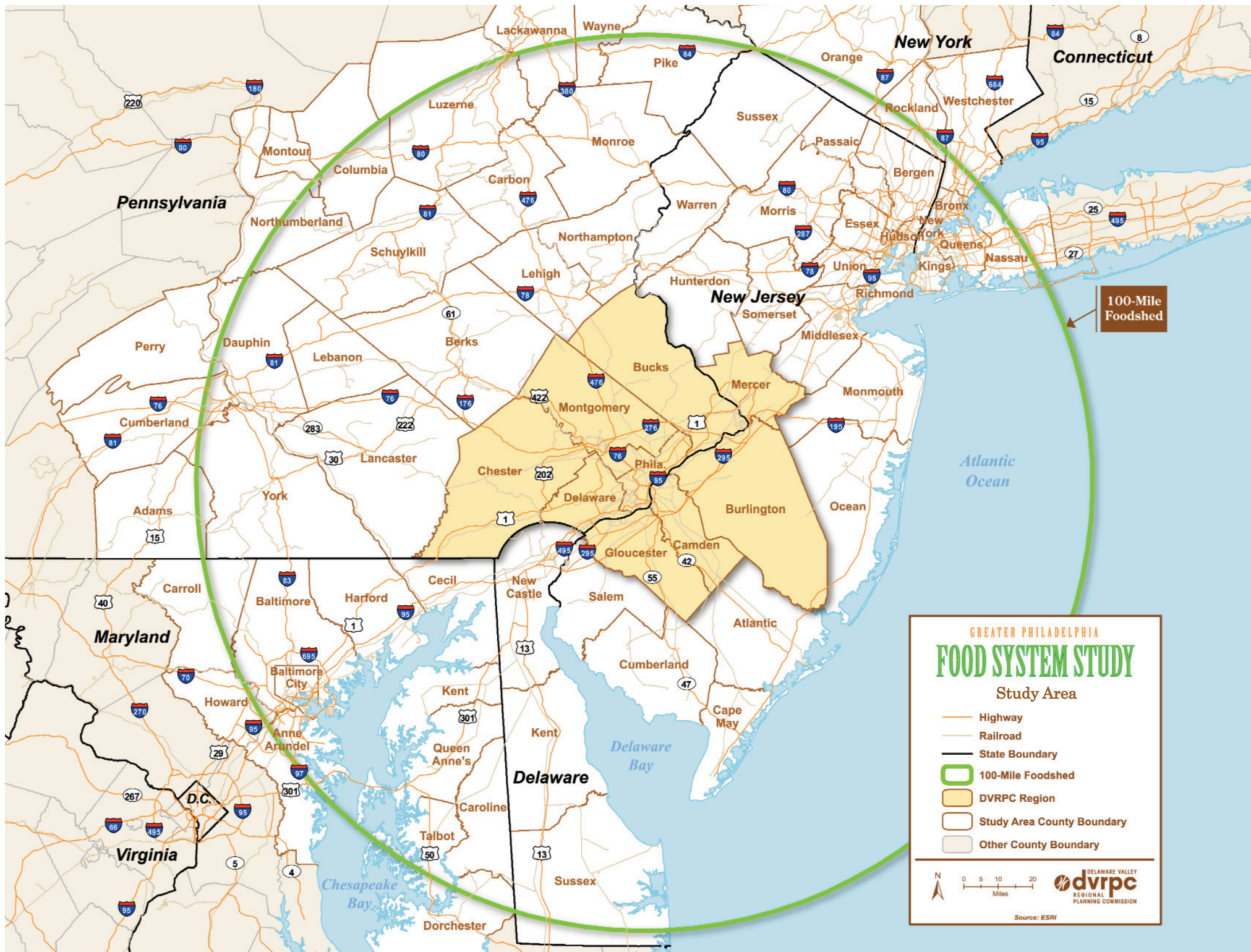
A 70-county area, within five states, makes up a 100-mile "foodshed," or the theoretical geographic area that supplies a portion of food for Greater Philadelphia's population. DVRPC's planning area, consisting of nine counties – Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in southeastern Pennsylvania; and Burlington, Camden, Gloucester, and Mercer counties in southern New Jersey – constitutes the

foodshed's "population base."

The *Greater Philadelphia Food System Study* highlights five major findings, which are illustrated within this *Executive Summary*. These findings address the metropolitan area's food supply, the threat to agricultural production, competition with other metropolitan areas, the health of Greater Philadelphia's residents, and the collective impact of our food system stakeholders.

