Food Security Plan

No one goes hungry.
We grow our own food.

Prepared by

Pioneer Valley Planning Commission
60 Congress Street - Floor 1
Springfield, MA 01104-3419
pvpc.org

February 2014

Produced by the Pioneer Valley Planning Commission with the support of the U.S. Department of Housing and Urban Development Sustainable Communities Initiative Regional Planning Grant Program.
This project was funded through a Sustainable Communities Initiative grant from the U.S. Department of Housing and Urban Development (HUD), received by PVPC in partnership with the Capitol Region Council of Governments (CRCOG). PVPC would like to thank HUD and CRCOG for an outstanding partnership, and in particular acknowledge the efforts of the following staff:

Dwayne Marsh, U.S. Department of Housing and Urban Development (HUD)
Kate Dykgraaf, HUD
Lyle Wray, Capitol Region Council of Governments (CRCOG)
Mary Ellen Kowalewski, CRCOG

The work that provided the basis for this publication was supported by funding under an award with the U.S. Department of Housing and Urban Development. The substance and findings of the work are dedicated to the public. The author and publisher are solely responsible for the accuracy of the statements and interpretations contained in this publication. Such interpretations do not necessarily reflect the views of the Government.

Pioneer Valley Planning Commission Staff

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timothy Brennan</td>
<td>Executive Director</td>
</tr>
<tr>
<td>Christopher Curtis</td>
<td>Chief Planner and Project Manager/Section Manager, Land Use &amp; Environment</td>
</tr>
<tr>
<td>Catherine Ratté</td>
<td>Principal Planner/Section Manager, Land Use &amp; Environment</td>
</tr>
<tr>
<td>David Elvin, AICP</td>
<td>Senior Planner</td>
</tr>
<tr>
<td>Larry Smith</td>
<td>Senior Planner</td>
</tr>
<tr>
<td>Todd Zukowski</td>
<td>GIS/Cartographic Section Manager</td>
</tr>
<tr>
<td>Danielle McKahn, LEED AP</td>
<td>Planner</td>
</tr>
<tr>
<td>Josiah Neiderbach, AICP</td>
<td>Planner</td>
</tr>
</tbody>
</table>

Pioneer Valley Food Security Advisory Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael Abbate</td>
<td>Western Mass. Enterprise Fund</td>
</tr>
<tr>
<td>Jessica Allan</td>
<td>Easthampton City Planner</td>
</tr>
<tr>
<td>Ibrahim Ali</td>
<td>Gardening the Community</td>
</tr>
<tr>
<td>Kelly Coleman</td>
<td>Communities Involved in Sustaining Agriculture (CISA)</td>
</tr>
<tr>
<td>Jessica Collins</td>
<td>Partners for a Healthier Community</td>
</tr>
<tr>
<td>Janet Denney</td>
<td>Springfield Food Policy Council, Department of Elder Affairs</td>
</tr>
<tr>
<td>Michael DiChiara</td>
<td>Massachusetts Farm to School Project</td>
</tr>
<tr>
<td>Michael Docter</td>
<td>Wintermoon Organic Farm</td>
</tr>
<tr>
<td>Phil Dromey</td>
<td>City of Springfield Planning Department</td>
</tr>
<tr>
<td>Hector Figarella</td>
<td>Holyoke Food and Fitness Policy Council</td>
</tr>
<tr>
<td>Zaida Govan</td>
<td>United Way Pioneer Valley</td>
</tr>
<tr>
<td>Diego Angarita Horowitz</td>
<td>Nuestras Raices</td>
</tr>
<tr>
<td>Sara Kanovsky</td>
<td>Massachusetts Public Health Association</td>
</tr>
<tr>
<td>Philip Korman</td>
<td>Communities Involved in Sustaining Agriculture (CISA)</td>
</tr>
<tr>
<td>Marcos Marrero</td>
<td>Director of Planning and Economic Development-City of Holyoke</td>
</tr>
<tr>
<td>Christina Maxwell</td>
<td>Food Bank of Western Massachusetts</td>
</tr>
<tr>
<td>Laura Porter</td>
<td>Holyoke Food and Fitness Policy Council</td>
</tr>
<tr>
<td>Alex Risley Schroeder</td>
<td>Mass Workforce Alliance</td>
</tr>
<tr>
<td>Synthia Scott-Mitchell</td>
<td>Concerned Citizens’ of Mason Square Farmers’ Market; Springfield Food Policy Council</td>
</tr>
<tr>
<td>Risa Silverman</td>
<td>Office of Public Health Practice and Outreach UMass-Amherst</td>
</tr>
<tr>
<td>Sam Stegeman</td>
<td>PVGrows</td>
</tr>
<tr>
<td>Pete Westover</td>
<td>Conservation Works LLC</td>
</tr>
</tbody>
</table>

Other Acknowledgements

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Margaret Christie</td>
<td>Special Projects Director, CISA</td>
</tr>
</tbody>
</table>
Table of Contents

LIST OF TABLES ............................................................................................................. 3

LIST OF FIGURES .......................................................................................................... 3

1.0 INTRODUCTION ........................................................................................................ 4
  1.1 THE NEED FOR A REGIONAL STRATEGIC FOOD SECURITY PLAN ..................... 5
  1.2 PLANNING PROCESS AND METHODS ...................................................................... 6

2.0 INVENTORY AND ASSESSMENT ............................................................................. 8
  2.1 REGIONAL DEMOGRAPHICS AND CORE FOOD SYSTEM ASSETS ......................... 8
     2.1.1 Regional Demographics ...................................................................................... 8
  2.2 FOOD SYSTEM ASSETS IN THE REGION ................................................................. 9
     2.2.1 Farming and Food Production Assets ............................................................... 9
     2.2.2 Strong Market Demand for Local Food ........................................................... 13
  2.3 FOOD SECURITY, FOOD HARDSHIP, AND FOOD DESERTS ................................ 17
  2.4 THE REGIONAL FOOD SYSTEM .............................................................................. 20
     2.4.1 Food Production .................................................................................................. 21
     2.4.2 Food Processing and Distribution ...................................................................... 22
     2.4.3 Healthy Food Availability Case Study: Holyoke ................................................. 28
     2.4.4 Food Preparation and Consumption .................................................................. 30
     2.4.5 Food Waste, Recovery and Re-use ..................................................................... 32
  2.5 POLICY ENVIRONMENT ........................................................................................ 38
     2.5.1 Massachusetts State Food Policy Council ............................................................. 38
     2.5.2 U.S. Healthy Hunger Free Kids Act of 2010 ......................................................... 39
     2.5.3 Massachusetts School Nutrition (MGL ch.111 Sec. 222) .................................... 39
     2.5.4 Massachusetts School Wellness Advisory Committees (MGL 222, Ch 111, CMR 215.00) ..................................................................................................................................................... 40
     2.5.5 Agricultural Land Preservation ......................................................................... 40
     2.5.6 Urban Agriculture ............................................................................................... 42

3.0 ANALYSIS ................................................................................................................ 44
  3.1 NO ONE GOES HUNGRY: ADDRESSING HOUSEHOLD FOOD SECURITY ................. 44
     3.1.1 Hunger Among Individuals and Families ............................................................. 44
     3.1.2 Public Health Consequences of Hunger and Food Insecurity ............................. 47
     3.1.3 Emergency Nutrition and Food Distribution ....................................................... 49
  3.2 WE GROW OUR OWN FOOD: A RESILIENT REGIONAL FOOD SYSTEM ................ 51
     3.2.1 Economic Impacts and Benefits ........................................................................ 51
     3.2.2 Local Food System Future Capacity and Long-term Sustainability ..................... 54
     3.2.3 Resources for Increasing Local Food System Capacity ...................................... 54

4.0 STRATEGIES AND IMPLEMENTATION PROJECTS ........................................... 57
  4.1 NO ONE GOES HUNGRY: HUNGER RELIEF STRATEGIES .................................... 57
  4.2 WE GROW OUR OWN FOOD: LOCAL FOOD ECONOMY STRATEGIES ............ 59
  4.3 FOOD SECURITY PLAN IMPLEMENTATION PROJECTS ......................................... 62

SOURCES ....................................................................................................................... 64

APPENDICES (TO REDUCE PRINTING COSTS, APPENDICES ARE AVAILABLE ONLINE ONLY AT: WWW.PVPC.ORG) .66
  A: Qualitative Research Survey Findings ..................................................................... 66
  B: Demographic Profiles of Pioneer Valley Communities ........................................... 66
  C: Pioneer Valley School Meals Data ........................................................................... 66
  D: Food System Tool Kit ............................................................................................. 66
LIST OF TABLES
Table 1: Hampden, Hampshire & Franklin County Demographic Data ................................................................. 8
Table 2: Total Farms and Farmland, 2002 and 2007 ......................................................................................... 9
Table 3: Pioneer Valley Land in Farms According to Use, 2002 and 2007 ...................................................... 10
Table 4: Farm Inventory by Agricultural Product, 2002 and 2007 ................................................................. 11
Table 5: Farms by Value of Sales .................................................................................................................. 11
Table 6: Organic Production, 2007 ............................................................................................................... 12
Table 7: Organic Products, in number of farms, 2007 .................................................................................. 12
Table 8: Hired Farm Labor, 2007 ............................................................................................................... 13
Table 9: Migrant Farm Labor, by number of farms, 2007 .......................................................................... 13
Table 10: Farmers’ Markets in the Pioneer Valley ....................................................................................... 15
Table 11: Food Insecurity in the Pioneer Valley ......................................................................................... 17
Table 12: Pioneer Valley Agricultural Product Sales 2007 .................................................................... 21
Table 13: Food and Beverage Manufacturing in the Pioneer Valley ......................................................... 23
Table 14: Food Availability and Pricing in Holyoke, Massachusetts 2010 .................................................. 30
Table 15: Food Waste in Hampshire County .............................................................................................. 32
Table 16: APR Projects and Protected Lands, 1980-2010 ........................................................................ 40
Table 17: Community Gardens in the Pioneer Valley (partial list) ............................................................. 42
Table 18: Supplemental Nutrition Assistance Program (SNAP) Information 2000-2011 ......................... 45
Table 19: SNAP Ratio of Program Participants to Population .................................................................. 46
Table 20: WIC (Women, Infants and Children) Data for the Pioneer Valley ............................................... 46
Table 21: Health Outcomes in the Pioneer Valley ..................................................................................... 48
Table 22: Obesity by Race and Ethnicity – Western Massachusetts 2005 ................................................. 49
Table 23: Emergency Food Distribution in Western Massachusetts 2011 .................................................. 49
Table 24: Emergency Food Distributed by Agency Type ............................................................................. 50
Table 25: Massachusetts’s Farm and Food Production Economy ............................................................... 51

LIST OF FIGURES
Figure 1: Average Proportions of U.S. Household Expenditures (2010) ...................................................... 18
Figure 3: Organizational Involvement in Networking/Capacity-Building/Policy Development Related to Food Waste Disposal ........................................................................................................... 34
Figure 4: Organizational Involvement in Regional Composting Programs .................................................. 35
Figure 5: Estimated Collectable Organic Waste with Large Commercial Generators and Compost Facility Locations ........................................................................................................................................... 37
Figure 6: Pioneer Valley Emergency Food Distribution Locations ................................................................ 50
1.0 INTRODUCTION

The Pioneer Valley is blessed with a robust, highly functioning and well integrated regional food system.

Our regional food system includes dozens of successful small- and medium-sized farms run by farmers who cultivate some of the most fertile agricultural soils in the world. Our many grocery stores and co-ops stock as many local products as possible, and residents can take advantage of an ever expanding number (over 50 in 2013) seasonal farmers markets and an increasing number of winter markets—many of which now accept Supplemental Nutritional Assistance Program (SNAP) benefits. There is good access to major transportation routes that allow growers and manufacturers to move products to market efficiently. Local food advocates and anti-hunger organizations have a history of success providing food to hungry residents, helping them take advantage of food assistance programs, and facilitating the adoption of progressive food security-related policies at the state and local levels, including urban farming ordinances, municipal “right-to-farm” bylaws, as well as regulations that prohibit unhealthy foods in schools. There is a well-established commitment among institutional food providers, particularly schools, to supporting local farmers and producers. And a variety of organizations are active in efforts to develop and expand organic waste composting programs as well as developing waste to energy programs on farms.

Because our regional food system is relatively advanced, this plan is strategic in nature. It has been created to catalyze the existing resources and strengths of our food system and move the region forward. Food security is one of several aspects of regional sustainability planning for the Pioneer Valley now under way with funding from the Sustainable Communities Initiative of the United States Department of Housing and Urban Development. The planning focus areas of this broader effort include:

- Climate Change Actions and Clean Energy
- Environment (includes brownfields and water protection)
- **Food Security (this plan)**
- Green Infrastructure
- Housing
• Land Use
• Transportation (with an emphasis on transit oriented development)
• Workforce and Economic Development

In 2013, these plans will be integrated with the Pioneer Valley’s economic development plan, the Plan for Progress, to produce a regional sustainability plan for the region. The top priorities from this plan will be integrated into an action plan for the Sustainable Knowledge Corridor, which includes the 30 municipalities of the Hartford, Connecticut Capitol Region and seven municipalities in central Connecticut. More information about this bi-state planning effort is available at: www.sustainableknowledgecorridor.org.

1.1 THE NEED FOR A REGIONAL STRATEGIC FOOD SECURITY PLAN

Compared to many other similarly sized regions, the Pioneer Valley’s local food system is relatively mature. The key entities and organizations involved in local food production and anti-hunger programs cooperate effectively, communicate well and share many goals. And yet, the region continues to lose farmland to development and farmers to other careers; we import the vast majority of the food we consume and have only just begun developing regional food processing facilities; we have increasing numbers of food insecure households due to poor access to healthy food, economic injustice and poverty; and we compost or recover energy from only a tiny percentage of our food waste.

While there have been ad-hoc collaborations among the food security advocates and organizations in the past, to date there has not been a regional food security plan that provides strategic coordination and direction to make our food system a model of sustainable practices.

Today, we have a unique opportunity to catalyze existing food planning efforts so that we can do more, and do it faster, to improve food security at both the household and regional scales.

Therefore, this Pioneer Valley Food Security Plan has been created to help the region’s food producers, consumers, anti-hunger organizations and others articulate and advance their shared goals for our sustainable food system.

In the broadest sense, our shared goals are:

No one goes hungry. We grow our own food.

The participants in the planning process for this food security plan have identified four supporting objectives for each of these goals.
### Goal: No one goes hungry

**Objectives**

1A: Further integrate emergency food systems and programs into the overall regional food system.

1B: Expand consumer outreach, education and advocacy to enhance use of healthy, local and culturally appropriate food.

1C: Increase access to healthy food.

1D: Make sure that as many people as possible who are eligible for food assistance (SNAP, WIC and other programs) receive it.

### Goal: We grow our own food.

**Objectives**

2A: Collaborate with organizations across New England and within our region to work toward the goal of producing 50% of all food that is consumed in the region.\(^1\)

2B: Preserve farmland and work to convert available land that may not currently be used as farmland to agricultural purposes.

2C: Invest in food system infrastructure.

2D: Increase the capacity of people involved in the regional food system.

Strategies addressing these goals and objectives are presented in Section 4.

#### 1.2 PLANNING PROCESS AND METHODS

This plan was produced by the Pioneer Valley Food Security Advisory Committee, which is staffed by the Pioneer Valley Planning Commission in partnership with Community Involved Sustaining Agriculture (CISA) and The Food Bank of Western Massachusetts, the region’s leading hunger relief and local food system organizations. The planning process included both qualitative and a quantitative assessments of food security issues in the Pioneer Valley. This included extensive interviews with farmers, advocates, planners, and others working in the various components of the food system (summary of survey results in Appendix C), and the analysis of extensive data. The process also included research on best practices in regional food security across the United States to identify potential solutions to local needs. And the process involved engaging members of the general public, as well as the community of people

---

\(^1\) This 50% goal is drawn from the New England Good Food Vision 2060 for the six New England states produced by Food Solutions New England, most recently updated in April 2012. <http://www.foodsolutionsne.org> See Section 3.2.2.
and organizations associated with PVGrows, a collaborative network dedicated to enhancing the ecological and economic sustainability and vitality of the Pioneer Valley food system, to assist in the identification of issues and prioritization of solutions.

Following are brief descriptions of the major entities involved in the development of this plan:

The Pioneer Valley Planning Commission (PVPC) [www.pvpc.org](http://www.pvpc.org) is the designated regional planning agency for the Pioneer Valley Region of Western Massachusetts. PVPC is a consortium of 43 local governments that work together under the provisions of state law to address regional concerns. PVPC is a public agency but is not a direct arm of the federal or state governments. PVPC’s staff of planning professionals works with community leaders and public agencies and officials to define and direct solutions to area-wide problems that cannot be solved by member communities alone.

Community Involved in Sustaining Agriculture (CISA) [www.buylocalfood.org](http://www.buylocalfood.org) is a leading local food organization in the region. CISA is a nonprofit established in 1993 to strengthen the connections between farms and the community through programs that link farmers, community members, and markets. CISA’s signature “Be a Local Hero, Buy Locally Grown”® campaign is the longest running "Buy Local" program in the country. Through its Senior Farm Share Program, CISA has been providing shares of local harvests to low-income seniors since 2004. CISA also has active programs to build local wholesale agriculture markets, scale up local food production, provide technical assistance for farmers, and support farmers markets.

The Food Bank of Western Massachusetts [www.foodbankwma.org](http://www.foodbankwma.org) is the region’s primary anti-hunger organization. The Food Bank began distributing food in 1982 out of a small warehouse, and by 2007 was distributing nearly 7 million pounds of food per year throughout Western Massachusetts (including Berkshire County). In 1991, the Food Bank Farm in Hadley became the first community-supported agriculture (CSA) farm in the region with the primary mission to help those in need of food assistance. The Food Bank currently distributes more than 7 million pounds of food – the equivalent of 6.3 million meals – each year to its 300 member agencies throughout the region. The Food Bank has also launched community advocacy and network capacity building programs that include SNAP enrollment and nutrition education, and recently concluded several food access and hunger planning efforts in the region.

If you have comments on this plan, please email or call Catherine Ratté at cratte@pvpc.org or 413-781-6045, or David Elvin at delvin@pvpc.org or 413-781-6045. Thank you for your interest!


2.0 INVENTORY AND ASSESSMENT

2.1 REGIONAL DEMOGRAPHICS AND CORE FOOD SYSTEM ASSETS

Chapter 2 summarizes food-security related demographics of the Pioneer Valley and the core assets for food production within the region. For detail on the state of the people in the region, please see PVPC’s 2013 State of the People Report available at www.pvpc.org.

2.1.1 Regional Demographics

The Connecticut River runs through Franklin, Hampshire and Hampden Counties. In 2011 the Pioneer Valley region contained nearly 2,000 farms and some 300 restaurants, food retailers and other food-related businesses actively supporting the production and marketing of local food—a number that continues to grow.

The following table presents a brief demographic overview of each county.

| Table 1: Hampden, Hampshire & Franklin County Demographic Data |
|---------------------------------|------------------|------------------|------------------|------------------|
|                                  | Hampden          | Hampshire        | Franklin         | Mass. Statewide  |
| Population density (per sq mi)  | 749              | 529              | 101              | 835              |
| % Population under 18           | 23.6%            | 17.1%            | 19.3%            | 21.7%            |
| % Population over 65            | 14%              | 12.8%            | 15.2%            | 13.6%            |
| % Population White              | 76.5%            | 88.7%            | 94.2%            | 80.4%            |
| % Population Hispanic           | 20.9%            | 4.7%             | 3.2%             | 9.6%             |
| % Completed high school         | 83%              | 92%              | 91%              | 88.4%            |
| % Living in poverty             | 17.2%            | 11.3%            | 12.8%            | 10.3%            |
| Median Household Income         | $46,646          | $56,263          | $48,993          | $64,057          |
| % Change in Employment 2000-08  | -6.2%            | +14.8%           | -10.9%           | -0.4%            |

U.S. Census 2010

---

While the Pioneer Valley Planning Commission is the designated regional planning agency for Hampshire and Hampden counties, we include data on Franklin County here (which is planned for by the Franklin Regional Council of Governments (FRCOG)) because there is much cross region collaboration—especially on the topic of food security and sustainable food system development. FRCOG is also developing a regional sustainability plan that addresses food security—for detail see www.frcog.org.
Section 2.2 describes two core assets for food production in the region.

### 2.2.1 Farming and Food Production Assets

The Pioneer Valley’s farms and food production facilities are a stable and integral part of the region’s identity and economy. The following sections summarize these assets.

The Pioneer Valley’s mineral-rich soils are the result of historic glacial-lake sediment deposits. These soils, which are considered among the most fertile in North America, provide ideal conditions for agricultural production.

In addition to favorable land conditions, the region is home to an active community of local farmers and laborers. Because 70% of farms in the region are owned by a person or business that resides locally, farmers tend to have strong personal ties to the region. And, while many children of farmers are choosing not to go into farming themselves, there is an active group of dedicated young farmers who are starting their own businesses.

In addition, the University of Massachusetts Agricultural extension program has been promoting and supporting agriculture in western Massachusetts for 150 years.

The Pioneer Valley region is home to a quarter of all farms in Massachusetts, comprising about one-third of the total agricultural land in the state. The 2007 Agricultural Census lists 1,960 farms in the three Pioneer Valley counties, comprising roughly 169,000 acres of land. Agricultural land constitutes 14% of the total acreage of the region. Franklin County has the highest proportion of farmlands in the state, at about 18%, and Hampshire has the second highest at 15% (2007 Agricultural Census).

Farms in the Pioneer Valley are generally small in comparison to the farming operations in other parts of the United States. Most of the farms in the region are family farm operations on 50 acres of land or less.

<table>
<thead>
<tr>
<th>Table 2: Total Farms and Farmland, 2002 and 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Farms</td>
</tr>
<tr>
<td>Acres of farmland</td>
</tr>
<tr>
<td>Ave. Farm Size (ac)</td>
</tr>
<tr>
<td>Median Farm Size (ac)</td>
</tr>
</tbody>
</table>

Source: 2007 Census of Agriculture
Following a statewide trend, the number of farms in the region increased slightly in the last decade, with a total of 375 new farms since the 2002 Agricultural Census. The total amount of cropland in the Pioneer Valley dropped by about 4,000 acres from 2002 to 2007, while the rate of harvested cropland remained steady within that five-year timeframe. There was a significant drop in the quantity of cropland used for pasture or grazing of livestock, both in acres (about 4,400) and in numbers of farms (about 250). Other types of pastureland increased during this time period, including the number of farms and acres of permanent pastureland.

### Table 3: Pioneer Valley Land in Farms According to Use, 2002 and 2007

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Cropland</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farms</td>
<td>1,378</td>
<td>1,478</td>
</tr>
<tr>
<td>Acres</td>
<td>65,310</td>
<td>61,213</td>
</tr>
<tr>
<td><strong>Total Woodland</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farms</td>
<td>1,081</td>
<td>1,337</td>
</tr>
<tr>
<td>Acres</td>
<td>75,905</td>
<td>79,902</td>
</tr>
<tr>
<td><strong>Permanent pasture and rangeland</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farms</td>
<td>425</td>
<td>934</td>
</tr>
<tr>
<td>Acres</td>
<td>11,689</td>
<td>12,134</td>
</tr>
<tr>
<td><strong>Land in farmsteads, etc.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farms</td>
<td>1,061</td>
<td>1,273</td>
</tr>
<tr>
<td>Acres</td>
<td>11,690</td>
<td>14,650</td>
</tr>
<tr>
<td><strong>Pastureland, all types</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farms</td>
<td>905</td>
<td>1,180</td>
</tr>
<tr>
<td>Acres</td>
<td>26,108</td>
<td>24,070</td>
</tr>
</tbody>
</table>

Source: 2007 Census of Agriculture

The number of farms selling livestock, poultry, or other animal products in the Pioneer Valley counties increased by about 400 from 2002 to 2007, while farms selling harvestable crops only increased by about 170 farms. The largest increase was seen in the number of farms selling poultry or eggs, an increase of 183 farms in the five-year span.

