



# The Southeastern Massachusetts Food System Assessment



Prepared by:  
Alexander Communications, BridgetAlexanderWriter.com and Sarah Kelley, Island Foundation  
for the Southeastern Massachusetts Food Security Network  
July 2014

## Acknowledgements

Thanks to the following individuals who have contributed to the research and writing of this report:

Food System Assessment Subcommittee Members:

- Bridget Alexander, former SEMAP Executive Director and former Network Co-Chair
- Nicki Anderson, Brix Bounty Farm
- Derek Christianson, Brix Bounty Farm
- Kristen Irvin, former Network Coordinator and former SEMAP Program Director
- Sarah Kelley, Senior Program Officer, Island Foundation

Former Members:

- Susan Jennings, former Director, UMass Dartmouth Office of Campus and Community Sustainability
- Marisol Pierce-Quinonez, former Network Coordinator

Farmer profiles in Chapter 2b): interviews conducted and profiles written by Nicki Anderson.

Chapter 2c) consists largely of a Community Gardens grant report written by Susan Jennings and Chancery Perks.

Bonita Oehlke, Massachusetts Department of Agricultural Resources, for assistance with export data and slides used in Chapter 2.

Amanda Beal, for guidance on fisheries data sources and for sharing fisheries data from the *New England Food Vision* used in Chapter 2.

Bill Napolitano and Steve Smith, Southeastern Regional Planning and Economic Development District (SRPEDD), for ongoing work on the community gardens project.

Thanks to the following Network members for review of the draft document:

Jennifer Dubois, Trustees of Reservations  
Derek Heim, Dartmouth YMCA (Network Chair)  
Kimberly Ferreira, Mass in Motion New Bedford  
Lorraine Khazan, PACE  
Denise Porché, Island Foundation  
John Vasconcellos, Trustees of Reservations

The Southeastern Massachusetts Food Security Network and this Food System Assessment were funded by the Island Foundation, the Upstream Foundation, and the Rainy Day Fund.

## Table of Contents

<b>Acknowledgements .....</b>	<b>2</b>
<b>CHAPTER 1: Introduction.....</b>	<b>4</b>
a) Background.....	4
b) Goals .....	5
c) Food System Assessment Components, Methodology, and Geography.....	6
d) Connections to State and New England Food Planning Work.....	7
<b>CHAPTER 2: Food Production in Southeastern Massachusetts .....</b>	<b>8</b>
a) Regional Commercial Agriculture .....	8
b) Local Farmer Profiles.....	33
c) Urban Agriculture & Community Gardening .....	35
d) Gaps, Barriers, and Needs .....	39
<b>CHAPTER 3: Food Processing &amp; Distribution .....</b>	<b>42</b>
a) Processing and Distribution Businesses.....	42
b) On-farm and Off-farm Processing Capacity.....	47
c) Local Meat Processing.....	48
d) Gaps, Barriers, and Needs .....	49
<b>CHAPTER 4: Food Access and Consumption .....</b>	<b>51</b>
a) Regional Demographics .....	51
b) Food Insecurity.....	57
c) Food Access.....	60
d) Food Retail .....	66
e) Emergency Food Access.....	77
f) Gaps, Barriers, and Needs .....	82
<b>CHAPTER 5: Food Waste Reduction, Recovery, and Recycling.....</b>	<b>84</b>
a) Reducing Food Waste.....	84
b) Food Recovery.....	85
c) Food Waste Recycling.....	88
d) Gaps, Barriers, and Needs .....	91
<b>CHAPTER 6: Regulations &amp; Policy .....</b>	<b>93</b>
a) Local, State, and National Food Policy Entities .....	93
b) Land Conservation Policy .....	97
c) Federal Programs that can be Leveraged on the Local Level.....	99
d) Food Safety Policy and Local Board of Health Regulations .....	100
e) Institutional Procurement Policy .....	101
f) Waste Policy .....	102
g) Other Resources .....	102
h) Gaps, Barriers, and Needs .....	103
<b>CHAPTER 7: Gaps, Barriers, and Needs: Summary.....</b>	<b>105</b>
<b>APPENDICES .....</b>	<b>113</b>

## CHAPTER 1: Introduction

### a) Background

The Southeastern Massachusetts Food Security Network (the Network) is a coalition of food pantries, farms, foundations, and social service agencies working together to promote food security in Southeastern Massachusetts. The Network was formed in 2011 to address food security issues in our region, including emergency food access and distribution, nutrition education, and local sustainable agriculture. The Network provides a space for participants to collaborate, share, and match goals and expertise. We help build on each other's strengths to effectively support a diverse and healthy local food system.

Our Network is made up by the following partners:

[Brix Bounty Farm](#)  
[Catholic Social Services](#)  
[City of New Bedford](#)  
[Community Foundation of Southeastern Massachusetts](#)  
[Coastline Elderly](#)  
[Damien's Place Food Pantry](#)  
[Dartmouth YMCA/Sharing the Harvest Community Farm](#)  
[Henry P. Kendall Foundation](#)  
[Hunger Commission of Southeastern Massachusetts, a program of the United Way of Greater New Bedford](#)  
[Immigrants' Assistance Center](#)  
[Island Foundation](#)  
[Mass in Motion New Bedford](#)  
[The Marion Institute](#)  
[Mercy Meals and More](#)  
[People Acting in Community Endeavors \(PACE\)](#)  
[Positive Action Against Chemical Addiction \(PAACA\)](#)  
[Salvation Army](#)  
[Shepherd's Pantry](#)  
[Southeastern Massachusetts Agricultural Partnership \(SEMAP\)](#)  
[The Trustees of Reservations](#)  
[UMass Dartmouth Sustainability Initiative \(former member\)](#)  
[The Upstream Foundation](#)

The Food System Assessment (FSA) subcommittee of the Network has been focused on gathering data and analysis to create this report: The Southeastern Massachusetts Food System

Assessment. The Network and the FSA subcommittee operate on a voluntary basis. The committee's members worked to plan and outline the report, complete data gathering, and develop a summary infographic, created by medium studio of New Bedford, which was originally disseminated at Massachusetts Agriculture Day at the State House on March 26, 2014.

To expedite the process, Bridget Alexander, former executive director of the Southeastern Massachusetts Agriculture Partnership (SEMAP) and former Co-Chair of the Network, was hired to continue data gathering and analysis and write the first draft of the report. Subcommittee and Network members have contributed additional writing and review.

## **b) Goals**

The FSA subcommittee and the Network as a whole have been guided since the Network's inception by the concept of community food security.

Hamm and Bellows define community food security as "a situation in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance and social justice."<sup>1</sup>

More simply, the Rhode Island Food Assessment defines community food security as "the nexus of viable local farms and food businesses and equitable access to healthy and affordable foods."<sup>2</sup>

Drawing on a compiled list of goals developed by Food System Assessments across the country,<sup>3</sup> the FSA Subcommittee identified the following broad goals for a sustainable and just food system for Southeastern Massachusetts:

### **Environmental**

- Preserve farmland and prevent loss of acreage.
- Reduce waste and increase composting.
- Improve resilience of our food system and reduce reliance on petroleum and emissions from transportation.

### **Social**

- Improve household food security while reducing reliance on emergency food.
- Increase farm to institution sales.

---

<sup>1</sup> M. Hamm and A. Bellows, "Community food security and nutrition educators," *Journal of Nutrition Education and Behavior* 35 (1) (2003): 37–43.

<sup>2</sup> Karp Resources, "Rhode Island Food Assessment" (Rhode Island Food Policy Council, 2011), 38. <http://www.rifoodcouncil.org/node/22>.

<sup>3</sup> Marisol Pierce-Quinonez, "Are We Planning for Sustainable Food Systems? An Evaluation of the Goals and Vision of Food System Assessments and their Usefulness to Planning," (M.A. Thesis, Tufts University, 2012), <http://gradworks.umi.com/15/12/1512967.html>.

- Increase urban agricultural production.
- Increase awareness of and access to nutrition education.

## **Economic**

- Increase direct sales of local food in ways that benefit local farmers and ensure broad access.
- Support diversification in size and scale of farms, including supporting and expanding wholesale production.
- Increase capacity for local value-added food processing.
- Support job creation and fair wages throughout the food system.

To begin working towards these broader goals, the goals for this report are:

1. Provide the community with key baseline data on, and initial evaluation of, each element of the food system in Southeastern Massachusetts.
2. Assess the potential for increasing both the production and consumption of local foods by residents of the region.
3. Provide initial identification of gaps, barriers, and needs.

## **c) Food System Assessment Components, Methodology, and Geography**

This Food System Assessment is organized in six chapters, based on a commonly used model for the components of a food system (see Figure one). It also draws especially on the models of the Rhode Island Food Assessment, conducted through the Rhode Island Food Policy Council, and Oakland Food System Assessment. The Assessment is organized in the following chapters:

- Food Production
- Food Processing and Distribution
- Food Access and Consumption
- Food Waste Reduction, Recovery, and Recycling
- Policies and Regulations
- Gaps, Barriers, and Needs

This Assessment is based on existing data, reports, articles, and a survey of farmers and consumers conducted by Southeastern Massachusetts Agricultural Partnership (SEMAP). Much of the data comes from the 2007 and 2012 USDA Census of Agriculture (the most recent years available), the 2010 U.S. Census and subsequent American Community Survey years, and the USDA's Food Environment Atlas (data from varying years up to 2013). The USDA Census of Agriculture is a five-year snapshot of farming and its accuracy is impacted by an estimated 80%

return by farmers, by weather variability across the nation and by economic cycles.<sup>4</sup> Nonetheless, it is the most comprehensive resource available for agricultural production data on a county level.

This report is intended to be an initial broad assessment of available data, so at this stage the subcommittee did not conduct interviews with food system stakeholders. Such interviews would allow for a more nuanced view of food system gaps, barriers, and needs to inform the Network's future work.

The Assessment covers Bristol, Norfolk, and Plymouth Counties, with some special focus on the cities of New Bedford and Fall River. The choice of this geographic range, Bristol, Norfolk and Plymouth Counties, was based on the goal of examining the possibility for increased production of local food—we wanted to explore the agricultural production potential of a wider Southeastern Massachusetts region. Using county-level data also allows for the most direct comparison between food production and food access data.

#### **d) Connections to State and New England Food Planning Work**

In addition to providing baseline data for groups working in the region, this Southeastern Massachusetts Food System Assessment is envisioned as a tool to help inform and connect Southeastern Massachusetts to current statewide and New England regional food system planning work. During the first week of March 2014, The Massachusetts Food Policy Council, through the Massachusetts Department of Agricultural Resources (MDAR), contracted with the Metropolitan Area Planning Council (MAPC) to facilitate the development of a strategic plan for the state's food system. The intersection of production agriculture with processing, distribution, food security, food access and public health will be components of the plan.<sup>5</sup>

In addition, the Massachusetts state planning effort and similar food system planning efforts underway in each of the six New England states are connected through an effort known as Food Solutions New England (FSNE). Based at the University of New Hampshire, this New England regional collaborative effort recently published a document called "A New England Food Vision."<sup>6</sup> This inspiring report lays out a vision of a future in which New England produces 50% of its own food by the year 2060. It also provides a broader context for and reinforcement of the Network's goal of working together to increase food security, a concept that involves much more than just food production.

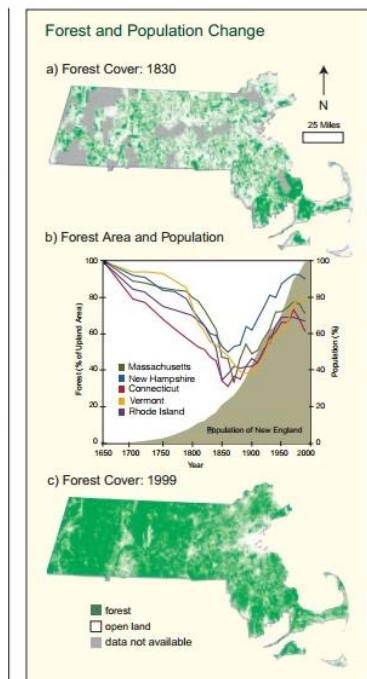
---

<sup>4</sup> Southern Maryland Agricultural Development Commission, "Which States Are Doing Well in the Local Food Movement?" <http://smadc.com/blog/which-states-are-doing-well-in-the-local-food-movement/>.

<sup>5</sup> Executive Office of Energy and Environmental Affairs, Massachusetts Food Policy Council, <http://www.mass.gov/eea/agencies/agr/boards-commissions/food-policy-council.html>.

<sup>6</sup> Brian Donahue et al., "A New England Food Vision: Healthy Food For All, Sustainable Farming & Fishing, Thriving Communities" (Food Solutions New England, 2014). <http://www.foodsolutionsne.org/new-england-food-vision>.

## CHAPTER 2: Food Production in Southeastern Massachusetts



7

### a) Regional Commercial Agriculture

This section of the Assessment will cover land use, top crops by market share, and farmer demographics.<sup>8</sup>

In the Southeastern Massachusetts counties of Bristol, Norfolk, and Plymouth, the USDA Census of Agriculture reports the total number farms decreasing from 1,923 in 2007 to 1,787 in 2012 (a loss of 136 farms, or 7.6%) and total land in farms increasing from 100,518 to 108,349 acres over the same time period (a gain of 7,831 acres, or 7.8%). See the tables below and throughout this chapter for data broken out by county.

In Massachusetts overall, the total number of farms increased to 7,755 in 2012 (a gain of 64 farms or 0.8% from 2007), while land in farms increased by 1% to 523,517 acres. The three Southeastern Massachusetts counties overall thus outpaced the state in the increase in land in farms, though the number of farms decreased—a combination that suggests some level of farm consolidation in the region.

<sup>7</sup> David Foster et al., *Wildlands and Woodlands: A Vision for the Forests of Massachusetts* (Harvard Forest/Harvard University, 2005), 3.

<http://www.wildlandsandwoodlands.org/sites/default/files/Wildlands%20%26%20Woodlands%20Massachusetts.pdf>.

<sup>8</sup> All data in Chapter 2a) based on the 2007 and 2012 USDA Census of Agriculture, <http://www.agcensus.usda.gov/>.

Nationally, the number of farms decreased from 2,202,792 in 2007 to 2,109,303 in 2012 (a loss of 93,489 farms or 4.2%) and land in farms decreased from 922,095,840 acres in 2007 to 914,527,657 acres in 2012 (a loss of 7,568,183 acres or 0.8%). (See Appendix 1 for national summary).

### **i) Land in Farms**

The U.S. Census of Agriculture divides “land in farms” into several categories and subcategories, depending on its primary use:

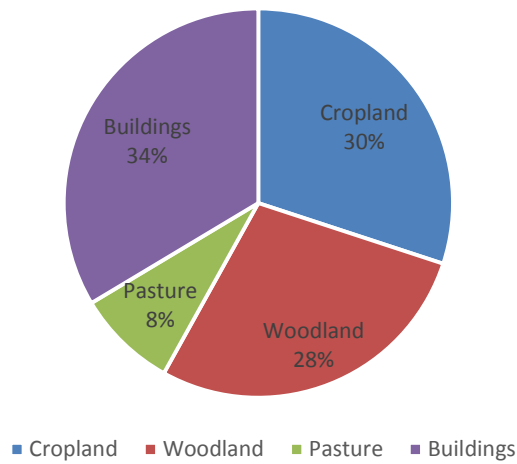
- Cropland
  - Harvested
  - Cropland used for pasture or grazing
  - Cropland idle or used for cover crops or soil improvement
- Woodland
- Permanent pasture and rangeland
- Land in buildings, facilities, ponds, roads, etc.

These categories are worth exploring in more detail, as they give a sense of the potential for increasing food production in the region in the future, one of this report’s main goals.

According to the 2007 Census of Agriculture, there were 100,518 acres of land in farms in our three-county region: 36.6% in cropland, 32.5% in woodland, about 7% used exclusively for pasture or rangeland, and 23.5% in buildings, ponds, roads, or wasteland. In 2007 0.6% of the land in farms was in organic production (both harvested and pastured).

As of the recently-released 2012 Census of Agriculture, our tri-county region increased land in farms to 108,349 acres. Cropland dropped to 30% (a loss of 6.6%), woodland dropped to 28% (a loss of 4.5%), permanent pasture or rangeland increased to 8.4% (a gain of 1.1%), and the buildings, etc., category increased to 33.6% (a gain of 10.1%). Data for organic acreage was not available in 2012.

Land In Farms,  
3 Southeastern Massachusetts Counties, 2012



### *Cropland*

Within the category of cropland, the Census of Agriculture further divides land into Harvested Cropland; Cropland used only for Pasture or Grazing; and Other Cropland (including “Cropland Idle or used for cover crops or soil improvement, but not harvested and not pastured or grazed”). This section will also discuss organic cropland data.

- **Harvested**

As of the 2007 Census of Agriculture, of the region’s 36,830 acres of cropland, 30,809 acres (or 84%) was harvested. By the 2012 Census of Agriculture, the percentage of cropland being harvested increased to 87%; however, the overall acreage of farms in cropland decreased by 6.6%. Therefore, there was actually a net loss of 2,417 acres of harvested cropland.

- **Cropland Used for Pasture or Grazing**

Cropland used for pasture or grazing totaled 2,574 acres or 7% of total cropland in 2007. In 2012 that number dropped to 1,259 acres and 3.9% of total cropland. It should be noted that in the 2012 Census of Agriculture this category was expanded to include: “...other pasture or grazing land that could have been used for crops without additional improvements.” This acreage can be combined with permanent pasture acreage to roughly assess the amount of land used for livestock.

- **Cropland Idle or used for cover crops or soil improvement**

The number of acres of cropland categorized as idle or used for cover crops or soil improvement, but not harvested and not pastured or grazed, increased from 1,944 acres in 2007 to 2,129 acres in 2012, or 6.5% of total cropland. The Southeastern Massachusetts Agricultural Partnership (SEMAP)’s 2012 Survey of Farmers & Eaters provides anecdotal evidence for the prevalence of this land category, with 32 of 58 farmers self-reporting that they do not farm all of their available farmland.

On many farms cover crops and short- and long-term fallowing of land are important strategies for building soil fertility, so some of this land may be in active management. However, other farms anecdotally report that they are leaving land idle due to lack of a sufficiently profitable marketing option. Thus, some land in this category that is truly “idle” may represent the best opportunity to increase agricultural production in the region in the short term. It would be helpful to obtain a clearer picture of the reasons growers are leaving land idle and how much idle land in the region could be returned to active food production.

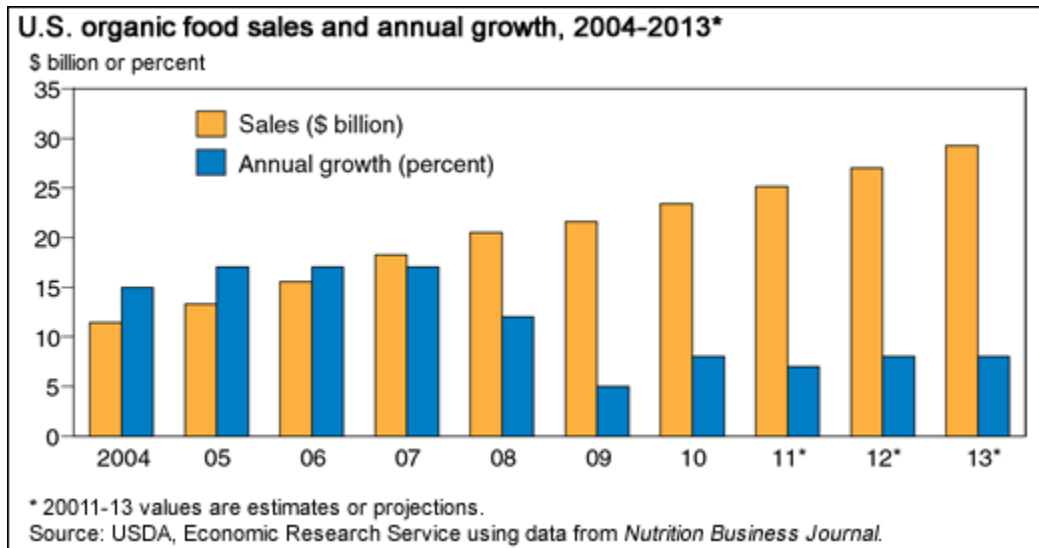
- **Organic Cropland**

USDA Certified Organic cropland harvested totaled 243 acres for the three counties in 2007, or 0.6% of total 2007 cropland, with 142 of these acres in Bristol County. In 2012, the U.S. Census of Agriculture changed its survey methodology to include categories for USDA National Organic Program production exempt from certification, a category that applies to farms grossing less than \$5,000, as well as a category for acreage in transition to USDA Organic production. However, the Census of Agriculture no longer recorded acres in organic cropland in 2012, preventing a direct comparison.

2012 data show that a total of 18 farms in Bristol County, 2 in Norfolk, and 8 in Plymouth are producing USDA Certified Organic products (not necessarily on all of their acreage), with another 32 farms exempt or in transition. It is notable that in 2012, Bristol County alone generated \$1,652,000 in sales of certified or exempt organic products, up from a three-county total of \$348,000 in sales of organic products in 2007. (2012 sales data are not available for the other two counties).

Anecdotally, our region has continued to see growth in the number of farmers following organic growing practices, but not certifying these practices. Direct market sales channels may allow growers to convey their growing practices to their customers without the financial costs of USDA Organic certification. Overall, organic production has experienced a significant growth in the region over the past years and we look forward to data from the 2017 Census of Agriculture to better determine the existence of long-term trends.

The chart below shows the continually rising sales of organic food sales in the U.S. since 2004. Though the rate of growth in this category has slowed, it is still well above 5% a year. Increased production and sales of organic products would thus seem to represent a significant opportunity for Southeastern Massachusetts farmers.



### Woodland

Across the three counties, woodland is about equal in acreage to cropland, at 32,706 acres in 2007 (32.5% of total land in farms) and 30,361 acres in 2012 (28% of total land in farms). From 2007 to 2012, woodland decreased by 4.5%, with a net loss of 2,345 acres. Some woodland is used as pasture. In our region this portion went from 3,047 acres in 2007 to 1,527 acres in 2012, a loss of 50%. This loss could represent more cleared land, fewer grazed animals, or more intensive use of cleared pastureland in one of the other land categories.

Overall, woodlands are important to consider when assessing the possibilities for increasing agricultural production in the region. According to the scenario laid out in “A New England Food Vision” for increasing regional food production by 2060, additional farmland could “consist largely of pastures and fields that have been abandoned since World War II and are now covered by young forests . . . a small reduction in the region’s expansive forest can be converted to a large expansion of its most suitable farmland.”<sup>9</sup>

### Pasture

Still other land in farms is designated “Pasture or Rangeland,” exclusively, meaning that it is never used for crops and it is not woodland. This pasture land totaled 7,385 acres in 2007 and 9,044 acres in 2012, increasing from 7.3% to 8.4% of land in farms. According to the 2007 Census of Agriculture, Certified Organic pasture land totaled 244 acres, with 217 of these in Bristol County. (Comparable 2012 data are not available).

### Buildings, etc.

Land in farmsteads, buildings, livestock facilities, ponds, roads, wasteland, etc., increased from 23,597 acres in 2007 to 36,392 acres in 2012. Norfolk County’s acreage in buildings dropped by nearly 25%, while Bristol increased slightly and Plymouth increased by nearly 100%. Given the prevalence of the cranberry industry that county, as will be discussed below, this sharp increase most likely represents additional cranberry infrastructure. It would be helpful to

<sup>9</sup> Donahue et al., “A New England Food Vision,” 16.

understand the economic factors or incentives driving the increase in infrastructure in Plymouth County, and whether these factors have relevance for the agricultural industry across the region. Overall, although land in buildings is not producing crops, this category includes important farm infrastructure that may often allow for production capacity to grow, such as equipment bays, processing or packing sheds, permanent greenhouses, and the like.

The table below summarizes land use change in the region over between the last two Censuses of Agriculture.

<b>Southeastern Massachusetts Farm Land Use Change Summary, 2007-2012</b>					
	<b>Bristol</b>	<b>Norfolk</b>	<b>Plymouth</b>	<b>Total</b>	<b>%</b>
NUMBER OF FARMS '12/'07	717/ 777	245/ 264	825/ 882	1,787/ 1,923	NA
LAND IN FARMS '12/'07	34,869/ 39,252	9,448/ 11,654	64,032/ 49,612	108,349/ 100,518	NA
Total cropland '12/'07	11,879/ 15,236	3,405/ 3,292	17,268/ 18,302	32,552/ 36,830	30%/ 36.6%
Harvested Cropland '12/'07	10,040/ 12,412	2,765/ 2,569	15,587/ 15,909	28,392/ 30,809	26%/ 30%
Cropland used only for pasture or grazing '12/'07	470/ 1,370	241/(D) <sup>10</sup>	548/ 1,204	1,259/ 2,574	3.9%/ 7%
Cropland idle or used for cover crops or soil improvement, but not harvested and not pastured or grazed: '12/'07	1,062/ 993	322/ 188	745/ 763	2,129/ 1,944	6.5%/ 5.3%
Total Woodland: '12/'07	13,187/ 14,468	2,791/ 5,127	14,383/ 13,111	30,361/ 32,706	28%/ 32.5%
Woodland Pastured: '12/'07	821/ 2,082	158/ (D)	548/ 965	1,527/ 3,047	
Permanent pasture and rangeland, other than cropland and woodland pastured: '12/'07	3,965/ 4,044	1,750/ 1,137	3,329/ 2,204	9,044/ 7,385	8.4%/ 7.3%
Land in farmsteads, buildings, livestock facilities, ponds, roads, wasteland, etc.: '12/'07	5,838/ 5,504	1,502/ 2,098	29,052/ 15,995	36,392/ 23,597	33.6%/ 23.5%
Land Used for Organic Production: '07 (2012 data not available in same format).	27 Farms 380 Acres	10 Farms 116 Acres	20 Farms 95 Acres	57 Farms 591 Acres	
Acres Harvested	142	22	79	243	
Pastureland	218	26	(D)	244	
Acres Being Converted	217	20	33	270	
Sales	\$320,000	\$10,000	\$18,000	\$348,000	

In summary, between 2007 and 2012 the three-county region saw an increase in land in farms but decreased acreage in cropland and woodland, with a significant increase in land in

10 (D) = Withheld to avoid disclosing data for individual farms, per Ag Census.

buildings, almost entirely in Plymouth County. In addition, from 2007 to 2012 there was a 1.2% increase in idle or cover cropped land to over 2,000 acres. Some of this idle land may represent a good opportunity to increase agricultural production in the region in the short term. Longer term, there is significant potential farmland that is currently in woodlands, due to reforestation over the last 200 years.

## **ii) Agricultural Land Conservation**

In order to support increased agricultural production for the region, it is critical to keep existing farmland in production through agricultural land conservation.

### *Nationally*

According to American Farmland Trust's National Resources Inventory (NRI), "the most recent NRI, covering the 25-year period between 1982 and 2007, reveals that more than 23 million acres of America's agricultural land have been lost to development—an area the size of Indiana. According to the NRI, not a single state in the continental United States was left untouched. In fact, the most fertile land was developed at a disproportionately high rate. Thirty-eight percent of the agricultural land developed nationwide was prime, the land that is best suited to produce food and other agricultural crops."<sup>11</sup>

### *Statewide*

Massachusetts is in the lowest bracket of loss by acreage (the 10,000 to 100,000 acres converted category), according to American Farmland Trust's NRI. However, based on the low number of agricultural acres Massachusetts started out with, even the low number of acres lost landed Massachusetts in the number three spot for states that developed the largest percentage of agricultural land, at 18.1%. The NRI reports a "bright spot" amongst the development, with Massachusetts preserving 0.7 acres for every acre that is developed.

Massachusetts conserves farmland primarily through the Agricultural Preservation Restriction (APR) program, which began in 1977. Administered by the Massachusetts Department of Agricultural Resources, the APR program is the "cornerstone" of the State's farmland protection efforts. This voluntary program "is intended to offer a non-development alternative to farmland owners of 'prime' and 'state important' agricultural land who are faced with a decision regarding future use and disposition of their farms. Towards this end, the program offers to pay farmland owners the difference between the 'fair market value' and the 'agricultural value' of their farms in exchange for a permanent deed restriction which precludes any use of the property that will have a negative impact on its agricultural viability."<sup>12</sup> As of 2013, 832 APR restrictions have been acquired, protecting 69,035 acres statewide. (See Appendix 2.)

Massachusetts also has two state tax categories for agricultural land that can help track the existence of unprotected agricultural land. Known as 61A and 61B, these categories reduce property taxes on land that is either agricultural or forested land by taxing them based on their

---

<sup>11</sup> American Farmland Trust, "Farmland by The Numbers: National Resource Inventory."

<http://farmland.org/programs/protection/American-Farmland-Trust-Farmland-Protection-Farmland-by-the-numbers.asp>.

<sup>12</sup> Massachusetts Department of Agricultural Resources, "Agricultural Preservation Restriction Program (APR)."

<http://www.mass.gov/eea/agencies/agr/land-use/agricultural-preservation-restriction-program-apr.html>.

current use value rather than on their development value. However, these tax categories do not constitute permanent protection of the land from development.

### *Three-county region*

In the three-county Southeastern Massachusetts region, there are 6,299 acres under APR: 4,666 in Bristol County, 356 in Norfolk County, and 1277 in Plymouth County.<sup>13</sup> For a complete list of APR parcels in the three Southeastern Massachusetts counties, see Appendix 3.

Despite these conserved acres, as shown in the figure below, Southeastern Massachusetts has a number of “hot spots,” where there are high percentages of prime agricultural soils still unprotected. A broad network of statewide, regional, and town-level land trusts is actively working to conserve land in Southeastern Massachusetts, and many are increasingly focusing their efforts on farm parcels in need of conservation. These efforts are critical to the local food system and the potential for increasing food production and food security in the region.

## Hot-spots for farmland preservation in Massachusetts

Unprotected farmland on prime farmland soils  
version 3 (10/07/09)

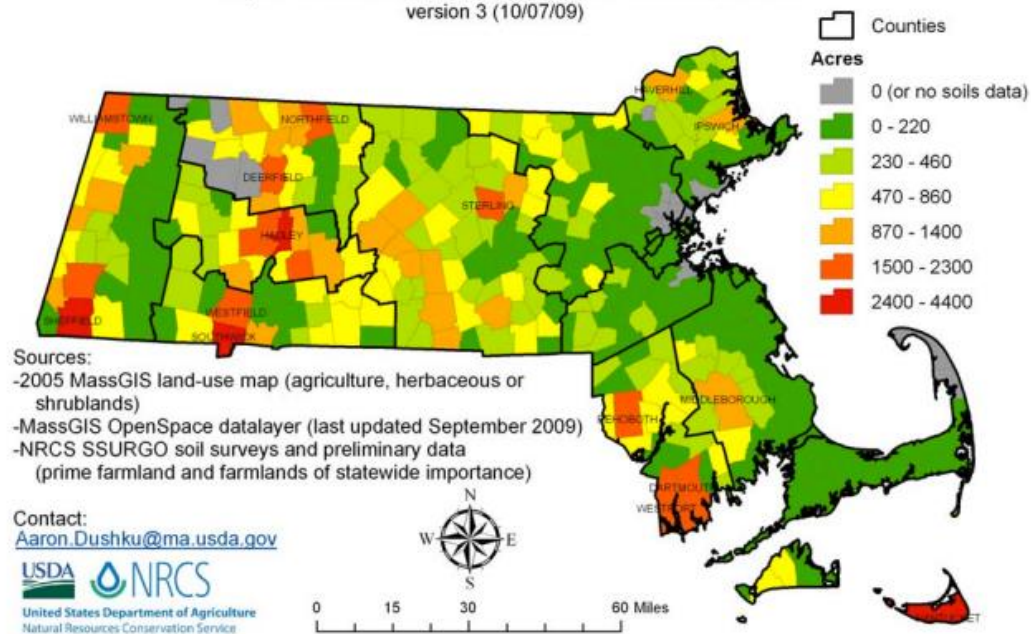


Figure 1. The hotspot map for agricultural preservation in Massachusetts towns. Towns with highest total areas of candidate lands are labeled.