This study is the first stage in DVRPC's efforts to envision a more sustainable food system for the Greater Philadelphia region. Findings within the study can be used to learn more about a broad range of food supply issues, such as agricultural production, natural resources, the origins and destinations of food imports and exports, and the significance of the food economy, all of which are crucial to regional development.

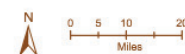
In July 2009, DVRPC commenced a second stage, which will outline a strategy for the region. This planning stage draws from the knowledge gained from convening a large stakeholder group and the results from the objective food system study. It will produce recommendations and create a comprehensive plan for a more sustainable and resilient food system.



GREATER PHILADELPHIA
FOOD SYSTEM STUDY

Study Area

- Highway
- Railroad
- State Boundary
- 100-Mile Foodshed
- DVRPC Region
- Study Area County Boundary
- Other County Boundary



Source: ESRI

FOOD SUPPLY



One of the questions many people ask about the regional food system is whether we can feed ourselves with food produced within our foodshed. This question is not easy to answer.

Greater Philadelphia is a very dense region, with a large population that both needs and demands food produced within the region and elsewhere. Greater Philadelphia's 100-Mile

Foodshed (the study area) includes larger cities like Philadelphia, New York, and Baltimore, and the entire state of New Jersey; and is home to over 10% of the United States' population, living on less than 1% of the nation's land area.

Because of population density and urban development patterns, the 100-Mile Foodshed has a limited amount of land reserved for agricultural use. Based on research undertaken by Cornell University, DVRPC calculated that Greater Philadelphia's 5.5 million people need 6.8 million acres of agricultural land to meet our nutritional needs each year. According to the USDA Census of Agriculture, the

100-Mile Foodshed has 4 million acres of available farmland, leaving a 2.8 million acre deficit. In reality, the deficit is even greater because it is unrealistic to assume that all food grown within the 100-Mile Foodshed is destined for Philadelphia. With affluent cities like New York and Washington, D.C. close by, it is likely that much of the locally produced food will go to consumers in other metropolitan areas that share our foodshed.

A comparison of the total value of agricultural products that the 100-Mile Foodshed produces and how much food Greater Philadelphia purchases also illustrates an insufficient local food supply.

Greater Philadelphia's Agricultural Land Needs

DEMAND				SUPPLY		DEFICIT
DVRPC REGION 2005 POPULATION (PERSONS)				DVRPC REGION 2007 TOTAL CROPLAND AND PASTURELAND (ACRES)**		(ACRES)
5,519,051	x	1.23	=	6,788,433	379,481	-6,408,952
DEMAND				SUPPLY		DEFICIT
100-MILE FOODSHED 2003 POPULATION (PERSONS)				100-MILE FOODSHED 2007 TOTAL CROPLAND AND PASTURELAND (ACRES)**		(ACRES)
30,954,544	x	1.23	=	38,074,089	4,127,348	-33,946,741

*Assumes a diet that meets recommended total caloric value of 2,000 calories per person, and includes about nine ounces of cooked meat and eggs and 91 grams of fat.

**Excludes "woodland not pastured" and "land in farmsteads, buildings, etc."

Source USDA 2009, DVRPC 2009

To increase the supply of local food, local governments can take these simple although meaningful actions:

- *Remove zoning, permitting, and other regulatory barriers to farmers' markets, on-site farm stands, and urban agricultural activities; and find ways to incentivize supermarket or food retail development.*
- *Raise awareness of the importance of healthy eating habits through education, marketing, and demonstration projects on publicly owned property.*
- *Incorporate food system concerns and local agriculture production into economic development strategies.*

The 100-Mile Foodshed produced about \$6 billion worth of both food and nonfood agricultural products in 2007, while Greater Philadelphia purchased about \$16 billion in food in 2007. Although the amount of money spent on agricultural products includes value-added food purchases, such as food bought at restaurants and processed foods (bread, canned goods, and frozen foods), we can conclude that we buy more than the 100-Mile Foodshed grows. However, we are also consuming most of what we grow, given that 61% of all food freight shipments that originate in the Greater Philadelphia area are destined for Greater Philadelphia.