---

3 Land used only for pasture or grazing that could have been used for crops without additional improvement.
4 Grazable land that does not qualify as cropland or woodland pasture. It could be high quality pasture that could not be cropped without improvements, or barely grazable land only marginally better than wasteland.
Table 4: Farm Inventory by Agricultural Product, 2002 and 2007

<table>
<thead>
<tr>
<th>Crops</th>
<th>Total number of farms</th>
<th>Difference between 2002 and 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crops</td>
<td>2002</td>
<td>2007</td>
</tr>
<tr>
<td>Aquaculture</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Cattle and calves</td>
<td>266</td>
<td>365</td>
</tr>
<tr>
<td>Christmas Trees and Woody Crops</td>
<td>82</td>
<td>70</td>
</tr>
<tr>
<td>Fruits, Tree Nuts, Berries</td>
<td>171</td>
<td>213</td>
</tr>
<tr>
<td>Hogs and Pigs</td>
<td>38</td>
<td>74</td>
</tr>
<tr>
<td>Horses, donkeys, mules</td>
<td>65</td>
<td>78</td>
</tr>
<tr>
<td>Livestock, Poultry, and their products</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk and other dairy products from cows</td>
<td>115</td>
<td>119</td>
</tr>
<tr>
<td>Nursery, Greenhouse</td>
<td>202</td>
<td>189</td>
</tr>
<tr>
<td>Other animals and products</td>
<td>72</td>
<td>96</td>
</tr>
<tr>
<td>Other crops and Hay</td>
<td>553</td>
<td>685</td>
</tr>
<tr>
<td>Poultry and eggs</td>
<td>121</td>
<td>304</td>
</tr>
<tr>
<td>Sheep, goats, and their products</td>
<td>117</td>
<td>161</td>
</tr>
<tr>
<td>Tobacco</td>
<td>50</td>
<td>59</td>
</tr>
<tr>
<td>Vegetables, melons, potatoes, sweet potatoes</td>
<td>288</td>
<td>302</td>
</tr>
</tbody>
</table>

Source: 2007 Census of Agriculture

About 66% of the farmers in the Pioneer Valley reported the market value of agricultural sales of their farm to be less than $10,000 annually, and a total of 81% of farmers reported the value of the sales to be less than $25,000. Close to 500 farms in the Pioneer Valley are directly selling their agricultural products to individuals for human consumption, at a 2007 market value of $8.9 million annually. The market value of all agricultural products sold in the region in 2007 was $121 million, marking local sales as 7.4% of all 2007 agriculture sales (2007 Census of Agriculture).

Table 5: Farms by Value of Sales

<table>
<thead>
<tr>
<th>Number of Farms</th>
<th>Franklin</th>
<th>Hampden</th>
<th>Hampshire</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $2,000</td>
<td>309</td>
<td>238</td>
<td>275</td>
<td>822</td>
</tr>
<tr>
<td>$2,500 to $4,999</td>
<td>93</td>
<td>70</td>
<td>82</td>
<td>245</td>
</tr>
<tr>
<td>$5,000 to $9,999</td>
<td>73</td>
<td>43</td>
<td>90</td>
<td>206</td>
</tr>
<tr>
<td>$10,000 to $24,999</td>
<td>110</td>
<td>63</td>
<td>114</td>
<td>287</td>
</tr>
<tr>
<td>$25,000 to $49,999</td>
<td>30</td>
<td>34</td>
<td>43</td>
<td>107</td>
</tr>
<tr>
<td>$50,000 to $99,999</td>
<td>33</td>
<td>16</td>
<td>31</td>
<td>80</td>
</tr>
<tr>
<td>$100,000 or more</td>
<td>93</td>
<td>44</td>
<td>76</td>
<td>213</td>
</tr>
</tbody>
</table>

Source: 2007 Census of Agriculture
There are 86 farms in the Pioneer Valley that are producing certified organic agricultural products, at a market value of $4.4 million, about 4% of the total agricultural market share of the region. Total acreage in organic production is less than 2,000 acres. The majority of the organic farms in the Valley and in the state are producing organic crops. There are a limited number of farms raising organic livestock or poultry, but a fair number producing livestock and poultry products.

Table 6: Organic Production, 2007

<table>
<thead>
<tr>
<th></th>
<th>Massachusetts</th>
<th>Franklin</th>
<th>Hampden</th>
<th>Hampshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total farms in organic production</td>
<td>319</td>
<td>50</td>
<td>5</td>
<td>31</td>
</tr>
<tr>
<td>Total acres in organic production</td>
<td>7,326</td>
<td>914</td>
<td>n/a</td>
<td>704</td>
</tr>
<tr>
<td>Total organic product sales</td>
<td>$17,515,000</td>
<td>$2,978,000</td>
<td>$26,000</td>
<td>$1,426,000</td>
</tr>
</tbody>
</table>

Source: 2007 Census of Agriculture

Table 7: Organic Products, in number of farms, 2007

<table>
<thead>
<tr>
<th></th>
<th>Massachusetts</th>
<th>Franklin</th>
<th>Hampden</th>
<th>Hampshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic crops, including nursery and greenhouse</td>
<td>264</td>
<td>48</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>Livestock and Poultry</td>
<td>29</td>
<td>4</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Livestock and Poultry Products</td>
<td>56</td>
<td>13</td>
<td>11</td>
<td>11</td>
</tr>
</tbody>
</table>

Source: 2007 Census of Agriculture

The 2007 Agricultural Census shows that 70% of the farms in the Pioneer Valley are fully owned by the farm operator, while only 5% of the farms are being leased. The remaining farms (25%) fall under a part-ownership status. The numbers of farms in all three categories increased between 2002 and 2007.

Beginning in 2002, there was an increase in the number of farm operators reported in the Agricultural Census and the number of primary farm operators increased from 1,586 in 2002 to 1,960 in 2007. While there has been an overall increase in the number of farms in the region and in the number of primary operators, a larger proportion of farmers do not considering farming to be their primary occupation or source of income. In 2002, 52% of primary operators reported that farming was their primary occupation, but by 2007 that percentage had dropped to 47%. Ninety-one percent of farms in the region are single-operator or two-operator farms. In 2007, the region contained roughly 470 farms, employing about 3,800 farm workers at a cost of $27 million. This cost includes paid family members but excludes contract laborers. About 65% of the total hired farm workers in 2007 worked less than 150 days, consistent with the timeframe of the New England growing season. In 2007, a total of 86 farms hired migrant farm workers.
### Table 8: Hired Farm Labor, 2007

<table>
<thead>
<tr>
<th></th>
<th>Massachusetts</th>
<th>Franklin</th>
<th>Hampden</th>
<th>Hampshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of farms</td>
<td>1,972</td>
<td>184</td>
<td>95</td>
<td>190</td>
</tr>
<tr>
<td>Number of workers</td>
<td>13,039</td>
<td>1,578</td>
<td>944</td>
<td>1,315</td>
</tr>
<tr>
<td>Payroll</td>
<td>$118.2M</td>
<td>$13.2M</td>
<td>$4.8M</td>
<td>$9.7M</td>
</tr>
</tbody>
</table>

Source: 2007 Census of Agriculture

### Table 9: Migrant Farm Labor, by number of farms, 2007

<table>
<thead>
<tr>
<th></th>
<th>Massachusetts</th>
<th>Franklin</th>
<th>Hampden</th>
<th>Hampshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>On farms with hired labor</td>
<td>237</td>
<td>30</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td>On farms reporting only contract labor</td>
<td>30</td>
<td>6</td>
<td>0</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: 2007 Census of Agriculture

2.2.2 **Strong Market Demand for Local Food**

Another major strength of the Pioneer Valley food system is the community-based organizations and local businesses that have created a local food culture and the infrastructure that supports economic growth while addressing the need to provide hungry people with immediate access to food. Residents of the region generally support the production and purchase of local foods. There is recognition of the value of local farmers and encouragement for new value-added food businesses.

There are over 350 regional businesses selling and marketing local food, including some of the first food cooperatives in the country and numerous local restaurants that emphasize their use of local produce in advertising.

In addition, there are 34 registered farmers’ markets that operate in the region, including several that continue to sell local foods through the winter.5

---

5 *See Regional Food Security Report Section 2: Inventory and Assessment – Food Production in the Pioneer Valley and Local Food Consumption*
Demand for local food, especially produce, is also supported by major supermarkets. One noteworthy example is Big Y Supermarkets, which has a Local Partners Program and Local Farms Program dedicated to purchasing fresh produce and processed foods from local farms and businesses. Similarly, Stop & Shop Supermarkets make an effort to purchase local produce in season.

Source: USDA Agricultural Marketing Services 2011
Table 10: Farmers' Markets in the Pioneer Valley

<table>
<thead>
<tr>
<th>HAMPDEN COUNTY</th>
<th>MUNICIPALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brimfield at Hitchcock Academy</td>
<td>Brimfield</td>
</tr>
<tr>
<td>Chicopee Farmers Market</td>
<td>Chicopee</td>
</tr>
<tr>
<td>Hampden Farmers Market</td>
<td>Hampden</td>
</tr>
<tr>
<td>Springfield/Indian Orchard</td>
<td>Indian Orchard</td>
</tr>
<tr>
<td>Local Harvest Farmers Mkt at the Longmeadow Shops</td>
<td>Longmeadow</td>
</tr>
<tr>
<td>Palmer/Three Rivers Farmers' Market</td>
<td>Palmer</td>
</tr>
<tr>
<td>Springfield Shriner's Hospital Farmers Market</td>
<td>Springfield</td>
</tr>
<tr>
<td>Concerned Citizens of Mason Square Farmers Market</td>
<td>Springfield</td>
</tr>
<tr>
<td>Springfield Farmers Market at the X</td>
<td>Springfield</td>
</tr>
<tr>
<td>Springfield Cooperative Farmers Market</td>
<td>Springfield</td>
</tr>
<tr>
<td>Holyoke Farmers' Market</td>
<td>Holyoke</td>
</tr>
<tr>
<td>Westfield Farmers Market</td>
<td>Westfield</td>
</tr>
<tr>
<td><strong>SUBTOTAL:</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HAMPShIRE COUNTY</th>
<th>MUNICIPALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amherst Farmers' Market</td>
<td>Amherst Center</td>
</tr>
<tr>
<td>Amherst Kendrick Park Market</td>
<td>Amherst Center</td>
</tr>
<tr>
<td>Belchertown Farmers Market</td>
<td>Belchertown</td>
</tr>
<tr>
<td>Easthampton Farmers Market</td>
<td>Easthampton</td>
</tr>
<tr>
<td>Park Hill Orchard</td>
<td>Easthampton</td>
</tr>
<tr>
<td>Hadley/Eden Farmers Market</td>
<td>Hadley</td>
</tr>
<tr>
<td>Northampton Thornes Marketplace Farmers Market</td>
<td>Northampton</td>
</tr>
<tr>
<td>Northampton Gothic Street Farmers Market</td>
<td>Northampton</td>
</tr>
<tr>
<td>South Hadley Farmers' Market</td>
<td>South Hadley</td>
</tr>
<tr>
<td><strong>SUBTOTAL:</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FRANKLIN COUNTY</th>
<th>MUNICIPALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashfield Farmers Market</td>
<td>Ashfield</td>
</tr>
<tr>
<td>Bernardston Farmers Market</td>
<td>Bernardston</td>
</tr>
<tr>
<td>Charlemont Farmers Market</td>
<td>Charlemont</td>
</tr>
<tr>
<td>Greenfield Farmers Market</td>
<td>Greenfield</td>
</tr>
<tr>
<td>Northfield Farmers Market</td>
<td>Northfield</td>
</tr>
<tr>
<td>Shelburne Falls Community Farmers Market</td>
<td>Shelburne Falls</td>
</tr>
<tr>
<td>Orange Farmers Market</td>
<td>Orange</td>
</tr>
<tr>
<td><strong>SUBTOTAL</strong></td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>

| **3 COUNTY TOTAL** | **34** |

Source: USDA Agricultural Marketing Services 2011
The Pioneer Valley region is also home to numerous community gardens and community-based organizations that advocate for accessible and affordable healthy foods, promote the benefits of urban agriculture, develop opportunities for the increased retail of produce in urban locations, incubate local food processing businesses, and strengthen the emergency food safety net across the region.

Assessing the amount of local food consumed locally is challenging because data on local food purchases is difficult to obtain and calculate. While much locally grown food is also consumed locally, some of the crops produced in the region are grown primarily for export or for specialty processed or "boutique" food markets.

Current estimates suggest that Massachusetts as a whole is producing enough agricultural products to meet 4.0% to 5.6% of its food needs. Based on available farmland, it is estimated that the Pioneer Valley region could increase production to meet 17.6% of its own food needs. In Franklin, Hampden, and Hampshire counties, approximately 13% of household food budgets are spent on local food (not including purchases made by restaurants, retailers, and institutions); therefore, the total value of agricultural products produced and consumed within the region is actually likely to be slightly higher (Timmons, Wang, et. al. 2008).

http://bostonlocalfoodfestival.com/2011/06/enterprise-mobile-market-hits-the-road
2.3 FOOD SECURITY, FOOD HARDSHIP, AND FOOD DESERTS

“Food security” is a term that is used with increasing frequency in discussions of hunger and nutrition, from the global to the household levels, and often has different meanings, depending on the context.

At the global scale, the United Nations Food and Agriculture Organization (FAO) defines food security as, “all people, at all times, hav[ing] physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO 2003).

At the regional scale, food security typically refers to the capacity of a geographic area to produce an adequate supply of healthy food for its population. Goals for regional food security efforts may include reducing dependence on imported food, consuming an ever increasing percentage of locally grown food, and fostering regional economic growth.

At the household and individual scale, food security is generally understood to mean that regular and sufficiently diverse selections of foods are regularly accessible and affordable for a person or family’s purchase and consumption. Increasingly significant to this definition is the nutritional value and cultural appropriateness of food, both for individual well-being and overall public health.

In the Pioneer Valley, the rate of food insecurity varies from 14.3% in Hampden County to 10.2% in Hampshire County. There are an estimated 90,900 people in the region who do not have enough money to regularly buy the food they need for a healthy diet (Feeding America 2011).

Table 11: Food Insecurity in the Pioneer Valley

<table>
<thead>
<tr>
<th></th>
<th>Hampden</th>
<th>Hampshire</th>
<th>Franklin</th>
<th>Region</th>
<th>Mass.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food insecurity rate %</td>
<td>14.3%</td>
<td>10.2%</td>
<td>11.5%</td>
<td>12.0%</td>
<td>11.2%</td>
</tr>
<tr>
<td>Food insecurity population</td>
<td>66,880</td>
<td>15,780</td>
<td>8,240</td>
<td>90,900</td>
<td>727,530</td>
</tr>
<tr>
<td>Food insecurity rate above SNAP poverty threshold (%)</td>
<td>32%</td>
<td>50%</td>
<td>38%</td>
<td>40.0%</td>
<td>45%</td>
</tr>
<tr>
<td>Child food insecurity rate %</td>
<td>24.3%</td>
<td>16.3%</td>
<td>20.2%</td>
<td>20.3%</td>
<td>18.1%</td>
</tr>
<tr>
<td>Child food insecurity pop.</td>
<td>27,530</td>
<td>4,470</td>
<td>2,910</td>
<td>34,910</td>
<td>262,650</td>
</tr>
<tr>
<td>Child income-eligible for federal nutrition program (%)</td>
<td>70%</td>
<td>47%</td>
<td>59%</td>
<td>58.7%</td>
<td>53%</td>
</tr>
</tbody>
</table>

Source: Feeding America 2011

Households that are “food insecure” generally have less money to spend on food. According to a study conducted in 2007 by North Dakota State University, the average U.S. household spends 12.4% of its income on food and 34% on housing (see Figure 1 below).
In contrast, low income families eligible for the USDA’s Supplemental Nutrition Assistance Program (SNAP, formerly known as Food Stamps) spend 24% of their household income on food, twice what a non-poor family spends, and 43% on housing—a difference of 46% versus 67% for these two basic necessities of life.

The “Food Hardship Rate” is a measure developed by the Food Research and Action Center indicating whether households have experienced moments during the past year when they did not have enough money to buy food that they needed. While less frequently used than “food insecurity,” this measure helps increase the understanding of the longer term consequences of hunger, poverty and lack of access to food.

The Springfield Metropolitan Statistical Area (MSA), which includes all of Hampden, Hampshire and Franklin Counties, is ranked 37th out of the 100 largest MSAs in the U.S. for “Food Hardship Rate.” In contrast, the Commonwealth of Massachusetts has one of the nation’s lower food hardship rates, ranking 45 out of the 50 states.

The term “Food Desert” is increasingly used to describe conditions in which nutritious and healthy food is not regularly accessible or available (“low access” according to the USDA) to a substantial portion of a community’s residents. Research by the U.S. Department of Agriculture documents that a person’s access to affordable and healthy foods is substantially lower in low-income and racial and ethnic minority neighborhoods, as well as rural areas where people may live more than 10 miles from the nearest source of healthy food and not have the means to travel to the store (http://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx#). In addition, health disparities linked to diet-related chronic disease and obesity rates are associated with racial, ethnic and income parameters, disproportionately impacting lower-income and racial minority populations (Story, Kaphingst, et. al. 2008). Research on the cause of these health outcomes continues to help understand the possible causal links between low access to healthy foods and higher rates of diet-related disease in: low-income communities.
Low access to grocery stores that have a good selection of produce, fish and meats (a “full line” grocery store) decreases opportunities for consumers to purchase healthy or nutritious foods. Major supermarket chains continue to close their stores in urban and lower-income areas at rapid rates, and instead building “big box” super stores in suburban or urban edge locations. This practice is historically referred to as “supermarket redlining.” Increasingly, low-income residents with limited access to automobiles or adequate public transit options struggle to access major supermarkets. Without consistent supermarket access, many low-income residents pay higher prices for lower-quality produce at convenience stores, or forego the purchase of produce and other healthy foods altogether. This situation is sometimes known as the “grocery gap.”

According to the U.S. Department of Agriculture and the Centers for Disease Control, 2.2% of people living in the urban areas of Hampden County and 2.7% of people in urban Hampshire County do not have access to a car and live more than 1 mile from the nearest full-line supermarket. PVPC’s 2012 analysis of rural areas found that 24,627 residents in rural areas live more than 10 miles from a full-line grocery store.

Compounding the lack of accessible nutritious and healthy foods is the high quantity of unhealthy food choices that are available, especially low-priced fast food. In the United States today, almost half of American food expenditures are spent on “eating out,” and roughly one-fourth of all meals eaten outside the home are fast-food meals. Lower-income neighborhoods with limited access to full line grocery stores often have substantially higher concentration of fast food establishments, according to Story, Kaphingst, et. al. (2008). These researchers find that Americans have the “lowest cost food supply in the world” due to subsidies for high-caloric sweeteners. As a result, the typical American diet derives almost 40% of its energy output from high-processed sugars and fats. Refined foods with added fats and sugars are inexpensive and energy-dense, and thus appeal to low-income consumers. However, energy-dense diets have a low satiating power, potentially resulting in passive overeating and subsequent increased weight gain. These energy-dense foods are generally nutrient-poor, and prolonged consumption is correlated with high rates of adverse health outcomes (Drewnowski & Darmon 2005). Poor nutrition can also lead to poor school performance, the inability to hold down a job, and increased medical costs.

Urban neighborhoods that lack healthy food options and are swamped with large numbers of outlets for unhealthy food are increasingly being referred to as “food swamps.” While research is not conclusive, some public health advocates now believe that the combined impacts of food deserts and food swamps is playing a significant role in the increasing rates of obesity and obesity-related diseases such as diabetes, hypertension, and heart disease are rising throughout the country.
2.4 THE REGIONAL FOOD SYSTEM

Food plays a major role in the life of every region and is part of a highly integrated system.

The regional food system can be modeled, as seen at right, as a cycle with five major components: production; processing and distribution; retail sales and access; preparation and consumption; and waste. At each stage of the cycle, there are many inputs and outflows, both from within the region and outside it. Those with the greatest bearing on the region and its economy are summarized below.

<table>
<thead>
<tr>
<th>Production</th>
<th>The use of natural and human resources to grow plants (i.e., “produce”) and raise animals for human consumption. Production may take place in rural, suburban or urban settings. Includes fishing, hunting, foraging and trapping in natural (non-farm) environments.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processing and Distribution</td>
<td>The transformation of raw food to a product that is ready for consumption. Includes processes such as cooking, baking, fermentation, slaughter, preserving, packaging and others. Sometimes known as the “value-added” part of the food system, as it increases the value of food for retail sale. Also includes direct or indirect distribution and transportation of processed and unprocessed foods to wholesalers and retailers.</td>
</tr>
<tr>
<td>Retail Sales, Access, Hunger Relief</td>
<td>The retail sale of food products by stores, markets, restaurants, and other retail outlets to consumers. Access, which depends on consumers’ proximity and physical access to points of sale, as well as financial issues such as the cost and availability of transportation, and the price of food itself. Hunger relief typically involves non-retail emergency nutrition and distributions.</td>
</tr>
<tr>
<td>Preparation and Consumption</td>
<td>The preparation of food by consumers, restaurants, retail and institutional food providers (such as schools) for consumption.</td>
</tr>
<tr>
<td>Waste Reuse and Recovery</td>
<td>Disposal, recovery and/or reuse of unconsumed food. Involves landfill disposal, donations to hunger relief, composting, recycling, and reuse.</td>
</tr>
</tbody>
</table>
Sections 2.3.1 through 2.3.5 describe how these five general components of the food system exist and function in the Pioneer Valley.

2.4.1 Food Production

The Valley’s farms produce 13% of Massachusetts’ total agricultural products by value (based on market value of agricultural products sold in 2007, a total of $64,352,000). The Pioneer Valley’s major food crops and values are shown below.

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetables</td>
<td>$16,185,000</td>
</tr>
<tr>
<td>Dairy</td>
<td>$8,955,000</td>
</tr>
<tr>
<td>Fruits</td>
<td>$3,597,000</td>
</tr>
<tr>
<td>Meats</td>
<td>$2,640,000</td>
</tr>
<tr>
<td>Grains and beans</td>
<td>$779,000</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td><strong>$32,156,000.00</strong></td>
</tr>
</tbody>
</table>

Source: 2007 Economic Census

This food is produced on approximately 1,960 farms in the Pioneer Valley, which is one-fourth of all farms in the Commonwealth. The Pioneer Valley contains about 169,000 acres of farmland, which is one-third of the statewide total agricultural land.

A recent study estimated that current Pioneer Valley production could provide about 16% of the food consumed in the region; another study estimates that the region could produce 5.6% of all of Massachusetts’ total food need (CISA 2010).

As of 2007, the Pioneer Valley’s dairy farms produced about 15% of the dairy products consumed and processed in the region. From 2003 to 2009, nearly one-quarter of the Commonwealth’s dairy farms ceased production, reducing the total number of dairy farms in Massachusetts from 180 to 77. However, the number of dairy farms in the Pioneer Valley remained steady.
GROW FOOD NORTHAMPTON

Grow Food Northampton is dedicated to promoting food security by advancing sustainable agriculture in Northampton, Massachusetts. Grow Food Northampton coordinates the use of over 120 acres of heritage farmland along the Mill River in Florence. The goal of the site is to house a variety of farming enterprises striving to strengthen Northampton’s local agricultural economy and collective food security. Grow Food Northampton is in the process of developing a comprehensive plan for the land, including a CSA farm share and plans for a community garden. Grow Food Northampton has partnered with the Tuesday Market to raise $12,000 to continue the FoodStampsX2 program, double the value of any customer's food stamp purchase at Tuesday Market up to $10. Grow Food Northampton supports Fresh Wednesdays, an initiative of the Healthy Foods in Northampton Schools Coalition to identify the food, nutrition, and local agriculture topics currently discussed in Northampton's classrooms. Grow Food Northampton was a key player in the development of the Feed Northampton Food Security Plan, and also supports CISA's discounted CSA program for eligible seniors and the Forever Farmland Trust.

For more information visit: www.growfoodnorthampton.com

2.4.2 Food Processing and Distribution

Food processing and distribution are both necessary to make the food available to the consumer. This section describes these two related processes as they occur in the Pioneer Valley.

2.4.2a Food Processing

Most locally produced food requires some processing before it is ready for distribution and retail sale to consumers. Common processing operations include cooking, baking, fermentation, preservation and other preparation. Processing allows fruits and vegetables to be transformed into value-added products, including carrot sticks, jams, and salsas, or products that can be sold all year, such as tomato sauce or frozen berries. Processing is
necessary to pasteurize and bottle milk or to turn it into cheese, yogurt or other dairy products. Meat must be slaughtered, cut, and cured. Grains are typically dried, cleaned and milled. Other foods, such as seasonable produce, can be sold at farmers markets with virtually no processing at all, other than the farmer harvesting, washing and packing the product for transport.

Therefore, food processing involves a wide range of additional costs, materials and labor to prepare food products for distribution. Processing enhances the value of locally grown ingredients and allows local producers to reach additional markets.

Sales receipts from food manufacturing totaled $2.13 million in Franklin, Hampshire, and Hampden Counties in 2009.\(^6\) Table 16 below shows the types and number of food manufacturing facilities in the Pioneer Valley. In general, Western Massachusetts (including Berkshire County) today lacks sufficient food processing facilities to meet demand for local consumption and exports. This shortcoming limits the amount and variety of processed foods created from local ingredients available in local markets.