14

<sup>13</sup> Based on records maintained by Mass Dept. of Agriculture through the Agriculture Preservation Restriction Program through February 2014. See Appendix 3 for a complete list of parcels.

<sup>14</sup> Aaron Dushku, “Candidate identification modeling for Massachusetts farmlands preservation” (USDA/NRCS, July 2009—Draft Version). [http://www.farmland.org/documents/NRCS\\_Hot-Spot\\_Analysis\\_V3.pdf](http://www.farmland.org/documents/NRCS_Hot-Spot_Analysis_V3.pdf).

### iii) Market Value of Agricultural Production:

#### *Market Value: Summary*

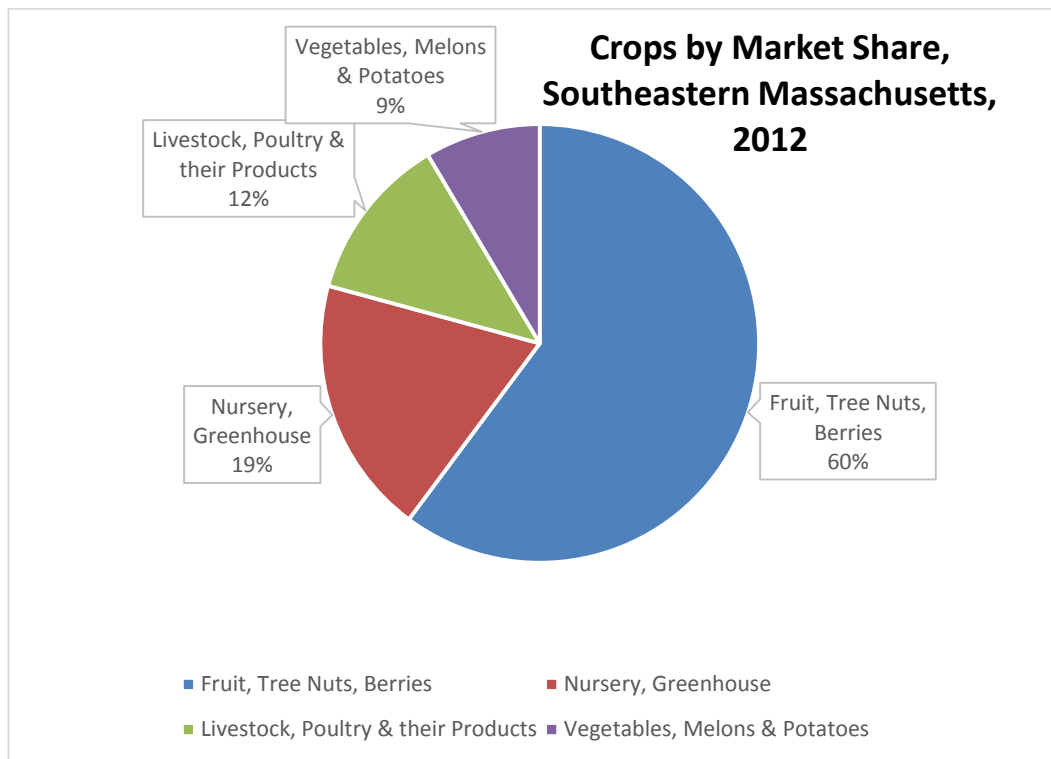
Overall, the market value of the region's agricultural products increased from a total of \$136,000,000 in 2007 to \$157,222,000 in 2012. The Berries, Livestock, and Vegetable categories increased, with the Nursery category decreasing.

The highest market values for the region are in the Fruit, Tree Nuts and Berries category, which brought in \$67,060,000 in 2007 and increased to \$92,687,000 in 2012, almost entirely generated by the cranberry industry.

Second highest in market value is the Nursery, Greenhouse, Floriculture, and Sod category, valued at \$40,227,000 in 2007 and decreasing to \$30,526,000 in 2012.

Third in market value for the region is the Livestock, Poultry and their Products category, valued at \$14,031,000 in 2007 and increasing to \$19,176,000 in 2012.

Fourth in market value for the region is Vegetables, Potatoes, and Melons Harvested for Sale, valued at \$8,494,000 in 2007 (with no data reported for Norfolk County) and increasing to \$13,312,000 in 2012.



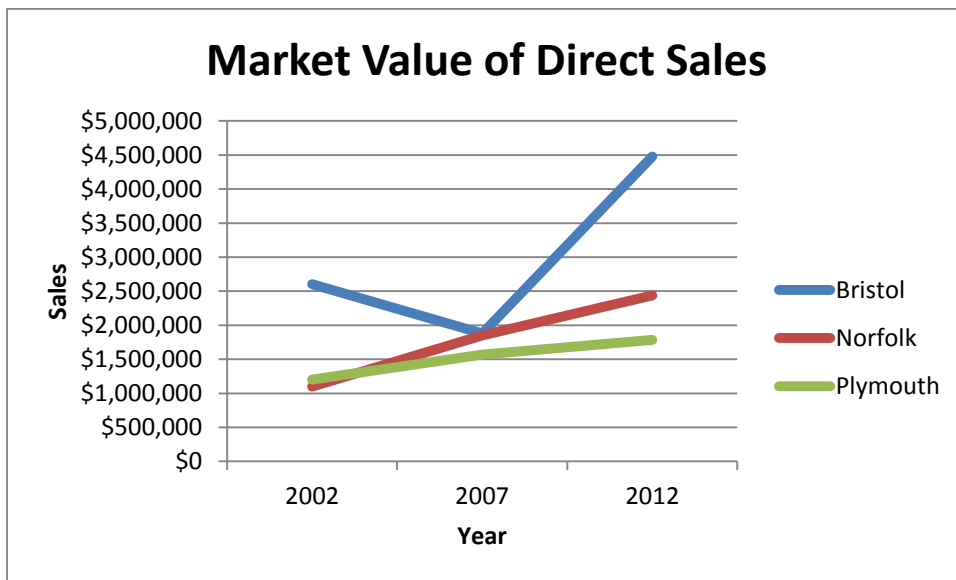
#### *Direct Sales to Consumers*

In 2007, the USDA Census of Agriculture added a new category in the Market Value section for "Value of agricultural products sold directly to individuals for human consumption." A direct sale occurs when a consumer buys farm products at a farmers' market, farm stand or Community

Supported Agriculture (CSA) farm, instead of through a retailer, like a grocery store, or by eating local food at a restaurant. This new category is very important for this and other local Food System Assessments, as it allows a clearer picture of sales of local farm products to local consumers.

The chart below shows the changes in direct market sales in the region from 2002-2012. In 2007, direct sales to consumers totaled \$5,299,000, or just under 4% of total market value for the three counties, up from \$4,906,000 in 2002. Direct sales increased by 64% to \$8,705,000 for the three counties in 2012, or 5.5% of total market value, with Bristol County's sales more than doubling—in fact Bristol County ranked 32<sup>nd</sup> out of all U.S. Counties for total direct market sales in 2012.<sup>15</sup> Though the reason for the sharp drop in direct sales in Bristol County between 2002 and 2007 is unclear, overall the region's direct market sales have continued to increase steadily over the last decade.

Anecdotally, however, some growers report that they are seeing a “stagnating” of direct market sales (see Heart Beets Farm profile at the end of this chapter). More detailed information on whether this is true for the region overall and which market channels may be most affected would be very useful. Looking ahead to Chapter 4's emphasis on food access, it seems important to ask whether such a “stagnation” could be countered by increased efforts to make sure that more of the region's citizens can access local food easily and affordably at direct market outlets like farmers' markets and farm stands.



It does make a difference whether local food is sold directly and locally. “Every dollar spent at a locally owned business [such as a farm] creates more than three times as much local economic

<sup>15</sup> USDA/National Agriculture Statistics Service, “2012 Census of Agriculture: Massachusetts Highlights.”  
“<http://www.mass.gov/eea/docs/agr/news/census-ma-highlights.pdf>.”

activity as a dollar spent at a national chain,” according to a 2003 Maine study.<sup>16</sup> This study found that the local businesses recycle about 45% of their revenue back into the local economy and spend another nine percent elsewhere in the state. In contrast, big-box stores or chains, like grocery stores, recycle only 14% back into the local economy. This data is supported by a comparable study conducted in Austin, TX.<sup>17</sup>

For those seeking to find individual farms in the region or specific farm products, the SEMAP/FarmFresh.org searchable online farm guide at [www.farmfresh.org](http://www.farmfresh.org) provides an extensive source of information.

### *Fruit, Tree Nuts and Berries*

The vast majority of sales in this category are generated by the cranberry industry in Plymouth County, with 304 farms, 11,566 acres in production, and approximately \$85 million in market value in 2012.<sup>18</sup> That means that Plymouth County’s cranberries make up approximately 54% of our three-county region’s total 2012 agricultural market value.

The number of farms growing cranberries in Plymouth County dropped from 357 to 304 farms from 2007 to 2012, but the market value of this crop rose from approximately \$60 million to approximately \$85 million, reflecting rising prices per barrel paid to growers.<sup>19</sup> Looking ahead, there is some concern that cranberry prices will fall due to abundant harvests, as will be discussed further below.

Drilling down into the Berry subcategory, Tamed Blueberries come in second in terms of acreage, followed by Strawberries and Raspberries. Apples, peaches, and pears are the region’s top tree fruit crops.

### *Orchards*

Land in orchards (tallied separately from the fruit production data below) went from 89 farms on 463 acres in 2007 to 78 farms on 528 acres in 2012. A potential explanation is a consolidation of farms, with fewer farms on more land. This slight increase in acreage is encouraging from a food security standpoint, since orchards can potentially remain productive for many years.

---

<sup>16</sup> Stacy Mitchell, “The Economic Impact of Locally Owned Businesses vs. Chains: A Case Study in Midcoast Maine” (Institute for Local Self-Reliance, 2003). <http://www.ilsr.org/economic-impact-locally-owned-businesses-vs-chains-case-study-midcoast-maine/>.

<sup>17</sup> TXP, Inc., “The Economic Impact of Austin’s Food Sector” (Spring 2013). [http://www.austintexas.gov/sites/default/files/files/Redevelopment/Economic\\_Development/TXP\\_Austin\\_Food\\_Sector\\_Report\\_03282013\\_FINALv1.pdf](http://www.austintexas.gov/sites/default/files/files/Redevelopment/Economic_Development/TXP_Austin_Food_Sector_Report_03282013_FINALv1.pdf).

<sup>18</sup> Cranberry market value approximation methodology: According to the 2012 U.S. Census of Agriculture, the market value of the Berry category in Plymouth Co. alone was \$85,991,000. In the county, 99% of Berry acreage is devoted to cranberries. There are 56 farms growing berry crops other than cranberries, so even though these are grown on only 1% of acreage, it was assumed they would generate at least some market value. Hence the approximation of \$85 million for cranberry market value out of the total figure of \$85,991,000.

<sup>19</sup> Grower prices for cranberries averaged \$47.90 per barrel in 2012, up from \$44.80 per barrel in 2011. The average grower price for fresh cranberries was \$78.30 per barrel in 2012 and for processed cranberries was \$46.90 per barrel. NASS, “Massachusetts Cranberries” (February 8 2013). [http://www.nass.usda.gov/Statistics\\_by\\_State/New\\_England\\_includes/Publications/jancran.pdf](http://www.nass.usda.gov/Statistics_by_State/New_England_includes/Publications/jancran.pdf).

Top Fruit and Berry Crops by Number of Farms and Acres							
	Bristol		Norfolk		Plymouth		Total - 2012
	2007	2012	2007	2012	2007	2012	
<b>Berries – Total Farms Acres</b>	93 Farms 930 Acres	94 Farms 1,059 Acres	16 Farms (D) Acres	17 Farms 168 Acres	388 Farms 11,241 Acres	360 Farms 11,639 Acres	471 Farms 12,866 Acres
<b>Cranberries</b>	51 Farms 864 Acres	43 Farms 997 Acres	3 Farms (D)	4 Farms 134 Acres	357 Farms 11,172 Acres	304 Farms 11,566 Acres (=99% of Plymouth Co. Berry acreage in 2012)	351 Farms 12,697 Acres (98.7% of total Berry acreage)
<b>Tamed Blueberries</b>	36 Farms 45 Acres	33 Farms 25 Acres	8 Farms (D)	11 Farms 20 Acres	21 Farms 32 Acres	31 Farms 40 Acres	75 Farms 85 Acres
<b>Strawberries</b>	13 Farms 12 Acres	20 Farms 22 Acres	7 Farms 11 Acres	4 Farms 7 Acres	18 Farms 17 Acres	28 Farms 19 Acres	52 Farms 48 Acres
<b>Raspberries</b>	12 Farms 4 Acres	16 Farms 8 Acres	5 Farms (D)	3 Farms 2 Acres	11 Farms 4 Acres	28 Farms 19 Acres	47 Farms 29 Acres
<b>Other Fruits</b>							
<b>All Noncitrus Fruits</b>		38 Farms (D) Acres		9 Farms 96 Acres		23 Farms <sup>20</sup> (D) Acres	70 Farms (D) Acres
<b>Apples</b>	37 Farms 119 Acres	21 Farms 87 Acres	13 Farms 100 Acres	8 Farms (D)	24 Farms 45 Acres	23 Farms (D)	52 Farms (D) Acres
<b>Peaches</b>	18 Farms 28 Acres	17 Farms 29 Acres	11 Farms 17 Acres	5 Farms 18 Acres	12 Farms 9 Acres	13 Farms 6 Acres	35 Farms 53 Acres
<b>Pears</b>	15 Farms 14 Acres	13 Farms 18 Acres	2 Farms (D)	2 Farms (D)	4 Farms 1 Acre	11 Farms 5 Acres	26 Farms (D) Acres
<b>Plums &amp; Prunes</b>	10 Farms 4 Acres	5 Farms 5 Acres	3 Farms (Z)	2 Farms (D)	3 Farms 2 Acres	7 Farms 1 Acre	14 Farms (D) Acres

<sup>20</sup> Change in USDA Ag Census methodology from 2007 to 2012 means Fruits, Nuts, and Berries are separated differently in 2012.

The prevalence of the cranberry industry in Southeastern Massachusetts has mixed implications for the region's current and future food system.

According to a 2013 news release from the UMass Amherst Center for Agriculture, Food and the Environment:

*"About 5% of Massachusetts cranberries are sold as fresh fruit and the rest are used in products such as nutrient powder, sweetened dry cranberries, and juice. Thirty percent of the U.S. cranberry crop is sold to international markets, with Europe as a major export destination and growing markets in Mexico, Australia, and Japan. This year, all of the Massachusetts Ocean Spray growers' crops were designated for export. Ocean Spray, a growers' cooperative with members throughout the U.S. and Canada, has its corporate headquarters and a sweetened dried cranberry manufacturing plant in Massachusetts. 65% of Massachusetts cranberry growers are members of Ocean Spray."*<sup>21</sup>

According to a report from the Cranberry Marketing Committee, U.S. per capita consumption of cranberries in 2012 was 1.75 pounds, 0.8 pounds in the form of fresh cranberries and 1.67 pounds in the form of juice.<sup>22</sup> A 2000 USDA study<sup>23</sup> found that average per capita consumption of all fruits and vegetables was 707.7 pounds, with 279.4 pounds of that from fruit. Cranberries thus make up a very limited part, approximately 0.6% by weight using these figures, of the average U.S. fruit consumption. Cranberries do provide valuable nutrients, and there may be an opportunity to increase year-round sales beyond the traditional holiday window for this local crop.

Thus, on the one hand, much of the crop is exported and cranberries currently make up a very limited part of the average diet. An additional consideration is that cranberries are grown in bogs, which are technically wetlands. If they are not used for cranberries these lands cannot be reclaimed for any other uses, both due to the type of growing environment and to environmental regulations that protect wetlands. This fact limits future diversification options for cranberry growers and acreage in the region.

Significantly, however, the existence of the cranberry industry is a major economic driver for the region and greatly benefits other producers by helping to maintain key agricultural infrastructure such as fertilizer distributors, irrigation suppliers, equipment dealers, and the like.

According to an October 2013 *Boston Globe* article, an abundant cranberry harvest in 2013, "combined with increased cranberry production in Canada and leftover inventory from 2012, is driving down already-low prices for growers."<sup>24</sup> To cope with this trend, according to the article, the industry is seeking new uses for cranberries in nutritional supplements, trying to get more

---

<sup>21</sup> "Massachusetts Cranberry Harvest Strong in Challenging Year." News Release, UMass Amherst Center for Agriculture, Food and the Environment, 2013. <http://ag.umass.edu/news/massachusetts-cranberry-harvest-strong-challenging-year>.

<sup>22</sup> Cranberry Marketing Committee, "Per Capita Cranberry Consumption," <http://www.uscranberries.com/Report/View/47>.

<sup>23</sup> USDA, "Chapter 2: Profiling Food Consumption in America," USDA Agriculture Fact Book 2001-2002, <http://www.usda.gov/documents/usda-factbook-2001-2002.pdf>.

<sup>24</sup> Gail Waterhouse, "More Cranberries Mean Lower Prices for Growers," *Boston Globe*, October 11, 2013. <http://www.bostonglobe.com/business/2013/10/10/more-cranberries-mean-lower-prices-for-growers/ADLKM6cSw7jez0Qqx9U9pL/story.html>.

recipes using sweetened dried cranberries into the USDA National School lunch program, and exporting more of the crop. This price volatility, along with the new marketing strategies mentioned in the article, could all potentially have significant implications for the agricultural industry and food security overall in Southeastern Massachusetts.

#### *Nursery, Greenhouse, Floriculture, and Sod*

The region's Nursery, Greenhouse, Floriculture, and Sod market value totaled \$30,526,000 on 210 farms in 2012, down from \$40,227,000 on 186 farms in 2007. Bristol County reigns supreme here with a market value of \$14,783,000 in 2012, although this number dropped sharply from a value of \$22,485,000 in 2007.

Looking at longer-term trends, the number of farms in Bristol County in the Nursery/Greenhouse category dropped from 107 to 84 from 2002 to 2007, but market value increased from \$12 million to \$22 million. From 2007 to 2012, however, Bristol County's sales in this category dropped back down to \$14.8 million on 94 farms, possibly reflecting the impact of the recession on the nursery and landscaping business in the region.

Land Use and Sales, Nursery and Greenhouse Crops, 2007 and 2012							
	Bristol		Norfolk		Plymouth		Total – 12
	2007	2012	2007	2012	2007	2012	
Nursery, Greenhouse, Floriculture, and Sod – total:							
Farms	84	94	42	44	60	72	210
Value of Sales	\$22,485,000	\$14,783,000	\$8,069,000	\$5,547,000	\$9,673,000	\$10,196,000	\$30,526,000
All Floriculture crops – bedding/garden plants, cut flowers and cut florist greens, foliage plants, potted flowering plants, and other floriculture and bedding crops:							
Farms	61	55	30	33	48	43	131
Sq. Ft. Under Glass	775,463	655,371	373,214	333,829	688,484	372,026	1,361,226
Acres in the Open	90	174	78	26	111	59	26
Value of Sales	\$15,093,958	\$7,607,206	\$5,371,464	\$3,987,593	\$6,439,883	\$2,909,754	\$14,504,553
Nursery Stock							
Farms	21	20	16	15	13	21	56
Sq. Ft. Under Glass	78,620	30,040	(D)	46,366	28,300	40,585	116,991
Acres in the Open	181	147	38	(D)	79	127	274
Value of Sales	\$7,027,711	6,101,235	\$2,626,941	\$1,510,177	\$1,154,573	(D)	\$7,611,412
Greenhouse Vegetables, incl. Tomatoes & Other							
Farms	14	41	9	6	9	17	64
Sq. Ft. Under Glass	32,531	105,028	67,534	(D)	57,762	42,662	Approx. 215,224 <sup>25</sup>
Value of Sales	\$208,508	(D)	\$70,642	\$37,828	(D)	(D)	

<sup>25</sup> Using 2007 number for Norfolk due to unavailable 2012 data.

---

*The number of Bristol County Farms growing Nursery/Greenhouse crops dropped from 107 in 2002 to 84 in 2007, but market value increased from \$12 million to \$22 million. From 2007 to 2012, however, Bristol County's sales in this category dropped back down to \$14.8 million on 94 farms, possibly reflecting the impact of the recession on the nursery and landscaping business in the region.*

---

The majority of nursery crops are not edible and thus do not in and of themselves contribute to food security in the region. However, as with the cranberry industry, the presence of a viable nursery industry and the agricultural infrastructure involved are critical for the region's overall agricultural industry. As one anecdotal example, Griffin Greenhouse Supplies in Tewksbury maintains weekly supply delivery routes in the region that many food producers utilize—without the nursery industry there would not be sufficient demand in the region to justify these.<sup>26</sup>

Looking at the acreage of Nursery/Greenhouse crops grown in the open against the total acres of farmland and cropland in the three counties, 259 acres were used for floriculture crops and another 274 acres for nursery stock in 2012, together accounting for just under 2% of the region's total cropland. This small percentage contrasts with the 19% of total three-county market share generated by nursery and greenhouse crops, illustrating the intensive growing methods and high value of this category of crops. It also suggests that the region has the potential to increase acreage dedicated to the production of edible crops without cutting in to the important profits generated by the nursery category.

From a food system perspective, it is also helpful to examine the number of acres “under glass” (a term that also includes plastic hoopouses or greenhouses). The total land in this category in 2012 was approximately 1,693,441<sup>27</sup> square feet, or just under 2.3 acres, under glass or some other protection, including greenhouse vegetables. The greenhouse-grown vegetables category offers the potential for more year-round growing of edible crops. Unfortunately, limited census data do not allow a good picture of changes in this category over the past several years. More detailed information about recent changes and potential future growth in this source of year-round local food crops would be helpful.

### *Livestock, Poultry and their Products*

Agricultural production in this category in the region generated a total value of \$19,176,000 on 657 operations in 2012, as compared to \$14,031,000 on 712 farms in 2007.

The top subcategory in market value is Aquaculture at \$6,918,000 from 44 operations, a 75% jump from the category's 2007 value of \$3,959,000. All but four of these farms are located in Plymouth County. This growing segment of the local food system definitely merits further exploration.

---

<sup>26</sup> Derek Christianson, personal communication, July 9, 2014.

<sup>27</sup> Number computed using 2012 data, except assuming number of sq. feet of greenhouse veg. under glass in Norfolk Co. was unchanged from 2007 due to unavailable 2012 data.

Milk from Cows generated the second largest market value at \$3,799,000 in 2012, an apparent decrease from the 2007 value of \$4,038,000.<sup>28</sup> These sales were generated by only 15 dairy farms in the region.

The largest number of farms is in the Poultry and Eggs category, at 294 farms. The number of farms raising Poultry and Eggs more than doubled from 2002 to 2007, from 147 to 311 farms over that time period, but this growth appears to have stabilized, with a drop to 294 farms in 2012. Missing market value data for Bristol and Norfolk Co. in 2012 prevent examination of the change in market value for this category.

The Census of Agriculture does not directly provide information on the number of acres used for animal production. A sense of the number of acres devoted to livestock production can be gleaned from a combination of land in pastures and land used for forage crops such as hay and silage. As noted in the section on Land In Farms, in 2012 1,259 acres in the region were categorized as cropland used only for pasture or grazing, while another 9,044 acres were categorized as permanent pasture and rangeland, for a total of 10,303 acres. Forage crops, discussed in more detail in the next section, are grown on another 10,446 acres. These 20,749 acres account for approximately 19% of the region's land in farms devoted to animal production.

Livestock, Poultry, and their Products	Bristol	Norfolk	Plymouth	Total, 2012
<b>Poultry &amp; Eggs</b>				
Farms 12/'07	138/168	43/54	113/89	294
Market Value 12/'07	(D)/ \$466,000	(D)/ \$52,000	\$105,000/ \$277,000	(D)
<b>Cattle &amp; Calves</b>				
Farms 12/'07	109/149	17/29	28/59	154
Market Value 12/'07	\$1,331,000/ \$2,178,000	\$113,000/ (D)	\$116,000/ \$369,000	\$1,560,000
<b>Milk &amp; Other Dairy Products from Cows (2012: Milk from Cows)</b>				
Farms 12/'07	10/21	1/7	4/13	15
Market Value 12/'07	\$3,155,000/ \$3,480,000	(D)/ (D)	\$644,000/ \$558,000	\$3,799,000
<b>Hogs &amp; Pigs</b>				
Farms 12/'07	40/46	6/8	28/25	74
Market Value 12/'07	\$343,000/ \$165,000	\$6,000/ (D)	\$248,000/ \$53,000	\$597,000
<b>Sheep, Goats and their Products</b>				
Farms 12/'07	67/102	21/27	51/48	139
Market Value 12/'07	\$177,000/ \$163,000	\$32,000/ \$49,000	\$61,000/ \$65,000	\$270,000
<b>Horses, Ponies, Mules, Burros, &amp; Donkeys</b>				

<sup>28</sup> 2007 and 2012 data are not directly comparable because the U.S. Census of Ag changed its category from "Milk and Other Dairy Products from Cows" in 2007 to "Milk from Cows" in 2012. This also prevents use of Census data to estimate sales of cheese or other products made from local milk.

Farms 12/'07	68/35	40/25	28/31	136
Market Value 12/'07	\$807,000/ \$395,000	\$2,687,000/ \$420,000	\$136,000/ \$688,000	\$3,630,000
Aquaculture				
Farms 12/'07	4/4	None	40/43	44
Market Value 12/'07	(D)/ \$630,000		\$6,918,000/ \$3,329,000	\$6,918,000
Other Animals & Animal Products				
Farms 12/'07	56/43	24/13	32/29	112
Market Value 12/'07	\$164,000/ \$210,000	\$42,000/ (D)	\$163,000/ \$20,000	\$369,000

Within the livestock category, an important factor in allowing the expansion of local food production is the availability of slaughtering and meat processing facilities for small-scale local producers. The Southeastern Massachusetts Livestock Association (SEMALA) is a relatively new farmer-led initiative that is working to address this need. This processing and distribution issue will be discussed in more detail in Chapter 3.

#### *Vegetables, Potatoes, and Melons Harvested for Sale*

The fourth largest category in market value for the region is Vegetables, Potatoes, and Melons Harvested for Sale, valued at \$13,312,000 on 250 farms in 2012, up from \$9,494,000 on 189 farms in 2007 and accounting for 9% of the region's agricultural market value.

Looking at the acreage devoted to vegetable crops, 2,957 acres were devoted to vegetables in 2012, representing about 9% of the region's cropland. Nearly all vegetable crops grown in the region are harvested for the fresh market, with only 2% of vegetable acreage for processing. The largest crop by acreage is Sweet Corn, accounting for almost 42% of the acreage in vegetables, followed by Squash (both Summer and Winter), and then Pumpkins. By number of farms, Tomatoes win the blue ribbon, followed by Snap Beans, Lettuce, and Pumpkins. Other top vegetable crops include Cucumbers & Pickles, Peppers, and Potatoes.

Vegetables Harvested: Number of Farms and Acres, 2007 and 2012								
	Bristol		Norfolk		Plymouth		Total – 2012	% land in vegetables
	2007	2012	2007	2012	2007	2012		
Vegetables Harvested for Sale								
Farms	96	124	30	44	61	82	250	
Acres Harvested	1786	1659	317	522	695	776	2957	
Beans, Snap								
Farms	38	49	18	31	31	46	126	
Acres Harvested	30	62	6	15	44	52	129	4%
Cucumbers & Pickles								
Farms	25	30	11	8	21	31	69	
Acres Harvested	15	21	2	6	(D)	19	46	2%
Lettuce, All								
Farms	11	29	3	8	6	16	53	
Acres Harvested	24	106	2	14	4	4	124	4%
Peppers, Bell								
Farms	47	57	15	19	27	36	112	
Acres Harvested	58	59	4	6	11	12	77	3%
Peppers other than Bell								
Farms	31	25	11	13	14	22	60	
Acres Harvested	53	57	2	2	5	5	64	2%
Potatoes								
Farms	19	27	14	28	16	27	82	
Acres Harvested	(D)	15	2	22	8	18	55	2%
Pumpkins								
Farms	54	53	20	25	37	38	116	
Acres Harvested	189	147	74	77	112	112	336	11%
Squash, All								
Farms	42	44	5	6	29	34	84	
Acres Harvested	374	193	2	(D)	48	43	236	8%
Sweet Corn								
Farms	47	48	14	9	23	21	78	
Acres Harvested	726	698	152	187	369	353	1238	42%
Tomatoes								
Farms	59	76	21	27	47	50	153	
Acres Harvested	100	82	24	31	40	32	145	5%

### *Grains, Beans, and Oilseeds*

According to Census of Agriculture data, there is virtually no production of grains, beans, or oilseeds for direct human consumption in Southeastern Massachusetts, as shown by the table below. The largest categories, Corn for Silage or Greenchop and Forage, represent animal feed. Anecdotally, five farms in the region list Dried Beans as among their products on SEMAP's online farm guide, although three of these are CSA farms that are most likely bringing in dried beans from outside farms for their members. In recent years, several farms in Maine have begun specializing in dried beans, and these are often sourced by CSAs and farmers' markets in Southeastern Massachusetts.

In recent years there has been a resurgence of interest in growing grains in New England as a component of local food security. Vermont, Maine, and New York state now have significant numbers of farms producing grain for human consumption, along with producer associations and consumer guides including the Northern Grain Growers Association, University of Maine Northern New England Local Bread Wheat Project, Greenmarket Regional Grains Project in New York, and others. Though growing grains cost-effectively often requires large acreages, further research or farmer outreach would be helpful to determine the feasibility of increasing grain production in Southeastern Massachusetts.

<b>Grain, Bean, and Oilseed Production, 2012</b>				
	Bristol	Norfolk	Plymouth	Total
<b>Corn for Grain</b>				
Farms	4	-	3	7
Acres	26	-	(D)	26
Bushels	2,556	-	908	3,464
<b>Corn for Silage or Greenchop</b>				
Farms	21	-	4	25
Acres	1,527	-	(D)	1,527
Tons	28,247	-	(D)	28,247
<b>Dry edible beans, excluding limas</b>				
Farms	-	-	2	2
Acres	-	-	(D)	
Cwt	-	-	(D)	
<b>Forage - all hay and haylage, grass silage, and greenchop</b>				
Farms	205	36	129	370
Acres	4,951	1,543	2,399	8,893
Tons, dry equivalent	10,729	2,759	3,650	17,138
<b>Soybeans for Beans</b>				
Farms	1	-	-	1
Acres	(D)	-	-	
Bushels	(D)	-	-	
<b>Wheat for Grain, All</b>				
Farms	2	1	-	3
Acres	(D)	(D)	-	

## v) Farmer Demographics

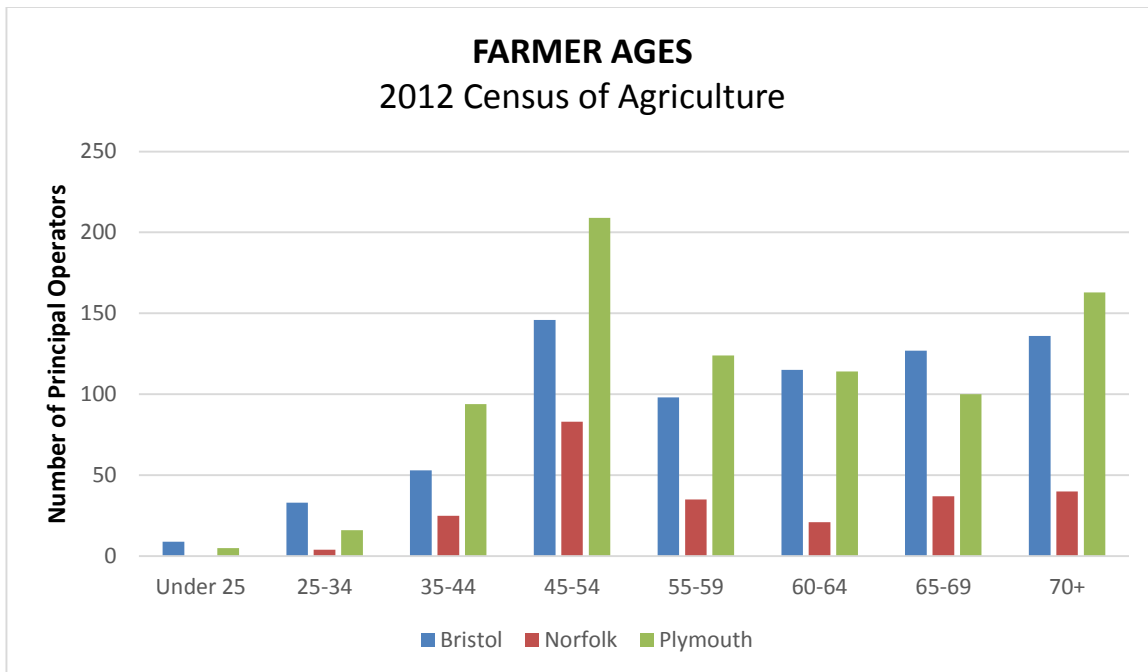
From 2007 to 2012 the total number of farm operators in the tri-county area dropped from 2,987 to 2,832. Women farm operators dropped 3% from 1,098 in 2007 to 1,060 in 2012, but women still make up 37% of regional farm operators. (Between 2002 and 2007, the number of women farm operators had increased by 19%). On a state level, 30% of farm operators are women.