According to available transportation data, Greater Philadelphia depends on food from other regions in the United States and from international imports to meet its food demands. However, imports are expected to become a larger source of food over time. If population estimates, land development patterns, and freight flows remain consistent, domestic imports from outside the 100-Mile Foodshed are expected to grow by 75% in the year 2035, and international imports are expected to double.

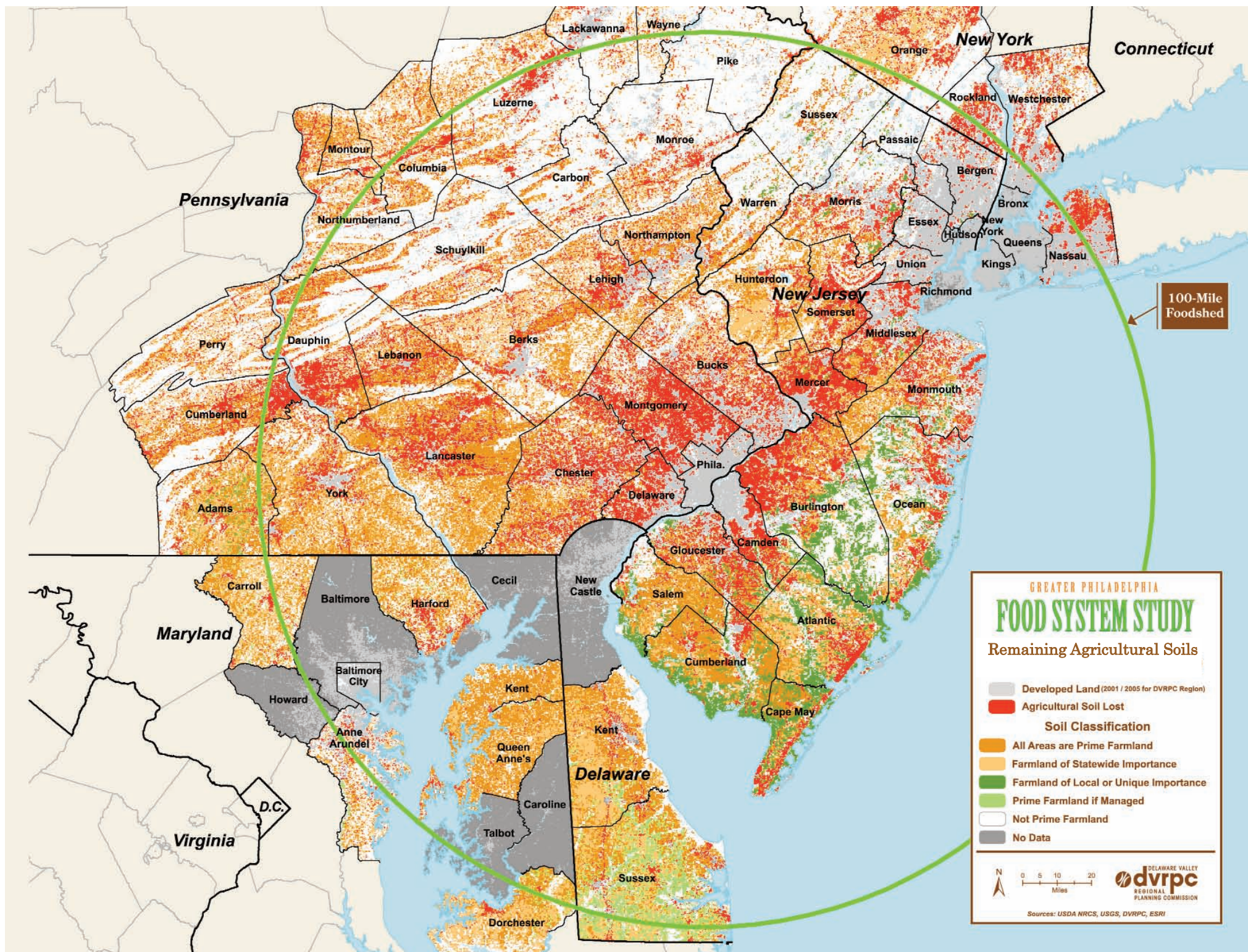
Not all food can be grown and consumed locally, given the population, land development patterns, and

available farmland in the region. The region is already consuming most of what it produces, whether or not that food is identified as local. The questions that remain are: where are the opportunities to grow more food locally; and what types of food could Greater Philadelphia's food system produce to complement the benefits of the global food system?