**Table 12: Food and Beverage Manufacturing in the Pioneer Valley**

<table>
<thead>
<tr>
<th>Food and Beverage Manufacturing Establishments</th>
<th>Hampshire</th>
<th>Hampden</th>
<th>Franklin</th>
<th>Subtotals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal food manufacturing</td>
<td></td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Bakeries</td>
<td>8</td>
<td>19</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>Beverages manufacturing</td>
<td>2</td>
<td></td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Condiments and other prepared foods</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Confectionery manufacturing</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Dairy Manufacturing</td>
<td></td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Frozen specialty food manufacturing</td>
<td></td>
<td>3</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Fruit and vegetable canning</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Meat Processing / Slaughtering</td>
<td>5</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Perishable prepared food manufacturing</td>
<td></td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Soybean processing</td>
<td></td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>All other miscellaneous food manufacturing</td>
<td>1</td>
<td>1</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>13</strong></td>
<td><strong>35</strong></td>
<td><strong>14</strong></td>
<td><strong>62</strong></td>
</tr>
</tbody>
</table>

Source: 2007 Economic Census

Farms, businesses, and others are actively working to enhance and create infrastructure for food processing using local ingredients. Processing facilities designed to source locally grown ingredients may have different needs than those that source their inputs from around the globe. Increased cold storage capacity, for example, may be required to allow sales all year.\(^7\)

\(^6\) US Census Bureau, [http://censtats.census.gov/cgi-bin/nonemployer/nondetl.pl](http://censtats.census.gov/cgi-bin/nonemployer/nondetl.pl)

\(^7\) See CISA’s profile of Real Pickles for more information on the specific needs of processors committed to local sourcing.
On-farm processing is a particularly attractive option, because it builds in a preference for locally grown ingredients and returns a greater share of the consumer dollar to the grower. On the other hand, adding a processing business may require farmers to acquire new skills and to stretch their management capacity across several different enterprises. On-farm processing is a good fit for some farms but not others. Regional processing facilities providing small-batch processing and retain source-identification of the product are an important additional option.

The following table describes processing in the Pioneer Valley for various types of food.

| Fruit and Vegetable Produce Processing | Most fruits and vegetables grown in the region are sold fresh, though there is significant acreage of potatoes grown for potato chips. Some farmers and aggregators do basic processing, such as peeling squash or cutting carrot sticks or zucchini coins, to make their products more appealing to institutional buyers such as schools and hospitals. Some farms and small businesses make other value-added products, such as jams, salsa, pickles, and relishes. Sufficient refrigerated storage for fruits and vegetables is currently lacking in the region. |
| Dairy Processing | Some processing is necessary to bring any dairy product to market. The most basic dairy product, fluid milk, must be pasteurized and bottled. The cost of these processes has made it more difficult for local dairy farms to take advantage of increasing demand for local food. Historically, dairy farmers in the region have sold their milk in bulk, but rising costs of production and recent fluctuations in market prices have led many dairy farmers to pursue options for retaining a greater share of the consumer milk dollar. An increasing number of dairy farms in the region now do on-farm processing, including bottling and production of cheese, yogurt and other products. Additional regional needs include a processing plant for small-batch processing that can be shared by several businesses, shared cheese-making or aging facilities, and new business “incubator” facilities with equipment and expertise suited to dairy products. |
| Slaughter and Meat Processing | Western Massachusetts has one USDA-inspected meat processing plant. There are three additional plants within reasonable driving distances in Vermont, New York, and central Massachusetts. One plant also processes poultry, and growers in the region can also use one of the Massachusetts Department of Agriculture’s Mobile Poultry Processing Units. Although these plants offer more options than are generally available in many other regions of the country, some growers are experiencing dissatisfaction with customer service, scheduling, animal handling, and cutting services at some plants. In addition, plant operators note that business can be slow in seasons other than fall and early winter and that financial margins are very tight. Some options for improvement suggested by local producers include: creation of meat-cutting and wrapping (not slaughter) facilities; support for the creation of on-farm slaughter facilities, particularly for poultry; improved regulatory coordination |
and clarity; technical assistance and financing designed to improve services at both custom\textsuperscript{8} and USDA-inspected slaughterhouses; and training for farmers focused on year-round finishing of animals to alleviate crowded fall slaughterhouse schedules.

<table>
<thead>
<tr>
<th>Grain Processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth in the production of small grains in Massachusetts has led to a need for processing facilities. Some equipment, including that needed for small grain aeration, cleaning, hulling, and milling, is now available through shared-use or fee-for-service arrangements. Grains are a relatively low-value crop and farmland in the region is expensive, but growers and processors, such as bakeries and malters, are demonstrating ways to make grain production work as part of a crop rotation schedule and in response to market interest. Advocates note that consumer education related to the benefits and use of whole grains and the price of locally-grown grain is needed. As the volume of grain produced increases, additional processing options will be required.</td>
</tr>
</tbody>
</table>

\textbf{2.4.2b Food Distribution}

Food distribution is the network of transportation companies and facilities that link farms and markets. It is closely tied to food processing because it involves bringing food from the farm to the many places where it may be purchased, processed, cooked, sold, given away or eaten.

In Massachusetts, direct sales account for 8.6\% of farm products sold to consumers, typically via farmers’ markets, farm stands and community-supported agriculture (CSA) arrangements. Although the value of direct sales is relatively high in Massachusetts (second only to Connecticut), consumers still purchase the vast majority of their food is from restaurants, major supermarkets and national chain stores. In some cases, farmers deliver to these outlets, but most of the time a distributor aggregates products, processes orders, delivers the product, and handles the invoices.

\textsuperscript{8} Custom facilities may be used only by the end-user of the product; in other words, meat from a custom facility may not be resold. Improved services at custom facilities may result in reduced bottlenecks at USDA-inspected facilities if people growing meat for their own use switch to a custom slaughterhouse.
GREENFIELD FOOD PROCESSING CENTER
Many local food businesses have used the Western Massachusetts Food Processing Center (FPC), a business incubator and shared-use commercial kitchen operated since 2001 by the Franklin County Community Development Corporation. In some cases, the FPC provides co-packing services, allowing farmers to supply ingredients and obtain a finished product for sale without providing the labor or recipe development.

The Western Mass. Food Processing Center in Greenfield.

Products made at the Processing Center include pickles, coleslaws, sauces and other tasty items.

The FPC has also begun freezing locally grown vegetables for sale to schools. Many farms are building or improving cold storage facilities that allow them to sell product throughout the winter. Interest in additional shared-use kitchen facilities is high, but the FPC experience demonstrates both the value and the challenge of these facilities; potential operators should carefully assess demand in order to create a business model that can succeed. (http://www.fccdc.org/fpcabout)
The Pioneer Valley, like other regions in the Northeast, has a well-developed food distribution system. Foods of wide varieties and origins are almost always in stock at retail outlets, from major supermarkets, to institutional providers, to neighborhood convenience stores. However, this distribution system has developed over time primarily as part of a global, “season-less” marketplace. As such, it is not always fully responsive to local demands and considerations. Incorporating more local food into the system may require some modifications to accommodate and provide optimal access for local farmers, processors and buyers to better serve the growing regional demand for locally produced food.

**JOE CJAKOWSKI’S FARM, HADLEY**

The Czajkowski Farm operates on 300 acres, 100 acres of which are certified organic. This third generation farm is operated by Joseph Czajkowski, who says of his work, “we love what we do.” The Czajkowski Farm sold 27 different items to schools in 2010, and is accustomed to meeting the needs of school buyers. Joe consolidates orders to make it easy for the school, meaning fewer gaps in orders. The farm is state licensed and insured to sell to institutions. Cjakowski employs another approach to processing, as he offers bulk purchase of fresh produce that he either grows or acquires from nearby farms. (www.cisa.org)

Joe Cjakowski
2.4.3 Healthy Food Availability Case Study: Holyoke

The issue of food availability was examined locally in a case study in Holyoke, Massachusetts (Ramsey 2010) of how the health and stability of a community may be affected by the distribution of six categories of food retail stores. This study took into account social, race and class considerations, as well as the spatial mismatch of preferred food stores, mobility challenges for economically disadvantaged residents, and the role of small urban food stores.

The key findings of the Holyoke study relevant to this strategic plan are:

- Food store availability does not necessarily mean that healthy foods are accessible.
- There are real and perceived barriers to accessing healthy food. Cost, convenience and quality are constantly weighed in customers’ minds.
- Food is a “push factor” from downtown; that is, the lack of food choices in downtown tends to push people outside the downtown core.

----

SPRINGFIELD MASON SQUARE FOOD JUSTICE INITIATIVE

The Mason Square Food Justice Initiative -- a coalition of organizations, residents and activists that is part of the Mason Square Health Task Force -- has advocated for a full-line grocery store to come to Mason Square for several years. Coalition members have joined with economic development leaders in the community and City Planners to move the effort forward.

Youth from Gardening the Community in their fresh fruits and vegetables costume at the Concerned Citizens of Mason Square’s Farmers’ Market on the day of the Cultural Harvest Festival, October 2011. This marked the kick off of the JUST FOOD campaign.
(http://www.flickr.com/photos/masonsquarehealthtaskforce/)
- Smaller food stores in the urban core neighborhoods alone are not sufficient to support a lifestyle of healthy eating.

- The lowest quality and poorest selection of produce was found in urban markets.

- The locations of large-scale discount grocery stores and supermarkets are not conducive to walking.

- Urban food stores serve an important function in neighborhood social stability, even though they are not generally stocking healthy foods.

- A diverse mixture of food store types (i.e., convenience stores, smaller markets and large-scale supermarkets) is beneficial.

Ramsey compared prices of typical healthy foods at different types of stores in Holyoke. The general findings were that healthy foods become more expensive the closer they are to the consumer’s neighborhood – if they are available at all.
Table 15: Food Availability and Pricing in Holyoke, Massachusetts 2010

<table>
<thead>
<tr>
<th>Produce</th>
<th>Unit</th>
<th>Ave. Price in Holyoke Area</th>
<th>Supermarkets</th>
<th>Discount Grocery Stores</th>
<th>Urban Markets</th>
<th>Neighborhood Food Stores</th>
<th>Convenience Stores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples</td>
<td>lb</td>
<td>$1.46</td>
<td>$1.46</td>
<td>$1.44</td>
<td>$1.24</td>
<td>$1.60</td>
<td>x</td>
</tr>
<tr>
<td>Bananas</td>
<td>lb</td>
<td>$0.99</td>
<td>$0.74</td>
<td>$0.83</td>
<td>$0.99</td>
<td>$1.29</td>
<td>$0.89</td>
</tr>
<tr>
<td>Carrots</td>
<td>lb</td>
<td>$1.70</td>
<td>$1.82</td>
<td>$2.09</td>
<td>$1.07</td>
<td>$1.79</td>
<td>x</td>
</tr>
<tr>
<td>Lettuce (iceburg)</td>
<td>bunch</td>
<td>$1.66</td>
<td>$1.82</td>
<td>$1.60</td>
<td>$1.34</td>
<td>$1.74</td>
<td>x</td>
</tr>
<tr>
<td>Limes</td>
<td>each</td>
<td>$0.57</td>
<td>$0.62</td>
<td>$0.55</td>
<td>$0.90</td>
<td>$0.51</td>
<td>x</td>
</tr>
<tr>
<td>Onions</td>
<td>lb</td>
<td>$1.27</td>
<td>$1.31</td>
<td>$0.78</td>
<td>$1.31</td>
<td>$1.33</td>
<td>x</td>
</tr>
<tr>
<td>Oranges</td>
<td>lb</td>
<td>$0.92</td>
<td>$0.95</td>
<td>$0.76</td>
<td>$0.83</td>
<td>$1.03</td>
<td>x</td>
</tr>
<tr>
<td>Potato/sw potato</td>
<td>lb</td>
<td>$1.33</td>
<td>$0.99</td>
<td>$1.19</td>
<td>$0.79</td>
<td>$1.61</td>
<td>x</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>lb</td>
<td>$2.02</td>
<td>$1.96</td>
<td>$3.15</td>
<td>$1.24</td>
<td>$2.42</td>
<td>x</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Groceries</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1% milk</td>
<td>gal</td>
<td>$3.73</td>
<td>$3.99</td>
<td>$3.14</td>
<td>$3.52</td>
<td>$3.71</td>
<td>$3.88</td>
</tr>
<tr>
<td>2% milk</td>
<td>gal</td>
<td>$3.80</td>
<td>$4.19</td>
<td>$3.14</td>
<td>$3.52</td>
<td>$3.64</td>
<td>$4.09</td>
</tr>
<tr>
<td>Beans</td>
<td>can</td>
<td>$1.34</td>
<td>$1.27</td>
<td>$0.99</td>
<td>$1.39</td>
<td>$1.21</td>
<td>$1.50</td>
</tr>
<tr>
<td>Ched. cheese</td>
<td>1 lb</td>
<td>$4.78</td>
<td>$4.74</td>
<td>$3.97</td>
<td>$5.99</td>
<td>$4.73</td>
<td>$4.78</td>
</tr>
<tr>
<td>Chicken</td>
<td>1lb</td>
<td>$2.10</td>
<td>$2.26</td>
<td>$1.57</td>
<td>$1.89</td>
<td>$1.74</td>
<td>$2.99</td>
</tr>
<tr>
<td>Dried lentils</td>
<td>lb</td>
<td>$1.20</td>
<td>$0.85</td>
<td>$1.00</td>
<td>$1.36</td>
<td>$0.99</td>
<td>$1.39</td>
</tr>
<tr>
<td>Eggs</td>
<td>dozen</td>
<td>$2.14</td>
<td>$2.46</td>
<td>$1.84</td>
<td>$1.59</td>
<td>$2.07</td>
<td>$2.39</td>
</tr>
<tr>
<td>Pasta</td>
<td>box</td>
<td>$1.61</td>
<td>$0.92</td>
<td>$1.49</td>
<td>$1.12</td>
<td>$1.66</td>
<td>$2.06</td>
</tr>
<tr>
<td>Peanut butter</td>
<td>8 oz</td>
<td>$2.48</td>
<td>$2.19</td>
<td>$1.72</td>
<td>$2.30</td>
<td>$2.19</td>
<td>$3.22</td>
</tr>
<tr>
<td>Skim milk</td>
<td>gal</td>
<td>$3.84</td>
<td>$3.99</td>
<td>$3.14</td>
<td>$3.29</td>
<td>$3.99</td>
<td>$4.06</td>
</tr>
<tr>
<td>Whole milk</td>
<td>gal</td>
<td>$3.83</td>
<td>$3.99</td>
<td>$3.14</td>
<td>$3.52</td>
<td>$3.71</td>
<td>$4.15</td>
</tr>
<tr>
<td>WW bread</td>
<td>loaf</td>
<td>$2.09</td>
<td>$2.46</td>
<td>$2.14</td>
<td>$2.38</td>
<td>$1.56</td>
<td>$2.11</td>
</tr>
<tr>
<td>All</td>
<td></td>
<td>$44.83</td>
<td>$44.95</td>
<td>$39.65</td>
<td>$41.57</td>
<td>$44.53</td>
<td></td>
</tr>
<tr>
<td>Produce</td>
<td></td>
<td>$11.91</td>
<td>$11.66</td>
<td>$12.37</td>
<td>$9.71</td>
<td>$13.33</td>
<td></td>
</tr>
<tr>
<td>Groceries</td>
<td></td>
<td>$32.92</td>
<td>$33.29</td>
<td>$27.28</td>
<td>$31.87</td>
<td>$31.20</td>
<td>$36.62</td>
</tr>
</tbody>
</table>

Source: Ramsey 2010  (“x”: product not available or price information not available)

2.4.4 Food Preparation and Consumption

This sector of the regional food system involves the preparation of food products to be eaten. In simple terms, it is what happens with food after it is purchased. This sector, therefore, involves a host of complex issues, including cultural preferences and practices related to food, individual health and dietary needs, social and ethnic customs and more.

Healthy eating, therefore, is an important part of the regional food system.
More than 70% of organizations interviewed as part of the qualitative data analysis for this plan reported they do provide or support healthy food preparation and consumption education. These efforts include community-cooking classes, healthy food purchasing education in schools and other venues, and menu-literacy trainings. In addition, 9.5% of organizations interviewed plan or wish to be involved in these efforts in the future, demonstrating an opportunity for continued growth and development of healthy food consumption and preparation education. Programs and policy change efforts related to healthy food consumption and preparation education in the Pioneer Valley represent both regional food-system assets and continued opportunities for improvement.

Community Involved in Sustaining Agriculture (CISA)

Formed in 1993, CISA strives to strengthen Pioneer Valley farms and communities, creating and running programs that link farmers, community members, and markets. CISA is home to the longest running “buy Local” agricultural program in the country “Be a Local Hero, Buy Locally Grown” which brings together over 229 farms, 51 restaurants, 31 grocery stores, 6 landscape and garden centers, 15 specialty producers, and 23 institutions to increase the awareness and sale of locally grown farm products. CISA has been providing an affordable farm share to low-income seniors since 2004, and provides training and support to farm businesses.

In contrast, fewer than half of the organizations interviewed are addressing the effects of widespread advertising of highly processed and high-sugar content foods (Table 4.2-7). Pioneer Valley residents, particularly youth, are surrounded by numerous advertisements for highly processed food. These ads typically do not provide information about where the food comes from, its ingredients, and how its regular consumption may affect personal and public health. The lack of a comprehensive effort to address food and its relationship to health in advertising represents a gap in the development of the Pioneer Valley food system.
One good example of how food advertising can provide this type of health information is the
NuVal program by Big Y Supermarkets. The program provides shoppers with a score for many
of the foods it sells that is based on an independent rating between 1 and 100 that suggests
the relative “healthiness” of the product created by estimating the ratio of its nutritional value
to sugars, fats and other ingredients that are less healthy in large quantities. For example,
broccoli earns a NuVal score of 100, while cashews are rated a 25.

2.4.5 Food Waste, Recovery and Re-use

In the U.S., we waste a lot of food. The vast majority of food waste in our country is not
recycled or recovered. Waste generated during the processing and preparation of food, as well
as uneaten food, constitute a large portion of the solid waste stream in many municipalities—
from 10% to 40%, depending on the community. Sources include food manufacturers, homes,
restaurants, cafes, grocery stores, and cafeterias at institutions like schools and care facilities.
In addition, a large proportion of discarded food is edible. Simply throwing it away not only
deprives hungry people from eating it, but is highly inefficient because the energy that was
expended to grow, deliver and prepare the food is also wasted.

Today, most food waste is dumped into landfills or burned in incinerators along with other
garbage. Yet nearly all food waste is organic. It originates from plant or animal sources and is
therefore compostable, able to be broken down by other living organisms and transformed
into usable products for gardening and farming. The absence of food composting throughout
the country is estimated to increase landfill use by up to 15%. It also deprives farmers and
gardeners of valuable, low-cost fertilizers and soil enrichment materials (Pothukuchi &
Kaufman 2000).

2.4.5a Food Waste in the Region

Organic waste management is becoming a critical issue in the Pioneer Valley, as several
landfills are approaching their capacities and are likely to close in the near future. These
landfills serve multiple municipalities, so their closure will affect the region’s food system.
Waste food from households, restaurants, schools, and other large-scale food providers makes
up a significant portion of solid waste in the region.

To help address this situation, the Central Pioneer Valley Organic Waste Management
Working Group produced an organic waste reduction feasibility study in 2010 for municipalities
in Hampshire County.

<table>
<thead>
<tr>
<th>Table 16: Food Waste in Hampshire County</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tons/Day</strong></td>
</tr>
<tr>
<td>Food Waste Generated (all sources)</td>
</tr>
<tr>
<td>Food Waste Recoverable (most non-residential sources)</td>
</tr>
<tr>
<td>Current Food Waste Composting Capacity</td>
</tr>
<tr>
<td><strong>Needed Food Waste Composting Capacity</strong></td>
</tr>
</tbody>
</table>

Source: Constructing a Regional Waste Management Program for the Central Pioneer Valley. PVPC, December 2010
As shown above, the study estimates that the Central Pioneer Valley region (Hampshire County) produces more than 51 tons of organic food waste each day (from residential and non-residential sources), and that of this, nearly 36 tons per day (70%) are recoverable. The study estimates that the current composting capacity of existing facilities in the region is 15 tons per day. Therefore, there are 21 tons per day of organic food waste materials available to support new composting facilities in the region. (The study assumes most residential food waste is more efficiently handled through at-home composting, and so residential sources are not included.)

This study identified high food waste generation areas (more than .5 tons per day, or 182 tons per year) in Amherst, Belchertown, Hadley, Northampton, Easthampton and South Hadley. Much of this waste is generated at buildings along major road corridors, including Routes 9, 10, and 116. This would allow efficient routing of collection services.

This study demonstrated the need for, and feasibility of, a comprehensive food waste composting program. Additional research on food waste generation and geographic areas of relatively high waste generation in Hampden and Franklin Counties is needed to proceed with this effort.

Many of the organizations interviewed had not previously considered food waste as integral to the food system. Importantly, while a majority of organizations expressed support of small-scale or household composting programs, organizations interviewed were less interested in addressing large-scale municipal or regional composting programs. In addition, more than 50% of organizations interviewed are involved in networking, making connections and other capacity-building activities regarding the re-use of edible food (figure below). Notably, a question specifically related to food gleaning (the collection of crops from fields that have been previously harvested and would otherwise be wasted) was absent from the survey but discussed with enthusiasm by several interviewees.

In addition, there are many statewide regulations that affect large composting facilities. These are discussed in the 2010 report available here: www.pvpc.org/resources/landuse/organic-report-final.pdf

"I am convinced that every community needs a small composting operation. It is so critical. We are transforming the waste of a community into the fertile soil that we need to grow food."

-- Central Pioneer Valley Organic Waste Management Working Group participant
Composting of food waste in the Pioneer Valley currently consists of a series of efforts by local farmers who have developed their own composting facilities; haulers who have developed food waste collection routes; commercial waste generators who have begun to separate their organic wastes for collection by the haulers; and the Center for Ecological Technology (CET), a local nonprofit organization that has helped to coordinate a number of these efforts.

Of the organizations interviewed, 50% reported active involvement in composting programs and/or policy efforts (below). An additional 14% of organizations interviewed are not currently involved, but would like to be involved in composting in the future. The organizations that are not currently involved in these efforts, but who plan or want to become involved, represent the core groups that should be targeted with increased comprehensive education in order to support the development of enhanced program and advocacy opportunities on this topic. In addition, almost 10% of organizations interviewed “had not previously considered this option, but will consider it for the future.”

“Composting is also a good job opportunity. That is a green job right there. And you could do it with a bike, a bike and a trailer - just go around collecting from restaurants, or municipally. But it does have a big education shift. For building owners, it saves them money to have less trash. So there are multiple incentives to composting, and there are some business opportunities there.”

--- Central Pioneer Valley Organic Waste Management Working Group participant
The high rate of organizations that are considering or planning to engage in composting in the future signifies a clear opportunity to promote activities such as improving household or business composting facilities and trainings, as well as advocating for regional or municipal composting facilities and pickup.

**Figure 4: Organizational Involvement in Regional Composting Programs**

![Bar chart showing organizational involvement in regional composting programs](image)

Thompson 2011, n=22

### 2.4.5c Food Waste Disposal Costs

There are many costs associated with disposing of food waste. Tipping fees are the waste processing fees collected at the gate of waste disposal facilities. They are set based on the cost of processing the wastes, plus fixed costs (e.g. rent or mortgage costs) and profit, less revenues generated by selling the finished product. These fees are also affected by the total quantity of wastes processed at the facility. Tipping fees for composting are generally set based on costs, as well as the revenue that can be generated by selling finished compost.

In successful composting systems, tipping fees for compost are substantially lower than landfill or other alternative waste tipping fees. On average, tipping fees at the Northampton, South Hadley and Granby landfills are $74 per ton. The average tipping fee is expected to rise when the Northampton landfill closes in 2012 or thereafter (Table 35). In contrast, compost tipping fees in the region are about $45 per ton. This $29 per ton difference presents sufficient savings and economic incentive for haulers to add organic waste collection to their services, provided they have a destination for delivery of the material. Haulers can pass on some of this savings to encourage customers to separate organics. Lower tipping fees for organics have the added benefit that they increase the distance that it is economically feasible to transport wastes to the composting facility, allowing more organics to be recovered from the waste stream.
Hauling costs, of course, will vary by generator and are a factor of hauling distance to the facility, as well as route and waste generator characteristics. A hauling route that consists of a few large generators along major roads presents a certain economy of scale.

**Table 17: Current Tipping Fees and Potential Composting Savings in the Central Pioneer Valley**

<table>
<thead>
<tr>
<th>Cost per Ton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Landfill Tipping Fee</td>
</tr>
<tr>
<td>Average Compost Tipping Fee</td>
</tr>
<tr>
<td>Potential Tipping Fee Savings for Source Separated Food Wastes</td>
</tr>
</tbody>
</table>

Source: Constructing a Regional Waste Management Program for the Central Pioneer Valley. PVPC, December 2010

The working group’s findings suggest that the region can support additional small and medium-scale composting facilities, and that these facilities will be economically viable if they are able to operate with tipping fees of $40 to $45 per ton. In addition, the working group believes that new facilities would lower the costs of waste disposal for both municipalities and the private sector, so the region as a whole could realize cost benefits from new facilities. Further study is still needed to assess the economic feasibility of new composting facilities in the region. Addition information is needed on the following topics:

- Desired composting facility characteristics and technology(ies).
- Collection strategies.
- Feasible hauling routes.
- Waste volumes needed to support a centralized composting facility or facilities for the entire Pioneer Valley.
- Reduced impacts to municipal landfills and wastewater treatment facilities.
- Potential cost savings to municipalities, homeowners, and businesses.
- Potential market for compost products (fertilizers, soil enrichment).
- Potential capital and operating costs of one or more regional composting facilities.
- Assessment of environmental benefits and impacts of one or more regional composting facilities.
The Central Pioneer Valley Organic Waste Management Working Group found that large quantities of waste are generated by commercial sites along major transportation corridors in Hampshire County—especially Route 9. This presents opportunities for more efficient and consolidated waste collection and re-use.
2.5 POLICY ENVIRONMENT

In response to increasing popular awareness and interest in local food and healthy eating during the 2000s, the food policy environment is changing rapidly. Some of the most well-known evidence of this is First Lady Michelle Obama’s initiative to improve school lunches and access to fresh fruits and vegetables. This effort and many others have been enormously successful, leading to new federal and state policies that focus squarely on serving healthier food in schools, promoting healthy choices, connecting school children to the foods they eat, and supporting local food production. Efforts to address nutrition and food choices in schools are making how we eat an integral part of the national health care debate. At the same time, the policies and regulations to support the growth of local food systems are now, for the first time in contemporary history, advancing.