Farm Operators by Gender, 2012								
	Bristol		Norfolk		Plymouth		Total	
Total Operators	1142		385		1305			
	Male	Female	Male	Female	Male	Female	Male	Female
	696	446	223	162	853	452	1772	1060
		39%		42%		35%		37%

In the three southeastern Massachusetts counties in 2012, there were 68 Spanish, Hispanic, or Latino operators, with 45 being principals. Three operators were American Indian or Alaska Native, with none being principals. Fourteen operators are Asian, with seven of them as principals. Black or African American operators totaled 28 with 14 principals.

Despite the above numbers, almost 100% of farms (all but nine) in our region have at least one white operator and 96% of all operators in our region are white.

The average age of principal farm operators for the region is 58.3 in 2012, up from 56.5 in 2007, which was up from 54.8 in 2002. As illustrated by the chart below, the largest group of operators are 45-54 years old, followed by the 70 and over category, followed by 60-64 year-olds. The 35-44 category showed the largest drop from 2007 to 2012 with a net loss of 90 farmers.



Although the number of young farmers has increased slightly in recent years, there is still a major need to support and encourage more young farmers, as well as beginning farmers of all ages, if the region is to sustain its agricultural production capacity. Several programs in the region have begun addressing this need in recent years, including Bristol Community College's Organic Agriculture Technician program, The Carrot Project, which provides loans to new and beginning farmers who cannot access other sources of farm credit, and New Entry Sustainable Farming Project, which provides beginning farmer training and farmland matching services. There is a significant need to promote and expand such programs, as well as to consider other educational or job training opportunities that could help support the next generation of farmers in Southeastern Massachusetts.

#### **vi) Farm Income, Cost of Farming, and Farm Labor**

##### *Farm Income*

Within the three Southeastern Massachusetts counties, only about half of farm principal operators list farming as their primary occupation, with 904 principal operators' primary occupation being farming and 883 principal operators designating work outside of farming as their primary occupation. This divide showed little change since 2007.

The chart below shows one primary reason for the large number of farm principal operators who work off-farm or have a different primary occupation. Net cash farm incomes in the region are very low, and these numbers declined even further between 2007 and 2012, leaving Norfolk County with a negative average farm income and Bristol County with an average net farm income of only \$1,023.

Net Cash Farm Income of Operations and Operators						
	Bristol		Norfolk		Plymouth	
	2007	2012	2007	2012	2007	2012
Average per farm	\$10,742	\$1,023	\$5,831	-\$13,764	\$32,484	\$36,994

A critical component of increasing food security in the region is thus clearly increasing farm incomes and working to ensure that more farmers can afford to stay on their farms and increase production. However, the factors accounting for these low incomes vary greatly with the type of farm and marketing channel chosen. Anecdotally, growers report an even more complex set of considerations including tax and insurance issues. For example, farmers who are working off-farm may actually have an incentive to show low net farm income in order to reduce tax burdens, while farmers who farm full time may have similar incentives in order to qualify for state health insurance. These scenarios are certainly not meant to minimize the difficulty of farming profitably in the region, but they indicate that there is a need for further research on the factors involved and the most effective actions or policies that could help stabilize farm incomes.

### *Cost of Farming*

As shown in the chart below, the cost of farming in Bristol and Norfolk Counties is similar to the statewide average, at \$61,793 for Bristol and \$77,470 in Norfolk compared to a statewide average of \$69,545 in expenses per farm. The cost per farm is much higher in Plymouth County, almost certainly due to the specialized equipment, land preparation, and labor required in the cranberry industry, and production expenses rose sharply from 2007 to 2012.

Farm Production Expenses								
	Bristol		Norfolk		Plymouth		Massachusetts	
	2007	2012	2007	2012	2007	2012	2007	2012
Number of farms	777	717	264	245	882	825	7691	7,755
Total expenses	\$40,179,000	\$44,306,000	\$15,751,000	\$18,980,000	\$64,809,000	\$91,856,000	\$461,483,000	\$539,319,000
Average per farm	\$51,710	\$61,793	\$59,664	\$77,470	\$73,479	\$111,340	\$60,003	\$69,545

### *Farm Labor*

Labor is the largest category of farm production expenses for all three counties. From 2007 to 2012, the number of Southeastern Massachusetts farms hiring labor increased from 556 to 695, number of workers increased from 2,798 to 3,371, and wages paid increased by 33% from \$30,571,000 to \$40,729,000. Although this obviously represents a greater expense, and thus potentially lower net income, for farm operators, these workers' wages have an important multiplier effect across the region.

---

*From 2007 to 2012, farms hiring labor increased from 556 to 695, number of workers increased from 2,798 to 3,371, and wages paid increased by 33% from \$30,571,000 to \$40,729,000.*

---

The data summarized here could provide a starting place for additional assessment of the economic development contribution and potential of agriculture in the region. A 2009 study conducted by American Farmland Trust and First Pioneer Farm Credit on the Economic Impact of Agriculture for the town of Dartmouth, Massachusetts provides an additional detailed model of this type of work.<sup>29</sup>

## **vii) Fisheries**

An assessment of the food system in Southeastern Massachusetts would be incomplete without a look at fisheries and aquaculture. The region is home to the Port of New Bedford, the top-grossing port in the nation for the past several years, with 2012 fish landings of over 143 million pounds valued at \$411 million.<sup>30</sup> These landings include more than 50 million pounds of sea scallops annually, which made up an estimated 80 percent of the \$411 million in landings in 2012. New Bedford is also a hub for seafood processing in New England, with more than 30 processors and distributors and its own seafood auction, the Whaling City Seafood Display Auction.<sup>31</sup>

The table below, created by the authors of “A New England Food Vision,” shows current production of wild-caught fish and aquaculture for New England as a whole.<sup>32</sup> The study’s authors developed conversion rates from live weight to edible weight of fish based a combination of USDA data and a survey of fish processors.

---

<sup>29</sup> American Farmland Trust, “The Economic And Fiscal Contribution Of Farm And Open Land In Dartmouth, Massachusetts.” 2009. <http://www.farmland.org/documents/EconomicImpactofAgricultureStudyDartmouthMA.pdf>.

<sup>30</sup> John Dyer, “Scallops giving New Bedford fishermen a welcome break,” *Boston Globe*, December 1, 2013. <http://www.bostonglobe.com/business/2013/12/01/scallops-bringing-decent-living-new-bedford-fishermen/P9WxPWhm05vYN5xaBSZY8I/story.html>.

<sup>31</sup> New Bedford Harbor Development Commission, “Our Commercial Fishing Industry.” <http://www.portofnewbedford.org/commercial-fishing/our-commercial-fishing-industry/>.

<sup>32</sup> Amanda Beal, personal communication, “New England Food Vision” data, July 21, 2014.

CURRENT PRODUCTION - Wild-caught fish & Aquaculture, New England				
Average Annual NE Fisheries Food Yield - All Species (lbs)			Amount of Fish Per Person/Per Week	
	Aquaculture	Wild Caught	37% conversion rate from total whole live weight to edible portions (except some Mollusks which are already reported as edible lbs. of meats)	45% loss conversion rate
<b>Finfish (lbs)</b>	16,507,296	234,719,008	103,353,329	56,844,331
<b>Crustaceans (lbs)</b>	0	120,300,632	44,511,234	24,481,179
<b>Mollusks (lbs)</b>	0	25,884,414	9,577,233	5,267,478
<b>Mollusks (lbs raw meats)</b>	993,452	64,611,550	65,605,002	36,082,751
<b>TOTAL (lbs)</b>	17,500,748	445,515,604	223,046,798	122,675,739

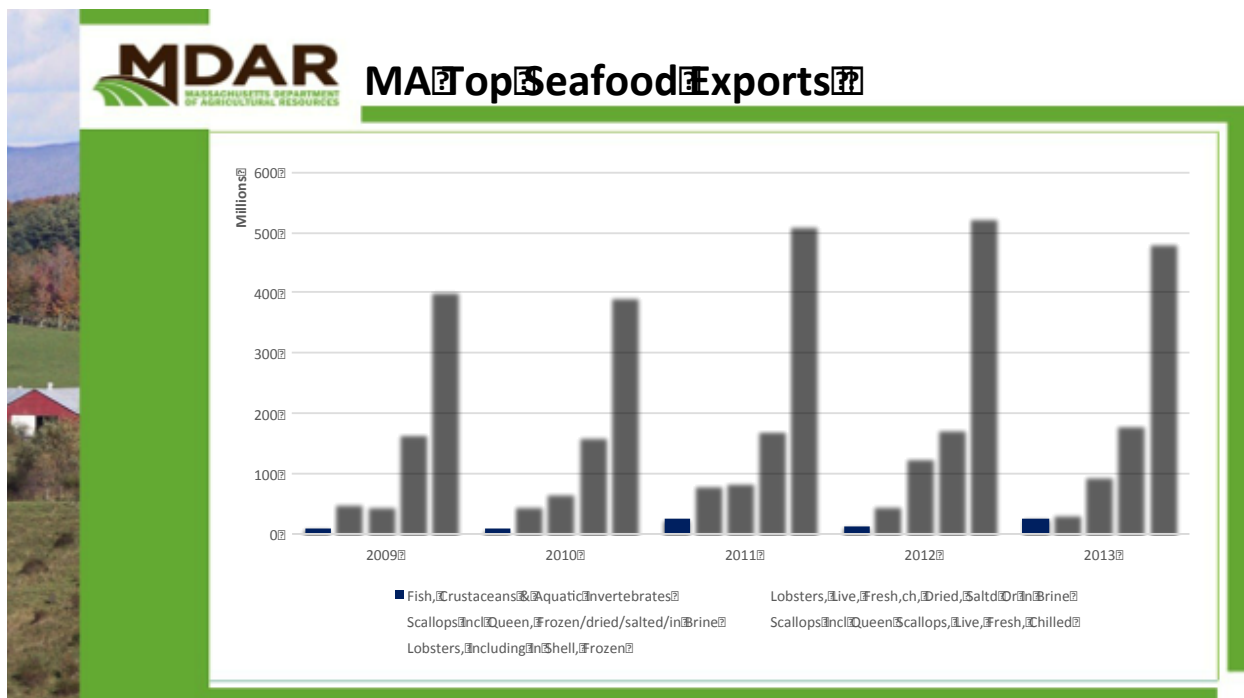
Using these numbers, A New England Food Vision estimates that “New England waters produce approximately 2.5 ounces per week of seafood for each person in the region (about five-sixths of the amount consumed).”<sup>33</sup> That is just over 8 pounds per year.

In comparison, using the less conservative 37% conversion rate due to the prevalence of scallops in New Bedford’s catch, New Bedford landings would equate to approximately 53 million pounds of edible fish, or over 30 pounds per year for each resident of the three Southeastern Massachusetts counties.<sup>34</sup>

However, the vast majority of New Bedford’s abundant local fish harvest is exported out of the region. The slide below shows the top categories of Massachusetts seafood exports statewide. Looking just at scallops, both fresh and frozen, the value of the exported crop is approximately \$275 million for 2012. As noted above, scallops make up an estimated 80% of the value of the \$411 million in landings the Port of New Bedford in 2012, or roughly \$329 million. Since the great majority of scallops landed in Massachusetts are landed in New Bedford, these figures suggest that approximately 80% of New Bedford’s scallop crop is exported.

<sup>33</sup> Donahue et al., “A New England Food Vision,” 24.

<sup>34</sup> Using 2012 American Community Survey population data.



35

Similarly, 2011 data from the Massachusetts Export Center indicate that the total value of the export category “Fish, Crustaceans, and Aquatic Invertebrates” was \$509,031,342.<sup>36</sup> Comparing this figure with the total National Marine Fisheries Service landings data for the state in 2011, valued at \$571,559,497 as shown below, suggests that almost 90% of the state’s seafood landings, at least by value, were exported.

NMFS Landings Query Results, 2011, Massachusetts, All Species <sup>37</sup>			
Year	Metric Tons	Pounds	\$
2011	119,991.6	264,533,439	571,599,497
<b>GRAND TOTALS:</b>	119,991.6	264,533,439	571,599,497

Though these are very rough calculations, they suggest that the great majority of the region’s seafood crop is being exported. Further research is needed to determine how much of the Southeastern Massachusetts fish catch remains local, where and how this fish is processed and retailed, and how more locally-caught fish could remain in the region.

<sup>35</sup> Slide image courtesy of Massachusetts Department of Agricultural Resources.

<sup>36</sup> Massachusetts Export Center, Export Statistics, Massachusetts Exports by Commodity, 2011 [http://www.mass.gov/export/pdf/MA Exports 2011 by commodity.pdf](http://www.mass.gov/export/pdf/MA%20Exports%202011%20by%20commodity.pdf).

<sup>37</sup> National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service, Annual Commercial Landing Statistics. <http://www.st.nmfs.noaa.gov/commercial-fisheries/commercial-landings/annual-landings/index>.

## **b) Local Farmer Profiles**

To explore the challenges faces by farms in Southeastern Massachusetts a bit more closely, the Food System Assessment Committee conducted two interviews with farmers in the region. These profiles are provided below, and information about gaps, barriers, and needs identified by each of the farms are included at the end of the chapter.

### **Heart Beets Farm, Berkley, MA**

*A smooth snowy blanket covers most of the fields at Heart Beets Farm, fresh for Opal, the farm's two year old Australian Cattle Dog, to dodge and dart through frantically in all her ebullience. Inside the greenhouse, kale, spinach and lettuce enjoy their own blankets of row cover, keeping them warm enough to survive the freezing temperatures. With the sun shining on a clear, crisp day, we sit with Head Farmer Steve Murray, formerly of Kettle Pond Farm, to learn more about his story and his new farm.*

*Although this may be the first of year of operation for Heart Beets Farm, it's Steve Murray's eighth year farming in the South Coast region of Massachusetts, and his sixth year growing food at 181 Bay View Ave. in Berkley.*

*While studying physics at UMass Dartmouth, Steve Murray became disgruntled with the academic tendency to emphasize discussion and theory as opposed to activity and production, and therefore was inspired to start interning at nearby Kettle Pond Farm in Berkley, MA. He initially worked weekends, until school ended and he became employed full time on the farm. When the farm manager left at the end of that year, Steve was asked to become Farm Manager after only one season of farming! And he's been at it ever since, innovating all the way. Since then, he's more than doubled CSA membership, worked to revitalize and remineralize the soils, and, most recently, started farming under his very own business enterprise: Heart Beets Farm.*

*Initially, Steve admits the farming strategy at Kettle Pond took more of a "let's see what happens" approach, "farming for hobby" and less for business. Fortunately, he had the opportunity to work two years with Derek Christianson of Brix Bounty Farm in Dartmouth, where he gained not just a deeper understanding of soil fertility, but also a more proactive approach to achieving economic sustainability. Steve brought this experience back to Kettle Pond, where he put more effort into focusing on financial viability as well as sustainable growing practices.*

*Today, Heart Beets Farm grows a diverse mix of organically certified vegetables on two and a half acres while hosting a healthy flock of chickens and some swine. Steve and his wife Sarah host a Community Supported Agriculture (CSA) program in Spring, Summer and Fall, providing flexible options for those new to the CSA model, looking to try it out, or for those who might not have the time and/or resources for a longer commitment. In addition to serving their CSA members, Heart Beets Farm sells to local restaurants and caterers, at the farmers' market in Taunton, and at their home-based farm stand.*

*You can also find Heart Beets Farm produce at How on Earth, located in Mattapoisett, MA, where Sarah worked as Store Manager until recently returning home to raise their first child,*

*Juniper, who was born this past November. How on Earth also serves as a CSA pick-up location. In the future, Steve would like to see Heart Beets Farm grow to 10 or even 15 acres, offering more CSA shares and more variety.*

*Two thousand and fourteen is a big year of Firsts for the Murrys, not only as business owners, but also as parents. Steve is committed to growing the best food he can, using the best practices possible. And as their website assures, “everything you loved about Kettle Pond Farm will remain the same through Heart Beets Farm: same great vegetables, farmer and location, just a new name and new owners.”*

### **Copicut Farms, Dartmouth, MA**

*At Copicut Farms, it’s neither the chicken nor the egg that came first, but the willingness and dedication of one New England family. After years of work in science and education, Elizabeth and Vince Frary decided to pursue their dream of starting a farm. Now in its third season, Copicut Farms raises chickens (for eggs and meat), Cornish game hens and turkeys—about 3,000 birds in all on 80 acres of mixed woodland and pasture. Copicut Farms is a family owned operation that uses no hormones or antibiotics in any of their feeds, and Copicut birds enjoy a free range lifestyle, feeding on healthy pasture and fertilizing the soils along the way.*

*Although both Elizabeth and Vince grew up on and around farms (Elizabeth is a fourth generation family farmer!), neither of them had initially chosen farming as a career. Vince was a wildlife biologist for the state of Arizona and Elizabeth had earned her Masters in Elementary Education. Their early years of farming had instilled in them the values of hard work, dedication and a love of the outdoors. Starting a farm together became an opportunity for them to create that experience for their young son, Emmett, who gets to spend every day on the farm and absolutely loves it.*

*While Elizabeth and Vince understood the harsh demands and daily grind of farming, pasture raised poultry farming was a new venture for both of them. Their focus was and is to be fairly traditional, but providing responsibly raised poultry for a local and direct consumer is a business that provides new challenges every year. The infrastructure that once existed in the State to support small scale poultry production is no longer available and as the pasture raised poultry movement is still very new they are continually adjusting and refurbishing their farm to best suit the New England climate.*

*Additionally, in their unwavering commitment to ensure that their poultry is of the highest quality, Copicut Farms processes all of their birds by hand in their on-farm processing facility. Many farms outsource this process due to the associated overwhelming regulations and burdensome added costs. Keeping this aspect of their business on site allows Copicut Farms to know everything that has happened to each animal “from the day they’re born to the day they’re ready for packaging.”*

*Another area of innovation at Copicut Farms' operation is their revival of old time consumption practices. While they're doing everything they can to reduce the carbon footprint of their farm, they have inspired their customers, who often equally value sustainability as a movement, to do their part as well. They strive to teach their customers that using the whole bird reduces waste and creates more edible opportunities out of one bird. You can find their Whole Chicken recipe ideas on cards at many of the locations where their products are available.*

*These places include Lees Market in Westport, How on Earth in Mattapoisett, and Dave's Fresh Pasta in Somerville, farmers markets in Plymouth, Winchester and Cambridge year round, and Lexington, Arlington, and Padanaram in the summer, as well as at the Farm June through October. They also offer a Farm Share option, for either a full or half season's worth of poultry and eggs. Check their website for seasonal updates: <http://www.copicutfarms.com/where-to-buy/>*

*Operating a farm with animals requires strength and devotion. The birds need daily attention and the smells and sights are quite different than what vegetable farmers encounter, but as Elizabeth says, "On the days when you're most hot, most tired, most frustrated, it's so nice to have happy customers."*

### **c) Urban Agriculture & Community Gardening**

Beginning in late 2012, the former Office of Campus and Community Sustainability at UMass Dartmouth embarked on a project titled "Mapping and Documenting Regional Community Gardens Needs and Best Practices." The goals of this project were to:

- Research community, schoolyard, and institutional gardens in Southeastern Massachusetts and create an online contact list.
- Create an online map of existing community gardens and link this map to SEMAP's existing online farm guide and the Southeastern Massachusetts Food Security Network site.
- Identify regional gaps, support current gardens, and catalyze the development of further gardens in the region.

Building on the work of Kathleen Christianson, formerly with the Office of Sustainability, then-UMass graduate student Chancery Perks interviewed roughly 23 garden coordinators, 60 community members, 116 school age children 15 environmental and social welfare personnel, and 8 New Bedford municipal leaders. Through the interviews and other research, the project developed a database of regional gardens, including contact and other information.

The searchable map of regional community gardens, shown below, can be found at: <http://www.farmfresh.org/food/communitygardens.php?zip=02740> and <http://www.srpedd.org/community-of-gardens>.



- There are many resources for small start-up grants for gardeners, including from Fall River and New Bedford. Some coordination in grants giving and support could help to ensure that gardens continue into second and further years.
- Gardens tend to be clustered in the South Coast area. A regional gathering of garden coordinators and would-be gardeners might capitalize on what seems to be growing interest in community gardens and help to catalyze the development of new gardens.
- There is an opportunity to increase the number and size of “kitchen/pantry-ready gardens,” growing more soup friendly crops that have a long storage life and helping to create a distribution plan for garden produce.

However, the project managers also noted:

“Unfortunately, the amount of technical assistance [needed] for local gardens dwarfed our abilities to respond. For example, we were unable to provide enough assistance to maintain the Sacred Green Space or to provide ongoing support for the Serenity Gardens. As noted in an earlier section, it will be important regionally for organizations to reflect on the multi-year commitment involved in community gardens and/or for a regional agency to be available to provide ongoing support and guidance for nascent gardens.”<sup>38</sup>

Since late 2013, oversight of the community garden project has been taken over by the Southeastern Regional Planning and Economic Development District, or SRPEDD. Project materials and map links are now available at: <http://www.srpedd.org/community-of-gardens>.

The project plans a fall 2014 meeting to begin implementing many of the project recommendations noted above.

At the same time, the City of New Bedford has recently subcontracted the Trustees of Reservations to hire a Garden Stewardship Coordinator to provide additional support for New Bedford community gardens. Together, these two elements should help to increase community connections, address some community concerns around the use of garden spaces, and work towards greater regional food production through community gardens.

A 2010 report on urban agriculture in the city of Somerville offers a few additional recommendations and perspectives that may be helpful for our region:

*“Our primary recommendations are to increase the available public space for gardening, begin a city-wide yard waste and food scrap collection program for composting, establish a gardeners’ network to support backyard and market gardeners, promote innovative growing techniques for small spaces, and establish a shared-use community kitchen. While we don’t expect that Somerville will ever meet its own fresh food needs with Somerville-grown produce alone, we nonetheless suggest long-term objectives such as establishing a model for a backyard garden-to-consumer marketing program that could economically support backyard gardeners in addition to promoting the eating of more*

---

<sup>38</sup> UMass Dartmouth Office of Campus and Community Sustainability, “Mapping and Documenting Regional Community Gardens’ Needs and Best Practices.” Grant Report to Island Foundation, 8/1/2013.

*locally-produced vegetables and fruit, and we also suggest the development of edible or green corridors that would reconnect Somerville's scattered open spaces and re-establish its agricultural heritage.”*<sup>39</sup>

The element of agricultural and cultural heritage mentioned in this report is an important consideration for Southeastern Massachusetts. The region has a long history of settlement by Portuguese-speaking groups, particularly including Azoreans and Cape Verdeans, due to these groups' involvement in the whaling industry. This cultural heritage remains very strong in the region. Recently, new waves of immigrants from Brazil, Central America, and elsewhere have come to the region to work in the fish processing industry and other sectors. As noted at the beginning of this report, one important element of Community Food Security is that residents can access food that is “culturally appropriate.” Community and backyard gardens can play a very important role in helping to ensure that traditional crops are available, and these efforts could ideally expand to commercial growers interested in marketing specialized varieties of crops to the region's long-term and recently-arrived cultural groups.

### **Local examples of urban agriculture and community garden expansion**

#### *Haskell Farm*

In connection with both the land conservation data discussed earlier and urban agriculture in the region, one initiative that merits special mention is the Trustees of Reservation's Haskell property. Located in the heart of New Bedford, the property, a formal commercial nursery, includes six acres with of gardens and historic buildings, including more than half an acre of greenhouse space.

Having purchased the property in 2012, The Trustees is now in the process of restoring and re-purposing the property. According to The Trustees' website, once re-opened in 2014, the Haskell property will be “focused on increasing appreciation, education, and involvement in local food production. The program will engage local groups and organizations in the neighborhood and throughout the Greater New Bedford region, including Brickenwood and Presidential Heights low-income housing, local social-service agencies, and residential neighbors. This program will be inspired by successful urban farming models such as Growing Power in Milwaukee, The Trustees' affiliate Boston Natural Areas Network, and the Food Project's Dudley Greenhouse in Roxbury, which have transformed communities by connecting residents to local food production.”<sup>40</sup>

The Haskell property will connect an underserved area of the community with urban agriculture, and it has the potential to function as a hub for these urban agriculture activities in the region.

---

<sup>39</sup> Carl Bickerdike et al., “From Factories to Fresh Food: Planning for Urban Agriculture in Somerville,” Tufts Department of Urban and Environmental Policy and Planning, Field Projects 2010. <https://unionsquaremain.org/wp-content/uploads/2011/03/planning-for-urban-agriculture-in-Somerville1.pdf>.

<sup>40</sup> Trustees of Reservations, “Allen C. Haskell Park: The Plan.” <http://www.thetrustees.org/what-we-care-about/community/haskell-park-plan.html>.

#### d) Gaps, Barriers, and Needs

- To increase food production and food security in the region, options include:
  - Use all available idle cropland. The acreage of “Cropland idle or used for cover crops or soil improvement” increased to over 2000 acres in the 2012 Census of Agriculture. On many farms cover crops and short- and long-term fallowing of land are important strategies for building soil fertility, so some of this land may be in active management. However, anecdotally, other farms have reported that they are leaving land idle because they do not feel they have a sufficiently profitable market channel to warrant the additional expense of cultivating it. Thus, land in this category that is truly “idle” may represent the best opportunity to increase agricultural production in the region in the short term. It would be very helpful to obtain a clearer picture of the reasons why growers are leaving land idle and how much idle land in the region could be returned to active food production.
  - Increase the production of greenhouse-grown vegetables as well as indoor, hydroponic, and intensive production, especially in urban areas.
  - Find and utilize new parcels of agricultural land through open space conservation, urban agriculture, or community gardens, building on the work of the region’s network of local and state land trusts.
  - Increase non-commercial production through backyard and community gardens. At various times in our region’s history, backyard gardens and small flocks of livestock have played a major role in household food security, and these can also play an important role in providing culturally-appropriate foods.
  - Expand local marketing and consumption of aquaculture and fisheries products.
  - Longer-term, as described in “A New England Food Vision,” reconversion of recently regrown woodlands could be an option for increasing available farmland.
- In addition to farmland, the second critical component of increasing agricultural production is farmers. There is a need to support and encourage more young and beginning farmers in the region. Several programs in the region have begun addressing this program in recent years; these could be expanded and promoted. These new farmers must be able to access farmland either for rent or for purchase, often a barrier given extremely high land values in the region.
- Very low or even negative net farm incomes for existing farms also clearly represent a barrier to sustaining the region’s existing farms. The factors accounting for these low incomes vary greatly with the type of farm and marketing channel chosen. Anecdotally, growers report an even more complex set of considerations including tax and insurance

issues. There is a need for further research on the factors involved and the most effective actions or policies that could help stabilize farm incomes.

- Direct market sales appear to be on an upward trend according to Census of Agriculture data, but farmers anecdotally report that direct market sales are “stagnant” in some cases. There is a need to further research on direct market sales and how to expand the customer base, especially by improving access to locally-grown food to low-income residents of the region. (See Chapter 4 for further discussion.)
- To expand access to locally grown foods for a wider segment of the region’s population, there is a need for more farms growing at a wholesale scale that can supply supermarkets and institutions such as schools and hospitals. Our region has a very small number of farms currently producing crops for this market scale. This is partly due to land access, but also due to marketing strategies chosen by farmers.
- One barrier to diversifying or expanding production often mentioned by farmers is the lack of Cooperative Extension services in the region. SEMAP’s site contains an extensive resource list of service providers for farmers, but this does not replace the crop-specific expertise formerly provided by Extension agents. In the coming months SEMAP plans to explore the possibility for expanding Extension services in the region, in cooperation with UMass and other partners.

Anecdotally, farms interviewed for profiles above provide additional details of challenges faced by local farms.

- For small scale organic vegetable growers, barriers include limited opportunities for direct market sales, including the number of well-attended farmers’ markets. This perceived limited interest could possibly be related to a lack of education or awareness on sustainable agriculture. Additional barriers include land access, lack of equipment and tool sharing, and the fact that some municipalities are not designated as “Right to Farm,” which can lead to neighbor complaints and even lawsuits related to farming activities. (See Chapter 6 for further detail).
- For local meat producers, a big challenge is processing, and a lack of statewide slaughtering facilities. (See Chapter 3 for further detail).

Gaps, Barriers, and Needs related to community gardens and urban agriculture include:

- The second and continuing years of community gardens can be difficult as interest wanes and commitment becomes important. Those gardens that are developed by, or have connections to, stable entities including cities and towns, churches, schools, and non-profits have the greatest chances of success, but even these need at least one champion who is committed for the long term.

- There are a number of important regional resources for gardens. Some partnership and coordination between these entities could help to spur community-garden continuation and growth.
- There are many resources for small start-up grants for gardeners, including from Fall River and New Bedford. Some coordination in grants giving and support could help to ensure that gardens continue into second and further years.
- Gardens tend to be clustered in the South Coast area. A regional gathering of garden coordinators and would-be gardeners might capitalize on what seems to be growing interest in community gardens and help to catalyze the development of new gardens. SRPEDD will be addressing this need and others above through its continuation of the Community Gardens project begun by UMass Dartmouth.
- There is an opportunity to increase the number and size of “kitchen/pantry-ready gardens,” growing more soup friendly crops that have a long storage life and helping to create a distribution plan for garden produce.

## CHAPTER 3: Food Processing & Distribution



### a) Processing and Distribution Businesses

The food processing and distribution sector is one of the most important elements of Southeastern Massachusetts' food system, but also one of the most difficult to assess. As noted in the Rhode Island Food Assessment, "While some data about these businesses is available. . . because they are private sector businesses most of the detail about their operations is not available publicly. The origin of processors' and distributors' raw materials, the location of the end consumers of their products, the specific products processed, and the value of processed food sales are not public information."<sup>41</sup>

The Massachusetts Department of Public Health's Food Protection Program regulates and inspects all wholesale food businesses in the Commonwealth of Massachusetts. The Department of Public Health's list of categories of these businesses gives a sense of the variety and importance of this sector:

- Milk Pasteurization
- Dairy Products, e.g., cheese and ice cream
- Seafood (including seafood transport)
- Food Processing (including meat and poultry)
- Food Warehouses
- Food Distribution Centers
- Wholesale Residential Kitchens

---

<sup>41</sup> Karp Resources, "Rhode Island Food Assessment," 15.

- Bottled Water
- Carbonated Beverages<sup>42</sup>

The New England Food Show website provides a list of distributors for the entire state with approximate sales numbers for each. The following list shows only the distributors that are headquartered in Southeastern Massachusetts.