THREATS *to* LOCAL AGRICULTURE



Despite the region's food supply deficit, agriculture is still a significant part of Greater Philadelphia's landscape, economy, and culture. Fertile soil, climate, and proximity to larger consumer markets are some of the top competitive advantages for food businesses and agriculture in the 100-Mile Foodshed. Approximately 37% of the land within the foodshed is considered to be important agricultural soil, of which 17% is prime farmland.



In addition, the dense and sprawling metropolitan area that creates marketing opportunities for foodshed farmers also increases the cost of doing business in the 100-Mile Foodshed. Many farmers within the 100-Mile Foodshed find ways to remain profitable by accessing new and creative markets. Farmers have modified their business models, sold more products directly to consumers (direct marketing), and are growing niche products like exotic vegetables, artisanal cheese, and gourmet micro-greens. Farmers are also experimenting with season-extension methods in order to continue growing in colder months. These innovations and adaptations are critical, as most farms throughout the country and many food businesses, including supermarkets, operate on slim profit margins. Gross agricultural sales and production expenses rose at similar rates over the last five years.

Unfortunately, prime farmland is also attractive for development. It is usually level, cleared of trees, well-drained, and suitable for on-site septic systems. According to the USDA Census of Agriculture, 58% of the foodshed's agricultural land was lost between 1910 and 2007. Between 1990 and 2005 alone, the DVRPC nine-county region

lost 126,000 acres of agricultural land. Currently, less than a quarter of remaining farmland is permanently preserved for agricultural purposes.

Development near farmland, while having the potential to bring new markets to existing farms, makes remaining land more valuable for new development and thus more expensive. This creates obstacles for new and aspiring farmers to purchase or lease land and increases the costs of farming, as property taxes, labor costs, and other transaction and opportunity costs rise. An acre of farmland in the 100-Mile Foodshed is worth, on average, 342% more than the national average.

Not only are we losing farmland and making it harder to establish new farms, but 100-Mile Foodshed farms are also getting smaller. Farm size is decreasing throughout the foodshed, with a growing percentage of "hobby" and retirement farms, which grow food in much smaller amounts or not at all. Fifty-six percent of farms within the 100-Mile Foodshed are smaller than 50 acres. This is not to say that bigger is better, but a diversity of farm sizes can serve a range of markets. For example, service to institutions, like hospitals, requires medium to large farms (farms ranging between 100 and 500 acres)

because of the high volume needed. Smaller-scale farmers can take advantage of direct marketing opportunities at farmers markets, as they have to spend more time marketing and less time producing food.

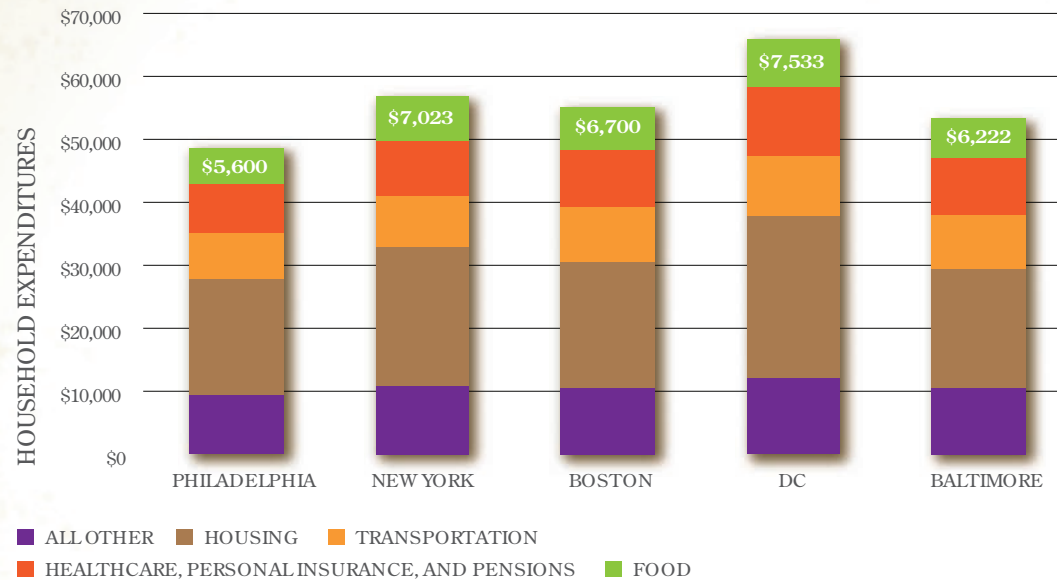
Maintaining working landscapes is critical to any regional food system. We would not have farmers without farmland. On the other hand, preserving farmland without encouraging farmer viability does not increase our food security or strengthen our regional food system.