This section summarizes food-related policies and initiatives that are relevant to the food system of the Pioneer Valley.

2.5.1 Massachusetts State Food Policy Council

The Massachusetts Food Policy Council was established in 2010 to make proposals that support agriculture and local food consumption in Massachusetts, including:

- Increased production, sales and consumption of Massachusetts-grown foods.
- Programs that bring healthy local foods to state residents.
- Protection of land and water resources for sustained local food production.
- Training, retention, and recruiting of farmers.
- Enhanced economic viability of local food production, processing and distribution throughout the state.

The council is composed of appointed state legislators, state agency representatives, and industry representatives. There is also an advisory committee to the council made up of members who represent farmland protection and conservation, farm entrepreneurship and business development, the University of Massachusetts Amherst, nutrition and public health, healthcare interests, anti-hunger advocates and similar entities.

The Food Policy Council is currently developing a framework for a statewide comprehensive strategic food plan. Topics to be addressed by the Food Policy Council and the state food plan include targeted state subsidies; increased state purchasing of local products for school and summer meals and other child and adult care programs; increased institutional purchases of Massachusetts grown foods and other programs to make access to healthy Massachusetts products affordable; increased access to healthy Massachusetts-grown foods in communities with disproportionate burdens of obesity and chronic diseases; increased collaboration and communication between state and federal agencies; innovative public-private partnerships; institutional purchasing agreements; changes to state or federal laws or regulations; changes
in the manner in which state and federal programs are implemented; and new federal, state, local or private investments.

One important issue this body may address are state requirements that result in the purchase of frozen, pre-packaged meals from out-of-state sources for Meals-on-Wheels programs, rather than promoting purchase of food for these programs from local sources.

### 2.5.2 U.S. Healthy Hunger Free Kids Act of 2010

The Healthy, Hunger-Free Kids Act of 2010 is federal legislation that recently revamped the Child Nutrition Act of 1966. This new legislation committed an additional $4.5 billion to child-nutrition programs over 10 years and implemented sweeping changes to federal child-nutrition programs, including the National School Lunch Program, the School Breakfast Program, the Special Supplemental Nutrition Program for Women, Infants and Children (WIC), and Summer Food Service Program, and the Child and Adult Care Food Program.

In response to media coverage revealing significant flaws in government programs that are responsible for guaranteeing food safety, this legislation renews the USDA’s focus on the importance of school wellness policies and directs the USDA to make real reforms to the school lunch and breakfast programs in order to improve food safety and nutrition for millions of children. The law includes provisions to improve training for cafeteria workers and to alert schools more quickly about recalls of contaminated food. It also directs USDA to set new nutrition standards for all food served in schools, from lunchrooms to vending machines. Further, it expands the number of students eligible for free or reduced-price meals; provides financial incentives for schools to adopt the new nutrition standards; authorizes all types of child feeding programs, including farm-to-school programs that encourage schools to buy produce from local farms and establish school gardens; and establishes a greater emphasis for federal funds to be used for implementation, assessment and reporting of results to the public.

The legislation also strengthens existing requirements for local wellness policies, which are required in all school districts and are an important tool for promoting student health and reducing childhood obesity. The act encourages local education agencies to review their local wellness policies and to begin implementing the new requirements right away.

### 2.5.3 Massachusetts School Nutrition (MGL ch.111 Sec. 222)

In July 2010, Massachusetts joined the ranks of many other states that have recently passed school nutrition and nutrition education laws. The School Nutrition Law ("An Act Relative to School Nutrition" - M.G.L.c.111, s.222) requires the establishment of School Wellness Advisory Committees within school districts and provides for the creation of standards for the operation of these committees. The law directs the Department of Public Health to work with the Massachusetts Department of Elementary and Secondary Education to develop nutritional standards for all foods sold in schools. The resulting standards ban the sale of salty and sugary snacks and high-calorie sodas in public schools, including snacks from vending machines.
The School Nutrition Law also bans the sale of deep fried foods and requires schools to sell fresh fruits and vegetables, to provide food nutrition information, and to buy locally grown food from farms where possible. The law makes it much easier for school districts to buy fresh produce directly from Massachusetts farmers. As long as reasonable business practices are followed and each purchasing contract is below $25,000, local school districts can purchase fruits, vegetables and other foods from Massachusetts farms without going through the normal bidding process. For larger contracts where bidding is required, state purchasing agents are directed to purchase products grown in Massachusetts unless the price is more than 10% more expensive than products grown outside of Massachusetts.

2.5.4 Massachusetts School Wellness Advisory Committees (MGL 222, Ch 111, CMR 215.00)

Under this legislation, each public school district in the Commonwealth is required to have by August 2012 a School Wellness Advisory Committee in place. One committee may serve an entire district. The intent is that the committee will encourage development of a program that actively promotes wellness in schools and to maximize the school district’s opportunities for grant awards. These committees are intended to ensure that each public school district has an established group of school staff and concerned community representatives to recommend, review and help implement school district policies addressing school nutrition, nutrition education, physical activity and related issues that affect student health.

2.5.5 Agricultural Land Preservation

Preserving land for current and future food production needs is a policy priority in the Pioneer Valley. Since 1980, the Commonwealth has permanently protected about 65,000 acres of farmland through its Agricultural Preservation Restriction (APR) Program. This is a voluntary program that offers farmers and other owners of “prime” and “state important” agricultural land an alternative to selling it for residential or commercial development. The APR program offers to pay owners the difference between the fair market value and the agricultural value of their farmland in exchange for a permanent deed restriction for agricultural use only.

The Pioneer Valley leads the state in APR protected acreage. Approximately half of Massachusetts’ protected land area is located within Franklin, Hampden, and Hampshire Counties. The Town of Hadley, with 2,200 acres in protection, is the state’s APR-leader.

<table>
<thead>
<tr>
<th>County</th>
<th>Projects</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Franklin</td>
<td>201</td>
<td>14,379</td>
</tr>
<tr>
<td>Hampden</td>
<td>47</td>
<td>4,083</td>
</tr>
<tr>
<td>Hampshire</td>
<td>162</td>
<td>11,453</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>410</strong></td>
<td><strong>29,915</strong></td>
</tr>
</tbody>
</table>

Source: Massachusetts Department of Agriculture

Despite the APR program, much agricultural land in the region has been converted to large-lot single-family housing, as well as commercial strip malls and industrial development, during
recent decades. This “sprawling” trend continues. Since 1972, about 23,000 acres of cropland and pastureland in Hampden, Hampshire and Franklin Counties have been lost to development (MassGIS Land Use data, 1972-2005), and until recently the number of working farms in the region was in decline. In 1997, American Farmland Trust listed the Connecticut River Valley in Massachusetts and Connecticut as one of the 20 “most threatened agricultural regions in the United States.” In recent years, the process of obtaining an APR has generally grown more lengthy and costly, which can discourage interested landowners from participating. State funding is increasingly limited, requiring substantial municipal contributions.

In recent years, state and local governments have collaborated with individual land owners, land trusts and non-profit organizations to preserve key agricultural parcels in the Pioneer Valley. This collaboration has helped achieve about 30,000 acres of APR-protected farmland (of the statewide total) since 1980.

Efforts by organizations such as Community Involved in Sustaining Agriculture (CISA), the New England Small Farm Institute, the Massachusetts Department of Agricultural Resources, and the U.S. Department of Agriculture to provide technical assistance, grants, and other support to existing and beginning farmers have been critical in supporting farmers who can work the land. In addition, the state’s Chapter 61A program offers owners of farmland a tax reduction while the land is in agricultural use, which also helps support farm businesses.

THE FOREVER FARMLAND INITIATIVE

The Forever Farmland Initiative seeks to permanently protect farmland in the Pioneer Valley by enacting an Agricultural Preservation Restriction (APR) or an agricultural Conservation Restriction (CR) on existing farmland. The Forever Farmland sign publicly recognizes permanently protected farmland across the Pioneer Valley region, and honors the landowners who have chosen to conserve their farms. The Forever Farmland initiative is a collaborative project with multiple land trust organizations in the Pioneer Valley including the Kestrel Land Trust, Franklin Land Trust, Valley Land Fund, Trust for Public Land, Trustees of Reservations, Mt. Grace Land Conservation Trust, and the Passcommuck Conservation Trust.

For more information visit: www.foreverfarmland.org
2.5.6 Urban Agriculture

In recent years, there have been numerous successful efforts in the region to increase the amount of land in urban areas that produce food. These include community gardens and farm plots; bylaws regulating livestock, such as chickens and goats; and gardens for produce at institutions such as schools, colleges and universities. Notably, the University of Massachusetts Amherst Permaculture Program, which converts unproductive grass lawns on campus into growing areas—many for food that is consumed on campus—a has been featured in numerous national publications and in March 2012 won first-place in the White House Campus Champions of Change Challenge (www.umasspermaculture.com).

Currently there are more than a dozen registered community gardens in the Pioneer Valley, as well as numerous ad-hoc and informal community gardens scattered across the region.

**Table 19: Community Gardens in the Pioneer Valley (partial list)**

<table>
<thead>
<tr>
<th>Name of Community Garden</th>
<th>Host Organization</th>
<th>Municipality</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>La Finquita</td>
<td>Nuestras Raices</td>
<td>Holyoke</td>
<td>Hampden</td>
</tr>
<tr>
<td>La Piedra</td>
<td>Nuestras Raices</td>
<td>Holyoke</td>
<td>Hampden</td>
</tr>
<tr>
<td>El Girasol</td>
<td>Nuestras Raices</td>
<td>Holyoke</td>
<td>Hampden</td>
</tr>
<tr>
<td>Cuenta Con Migo</td>
<td>Nuestras Raices</td>
<td>Holyoke</td>
<td>Hampden</td>
</tr>
<tr>
<td>Beaudoin Village</td>
<td>Nuestras Raices</td>
<td>Holyoke</td>
<td>Hampden</td>
</tr>
<tr>
<td>Cuidad Verde</td>
<td>Nuestras Raices</td>
<td>Holyoke</td>
<td>Hampden</td>
</tr>
<tr>
<td>Lyman Terrace</td>
<td>Nuestras Raices</td>
<td>Holyoke</td>
<td>Hampden</td>
</tr>
<tr>
<td>Gasoline Alley Green Street Gardens</td>
<td>Gasoline Alley Foundation</td>
<td>Springfield</td>
<td>Hampden</td>
</tr>
<tr>
<td>Springfield Community Gardens (various locations)</td>
<td>(various locations)</td>
<td>Springfield</td>
<td>Hampden</td>
</tr>
<tr>
<td>Ted Sparko Memorial Community Garden at Park Hill</td>
<td>Easthampton Conservation Commission</td>
<td>Easthampton</td>
<td>Hampshire</td>
</tr>
<tr>
<td>Northampton Community Garden</td>
<td>None</td>
<td>Northampton</td>
<td>Hampshire</td>
</tr>
<tr>
<td>South Hadley Community Garden</td>
<td>Grow South Hadley</td>
<td>South Hadley</td>
<td>Hampshire</td>
</tr>
<tr>
<td>North Quabbin Community Garden</td>
<td>Tillers of the Community</td>
<td>Orange</td>
<td>Franklin</td>
</tr>
<tr>
<td>Pleasant Street Community Garden</td>
<td>Greening Greenfield</td>
<td>Greenfield</td>
<td>Franklin</td>
</tr>
</tbody>
</table>

Source: American Community Garden Association
NUESTRAS RAICES COMMUNITY GARDENS

Nuestras Raíces is a grass-roots organization that promotes economic, human and community development in Holyoke, Massachusetts through projects relating to food, agriculture, and the environment. Nuestras Raíces was founded in 1992 by members of the La Finquita community garden in South Holyoke with the goal of developing a larger scale farm and greenhouse in downtown Holyoke. Nuestras Raíces currently manages eight community gardens and two youth gardens, with plans to continue to expand Holyoke's network of gardens each year. These gardens improve the environment of Holyoke, bringing neighbors of all ages together to transform Holyoke's abandoned urban lots into colorful and active spaces where food and new relationships can grow. La Finca is the Nuestras Raices Farm, which serves as a beginning farmer-training project, a new business incubator, an environmental conservation and stewardship project, a youth development initiative, and a cultural development project. Nuestras Raíces also builds cultural pride, promotes youth leadership, addresses environmental justice issues, educates residents about energy efficiency, and advocates for healthy food policy in Holyoke and beyond.

For more information visit: www.nuestras-raices.org
3.0 ANALYSIS

In the Pioneer Valley, there is a high degree of cooperation among anti-hunger organizations and food system resilience advocates. Both groups share an understanding of, and are working together toward, a broad and inclusive vision of food security.

This section presents an analysis and summary of the initiatives and resources in the Pioneer Valley with respect to the two main goals of this food security plan: 1) No one goes hungry, and 2) We grow our own food.

3.1 NO ONE GOES HUNGRY: ADDRESSING HOUSEHOLD FOOD SECURITY

Section 3.1 focuses on three key food security concerns in the Pioneer Valley: 1) hunger among individuals and families and the assistance programs that exist to help combat it; 2) the public health consequences of the food insecurity that exists in the region; and 3) emergency nutrition programs.

3.1.1 Hunger Among Individuals and Families

Every day, thousands of people in the Pioneer Valley go hungry. Thousands more do not know where their next meal will come from. These are the general conditions of being “food insecure.” According to the Food Bank of Western Massachusetts, 1 in every 8 residents in the agency’s four-county service area (which includes Berkshire County9), or about 110,000 people, are in one of these situations—and about 22,000 are children.

Household food insecurity stems from multiple factors, the main one being poverty. In addition to poverty, many low-income urban communities in the U.S. lack adequate accessibility to supermarkets or the means to purchase fresh produce. This is a historic legacy of supermarket redlining, racial discrimination and urban-rural divides.

There are four major federal programs designed to alleviate household hunger and food insecurity. One is the Supplemental Nutrition Assistance Program (SNAP, formerly Food Stamps) program of the U.S. Department of Agriculture. It is one of the most important resources that is available to help low-income residents combat food insecurity. In addition, the USDA Women, Infants and Children (WIC) program provides financial support to mothers raising children. In addition, the Summer Food Service program, provides meals to low-income children when school is not in session.

At the state level, public schools are a principal source of food for low-income children. There are a total of 54 providers of child and adult food programs in the region (including SNAP and 9 The Berkshire Regional Planning Commission (BRPC) has also received funding from US HUD to develop and implement a regional sustainability planning process—for details go to www.berkshireplanning.org
WIC) with 40 of these providers in Hampden County, 8 in Hampshire County and 6 in Franklin County (Massachusetts Department of Elementary and Secondary Education 2011).

As the following table shows, utilization of SNAP benefits has increased dramatically, and much faster than population growth, since 2000. The SNAP program was explicitly designed and structured to be elastic, expanding in tough economic times, and contracting when people get their jobs back and have more money to spend on food. As a result, as the Pioneer Valley, like the rest of the country, has experienced tough economic times, the number of SNAP participants has increased. It is also true that in the past, many families eligible for SNAP benefits did not take advantage of this important resource for a variety of reasons, including stigma about taking advantage of government assistance and lack of awareness of eligibility. As our regional food system gets stronger, and anti-hunger advocates collaborate with local food system supporters, more and more people are learning that they are eligible for SNAP benefits and are taking advantage of this important resource. Local food system advocates are working to make sure that farmer’s market have the equipment necessary to allow low-income shoppers to use their SNAP benefits and so SNAP use increases, benefitting not only families that are food insecure, but also local farmers and the local economy, as SNAP benefits replace local currency in stores and at farmer’s markets. The number of SNAP participants in the region rose from 37,436 to 137,464 from 2000 to 2011, more than quadrupling in just 11 years while population grew less than 5%. The total dollar amount of benefits disbursed through the SNAP program grew from approximately $25 million in 2000 to $143 million in 2009 (the most recent year for which data is available).

Table 20: Supplemental Nutrition Assistance Program (SNAP) Information 2000-2011

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>37,436</td>
<td>40,748</td>
<td>51,165</td>
<td>66,304</td>
<td>71,246</td>
<td>83,195</td>
</tr>
<tr>
<td>Hampden</td>
<td>34,022</td>
<td>36,961</td>
<td>45,149</td>
<td>56,397</td>
<td>59,782</td>
<td>71,538</td>
</tr>
<tr>
<td>Hampshire</td>
<td>1,597</td>
<td>1,839</td>
<td>2,422</td>
<td>5,605</td>
<td>6,595</td>
<td>6,324</td>
</tr>
<tr>
<td>Franklin</td>
<td>1,817</td>
<td>1,948</td>
<td>3,594</td>
<td>4,302</td>
<td>4,869</td>
<td>5,333</td>
</tr>
<tr>
<td><strong>Annual Benefits (1,000s)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hampden</td>
<td>$21,727</td>
<td>$22,159</td>
<td>$26,315</td>
<td>$32,934</td>
<td>$39,133</td>
<td>$46,377</td>
</tr>
<tr>
<td>Hampshire</td>
<td>$1,798</td>
<td>$1,833</td>
<td>$2,177</td>
<td>$2,725</td>
<td>$3,238</td>
<td>$3,837</td>
</tr>
<tr>
<td>Franklin</td>
<td>$1,726</td>
<td>$1,760</td>
<td>$2,090</td>
<td>$2,616</td>
<td>$3,108</td>
<td>$3,684</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>85,872</td>
<td>93,491</td>
<td>110,307</td>
<td>117,564</td>
<td>133,036</td>
<td>137,464</td>
</tr>
<tr>
<td>Hampden</td>
<td>73,711</td>
<td>79,904</td>
<td>93,933</td>
<td>99,285</td>
<td>111,134</td>
<td>114,784</td>
</tr>
<tr>
<td>Hampshire</td>
<td>6,714</td>
<td>7,537</td>
<td>9,216</td>
<td>10,112</td>
<td>12,199</td>
<td>12,447</td>
</tr>
<tr>
<td>Franklin</td>
<td>5,447</td>
<td>6,050</td>
<td>7,158</td>
<td>8,167</td>
<td>9,703</td>
<td>10,233</td>
</tr>
<tr>
<td><strong>Annual Benefits (1,000s)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hampden</td>
<td>$53,108</td>
<td>$59,385</td>
<td>$79,964</td>
<td>$123,034</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Hampshire</td>
<td>$4,394</td>
<td>$4,913</td>
<td>$6,616</td>
<td>$10,179</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Franklin</td>
<td>$4,218</td>
<td>$4,717</td>
<td>$6,352</td>
<td>$9,773</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

USDA Economic Research Service, SNAP Time-Series Data
The following table shows that the proportion of the population utilizing SNAP benefits has increased significantly since 2000. It has more than doubled in Hampden County, quintupled in Hampshire County, and almost tripled in Franklin County. However, the statewide SNAP utilization rate—the percentage of eligible people who are enrolled in the program—hovers around 65%.

Table 21: SNAP Ratio of Program Participants to Population

<table>
<thead>
<tr>
<th>Ratio of Program Participants to Population</th>
<th>2000</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hampden</td>
<td>7%</td>
<td>16%</td>
<td>17%</td>
</tr>
<tr>
<td>Hampshire</td>
<td>1%</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>Franklin</td>
<td>3%</td>
<td>8%</td>
<td>8%</td>
</tr>
</tbody>
</table>

USDA Economic Research Service, SNAP Time-Series Data

Data for WIC utilization in the region is more limited (available only from 2008 to 2009) but again shows significant utilization growth in the region. The number of redemptions in the entire region rose 10% from 243,047 in 2008 to 269,142 in 2009.

Table 22: WIC (Women, Infants and Children) Data for the Pioneer Valley

<table>
<thead>
<tr>
<th></th>
<th># WIC stores, 2008</th>
<th># WIC stores, 2009</th>
<th>% Change stores/1,000 pop, '08</th>
<th>WIC stores/1,000 pop, '08</th>
<th>% Change WIC stores/1,000 pop, '08</th>
<th>WIC redemptions/ WIC stores, 2008</th>
<th>WIC redemptions/ WIC stores, 2009</th>
<th>% Change WIC redemption/WIC stores, '08-'09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hampshire</td>
<td>18</td>
<td>19</td>
<td>6%</td>
<td>0.12</td>
<td>0.12</td>
<td>5%</td>
<td>73,041</td>
<td>64,533</td>
</tr>
<tr>
<td>Hampden</td>
<td>115</td>
<td>95</td>
<td>-17%</td>
<td>0.25</td>
<td>0.20</td>
<td>-18%</td>
<td>98,886</td>
<td>116,677</td>
</tr>
<tr>
<td>Franklin</td>
<td>8</td>
<td>7</td>
<td>-13%</td>
<td>0.11</td>
<td>0.10</td>
<td>-12%</td>
<td>71,120</td>
<td>87,932</td>
</tr>
<tr>
<td>REGION TOTAL/AVG</td>
<td>141</td>
<td>121</td>
<td>-8%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

USDA Economic Research Service Food Environment Atlas (Retrieved September 2011)

While SNAP payments and WIC coupons are generally accepted at most supermarkets, they are not always accepted at farmers markets, farm stands, and other direct sources of local food.
3.1.2 Public Health Consequences of Hunger and Food Insecurity

Many people in the region are experiencing health problems and are at risk of getting worse because of hunger. Highly processed food generally has less nutritional value relative to fresh produce and meats, but is usually cheaper and more available to hungry people in low-income neighborhoods. The lack of access to healthy food for individuals has significant and broad public health consequences. Therefore, promoting individual and household food security is critical for improving regional public health outcomes, and enhancing the possibilities for economic development and economic growth within the region.

Though perhaps not intuitive, high obesity rates have been shown to be positively correlated to high rates of food insecurity. This is because food insecure households tend to rely on highly processed low-cost foods that are low in nutrition but highly dense in calories. Because highly processed foods are typically the most widely available and inexpensive sources of food in low-income areas, they are over-consumed and cause unhealthy weight gains, while failing to provide adequate nutrients needed for the healthy physiological development and growth of children (Dixon, Omwega, et. al. 2007).
Further, high rates of obesity are directly related to diet-related illnesses, such as diabetes, heart disease and hypertension, which are also disproportionately high among people who do not have access to healthy food. These follow-on health problems have enormous consequences and associated costs. Nationally, mortality rates for individuals with obesity indicators, relative to healthy-weight individuals, display an excess of 112,000 deaths due to cardiovascular disease, over 15,000 additional deaths due to cancer, and over 35,000 excess deaths due to non-cancer and non-cardiovascular disease causes per year (NIH 2008). The obesity epidemic is now estimated to cost the United States about $139 billion per year in direct costs, including prevention, diagnosis, and treatment services, and indirect costs including absenteeism and loss of future earnings due to premature death (Finkelstein, Ruhm, et. al. 2005). Many of these costs are borne by individuals and families with limited or no health care coverage, which further reduces their ability to access healthy food and other needs for healthy living. It is a vicious cycle.

Public health in the Pioneer Valley is mirroring these national trends. An increasing number of residents are experiencing health problems from eating a poor diet. The Massachusetts Department of Public Health reported in 2007 that between 1995 and 2005 the proportion of overweight (up to 20% heavier than a healthy body weight) adults in Western Massachusetts (Hampshire, Hampden, Franklin and Berkshire Counties) increased from 50% to 62% of the population. In Springfield, the proportion of overweight adults increased from 54% to 66% during this period. This means that two-thirds of Springfield adults are in a health-risk category related to being overweight.

By 2005, an estimated 23% of adults in Western Massachusetts were obese (more than 20% over maximum healthy body weight), as compared to 21% statewide (O’Keefe 2007).

Of greatest concern is the high rate of food insecurity and related health problems among children in the region. Children who experience diabetes and heart disease will usually require care and treatment for the rest of their lives, placing a greater burden on the health care system. Childhood onset of obesity-related diseases also has related adverse impacts on individual learning, academic achievement and social development, which in turn have long term consequences for population health and economic development outcomes.