Distributors <sup>43</sup>	City	Type of Business	Total Sales
Agar Supply Inc.	Taunton	Foodservice Dist. - Food	\$540,000,000
Cara Donna Provision Co. Inc.	Braintree	Foodservice Dist. - Food	\$87,750,000
Sid Wainer & Sons Specialty Produce & Foods	New Bedford	Foodservice Dist. - Food	\$75,500,000
The Pastene Co. Ltd.	Canton	Foodservice Dist. - Food	\$42,000,000
T.F. Kinnealey & Co.	Brockton	Foodservice Dist. - Food	\$40,000,000
On A Roll Sales Inc.	Brockton	Foodservice Dist. - Food	\$12,000,000
Perkins Paper Inc.	Taunton	Foodservice Dist. - Full Line	\$400,000,000
Cirelli Foods Inc.	Middleboro	Foodservice Dist. - Full Line	\$80,000,000
NATCO Corp.	New Bedford	Foodservice Dist. - Full Line	\$53,000,000
Best Foods Inc.	Taunton	Foodservice Dist. - Full Line	\$3,000,000
Garber Bros. Inc.	Randolph	Wholesale Grocer - Non-Sponsoring	\$705,000,000
SWB New England	West Bridgewater	Wholesale Grocer - Non-Sponsoring	\$30,000,000
<b>Total Sales</b>			<b>\$2,068,250,000</b>

<sup>42</sup> Massachusetts Department of Public Health, "Starting a Wholesale Food Business."  
<http://www.mass.gov/eohhs/gov/departments/dph/programs/environmental-health/food-safety/starting-a-wholesale-food-business.html>.

<sup>43</sup> New England Food Show website, list of New England Food Distributors by state.  
<http://www.nefs-expo.com/index.php/exhibit/new-england-food-distributors>.

Even with these estimates of sales figures, the value of sales from these distributors is well over \$2 billion annually.

In addition to distributors headquartered in the region, a number of other distributors and processors headquartered elsewhere serve Southeastern Massachusetts. Based on research by and personal knowledge of the Food System Assessment subcommittee, these businesses include:

Distributors of produce and other food items:

- Baldor Foods, Chelsea - <http://www.baldorfood.com/>
- Costa Fruit and Produce, Boston - <http://www.freshideas.com>
- Dole & Bailey / Northeast Family Farms, Woburn - <http://www.doleandbailey.com/>
- FoodSource, Monterey, CA with distribution center in Taunton - <http://www.buyfoodsource.com/>
- Garber Bros., Stoughton (Servicing convenience stores) - <http://www.garberbros.com/>
- Gordon Food (formerly Perkins), Taunton<sup>44</sup>
- Kanakis & Sons, Assonet
- Katsiroubas Produce, Boston - <http://www.katsiroubasproduce.com/>
- Luzo, New Bedford - <http://www.luzo.com/>
- Nasiff Fruit Company - <http://www.nasiffproduce.com/>
- Quality Food Company, Providence (serving CT, RI, & Eastern Mass) - <http://www.qualitybeefcompany.com/>
- Reinhart Food Service/Natco, New Bedford<sup>45</sup>
- Shapiro Produce, Everett - <http://www.shapiroproduce.com/aboutus.html>
- Sid Wainer & Sons, New Bedford - <http://www.sidwainer.com/>

Cooperative Distributors (for individuals):

- United Natural Foods, Providence
- Associated Buyers, New Hampshire

Food Processors:

- Blount Foods, Fall River - <http://www.blountfinefoods.com/>
- On a Roll, Brockton - <http://www.onarollsales.com/>
- Bay State Milling Company, Quincy (flour and grain products) - <http://www.bsm.com/About/Default.aspx>
- Ocean Spray - <http://www.oceanspray.com/>

Institutional Food Service Providers:

- Chartwells - <http://www.chartwellsschools.com/>

---

<sup>44</sup> Charles Winokoor, "Food company Perkins sold to Michigan-based Gordon Food," *Taunton Gazette*, February 4, 2012. <http://www.tauntongazette.com/article/20120204/NEWS/302049918/0/SEARCH>

<sup>45</sup> Beth Perdue, "Illinois food distributor buys New Bedford's NATCO," *SouthCoast Business Bulletin*, November 1, 2007. <http://www.southcoasttoday.com/apps/pbcs.dll/article?AID=/20071101/SCBULLETIN/711010413&cid=sitesearch>.

- Sodexo - <http://sodexousa.com/>

## Local Resources and Case Studies

### *Red Tomato*

One of the region's best assets for both mapping and expanding the distribution of local produce is the nonprofit organization Red Tomato, headquartered in Plainville.

Established in 1997, Red Tomato began as a small warehouse and distribution operation. Eventually, the organization restructured to concentrate on managing logistics through a network of farmers, independent truckers and wholesale partners, in addition to marketing, selling and helping to develop new products. Red Tomato now markets produce for a network of over 50 Northeast family farms and apple orchards. Over 200 retail stores in New England, New York and the mid-Atlantic carry Red Tomato produce, as well as a few select markets outside the region. Lists of these farmer and retailer partners can be found at [www.redtomato.org](http://www.redtomato.org).

Through its work to manage the logistics of distributions routes for local produce throughout the Northeast, Red Tomato has developed an in-depth knowledge of the details, and the culture, of the produce distribution industry. Further interviews with or more in-depth assessment by this key local partner would be a very helpful starting place for further investigation of this sector.

### *Farm Fresh Rhode Island's Market Mobile*

One model from nearby Rhode Island that merits examination is Farm Fresh Rhode Island's Market Mobile. Formed in January 2009, Market Mobile is a pooled farm-to-business delivery system that sources and aggregates products from approximately 50 farms and food producers in Rhode Island and Southeastern Massachusetts and delivers them to a network of restaurant and institutional buyers, primarily in Rhode Island and the Boston area. From sales of \$225,000 in its pilot year, the program grew to over \$2 million in 2013. With one online order form, one delivery truck, and one invoice for buyers, the program helps overcome some of the logistical hurdles that keep chefs and institutional buyers from purchasing more local farm products.

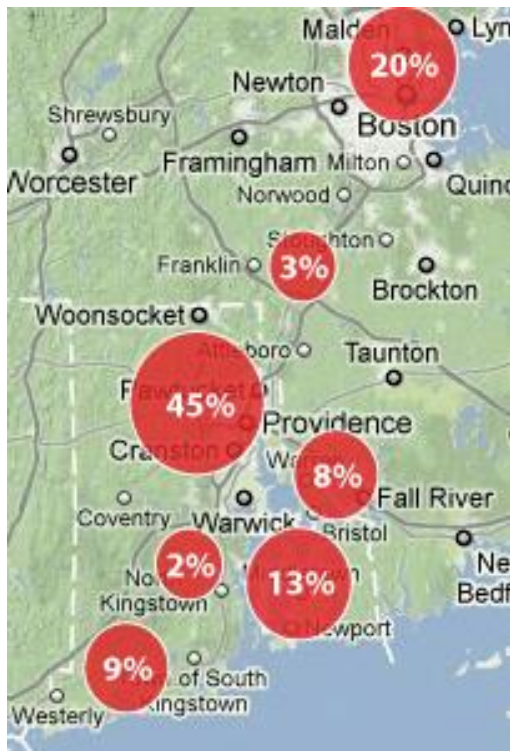
As noted in the Rhode Island Food Assessment, "Though all transactions occur online, what really makes Market Mobile work for producers and buyers is the staff person who spends the bulk of her days on the phone, reminding buyers to order, recruiting institutional buyers and workplaces, and ensuring that availability lists are up to date. In what one wholesaler called a 'broker intensive industry', FFRI's staff brokers for the mutual benefit of the producers, buyers, and consumers: serving as a public interest broker."<sup>46</sup>

As shown in the map below, the program is not currently delivering food to Southeastern Massachusetts, although it does source product from approximately 10 farms in the region. As this program grows, expansion of both the farmer and customer networks in Southeastern

---

<sup>46</sup> Rhode Island Food Assessment, 35.

Massachusetts could be of significant benefit to the region. Further conversations with Farm Fresh Rhode Island and investigation of which organizations, buyers, and farmers could help support and expand this service would be helpful.



47

#### *South Shore Community Action Council, Inc.'s Healthy Harvest Initiative, Plymouth*

Along with the YMCA Sharing the Harvest Farm / United Way Hunger Commission partnership, which will be discussed in more detail in Chapter 4, one other distribution program in the region provides an interesting models of a distribution system that connects local farmers with local food banks and pantries, ultimately supplying fresh local produce to those most in need.

Launched in 2008, the South Shore Community Action Council, Inc.'s Healthy Harvest Initiative developed CSA-like contracts with local growers, where the program pays up front for a certain share of local produce. In this case, the program gives the growers some flexibility to select the produce they have excess of, and pays at a wholesale rate that makes the purchases feasible for food banks, while still compensating the growers for their products.

As described on the program's website, "From May to November, SSCAC picks up produce from local farms and either delivers it to be stored safely in our central warehouse, or 'direct delivers' it to over 2 dozen local Councils on Aging, low-income housing developments, Head Starts, and Boys & Girls Clubs. In this way, we keep the produce as fresh and safe as possible. The GPFW

<sup>47</sup> Farm Fresh Rhode Island, Market Mobile "Our Customers" web page, [http://www.farmfresh.org/hub/index\\_customers.php](http://www.farmfresh.org/hub/index_customers.php).

network members then distribute it to their clients. Examples of the types of fresh produce we receive include apples, cranberries, butternut squash, tomatoes, eggplant, corn, potatoes, acorn squash, pears, beets, peppers and lettuce.”<sup>48</sup>

## **b) On-farm and Off-farm Processing Capacity**

On-farm and off-farm local processing facilities can be an important contributor to efforts to market more locally-grown food within a region. Instead of having to sell all their crops in a raw state after they are harvested, often within a short time window for perishable produce, local farms and food businesses can use such facilities to preserve local foods in various forms that can be marketed year-round.

According to the 2012 Census of Agriculture’s “Selected Practices” data, a total of 102 farms in the 3-county region (36 in Bristol, 18 in Norfolk, and 48 in Plymouth) produced and sold value-added commodities. The USDA’s very broad definition of value-added products includes any agricultural commodity or product that has undergone a change in physical state or has been produced, marketed, or segregated in a manner that enhances its value or expands the customer base of the product.<sup>49</sup> This definition could include items as diverse as jams and jellies, wine, cheese, peeled and cut butternut squash, baked goods, or products labeled as USDA Organic or with other types of branding or labeling. These 102 farms make up just under 6% of the region’s total 1,787 farms.

A second practice examined by the Census of Agriculture in 2012 was on-farm packing facilities. As with value-added processing in general, these could have very different characteristics depending on the type of farm, but they generally allow the farm to realize some additional value by providing a pre-packed product. In Southeastern Massachusetts, 34 farms in Bristol County had such packing facilities, 16 in Norfolk, and 22 in Plymouth, for a total of 72, or approximately 4% of farms in 2012.

Despite this limited local capacity, 42 of the 250 farms in the region growing vegetables, or 16.8%, are harvesting some vegetables specifically for processing; however, these crops are harvested from only 2% of the region’s vegetable acreage. Further research is needed to understand whether these farms are processing these crops in Southeastern Massachusetts or sending them to companies or processors outside the region.

Southeastern Massachusetts currently has two commercial shared-use kitchens. These licensed facilities allow local farms and small food businesses to produce prepared foods and food products (jams, sauces, frozen vegetables, baked goods, etc.).

- Dartmouth Grange Shared-Use Kitchen, Dartmouth, MA  
[http://www.dartmouthgrange.org/about\\_kitchen.html](http://www.dartmouthgrange.org/about_kitchen.html)

---

<sup>48</sup>South Shore Community Action Council, “Healthy Harvests Initiative.”

[http://www.sscac.org/food\\_warehouse/healthy\\_harvest.html](http://www.sscac.org/food_warehouse/healthy_harvest.html)

<sup>49</sup> Agricultural marketing Resource Center, “USDA Value-added ag definition.”

[http://www.agmrc.org/business\\_development/getting\\_prepared/valueadded\\_agriculture/articles/usda\\_valueadded\\_ag\\_definition.cfm](http://www.agmrc.org/business_development/getting_prepared/valueadded_agriculture/articles/usda_valueadded_ag_definition.cfm).

- How on Earth Kitchen, Mattapoisett, MA  
<http://www.howonearth.net/thekitchen/>

Overall, on-farm and off-farm processing holds promise for increasing both production and consumption of local foods on a year-round basis. Further research is needed to determine the best opportunities for utilizing and expanding local capacity in this area.

### **c) Local Meat Processing**

For many local meat producers, the lack of meat processing facilities in the region is a barrier to expansion and more diversified marketing of their products. Livestock producers must currently truck their animals to Western Massachusetts or out of state, adding to production costs and animal stress and reducing meat quality. The Southeastern MA Livestock Association (SEMALA) is a recently-formed association with a mission to bring a state-of-the-art, local USDA-certified slaughterhouse to our region.

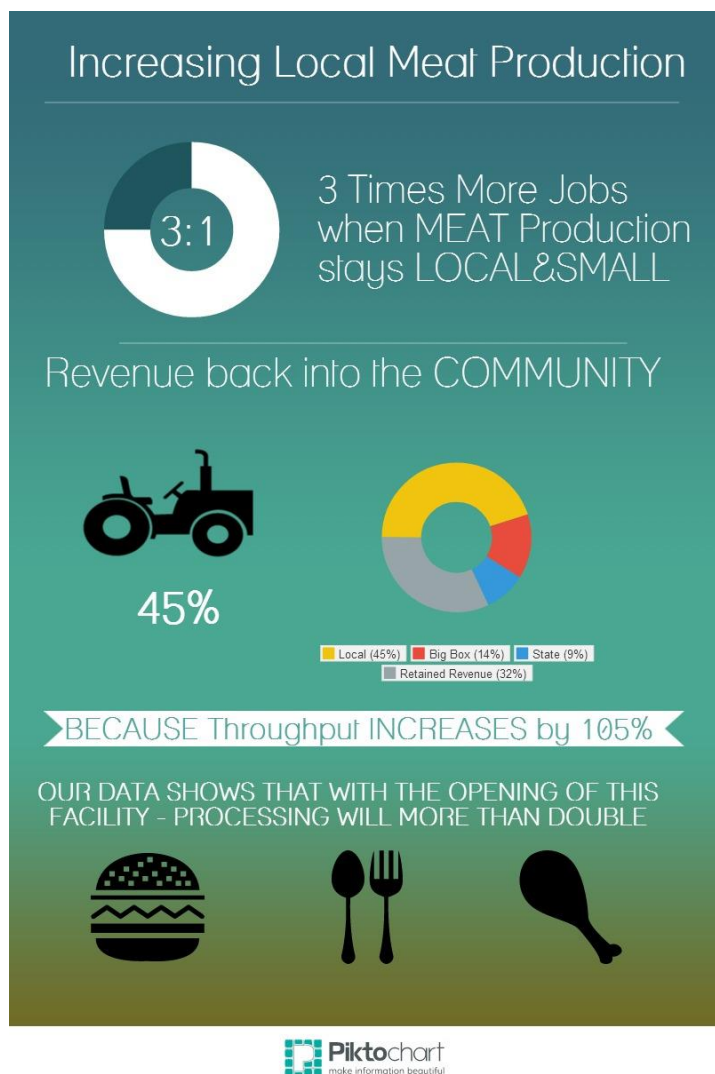
According to a recent article,<sup>50</sup> the group has already secured two land parcels in the town of Westport, and is working to raise capital and complete permitting and planning for the facility. SEMALA estimates that the facility will cost \$3.7 million to build and would have the capacity to slaughter 1,200 to 1,500 animals per year (including cattle, hogs, sheep, and goats). The group has conducted extensive surveys of local livestock producers, which indicate that local meat producers would double their production if a local USDA processing facility were available.<sup>51</sup> Once completed, this facility can be expected to have a major impact on livestock agriculture and the overall food system in the region.

The infographic below shows information recently collected on behalf of SEMALA to illustrate the economic importance of local meat processing capacity to the region.

---

<sup>50</sup> Ariel Wittenberg, "New livestock group proposes slaughterhouse on Route 6 in Westport," *Standard-Times*, April 25, 2014. <http://www.southcoasttoday.com/apps/pbcs.dll/article?AID=/20140425/NEWS/404250310>.

<sup>51</sup> Southeastern Massachusetts Livestock Association, "Southern New England Meat Processing Initiative," <http://www.semala.org/southern-new-england-meat-processing-initiative.html>.



52

#### d) Gaps, Barriers, and Needs

- Of all the components of the food system outlined in this Assessment, the processing and distribution step is the most difficult to research. To better understand this sector, it will be essential to conduct interviews with some of the companies listed above and with individuals and non-profits that have knowledge of this sector. Information about product sources, the amount of local product purchased, distribution routes, customers, and sales volumes is in most cases not available online, and this information tends to be conveyed and held in anecdotal and relationship-based ways.

<sup>52</sup> Infographic created by [bridgetalexanderwriter.com](http://bridgetalexanderwriter.com). Survey data from SEMALA. Jobs data in infographic from John Ikerd, ag economist, University of Missouri, <http://web.missouri.edu/ikerdj/papers/con-hog.htm>.

- The Rhode Island Food Assessment offers a perceptive comment that is both a barrier and an opportunity for growth of the local food system:  
“Increasingly, restaurants that support ‘local’ and farmers themselves are celebrated while the businesses that slice, freeze, pack, store, and ship these foods (local or not) are rarely supported as part of the local food system. . . .Their expertise could be better utilized to bring locally grown and locally processed foods to consumers of all income levels.”<sup>53</sup>
- On-farm and off-farm processing hold promise for increasing both production and consumption of local foods on a year-round basis. Only 6% of Southeastern Massachusetts farms produced value-added products in 2012 and only 4% had on-farm packing facilities, while 17% of vegetable growers grew at least some product for processing, but on only 2% of vegetable acreage. Further research is needed to determine the best opportunities for utilizing and expanding local capacity in this area.
- Further interviews with the key local models of Red Tomato and Farm Fresh Rhode Island’s Market Mobile program would be a helpful starting place for further investigation of this sector.
- The Southeastern MA Livestock Association (SEMALA) is working to address the need for USDA-certified meat processing facility in the region.

---

<sup>53</sup> Karp Resources, “Rhode Island Food Assessment,” 47.

## CHAPTER 4: Food Access and Consumption



---

*1 in 7 households in the U.S. are food insecure.*

*In Massachusetts, the rate is 1 in 9 households.*

*In Bristol County, nearly 1 in 5 children experiences food insecurity.*

---

### **a) Regional Demographics**

#### **i) Population**

According to the 2012 American Community Survey<sup>54</sup>, Massachusetts had a total population of 6,646,144. Bristol County had a population of 551,082, Norfolk County had a population of 681,845, and Plymouth County has a population of 499,759, totaling 1,732,686. In Southeastern Massachusetts, including Bristol, Norfolk, and Plymouth Counties, the population increased by 6.4% from 1990 to 2000 and an additional 3.3% from 2000 to 2012. Nationally, the population increased 9.7% between 2000 and 2010, but much of this increase was in the

---

<sup>54</sup> United States Census Bureau, American Community Survey,  
<http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>.

southern and western U.S.—the Northeast population increased by only 3.2% over this period, putting the region on par with the rest of the state.<sup>55</sup>

## ii) Race & Ethnicity

According to the 2010 U.S. Census, the population of the three Southeastern Massachusetts counties averaged 83.3% White, 5.1% Black, 4.2% Hispanic, 3.9% Asian, and 0.2% American Indian or Alaska Native. These percentages are fairly close to the statewide averages for each group, with the exception of Hispanics, who make up 7.9% of the total Massachusetts population.

From 2000 to 2010 those who identify as “White only” dropped by 4.1% across the three-county region, while those identifying themselves as “Black only” increased by 37%. American Indian & Alaska Native persons residing in Bristol, Norfolk and Plymouth Counties dropped by 21%, while the “Asian only” population increased by 53.5% with the greatest increase in Norfolk County. Those of Hispanic or Latino origin also increased by 53.5%. Native Hawaiian & Other Pacific Islanders, a small category, showed a loss of 36%. The greatest increase was among those who identify themselves as multi-racial or of “two or more races.” This group increased by 155%.<sup>56</sup>

While all three counties are predominately white, Norfolk County shows the greatest diversity with a total 17.7% of the population identifying themselves as a different race, ethnicity, or combination thereof, compared to Bristol County with 11.6% and Plymouth County with 14.5% of the population identifying themselves as non-White or a combination of two races.

Population and Race/Ethnicity, Southeastern Massachusetts, 1990-2010					
POPULATION	Bristol	Norfolk	Plymouth	TOTAL	Change over time
Population Total 1990	506,325	616,087	435,276	1,557,688	
Population Total 2000	534,702	650,265	472,858	1,657,825	+6.4%
Population Total 2010	548,285	670,850	494,919	1,714,054	+3.3%
ETHNICITY/RACE	Bristol	Norfolk	Plymouth	TOTAL	
White only 2010%	88.4%	82.3%	85.5%		
2000	505,127	585,251	432,283	1,522,661	-62,887
2010	484,794	551,847	423,133	1,459,774	-4.1%
Black only 2010%	3.3%	5.7%	6.6%		
2000	14,953	22,324	29,587	66,864	+24,724
2010	17,832	38,148	35,608	91,588	+37%

<sup>55</sup> U.S. Census Briefs: “Population Distribution and Change: 2000 to 2010,”

<http://www.census.gov/prod/cen2010/briefs/c2010br-01.pdf>.

<sup>56</sup> See U.S. Census Bureau, “2010 Census Shows Multiple-Race Population Grew Faster Than Single-Race Population,” News Release, Sept. 27, 2012, for more information about this category.

<https://www.census.gov/newsroom/releases/archives/race/cb12-182.html>.

American Indian & Alaska Native only 2010%	0.4%	0.2%	0.2%		
2000	1,593	882	1,178	3,653	+771
2010	2,120	1,091	1,213	4,424	+21%
Asian only 2010%	1.9%	8.6%	1.2%		
2000	7,159	36,278	4,761	48,198	+25,821
2010	10,242	57,803	5,974	74,019	+53.5%
Native Hawaiian & Other Pacific Islander only 2010%	0%	0%	0%		
2000	259	213	263	735	-265
2010	205	129	136	470	-36%
Hispanic or Latino Origin 2010%	6%	3.3%	3.2%		
2000	19,242	11,990	11,537	42,769	+27,874
2010	33,020	22,004	15,619	70,643	+53.5%
Two or More Races 2010%	2.6%	1.9%	2.6%		
2000	5,587	5,360	4,750	15,697	+24,410
2010	14,410	12,906	12,791	40,107	+155%

### iii) Poverty

The number of people living in poverty in the U.S. in 2012 (46.5 million) was the largest number seen in the 54 years for which poverty estimates have been published.<sup>57</sup> This number translates to a national poverty rate of 15%. As ranked by Poverty USA, Massachusetts was 11th in the country for poverty in 2011, with an overall state poverty level of 11.9% in that year.<sup>58</sup> By 2012, the state poverty rate had fallen slightly to 11.0%.<sup>59</sup>

When viewed as a whole, poverty levels for the three-county Southeastern Massachusetts region appear lower than the statewide level. Norfolk and Plymouth Counties had 2012 poverty rates of 7.6% and 7.4% respectively. Bristol County had a 2012 poverty rate of 13.2%, for a regional average of 9.4%. However, as shown in the chart below, this level of analysis masks pockets of much greater poverty in the region, especially in the cities of New Bedford and Fall River in Bristol County, which had poverty rates of 21.2% and 26.3%, respectively, in 2012.<sup>60</sup> Childhood poverty rates are even higher, with Fall River showing a startling childhood poverty rate of 41.3% in 2012, New Bedford 28.3%, and the counties overall ranging from 8.7% to 17.8%.

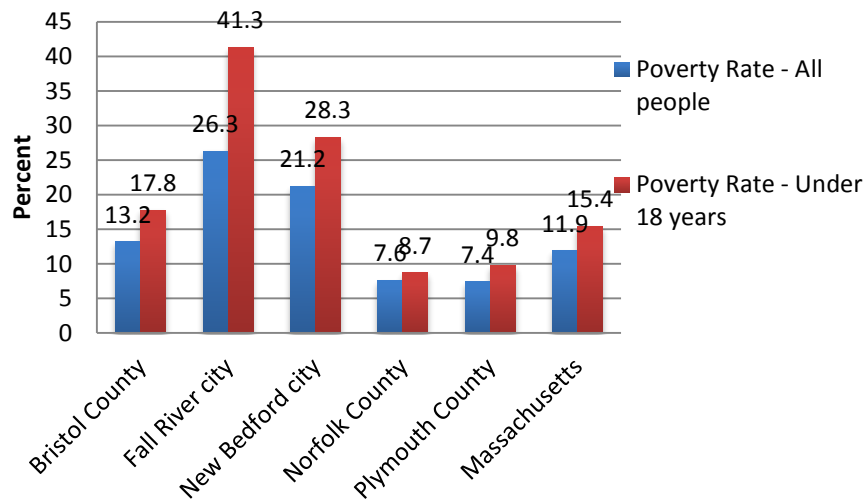
<sup>57</sup> Carmen DeNavas-Walt et al., "Income, Poverty, and Health Insurance Coverage in the United States: 2012." US Census Bureau, September 2013. <http://www.census.gov/prod/2013pubs/p60-245.pdf>.

<sup>58</sup> United States Conference of Catholic Bishops, Poverty USA Map. <http://www.povertyusa.org/the-state-of-poverty/poverty-map-state/>.

<sup>59</sup> American Community Survey, 2012.

<sup>60</sup> American Community Survey, 2012 1-Year Estimates, Selected Economic Characteristics <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

## Overall and Childhood Poverty Rates, SE Mass Counties and Cities, 2012



As is the case for the country as a whole, the poverty rate in Southeastern Massachusetts has increased in recent years. According to the American Community Survey, in 2000, the poverty rate in Massachusetts was 9.6%. In general the Massachusetts poverty rate, including Bristol, Norfolk, and Plymouth Counties, remained steady from 2000 through 2009. The recession showed its impact in 2010, when the three counties showed an average poverty rate increase of two percentage points. During the peak of the recession, Bristol showed the most dramatic increase in poverty rate with a jump of 2.8% and Norfolk the least at 0.7%. Poverty rates across the region remained fairly level or fell slightly between 2010 and 2011, but by 2012 these levels had increased again, as shown below.

Poverty Rate	Bristol	Norfolk	Plymouth	AVERAGE
Population below poverty 2000 <sup>61</sup>	10%	4.6%	6.6%	7%
Population below poverty 2009	10%	5.6%	6.4%	7.3%
Population below poverty 2010	12.8%	6.3%	8.3%	9.1%
Population below poverty 2011	11.9%	6.4%	8.5%	8.9%
Population below poverty 2012	13.2%	7.6%	7.4%	9.4%

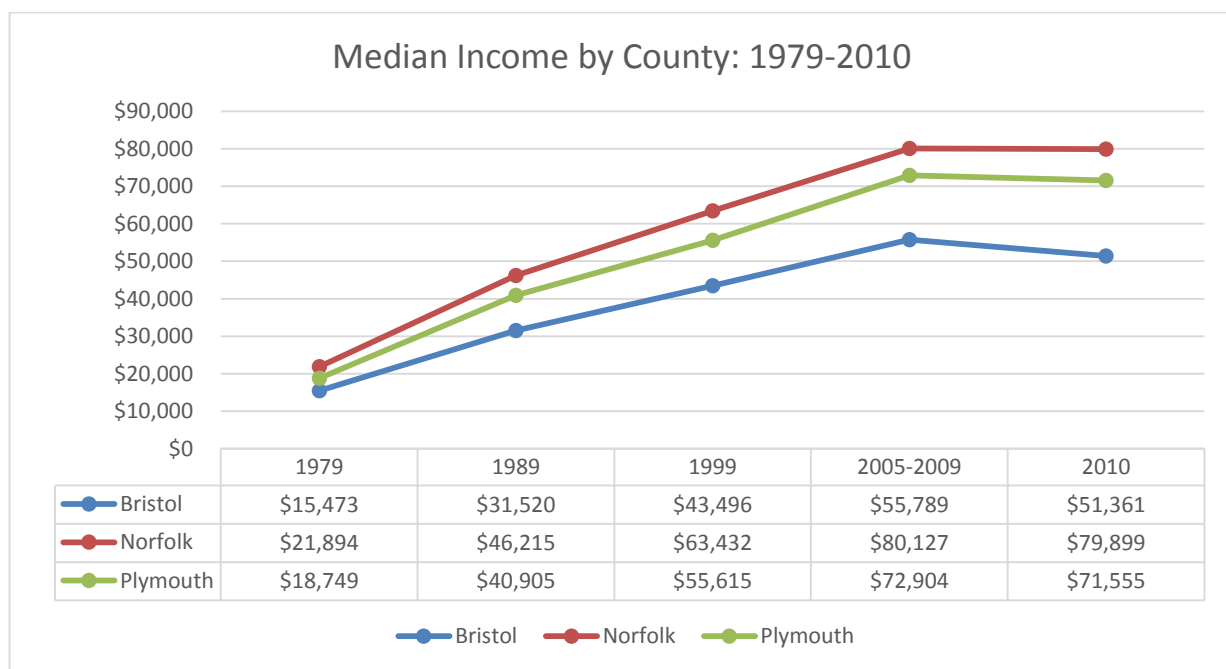
Childhood poverty shows an ever-increasing rate over time and since the recession began. Nationally, the childhood poverty rate has gone from 16.2% in 2000 to 22% in 2010, the highest rate since 1993. Children living in female-headed families with no spouse present had a poverty

<sup>61</sup> Census 2000 Sample Demographic Profiles, Table DP-3. <https://www.census.gov/census2000/demoprofiles.html>.

rate just over four times that of children in married-couple families in 2010 (46.9 percent compared to 11.6 percent).<sup>62</sup>

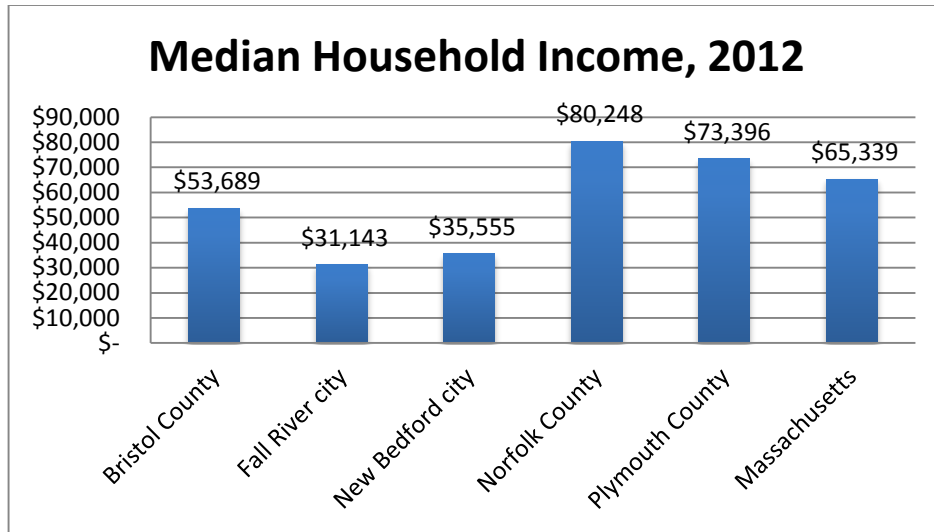
#### iv) Income and Unemployment

The poverty rate data above reflects changes in income and employment levels in the region over the same time period. As shown in the chart below,<sup>63</sup> the recession of 2008 interrupted a relatively steady rise in median income for all three counties in the region. Bristol County's rate of increase had already been lagging behind the other two counties, and it was also hardest hit in the recession. For purposes of comparison, in 2010 the Massachusetts statewide median household income was \$59,120.