COMPETITION



Greater Philadelphia does not exist in isolation, especially as it relates to food production, distribution, and consumption. Greater Philadelphia's 100-Mile Foodshed includes New York City and the northern suburbs of Washington, D.C. These populous metropolitan areas have more money to spend on food than Philadelphia.

Average Household Expenditures by MSA (2006-2007)



Source: FAO 2009, DVRPC 2009

The New York metropolitan area spent \$61 billion on food in 2007. Washington, D.C. spent \$16 billion, while Greater Philadelphia, which has a larger population than D.C., spent \$15 billion.

Households in all three metropolitan areas spend the same percentage of their income on food – approximately 12% – but average and median household income vary greatly. The average household in Greater

Philadelphia spent \$5,600 on food in 2007, while households in New York and Washington, D.C. spent over \$7,000.

The price of food and beverages in Greater Philadelphia has also increased at a slower rate than in the rest of the Northeast. These trends, plus anecdotal evidence, suggest that the 100-Mile food supply serves other metro areas, where producers can get a higher price for their products.

There are times when competition works in Philadelphia's favor. The port operations of both Philadelphia and South Jersey are particularly adept at handling perishable fresh food because of labor specialization and U.S. Customs regulatory support. This specialization and institutional support, combined with the port facilities' longer gate hours and the Philadelphia Regional Produce Market, provide more affordable fresh food for a lower-income metropolitan area.

There is also competition between raising food crops and other agricultural products. High-value greenhouse, nursery, and sod products are more likely to be grown in or near suburbanizing areas, which means that a large portion of farmland is not used for food production.

Similarly, other parts of the country have started growing crops for biofuel production, keeping land from being utilized for food production, and increasing the price of grain and animal feed. The price of animal feed has increased dramatically (and was almost 25% of total farm expenses in 2007 in the 100-Mile Foodshed), causing many producers to grow more

Food production and transport contributes up to 30% of Greater Philadelphia's economic output. The private sector can support the regional food economy by:

- *Finding local farmers with whom you can do business.*
- *Partnering with nonprofits and government agencies on educational campaigns or regional food initiatives.*

feed to offset the cost. Forage (land used for hay and silage) was the top crop in terms of acres in 23 of the 70 counties in the 100-Mile Foodshed. Forage totaled 1.7 million acres in 2007, or approximately 24% of all the agricultural land in the 100-Mile Foodshed.

Conversely, vegetables made up about 3% of agricultural land (or 156,963 acres). This great difference may be due to the lower profit margin for producing vegetables and the need for higher-quality soil, while grain and other forage crops can utilize lower-quality soils.

HEALTH



Regardless of localized differences in buying power, our nation, as a whole, has become accustomed to cheap food. People in developing countries spend 40 to 60% more of their income on food than industrialized nations, and the average American household spends less on food than almost all other industrialized nations.