<table>
<thead>
<tr>
<th></th>
<th>Hampden</th>
<th>Hampshire</th>
<th>Franklin</th>
<th>MA</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Overweight: Male</td>
<td>72.8%</td>
<td>64.5%</td>
<td>67.5%</td>
<td>67.5%</td>
</tr>
<tr>
<td>% Overweight: Female</td>
<td>55.4%</td>
<td>42.5%</td>
<td>50.2%</td>
<td>47.8%</td>
</tr>
<tr>
<td>% Obese: Male</td>
<td>31.7%</td>
<td>23.0%</td>
<td>17.8%</td>
<td>23.8%</td>
</tr>
<tr>
<td>% Obese: Female</td>
<td>26.3%</td>
<td>17.8%</td>
<td>28.8%</td>
<td>19.6%</td>
</tr>
<tr>
<td>&lt; 5 servings of fruit or vegetables/day: Male</td>
<td>79.5%</td>
<td>72.1%</td>
<td>81.7%</td>
<td>78.2%</td>
</tr>
<tr>
<td>&lt; 5 servings of fruit or vegetables/day: Female</td>
<td>70.0%</td>
<td>60.7%</td>
<td>56.2%</td>
<td>67.4%</td>
</tr>
</tbody>
</table>

Source: O’Keefe 2007

Obesity rates in Western Massachusetts are disproportionately high among racial and ethnic minority populations. In 2005, 21.6% of White residents in Western Massachusetts were obese, compared to 33.7% of Hispanics and 47.7% of Blacks. Increasing rates of obesity and
Rising weight concerns in Western Massachusetts are found in similar or more drastic trends across the nation. Weight gain is directly related to higher rates of heart disease, hypertension and diabetes, as well as increased hospital visits and higher mortality rates, particularly among ethnic and racial minority populations (O’Keefe 2007).

Table 24: Obesity by Race and Ethnicity – Western Massachusetts 2005

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Western Massachusetts</th>
<th>Massachusetts</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Non-Hispanic</td>
<td>21.6%</td>
<td>19.9%</td>
</tr>
<tr>
<td>Black Non-Hispanic</td>
<td>47.7%</td>
<td>32.7%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>33.7%</td>
<td>27.4%</td>
</tr>
</tbody>
</table>

Source: O’Keefe 2007 (*Hampden, Hampshire, Franklin and Berkshire Counties)

3.1.3 Emergency Nutrition and Food Distribution

Emergency nutrition and food distribution encompass the system of emergency food facilities (i.e., soup kitchens, food pantries, shelters with meals, mobile kitchens, food banks) that provide meals and food to people who are in dire need. This also includes distribution of food to people who may lack the ability to procure or prepare their own food after disasters, such as tornados, flooding or power outages.

The emergency nutrition and food distribution system in the region includes five major, interrelated components, which are shown below.

The Food Bank of Western Massachusetts is the leading emergency nutrition provider and food distributor in the region. In 2011, through its network of 350 local meal sites, food pantries, shelters, and other emergency food sites, The Food Bank distributed 7.7 million pounds of food, the equivalent of more than 6 million meals, to 110,000 residents in its four-county service area.

Table 25: Emergency Food Distribution in Western Massachusetts 2011

<table>
<thead>
<tr>
<th>County</th>
<th>Lbs of Food Distributed</th>
<th>% Total lbs of food</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berkshire - Food Bank</td>
<td>1,269,835</td>
<td>16%</td>
</tr>
<tr>
<td>Franklin - Food Bank</td>
<td>1,030,028</td>
<td>13%</td>
</tr>
<tr>
<td>Hampden - Food Bank</td>
<td>3,810,256</td>
<td>50%</td>
</tr>
<tr>
<td>Hampshire - Food Bank</td>
<td>1,495,480</td>
<td>19%</td>
</tr>
<tr>
<td><strong>Total lbs. of food distributed:</strong></td>
<td><strong>7,774,015</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>


Of note in 2011 was the Food Bank’s rapid response to the June 1 tornado in Hampden County. Within 30 days, the Food Bank distributed 60,000 pounds of disaster relief food in Springfield, West Springfield and other hard hit communities to residents affected by the tornado.
Emergency food distribution occurs through a variety of agencies and outlets. These are summarized and presented below.

**Table 26: Emergency Food Distributed by Agency Type**

<table>
<thead>
<tr>
<th>Type of Agency Distributing Food</th>
<th>Lbs. of Food Distributed</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Pantries</td>
<td>5,238,486</td>
<td>68%</td>
</tr>
<tr>
<td>Brown Bag</td>
<td>758,366</td>
<td>10%</td>
</tr>
<tr>
<td>Meal Sites</td>
<td>678,713</td>
<td>9%</td>
</tr>
<tr>
<td>Shelters</td>
<td>219,642</td>
<td>3%</td>
</tr>
<tr>
<td>Residential Programs</td>
<td>215,345</td>
<td>3%</td>
</tr>
<tr>
<td>Youth Programs, Camps, Childcare</td>
<td>149,514</td>
<td>2%</td>
</tr>
<tr>
<td>Other Food Banks</td>
<td>168,417</td>
<td>2%</td>
</tr>
<tr>
<td>Drug Rehabilitation</td>
<td>128,202</td>
<td>2%</td>
</tr>
<tr>
<td>Internal Pantries</td>
<td>90,633</td>
<td>1%</td>
</tr>
<tr>
<td>Adult &amp; Elder Care</td>
<td>19,653</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total lbs. of food distributed</strong></td>
<td><strong>7,774,015</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Food Bank of Western Mass. Annual Report 2011

**Figure 6: Pioneer Valley Emergency Food Distribution Locations**

Reproduced from Food Bank of Western Mass. Annual Report 2011
3.2  WE GROW OUR OWN FOOD: A RESILIENT REGIONAL FOOD SYSTEM

This section discusses current and future aspects of resiliency and the regional food system. Section 3.2.1 addresses resiliency in the current economic context, which involves understanding and leveraging the economic benefits of the system, such as the product sales, multiplier (or “spin-off”) effects of spending on food, and jobs. Section 3.2.2 addresses the future and how our region’s food system can move toward greater future capacity and long term sustainability. On this issue, this plan embraces the broad goal that New England states will produce 50% of the food it consumes by the year 2060 – a vision proposed in The New England Good Food Vision advanced by Food Solutions New England (foodsolutionsne.org). This goal is adopted as a means to increase awareness of the level of effort that would be necessary to significantly increase the proportion of food that is produced locally.

3.2.1  Economic Impacts and Benefits

The Pioneer Valley food system is a significant part of the region’s economy. Food-related sales and purchases top $1.3 billion per year, and there are nearly 5,000 people with jobs in the food system (including food manufacturing and forestry sectors). This section describes the economic benefits of the system with estimates of food sales and employment produced by CISA using the IMPLAN (Minnesota IMPLAN Group Inc. 2008) economic model. Therefore, the total share of Massachusetts agricultural industry in the state economy in 2010, which had a total gross state product of $362 billion, was approximately $3.1 billion, measuring the value of agricultural output as statewide sales generated directly from the industry and estimated multiplier effects on other industries impacted (McHale 2011).

3.2.1a  Regional Farm Sales

In the agricultural sector alone, the analysis found that the Pioneer Valley farms sell $181 million dollars worth of agricultural products and employ 2,260 people annually. This represents 0.4% of all economic activity in the region.

<table>
<thead>
<tr>
<th></th>
<th>Total sales/revenues ($millions)</th>
<th>IMPLAN Multiplier</th>
<th>Value of Secondary Impacts</th>
<th>Total Economic Impact ($millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm Production</td>
<td>$490</td>
<td>1.5</td>
<td>$245</td>
<td>$735</td>
</tr>
<tr>
<td>Farm Related</td>
<td>$63</td>
<td>1.5</td>
<td>$32</td>
<td>$95</td>
</tr>
<tr>
<td>Food Processing (using local farm inputs)</td>
<td>$855</td>
<td>$1.7**</td>
<td>$599</td>
<td>$1,453</td>
</tr>
<tr>
<td>Forestry and Lumbering&lt;sup&gt;10&lt;/sup&gt;</td>
<td>$713</td>
<td>NA</td>
<td>NA</td>
<td>$713</td>
</tr>
<tr>
<td>Total</td>
<td>$2,121</td>
<td>NA</td>
<td>$876</td>
<td>$2,996</td>
</tr>
</tbody>
</table>

Source: (McHale 2011)

<sup>10</sup> Forestry sales of $713 million reflect the mid-point of the range provided in the DCR report. Multiplier estimate from Maine report Jesse Gandee, “Economic Impact of the Maine Food System and Farm Vitality Policy Implications,” (Report for Joint Standing Committee on Agriculture, Conservation and Forestry Second Regular Session of the 120th Maine Legislature, 2002).
Therefore, the combined direct and indirect impact of the Massachusetts farm and food economy is an estimated $3 billion dollars, using the 2008 multiplier data for Massachusetts farm production and the economic multiplier figure (for Maine, the only New England state for which a multiplier was available) for food processing (McHale 2011; Gandee 2002).

3.2.1b Direct Farm Sales

Direct farm sales are those that occur when farmers sell directly to consumers at farm stands, farmers’ markets, mobile markets, and through Community Supported Agriculture arrangements. These sales are an important part of the farm economy and the local foods movement in the Pioneer Valley. Statewide, Massachusetts ranks second only to Connecticut in the per-farm value of direct sales to consumers, indicating that direct sales are important to the bottom line of many farms in the Commonwealth. For many consumers interested in sourcing fresh, local food, purchasing direct from the farmer offers an opportunity to know the people who grow the food, to visit the farm, and to enjoy the social and community benefits of farmers’ markets or Community Supported Agriculture share pick-ups.

Direct sales have increased in recent years by a variety of measures. The national Census of Agriculture reports that Franklin, Hampshire and Hampden County farms sold $8,945,000 of agricultural products directly to consumers in 2007, double the $4,467,000 reported in 2002. The number of direct sales outlets has also increased dramatically.

In recent years, both the number and type of direct sales outlets has grown, reflecting the benefits that they bring to both farmers and consumers. Since 2007, the number of farmers’ markets in the three-county region has grown from 21 (check this number) to 45. Springfield, Northampton, Greenfield and Amherst all have farmers’ markets that run all year round.

Many communities and businesses recognize the benefits of a farmers’ market, which include not only fresh food but opportunities to draw shoppers to a business district and occasions for civic engagement, entertainment, and education. Starting and supporting a successful farmers’ market, however, is not a simple prospect. Markets must attract a diversity of vendors and products in order to draw shoppers, and the volume of sales must be high enough to create an adequate return for each vendor. Market managers’ tasks include outreach and promotion, event planning, vendor management, electronic benefit transfer (EBT) tracking, customer service, and much more. New farmers markets will benefit the local food system when they attract new shoppers and make locally grown food available to new communities, but not if they simply divert current farmers’ market shoppers to new markets.

The number of Community Supported Agriculture (CSA) farms located in, or selling to, the Pioneer Valley, tripled between 2007 and 2012, from 19 to 58. CSA farms the Pioneer Valley grow vegetables, fruit, meat, grain, and more. (A CSA farm has members that generally pay a lump sum for their “share” of the farm’s produce for the growing season.) Shares are available year-round and in a growing variety of delivery locations, sizes, and formats. The number of CSAs accepting SNAP benefits or providing payment plan options has also expanded.
Farm stands are a traditional direct sales outlets. Signs announcing “Native Corn” or “Fresh Asparagus” area seasonal fixtures in the region. Some farm stands, such as Atkins Country Market and Randall’s Farm and Greenhouse, have become full-service, year-round grocery stores. Others operate from a temporary table or truck bed during the height of the season. An increasing number now offer additional diversity such as eggs or orchard fruit grown by other farms or value-added products, such as cheese, pickles, ice cream, jams and pies.

In addition to these outlets within the region, many Pioneer Valley farms supply direct outlets in the Boston region. Several Pioneer Valley farms deliver CSA shares to the Boston area and participate at Boston area farmers’ markets. Also, Pioneer Valley farms also supply farm stands and CSAs in Eastern Massachusetts.

3.2.1c Food System Employment

Within the agricultural sector, fruit and vegetable farming account for the majority of agriculture related jobs.

<table>
<thead>
<tr>
<th></th>
<th>Employment</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jobs</td>
<td>% of Area</td>
</tr>
<tr>
<td>Franklin</td>
<td>921</td>
<td>2.6%</td>
</tr>
<tr>
<td>Hampden</td>
<td>512</td>
<td>0.2%</td>
</tr>
<tr>
<td>Hampshire</td>
<td>827</td>
<td>1.1%</td>
</tr>
<tr>
<td>Total for Region</td>
<td>2,260</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

Source: IMPLAN, 2008 analysis by CISA

When the food manufacturing and forestry sectors are added, total food-related economic activity rises to $1.3 billion dollars and 4,954 jobs, which is 2.8% of all economic activity in the region.

<table>
<thead>
<tr>
<th></th>
<th>Employment</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jobs</td>
<td>% of Area</td>
</tr>
<tr>
<td>Franklin</td>
<td>1,361</td>
<td>3.9%</td>
</tr>
<tr>
<td>Hampden</td>
<td>2,513</td>
<td>1.1%</td>
</tr>
<tr>
<td>Hampshire</td>
<td>1,079</td>
<td>1.4%</td>
</tr>
<tr>
<td>Total for Region</td>
<td>4,954</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

Source: IMPLAN, 2008 analysis by CISA

Sales of farm products have an important multiplier effect on the regional economy. The secondary “spin-off” from food-related purchases is estimated to be nearly $3 billion per year for the entire state of Massachusetts.
Local Food System Future Capacity and Long-term Sustainability

Beyond the present-day economic and employment benefits of the local food system described above, it is important to understand how the region’s food system may be able to respond to the changes in the economy and environment that are likely to occur in coming years—and for future generations of residents in the region. These likely changes include continued conversion of productive farmland to other uses, increased volatility in energy prices and markets, a transition from fossil fuels to renewable energy, continued population growth, and adaptation to the effects of climate change.

In addressing these questions of future capacity and long-term sustainability, the preparers of this plan have embraced the vision of the New England Food Vision, produced by Food Solutions New England, a food research institute based at the University of New Hampshire in Durham. The vision proceeds from the assumption that: “Given a land base of 6 million acres in agricultural production, and over 6,000 miles of coastline, with 17 million New Englanders to feed, we could provide a large part of our food supply from close to home.” (April 2012 – see sidebar on next page)

The vision expresses two goals for the amount of food that can be produced for consumption in New England:

- **At least 50%** of food consumed in New England could be grown within the six-state region by 2060, assuming the continuation of present development, population growth and environmental trends (see sidebar).

- **Up to 80%** of the food consumed in New England could be grown here by 2060 in the event of dire scarcity in food supplies and/or prohibitively high energy costs, and assuming residents adopted diets with significantly less animal protein than today.

This plan adopts the 50% goal of local food production for the Pioneer Valley, based on the general assumption that this is the region’s fair share of the overall goal for New England. However, as Section 2.2 presents, the Pioneer Valley may contain significant core food system assets—such as prime farmlands, favorable topography, accessible transportation networks, a large number of existing farms and more—that could enable the region to exceed the 50% goal. Additional research and planning would be necessary to refine this goal.

Resources for Increasing Local Food System Capacity

Advancing toward the aspirational goals expressed above will require that significant additional resources be devoted to local food production. One necessary step is a comprehensive “food shed” study of the region involving an inventory available farmland in the region and an estimate of additional land that would need to be put into production to attain the goals. In addition, substantial additions to food distribution, farming supply, markets and other aspects of the food system would be required.

A food shed study of this type was completed for Franklin County in 2012 by the Conway School of Landscape Design.
This study estimates that to feed the county’s expected population of 77,000 residents in 2035, another 7,828 acres of farmland would need to be added to the existing 37,257 acres of farmland, for a total of 45,085 acres of farmland, or about .6 acres of farmland per resident. Applying this ratio to the expected population of 650,000 people in the PVPC service area (Hampden and Hampshire Counties) in 2040 (the nearest year for which U.S. Census projections are readily available), approximately 390,000 acres of farmland would be required. This is significantly greater than the 90,000 acres in the region that are presently in active farming use.

In addition to physical resources, there would need to be a major effort to train new farmers in both agricultural and business practices and production technologies to meet these goals. The Hudson Valley AgriBusiness Development Corporation offers a model for such an effort with its “Incubator Without Walls” program, which focuses on value-added processing and business technical support. (http://www.hvadc.org/what-we-do/our-incubator-without-walls).
THE NEW ENGLAND GOOD FOOD VISION 2060 – NEW ENGLAND FOOD SOLUTIONS

Reproduced and condensed from http://foodsolutionsne.org

How much food could New England really produce?

- New England could produce the bulk of its own vegetables and about half of its fruit. This would require less than 1 million acres: about 500,000 devoted to green, orange, red, and starchy vegetables and 350,000 to fruit—mostly apples, cranberries, blueberries, and grapes.
- New England could once again produce most of its own dairy products, and along with most of its own lamb and beef. This would require limiting per capita dairy consumption to today’s level of 1.7 cups a day (which is below the USDA recommendation), and reducing red meat consumption by one-third. This would occupy about 2.5 million (acres) for the dairy herd and 2 million (acres) for beef, lamb, and goats.
- Less than 1 million acres of cropland could be devoted to grain for direct human consumption and livestock feed, protein crops, or oil crops such as canola, sunflower, or soy.
- New England could produce its own pork, chicken, turkey, and eggs. Many of these animals could be integrated into grazing systems without requiring additional acreage... However, the feed grain requirements of these animals could amount to more than 2 million additional acres, which is far more than New England could supply.
- Restored and thriving regional fisher(ies)... (would produce a greater share of fish products than are available currently).
- Enhanced regional “good food” production (that) promote(s) a more equitable food system, job development, and greater access to healthy food for all New England citizens.

Assumptions:

- Population growth in the six-station New England region from the current 14.5 million to 17 million with settlement in more clustered patterns to preserve farmland.
- Expansion of farms and ... the rural economy, from the current 33,000 farms to a maximum of 100,000, with similar increases in food sector employment.
- Widespread adoption of diets that are “nutrient dense” with vegetables and fruits, and sharply reduced in empty calories and red meat.
- Increased production and use of sustainable energy.
- Significant climate warming which will lengthen the growing season, bring wetter conditions, more pests, and more extreme weather events.
- More sustainable approaches to agriculture, such as organic farming, elimination of petroleum-based fertilizers and use of no-till crop planting.
- Farmland expansion constrained to protect forests—at least 70% forest cover.
- Key marine resource restoration efforts to protect ocean and fresh-water fishing stocks.
4.0 STRATEGIES AND IMPLEMENTATION PROJECTS

Sections 4.1 and 4.2 below present 30 strategies developed through the Pioneer Valley Food Security planning process. These strategies have been developed and refined through three major planning activities:

- Qualitative and quantitative assessments of food security issues in the region, as presented in the prior sections.
- Research on best practices in regional food security across the United States to identify solutions that are most likely potential to address the food security needs of our region.
- Consultation with the members of the Pioneer Valley Food Security Advisory Committee, as well as other food organizations, farming advocates, anti-hunger groups, community-based organizations and the general public.

Section 4.3 presents implementation projects to begin advancing these strategies.

4.1 NO ONE GOES HUNGRY: HUNGER RELIEF STRATEGIES

1. Seek Inter-organizational Collaboration
   Continue and expand ongoing communication and collaboration between hunger relief organizations, such as the Food Bank of Western Massachusetts, with Buy Local food organizations, such as CISA, via the regional food system network in the Pioneer Valley, PVGrows.
   Partners: Food Bank of W. Mass., CISA, PV Grows, PVPC

2. Support Emergency Food Systems Programs
   Facilitate wider acceptance of Supplemental Nutrition Assistance (SNAP-formerly food stamps), WIC coupons and other programs at farmers’ markets and CSA farms to assist more people in accessing healthy food.
   Partners: Hunger relief organizations, state agencies, farmers market organizers

3. Seek Consumer Education
   Continue to educate consumers about proper nutrition and food safety through community outreach, education and advocacy. Focus on healthy, local and culturally appropriate foods.
   Partners: Hunger relief and food community organizations, local food policy councils

4. Access Information About Where to Buy Healthy Food
   Address food access issues by creating “feedability guides” that connect consumers with healthy food retail locations and availability information.
   Partners: Local food policy councils
5. Seek New Retail Outlets for Healthy Food
Support, expand and replicate initiatives that increase the number or neighborhood retail outlets selling healthy food, such as the healthy bodega program in Springfield.
Partners: Local food policy councils

6. Increase Neighborhood Access to Fresh Food
Work to bring full-line grocery stores with a full line of fresh produce and meats to neighborhoods that do not have one.
Partners: Community-based organizations, local food policy councils

7. Provide Access to Sources of Healthy Food
Provide free or reduced-fare bus passes to low-income riders for trips to garden plots, farmers’ markets and other community food sources.
Partners: Community-based organizations

8. Provide Training and Technical Assistance
Provide ongoing technical assistance and training to community based organizations working to feed hungry people, such as volunteer recruitment/retention, management training, organizational development, strategic planning and fund-raising.
Partners: Hunger relief organizations, Community Foundations, Leadership Pioneer Valley

9. Expand Access to Healthy Food for Low-income Residents
Expand the number of low-income Community Supported Agriculture (CSA) models to increase access to fresh food in low-income areas by improving access for seniors, increasing the use of SNAP for CSA membership payment, and similar efforts.
Partners: Hunger relief organizations and agencies, CISA

10. Provide Zoning and Regulatory Assistance
Work with member municipalities to assess how local zoning and other regulations may help or hinder residents’ access to healthy food, and develop solutions to fix problems that are identified. This may include easing restrictions on vegetable gardens and livestock in residential districts, facilitating adoption of right to farm bylaws and similar actions.
Partners: PVPC, local planning officials

11. Support Retail Best Practices for Healthy Food
Support retail policies and practices, such as in-store displays requirements and signage that promote healthy food. Work to implement these at all levels of government and community, such as healthy locally grown snacks at public meetings.
Partners: Municipalities, Local Food Policy Councils, Community-based Organizations

12. Encourage More Local Food Purchases by Schools and Other Institutional Meal Providers
Support, incentivize and facilitate purchases of local food for lunches by schools, as well as elder care facilities, senior meals programs (i.e., Meals on Wheels). Includes developing
contract requirements and incentives to increase private contractor purchases of local foods and services.
Partners: School boards and districts, senior centers, care facilities, CISA, MA Farm to School

13. Assure Food Assistance Benefits are Fully Used
Work to assure that all people eligible for SNAP, WIC and similar program benefits are enrolled in the program.
Partners: Hunger relief organizations, social service agencies

14. Overcome Assumptions and Stereotypes
Work to de-stigmatize poverty in general and the use of hunger assistance benefits. Provide information about the nutritional needs of low-income residents of the region and the public health benefits of a healthy population, especially to growing children.
Partners: PVPC, hunger relief organizations, public officials

4.2 WE GROW OUR OWN FOOD: LOCAL FOOD ECONOMY STRATEGIES

15. Aspire to Produce 50% of Food Consumed in the Region
Collaborate with organizations across New England, throughout the Commonwealth and within the Pioneer Valley to work toward the goal of producing 50% of the food that is consumed in the region.
Partners: CISA, PVPC, Food producers and distributors, MA Food Policy Councils

16. Share Information About Food Production
Create an online electronic platform for food-related data to enable food organizations to share existing data and describe future needs. This service could also provide training and education about food data collection and use, and technical assistance for farm business operators, food distributors and retailers.
Partners: CISA, Food Bank of W. MA, PVPC

17. Promote Local Food Businesses
Support local policies and regulations that address food insecurity and promote local agriculture, such as “Right-to-Farm” bylaws, local agriculture commissions, and municipal laws to regulate fast food establishments.
Partners: PVPC, CISA, municipalities

18. Protect Prime Agricultural Lands
Continue incentives and programs to keep agricultural land in production. Support regulations that direct new development to urban and suburban infill areas with the existing infrastructure to support it. Use Agricultural Preservation Restrictions (APRs) and other regulatory/policy means to preserve prime farmland and convert available land that may not currently be used as farmland to agricultural purposes. Work with land owners and land protection organizations to develop new, innovative strategies for protecting agricultural lands. Utilize local funds from Community Preservation Act (CPA) and transfer of development (TDR) rights to leverage and
match state APR funds. Actively outreach to farmers to encourage APR applications. Produce a brochure about the benefits of the APR program. Partners: Land owners, MA Dept of Agriculture, PVPC, municipalities

19. Connect Farmers with Land Owners
Connect land owners with farmers to facilitate agricultural production. Actively participate in Hampden County pilot project collaboration with the New Entry Sustainable Farming Project and its partners. Partners: PVPC, MA DAR

20. Encourage Urban Agriculture
Support urban agriculture, including livestock ordinances, GIS mapping of available parcels, and foster partnerships among property owners and businesses to develop and expand community gardens and commercial urban agriculture projects. Partners: Municipalities, PVPC, MA DAR, gardening stores and businesses

21. Increase the Number of School Gardens
Support on-site vegetable gardens at schools, day care facilities, adult care facilities and other similar entities. Partners: School districts, care facility operators

22. Create Renewable Energy and Efficiency
Support development of on-farm clean and renewable energy sources and systems. Help improve the efficiency of existing energy systems. This includes participation in Massachusetts Clean Energy Center municipal pilot program for community renewable energy development. Partners: MA Farm Energy Program (MFEP), PVPC, municipalities

23. Grow Food in All Seasons
Facilitate and expand year-round food production capacity in the region, including hydroponic greenhouses. Partners: Farmers, DAR, CISA

24. Invest Financial Resources in Local Food Businesses
Provide flexible capital for innovative local farm and food businesses, particularly those to improve food system infrastructure. Partners: Common Capitol, PV Grows, Financial Institutions