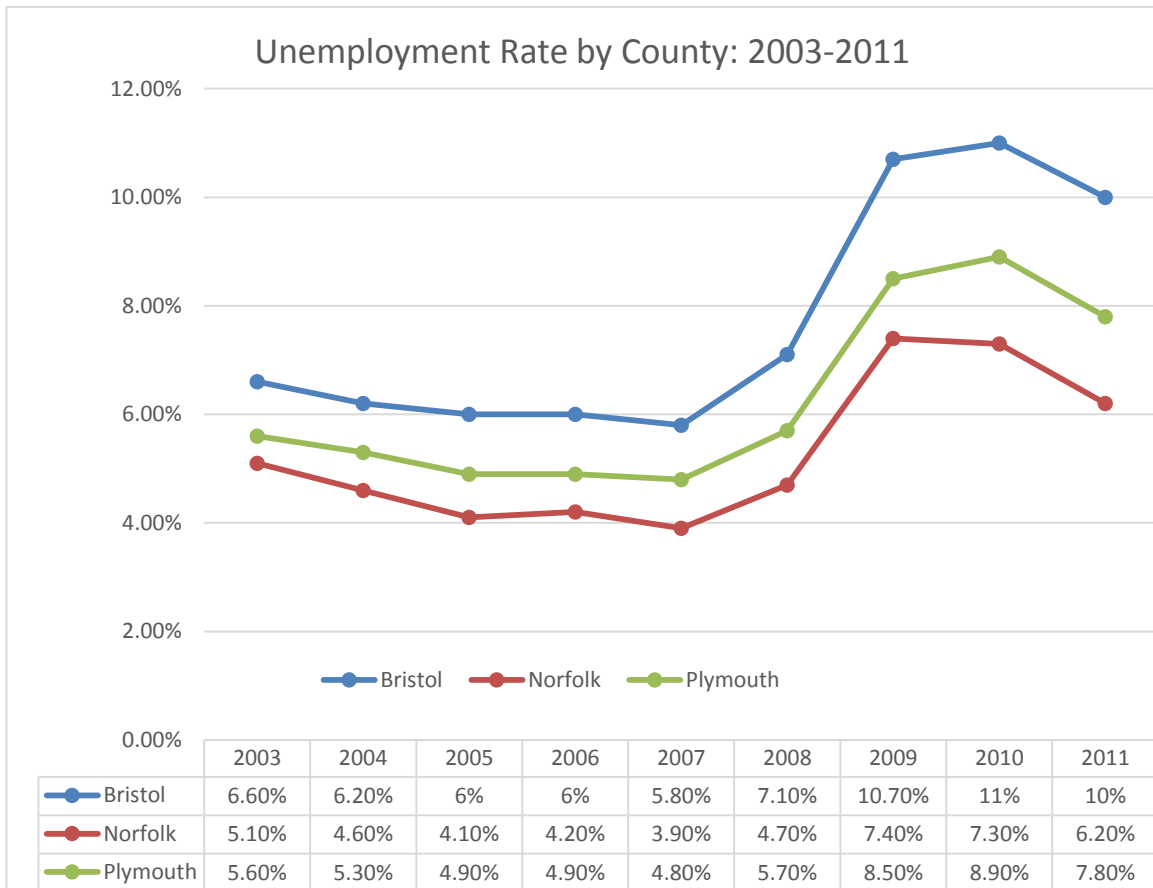


<sup>62</sup> Income, Poverty, and Health Insurance Coverage in the United States: 2012, US Census Bureau

<sup>63</sup> Income and Unemployment data taken from 2010 U.S. Census.



Unemployment trends in the region mirror the median income statistics shown above, with Bristol County consistently showing the highest unemployment and also suffering the greatest unemployment increases as a result of the recession.



## b) Food Insecurity

Taken together, the region's high poverty, unemployment, and relatively low income levels even for those who are employed contribute to a high level of food insecurity in the region overall.

The USDA defines food insecurity as a situation where "Food intake of one or more household members was reduced and their eating patterns were disrupted at times during the year because the household lacked money and other resources for food."<sup>64</sup> Two sources are available for tracking food insecurity. While the USDA provides food security statistics based on census data, Feeding America, a national hunger-relief organization, utilizes a different methodology through indicators such as poverty, unemployment, and median income.<sup>65</sup> Feeding America also provides statistics on children living in food-insecure families at both the state and county level. Data below are taken primarily from their "Map the Meal Gap" report and interactive online map.

The table below shows Feeding America's 2012 food insecurity rates for the three-county region. As is the case with the income and unemployment indicators above, Bristol County greatly exceeds both the other two counties and the statewide average, with overall and childhood food insecurity rates of 12.3% and 18.2% respectively. This means that nearly 1 in 5 children in Bristol County experiences food insecurity. The table also shows that only about half of these children are likely eligible for federal nutrition assistance, due to income eligibility limits for these federal programs.

Food Insecurity Rates, 2012 <sup>66</sup>	Bristol	Norfolk	Plymouth	Statewide Average
Overall	12.3% 67,690 people	8.5%, 57,040 people	9%, 44,730 people	11.9%
Child	18.2% 22,150 children	11.2% 16,890 children	12.7% 15,080 children	16.6%
Food insecure children likely income-eligible for federal nutrition assistance <sup>67</sup> .	64%	43%	57%	62%
Food insecure children likely NOT income-eligible for federal nutrition assistance.	36%	57%	43%	38%

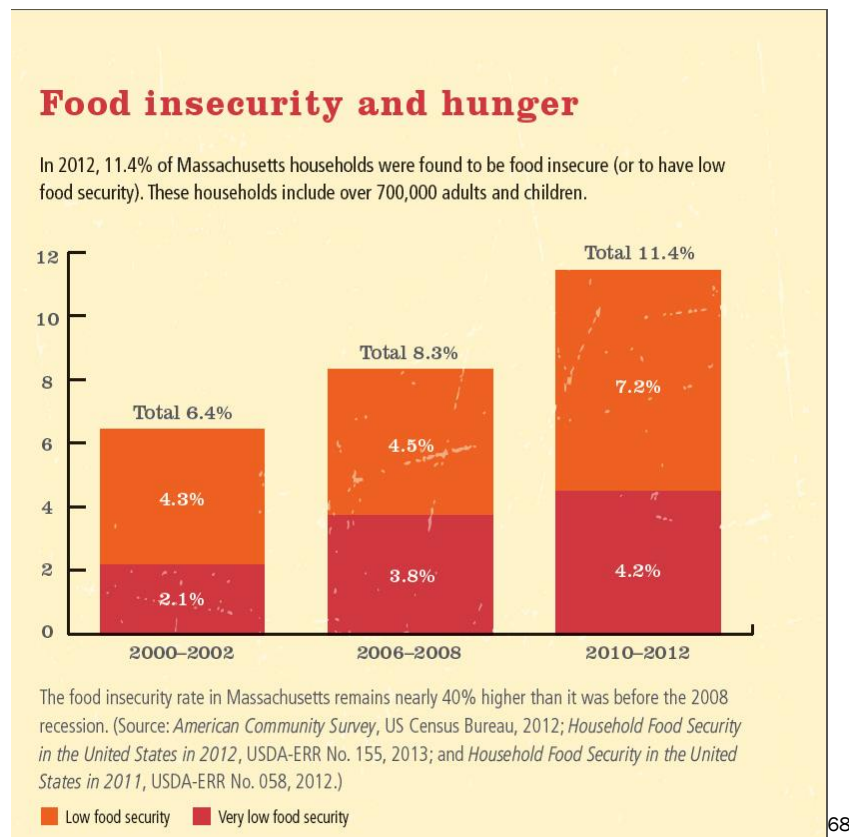
<sup>64</sup> USDA, "Household Food Security in the US in 2012."

<sup>65</sup> Deborah A. Frank et al., Food Insecurity Among Children in Massachusetts." Mosakowski Institute for Public Enterprise [http://www.familyimpactseminars.org/s\\_mafis04c02.pdf](http://www.familyimpactseminars.org/s_mafis04c02.pdf);  
Feeding America, "Map the Meal Gap: How We Got the Map Data." <http://feedingamerica.org/hunger-in-america/hunger-studies/map-the-meal-gap/how-we-got-map-data.aspx#>.

<sup>66</sup> Feeding America, "Map the Meal Gap." <http://feedingamerica.org/hunger-in-america/hunger-studies/map-the-meal-gap.aspx>.

<sup>67</sup> Map the Meal Gap notes: "Numbers reflect percentage of food insecure children living in households with incomes above or below 185% of the federal poverty guideline for 2012. Eligibility for federal child nutrition programs is determined in part by income thresholds which can vary by state."

Using USDA food insecurity data (not available on a county level or for childhood food insecurity rates), Project Bread provides the following snapshot of increasing food insecurity rates statewide in recent years:



68

## Obesity Rates

As in other areas of the country, high levels of poverty and food insecurity often correlate with high levels of obesity and obesity-related health issues.<sup>69</sup>

In general Massachusetts ranks well nationally for overall obesity rates, with an overall 2013 obesity rate of 22.2%, as shown in the table at right. Using 2010 county-level data from the USDA Food Environment Atlas, in the three-county Southeastern Massachusetts region in 2010, between 19.8% and 29.1% of adults were obese. Over the

### Ten States With Lowest Obesity Rates

	% Obese
Montana	19.6
Colorado	20.4
Nevada	21.1
Minnesota	22.0
Massachusetts	22.2
Connecticut	23.2
New Mexico	23.5
California	23.6
Hawaii	23.7
New York	24.0

January-December 2013  
Gallup-Healthways Well-Being Index

GALLUP®

<sup>68</sup> Project Bread, "Project Bread 2013 Status Report on Hunger in Massachusetts."

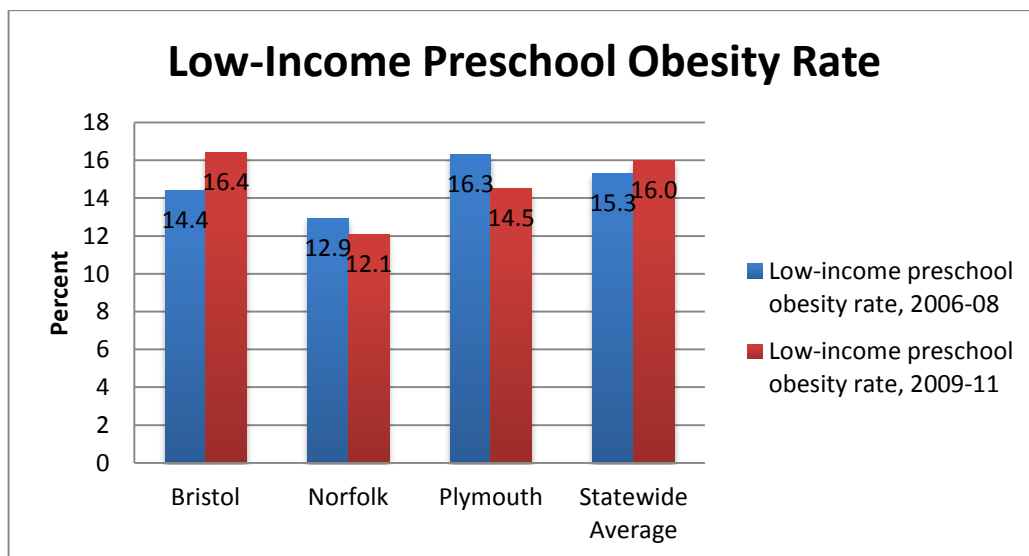
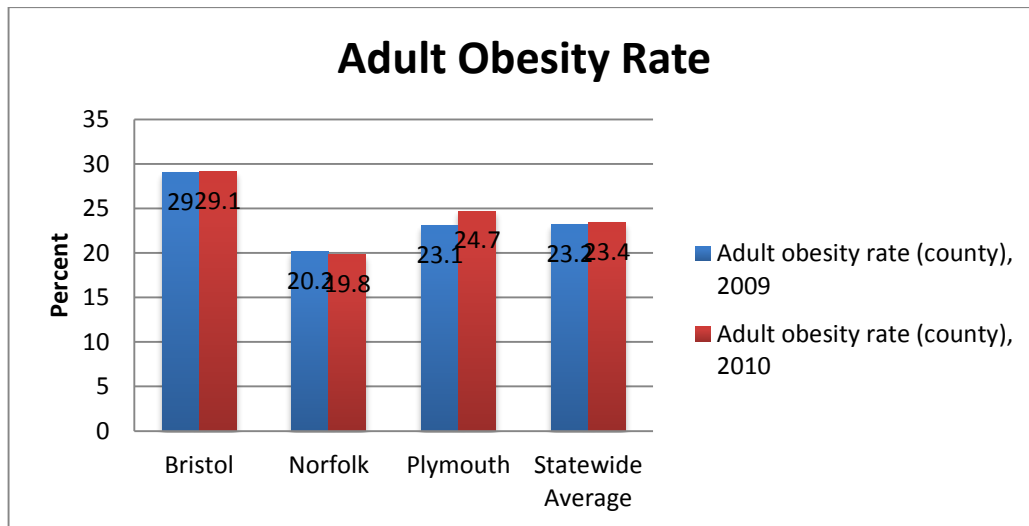
[http://support.projectbread.org/site/PageServer?pagename=about\\_hunger\\_statusreport](http://support.projectbread.org/site/PageServer?pagename=about_hunger_statusreport).

<sup>69</sup> Food Research and Action Center, "Relationship Between Hunger and Overweight or Obesity." 2010.

<http://frac.org/initiatives/hunger-and-obesity/are-hunger-and-obesity-related/>.

years 2009-2011, low-income pre-school obesity rates ranged from 12.1% to 16.4% across the region.<sup>70</sup>

Once more, Bristol County shows by far the highest rates of these poverty-associated health issues. On a positive note, the rate of low-income pre-school obesity declined slightly in Norfolk and Plymouth Counties between 2006-2008 and 2009-2011, with an overall drop of 0.2%. However, Bristol County's rate rose 2% during this period, so the overall positive trend again masks areas of persistent diet-related diseases in this county.



The UMass Dartmouth SouthCoast Urban Indicators project provides some additional valuable data on obesity rates in the cities of New Bedford and Fall River.<sup>71</sup> Using 2008 data from the

<sup>70</sup> Chart Source: USDA Food Environment Atlas.

Behavioral Risk Factor Surveillance System, the project found that the New Bedford adult obesity rate was 29%, or comparable to the Bristol County rate, while Fall River's adult obesity rate exceeded the overall county rate at 31.9%. The project also mapped obesity rates across the cities by zip code. See chart at: <http://southcoastindicators.org/health/adult-obesity-new-bedford/>.

Using 2010 data collected by Massachusetts public schools, the project also examined older child obesity rates in the two cities. Though these numbers are not directly comparable to the percentages in the chart above, due to different data sources and years, they give a sense of the higher rates of childhood obesity in the two cities than in the county and region overall. The study found that 17.4% of children in Fall River and 19.2% of children in New Bedford were obese, compared with a statewide average of 16.3% from that study's data. Furthermore, the study noted that "As the children age, the weight disparities between New Bedford and Massachusetts populations increase. In first grade, 15.2% of New Bedford's children are obese, compared with 14.3% statewide, a difference of less than one percent. More than one-fifth (20.4%) of New Bedford's tenth graders are obese, compared with 15.2% statewide, a difference of more than five percent."<sup>72</sup> See chart at <http://southcoastindicators.org/health/child-obesity/>.

### c) Food Access

The term "Food access" generally refers to people's ability to find and afford food.

According to the USDA Food Access Research Atlas, "Most measures and definitions [of food access] take into account at least some of the following indicators of access:

- Accessibility to sources of healthy food, as measured by distance to a store or by the number of stores in an area.
- Individual-level resources that may affect accessibility, such as family income or vehicle availability.
- Neighborhood-level indicators of resources, such as the average income of the neighborhood and the availability of public transportation."<sup>73</sup>

In combination with the income information discussed above, the sections below will examine food access factors and sources of food locally in more detail.

---

<sup>71</sup> UMass Dartmouth Urban Initiative, SouthCoast Urban Indicators Project, "Health: Adult Obesity." November 2012. <http://southcoastindicators.org/health/adult-obesity-new-bedford/>.

<sup>72</sup> UMass Dartmouth Urban Initiative, SouthCoast Urban Indicators Project, "Health: Child Obesity." November 2012. <http://southcoastindicators.org/health/child-obesity/>.

<sup>73</sup> Economic Research Service (ERS), U.S. Department of Agriculture (USDA), "Food Access Research Atlas." <http://www.ers.usda.gov/data-products/food-access-research-atlas.aspx>.

## i) Federal Nutrition Programs

Two key tools for increasing both food access and overall food security are the federal SNAP and WIC programs. These programs are important for understanding both the current options for food access in Southeastern Massachusetts and the possible opportunities for increasing access and food security in the future.

### *SNAP and WIC*

SNAP, the Supplemental Nutrition Assistance Program, is a federal nutrition program that provides nutrition assistance to eligible low-income individuals and families. SNAP benefits can be used to purchase food at grocery stores, convenience stores, and some farmers' markets. Formerly known as food stamps, SNAP benefits are now provided each month in the form of a plastic card called an EBT (electronic benefits transfer) card, which works like a debit card. Paper coupons are no longer used.<sup>74</sup>

WIC stands for the Special Supplemental Nutrition Program for Women, Infants, and Children. This program provides federal grants to states for supplemental foods, health care referrals, and nutrition education for low-income pregnant, breastfeeding, and non-breastfeeding postpartum women, and to infants and children up to age five who are found to be at nutritional risk.

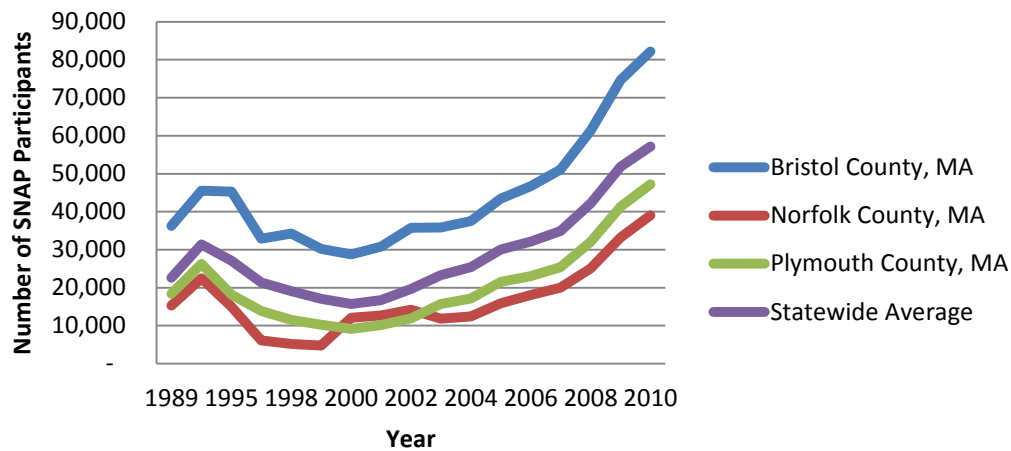
The SNAP program has become increasingly important to families in Southeastern Massachusetts in recent years, as shown by the following table and charts.

SNAP Participants and Participation Rate, 2010 <sup>75</sup>	<u>Bristol</u>	<u>Norfolk</u>	<u>Plymouth</u>	<u>Statewide Average</u>
SNAP participants	82,204	39,093	47,235	57,198
% of population participating in SNAP	15%	6%	10%	11%
SNAP participants received approximately \$130 per month per participant in 2010.				

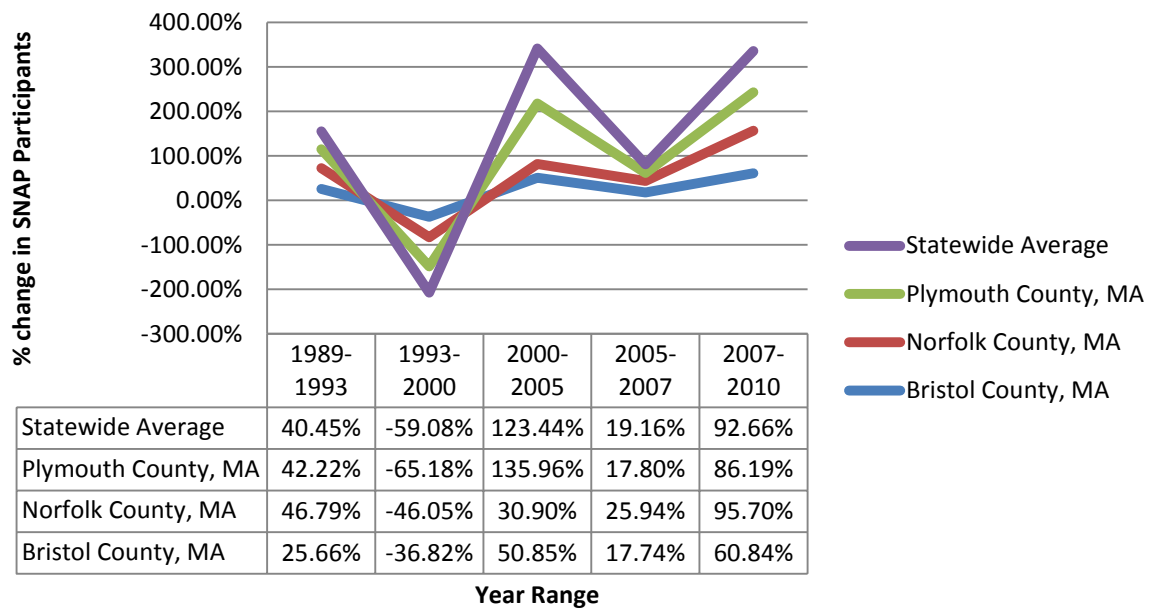
<sup>74</sup> Project Bread, "Getting SNAP." <http://www.gettingfoodstamps.org/whatissnap.html>.

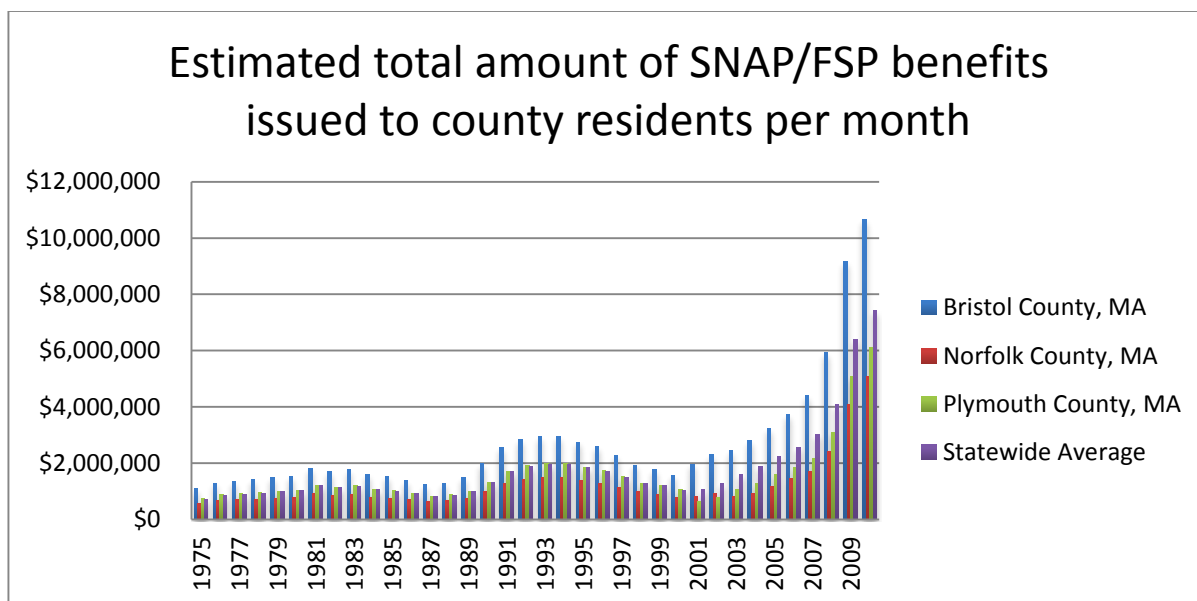
<sup>75</sup> Economic Research Service (ERS), U.S. Department of Agriculture (USDA), "SNAP Data System." [http://www.ers.usda.gov/data-products/supplemental-nutrition-assistance-program-\(snap\)-data-system.aspx#.U6ELc5RdUi4](http://www.ers.usda.gov/data-products/supplemental-nutrition-assistance-program-(snap)-data-system.aspx#.U6ELc5RdUi4). 2010 is the most recent year for which county-level SNAP participation data for Massachusetts is available.

## Estimated number of active SNAP/Food Stamp Program (FSP) participants



## Percentage change in the number of SNAP/FSP participants over key time periods





Overall, SNAP benefits represent a very significant source of funds both for individual recipients and for the region of Southeastern Massachusetts. As shown in the chart above, by 2010 Bristol Co. residents participating in SNAP were receiving an estimated county total of over \$10.6 million per month, with Norfolk and Plymouth Co. receiving lower but still very large estimated totals of \$5.1 million per month and \$6.1 million per month, respectively. For the three-county region in 2010, these monthly totals added up to an annual total of over \$262.3 million in federal dollars flowing in to the region.

These dollars flow to private local businesses, including potentially to local farm businesses in the form of SNAP redemption at local farmers' markets. The more locally-owned food retail businesses that accept SNAP benefits, as opposed to large chain grocery stores owned by outside conglomerates, the greater the region's chances of taking advantage of the frequently-reported multiplier effect for dollars spent in the local community.<sup>76</sup> According to a 2012 study of independent retailers in 10 communities, "Averaged across the 10 communities in the retail studies, spending at indie retailers generates 3.7 times more direct local economic benefit than spending at chains."<sup>77</sup>

However, 2014 cuts to the SNAP program in the federal farm bill are expected to have a significant negative impact on these benefits and on individuals and families in the region.

A *New York Times* Op-Ed from February 2014 provides some numbers and perspective to help anticipate the likely impact on Southeastern Massachusetts:

*At \$8.6 billion, the cuts to the Supplemental Nutrition Assistance Program (SNAP, formerly known as food stamps) make up more than half the "savings"*

<sup>76</sup> Civic Economics, "Indie Impact Study Series: A Project Of Civic Economics And The American Booksellers Association." <http://www.civiceconomics.com/indie-impact.html>

<sup>77</sup> American Independent Business Alliance, "Ten New Studies of the 'Local Economic Premium.'" October 2012. <http://www.amiba.net/resources/studies-recommended-reading/local-premium>.

*from this bill. The 850,000 low-income households that will see significant reductions in their ability to afford food — \$90 [per] month on average, and even higher in New York City — will find little comfort in hearing that this was the best deal their representatives in Washington could get.*

*Charities will not be able to step in and save the day. In New York City, we've already seen what happens when SNAP benefits are cut: 85 percent of the food pantries and soup kitchens in Food Bank for New York City's network saw more people on their lines after across-the-board cuts to SNAP went into effect this past November than they saw in the immediate aftermath of Hurricane Sandy, and roughly half reported food shortages in that first month alone.<sup>78</sup>*

As discussed further in Chapter 6, Massachusetts is currently investigating an option known as “Heat and Eat,” in which the state allocates more money for low-income heating assistance programs, which in turn trigger eligibility for higher levels of SNAP benefits.

#### *SNAP Participation rate*

Though it is unfortunate that so many families must rely on this federal program to obtain food, this statistic at least reflects a positive trend in the participation rate by those who are eligible. In previous years, Massachusetts has had a very low SNAP participation rate, which amounts to leaving available federal dollars on the table instead of putting them to use to help families afford food. Better coordination between the Network's member food banks and the Department of Transitional Assistance could be one opportunity for identifying SNAP-eligible families who may not be receiving benefits.

#### *WIC Redemptions*

As shown in the table below, while SNAP benefits per capita increased significantly between 2008 and 2010, over a slightly longer time frame of 2008-2012, WIC redemptions dropped. According to a 2012 article,<sup>79</sup> reasons for this drop may include:

- Food stamps are easier to get and easier to use than WIC.
- Food stamp benefits are often more generous, except in the case of infants. (Benefits decline as children get older.)
- WIC applicants must be seen by a health professional to determine nutrition risk before they can get benefits.
- WIC outreach during the recession has been less coordinated than the effort for SNAP.

---

<sup>78</sup> Margarett Purvis, “Part of the Farm Bill: Cuts to Food Stamps,” *New York Times* Opinion, February 7, 2014. [http://www.nytimes.com/2014/02/08/opinion/part-of-the-farm-bill-cuts-to-food-stamps.html?\\_r=0](http://www.nytimes.com/2014/02/08/opinion/part-of-the-farm-bill-cuts-to-food-stamps.html?_r=0).

<sup>79</sup> Pamela Prah, “Why Are Fewer Moms Applying for Safety Net Program?” The Pew Charitable Trusts, April 30, 2012. <http://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2012/04/30/why-are-fewer-moms-applying-for-safety-net-program>.

- Sign-up and paperwork hassles, including the fact that children over the age of 1 must be re-certified every 6 months.

SNAP benefits and WIC redemptions per capita, 2008-2010 or 2012						
	SNAP benefits per capita, 2008	SNAP benefits per capita, 2010	SNAP benefits per capita (% change), 2008-10	WIC redemptions per capita, 2008	WIC redemptions per capita, 2012	WIC redemptions per capita (% change), 2008-12
Bristol	\$10.85	\$19.57	80.32	\$14.66	\$13.75	-6.18
Norfolk	\$3.66	\$8.06	119.89	\$7.52	\$7.11	-5.45
Plymouth	\$6.27	\$14.57	132.32	\$11.63	\$10.81	-7.05
Statewide Average	\$8.56	\$14.42	82.99	\$13.18	\$12.52	-5.16

#### *National School Breakfast and Lunch Programs*

Other programs exist that help increase the food security of children in school. The National School Lunch Program is a federal program that provides low-cost or free lunches to students in over 100,000 schools nationally. School districts and independent schools that choose to take part in the lunch program get cash subsidies and foods from the USDA for each meal they serve. The School Breakfast Program works in a similar manner.

According to a recent article,<sup>80</sup> starting in Fall 2014, all students enrolled in New Bedford's public schools will be eligible for free school breakfast and lunch regardless of income level, under a new provision of these programs known as the Community Eligibility Provision.

To give a sense of the scale of the program, the article cites New Bedford school department figures indicating that there are "about 13,600 students enrolled in the city's public schools and the five participating private schools. Of those, about 9,100 — or two-thirds — are currently eligible for free meals. Another 730 students qualify for reduced-price meals."

#### *Summer Nutrition Program*

As noted in a recent Food Research and Action Center report, "When the school bell rings to mark the beginning of the long summer recess, millions of low-income children lose access to the school breakfasts and lunches they rely on during the school year."<sup>81</sup> The Summer Nutrition Program helps fill that gap by providing meals through child care programs, summer schools, and other programs. Despite recent expansion efforts, the Summer Nutrition Program still serves

<sup>80</sup> Carol Kozma, "Free breakfast, lunch on menu for New Bedford students." *Standard-Times*, May 22, 2014. <http://www.southcoasttoday.com/apps/pbcs.dll/article?AID=/20140522/NEWS/405220387>.

<sup>81</sup> Kate Sims et al., "Hunger Doesn't Take a Vacation: Summer Nutrition Status Report 2014." Food Research and Action Center, June 2014. [http://frac.org/pdf/2014\\_summer\\_nutrition\\_report.pdf](http://frac.org/pdf/2014_summer_nutrition_report.pdf).

just 15.1 children for every 100 low-income children who participated in school lunch during the 2012-2013 school year. Increasing participation in this program, through coordinated outreach and promotion among Network members, could be one opportunity for increasing year-round child food security in the region.

## d) Food Retail

### i) Supermarkets

As noted above, one key determinant of food access is simply the number and location of stores selling food in an area. The USDA's Food Environment Atlas gives a picture of the number and types of food stores present in Southeastern Massachusetts. According to this source, there were 282 grocery stores in the three-county region in 2011, a decline of 6.5% from 302 in 2007. This rate of decline was greater than the statewide average drop of 5.6% in the number of grocery stores over the same time period. The region also trails behind the rest of the state in the number of grocery stores per 1,000 people, with a 2011 average of 0.165 grocery stores per 1,000 people, as compared with a statewide rate of 0.245 stores per 1,000 people. As mentioned above the absolute number of grocery stores declined between 2007-2011, while the population increased, so the number of grocery stores per capita for the region declined by 8.0% from 2007-2011, as compared to a statewide decline of 6.2%.