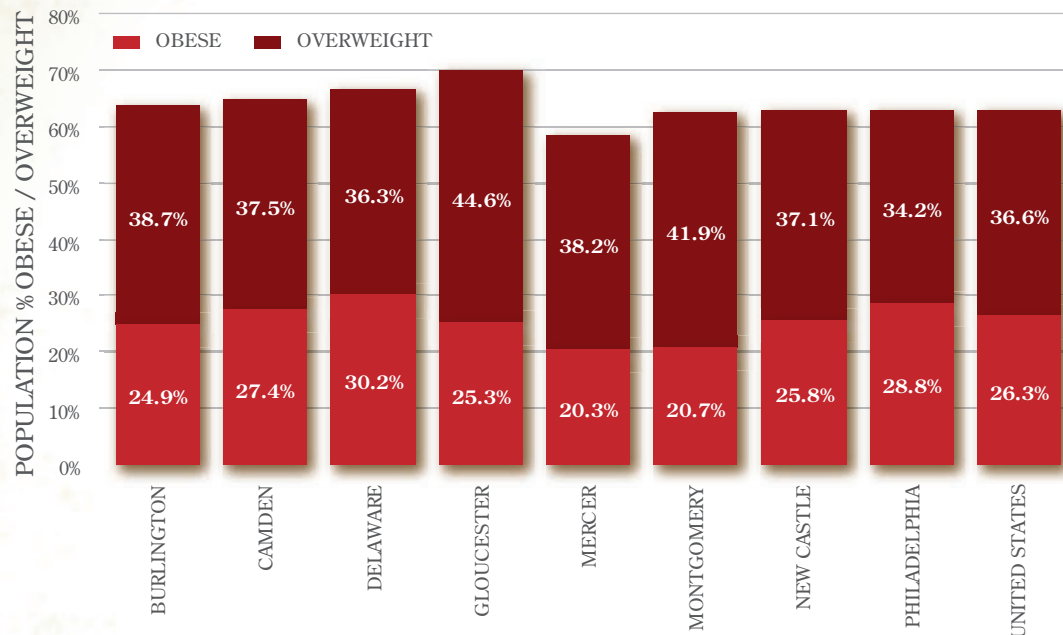
There are many convincing arguments that promote the benefits of cheap food. For example, if food remains cheap, people can obtain healthier food and are able to spend more money on other necessary goods, such as housing, transportation, or consumer goods. If food is cheap and agriculture is productive, fewer people need to be farmers and can, instead, find work in other sectors of the economy. However, American and foodshed farmers need higher food prices to remain profitable and stay in business, particularly as production costs continue to rise. Thus, the local food conundrum is: local

farmers need to sell their products at a higher price, but consumers, particularly those with lower incomes, need access to affordable, healthy fresh food.

Many argue that food is artificially cheap because of subsidized inputs, such as fossil fuels and water, government subsidies, and international commodity trading. While certain types of food may appear “cheap” to some consumers, healthy food can be costly and unavailable, particularly for those with lower incomes living in urban and rural areas. On the other hand, unhealthy food, and, in particular, highly processed “shelf-stable” products, are increasingly available and relatively less expensive. For example, over the last 30 years, the American food system has witnessed an increase of added fats and oils by 50%, added sweeteners by 14%, and high fructose corn syrup by over 10,000%, suggesting an increase in processed foods.

American consumers are also buying more “food away from home,” purchasing food at cafeterias, limited service or take-out restaurants, and other convenience food outlets. In 2007, 49% of all food purchases were for “food away from home.” Unlike food bought and prepared at home, the amount of

Overweight and Obese Adults in Selected Counties of Greater Philadelphia (2007)



Source: CDC 2008, DVRPC 2009

added fats, sugar, sodium, and calories in food prepared outside of the home is often unknown. Additionally, about one-third of food purchased for “at home consumption” is “other food at home”—snacks, prepared foods, and other potentially unhealthy items.

Income, access, and ability-to-pay affect consumer eating patterns just as much as cultural habits. Data on eating habits suggests that individuals with

higher incomes have more choices when it comes to what kind of food they buy and consume. Many rural and lower-income urban neighborhoods lack retail food outlets that sell fresh food. USDA data suggests that lower-income individuals consume less-expensive but highly processed foods that are higher in refined sugars. This can lead to diet-related diseases such as obesity and diabetes. Counties within the Greater Philadelphia region with lower median

household incomes have higher rates of both diabetes and obesity. There are also many individuals in the region who cannot afford enough food, let alone fresh and healthy food. These individuals are referred to as “food insecure.” In 2007, about 10% of Greater Philadelphia’s households suffered from food insecurity, and many more were eligible for food assistance benefits, such as the Supplemental Nutrition Assistance Program (SNAP).



From popular media to the current presidential administration, it seems that almost everyone is talking about the benefits of “eating locally.” Greater Philadelphia’s food system stakeholders that were interviewed for DVRPC’s study are no exception, citing local, sustainable, and niche food as the most substantial positive change in the 100-Mile Foodshed over the past 10 years.

While changing the global food system seems like a daunting task, there are many things individuals can do on a daily basis to improve Greater Philadelphia's food system, such as:

- *Ask your food store operators, cafeteria management, or restaurant owners questions about where food comes from.*
- *Grow your own food, if you have the time and the space.*
- *Eat imperfect fruits and vegetables. Food grown without pesticides and chemicals is less uniform and more likely to have some irregularities.*
- *Support farmland preservation efforts led by local governments, state agencies, and private land trusts.*

Some people said that demand for local food may outweigh local supply, as evidenced by the increasing number of farmers' markets, Community Supported Agriculture (CSA) operations, and urban farms and community gardens. Despite the popularity of the local food movement, direct sales at farmers' markets or through a CSA program remain a small part of how we purchase our food.