25. Increase Large-scale Composting Opportunities
Develop new and expand existing large-scale composting of food waste generated by retail food stores, businesses, institutions. Support and/or establish waste source separation programs and hauling routes. Help strengthen the composting market with greater incentives (i.e., landfill tipping fees) to divert organic wastes to composting and develop stronger consumer demand for finished compost products. Partners: PVPC, municipalities, food businesses and institutional meals providers
26. Encourage More Residential Composting
Expand residential composting by encouraging sales of in-home and outdoor bins by municipalities and local businesses. Widely distribute easy-to-understand information about how to compost at home.
Partners: Municipalities, DEP

27. Connect Farmers and Institutional Meals Providers
Help develop and expand the capacity of farmers to sell produce directly to institutional meal providers, such as colleges, universities, schools, hospitals, day-care, senior meals programs and nursing homes
Partners: MA Farm to School, CISA, DAR, AFT

28. Scale Up Local Food Production
Facilitate implementation of recommendations from CISA food system infrastructure report, Scaling Up Local Food. Key steps include facilitating efficient and successful working relationships between meat producers and slaughter, processing and marketing outlet; improving the capacity of dairy processing in the region; establishing a temperature-controlled regionally shared root cellar facility; expanding capacity for local value-added processing, freezing and co-packing; logistical support for ordering; and grain processing.
Partners: CISA, state agencies, municipalities, food businesses, Common Capitol, PV Grows, MA Workforce Alliance

29. Support the Business Needs of Local Food Producers
Provide technical assistance and business development support to local farms and food businesses, including compliance with food safety requirements. This may include enterprise development, marketing and financial management. Initiatives could include creation and staffing of a Valley-focused agricultural business support center, and greater collaboration with new Greenfield Community College’s Farm and Food Systems degree and certificate program. A designated municipal point person could serve as liaison between local farmers and these services.
Partners: CISA, financial institutions, municipalities, Common Capitol, PV Grows

30. Create More Jobs Throughout the Local Food System
Work to fill gaps in all sectors of the local food system with local jobs, especially in the food production and waste/compost sectors. Provide education and training to increase the skills and capacities of food system workers through formal programs, such as the GCC Farm and Food Systems degree and certificate programs, as well as apprenticeships and internships at local farms and food businesses.
Partners: Community college academic and training programs, MA Workforce Alliance, Regional employment agencies, CISA
## FOOD SECURITY PLAN IMPLEMENTATION PROJECTS

<table>
<thead>
<tr>
<th>PROJECT NAME</th>
<th>LEAD ROLE</th>
<th>TIMEFRAME</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Healthy Food Conformance Analysis</strong></td>
<td>PVPC in collaboration with municipalities</td>
<td>Spring 2014</td>
</tr>
<tr>
<td>Develop a “Best Practices” library for the region of municipal regulations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>for healthy and local food promotion. Work with at least two communities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>to undertake reviews of existing municipal zoning, subdivision and other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>regulations to determine conformance with best practices that support both</td>
<td></td>
<td></td>
</tr>
<tr>
<td>household and regional food security. Provide a technical assistance program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>to help at least two communities adopt zoning for food security.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2. Connecting Farmers with Farmland</strong></td>
<td>PVPC in collaboration with MA DAR, New Entry Sustainable</td>
<td>Spring 2014</td>
</tr>
<tr>
<td>Farmers’ initiative by matching land owners with available farm land with</td>
<td>Farms and municipalities, AG commissions, Planning</td>
<td></td>
</tr>
<tr>
<td>farmers who have no land through meetings, GIS mapping and facilitating</td>
<td>Boards</td>
<td></td>
</tr>
<tr>
<td>legal and/or informal agreements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3. Assure Comprehensive Use of Supplemental Nutrition Assistance Program</strong></td>
<td>PVPC, MA Div. of Transitional Assistance, Elected</td>
<td>Spring 2014</td>
</tr>
<tr>
<td>(SNAP)</td>
<td>officials, Food Bank of W MA, CISA, Schools, and School</td>
<td></td>
</tr>
<tr>
<td>Research and promote best practices for facilitating CSA acceptance of SNAP</td>
<td>Boards, grocery store, residents</td>
<td></td>
</tr>
<tr>
<td>for at least two CSAs. Improve the administration of the free lunch program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>that children in SNAP households are supposed to be receiving in at least</td>
<td></td>
<td></td>
</tr>
<tr>
<td>one local school. Work with the Massachusetts Division of Transitional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assistance to publicize recommendations of the USDA Healthy Incentives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pilot. Work with at least one grocery store to adopt a key recommendation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4.</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Facilitate Region’s Healthy Food Access Initiatives**

Collaborate with area Mass in Motion coordinators to provide technical assistance to participating small stores for marketing and display of healthy food purchased through planned cooperative food hubs in Holyoke and possibly other municipalities in the region.

<table>
<thead>
<tr>
<th>Facilitate schools purchase of healthy and local food</th>
<th>Pioneer Valley Planning Commission, Holyoke Food and Fitness Policy Council, Live Well Springfield, Mass in Motion, MA DPH, SPIFFY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organize a regional workshop on the topic of how local school districts, charter schools, private schools can incorporate healthy food and/or local purchase requirements into procurement of their contracts with commercial food service providers. If possible, address the issue of how to get more food cooked on site. Provide model contract language and best practice examples from other regions.</td>
<td>February 2014</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. U.S. EPA and Project Bread Massachusetts Food Map</th>
<th>PVPC, Massachusetts Farm the School initiative, City Fresh, School committees and School staff, PVGrows</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support joint effort of U.S. EPA Region 1 and Project Bread to identify and map food system resources statewide. This project is intended to support strategic investments in anti-hunger initiatives, strengthen farm and food businesses within the Commonwealth, and reduce food waste in landfills to help mitigate methane emissions.</td>
<td>December 2014</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>-----------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Pioneer Valley Planning Commission, U.S. EPA Region 1, Project Bread</td>
<td>ongoing (3-5 year project)</td>
</tr>
</tbody>
</table>
SOURCES


McHale, C. "Economic Impacts of Agriculture in Massachusetts." University of Massachusetts, 2011.


Ramsey, W. "Socio-Spatial Constructs of the Local Retail Food Environment: A Case Study of Holyoke, Massachusetts." University of Massachusetts, Amherst, 2010.


Thompson, A. "Food System Planning in Western Massachusetts: A Community Organization Assessment." University of Massachusetts Amherst 2012.

APPENDICIES

A: Qualitative Research Survey Findings

B: Demographic Profiles of Pioneer Valley Communities
to reduce printing costs, this information is available online at:
www.pvpc.org/member_communities

C: Pioneer Valley School Meals Data

D: Food System Tool Kit
ABOUT THE PROJECT

This survey is being conducted to further inform the efforts of the Pioneer Valley Planning Commission’s Food Security Project. The intention of this assessment is to provide a knowledge platform to support the creation of a regional food security plan, and to subsequently strengthen food security at the household, municipal and regional scale in the Pioneer Valley. The interview data will be used to comprehensively assess the status of the current food system and to analyze existing partnerships and barriers. The expected outcomes include recommendations for new projects, enhanced collaboration opportunities, and strategies to reduce any identified concerns. This assessment will support and complement the Pioneer Valley Planning Commission’s regional food security initiative by determining the current status of the local/regional food system and the on-going efforts to promote local and regional food system policy change.

The goal of this research study is to produce a comprehensive assessment of the food system in the Pioneer Valley. While you may not benefit directly from this research, your participation in the study will increase regional awareness of the efforts across the Pioneer Valley working to strengthen and support the regional food network, and will also further help to build collaboration across agencies and disciplines. At the conclusion of this study, the researchers may publish their findings. Your confidentiality will be protected and all information will be presented in summary format. You will not be identified in any publications or presentations.

The survey tool is organized by food system component, including: overall food system, food production, transformation (processing), distribution, acquisition, consumption, and waste. It is divided in this way in order to streamline the interview process by allowing the interviewer to pass over sections that are not relevant to a particular organization. The survey draws insight from across the field, encompassing questions related to land use, community development, economic development, transportation, environmental protection and social equity. For each food system component, the survey tool is further subdivided into two sections: information gathering (i.e., determining the assessments, data gathering, inventories and mapping that have been previously completed or the information that the organization would like to know) and programs and policy change (the various projects, programs or legislative action that the organization has enacted or would like to enact).
THE SURVEY

For each of the following survey segments, please address these core questions:

- Is this effort something that you are currently working on, have previously worked on or hope to undertake in the future?
- Who are your major partners in these efforts?
- What limitations, barriers or concerns did you encounter?
- What relevant data have you collected and/or would you like to collect or have access to?

---

FOOD SYSTEM OVERVIEW

Information Gathering

1. Has your organization conducted a food-related community needs assessment?
   Examples of possible assessment information include: data collection on diet-related health outcomes, food availability (stores or farmers’ markets), food access (transportation), food assistance programs and/or food insecurity information.

2. Has your organization conducted an emergency food (and water) assessment?
   Including the household, community, neighborhood and/or regional scale.

3. Has your organization conducted a food-related economic impact assessment?
   Possible impact data include information on food imports and exports, food-related business information, food-related workforce development, etc.

4. Has your organization conducted an energy or environmental impact assessment?
   Examples of possible assessment information include: assessing the energy used in the production, distribution, and consumption of food; researching impacts of the food system on the natural environment, fisheries and wildlife habitats; etc.

Programs and Policy Change

5. Does your organization have a food security or food system master plan?
   Either a finalized or draft plan versions, either long-term or short-term plans, etc.

6. Is your organization involved with a food policy council or coalition?

7. Does your organization offer a local or regional food resource guide?

8. Does your organization have an emergency food (and water) preparedness plan?
FOOD PRODUCTION (GROWING AND RAISING FOOD)

Information Gathering
1. Has your organization conducted a food production land inventory?
   Examples of relevant information include lists of community gardens, farms, fisheries, and the open-space potential sites for gardens or farms, etc.

2. Has your organization conducted a food-related land use impact assessment?
   Including gathering information on land use trends relating to farmland conversion to other uses, economic and environmental indicators, etc.

Programs and Policy Change ~ RURAL
3. Is your organization involved in right-to-farm or farmland preservation efforts?
   Examples of these efforts include: promoting right-to-farm legislation, providing farmer protection against nuisance complaints, supporting agricultural preservation zoning and/or the transfer of development rights (preserving agricultural land from residential development), etc.

4. Is your organization involved in environmental protection efforts?
   Examples of these efforts include: environmental monitoring, land conservation, water quality protection, etc.

5. Is your organization involved in farm labor protection or services?
   Examples of these efforts include: housing support for farm workers (temporary, seasonal or permanent), health care support or services, and environmental hazard protections, etc.

6. Is your organization involved in farm visibility support/services?
   Examples of these efforts include: support for small farm financing, business planning, marketing, and local food production incentives.

Programs and Policy Change ~ URBAN
7. Is your organization involved in supporting urban agriculture?
   Examples of these efforts include: advocacy for urban agriculture zoning, addressing urban agriculture standards (including signage, parking, walkways, fencing, composting, etc.), and permitting or regulations for the existence of urban farms.

8. Is your organization involved in supporting community gardens?
   Examples include addressing land access, water use, composting, etc.

9. Is your organization involved in promoting residential livestock ordinances?
   This legislation allows urban residents to raise livestock ranging from examples such as bees, chickens or ducks, to goats, etc.

10. Is your organization involved in local food production education or networking?
   Examples of these efforts include personal or community gardening education, landshares (connecting landowners with growers/ producers), etc.
Programs and Policy Change ~ OTHER

11. Is your organization involved in fishing advocacy or education?
   Examples of these efforts include support for either commercial fishing (efforts involving fishing licensure or regulations) and/or recreational fishing for food (including water quality protection information or advocacy), as well as efforts to address dam removal, fish ladders or hydropower, etc.

12. Does your organization address issues around hunting, trapping or other access to “natural” foods?
   Examples of these efforts include addressing issues regarding foraging on protected lands, regulations and policies to promote public health and safety, etc.

---

FOOD TRANSFORMATION (PROCESSING FOOD)

Information Gathering

1. Does your organization have a food transformation/processing impact assessment?
   Examples of these efforts include small-scale food processing mapping, assessment of barriers to small-scale food processing, implications for local food distribution and farm-to-institution regulations, etc.

Programs and Policy Change

2. Is your organization involved in supporting the efforts of small-scale local food processors (including slaughterhouses, preparing produce for farm to school programs, etc.)?
   Examples of these efforts include addressing food safety requirements, reviewing regulatory barriers, community programs on food preservation, education on food processing implications, networking or connecting local food processing plants with local food producers, etc.

---

FOOD DISTRIBUTION (MOVING AND ALLOCATING FOOD)

Information Gathering

1. Has your organization gathered information on the location of food assets?
   Examples of relevant information include the location of: grocery stores, community gardens, food assistance programs (governmental, religious, or other) and community food-partner organizations.

Programs and Policy Change

2. Is your organization involved in efforts to support the promotion of local food?
   Examples of these efforts include "Buy Local" campaigning, local food labeling, supporting direct farm distribution (via addressing setbacks, accessory use, signage, etc.) supporting regional production-distribution networks, etc.
3. Is your organization involved in efforts to support food-related economic development programs or incentives?
   Examples of these efforts include: food-related enterprise development, increased job creation or development, workforce development and training, etc.

4. Is your organization involved in efforts to support farm-to-institution programs or legislation?
   Examples of these efforts include addressing local food requirements or laws, connecting food producers with institutional food distributors, etc.

---

**FOOD ACQUISITION (PURCHASING AND OBTAINING FOOD)**

*Information Gathering*

1. Does your organization have information about food retail locations and accessibility?
   Examples of this information include: mapping the locations of fast-food or food “marts”, mapping public transportation options to grocery stores or other food markets, mobile market feasibility studies, stakeholder assessments (to support healthy food retail business development), etc.

*Programs and Policy Change*

2. Is your organization involved in supporting incentives for healthy food retail?
   Examples of these incentives include: fast food zoning regulations (particularly around school areas), conditional use zoning (including healthy food requirements for new businesses), farmer’s market permitting or exemptions, “Feedability guides” connecting consumers with healthy food resources, fast food nutrition labeling or education, the banning or soda or trans-fats, or other state or municipal legislation.

3. Is your organization involved in efforts to support improving healthy food accessibility/affordability?
   Examples of these incentives include: improving accessibility/affordability of culturally appropriate food; supporting the acceptance of WIC or SNAP at farmer’s markets or other healthy food venues; addressing transportation opportunities or programs to improve access to healthy food retail; institutional purchasing requirements for recipients of local, regional, or state public funding; increasing healthy food availability to low-income and other food insecure places; etc.

4. Is your organization involved in providing food assistance or emergency food?
   Examples of these efforts include: providing information about emergency food programs or options, coordinating food assistance programs such as food pantries, soup kitchens, etc.
---

**FOOD CONSUMPTION (EATING FOOD)**

*Information Gathering*

1. Has your organization conducted a *diet-related health outcome assessment*?

2. Has your organization collected information related to *food insecurity mapping and/or assessment*?
   
   Examples of this information include: collecting the number or location of food insecure households or families, food insecure communities or neighborhoods; gathering information regarding utilization of free or reduced school breakfast or lunch programs (as well as nutritional assessment of school food); etc.

*Programs and Policy Change*

3. Is your organization involved in *healthy food preparation education or training*?
   
   Examples of these efforts include community-cooking classes, healthy food purchasing education, menu-label literacy trainings, etc.

4. Is your organization involved in *school or youth-specific food nutrition programs*?
   
   Examples of these programs or projects include: school food nutrition or environmental education; addressing the nutritional value of school lunch and breakfast; school gardens or edible school-yards; after-school gardening or snack programs; youth-specific food preparation or cooking classes; restrictions on vending machines or junk food in schools; etc.

5. Is your organization involved in *addressing “unhealthy” food media/advertising*?
   
   Examples of these efforts include: addressing low nutrient and fast food marketing (billboards, etc.) particularly targeted to youth.

6. Is your organization involved in *promoting drinking water*?
   
   Examples of these efforts include involvement in drinking water education or campaigns (replacing soda or other sugary beverages with water), addressing drinking water quality and standards, etc.

---

**FOOD WASTE (DISPOSAL OF FOOD AND FOOD BY-PRODUCTS)**

*Information Gathering*

1. Has your organization conducted a *food-waste impact assessment*?
   
   Examples of potential data collection include local or regional landfill impact assessment, pollution/runoff assessment, etc.

*Programs and Policy Change*

2. Is your organization involved in supporting *composting programs* or projects?
   
   Examples of these efforts include: household composting training or support; encouraging municipal composting facilities and composting pickup; encouraging the development of food waste to farm programs; etc.
3. Is your organization involved in supporting food re-use connections or networking programs?
   Examples of these efforts include: connecting food sources (restaurants, grocery stores, farmers, etc.) with emergency food distribution services to minimize disposal of eatable food, recycle/reuse food packaging programs, etc.

---

OTHER (SPACE FOR STORIES OR ANY OTHER ADDITIONAL INFORMATION)

1. Is there any other information relevant to your organization’s efforts to improve food security and the food system of the Pioneer Valley? For example, is there information that you would like us to know and record that this survey might not have covered? What further efforts regarding information gathering, programs and/or policy change would be useful to you?

2. Do you have any additional feedback or comments on this research process or the PVPC regional food security initiative?

3. Is there anything else that you would like to share?

**THANK YOU FOR TAKING THE TIME TO SHARE YOUR INSIGHT AND EXPERIENCES. YOUR EFFORTS AND ENERGY ARE GREATLY APPRECIATED.**
FOOD SYSTEM ASSESSMENT RESULTS

CORE QUESTIONS
The core questions explored were:
- What does our food system look like?
- What do we want it to look like?
- What’s missing? (Or, how do we get there from here?)

OVERVIEW
To determine the overview of the Pioneer Valley food system as a whole, the responses to the questions were weighted by survey segment, providing each segment with a rating of low, medium or high (Figure 1). In general, the agencies working in the Pioneer Valley are engaged in all of the major efforts involved in strengthening our local/regional food system. In some sections, such as “Food Production ~ Urban” and “Food Distribution,” the degree of involvement was quite high. In others, such as “Food Production ~ Other” which looks at alternative food production (fishing or hunting), the degree of involvement is relatively low.

Yet, an impression based on averages can be deceiving. In many aspects the organizations interviewed scored extremely high on the responses to questions regarding rural food production programs and policies. There was one question relating to farm labor services and support, however, that few agencies addressed. The lack of involvement in farm labor resulted in a lower average score for the “Food Production ~ Rural” section as a whole. Thus, while an overview is an important component of the Pioneer Valley food system narrative, further explanation is required to provide a comprehensive analysis in each system section.

![Figure 1: Weighted Food System Overview](image-url)
ASSETS AND RESOURCES
The organizations engaged in supporting the local/regional food system of the Pioneer Valley provide a wealth of assets and resources that strengthen the food system at each component. A sampling of these assets is outlined below.

Local Food Production
Over 90% of the organizations interviewed were involved in local food production education or networking (Figure 2, shown in the light and dark greens). This is not overly surprising, as this aspect is part of how these organizations were identified. However, the depth of agency participation in local food production education and networking provides an important and solid platform upon which to sustain and promote the entire local/regional food system of the Pioneer Valley.

Local Food Distribution
Similarly, 90% of organizations interviewed were involved in promoting local food distribution; including efforts such as "buy local" campaigning, local food labeling, supporting direct farm retail and strengthening our regional production and distribution networks. (Figure 3, shown in the light and dark greens)
Healthy Food Accessibility and Affordability
75% of organizations interviewed are actively involved in improving healthy food accessibility and affordability (Figure 4 below, shown in the light and dark greens). These efforts include improving access to culturally appropriate foods, supporting WIC or SNAP coupons at Farmers Markets, addressing transportation barriers, and promoting local farm to institution purchasing legislation.

Healthy Food Consumption and Preparation Education
Similarly, 70% of organizations interviewed provide or support healthy food preparation and consumption education (Figure 5 below, shown in the light and dark greens). These efforts include providing community-cooking classes, offering healthy food purchasing education, and conducting menu literacy trainings. In addition, 9.5% of organizations interviewed plan or want to be involved in these efforts in the future (Figure 5, shown in tan), demonstrating a clear opportunity for continued growth and development within this local food system sector.
Figure 4: Involved in Supporting Healthy Food Accessibility and Affordability

Figure 5: Provide Education on Healthy Food Preparation and Education
OPPORTUNITIES FOR IMPROVEMENT

The data analysis finds two distinct areas with medium rates of involvement but a high indication of intention or desire for future engagement. These two areas, with medium to low rates of involvement but high rates of interest, represent the key opportunities for improvement and targeted development support.

Local Food Processing and Transformation

The first is related to small-scale local food processing or transformation. While half of the organizations interviewed are currently involved in these efforts (Figure 6 below, shown in light and dark green), a third of organizations interviewed planned or wanted to get more involved in this area (Figure 6, shown in tan). Of all the questions included in the food system survey, this question had the largest response in the “not currently involved, but want to get involved for the future” category.

These results indicate an important opportunity to further research the infrastructure needed to improve local food processing abilities. While some of that research is currently taking place, there needs to be a determined conduit of information to provide the research results to the organizations and agencies engaged on the ground, particularly those that would like to get involved in these efforts but may not know how to best do so. These results further demonstrate the need to provide increased education and networking to support the agencies that are interested in becoming more involved, either by helping them to address food safety requirements and the ways that these regulatory barriers impact small-scale food processing; improving programs on food preservation; or helping to further connect local food processing efforts with local food producers.

Figure 6: Supporting Small Scale Local Food Processing and Transformation Efforts
**Food Waste Composting**

The second major opportunity for improvement falls in the arena of food waste. Many of the organizations interviewed had not previously considered food waste as integral within the food system. Of the organizations interviewed, 50% reported active involvement in this program and/or policy efforts (*Figure 7 below, shown in light and dark green*), and an additional 14% are not currently involved but would like to be involved in the future (*Figure 7, shown in tan*). The organizations that are not currently involved in these efforts, but plan and want to become involved, represent the core populations to target with increased educational regarding potential program and advocacy opportunities.

In addition, almost 10% of organizations interviewed “had not previously considered this option, but will consider it for the future,” (*Figure 7, shown in purple*). This piece of information demonstrates the value of the continued replication of the interconnected food system message, indicating an added knowledge-gain from the conduction of the food system survey assessment itself. The high rate of organizations that are considering or planning to engage in food waste composting in the future signifies a clear opportunity to engage in activities such as improving household or business composting facilities and trainings, as well as advocating for regional or municipal composting facilities and pickup.

![Figure 7: Involved in Supporting Food Waste Composting Programs or Projects](image-url)
GAPS & BARRIERS

Often the most informative narrative can be found in an exploration of what isn’t there, or what is missing. There are several crucial components necessary to form a robust and viable local/regional food system that are currently absent from the efforts of organizations engaged in improving the food system of the Pioneer Valley. These missing components are outlined in further detail below.

Data

Each section of the assessment survey was designed to include one component about program and policy and another on data or “information gathering.” Roughly one-third of the total survey questions relate to organizational data needs, the responses of which are aggregated and listed in Figure 8 below. Strikingly, the majority of organizations interviewed reported that for the majority of data-related questions they do not have *and do not want* the data listed (Figure 8, shown in red).

The lack of interest in both data collection and data receipt has meaningful implications on the capacity of the region to collect information needed to inform new or current programs, or even to apply for further food-system-related funding. A cross-tabulation of these results indicates that across the assessment it is the same several organizations that either have or want specific data, those that are particularly data savvy, with the remainder demonstrating a barrier in either not having the resources to collect data, or not having the training to know how to use it.

Figure 8: Information and Data Collection Summary
In addition, the data analysis demonstrates that for one data-related question, regarding a Community Needs Assessment, the majority of organizations interviewed did either have or want this data (created a combined “have and want” total of 70% shown in the combination of the green and yellow bars in the first column above). While it is reassuring that organizations are aware of, and interested in, community needs assessment information; the responses in this question represent a further disconnect in the food system data web. While 43% of organizations interviewed have, or have access to, this information; 29% of organizations working on similar projects within the same region do not have, but want, this same information. Granted, it is possible that some of this information is collected in specific communities and may not be useful or relevant to organizations focused in different locations, however, it is also quite probable that organizations are not aware that this information has been collected or how to access it.

**Farm Labor Support of Services**

Returning to an examination of specific programs and policies, the assessment question that lowered the overall Pioneer Valley rural food production overview relates to farm labor support and services. Two-thirds of the organizations interviewed are not involved, and do not want to be involved, in issues of farm labor protection or services (Figure 9, shown in red). The Pioneer Valley has a substantial migrant farm worker population that face significant health, housing and environmental hazard concerns. While there may be organizations in this region that do address these issues, the agencies interviewed did not seek to address these issues, nor did they partner with agencies that are doing so. Providing adequate farm worker support and services is an extremely important component of a local/regional food system, notably absent from the Pioneer Valley framework.

![Figure 9: Provide Farm Labor Support or Services](image-url)
Emergency Food
While specific organizations in the region are doing incredible work to promote food assistance and to provide emergency food in this region, over 50% of organizations interviewed are not involved and do not plan to be involved with food assistance or emergency food (Figure 10, shown in red). In general, organizations interviewed were very clear that they felt that the concept of emergency food fell outside of their organizational scope. Yet, at the same time the emergency food-focused organizations clearly articulated the need to have greater inclusion in the regional food system network, and to not be functioning separately, or outside of the system. The implications of this information is to create a paradigm shift, where emergency food is not conceived of as outside of the food system, but as an integral piece of the system whole.