	Grocery stores, 2007	Grocery stores, 2011	Grocery stores (% change), 2007-11	Grocery stores/ 1,000 pop, 2007	Grocery stores/ 1,000 pop, 2011	Grocery stores/ 1,000 pop (% change), 2007-11
Bristol	109	101	-7.339	0.200	0.184	-8.088
Norfolk	108	100	-7.407	0.165	0.148	-10.055
Plymouth	85	81	-4.706	0.173	0.163	-5.897
Statewide Average	91.4	92.4	-5.606	0.280	0.245	-6.173

Major grocery store chains in the region include:

- Hannaford's
- Market Basket
- Price Rite
- Seabra
- Shaw's
- Stop & Shop – including regional distribution center in Freetown
- Target
- Trader Joe's

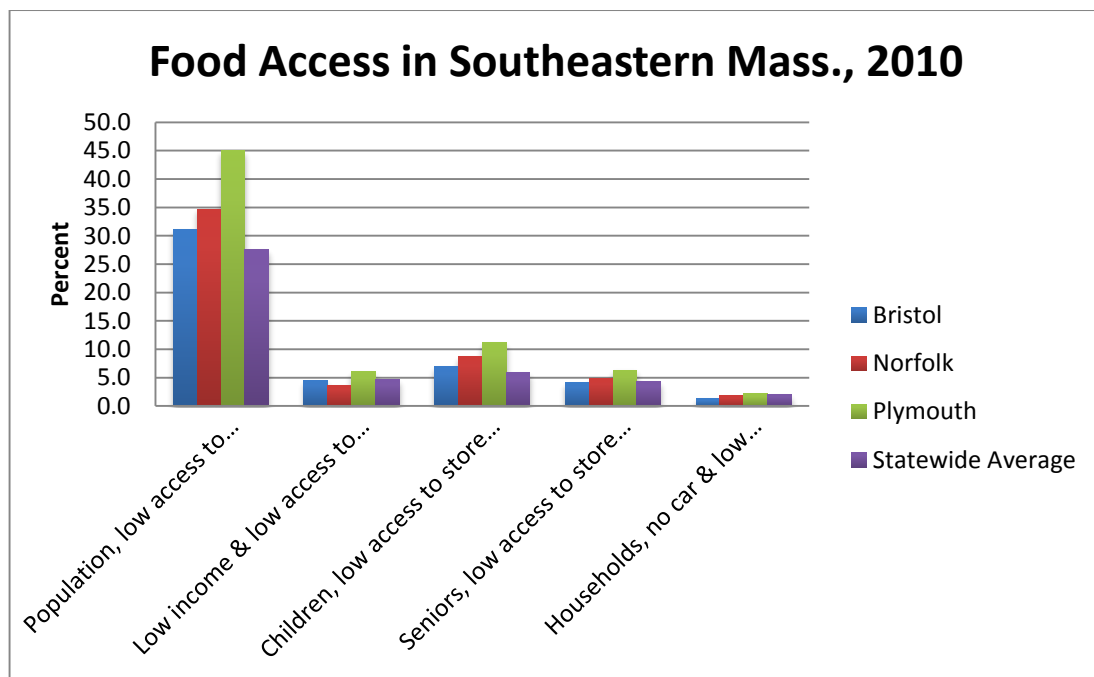
- Trucchi's
- Walmart
- Whole Foods

Independent grocery stores include:

- Lees Market (Westport)
- Foodie's Markets (Duxbury and Plymouth)
- The Market at Pinehills (Plymouth)

## ii) "Food deserts"

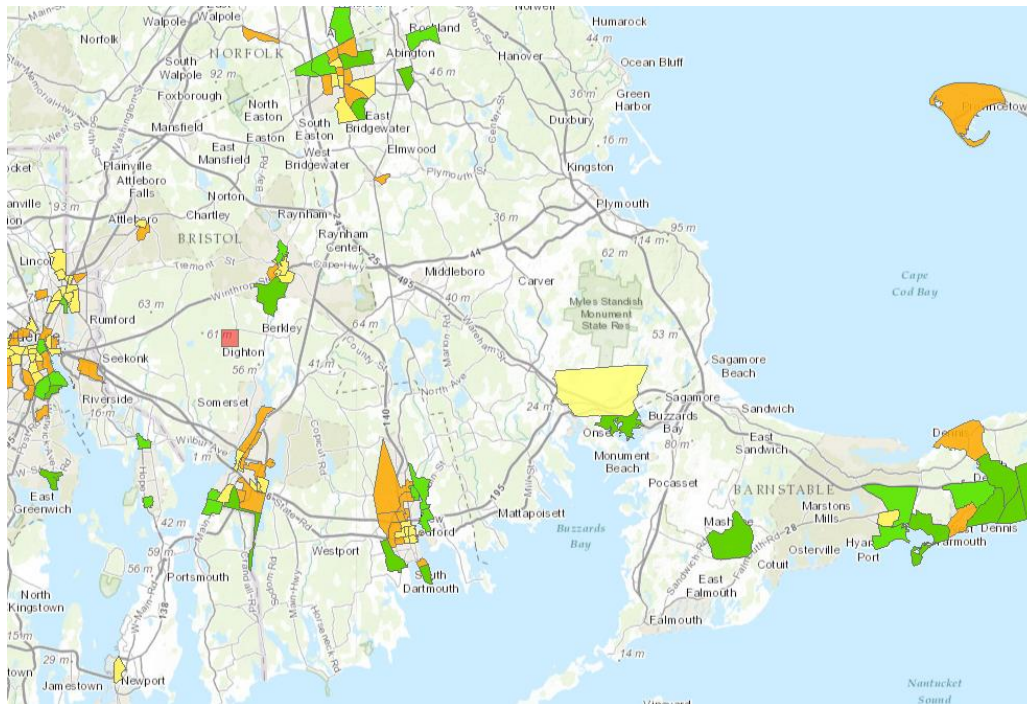
The chart below, taken from the USDA's Food Access Research Atlas, shows the percent of the overall population with low access to a store, as well as the percentages for some specific population groups. USDA defines "low access to store" as the "Number of people in a county living more than 1 mile from a supermarket or large grocery store if in an urban area, or more than 10 miles from a supermarket or large grocery store if in a rural area."<sup>82</sup> For this indicator, unlike many others previously discussed, Plymouth County generally fares the worst, with the highest percentage of people with low access to a store.



<sup>82</sup> Economic Research Service (ERS), U.S. Department of Agriculture (USDA), "Food Environment Atlas." [http://www.ers.usda.gov/datafiles/Food\\_Environment\\_Atlas/Data\\_Access\\_and\\_Documentation\\_Downloads/Current\\_Version/documentation.pdf](http://www.ers.usda.gov/datafiles/Food_Environment_Atlas/Data_Access_and_Documentation_Downloads/Current_Version/documentation.pdf).

In recent years there has been much research and discussion on the idea of “food deserts,” or areas where grocery stores are too few or too far apart to serve the residents. Despite critiques of this topic,<sup>83</sup> the concept of food deserts is still worth examining as a component of food security in Southeastern Massachusetts.

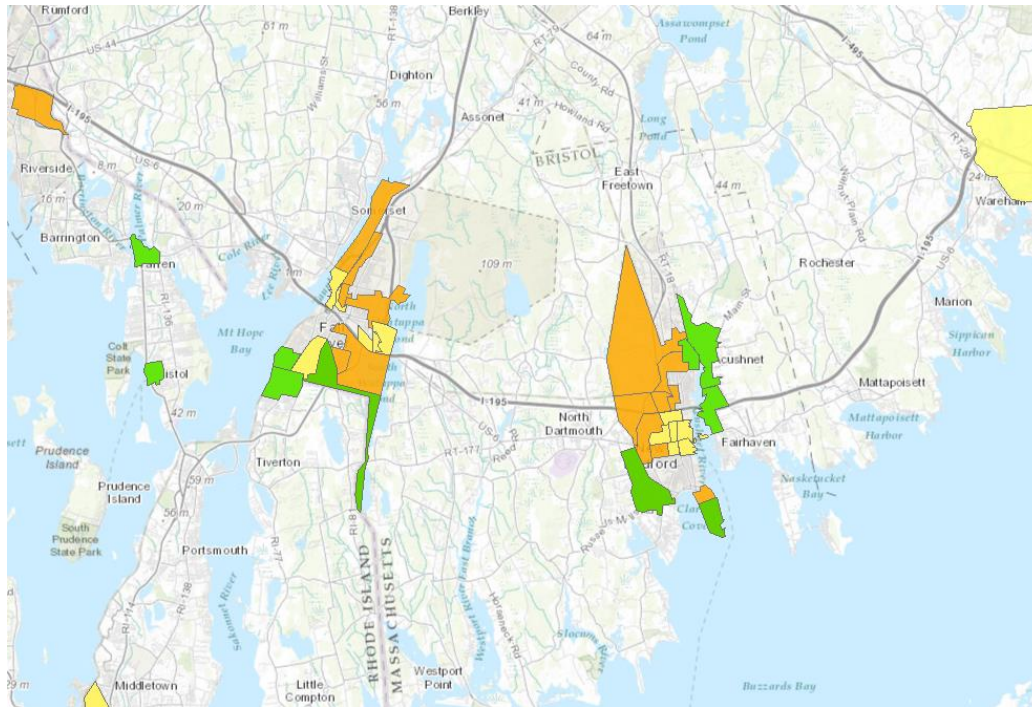
The USDA’s Food Access Research Atlas also provides searchable maps that illustrate access to grocery stores within a region.<sup>84</sup> As shown below, these maps indicate pockets of food deserts within our region, especially within the cities of Fall River and New Bedford.



Close up of New Bedford and Fall River Food Deserts:

<sup>83</sup> See, for example, Gina Kolata, “Studies Question the Pairing of Food Deserts and Obesity,” *New York Times*, April 17, 2012, [http://www.nytimes.com/2012/04/18/health/research/pairing-of-food-deserts-and-obesity-challenged-in-studies.html?\\_r=0](http://www.nytimes.com/2012/04/18/health/research/pairing-of-food-deserts-and-obesity-challenged-in-studies.html?_r=0) and “Response to ‘Studies Question Pairing of Food Deserts and Obesity,’” [http://www.marigallagher.com/site\\_media/dynamic/project\\_files/RESPONSE\\_NYT\\_FOODDESERTS-OBESITY.pdf](http://www.marigallagher.com/site_media/dynamic/project_files/RESPONSE_NYT_FOODDESERTS-OBESITY.pdf).

<sup>84</sup> ERS, USDA, Food Access Research Atlas.



KEY: Low Income (LI) & Low Access (LA) Layers

Green: LI and LA at 1 and 10 miles (Original Food Desert measure)

Orange: LI and LA at 1/2 and 10 miles

Red: LI and LA at 1 and 20 miles

Yellow: LI and LA using vehicle access

### iii) Convenience Stores

When supermarkets are difficult to access, convenience stores can often be an important source of food purchases. The table below shows the number of convenience stores in the region.

Convenience Stores, Southeastern Massachusetts, 2007-11						
	Convenience stores, 2007	Convenience stores, 2011	Convenience stores (% change), 2007-11	Convenience stores/1,000 pop, 2007	Convenience stores/1,000 pop, 2011	Convenience stores/1,000 pop (% change), 2007-11
<b>Bristol</b>	233	257	10.3	0.4	0.5	9.4
<b>Norfolk</b>	237	243	2.5	0.4	0.4	-0.4
<b>Plymouth</b>	247	232	-6.1	0.5	0.5	-7.2
<b>Statewide Average</b>	184.6	193.5	2.3	0.4	0.4	0.6

Given that convenience stores often serve as an important source for food purchases, one local program of note is Mass in Motion New Bedford's Healthy Market Initiative, which works to help

customers access more healthy food options through local convenience stores. A Healthy Market is defined as a convenience store that is actively working to meet Mass in Motion New Bedford's guidelines to provide healthy, affordable choices for their customers. These guidelines include stocking at least two fruits or vegetables, three healthy grains or cereals, and healthy beverages including fat free or low fat milk, 100% juice, and water. Currently, five New Bedford markets are participating in this program.<sup>85</sup> (See Appendix 4).

Similar programs in other regions, such as the Healthy Corner Stores initiative in Rhode Island and the Healthy Bodegas Initiative in NYC, have helped begin efforts to make corner stores an option for healthy food choices in those areas. Expansion of Mass in Motion's program is one opportunity for increasing regional food access and food security.

#### *SNAP- and WIC-authorized retailers*

SNAP or WIC benefits can only be used at retailers or markets that are authorized to accept these benefits, so the number and location of SNAP-authorized retailers in a region can be a key determinant of food access and food security.

The USDA's Food Environment Atlas does not distinguish between SNAP authorized grocery stores and other types of SNAP-authorized retailers, such as convenience stores, so it is hard to know how wide a variety of fresh foods are available to families relying on SNAP-authorized retailers from this data. However, as shown below the three-county region is well-served by SNAP-authorized retailers, exceeding the statewide rate.

<b>SNAP-Authorized retailers, Southeastern Massachusetts, 2008-12</b>						
	SNAP-authorized stores, 2008	SNAP-authorized stores, 2012	SNAP-authorized stores (% change), 2008-12	SNAP-authorized stores/ 1,000 pop, 2008	SNAP-authorized stores/ 1,000 pop, 2012	SNAP-authorized stores/ 1,000 pop (% change), 2008-12
<b>Bristol</b>	315	462	47.03	0.58	0.84	45.63
<b>Norfolk</b>	137	304	121.87	0.21	0.45	115.21
<b>Plymouth</b>	157	300	90.82	0.32	0.60	88.75
<b>Statewide Average</b>	202.17	323.43	62.00	0.43	0.66	61.03

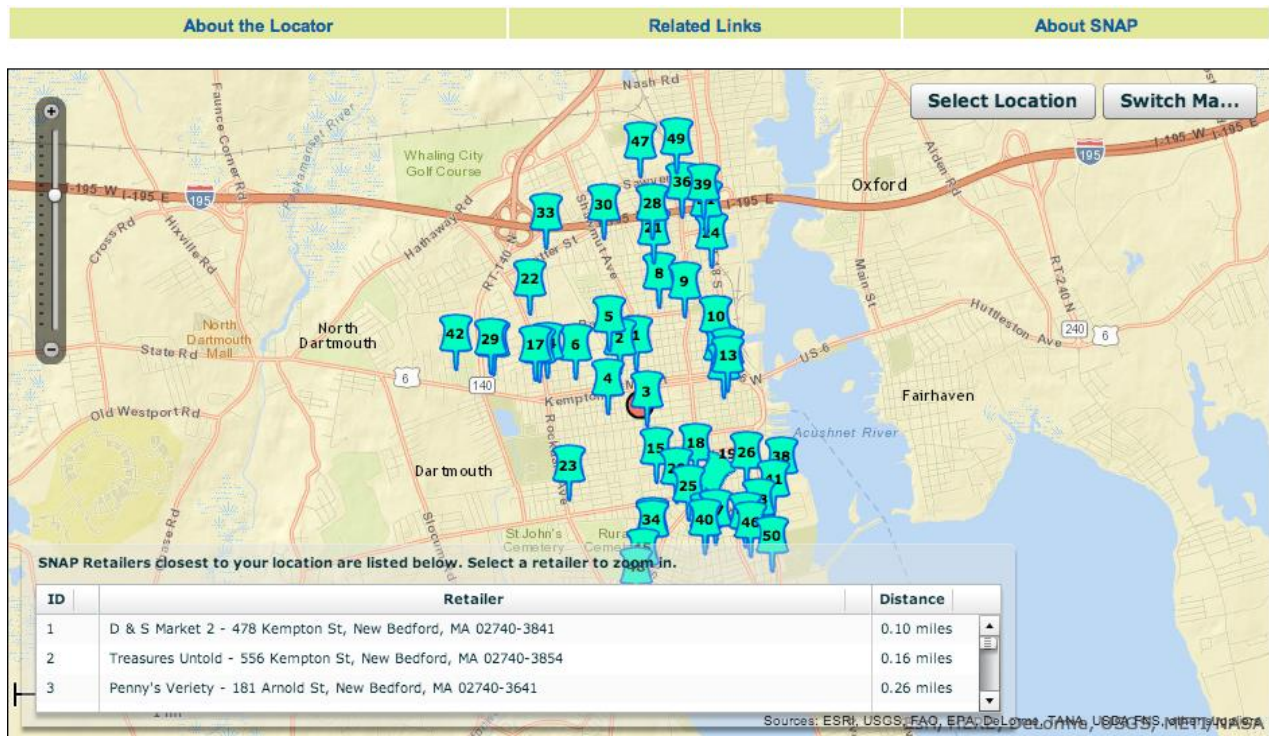
In contrast, there are far fewer WIC-authorized retailers in the region, and the number of WIC-authorized stores has held steady or dropped in recent years, presenting challenges to families relying on this program.

<sup>85</sup> Mass in Motion New Bedford, "Healthy Markets Initiative." <http://massinmotionnewbedford.org/healthy-markets-initiative/>.

### WIC-Authorized retailers, Southeastern Massachusetts, 2008-12

	WIC-authorized stores, 2008	WIC-authorized stores, 2012	WIC-authorized stores (% change), 2008-12	WIC-authorized stores/1,000 pop, 2008	WIC-authorized stores/1,000 pop, 2012	WIC-authorized stores/1,000 pop (% change), 2008-12
<b>Bristol</b>	88	90	2.27	0.16	0.16	1.29
<b>Norfolk</b>	51	51	0.00	0.08	0.07	-3.00
<b>Plymouth</b>	61	61	0.00	0.12	0.12	-1.08
<b>Statewide Average</b>	<b>76.71</b>	<b>76.50</b>	<b>-0.29</b>	<b>0.16</b>	<b>0.16</b>	<b>-0.89</b>

The USDA's Food and Nutrition Service SNAP Retailer Locator<sup>86</sup> tool provides a valuable search and mapping tool for those seeking SNAP-authorized retailers. The map below gives a sense of the tool itself as well as the generally good coverage of SNAP-authorized retailers in the City of New Bedford.



<sup>86</sup> Food and Nutrition Service (FNS), United States Department of Agriculture (USDA), SNAP Retailer Locator. <http://www.fns.usda.gov/snap/retailerlocator>.

#### **iv) Restaurants**

USDA's Food Environment Atlas indicates that the three-county Southeastern Massachusetts region was served by a total of 1082 fast food restaurants and 1410 full service restaurants as of 2011. Between 2007 and 2011, the number of fast food restaurants per 1,000 people decreased by an average of 0.6%, comprising decreases of 0.5% and 2.9% in Bristol and Plymouth Counties, respectively and an increase of 5.3% in Norfolk Co. Over the same time period, the number of full-service restaurants per 1,000 people increased by 1.7%, including an increase of 1.6% in Bristol Co. This represents a potentially hopeful trend of less demand for fast food and sufficient economic development and disposable income in at least some parts of the region to support the opening of new full-service restaurants. More recent data is needed to determine if this trend has continued.

The Food Environment Atlas only presents expenditures per capita on fast food and restaurant food on a statewide average basis. However, these numbers allow at least some sense of the scale of restaurants as a part of the food system in Southeastern Massachusetts. In 2007 the statewide per capita spending was \$670.00 on fast food and \$859.60 on full service restaurants. Multiplied by the total three-county Southeastern Massachusetts regional population of 1,732,686 in 2012, even accounting for changes in spending over time, these numbers indicate over \$2.6 billion in restaurant spending annually in the region.

For a list of restaurants in the region already using local produce, view the searchable SEMAP/FarmFresh.org site at [www.farmfresh.org](http://www.farmfresh.org).

#### **v) Farm Direct Marketing: Farmers' Markets, Farm Stands, CSAs**

USDA's Food Environment Atlas and the USDA Census of Agriculture both provide a snapshot of food access through farmers' markets, farm stands, CSAs, and other direct market channels in the region.

According to the Food Environment Atlas, the three-county region had 36 farmers' markets in 2009 and 55 in 2013, for an increase of 57.1%. These numbers compare favorably with a statewide average of 21 farmers' markets per county in 2013 and an increase of 65.5% statewide in the number of farmers' markets between 2009-2013.

The map below shows the location of farmers' markets in Southeastern Massachusetts, as displayed in SEMAP's searchable online farm guide.<sup>87</sup> The map generally indicates that low-income areas of the region have an adequate concentration of farmers' markets, though transportation and scheduling may still pose a barrier for many residents. The middle section of both Bristol and Plymouth counties is relatively underserved by farmers' markets.

---

<sup>87</sup> <http://www.farmfresh.org/food/farmersmarkets.php?zip=02740&show=40&sortby=closeness>

However, one area for improvement in this category is in the number of farmers' markets that accept SNAP and WIC benefits, as well as associated types of farmers' market coupons.

In addition to the SNAP and WIC programs, the Massachusetts Farmers' Market Nutrition Program also provides elders, and women and children in the WIC program, with coupons for fresh fruits and vegetables redeemable at Farmers' Markets. This program runs through the Massachusetts Department of Agricultural Resources (MDAR). WIC participants receive these nutrition benefits in addition to the regular WIC food package.

When farmers' markets accept these coupons and SNAP benefits, it can benefit both vendors and customers. Local farmers are reimbursed for the value of the coupons or SNAP benefits used, thereby enhancing earnings and supporting participation in farmers' markets. However, markets must have the necessary technology and record-keeping systems to accept these benefits.

In 2013, according to the Food Environment Atlas, only 17% of Southeastern MA farmers' markets accepted SNAP, while 39.4% reported accepting WIC and 46.3% reported accepting Senior Farmers' Market Nutrition Program coupons, a separate USDA program for low-income seniors. In comparison, 33.8% of farmers' markets statewide accept SNAP, 41.3% accept WIC, and 41.8% accept SFMNP. Though the region compares favorably on WIC and SFMNP acceptance, increasing the number of farmers' markets that accept all of these benefit types would benefit both farmers and low-income consumers.

Currently, farmers' markets or individual market vendors must apply online to accept SNAP benefits and obtain an Electronic Benefits Transfer machine. The USDA offers free EBT point-of-sale machines to farmers' markets, but they must have a phone line and electricity available. To obtain a much more convenient wireless point-of-sale device, which also accepts credit and debit cards, markets must pay to purchase or lease this machine, as well as paying service fees, wireless fees, and transaction fees.<sup>88</sup> These costs may be prohibitive for many markets.

In 2014, the USDA has set aside \$4 million to be used to purchase wireless terminals and support services for one year, in a special program known as the Farmers Market Program Support Services Terminal Purchase Program. USDA will provide free wireless equipment and cover many of the service fees for the first year.<sup>89</sup> This program appears to present an excellent short-term opportunity for more farmers' markets in the region to begin accepting SNAP and WIC benefits.

Another important trend related to local farmers' markets is the gradual increase in wintertime or year-round farmers' markets. The local foods magazine *edible South Shore and South Coast* now lists seven wintertime farmers' markets in the region<sup>90</sup>, including five in Southeastern Massachusetts and two in Walpole, MA and Pawtucket, RI. Fall River has also recently started a wintertime farmers' market.

A new year-round model of note is the planned Boston Public Market. Slated to open in 2015, the market will be a permanent year-round market that features approximately 40 farms and fishing operations from around New England. Outdoor market space will accommodate additional vendors on a seasonal basis. The project's detailed business plan offers additional research on local food trends and market demand on a New England level.<sup>91</sup>

## **vi) Household food spending**

According to a 2012 Gallup poll,<sup>92</sup> American families spend an average of \$151 a week on food.

Although Americans spend the lowest percentage of income worldwide on food on average, USDA data show that this percentage varies considerably within the country based on income. In 2012, households in the middle-income quintile spent an average of 12.3% of income on food, while the highest income households spent less than 8% of their income and the lowest income households spent 35.1% of income.<sup>93</sup>

The table below shows the total households in the region in 2012 and uses the Gallup Poll number to calculate estimated weekly household food spending for the region.

---

<sup>88</sup> Massachusetts Department of Agricultural Resources, "Utilizing Wireless EBT at Farmers' Markets," <http://www.mass.gov/eea/docs/agr/markets/farmersmarkets/utilizing-ebt.pdf>.

<sup>89</sup> Massachusetts Department of Agricultural Resources, "Farmers Market Program Support Services & MarketLink™ FAQs," <http://www.mass.gov/eea/docs/agr/markets/farmersmarkets/ebt-marketlink-faqs.pdf>.

<sup>90</sup> <http://ediblesouthshore.com/farmers-markets/farmers-markets/>

<sup>91</sup> Boston Public Market, "Business Plan Executive Summary, 2013." [https://bostonpublicmarket.org/Boston\\_Public\\_Market\\_business\\_plan.pdf](https://bostonpublicmarket.org/Boston_Public_Market_business_plan.pdf)

<sup>92</sup> Elizabeth Mendes, "Americans Spend \$151 a Week on Food; the High-Income, \$180." Gallup, August 2, 2012. <http://www.gallup.com/poll/156416/americans-spend-151-week-food-high-income-180.aspx>.

<sup>93</sup> USDA, "Ag and Food Statistics: Charting the Essentials - Food Prices and Spending," 2014. <http://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/food-prices-and-spending.aspx#.U9ZRcl1dVQo>.

Geography	Total households <sup>94</sup>	Estimated Weekly Food Spending (x \$151/week) <sup>95</sup>
Bristol County	208,983	\$31,556,433.00
Fall River city	39,000	\$5,889,000.00
New Bedford city	39,719	\$5,997,569.00
Norfolk County	258,307	\$39,004,357.00
Plymouth County	181,541	\$27,412,691.00
3-county Region	648,831	\$97,973,481.00
Massachusetts	252,2394	\$380,881,494.00

A number of studies and organizations have examined the potential impact of expanding local food purchases by a small amount, most notably a goal of \$10 per week long promoted by the Maine Organic Farmers and Gardeners Association.<sup>96</sup> Applying this approach to the three-county region, multiplied by the total county households of 648,831 shown below, would result in spending on local foods of almost \$6.5 million per week in the region. This would generate approximately \$338 million in local foods purchases annually—but that amount is over twice the region's agricultural market value in 2012. These numbers illustrate the importance of rebuilding both demand and supply in a local food system, but they also suggest that even a very modest increase in per capita local foods spending could have a significant effect in the region.

As noted above, direct farm sales in the region in 2012 totaled \$8,705,000 for the year, representing average spending of \$5.02 per capita annually and a household estimate of \$13.42 spent per household for the year, or just \$0.25 per week. Statewide, average per capita farm direct sales were \$11.76 in 2007 (the most recent data provided in USDA's Food Environment Atlas), ranging from a low of \$2.82 in Norfolk County to a high of \$48.14 in Franklin County. Increasing opportunities to purchase local foods both at direct market channels like farmers' markets and at retail channels grocery stores and restaurants—for residents of all income levels, including SNAP and WIC recipients—would both help to increase spending on local foods.

### **vii) Food Served at Institutions**

Institutions such as schools, childcare centers, hospitals, colleges, and universities buy and serve (and, as will be discussed in Chapter 5, waste) a lot of food. They have massive purchasing power, which gives them potentially significant impact on the local food system.

As more institutions connect the dots between supporting the local food system and other priority issues like climate change, preventative health, land conservation, and the local economy, food purchasing policies will change. However, there are challenges to overcome

<sup>94</sup> American Community Survey, 2012.

<sup>95</sup> Mendes, 2012.

<sup>96</sup> Russell Libby, "Why Local? Why Organic?" Maine Organic Farmers and Gardeners Association Newsletter, Fall 2010. <http://www.mofga.org/Publications/MaineOrganicFarmerGardener/Fall2010/LibbyEditorial/tabid/1736/Default.aspx>.

when making these types of changes. Local and regional farms find it difficult to provide the large quantities or specific and consistent quality required by food service buyers. Price also comes into play because small-scale farms often charge higher rates than food service providers are used to when buying at bulk, wholesale prices.

In 2012 and 2013, the Southeastern Massachusetts Agricultural Partnership (SEMAP) ran a pilot program that connected farms with the University of Massachusetts Dartmouth's food service provider, Chartwells. Over two years, the program worked with eight farms that sourced 29,075 pounds of food for University students and staff.<sup>97</sup> The ripple effect of this small change was exciting: 13.75 acres of land put into production; new equipment purchased equal to \$57,000; and increased employment with four new part-time seasonal jobs, two part-time positions transitioning to full-time year-round, and one new part-time seasonal position. In 2014, the nonprofit Red Tomato (profiled in Chapter 3) may become involved in the program, bringing additional growers and distribution knowledge to the effort. Expansion of this program has the potential to help expand options for wholesale marketing by local farms.

Chartwells and UMass Dartmouth have established their own local sourcing, healthy food choices, and labeling guidelines. They have also established a remarkable composting and recycling program. In May 2013, the *Standard Times* also covered UMass Dartmouth's efforts specific to local fisheries, noting that "UMass Dartmouth students sampled four seafood species often described as under-appreciated by conservation groups and which a Plymouth company [Open Ocean Trading] is trying to bring into university dining halls."<sup>98</sup> The students sampled pollock, hake, redfish and dogfish.

The Massachusetts Farm to School program is working with public school systems statewide to source local foods and educate on the benefits of such partnerships. This organization, which was once housed within state government, is now an independent non-profit with Project Bread as its fiscal agent. The organization's list of school partners from 2011 includes a number of Southeastern Massachusetts districts<sup>99</sup>. Better coordination between Massachusetts Farm to School and the work of on-the-ground organizations and networks such as SEMAP and the Southeastern Massachusetts Food Security Network would be helpful for tracking and expanding farm-to-school efforts in the region.

As with the food processing and distribution information in Chapter 3, it is very difficult to track the sales of local foods to the types of retail outlets and institutions described above, since there is no centralized location where either local farms or local stores, restaurants, or institutions report such information. As for Chapter 3, individual interviews with local food retail businesses, institutions, and farms would be extremely helpful in gaining a better picture of the scale of these local food channels, the distribution companies and routes that currently serve them, and the potential for expansion of local food purchases.

---

<sup>97</sup> Jennifer Lade, "SEMAP program helps farmers grow sales," *SouthCoast Business Bulletin*, April 20, 2012. <http://www.southcoasttoday.com/apps/pbcs.dll/article?AID=/20120420/SCBULLETIN/205010338/1036>.

<sup>98</sup> Matt Camara, "UMass Dartmouth Students Get a Taste of 'Trash Fish'," *Standard Times*, May 1, 2013.

<sup>99</sup> <http://www.massfarmtoschool.org/wp-content/uploads/2012/10/Massachusetts-Schools-That-Purchased-Locally-Grown-Foods-in-2011.pdf>.

## e) Emergency Food Access

Despite support from the federal SNAP and WIC programs, many individuals and families in the region still must depend on emergency food providers to meet their food needs at certain times. According to a 2012 article,<sup>100</sup> an estimated 250,000 people use food pantries in Bristol County each year. Numbers for Norfolk and Plymouth counties are likely lower, but this figure gives a sense of the scale of demand in the region.

The Southeastern Massachusetts Food Security Network website includes a comprehensive list of over 50 food pantries and community meal programs in Southeastern Massachusetts. The table below is taken from the Network's site, <http://smfsn.org/findfood>.