While USDA regularly surveys farmers' market managers and counts the number of farmers markets operating across the nation, the Census of Agriculture only added questions about CSA programs in the most recent census. Additionally, some experts think the amount of direct sales is greatly underreported by producers. Therefore, we do not have solid data to measure growth and increased profitability of producers specializing in sustainable practices, niche products, or the local food marketplace. There is also no standard source for information on public entities leasing land to private farmers or the yield and economic impact of community gardens in urban places (although many individuals and organizations are working on both land and food access issues).

Another reason why the local food movement has not made a measurable impact yet is the common misperception that local food is not in mainstream distribution channels. Many consumers are already buying local food in grocery stores or restaurants, although it may not be distinguished as a specialty product. Campbell's Soup and Birds Eye frozen vegetables are two examples of companies that regularly buy from farmers within Greater Philadelphia's foodshed.

There are some instances in which data does reflect food system efforts. For example, between 2003 and 2007, Philadelphians report eating more servings of fruits and vegetables, as have those living in Bucks, Chester, Delaware, and Montgomery counties. This may be evidence of the effectiveness of nutrition education and new food retail outlets opening in underserved neighborhoods through the Pennsylvania Fresh Food Financing Initiative. Philadelphia also has above average growth in specialty food stores and production of specialty fruits and vegetables. This is a reflection of the market (retail and farming entrepreneurs) responding to consumer demands for new, "ethnic," niche, culturally appropriate, and specialty foods.

WHERE *do* WE GO FROM HERE?



Regardless of the extent to which the local food movement is reflected in data, there has been dialogue about advancing local and regional food systems. Continued conversations about the expected benefits of a relocalized or decentralized food system are much needed. A regional food system will have many of the same attributes as the conventional, global food system. The global food system, which has developed over the course of modern history, yields many economic benefits, reduces hunger in many geographic areas, and enables labor specialization and economic diversification. We must now decide what public policies and private actions will support the development of a stronger regional food system for Greater Philadelphia.

The global food system has opened trade borders with countries around the world, creating wealth and encouraging free markets.

Transportation of goods and services to consumer markets has also become more efficient within the food system. However, the global food system that feeds billions of people also produces a range of economic costs and negative environmental impacts, and may cause ecological crises in the future. The global food system has concealed inefficiencies, leaves many workers uncared for, degrades the landscape and natural resources in some areas, and does not promote healthy eating.

A relocalized food system can have many of these same externalities. Simply reducing the distance that a food item travels may not reduce that food item's environmental, social, and economic costs. Long-distance travel is not necessarily inefficient, especially if large volumes of food are transported far distances on fuel-efficient modes, such as water or rail.