![Figure 10: Provide Food Assistance or Emergency Food](image)

Healthy Food Media
Additional absences in the food system structure are efforts to address the “unhealthy” food system. Pioneer Valley residents, particularly youth, are surrounded every day with advertisements supporting a food mentality that is completely disconnected from an awareness about where food comes from, what it’s made out of, and how it impacts health. If an emphasis is not placed on education about how our current global food system impacts the environment and human health, the important message of local food promotion and education is going to be overshadowed.
Alternate Food Production
Finally, in the majority of contexts, food production is contextualized as products grown, on purpose, in soil. When considering alternate forms of food production, such as fishing, hunting, trapping or foraging for food, most organizations interviewed found these concepts outside of the organizational scope. It is important, when considering the interconnected network of the food system as a whole, to broaden the concept of food production to include these forms of food production.

In addition, fishing is a particularly important topic to this region because of the proximity of the Connecticut River. Local fish can provide a valuable source of protein, particularly because it is both plentiful and also free. However, the Connecticut River contains fish that are contaminated by E. coli and Mercury. In this way, the act of fishing transitions from a food system asset as a form of free protein, into a public health hazard. Clearly, addressing environmental advocacy and public health education regarding fish is an important component of strengthening the Pioneer Valley regional food system. Yet, the majority of organizations are not involved in either fishing advocacy or education. (Figure 12 below, shown in red)
Figure 12: Involved in Fishing Advocacy or Education
RECOMMENDATIONS
Based on the data analysis, four overarching recommendations were developed to enhance and promote the regional food system of the Pioneer Valley. The four recommendations are listed below.

1. To provide technical assistance and training on data collection and data use
2. To increase outreach and education about this interconnected food system model and its implications
3. To further address specific program and policy gaps and opportunities
4. To strengthen the connectivity across the system

Data Collection and Utilization
Three core recommendations were developed to enhance data collection and utilization. The first is to provide training and education on data collection and use, either in the format of classes, manuals, or on-line tutorials. Second, offering technical assistance for data-related technological needs, so that if the barrier stems from technical rather than educational issues, these can also be addressed. Finally, with the intention of addressing the importance of improving data and knowledge flow, is the creation of an Electronic Data Hub. The Electronic Data Hub could provide a platform to house current data, as well as a space for organizations to list the information that they have and also would like to have. In this way, the Electronic Data Hub could serve as a valuable and highly accessible food system data library for the Pioneer Valley region.

Regional Food System Model
The development of and education about a clear and consistent regional food system model is essential to enhance programmatic and policy efforts on a systematic scale. There are several components to the development of a consistent regional model that need to be further addressed. First, it’s crucial to develop a common language in the food system sphere. For example, currently the phrase “food security” has a multitude of different meanings. For some, food security implies that a household has enough to eat, for others that a region can grow enough food to feed itself, food security can also bring up notions of biotechnology and terrorism. Several organizations interviewed prefer to use the language of food resiliency, because to them resiliency implies a more community-developed and active relationship with food. Regardless of which words are chosen, and how they are defined, it is essential to create a common language so that agencies working across the field are able to communicate and understand one another.

Following the development of a common language is the opportunity to increase education and media outreach outlining the complexity and importance of the local/regional food system and its implications. In addition to outreach and education is the creation of a certified regional food system master plan, with clearly
stated timelines, goals and objectives. The master plan can contain a set of municipal guidelines about food, so that when an area or municipality is redoing their zoning, or considering institutional food purchasing, for example, they can look to these guidelines for suggestions and best practices to follow.

**Targeted Opportunities**
The next umbrella category addresses regional gaps and potential opportunities for improvement or support. First, addressing small-scale food processing: including a review of regulatory barriers, strengthening networks, advocating for legislation to support small-scale slaughter houses, community kitchens and food preservation programs. Second, incorporating food waste into the food system by supporting municipal and household food composting. Third, integrating emergency food more deeply into our food system, and strengthening our distribution networks. And fourth, including alternative food production, such as fishing, hunting, trapping and foraging for food, as an integrated component of food production.

**Interconnected System**
Finally, it is crucial to promote the programs and policies that cut across the food system by addressing multiple food-system aspects, because these programs help to strengthen the idea of a truly interconnected system, or regional web.

An excellent example of a program that supports the integrated system is the farm-to-institution or farm-to-school program, as these programs take on a number of different issues at once. Farm to school programs guarantee high volume seasonal purchasing from local food producers, which supports local farms and farmers. They rely on, and therefore strengthen, the regional food processing and distribution capacities. These programs provide nutritious meals to youth. Further, farm-to-school programs are most viable in schools with high numbers of students accepting free or reduced lunch, because these schools are guaranteed government funding for meals, in this fashion farm-to-school programming additionally addresses socio-economic inequities around food and food justice. Farm-to-school programs have the potential to do large-scale composting of food waste, supporting the concept of a closed-loop system. Finally, providing young people with local food exposes them at an early age to the value and varieties of local foods, in a format that they can take with them, as consumers, for the remainder of their lives.
Massachusetts Schools That Purchased Locally Grown Foods in 2010-11 School Year

An informal survey by the Massachusetts Farm to School Project

The 217 districts below reported they preferentially purchased local foods during the 2010-11 school year. There were about 635,000 students enrolled in the public schools listed below. This is 66% of the total statewide enrollment of about 956,000 pupils. In addition, 33 other Massachusetts K-12 schools reported they preferentially purchased local foods during the 2010-11 school year.

PUBLIC SCHOOL DISTRICTS

Acton
Acton-Boxborough
Adams-Cheshire
Amesbury Academy Charter
Amesbury
Amherst
Amherst-Pelham
Andover
Ashburnham-Westminster
Ashland
Athol-Royalston
Atlantis Charter
Attleboro
Auburn
Barnstable
Barnstable Horace Mann Charter
Bedford
Belchertown
Bellingham
Belmont
Berkley
Billerica
Blackstone Valley Voc. Tech.
Blackstone-Millville
Boston
Boston Renaissance Charter
 Bourne
Boxborough
Braintree
Bridgewater-Raynham
Brookfield
Brookline
Cambridge
Canton
Central Berkshire
Chelsea
Chicopee
Cohasset
Concord
Concord-Carlisle
Danvers
Dartmouth
Dedham
Deerfield
Dighton-Rehoboth
Dover
Dover-Sherborn
Dudley-Charlton
Duxbury
East Longmeadow
Easthampton
Easton
Edgartown
Everett
Fall River
Fitchburg
Framingham
Francis W. Parker Charter
Franklin County Voc. Tech.
Franklin
Frontier
Gardner
Gateway
Georgetown
Gill-Montague
Grafton
Granby
Granville
Greater Fall River Voc. Tech.
Greater Lawrence Voc. Tech.
Greater Lowell Voc. Tech.
Groton-Dunstable
Hadley
Halifax
Hamilton-Wenham
Hampshire
Harvard
Harwich
Haverhill
Hawlemont
Hingham
Holliston
Hopedale
Hull
Ipswich
Kingston
Lakeville
Lanesboro
Lawrence
Leicester
Lenox
Leverett
Lexington
Lincoln
Lincoln-Sudbury
Littleton
Longmeadow
Ludlow
Manchester Essex Regional
Marblehead Community Charter
Marlboro
Marshfield
Martha's Vineyard
Martha’s Vineyard Charter
Mashpee
Maynard
Medfield
Medford
Medway
Mendon-Upton
Middleborough
Middleton
Milford
Millbury
Millis
Milton
Mohawk Trail
Monson
Mount Greylock
Nahant
Narragansett
Needham
New Salem-Wendell
Newton
Norfolk County Agricultural
Norfolk
North Adams
North Attleborough
North Brookfield
North Middlesex
North Reading
Northampton
Northampton-Smith Voc. Ag.
Northborough
Northbridge
Northborough-Southborough
Northeast Metropolitan Voc. Tech.
Northern Berkshire Voc. Tech.
Norton
Norwood
Oak Bluffs
Orange
Orleans
Palmer
Pelham
Pembroke
Pioneer Valley
Pittsfield
Plainville
Plymouth
Plympton
Provincetown
Quaboag Regional
Quincy
Ralph C. Mahar
Randolph
Reading
Revere
Richmond
Rockport
Rowe
Salem
Sandwich
Saugus
Scituate
Seekonk
Seven Hills Charter
Sherborn
Shrewsbury
Silver Hill Horace Mann Charter
Silver Lake Regional
Somerville
South Hadley
South Middlesex Voc. Tech.
South Shore Voc. Tech.
Southampton
Southborough
Southeastern Voc. Tech.
Southern Berkshire
Southern Worcester Co. Voc. Tech
Spencer-East Brookfield
Springfield
Stoneham
Stoughton
Sturbridge
Sudbury
Sunderland
Sutton
Swampscott
Tantasqua
Tisbury
Triton
Uxbridge
Wachusett
Walpole
Waltham
Wareham
Watertown
Wayland
Webster
Wellesley
West Bridgewater
West Springfield
Westfield
Weston
Westport
Whately
Williamsburg
Wilmington
Winchendon
Winchester
Winthrop
Worcester
Wrentham

OTHER K-12 SCHOOLS
Academy at Charlemont
Belmont Day
Bement School
Brimmer & May
Brooks
Buxton School Inc.
Cambridge School of Weston
Concord Academy
Cutchins Academy
Dana Hall
Deerfield Academy
Eaglebrook
Eagle Hill
Fenn
Fessenden School
Germaine Lawrence School
Governor’s Academy
Groton
Hampden-Wilbraham
Hartsbrook
Italian Home For Children
Latham School
Lawrence Academy
Middlesex
NE Center for Children School
Northfield Mt. Hermon
Perkins Schools for the Blind
Phillips Academy
Reed Academy School
Riverview School
St Agnes
Stoneleigh Burnham
Valleyview
The **48** colleges and universities below reported they preferentially purchased local foods during the 2010-11 school year. In addition, **33 private schools** reported they preferentially purchased local foods during the 2010-11 school year.

### COLLEGES & UNIVERSITIES

- Amherst College
- Assumption College
- Atlantic Union College
- Babson College
- Becker College
- Bentley College
- Berklee College of Music
- Boston College
- Boston University
- Clark University
- College of the Holy Cross
- Curry College
- Dean College
- Elms College
- Emmanuel College
- Endicott College
- Fisher College
- Framingham State University
- Hampshire College
- Harvard University
- Holyoke Community College
- Lesley University
- Mass. College of Art
- Mass. College of Liberal Arts
- Mass. College of Pharmacy
- Mass. Institute of Technology
- Merrimack College
- Mt. Holyoke College
- Mt. Wachusett Comm. College
- N.E. Conservatory of Music
- Nichols College
- Northeastern University
- Olin College of Engineering
- Salem State College
- Simmons College
- Simon's Rock College of Bard
- Smith College
- Stonehill College
- Suffolk University
- Tufts University
- UMASS-Amherst
- UMASS-Lowell
- Wellesley College
- Wheaton College
- Wheelock College
- Williams College
- Worcester State College

### PRIVATE SCHOOLS

- Academy at Charlemont
- Belmont Day
- Bement School
- Brimmer & May
- Brooks
- Buxton School Inc.
- Cambridge School of Weston
- Concord Academy
- Cutchins Program
- Dana Hall
- Deerfield Academy
- Eaglebrook
- Eagle Hill
- Fenn
- Fessenden School
- Germaine Lawrence School
- Governor’s Academy
- Groton
- Hampden-Wilbraham
- Hartsbrook
- Italian Home For Children
- Latham School
- Lawrence Academy
- Middlesex
- NE Center for Children School
- Northfield Mt. Hermon
- Perkins Schools for the Blind
- Phillips Academy
- Reed Academy School
- Riverview School
- St Agnes
- Stoneleigh Burnham
- Valleyview
## Pioneer Valley Region 2012-13 School Lunch Data

### Districts

<table>
<thead>
<tr>
<th>District</th>
<th>First Language</th>
<th>Limited English Proficient</th>
<th>Special Education</th>
<th>Low-Income</th>
<th>Free Lunch</th>
<th>Reduced Lunch</th>
<th>High Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agawam</td>
<td>183</td>
<td>4.4</td>
<td>135</td>
<td>1.9</td>
<td>63</td>
<td>15.2</td>
<td>1,145</td>
</tr>
<tr>
<td>Amherst</td>
<td>257</td>
<td>21.3</td>
<td>163</td>
<td>13.5</td>
<td>235</td>
<td>19.4</td>
<td>477</td>
</tr>
<tr>
<td>Amherst-Pelham</td>
<td>264</td>
<td>17.2</td>
<td>55</td>
<td>3.6</td>
<td>317</td>
<td>20.5</td>
<td>407</td>
</tr>
<tr>
<td>Belchertown</td>
<td>55</td>
<td>2.2</td>
<td>18</td>
<td>0.7</td>
<td>347</td>
<td>13.8</td>
<td>497</td>
</tr>
<tr>
<td>Chicopee</td>
<td>1,022</td>
<td>13.1</td>
<td>335</td>
<td>4.8</td>
<td>1,343</td>
<td>17.2</td>
<td>4,931</td>
</tr>
<tr>
<td>East Longmeadow</td>
<td>109</td>
<td>9</td>
<td>30</td>
<td>0.8</td>
<td>54</td>
<td>19.5</td>
<td>41</td>
</tr>
<tr>
<td>Easthampton</td>
<td>96</td>
<td>6</td>
<td>34</td>
<td>2.1</td>
<td>306</td>
<td>18.8</td>
<td>521</td>
</tr>
<tr>
<td>Franklin</td>
<td>244</td>
<td>4.2</td>
<td>65</td>
<td>1.1</td>
<td>926</td>
<td>15.6</td>
<td>513</td>
</tr>
<tr>
<td>Franklin County Regional Vocational Technical</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
<td>148</td>
<td>28.6</td>
<td>266</td>
</tr>
<tr>
<td>Gill-Montague</td>
<td>64</td>
<td>6.3</td>
<td>49</td>
<td>4.7</td>
<td>197</td>
<td>18.4</td>
<td>527</td>
</tr>
<tr>
<td>Greenfield</td>
<td>144</td>
<td>6.7</td>
<td>45</td>
<td>2.3</td>
<td>382</td>
<td>17.5</td>
<td>1,240</td>
</tr>
<tr>
<td>Hadley</td>
<td>38</td>
<td>9.7</td>
<td>21</td>
<td>1.2</td>
<td>76</td>
<td>11.1</td>
<td>118</td>
</tr>
<tr>
<td>Hampden Charter School of Science (District)</td>
<td>39</td>
<td>11.7</td>
<td>10</td>
<td>3.0</td>
<td>35</td>
<td>10.5</td>
<td>229</td>
</tr>
<tr>
<td>Hampden-Wilbraham</td>
<td>97</td>
<td>2.8</td>
<td>18</td>
<td>0.3</td>
<td>537</td>
<td>15.6</td>
<td>436</td>
</tr>
<tr>
<td>Hampshire</td>
<td>13</td>
<td>1.7</td>
<td>1</td>
<td>0.1</td>
<td>145</td>
<td>18.3</td>
<td>109</td>
</tr>
<tr>
<td>Hatfield</td>
<td>20</td>
<td>2.0</td>
<td>6</td>
<td>0.8</td>
<td>70</td>
<td>15.5</td>
<td>60</td>
</tr>
<tr>
<td>Hilltown Cooperative Charter Public (District)</td>
<td>3</td>
<td>1.7</td>
<td>1</td>
<td>0.6</td>
<td>23</td>
<td>13.4</td>
<td>36</td>
</tr>
<tr>
<td>Holyoke</td>
<td>3,083</td>
<td>51.8</td>
<td>1,543</td>
<td>26.7</td>
<td>1,490</td>
<td>25.4</td>
<td>4,896</td>
</tr>
<tr>
<td>Holyoke Community Charter (District)</td>
<td>174</td>
<td>24.8</td>
<td>47</td>
<td>6.7</td>
<td>80</td>
<td>11.4</td>
<td>576</td>
</tr>
<tr>
<td>Leverett</td>
<td>2</td>
<td>3.4</td>
<td>0</td>
<td>0.0</td>
<td>28</td>
<td>19.6</td>
<td>43</td>
</tr>
<tr>
<td>Longmeadow</td>
<td>131</td>
<td>4.7</td>
<td>31</td>
<td>1.1</td>
<td>539</td>
<td>15.6</td>
<td>156</td>
</tr>
<tr>
<td>Mohawk Trail</td>
<td>4</td>
<td>0.4</td>
<td>4</td>
<td>0.6</td>
<td>205</td>
<td>19.7</td>
<td>331</td>
</tr>
<tr>
<td>Monson</td>
<td>29</td>
<td>2.3</td>
<td>7</td>
<td>0.6</td>
<td>189</td>
<td>14.9</td>
<td>331</td>
</tr>
<tr>
<td>Montachusett Regional Vocational Technical</td>
<td>97</td>
<td>6.8</td>
<td>4</td>
<td>0.3</td>
<td>219</td>
<td>15.3</td>
<td>436</td>
</tr>
<tr>
<td>Northampton</td>
<td>223</td>
<td>8.2</td>
<td>78</td>
<td>2.7</td>
<td>562</td>
<td>20.3</td>
<td>802</td>
</tr>
<tr>
<td>Northampton-Smith Vocational Agricultural</td>
<td>177</td>
<td>4.3</td>
<td>19</td>
<td>1.2</td>
<td>163</td>
<td>15.5</td>
<td>199</td>
</tr>
<tr>
<td>Palmer</td>
<td>48</td>
<td>7.1</td>
<td>19</td>
<td>1.2</td>
<td>290</td>
<td>18.5</td>
<td>673</td>
</tr>
<tr>
<td>Pelham</td>
<td>3</td>
<td>2.3</td>
<td>1</td>
<td>0.8</td>
<td>26</td>
<td>19.8</td>
<td>24</td>
</tr>
<tr>
<td>Pioneer Charter School of Science (District)</td>
<td>186</td>
<td>51.8</td>
<td>21</td>
<td>5.8</td>
<td>31</td>
<td>8.6</td>
<td>219</td>
</tr>
<tr>
<td>Pioneer Valley</td>
<td>8</td>
<td>0.3</td>
<td>0</td>
<td>0.0</td>
<td>156</td>
<td>14.7</td>
<td>279</td>
</tr>
<tr>
<td>Pioneer Valley Chinese Immersion Ch (Dist)</td>
<td>33</td>
<td>12.1</td>
<td>15</td>
<td>1.6</td>
<td>15</td>
<td>4.8</td>
<td>51</td>
</tr>
<tr>
<td>Pioneer Valley Perf. Arts Charter Public (Dist)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
<td>60</td>
<td>14.7</td>
<td>54</td>
</tr>
<tr>
<td>Smith Leadership Academy Chrr Public (Dist)</td>
<td>8</td>
<td>3.7</td>
<td>8</td>
<td>3.7</td>
<td>33</td>
<td>15.1</td>
<td>198</td>
</tr>
<tr>
<td>South Hadley</td>
<td>59</td>
<td>9</td>
<td>27</td>
<td>2.4</td>
<td>256</td>
<td>13.4</td>
<td>452</td>
</tr>
<tr>
<td>Southampton</td>
<td>25</td>
<td>4.5</td>
<td>18</td>
<td>2.4</td>
<td>88</td>
<td>15.2</td>
<td>78</td>
</tr>
<tr>
<td>Springfield</td>
<td>6,602</td>
<td>26.1</td>
<td>4,272</td>
<td>16.3</td>
<td>4,822</td>
<td>19.2</td>
<td>22,127</td>
</tr>
<tr>
<td>Sunderland</td>
<td>28</td>
<td>14.2</td>
<td>20</td>
<td>10.9</td>
<td>25</td>
<td>13.6</td>
<td>42</td>
</tr>
<tr>
<td>Ware</td>
<td>15</td>
<td>1.2</td>
<td>12</td>
<td>0.9</td>
<td>203</td>
<td>15.6</td>
<td>688</td>
</tr>
<tr>
<td>West Springfield</td>
<td>960</td>
<td>24.7</td>
<td>251</td>
<td>6.3</td>
<td>836</td>
<td>21.2</td>
<td>2,050</td>
</tr>
<tr>
<td>Westfield</td>
<td>639</td>
<td>10.8</td>
<td>268</td>
<td>4.5</td>
<td>956</td>
<td>16</td>
<td>2,332</td>
</tr>
<tr>
<td>Westhampton</td>
<td>3</td>
<td>0.7</td>
<td>3</td>
<td>0.1</td>
<td>25</td>
<td>17.5</td>
<td>10</td>
</tr>
<tr>
<td>Williamsburg</td>
<td>3</td>
<td>1.0</td>
<td>2</td>
<td>1.3</td>
<td>22</td>
<td>13.8</td>
<td>19</td>
</tr>
<tr>
<td>State Totals</td>
<td>164,809</td>
<td>17.8</td>
<td>73,217</td>
<td>7.7</td>
<td>163,921</td>
<td>17</td>
<td>353,420</td>
</tr>
</tbody>
</table>

### Notes

- **DISTRICT**: Pioneer Valley Region
- **Language Proficient**: Percentage of students proficient in English
- **Limited English Proficient**: Percentage of students with limited English proficiency
- **Special Education**: Percentage of students identified as special education
- **Low-Income**: Percentage of students in low-income families
- **Free Lunch**: Percentage of students eligible for free lunch
- **Reduced Lunch**: Percentage of students eligible for reduced price lunch
- **High Needs**: Percentage of students in high needs districts
Massachusetts Farms Directory for Institutional Food Services

produced by the Massachusetts Farm to School Project
Dear Food Service Professional:

Thank you for your interest in feeding Massachusetts farm products to your customers. Fresh locally grown food encourages us all to enjoy healthier meals! The Massachusetts Farm to School Project has been working for several years with institutions and farmers across the state to cultivate mutually beneficial relationships. This directory has been created to make it easier for food service operations to access local farm products. Finding an appropriate match is the next critical step. Here are a few tips to keep in mind when making an initial contact with a farm:

1) Know your needs.
Making a list of the types of foods you may be interested in purchasing will assist the farm in responding to your inquiry. Have a rough idea of the quantities in which you purchase the items that you are hoping the farm can supply. It’s okay to ask a farm to send you a sample product list before meeting. It’s also important to let the farm know of your delivery needs and locations. Do you purchase food during the summer? That’s important to share as well.

2) Call ahead.
Give yourself plenty of time to work out the details of price, delivery and availability with the farmer. Although farms can sometimes manage a quick turnaround time, having initial conversations a month or more before the first delivery will ensure that the locally grown foods you wish to purchase will be ready for delivery when you want them.

3) Be flexible.
Freshness and taste are major benefits to serving locally grown food. However, the benefit of “just picked” comes with some restrictions. Much of what is available locally is dependent upon the weather and the season. Planning your menus in a way that allows you to choose between several different vegetables or fruits, depending on what’s available, will make it easier for you to serve the maximum amount of freshly picked items. Your customers will appreciate the delicious tastes offered by more seasonal eating.

4) Need help?
Call or email us at (413) 253-3844 or info@massfarmtoschool.org.