Organization	Program	Location/Phone Number	Hours/Additional Info
The Shepherd's Pantry	Food Pantry	1215 Main St. Acushnet 508-763-9289	Saturday 10:00 AM - 12:00 PM
AACC/Family Cafe at Evang Covenant Church	Community Meal	841 N. Main St. Attleboro 508-222-2933	Wednesday 5:30PM - 6:30PM last week of the month
AACC/Family Cafe at Waters Church	Community Meal	15 John Dietsch Blvd Attleboro 508-222-2933	Saturday 6:00 PM - 7:00 PM last week of the month
AACC/Food 'n Friends I	Community Meal	15 Sanford St. Attleboro 508-222-2933	Saturday 11:00AM - 12:00PM
AACC/Food 'n Friends III	Community Meal	947 Park St. Attleboro 508-222-2933	Monday 4:30PM - 5:30PM
AACC/Food 'n Friends VI	Community Meal	118 S. Main St. Attleboro 508-222-2933	Thursday 4:30 PM - 5:30 PM
Hebron Food Pantry, Inc	Food Pantry	11 Sanford St. Attleboro 508-223-4257	Tuesday 10:30 AM - 11:30 AM Thursday 5:00 PM - 8:00 PM
Murray U.U. Church Food Pantry	Food Pantry	505 N. Main St. Attleboro 508-222-0505	Monday 9:00AM - 11:30AM Thursday 9:30AM - 11:30AM
Salvation Army/Attleboro Food Pantry	Food Pantry	5 Mechanic St. Attleboro	Monday 10:00AM - 3:00PM Tuesday 10:00AM - 3:00PM

<sup>100</sup> Natalie Sherman, "SouthCoast food pantries squeezed; demand and prices rise, donations drop." Standard-Times, October 2, 2012.

<http://www.southcoasttoday.com/apps/pbcs.dll/article?AID=/20121002/NEWS/210020313&cid=sitesearch>.

		508-222-0505	Wednesday 10:00AM - 3:00PM Thursday 10:00AM - 3:00PM Friday 10:00AM - 3:00PM
<b>Self Help Attleboro</b>	Food Pantry	95 Pine St. Attleboro 508-226-4192	Monday 8:30AM - 4:30PM Tuesday 8:30AM - 4:30PM Wednesday 8:30AM - 4:30PM Thursday 8:30AM - 4:30PM Friday 8:30AM - 4:30PM
<b>St. Joseph's Food Cellar</b>	Food Pantry	208 S. Main St. Attleboro 508-326-3126	Friday 6:00PM - 7:00PM
<b>Family Pantry - Damien's Place</b>	Food Pantry	3065 Cranberry Hwy East Wareham 508-295-3486	Tuesday 10:00AM - 12:00PM Thursday 10:00AM - 12:00PM Saturday 10:00PM - 12:00PM
<b>Citizens For Citizens</b>	Food Pantry	264 Griffin St. Fall River 508-679-0041	Monday 9:00AM - 12:00PM Wednesday 9:00AM - 12:00PM Friday 9:00AM - 12:00PM
<b>Fall River Portuguese SDA Church</b>	Food Pantry	3538 N. Main St. Fall River 508-673-3102	Wednesday 6:00PM - 7:00PM
<b>Ferry St. Minist./Lighthouse Christian Ctr</b>	Food Pantry	65 Middle St. Fall River 774-644-1551	Saturday 9:00AM - 11:00AM
<b>FRCSK/Church of the Holy Spirit</b>	Community Meal	160 Rock St. Fall River 508-496-0117	Monday 11:00AM - 12:30PM Friday 11:00AM - 12:30PM
<b>Greater Fall River Food Pantry</b>	Food Pantry	228 N. Main St. Fall River 401-624-6309	Tuesday 10:00AM - 12:00PM Thursday 10:00AM - 12:00PM
<b>People Inc/ F.A.C.E Food Pantry</b>	Food Pantry	170 Pleasant St. Fall River 508-837-6902	Monday 10:00 AM - 3:30 PM Tuesday 12:00 PM - 5:30 PM Thursday 12:00 PM - 5:30 PM Friday 10:00 AM - 3:30 PM
<b>Salvation Army/Fall River</b>	Food Pantry	290 Bedford St. Fall River 508-679-7900	Tuesday 9:00 AM - 3:00 PM Thursday 9:00 AM - 3:00 PM
<b>Salvation Army/Fall River Meals</b>	Community Meal	290 Bedford St. Fall River 508-679-7900	Sunday 1:00 PM - 2:00 PM Wednesday 1:00 PM - 2:00 PM
<b>Sharing a Blessing</b>	Community Meal	109 Pearl St. Fall River 774-264-8301	Corner of Pearl & Spring Streets Sunday 8:00 AM - 10:00 AM
<b>St. Anne's Church Food Pantry</b>	Food Pantry	818 Middle St. River	Saturday 9:30 AM - 12:00 PM

		508-676-9426	
<b>USCCB/Sacred Heart Pantry</b>	Food Pantry	160 Seabury St. Fall River 508-673-0852	Monday 4:00 PM - 5:00 PM 2nd and 4th week of the month
<b>USCCB/Sacred Heart Soup Kitchen</b>	Community Meal	160 Seabury St. Fall River 508-673-0852	Monday 5:00 PM - 7:30 PM
<b>Veteran's Assoc. of Bristol County, Inc.</b>	Food Pantry	755 Pine St. Fall River 508-679-9277	Monday 8:30AM - 4:30PM Tuesday 8:30AM - 4:30PM Wednesday 8:30AM - 4:30PM Thursday 8:30AM - 4:30PM Friday 8:30AM - 1:00PM
<b>American Red Cross/New Bedford Pantry</b>	Food Pantry	995 Rockdale Ave New Bedford 617-274-5200 x55	Tuesday 2:00 PM - 6:00 PM Thursday 9:00 AM - 1:00PM
<b>Catholic Social Services</b>	Food Pantry	238 Bonney St. New Bedford 508-997-7337	Wednesday 10:00 AM - 12:00PM Thursday 10:00 AM - 12:00 PM
<b>CSS/Sister Rose House Soup Kitchen</b>	Community Meal	636 Purchase St. New Bedford 508-997-3202	Monday 11:00 AM - 12:45 PM Tuesday 11:00 AM - 12:45 PM Wednesday 11:00 AM - 12:45 PM Thursday 11:00 AM - 12:45 PM Friday 11:00 AM - 12:45 PM
<b>Grace Episcopal Church Food Pantry</b>	Food Pantry	133 School St. New Bedford 508-993-0547	Monday 9:30 AM - 10:30 AM Friday 9:30 AM - 10:30 AM
<b>Immigrants' Assistance Center, Inc</b>	Food Pantry	58 Crapo St. New Bedford 508-996-8113	Wednesday 10:00 AM - 2:00 PM
<b>Mercy Meals and More</b>	Food Pantry	634 Purchase St. New Bedford 508-728-1489	Mon-Sat 7:00AM
<b>P.A.C.E. Inc./Emergency Food Pantry</b>	Food Pantry	166 William St. New Bedford 508-999-9920	Monday 9:00 AM - 4:30 PM Tuesday 9:00 AM - 4:30 PM Wednesday 9:00 AM - 4:30 PM Thursday 9:00 AM - 4:30 PM Friday 9:00 AM - 4:30 PM
<b>Pentecostal Assembly</b>	Food Pantry	215 Sawyer St. New Bedford 508-996-9865	Monday 9:00 AM - 10:30AM Wednesday 9:00 AM - 10:30 AM Thursday 9:00 AM - 10:30 AM
<b>S.D.A. Portuguese Church</b>	Food Pantry	413 Rockdale Ave.	Wednesday 5:00 PM - 7:00

<b>Pantry</b>		New Bedford 508-922-8754	PM 3rd week of the month
<b>Salvation Army/New Bedford Meals</b>	Community Meal	619 Purchase St. New Bedford 508-997-6561	Sunday 5:00 PM - 6:30 PM Wednesday 4:15 PM - 6:00 PM
<b>Salvation Army/New Bedford Pantry Prgrm.</b>	Food Pantry	619 Purchase St. New Bedford 508-997-6561	Monday 8:30 AM - 4:00 PM Tuesday 8:30 AM - 4:00 PM Wednesday 8:30 AM - 4:00 PM Thursday 8:30 AM - 4:00 PM Friday 8:30 AM - 4:00 PM
<b>St. Anthony of Padua Food Pantry</b>	Food Pantry	1359 Acushnet Ave New Bedford 508-993-1691	Thursday 12:00 PM - 1:30 PM
<b>St. Anthony of Padua Soup Kitchen</b>	Community Meal	1359 Acushnet Ave New Bedford 508-993-1691	Thursday 12:00 PM - 1:30 PM
<b>St. Lawrence Parish Food Pantry</b>	Food Pantry	110 Summer St. New Bedford 508-992-4251	Friday 10:30AM - 11:30AM
<b>St. Martin's Food Pantry</b>	Food Pantry	136 Rivet St. New Bedford 508-264-1520	Tuesday 5:00 PM - 6:00 PM Saturday 10:00 AM - 11:00 AM
<b>United Way of Gtr. New Bedford/MO Food</b>	Food Pantry	725 Pleasant St. New Bedford 508-992-5978	Wednesday 10:00AM - 12:00PM
<b>AACC/Food 'n Friends IV</b>	Community Meal	340 Central Ave. Seekonk 508-222-2933	Friday 4:30 PM - 5:30 PM
<b>DoorWays, Inc.</b>	Food Pantry	2 North St. Seekonk 508-761-6380	Saturday 8:00 AM - 10:00 AM
<b>Annelle Delorme Hagerman Food Pantry</b>	Food Pantry	2112 County St. Somerset 508-245-4635	Friday 9:00PM - 11:00PM Saturday 9:00AM - 11:00AM 2nd and 4th week of the month
<b>Church of Our Savior Meals Program</b>	Community Meal	2112 County St. Somerset 508-245-4635	Friday 5:30PM - 7:30PM Saturday 8:00AM - 10:00AM 2nd week of the Month
<b>Bethany Gospel Chapel</b>	Food Pantry	62 Lindsay Ln Swansea 774-644-1551	Saturday 8:30 AM - 10:30 AM 3rd week of the month
<b>Coyle and Cassidy High School Pantry</b>	Food Pantry	2 Hamilton St. Taunton 508-823-6164	Saturday 9:00 AM - 11:00 AM last week of the month

<b>Our Daily Bread</b>	Food Pantry	111 High St. Taunton 508-824-1788	Monday 10:00AM - 1:00PM Tuesday 10:00AM - 1:00PM Wednesday 10:00AM - 1:00PM Thursday 10:00AM - 1:00PM Friday 10:00AM - 1:00PM
<b>SVDP/Taunton</b>	Food Pantry	141 Washington St. Taunton 508-823-6676	Wednesday 5:00 PM - 7:30 PM
<b>Good Shepherd's Table</b>	Community Meal	74 High St. Wareham 508-291-3364	Thursday 5:00PM - 6:00PM
<b>Good Shepherd's Table Food Pantry</b>	Food Pantry	74 High St. Wareham 508-295-2840	Tuesday 3:00PM - 5:00PM
<b>SVDP/Food Pantry of Wareham</b>	Food Pantry	82 High St. Wareham 508-295-0124	Wednesday 12:30PM - 2:00PM

As shown by the table above, hours and locations of food banks and food pantries present a challenging patchwork of coverage for families seeking emergency food assistance in the region.

The Food Pantry Subcommittee of the Southeastern Massachusetts Food Security Network is currently working to increase communication and information-sharing among its members. Improved communication among food banks and pantries in the region was one of the major gaps and needs identified by members early in the Network's development, and despite some progress this remains an important need.

The Network's efforts would help enhance the regional coordination currently provided by the United Way of Greater New Bedford's Hunger Commission. The Hunger Commission coordinates food distribution to emergency food pantries and kitchens, working with 21 locations in Bristol County. The Hunger Commission provides some of the major information available about the volume of food moving through food pantries in the region. According to the program's website, "Annually, the Hunger Commission distributes more than one million pounds of food—including fresh, locally grown produce—to local programs for those in need."<sup>101</sup>

The Hunger Commission in turn obtains much of the food it distributes from the greater Boston Food Bank, part of the national Feeding America network. Currently the region receives only one drop-off from the Greater Boston Food Bank per week. Southeastern Massachusetts Food Security Network members have indicated that a need exists for additional drop off points and times from the Greater Boston Food Bank.

---

<sup>101</sup> United Way of Greater New Bedford, "Our Programs and Initiatives: Hunger Commission."  
<http://www.unitedwayofgnb.org/our-programs-and-initiatives/hunger-commission/>.

#### *YMCA Sharing the Harvest Farm/United Way Hunger Commission Partnership*

One key regional model related to emergency food access is the collaborative relationship between the YMCA Sharing the Harvest Community Farm in Dartmouth and the United Way of Greater New Bedford's Hunger Commission.

Sharing the Harvest Community Farm is a non-profit, volunteer-driven farm that was established in 2006 to reduce hunger, create volunteer stewardship, and increase agricultural education. As noted on the YMCA's website, in the eight years since it was established, Sharing the Harvest has donated more than 200,000 pounds of food and hosted more than 10,000 volunteers.<sup>102</sup>

The Hunger Commission picks up and distributes the produce grown by Sharing the Harvest Farm and distributes it to its network of food banks and pantries, providing a key source of fresh fruits and vegetables to families relying on emergency food assistance in the region. According to Sharing the Harvest's 2013 Annual Report, in 2013 more than 60,000 pounds of food were harvested and donated to the Hunger Commission.

#### **f) Gaps, Barriers, and Needs**

- Continue working to increase SNAP and WIC participation and redemption rates in the region. It may be helpful for the Network to invite the Department of Transitional Assistance to its meetings on an occasional or regular basis.
- Increase SNAP and WIC acceptance at farmers' markets. The 2014 USDA Farmers Market Program Support Services Terminal Purchase Program appears to offer an excellent short-term opportunity to help more markets acquire wireless EBT machines.
- Promote and expand the Summer Nutrition program to help support year-round child food security.
- Expand the Mass in Motion Healthy Corner Stores Initiative to provide more options for healthy food purchases in areas with low supermarket access.
- There is a need for more data on the restaurant and grocery industries in our region: number of employees, sales, potential for increasing purchases of local farm products, and potential for increasing donations to the emergency food system.
- Increase direct market sales of local farm produce to customers of all income levels. Work towards an increase in the current level of \$5.02 per capita per year by the next Ag Census in 2017.
- Expand the UMass Dartmouth/Chartwells Farm to Institution project initiated by SEMAP.

---

<sup>102</sup> YMCA SouthCoast, Dartmouth YMCA, "Sharing the Harvest Community Farm."  
<http://www.ymcasouthcoast.org/Locations/Dartmouth/SharingtheHarvestCommunityFarm/tabid/245/Default.aspx>.

- Continue working to increase communication and information-sharing among food banks through the Food Pantry Subcommittee of the Network, in order to increase the availability of emergency food overall, and especially fresh foods in local pantries.
- Compile and coordinate information on existing nutrition education programs. Network members could then expand or fill in gaps in existing programming as needed.
- Southeastern Massachusetts Food Security Network members have indicated that a need exists for additional drop off points and times from the Greater Boston Food Bank.

## CHAPTER 5: Food Waste Reduction, Recovery, and Recycling



103

### a) Reducing Food Waste

According to a Natural Resources Defense Council (NRDC) 2012 Issue Paper, “Wasted: How America is Losing Up to 40 Percent of Its Food from Farm to Fork to Landfill,” 40% of food in United States goes uneaten—the equivalent of throwing out \$165 billion each year.<sup>104</sup> The report goes on to state that if we reduced food losses by just 15%, that would be enough food to feed more than 25 million Americans every year—while one in seven households are food insecure nationally, and as described in Chapter 4, the rate is one in nine households in Southeastern Massachusetts and as high as one in five children in Bristol County.

In addition to these financial and food security reasons, there are compelling environmental reasons to reduce food waste as well. When organic matter is buried in a landfill, it decomposes anaerobically and releases methane, a greenhouse gas that is approximately 21 times more harmful than carbon dioxide as a contributor to climate change.<sup>105</sup> The NRDC report notes that uneaten food is the single largest component of U.S. municipal solid waste that reaches landfills, accounting for 23% of U.S. methane emissions overall.

<sup>103</sup> Environmental Protection Agency, Food Recovery Hierarchy, [http://www.epa.gov/epawaste/conserve/smm/images/FoodRpng\\_700pxw.png](http://www.epa.gov/epawaste/conserve/smm/images/FoodRpng_700pxw.png).

<sup>104</sup> Dana Gunders, “Wasted: How America is Losing Up to 40 Percent of Its Food from Farm to Fork to Landfill,” Natural Resources Defense Council Issue Paper, August 2012. <http://www.nrdc.org/food/files/wasted-food-ip.pdf>.

<sup>105</sup> Environmental Protection Agency, “Overview of Greenhouse Gases.” <http://epa.gov/climatechange/ghgemissions/gases/ch4.html>.

### *Where Does Food Waste Come from in Massachusetts?*

In 2002, the Massachusetts Department of Environmental Protection commissioned a study that resulted in a report entitled “Identification, Characterization, and Mapping of Food Waste and Food Waste Generators in Massachusetts.”<sup>106</sup> The study identified 5,799 food waste generators in Massachusetts, producing an estimated 880,000 tons of food waste per year.<sup>107</sup> Food waste generators were analyzed in the following categories:

- Manufacturers/Processors
- Distributors/Wholesalers
- Hospitals
- Nursing Homes (and related facilities)
- Colleges and Universities
- Independent Preparatory Schools
- Correctional Facilities
- Resorts/Conference Facilities
- Supermarkets
- Restaurants

Per the executive summary of the study, the top three waste generators are: 1) Food Manufacturers, at approximately 56% of the total waste, 2) Supermarkets, and 3) Restaurants.

### **b) Food Recovery**

One key way to combat food waste is food recovery. As defined in the NRDC paper, food recovery is the collection of wholesome food for distribution to those in need and includes gleaning from fields and collecting perishable, nonperishable, and prepared foods from various stages in the supply chain. Rescued food can also feed livestock.

Another recent report jointly produced by Environmental Protection Agency (EPA) and the United States Department of Agriculture (USDA), “Waste Not, Want Not: Feeding the Hungry and Reducing Solid Waste Through Food Recovery,”<sup>108</sup> provides more detail on types of food recovery. According to this report, there four different kinds of food recovery:

1. Field Gleaning – The collection of crops from farmers’ fields that have already been mechanically harvested or where it is not economically or logistically feasible to field harvest. It can also include the collection of already harvested food at packing sheds.

---

<sup>106</sup> Draper/Lennon, Inc., “Identification, Characterization & Mapping of Food Waste & Food Waste Generators in Massachusetts” (Massachusetts Department of Environmental Protection, 2002).  
<http://www.mass.gov/eea/docs/dep/recycle/priorities/foodwast.pdf>.

<sup>107</sup> These numbers omit very small establishments in some of the generator categories.

<sup>108</sup> Environmental Protection Agency (EPA) and United States Department of Agriculture (USDA), “Waste Not, Want Not: Feeding Hungry and Reducing Solid Waste Through Food Recovery.”  
[http://www.epa.gov/osw/conserve/pubs/wast\\_not.pdf](http://www.epa.gov/osw/conserve/pubs/wast_not.pdf).

2. Wholesale Produce Salvage – The collection of fresh fruits and vegetables at local or regional wholesale produce markets.
3. Perishable and Prepared Food Rescue – The collection of prepared food (from food service entities such as restaurants, cafeterias, hospitals, airlines, caterers, and special events).
4. Non-Perishable Food Donations, Collection, and Recovery – These efforts focus mostly on the collection of processed foods with relatively long shelf lives.

Currently, despite all these potential types of recovery, only 10% of edible food is recovered each year in the U.S. Barriers to recovering this food include liability concerns, distribution and storage logistics, and funds needed to glean, collect, package, and distribute recovered food.<sup>109</sup> This area of the food system thus presents major opportunities for increasing food security both nationally and in Southeastern Massachusetts.

---

*Only 10% of edible food is recovered each year in the U.S.<sup>110</sup>*

---

At this time, there is no one organization specifically focused on gleaning or food recovery in Southeastern Massachusetts. Food recovery in the region is conducted on an ad hoc basis by several local food banks and food pantries. These emergency food providers source from a wide variety of supermarkets and other sources, and they also respond as needed to situations such as disabled tractor-trailers full of perishable products, store closing sales that involve edible products, or other opportunities.

One of the main goals of the Southeastern Massachusetts Food Security Network is to strengthen this informal food recovery network in Southeastern Mass and help these food banks and pantries more efficiently communicate with each other and arrange transportation and storage when surplus food is available. The Food Pantry Subcommittee of the Network is currently working on solutions that will help its members accomplish this goal. An important step is to catalog fresh food storage capacity at local food banks.

Several national and Massachusetts organizations, especially in the Boston area, offer interesting models or potential opportunities for expansion in our region. These include:

- Boston Area Gleaners - <http://www.bostonareagleaners.org/>  
A 501(c)(3) non-profit organization dedicated to rescuing surplus farm crops for people in need. We deliver high quality, local produce to pantries and meal programs by working closely with local farmers, providing volunteer labor to harvest what would otherwise be plowed under.
- Lovin' Spoonfuls Food Rescue - <http://www.lovin Spoonfulsinc.org/>

---

<sup>109</sup> Gunderson, "Wasted," 14.

<sup>110</sup> Gunderson, "Wasted," 14.

Headquartered in Brookline, Massachusetts, Lovin' Spoonfuls is a 501c3, non-profit organization that facilitates the recovery and distribution of healthy, fresh food that would otherwise be discarded.

- Rachel's Table Food Rescue Program - <http://www.rachelstablespringfield.org/agencies.html>  
Rachel's Table distributes food to more than forty food pantries, shelters, and soup kitchens in Western Massachusetts.
- Food For Free - <http://www.foodforfree.org/>. Based in Cambridge, MA, Food For Free rescues fresh food—food that might otherwise go to waste—and distributes it within the local emergency food system where it can reach those in need. Through a combination of food rescue, farming, and transportation services, we give food programs year-round access to fresh fruits and vegetables, while our delivery program brings food directly to isolated seniors and people with disabilities.
- Food Recovery Network - <http://www.foodrecoverynetwork.org/>.  
Food Recovery Network unites students on college campuses to fight waste and feed people by donating the surplus unsold food from their colleges and donating it to hungry Americans. Founded in 2011, FRN has grown to include chapters at more than 90 colleges and universities in 25 states.

The NRDC paper suggests a number of ways that businesses, government, and consumers can help reduce waste and inefficiency in the food supply. Of particular interest for the Southeastern Massachusetts Food Security Network, the paper suggests that “For local governments, one key opportunity is to include a food waste prevention campaign as part of composting programs, particularly during program introduction.”<sup>111</sup>

Though suggested as a government approach in this paper, such a campaign could be a potentially good fit for the Southeastern Massachusetts Food Security Network in our region. One of the Network’s original goals was to increase donations of edible foods from supermarkets to food pantries. The pending introduction of an organic waste ban by the state of Massachusetts, discussed further below, should provide businesses with a strong incentive to reduce food waste and would set up the “program introduction” opportunity noted by the NRDC paper. The Network could capitalize on this opportunity by increasing outreach to large food waste generators in conjunction with the new ban and providing these businesses with a streamlined way to reduce their food waste by donating edible food to the Network’s member food pantries.

The NRDC paper also discusses a number of policy approaches to reducing food waste and increasing food recovery, especially tax deductions for smaller businesses that donate unused food to emergency food providers. These will be discussed further in Chapter 6 and represent additional opportunities for collective advocacy by the Network.

---

<sup>111</sup> Gunderson, “Wasted,” 16.

### **c) Food Waste Recycling**

Once food has been discarded, there is still ample opportunity to use this resource. However, recycling large volumes of organic waste requires special permitting and handling. Thus it is particularly important to look at food materials processing capacity in the region, to ensure that this potential is realized and bottlenecks are avoided.

The potential for confusion exists between the terms “organic waste” and “organic” when used to refer to USDA Certified Organic food products. Organic waste is anything that comes from plants or animals that is biodegradable. More specifically, New England Solid Waste Consultants, Inc., defines “organic waste” as including, but “not limited to: table scraps; meat and bones; fruits and vegetables; coffee grounds and tea bags; pastries and bread; floral arrangements and plants; and wet and soiled paper including paper towels, napkins, and paper plates. Unlike regular refuse, organic waste breaks down to become around 70 percent water, making it both heavy and potentially messy.”<sup>112</sup>

### **i) Upcoming Massachusetts Organic Waste Ban**

Due to the critical environmental and economic reasons to divert and recycle organic wastes discussed above, Massachusetts recently implemented a new regulation that will ban large food waste generators from sending food waste and organics to landfills and incinerators.

This new regulation, which will go into effect on October 1, 2014, will have a major impact on food waste processing in the state. It has the potential to greatly increase organic diversion and recycling, but also presents potential barriers and bottlenecks that need to be addressed.

According to a winter 2014 article in the Massachusetts Department of Energy and Environmental Affairs Newsletter, “In 2014, the Patrick Administration will kick into high gear its plan to tap into the hidden energy value of food waste and organics. The goal is to divert 450,000 tons of food waste a year from landfills and incinerators, and direct that material to composting facilities or anaerobic digesters, which convert food waste into a biogas that can be used for heat and electricity. . . . This ban, which will apply to large food waste generators . . . will send an unmistakable signal to private companies to invest in alternative facilities, such as digesters.”<sup>113</sup>

This impending ban has already had a major impact in our region, as will be illustrated through the two case studies below.

---

<sup>112</sup> New England Solid Waste Consultants, Inc., “Organic Waste Diversion.” <http://www.nesolidwaste.com/portfolio/organic-waste-division/>.

<sup>113</sup> Massachusetts Department of Environmental Protection, “Proposed Food Waste Ban Will Support Anaerobic Digestion and Tap into a Hidden Source of Energy.” EnviroMatters eNews, Winter 2014. <http://www.mass.gov/eea/agencies/massdep/news/enews/proposed-food-waste-ban-to-support-anaerobic-digestion.html>.

## ii) Food Waste Recycling Options

For businesses needing to comply with the upcoming Massachusetts ban, there are 2 major ways that food wastes can be processed: composting or anaerobic digestion.

### *Composting*

Currently, most food waste that is recycled in Southeastern Massachusetts is processed by composting at a small number of permitted food materials processors.<sup>114</sup> There are two permitted food materials processors in our region, both in Norfolk County: Groundscapes Express in Wrentham and Lorusso Compost Site in Plainville.

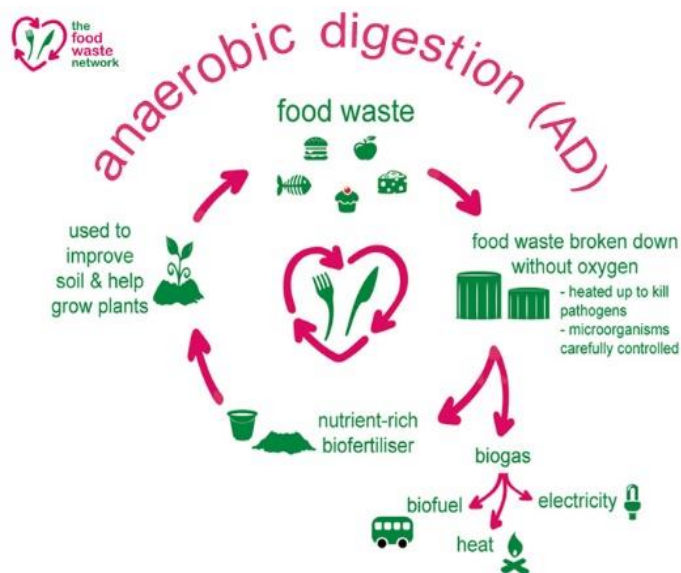
According to a 2012 article, “Massachusetts regulations state that agricultural composters may accept materials from off-site upon submitting a registration and complying with the policies outlined by the [Massachusetts Department of Agricultural Resources]. . . If the Department accepts the application, the compost operation may accept . . . less than 10 cubic yards or less than 5 tons per day of food material.”<sup>115</sup>

Based on these regulations, the total amount of food waste that could be accepted by the two permitted agricultural composters mentioned above is 10 tons per day, or approximately 3,500 tons per year.

As noted above, the DEP’s 2002 study estimated that 880,000 tons of food waste were produced statewide per year. Even accounting for the much higher levels of waste likely generated in major urban areas like Boston than in our region, it seems very likely that our region will need to increase its capacity to compost organic waste in order to comply with the pending organic waste ban.

### *Anaerobic Digestion*

In addition to expanding food waste composting capacity in the region, a second option for expanding food waste recycling is the construction of new anaerobic digestion facilities. Anaerobic digestion (AD) is a collection of processes by which microorganisms break down biodegradable material in the absence of oxygen. The process produces biogas, a mixture of methane and carbon dioxide that can be used to generate power, and



<sup>114</sup> Massachusetts Department of Environmental Protection, June 2013.

<sup>115</sup> Brenda Platt, “Massachusetts—Composting Rules.” Institute for Local Self-Reliance, July 30, 2012. <http://www.ilsr.org/rule/on-farm-composting/massachusetts/>.

the remaining digested material can be used as fertilizer.

According to the Massachusetts Department of Environmental Protection website, “The use of AD, along with combined heat and power, to reduce organic waste and generate renewable energy is common in Europe and on the rise here in the US. As a nationally-recognized environmental and clean energy leader, Massachusetts is investigating additional applications for this technology to deliver environmental and economic benefits to our municipalities, farms, and other businesses. Several types of financial assistance are available to help develop AD facilities.”<sup>116</sup>

### **iii) Case studies: Dartmouth and Freetown**

According to a February 2014 article, the town of Dartmouth in Bristol County will become home to a new anaerobic digestion facility at the Crapo Hill Landfill. The new facility, which received \$400,000 from the state, is to be called the Dartmouth Bioenergy Facility.<sup>117</sup> The article states:

*The project is a private-public partnership with the Commonwealth Resource Management Corp. (CRMC), a Boston-based environmental firm, as the developer, working with the landfill’s owner, the Greater New Bedford Regional Refuse Management District.*

*The facility will produce biogas for use as a supplemental fuel for the existing 3.3 megawatt landfill gas-powered electric power generating facility at the landfill that is owned and operated by a CRMC subsidiary, according to a news release. That subsidiary currently buys landfill gas from the district and leases the site at the landfill on which the two projects will be co-located.*

*As well as the production of biogas, operating the new facility will enable the district to adapt to the impending state ban of commercial food waste and other organics. The district serves the town of Dartmouth and the city of New Bedford.*

*The project will be the first of its kind sited at an operating Massachusetts landfill and the first in the state to produce biogas for an existing landfill gas-to-energy (LFGTE) facility.*

*The project will be built in two phases. In the first the facility will be sized to accept about 3,000 gallons per day of organic waste for processing and digestion, in a digester with 100,000 gallons of holding capacity.*

*If that phase is successful, CRMC will expand the facility tenfold to allow for the processing and digestion of up to 30,000 gallons per day of feedstock.*

---

<sup>116</sup> <http://www.mass.gov/eea/agencies/massdep/climate-energy/energy/anaerobic-digestion/anaerobic-digestion-questions-and-answers.html>

<sup>117</sup> Allan Gerlat, “Partnership Building Anaerobic Digestion Facility at Massachusetts Landfill.” Waste360.com, February 24, 2014. <http://waste360.com/anaerobic-digestion/partnership-building-anaerobic-digestion-facility-massachusetts-landfill>.

*CRMC expects the amount of biogas produced in the second phase will provide a 25-percent increase in the generating capacity of the exiting LFGTE facility to 4.1 megawatts.*

In addition to the Dartmouth facility, another project underway in Freetown at the Stop and Shop Distribution Center reinforces the impact already being felt from the Massachusetts organic waste ban and offers additional potential for closing the loop of the food system in the region. A January 23, 2014 press release<sup>118</sup> issued by the Massachusetts Department of Environmental Protection provides a summary:

*BOSTON - The Massachusetts Department of Environmental Protection (MassDEP) today issued the permits necessary to begin an innovative project in Freetown that will recover energy from food waste. This project responds to the Patrick Administration's plan to divert food waste from landfills and incinerators into anaerobic digesters in order to generate renewable energy and save landfill space.*

*The project approved involves the construction of a Product Recovery Operation (PRO) at the Stop & Shop Distribution Center, located on South Main Street in Freetown. The PRO utilizes anaerobic digestion to recover the economic value in unsold food products to produce electricity and heat for this facility, as well as generating a fertilizer byproduct."*

Although the press release does not provide any further information about the plans for the "fertilizer byproduct," this planned use for the facility offers a hopeful possibility for closing the loop of the food system in Southeastern Massachusetts. If the facility's fertilizer product could be used on farms or community gardens in the region, the system would more closely resemble the food system loop illustrated on the cover of this report.