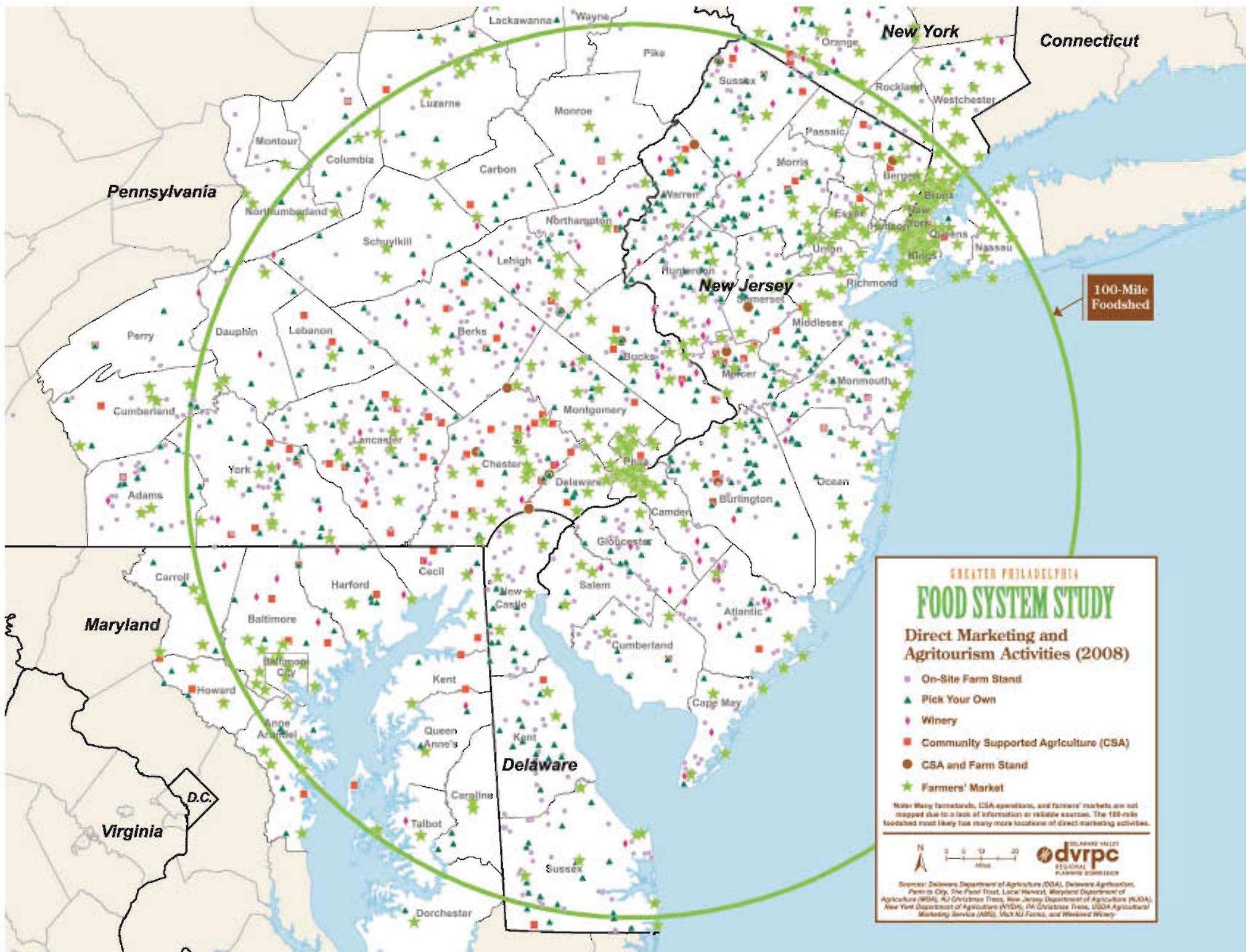
Systemic change is possible with participation from all levels of government, from the private sector, and by individual consumers who, in turn, will create a more equitable, sustainable, and healthier food system.

DVRPC has embarked on a Food System Plan that will articulate Greater Philadelphia's values and goals

for an improved food system, gather recommendations, and create indicators to measure the region's progress.

In the meantime, there are actions that any individual or organization can take to support local farmers and increase access to healthy food.

More information about DVRPC's food system planning activities can be found at www.dvrpc.org/food.





ABSTRACT PAGE

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Geographic Area Covered:

100-mile radius around the City of Philadelphia; parts of five states: Delaware, Maryland, New Jersey, New York, and Pennsylvania, and the nine-county DVRPC region: Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania, and Burlington, Camden, Gloucester, and Mercer counties in New Jersey.

Key Words:

100-Mile Foodshed, agriculture, distribution, environment, farms, farming, farmland, farmland preservation, food, food access, food system, foodshed, fossil fuels, freight, Greater Philadelphia, land use, local food, organic, natural resources, sustainable, stakeholders, transportation, working landscapes.

Abstract:

This publication is the Executive Summary of the Greater Philadelphia Food System Study—an objective study that focuses on the agricultural resources, distribution infrastructure, regional economy, and stakeholders acting within the regional food system. The study addresses a number of challenges and opportunities facing the food system, including: land constraints, contradicting health effects of malnutrition and obesity, food access, food distribution, and economic development.

Staff Contact:

Alison Hastings, PP/AICP
Senior Environmental Planner
Phone: (215) 238-2929
Email: ahastings@dvrpc.org

Delaware Valley Regional
Planning Commission
190 N. Independence Mall West 8th Floor
Philadelphia PA 19106
Phone: (215) 592-1800
Fax: (215) 592-9125
Internet: www.dvrpc.org



190 North Independence Mall West / 8th Floor

Philadelphia, Pennsylvania 19106

PHONE 215.592.1800

FAX 215.592.9125

WEBSITE www.dvrpc.org