DEFINITIONS

Partially Processed—Items that are cut, peeled, canned, or bottled

Organic—Follows USDA organic certification standards

Extended Season—Through cold storage and/or greenhouse production, able to continue to sell products into winter or spring
**BARNSTABLE COUNTY**

**East Falmouth**

Coonamessett Farm  
Salad mix  
Ron Smolowitz  
(508) 563-2560  
cfarm@capecod.net

**Great Barrington**

Windy Hill Farm  
Apples, blueberries  
Judy Magreb  
(413) 298-3217  
whfinc@verizon.net  
www.windyhillfarminc.com

**Lenox**

River Valley Farm  
Mixed vegetables  
Lisa Dachinger  
(413) 637-1290  
lisa@rare sheepwool.com  
www.rare sheepwool.com

**Williamstown**

Cricket Creek Farm  
Cheeses, beef, veal, pork, baked goods made with local flour  
Lesley or Suzy  
(413) 458-5888  
info@cricketcreekfarm.com  
www.cricketcreekfarm.com

**BERKSHIRE COUNTY**

**Cheshire**

Whitney’s Farm  
Sweet corn, pumpkin, tomatoes, peppers  
Eric Whitney  
(413) 822-9723  
www.whitneysfarm.com

**Hancock**

Ioka Valley Farm  
Maple syrup, beef  
Rob Leab  
(413) 738-5915  
iokavalleyfarm@taconic.net

**Pittsfield**

David’s Melon Farm  
Musk melon, watermelon, various colors and flavors  
David Leavitt  
(413) 442-0484  
northmelonbc@gmail.com

**Bristol County**

**Dartmouth**

Dartmouth Orchards  
Apples and vegetables  
Brian Medeiros  
(508) 999-5801

**Dighton**

Reed Farm  
Vegetables, fruit, flowers  
Steven Reed  
(508) 669-4088

**Sheffield**

Equinox Farm  
Salad mix, various potatoes and other vegetables, extended season  
Ted Dobson  
(413) 229-2266  
equinoxfarm@yahoo.com

**Shenango**

Oakdale Farm  
Vegetables, berries  
Richard Pray or Laura Smith  
(508) 336-7681  
oakdalefarm@juno.com  
www.oakdalefarms.com

**Holiday Brook Farm**

Produce, maple syrup, beef, pork  
Desirée or Jesse Robertson-DuBois  
(413) 684-0444  
www.holidaybrookfarm.com

**Lakeview Orchards**

Fruit  
David Jurzak  
(413) 448-6009  
www.lakevieworchard.com

**Howden Farm**

Corn  
Bruce Howden  
(413) 229-8481

**Windsor**

High Lawn Farm  
Milk and dairy products  
Helen Christensen  
(413) 478-0549  
helen@highlawnfarm.com  
www.highlawnfarm.com

**Williamstown**

Cricket Creek Farm  
Cheeses, beef, veal, pork, baked goods made with local flour  
Lesley or Suzy  
(413) 458-5888  
info@cricketcreekfarm.com  
www.cricketcreekfarm.com
Seekonk
Four Town Farm
Vegetables
Chris Clegg
(508) 336-5587
www.fourtownfarm.com

South Dartmouth
Eva’s Garden
Culinary herbs, flowers
Eva Sommaripa
(508) 636-5869

Forbidden Fruit Farm
Vegetables, Asian pears, frozen fruit, extended season
Barbara Purdy or Chip Higgins
(508) 207-2193
(508) 990-8837 (fax)

Westport
Noquochoke Orchards
Vegetables, 90 varieties of apples
George Smith or Doris Mills
(508) 636-2237
info@noqorchards.com
www.noqorchards.com

NorthStar Farm
Year-round spinach, salad greens, tomatoes, cucumbers, carrots
Steve Hancock
(508) 636-0866
northstarfarm@verizon.net

Paradise Hill Farm
Vegetables
Shirley Robbins
(978) 590-6537

Sampson Farm
Potatoes, butternut squash, sweet corn, extended season
Jerome Sampson
(508) 674-2733
Sampson_farm_lp@yahoo.com

Shy Brothers Farm, LLC
Artisanal cheeses (including cloumage, a curd similar to cooking cream)
Barbara Hanley
(508) 636-8826
barbara@shybrothersfarm.com
www.shybrothersfarm.com

DUKES COUNTY
Edgartown
Morning Glory Farm
Mixed vegetables
Cheryl Harary
(508) 627-9003
(508) 627-3955 (fax)
morninggloryfarm@verizon.net
www.morninggloryfarm.com

Oak Bluffs
Whippoorwill Farm
Mixed vegetables
Rusty Gordon or Andrew Woodruff
(508) 693-5995
info@whippoorwillfarmcsa.com
www.whippoorwillfarmcsa.com

Danvers
Connors Farm, Inc.
Vegetables, peaches, apples, strawberries, blueberries, raspberries, extended season hydroponic lettuce
Bob Connors
(508) 527-3645
info@connorsfarm.com
www.connorsfarm.com

Haverhill
Tower Hill Farm
Melons, vegetables
Alan Schwartz
(617) 988-4051

Amesbury
Cider Hill Farm
Fruit, berries, vegetables
Ed or Glenn Cook
(978) 388-5525
www.ciderhill.com
Ipswich
Appleton Farms
Mixed vegetables
Jamie or Melissa
(978) 412-9587
jbarrett@ttor.org

Peabody
Brooksby Farm
Apples, vegetables,
peeled butternut squash
Pat K or Joanne
(978) 531-7456
(978) 531-1631 (fax)
Joanne.roden@peabody.ma.gov

Methuen
Pleasant Valley Gardens
Lettuce, vegetables
Rich Bonanno
(978) 682-9563
rbonanno@prodigy.net
www.pleasantvalleygardens.com

North Andover
Barker’s Farm
Corn, apples
George
(978) 688-5617

West Newbury
Long Hill Orchard & Farm
Apples, vegetables
Cindy Adams
(978) 363-2170
adamslho@verizon.net
www.longhillorchard.com

FRANKLIN COUNTY

Ashfield
Clark Brothers Orchards
Apples, pears, peaches, grapes,
extended season
Aaron Clark
(413) 625-2492
clarkbrothersorchards@gmail.com

Sidehill Farm
Yogurt
Paul Lacinski
(413) 522-9073
paul@sidehillfarm.net
www.sidehillfarm.net

Colrain
Pine Hill Orchards
Cider, jellies, apples,
extended season
David or Matt
(413) 624-3325
(413) 624-3413 (fax)
shearer2659@hotmail.com

Deerfield
The Bars Farm
Mixed vegetables,
extended season
Allison Landale
(413) 772-1031
(413) 773-0055 (fax)
thebarsfarm@comcast.net
www.thebarsfarm.com

Clarkdale Fruit Farms
Apples, tree fruits, cider,
extended season
Tom Clark
(413) 772-6797
info@clarkdalefruitfarms.com
www.clarkdalefruitfarms.com

Warm Colors Apiary
Honey, bee pollination
Dan Conlon
(413) 665-4513
warmcolors@verizon.net
www.warmcolorsapiary.com

Williams Farm, Inc.
Maple syrup, asparagus, corn,
cucumbers, butternut squash
Sandy Williams
(413) 834-3875
(413) 773-1900 (fax)
williamsfarminc@comcast.net
www.williamsfarm
sugarhouse.com

Greenfield
Our Family Farms
Milk: half gallons of skim and
1%, working on 1/2 pints—
call for details
Angie Facey or CS Wurzberger
(413) 772-2332
info@ourfamilyfarms.com
www.ourfamilyfarms.com

Heath
Tripp’s Blueberries
Blueberries—August only!
Alicia Tripp
(413) 337-4964

Leyden
Dancing Bear Farm
Vegetables, tomatoes, greens,
extended season
Tom Ashley
(413) 774-2021
dancingbearfarm@mac.com
**New Salem**

Hamilton Orchards

Apples, berries: fresh and frozen, rhubarb

Barbara Hamilton

(978) 544-6867
(978) 544-6121 (fax)

b.j.hamilton@earthlink.net

www.hamiltonorchards.com

New Salem Preserves and Orchards

Apples

Carol Hillman

(978) 544-3437

cbhillman@gmail.com

**Orange**

Seeds of Solidarity Farm

Salad greens, tomatoes

Ricky Baruc

(978) 544-7564

www.seedsofsolidarity.org

**Shelburne**

Apex Orchards

Apples, organic apples, peaches, cider vinegar, honey

Tim Smith

(413) 625-2744

info@apexorchards.com

www.apexorchards.com

**Sunderland**

D.A. Smiarowski Farm

Asparagus, sweet corn, potatoes

Dan Smiarowski

(413) 665-7522

dasmiarowski@comcast.net

The Kitchen Garden

Tomatoes, cucumbers, potatoes, head lettuce

Caroline Pam

(413) 387-5163

info@kitchengardenfarm.com

www.kitchengardenfarm.com

**Sunderland**

Riverland Farm

Organic mixed vegetables, extended season

Meghan Arquin

(413) 687-5781

info@riverlandfarm.com

www.riverlandfarm.com

**Warners Farm**

Mixed vegetables, strawberries, blueberries

David Wissemann

(413) 665-8331

david@warnerfarm.com

www.warnerfarm.com

**Sunderland**

Nourse Farms, Inc.

Small fruits, processed raspberries

Nate Nourse

(413) 665-2658

(413) 665-7888 (fax)

info@noursefarms.com

www.noursefarms.com

**Whately**

Diemand Egg Farm, Inc.

Turkey, turkey products

Anne Diemand

(978) 544-3806

**Whately**

Enterprise Farm

Organic produce, extended season

Matt Boulanger

(413) 775-3585

info@enterpriseproduce.com

www.enterpriseproduce.com

**Northfield**

Four Star Farms

Whole barley, wheatberries, whole wheat, barley and buckwheat flours

Liz L’Etoile

(413) 498-2968

liz@fourstarfarms.com

www.fourstarfarms.com

**Orange**

Long Plain Farm

Vegetables, extended season

Scott Hutkoski

(413) 665-1210

(413) 575-2598 (cell)

shutkoski@charter.net

**Northfield**

D.A. Smiarowski Farm

Asparagus, sweet corn, potatoes

Dan Smiarowski

(413) 665-7522

dasmiarowski@comcast.net

The Kitchen Garden

Tomatoes, cucumbers, potatoes, head lettuce

Caroline Pam

(413) 387-5163

info@kitchengardenfarm.com

www.kitchengardenfarm.com

Riverland Farm

Organic mixed vegetables, extended season

Meghan Arquin

(413) 687-5781

info@riverlandfarm.com

www.riverlandfarm.com

**Whately**

Enterprise Farm

Organic produce, extended season

Matt Boulanger

(413) 775-3585

info@enterpriseproduce.com

www.enterpriseproduce.com
**HAMPDEN COUNTY**

**BRIMFIELD**

Little Rest Farm  
Mixed vegetables  
Chris Sturgeon  
(413) 245-1110  
sturge1970@yahoo.com

**CHICopee**

McKinstry’s Market Garden  
Mixed vegetables  
Bill McKinstry  
(413) 297-3338

**GRANVILLE**

Mountain Orchard  
Peaches, nectarines, apples, extended season  
Ed or Anne Jensen  
(413) 357-8877  
(413) 357-6381 (fax)  
www.mountainorchard.com

**WESTFIELD**

Kosinski Farms  
Blueberries, strawberries, apples, frozen berries  
Gene Kosinski  
(413) 896-0475  
kosinskifarm@comcast.net

**WILBRAHAM**

Green Acres Fruit Farm  
Apples, extended season  
Kathleen Smedberg  
(413) 596-3016

**HAMPSTEAD**

Mountain View Farm  
Vegetables, extended season  
Ben or Liz  
(413) 329-0211  
mountainviewfarmer@hotmail.com  
www.mountainviewfarmcsa.com

**HAMPSTEAD**

Cold Spring Orchard  
Tree fruits, extended season  
Kristen Hanley  
(413) 323-6647  
kmhanley@psis.umass.edu  
www.coldspringorchard.com

**AMHERST**

Atkins Farm  
Tree fruits, cider, extended season  
Pauline Lannon  
(413) 253-9528  
(413) 256-3117 (fax)  
www.atkinsfarms.com

**BELCHERTOWN**

Austin Brothers Valley Farm  
Beef, pork  
Michael or Roxanne  
(413) 668-6843  
www.austinsfarm.com

**EASTHAMPTON**

Boisvert Farm  
Maple syrup, vegetables, peeled butternut squash, extended season  
John Boisvert  
(413) 585-8820  
(413) 586-3447 (fax)  
www.northhadleysugarshack.com

**COOK’S DAIRY FARM**

Milk, ice cream  
Beth Cook  
(413) 586-8785  
www.cookfarm.com

**DOUBLEDAY FARM**

Sweet corn, squash, potatoes, cabbage, broccoli, willing to contract grow, extended season  
Tom Doubleday  
(413) 687-4146

**JOSEPH CZAJKOWSKI FARM**

Vegetables, including some partially processed, small fruits, extended season  
Joe Czajkowski  
(413) 237-2615  
www.czajkowskifarm.com

**MAPLELINE FARM**

Milk  
John Kokoski  
(413) 549-6486

**NEXT BARN OVER, LLC**

Greens, mixed vegetables, grown using organic practices  
Tory Field  
(413) 885-5123  
tory@nextbarnover.com  
www.nextbarnover.com
Hatfield
Swazlowski Potato Farm
Potatoes, onions, extended season
Shelly Swazlowski
(413) 247-9240
swazfarms@hotmail.com
www.swazpotato.com

Teddy C. Smiarowski Farm
Asparagus, potatoes, strawberries
Bernie Smiarowski
(413) 247-5181

Wendolowski Farm
Onions, extended season
Anthony or Helen
(413) 247-5476

Southampton
Bashista Orchards
Apples, pears, peaches, plums, extended season
Thomas Bashista
(413) 527-9091
skyline@crocker.com
www.bashistaorchards.com

Westhampton
Outlook Farm
Apples, peaches, vegetables, extended season
Brad or Erin Morse
(413) 529-9388
(413) 529-0421 (fax)
www.outlookfarm.com

MIDDLESEX COUNTY
Acton
Butter Brook Organic Farm
Organic vegetables, chicken, eggs, extended season
Guy McKay
(978) 263-1936
butterbrookfarm@aol.com
www.butterbrookfarm.com

Bedford
Chip-In Farm
Eggs, call for availability
Paul Couvee
(781) 275-2545
www.chip-infarm.com

Concord
Verrill Farm
Vegetables, herbs
Steve Verrill
(978) 369-4494
www.verrillfarm.com

Dracut
Shaw Farm
Milk, organic milk, ice cream
Warren Shaw
(978) 957-0031
warren@shawfarm.com
www.shawfarm.com

Groton
Autumn Hills Orchard
Apples, tree fruits, grapes
Evan or Lyn
(978) 448-8388
info@autumnhillsorchard.com
www.autumnhillsorchard.com

Holliston
Reseska Apiaries, Inc.
Honey
Adelaide Reseska
(508) 429-6872
reseska-apiaries@verizon.net
www.bostonhoneycompany.com

Littleton
Spring Brook Farm
Vegetables, including sweet corn, ground beef, raspberries, strawberries, extended season, processing possible
Fran Matheson
(978) 486-3249
(978) 486-4165 (fax)
springbrookcountry@comcast.net
www.springbrookcountry.com

Springdell Farms
Mixed vegetables
Jamie M. Cruz
(978) 486-3865
springdellfarms@verizon.net
www.springdellfarms.com

Stow
Carver Hill Orchard
Apples, peaches
Chuck Lord
(978) 897-6117
www.carverhill.com
NORTH SHORE

Sudbury
J.P. Bartlett Co.
Geraniums, for decoration and fundraisers
(978) 443-8851
www.bartlettgreenhouses.com

Townsend
King Farm, Inc.
Mixed vegetables
Bart King
(978) 597-2866
www.kingfarminc.com

NANTUCKET COUNTY

Nantucket
Bartlett Ocean View Farm
Vegetables
John Bartlett
(508) 228-9403
www.bartlettsfarm.com

NORTH SHORE

NORFOLK COUNTY

Cohasset
Holly Hill Farm
Produce, herbs, education, school gardens
Jon Belber
(781) 383-6565
jbelberhollyhill@hotmail.com
www.hollyhillfarm.org

Franklin
Fairmount Fruit Farm
Apples
Johnny or Charles Koshivas
(508) 533-8737
www.fairmountfruit.com

Norfolk
Jane and Paul's Farm
Tomatoes, sweet corn, butternut squash, strawberries
Jane or Paul Newton
(508) 528-0812
(508) 528-0862 (fax)
janeandpaulsfarm@verizon.net

Plymouth County

Sharon
Ward's Berry Farm
Vegetables, berries, extended season
Jim Ward
(781) 389-2349
(781) 784-1650 (fax)
jim@wardsberryfarm.com
www.wardsberryfarm.com

PLYMOUTH COUNTY

Cohasset
Holly Hill Farm
Produce, herbs, education, school gardens
Jon Belber
(781) 383-6565
jbelberhollyhill@hotmail.com
www.hollyhillfarm.org

Hingham
Penniman Hill Farm
Mixed vegetables, some pre-processed
Tony
(781) 749-5443
www.pennimanhillfarm.com

Norfolk
Jane and Paul's Farm
Tomatoes, sweet corn, butternut squash, strawberries
Jane or Paul Newton
(508) 528-0812
(508) 528-0862 (fax)
janeandpaulsfarm@verizon.net

Plymouth
Cranberry Hill Farm
Organic cranberries, fresh, frozen and dried berries
Rob or Kristine Keese
(508) 888-9179
(508) 888-9179 (fax)
cranhill@capecod.net
www.organiccranberries.com

WORCESTER COUNTY

Athol
The Farm School
Organic vegetables
Patrick Connors
(978) 249-9944
patrick@farmschool.org
www.farmschool.org

Plympton
Billingsgate Farm/Grandpa Tom’s
Corn, carrots, leeks, potatoes, lettuce, squash, onions, some organic
Peter or Lynn Reading
(781) 293-6144
LARfisher@yahoo.com

Sauchuk Farm
Corn, squash, vegetables, blueberries, strawberries
Scott Sauchuk
(781) 572-1366
info@sauchukfarm.net
www.sauchukfarm.net
**Barre**

**Many Hands Organic Farm**
Organic salad greens, mixed vegetables
Julie Rawson
(978) 355-2853
(978) 355-4046 (fax)
julie@mhof.net
www.mhof.net

**Berlin**

**Berlin Orchards**
Apples
Gerard Beirne
(978) 838-2400
(978) 897-1871 (fax)
www.bерлинорчардс.com

**Harvard**

**Carlson Orchards**
Cider juice boxes, fresh cider
Frank Carlson
(978) 456-3916
(978) 456-3916 (fax)
www.carlsonorchards.com

**Westward Orchards Farm Store**
Apples, extended season
Stephanie Waite
(978) 501-2143
westwardorchardsl@verizon.net
www.westwardorchards.com

**Hubbardston**

**The Country Hen**
Organic eggs
Jim Barry
(978) 928-5333
jimbarry@countryhen.com
www.countryhen.com

**Lancaster**

**Bob’s Turkey Farm**
Turkey breast, whole turkeys, turkey sausage, ground turkey, turkey pot pies, year-round availability
Sue Miner
(978) 365-9271
susanminer@aol.com
www.bobsturkeyfarm.com

**Leicester**

**Little Bit Farm**
Vegetables, honey, eggs, meat
Dianna or Bruce Provencher
dprovencher@cmrpc.org

**Westward Orchards Farm Store**
Apples, extended season
Stephanie Waite
(978) 501-2143
westwardorchardsl@verizon.net
www.westwardorchards.com

**Leominster**

**Sholan Farms**
Apples
Joanne DiNardo
(978) 840-3276

**Lunenburg**

**Lanni Orchards**
Apples, organic apples, tree fruits, vegetables, some partially processed, extended season
Pat Lanni
(978) 582-6246
mac2go@net1plus.com
www.lanniorchards.com

**New Braintree**

**Howe Farms**
Vegetables, fruits, berries
Chip Howe
(508) 752-8419

**Stillman’s Farm**
Apples, winter squash, corn, beans
Glenn or Genevieve
(508) 867-7193
stillmans@verizon.net
www.stillmansfarm.com

**North Brookfield**

**Brookfield Orchards, Inc.**
Apples, extended season
Dorothy Civin
(508) 867-6858
brookfieldo@aol.com
www.brookfieldorchardsonline.com

**Northborough**

**Berberian Farm**
Fruits, vegetables, corn
Mike Berberian
(508) 393-8079
(508) 243-8079 (cell)
Davidian Bros. Farm
Tree fruits, mixed vegetables
(508) 393-3444
info@davidianbros.com
www.davidianbros.com

Tougas Farm
Apples, peaches
Andre Tougas
(508) 641-7256
andre@tougasfarm.com
www.tougasfarm.com

Oakhill Greenhouses
Wholesale plants, hanging plants, poinsettias, lilies, for fundraisers
Charlene Leinon
(508) 885-5330

Sweetwater Farm
Mixed vegetables
Benjamin Purdon
(413) 320-1349
benjamin.purdon@gmail.com
www.sweetwaterfarmma.org

Red Apple Farm
Apples
Al Rose
(978) 249-6763
al@redapplefarm.com
www.redapplefarm.com

Oakhill Greenhouses
Pesto
Jeff or Michelle Howard
(508) 882-3030

Clearview Farm
Tree fruits, berries, mixed vegetables, cut/peeled/cored apples
Rick and Diane Melone
(978) 422-6442
clearviewfarm@comcast.net
www.clearviewfarmstand.com

Linabella's Garlic Farm
Garlic Farm
Pesto
Jeff or Michelle Howard
(508) 882-3030

Silvermine Farm
Salad greens, vegetables
Martha Cole
(508) 865-5335
www.silverminefarm.com

Sweetwater Farm
Mixed vegetables
Benjamin Purdon
(413) 320-1349
benjamin.purdon@gmail.com
www.sweetwaterfarmma.org

Meadowbrook Orchards
Whole apples, peeled and sliced apples
David
(978) 365-7617
david.jr@meadowbrookorchards.com
www.meadowbrookorchards.com

Sweetwilliam Farm
Mixed vegetables, including greens
Caroline Nicholson
(508) 529-2000
caroline@sweetwilliamfarm.com
www.sweetwilliamfarm.biz

Meadowbrook Orchards
Whole apples, peeled and sliced apples
David
(978) 365-7617
david.jr@meadowbrookorchards.com
www.meadowbrookorchards.com

Sweetwilliam Farm
Mixed vegetables, including greens
Caroline Nicholson
(508) 529-2000
caroline@sweetwilliamfarm.com
www.sweetwilliamfarm.biz

Phillipston

Red Apple Farm
Apples
Al Rose
(978) 249-6763
al@redapplefarm.com
www.redapplefarm.com

Silvermine Farm
Salad greens, vegetables
Martha Cole
(508) 865-5335
www.silverminefarm.com

Sterling

Clearview Farm
Tree fruits, berries, mixed vegetables, cut/peeled/cored apples
Rick and Diane Melone
(978) 422-6442
clearviewfarm@comcast.net
www.clearviewfarmstand.com

Oakhill Greenhouses
Whole plants, hanging plants, poinsettias, lilies, for fundraisers
Charlene Leinon
(508) 885-5330

Sweetwilliam Farm
Mixed vegetables, including greens
Caroline Nicholson
(508) 529-2000
caroline@sweetwilliamfarm.com
www.sweetwilliamfarm.biz

Warren

Breezeland Orchards
Apples, pears, peaches, cider, extended season
Mark Tuttle
(413) 436-7100
(413) 436-7122 (fax)

West Brookfield

Honeybee Orchards
Apples, pears
Bill Haseotes
(508) 826-6607
(508) 867-4200 (fax)

Heirloom Harvest CSA
Mixed vegetables
John Mitchell
(508) 963-7792
farmer@heirloomharvest.com
www.heirloomharvestcsa.com

Heirloom Harvest CSA
Mixed vegetables
John Mitchell
(508) 963-7792
farmer@heirloomharvest.com
www.heirloomharvestcsa.com

Ragged Hill Orchards
Apples, extended season
Keith Arsenault
(508) 867-2187
arsenaultk@charter.net
www.raggedhill.com

Waltham

Tree fruits, mixed vegetables
(508) 393-3444
info@davidianbros.com
www.davidianbros.com

Tougas Farm
Apples, peaches
Andre Tougas
(508) 641-7256
andre@tougasfarm.com
www.tougasfarm.com

Oakhill Greenhouses
Wholesale plants, hanging plants, poinsettias, lilies, for fundraisers
Charlene Leinon
(508) 885-5330

Sweetwater Farm
Mixed vegetables
Benjamin Purdon
(413) 320-1349
benjamin.purdon@gmail.com
www.sweetwaterfarmma.org

Red Apple Farm
Apples
Al Rose
(978) 249-6763
al@redapplefarm.com
www.redapplefarm.com

Oakhill Greenhouses
Pesto
Jeff or Michelle Howard
(508) 882-3030

Clearview Farm
Tree fruits, berries, mixed vegetables, cut/peeled/cored apples
Rick and Diane Melone
(978) 422-6442
clearviewfarm@comcast.net
www.clearviewfarmstand.com

Linabella's Garlic Farm
Garlic Farm
Pesto
Jeff or Michelle Howard
(508) 882-3030

Silvermine Farm
Salad greens, vegetables
Martha Cole
(508) 865-5335
www.silverminefarm.com

Sweetwilliam Farm
Mixed vegetables, including greens
Caroline Nicholson
(508) 529-2000
caroline@sweetwilliamfarm.com
www.sweetwilliamfarm.biz

Meadowbrook Orchards
Whole apples, peeled and sliced apples
David
(978) 365-7617
david.jr@meadowbrook orchards.com
www.meadowbrookorchards.com

Sweetwilliam Farm
Mixed vegetables, including greens
Caroline Nicholson
(508) 529-2000
caroline@sweetwilliamfarm.com
www.sweetwilliamfarm.biz

Ragged Hill Orchards
Apples, extended season
Keith Arsenault
(508) 867-2187
arsenaultk@charter.net
www.raggedhill.com

Westborough

Heirloom Harvest CSA
Mixed vegetables
John Mitchell
(508) 963-7792
farmer@heirloomharvest.com
www.heirloomharvestcsa.com

Heirloom Harvest CSA
Mixed vegetables
John Mitchell
(508) 963-7792
farmer@heirloomharvest.com
www.heirloomharvestcsa.com
Massachusetts Farm to School Project
20 Gatehouse Road
Amherst, MA 01002

(413) 253-3844
info@massfarmtoschool.org
www.massfarmtoschool.org
www.farmtoschool.org

Special thanks to the Massachusetts Department of Agricultural Resources, the USDA and the Next Door Fund, as well as Emily French, Aniela Czajkowsk and Elena Colman, for assistance in producing this Directory.

Would you like to participate in the next Massachusetts Harvest for Students Week? Feel free to contact Massachusetts Farm to School Project with any questions or to ask for assistance!