In Providence, Rhode Island, the nonprofit Southside Community Land Trust has developed an innovative program that distributes compost made by the state Rhode Island Resource Recovery agency to a broad network of community gardens. Such a program could be a potential future opportunity for the Network or other regional nonprofits once the scope and locations of food waste recycling under the new Massachusetts ban become clearer.

#### **d) Gaps, Barriers, and Needs**

- Reducing food waste is a critical economic, environmental, and food security need for the region, as well as for the country as a whole.

---

<sup>118</sup> Massachusetts Department of Environmental Protection, "MassDEP Approves Stop & Shop's Innovative Project in Freetown to Recover Energy From Unwanted Food Product." News Release, January 23, 2014. <http://www.mass.gov/eea/agencies/massdep/news/releases/massdep-approves-stop-and-shops-project-in-freetown.html>.

- One of the main goals of the Southeastern Massachusetts Food Security Network is to strengthen the informal food recovery network in the region and help local food banks and pantries more efficiently communicate with each other and arrange transportation and storage when surplus food is available. The Food Pantry Subcommittee of the Network is currently working on solutions that will help its members accomplish this goal. An important first step is to catalog fresh food storage capacity at local food banks.
- Barriers to food recovery include liability concerns, distribution and storage logistics, and the facilities and funds needed to glean, collect, package, and distribute recovered food. Addressing such barriers is a major need and opportunity for the region and the Network.
- The Massachusetts Organic Waste Ban, set to go into effect October 1, 2014, will ban large food waste generators from sending food waste and organics to landfills and incinerators. This regulation creates a potential bottleneck, since the region does not yet have the capacity to process this additional food waste, but should create an incentive for large institutions to increase food recovery and donations to emergency food providers. Collective advocacy by Network members is needed to make sure that this opportunity is realized.
- More information is needed about the potential “fertilizer byproducts” from new anaerobic digester facilities being built in the region, in order to determine the potential for “closing the loop” of the food system in the region by returning food waste compost to local farms or community gardens.

## CHAPTER 6: Regulations & Policy



119

---

*The policy issues involved in ensuring access to healthy foods “transcend any single field or advocacy agenda. Rather, they go to the heart of environmental justice, anti-hunger advocacy, public health, agriculture, equity, regional planning, and community development.”<sup>120</sup>*

---

Food and agriculture are highly regulated industries in our country. Therefore, broadening participation in public policy and the legislative process that leads to those regulations is of the utmost importance in creating a more just and sustainable food system. Food policy is a high stakes game and it is often those with the softest voices who experience the least fairness and representation. This chapter discusses local, state, and national policy entities at work in Southeastern Massachusetts, a limited sample of specific public programs and laws that impact access to food, and opportunities to make changes in how our food system functions.

### **a) Local, State, and National Food Policy Entities**

Several local, state, and national organizations focus on policy and regulations impacting the Southeastern Massachusetts food system.

---

119 Photo Source: migrantjustice.net.

120 Linda Shak, Leslie Mikkelsen, and Sana Chehimi. “Recipes for Change: Healthy Food in Every Community.” Convergence Partnership, 2010, 9. <http://kresge.org/sites/default/files/Uploaded Docs/Recipes for Change.pdf>.

On the town level, Agricultural Commissions have been formed in many Southeastern Massachusetts communities in recent years.

According to the website of the Massachusetts Association of Agricultural Commissions,

*“A town agricultural commission (AgCom) is a standing committee of town government, created through a vote of Town Meeting and appointed by the Board of Selectmen or governing body of the town. . . . In some communities [AgComs] focus on farmland preservation efforts, while in others they review regulatory proposals developed by other town boards (planning board, board of health, conservation commission, etc), or provide marketing coordination to assist all farms in town.”<sup>121</sup>*

One of the most common initiatives undertaken by new town AgComs is the passage of a Right To Farm Bylaw. This type of bylaw “encourages the pursuit of agriculture, promotes agriculture-based economic opportunities, and protects farmlands within a town by allowing agricultural uses and related activities to function with minimal conflict with abutters and town agencies.”<sup>122</sup> Though AgComs do not have regulatory powers, the presence of an AgCom and a Right To Farm Bylaw can help protect and promote agricultural practices in the face of increasing development pressure. Strong connections between AgComs and other boards and committees in a given town are also important to help AgComs be effective in their non-regulatory role.

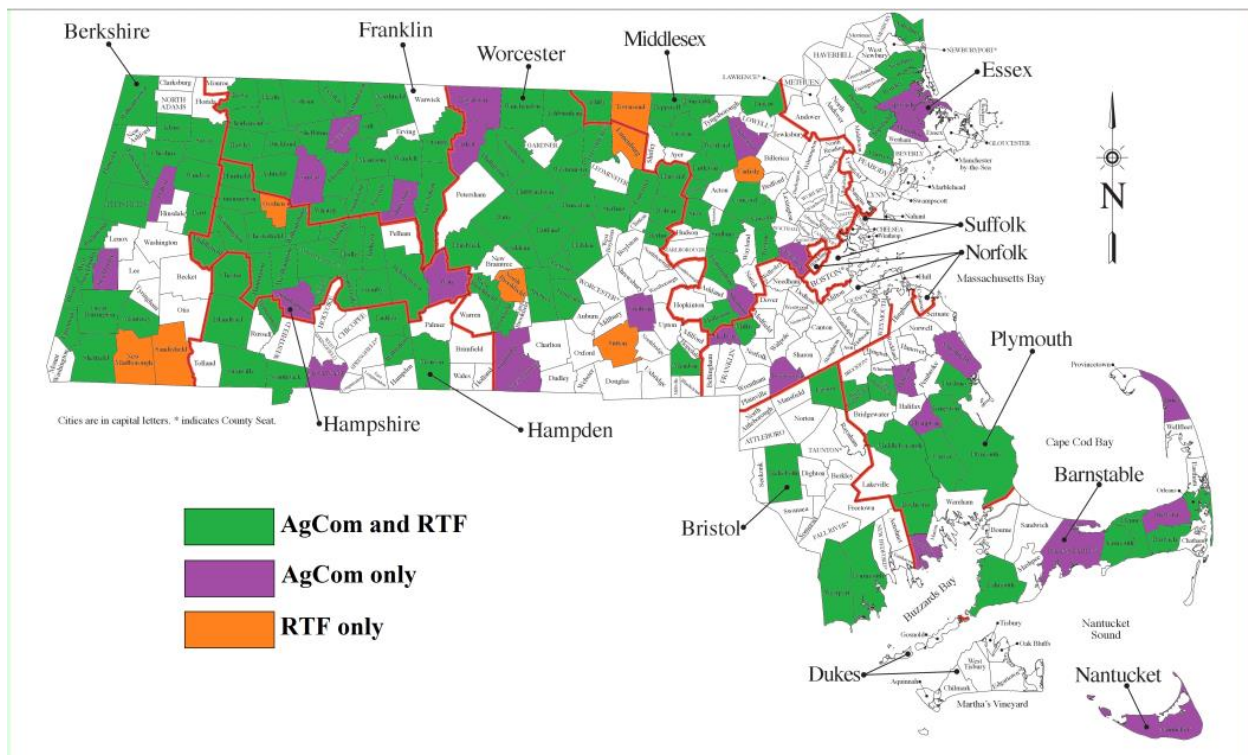
As shown by the map below, Southeastern Massachusetts has relatively low coverage of town AgComs and Right To Farm Bylaws (RTF) when compared to the western and central parts of the state. Norfolk County has only two AgComs, Bristol County only four, and Plymouth County the highest number with 12 town AgComs.

Anecdotally, the lack of a Right To Farm Bylaw was specifically identified as a barrier by one of the farmers profiled in Chapter 2. Increasing town AgCom representation in the region could help advocate for the interests of both existing and new farmers. Strengthening connections with the statewide Massachusetts Association of Agricultural Commissions would help provide support for this effort.

---

<sup>121</sup> Massachusetts Association of Agricultural Commissions, About AgComs: Overview.”  
<http://www.massagcom.org/AgComsOverview.php>.

<sup>122</sup> Massachusetts Department of Agricultural Resources, “Right to Farm By-Law.”  
<http://www.mass.gov/eea/agencies/agr/land-use/right-to-farm-by-law.html>.



Food Policy Councils are another type of entity that has developed on both state and local levels in recent years. These bodies can play various roles, including analyzing existing policies and their impacts on the food system, making policy recommendations, communicating and facilitating between different stakeholders in the food system, and raising community awareness of food policy issues and how they play out on the local level.

On a state level, the Massachusetts Food Policy Council was established by legislation in 2010 and operates through the Massachusetts Department of Agricultural Resources. The statewide Council's purpose is to develop recommendations to advance the following food system goals for the Commonwealth:

1. increased production, sales and consumption of Massachusetts-grown foods;
2. the development and promotion of programs that deliver healthy Massachusetts-grown foods to Massachusetts residents;
3. the protection of the land and water resources required for sustained local food production;
4. the training, retention and recruitment of farmers and . . . the continued economic viability of local food production, processing and distribution in the Commonwealth.

As mentioned in Chapter 1, the Massachusetts Food Policy Council recently decided to commission a food system plan for the state of Massachusetts, in keeping with the plans already being developed by the other five New England states. In March 2014, the Council awarded a contract to the Metropolitan Area Planning Council (MAPC) and other partners to facilitate the development of a strategic plan for the state's food system.

As noted on the Food Policy Council website, “The Massachusetts Food Policy Council is charged with finding ways to increase access to fresh nutritious food for all citizens of the Commonwealth. The goal of the plan is to build on the strengths reflected in the latest agriculture census and propose policies and programs to ensure—as best we can—that our farm economy will be as robust and resilient as possible in the years ahead. The intersection of production agriculture with processing, distribution, food security, food access and public health will be components of the plan.”<sup>123</sup>

On a New England level, two primary organizations work to advocate for the legislative interests of local farms, the Massachusetts Farm Bureau Federation and the New England Farmers Union.

The Massachusetts Farm Bureau Federation (MFBF) is organized as a federation, with 11 county Farm Bureaus representing a total of over 6500 member families. The County Farm Bureaus develop resolutions that reflect the interests and concerns of their members, and these are funneled up to the statewide Farm Bureau delegation. Resolutions may become part of Massachusetts Farm Bureau and/or American Farm Bureau policy, depending on their applicability.<sup>124</sup>

New England Farmers Union (NEFU) has a similar structure, with a link to the National Farmers Union and policy positions driven by member farmers and fishermen. The relatively new New England chapter has made an effort to connect with a range of food system stakeholders, with a specific mission statement to “protect and enhance the economic well-being and quality of life of family farmers, fishermen, foresters, nursery growers and consumers in all six New England states.”<sup>125</sup>

NEFU’s policy priorities include issues relevant to both farmers and many other food system stakeholders in Southeastern Massachusetts. For example, their 2013 policy priorities include “Preservation or expansion of all programs in the Special Supplemental Nutrition Program, including Farmers’ Market Nutrition Programs, and the Farmers’ Market Women Infant and Children (WIC) coupon program. These programs are mutually beneficial for specialty crop producers by providing a market opportunity and for low-income consumers who receive high-quality, locally produced farm fresh products.”<sup>126</sup>

One example from MFBF’s 2014 Legislative Priorities list<sup>127</sup> illustrates the potentially complex relationship among stakeholders in the food system when it comes to creating policies that will enhance food security for all. MFBF’s priority paper states:

*“Youth Minimum Wage*

*With MA poised to increase the minimum wage, MFBF supports a lower minimum wage for youth workers.*

---

<sup>123</sup> <http://www.mass.gov/eea/agencies/agr/boards-commissions/food-policy-council.html>

<sup>124</sup> Massachusetts Farm Bureau Federation, “About Us.” <http://mfbf.net/AboutUs/tabid/259/Default.aspx>

<sup>125</sup> New England Farmers Union, “About Us/Mission.” <http://www.newenglandfarmersunion.org/>

<sup>126</sup> New England Farmers Union 2013 Policy Book, <http://www.newenglandfarmersunion.org/wp/wp-content/uploads/2013/12/2013-Policy-Book-FINAL.pdf>.

<sup>127</sup> Massachusetts Farm Bureau Federation, “2014 MFBF Legislative Priorities.” <http://mfbf.net/Portals/0/pdf/2014 MFBF White Paper FINAL VERS %283%29.pdf>

*A survey of our membership indicates that most farms pay adult workers well above the existing minimum wage. However many younger, generally seasonal workers are paid at or near the existing minimum wage.*

*MA Farmers compete with farms in other countries and states with much lower labor costs. Younger workers—both for field and retail work—help MA farms to compete and remain viable.*

*Farm employment is important to many young people whose employment options are limited, particularly in rural areas. A youth minimum wage is important to ensure these opportunities remain.”<sup>128</sup>*

In contrast to this perspective, entities like anti-poverty organizations or youth development programs would likely advocate for a higher youth minimum wage.

This example suggests a need for Food Policy Councils or other food policy advisory bodies that are representative of a broad range of food system stakeholders, and that have the capacity to understand the complex policy issues relating to the local food system and identify specific areas where policy changes could make a difference.

The Advocacy and Education Subcommittee of the Southeastern Massachusetts Food Security Network has begun exploring some avenues for collective advocacy by the Network’s members. These efforts could evolve or tie into Food Policy Council work regionally or statewide. A Food Policy Council has recently formed in the city of Fall River; better connections and information-sharing with this group would be beneficial as part of the Network’s efforts.

## **b) Land Conservation Policy**

As discussed in Chapter 2, the Agricultural Preservation Restriction program is the key state program for farmland conservation. Despite the many benefits of this program, farm advocacy organizations have raised objections in recent years to the restrictive nature of the APR covenants, which were seen as preventing legitimate agricultural activities. A recent agreement on legislative changes to the APR program has helped improve chances of passage of an Environmental Bond Bill with a hoped-for \$20 million for the APR program. The changes allow greater ability to conduct “non-agricultural” farm activities, such as agritourism and on-farm processing of value-added products, on APR farms. According to a recent American Farmland Trust news article, “Without this agreement, the APR funding was at significant risk . . . These legislative changes, which we expect will be added to the Environmental Bond Bill, are important improvements to the program. They also enable Massachusetts Farm Bureau to support the

---

<sup>128</sup> Massachusetts Farm Bureau Federation, “2014 MFBF Policy Priorities.”

Environmental Bond and APR funding.”<sup>129</sup> The Environmental Bond Bill is currently in conference between the House and Senate, with a final version expected by the end of July 2014.

Locally, this policy change should give APR farms in Southeastern Massachusetts more flexibility to pursue activities that contribute to overall farm viability, without compromising the protected nature of their farmlands.

One interesting regional land conservation policy model is the Connecticut Farmland Restoration Program. This voluntary program provides matching grants of up to \$20,000 for restoration activities that increase the amount of land available for agriculture. Eligible uses for the funds include “clearing and removal of trees, stumps, stones, and brush to create or restore agricultural use; installation of resource protection barriers to protect crop fields on restoration areas; restoration of shellfish beds or aquaculture ponds; and removal of invasive plants and hedgerow management for reclamation of overgrown fields, pastures, and meadows.”<sup>130</sup>

A policy initiative such as this could help Southeastern Massachusetts make the best use of the idle or underutilized farmland currently available in the region, as discussed in Chapter 2.

Land conservation policy is also important in the case of urban agriculture. To be sustainable over the long-term, community gardens must have some level of secure tenure on their land, or they are vulnerable to being displaced by other development. The City of New Bedford has been working for the past several years to encourage conversion of city-owned vacant lots into community gardens. In 2011, the city allocated \$90,000 of a Community Development Block Grant award to create a small grants program, the CitiWorks Mini-Grant Program, for community garden and other neighborhood improvement projects.<sup>131</sup> As mentioned in Chapter 2, the City of New Bedford recently issued a contract to Trustees of New Bedford to hire a Garden Stewardship Coordinator. Despite some recent issues with New Bedford’s existing community gardens, this new position will hopefully help increase community connections to the city’s existing gardens and interest in expanding the number of gardens in the city.

One relevant policy initiative in this area is the city of Boston’s recent urban agriculture zoning change, Article 89, passed in December 2013.<sup>132</sup> The article focuses primarily on commercial urban agriculture. The article expands the number of areas where farms are allowed in the city and includes special regulations for both ground-level farms and rooftop farms as well as for aquaculture and composting in urban areas. If the efforts described above and in Chapter 2 can begin to expand and connect community gardening efforts in the region, zoning updates such as Boston’s Article 89 could help some of these gardens take the next step to being commercial urban agriculture operations.

---

<sup>129</sup> American Farmland Trust, “Agreement on APR Legislation Improves Chances For New Farmland Protection Funding in Massachusetts Environmental Bond.” AFT eNews, April 2014.

<http://www.farmland.org/news/newsletters/enews/2013/April2014.asp>.

<sup>130</sup> “\$5 Million Approved for Connecticut Farmland Restoration Program.” Fairfield Green Food Guide, February 2, 2012, <http://fairfieldgreenfoodguide.com/2012/02/02/5-million-approved-for-connecticut-farmland-restoration-program/>.

<sup>131</sup> “New Bedford Awarded \$2.7 million for Community Development,” New Bedford Guide, August 16, 2011. <http://www.newbedfordguide.com/new-bedford-awarded-2-7-million-for-community-development/2011/08/16>.

<sup>132</sup> Boston Redevelopment Authority, “Article 89 Made Easy: Urban Agriculture Zoning for the City of Boston.” <http://www.bostonredevelopmentauthority.org/getattachment/4b74929b-920e-4984-b1cd-500ea06f1bc0>

### c) Federal Programs that can be Leveraged on the Local Level

As stated in the 2010 Convergence Partnership report *Recipes for Change*: “The national nutrition programs are the ‘fastest, most direct way to reduce hunger’ and provide healthy foods and increased purchasing power to families with low incomes.”<sup>133</sup> Leveraging federal programs, such as the Supplemental Nutrition Assistance Program (SNAP) and Women, Infants, and Children (WIC) benefits, increases access to healthy food choices and, as discussed in Chapter 4, has a major multiplier effect for the region.

In Boston, one example of leveraging the federal SNAP program is a program called Boston Bounty Bucks. The Boston Collaborative for Food and Fitness (BCFF) administers the Boston Bounty Bucks program at 21 participating markets. The Boston Bounty Buck coupon provides a dollar-for-dollar match to SNAP benefits, up to \$10, each time a SNAP client shops at a farmers’ market. Financial support for the coupons comes from the Boston Mayor’s Office and private funders, including Wholesome Wave, which supports similar programs around the country.

To analyze the impact of this program, the BCFF conducted a study in August 2012, entitled “Farmers Markets: Impact on Fruit and Vegetable Consumption of Supplemental Nutrition Assistance Program Clients.” The study “found that SNAP clients who shopped at farmers markets consumed vegetables with more frequency [0.5 times more per day] than those who did not shop at farmers markets. The study also uncovered the need for increased outreach around the accessibility of farmers markets. It revealed that the primary reason SNAP clients did not use their neighborhood market was because they did not know where it was located.”<sup>134</sup> Over 70% of those surveyed in the study reported that the coupon program makes them more likely to shop at a farmers market.

---

*One study “found that SNAP clients who shopped at farmers markets consumed vegetables with more frequency (0.5 times more per day) than those who did not shop at farmers markets. The study also uncovered the need for increased outreach around the accessibility of farmers markets. It revealed that the primary reason SNAP clients did not use their neighborhood market was because they did not know where it was located.”*

---

Along with the overall need to increase SNAP acceptance at local farmers’ markets discussed in Chapter 4, these findings suggest an opportunity for our region to examine the possibility of implementing a matching coupon program. Southeastern Massachusetts was actually a pioneer in this type of program. Beginning in 2003, New Bedford’s Clasky Common farmers’ market offered such a program, called GreenBucks, which was very successful in building the market

---

<sup>133</sup> Shak et al., “Recipes for Change,” 28.

<sup>134</sup> Jennifer Obadia and Jennifer Porter, “Farmers Markets: Impact on fruit and vegetable consumption of Supplemental Nutrition Assistance Program clients.” Boston Collaborative for Food and Fitness, 2012.  
[http://bostonfarmersmarkets.org/wp-content/uploads/2012/07/FarmersMarket-Impact-on-FV\\_Website.pdf](http://bostonfarmersmarkets.org/wp-content/uploads/2012/07/FarmersMarket-Impact-on-FV_Website.pdf).

into a well-attended community hub. However, when the original 3-year funding source for the program ran out, sales quickly dropped and the market lost vendors as a result. Sustainable funding sources must be secured to make such programs successful.

As discussed in Chapter 4, options for leveraging federal benefits and the benefits themselves are jeopardized by SNAP cuts at the federal level through the 2014 Farm Bill. Several sources suggest these cuts could be as high as \$90 per month per household. To attempt to prevent these cuts, Massachusetts, along with many other Northeast states, is investigating an option known as “Heat and Eat.” Under this approach, a household is entitled to more food aid if it is enrolled in the federally-funded Low Income Home Energy Assistance Program (LIHEAP), which helps people pay their utility bills, and receives at least \$20 a month through the program. To forestall the SNAP cuts, Massachusetts is currently exploring options for enrolling many more SNAP recipients in LIHEAP. In March 2014, Deval Patrick’s administration announced that Massachusetts would be investing \$3 million in additional home heating assistance for 163,000 families, making each family eligible for up to \$80 in additional SNAP benefits.<sup>135</sup> It remains to be seen whether this loophole will provide a sustainable solution for families relying on SNAP in Southeastern Massachusetts.

#### **d) Food Safety Policy and Local Board of Health Regulations**

The Food Safety Modernization Act (FSMA), passed in 2011, is designed to give the Food and Drug Administration (FDA) greater power to improve food safety and prevent food contamination. The FSMA does not change food safety regulations for meat, poultry, and egg products, which are under the U.S. Department of Agriculture’s jurisdiction. However, it contains provisions that impact produce farms and many types of food production and retail facilities.

Specifically, FSMA mandates the establishment of:

- Standards for produce production, called the Produce Rule.
- Food safety measures for facilities that process food for human consumption, called the Preventive Controls Rule.

Although the FSMA contains measures to allow for scale-appropriate implementation of these regulations, there has still been much concern over the potentially burdensome impact of the law on small produce farms. The FDA is currently in a comment period for both the Produce and Preventive Controls Rule. State and regional farm policy groups are already actively working to ensure that small farm voices are heard in this conversation, but Network members should be aware of the law’s potential effects.

---

<sup>135</sup> “Mass. Moves to Head off Food Stamp Cuts,” *Standard-Times*, March 18, 2014.  
<http://www.southcoasttoday.com/apps/pbcs.dll/article?AID=/20140318/NEWS/140319828>.

Food and agriculture laws that are passed must be implemented on the local level. In cases that involve food safety, this process is often overseen by the local Board of Health. Farmers' markets are classified among the retail food operations overseen by local Boards of Health.<sup>136</sup>

More specifically, as noted in a January 2010 "Manual of Laws and Regulations Relating to Boards of Health" published by the Massachusetts Department of Public Health, "There are some farm product areas that overlap with public health, and there are some emerging trends that are relevant to local boards of health, including: sale of raw milk; mobile poultry processing; aquaculture; and the sale of an expanding variety of foods at farmers' markets, such as shellfish. Local boards of health play a key role in monitoring these activities and providing data to state officials working on pilot projects and regulatory drafting in these emerging areas."<sup>137</sup>

In some cases in the region, inconsistency with Board of Health regulation of these areas has been perceived to cause bottlenecks and impede progress. Clearer communication with local Boards of Health and better public education on their role would be beneficial as food system stakeholders work to expand access to local foods in the region.

### **e) Institutional Procurement Policy**

According to the report "Increasing Local Food Procurement By Massachusetts State Colleges & Universities,"

*"Massachusetts General Laws, Chapter 7, Section 23B requires state agencies, as well as state colleges and universities, to prefer food products grown or produced in Massachusetts over those from other states. In order to effectuate this broad preference for Massachusetts food products, Section 23B requires state agencies—but not colleges and universities—to purchase food products grown in Massachusetts, unless the price is more than 10% higher than the price of out-of-state products. Although the state legislature considered applying this percent price preference to academic institutions in its 2010 amendment to the law, such language was removed from the final version of the bill. Thus, the current law only requires colleges and universities to make "reasonable efforts" to prefer in-state foods, without any monitoring or enforcement mechanism to ensure compliance."*<sup>138</sup>

Updates to procurement policy could thus help encourage the expansion of local food sales to colleges and universities, provided other barriers to institutional sales can be overcome (see Chapter 4).

---

<sup>136</sup> Massachusetts Department of Public Health, "Food Protection Program Policies, Procedures and Guidelines," Issues May 2, 2006. <http://www.mass.gov/eohhs/docs/dph/environmental/foodsafety/farmer-market-guidelines.pdf>

<sup>137</sup> Massachusetts Department of Public Health, "Manual of Laws and Regulations Relating to Boards of Health," January 2010. <http://www.mass.gov/eohhs/docs/dph/emergency-prep/board-of-health-manual.pdf>.

<sup>138</sup> Harvard Food Law and Policy Clinic, "Increasing Local Food Procurement By Massachusetts State Colleges & Universities," October 2012. <http://blogs.law.harvard.edu/foodpolicyinitiative/files/2011/09/Increasing-Local-Food-Procurement-by-Mass-State-Colleges-FINAL2.pdf>.

## f) Waste Policy

As discussed in detail in Chapter 5, Massachusetts policy prevents agricultural composters from accepting food waste unless they apply for a permit to do so, and even such permitted facilities are limited to five tons of food waste per day. Furthermore, Massachusetts plans to pass a ban that will prevent large food waste generators from sending food waste to landfills or incinerators. Taken together, these two policies represent both a potential bottleneck and a potential opportunity for the region.

The NRDC paper “Wasted” also discusses a number of policy approaches to reducing food waste, especially tax deductions for smaller businesses that donate unused food to emergency food providers. The report also highlights the Bill Emerson Food Donation Act, noting, “The Bill Emerson Food Donation Act, signed into law by President Clinton in 1996, protects donors from food-safety liability when donating food to a nonprofit organization. However, awareness about this law and trust in the protections it offers remain low.”<sup>139</sup>

Raising awareness of and support for such policy options may represent an opportunity for collective advocacy by the Network.

## g) Other Resources

For an extremely comprehensive recent overview of food policy on a New England level, see the March 2014 report by American Farmland Trust, Conservation Law Foundation, and the Northeast Sustainable Agriculture Working Group, *New England Food Policy: Building a Sustainable Food System*. [http://www.clf.org/wp-content/uploads/2014/03/1.New\\_England\\_Food\\_Policy\\_FULL.pdf](http://www.clf.org/wp-content/uploads/2014/03/1.New_England_Food_Policy_FULL.pdf)

For an overview of other policy implications for local and regional food systems from the 2014 U.S. Farm Bill, see the New England Farmers’ Union website at <http://www.newenglandfarmersunion.org/legislation/farm-bill/>

For a list of statewide grant and funding programs for both agricultural and emergency food programs, including many that involve federal funds, see: <http://www.mass.gov/eea/agencies/agr/about/divisions/dacta-grants-lc.html>.

These grant programs include:

- The Agricultural Food Safety Improvement Program (AFSIP): Supports agricultural operations that are looking to upgrade their food safety measures.
- The Farm Viability Program: Offers farmers environmental, technical and business planning assistance to expand, upgrade and modernize their existing operations. Capital for the implementation of the improvements recommended in the viability plan is

---

<sup>139</sup> Gunderson, “Wasted,” 14.

available in exchange for an agricultural covenant on the farm property for a fixed term of five or ten years.

- The Matching Enterprise Grants for Agriculture Program (MEGA): Offers individual business planning and technical assistance to support the special needs of beginning farmers. It also makes available financial assistance for equipment, infrastructure or other capital improvements needed to implement strategies recommended through the planning process.
- The Massachusetts Emergency Food Assistance Program (MEFAP): Established in 1995 to ensure that citizens in need have access to a supply of quality food (both nutrient dense foods and locally-grown produce) in the Commonwealth. The program is implemented through a unique partnership between the state and a private, non-profit food distribution network made up of four regional food banks [including the Greater Boston Food Bank].
- The Urban Agriculture program: Just launched in July 2014, the program will provide grant awards in the range of \$5,000 to \$40,000 to urban agriculture demonstration projects that will increase the commercial cultivation, processing, marketing, and distribution of healthy and nutritious food within Boston and urban communities throughout Massachusetts.

#### **h) Gaps, Barriers, and Needs**

- Southeastern Massachusetts has relatively low coverage of town AgComs and Right To Farm By-laws when compared to the western and central parts of the state. Increasing town AgCom representation in the region could help advocate for the interests of both existing and new farmers.
- Some policy priorities of statewide advocacy organizations suggest that there may be a need for Food Policy Councils or other food policy advisory bodies in the region that can represent the interests of a broad spectrum of food system stakeholders. The Advocacy and Education Subcommittee of the Southeastern Massachusetts Food Security Network has begun exploring some avenues for collective advocacy by the Network's members. These efforts could evolve or tie into Food Policy Council work regionally or statewide.
- A policy initiative similar to the Connecticut Farmland Restoration Program could help Southeastern Massachusetts make the best use of the idle or underutilized farmland currently available in the region.
- Findings from the Boston Bounty Bucks program suggest an opportunity for our region to examine the possibility of a matching coupon program to leverage federal SNAP and WIC benefits at farmers' markets, with lessons from the pioneering New Bedford GreenBucks program.

- Network members should monitor the evolving situation with SNAP cuts in the 2014 Farm Bill and the “Heat and Eat” approach to compensating for these cuts currently being pursued by the state of Massachusetts.
- Clearer communication with local Boards of Health would be beneficial as food system stakeholders work to expand access to local foods in the region.
- Updates to procurement policy could help encourage the expansion of local food sales to colleges and universities, provided other barriers to institutional sales can be overcome.
- Support for tax deductions for smaller businesses that donate unused food to emergency food providers and promotion of protections under the Bill Emerson Food Donation Act may represent opportunities for collective advocacy by Network members.
- As mentioned at the beginning of this chapter, increasing participation in the policy-making process is critical to expanding food justice and food access in the region. One upcoming opportunity is the National Anti-Hunger Policy Conference, March 1-3, 2015, in Washington, D.C. (<http://www.antihungerpolicyconference.org/>). This conference could be a valuable opportunity for Network members and others to obtain training on addressing policy issues relevant to the region.

## CHAPTER 7: Gaps, Barriers, and Needs: Summary

### a) Summary of Chapters

#### Chapter 2: Food Production in Southeastern Massachusetts

- To increase food production and food security in the region, options include:
  - Use all available idle cropland. The acreage of “Cropland idle or used for cover crops or soil improvement” increased to over 2000 acres in the 2012 Census of Agriculture. On many farms cover crops and short- and long-term fallowing of land are important strategies for building soil fertility, so some of this land may be in active management. However, anecdotally, other farms have reported that they are leaving land idle because they do not feel they have a sufficiently profitable market channel to warrant the additional expense of cultivating it. Thus, land in this category that is truly “idle” may represent the best opportunity to increase agricultural production in the region in the short term. It would be very helpful to obtain a clearer picture of the reasons why growers are leaving land idle and how much idle land in the region could be returned to active food production.
  - Increase the production of greenhouse-grown vegetables as well as indoor, hydroponic, and intensive production, especially in urban areas.
  - Find and utilize new parcels of agricultural land through open space conservation, urban agriculture, or community gardens, building on the work of the region’s network of local and state land trusts.
  - Increase non-commercial production through backyard and community gardens. At various times in our region’s history, backyard gardens and small flocks of livestock have played a major role in household food security, and these can also play an important role in providing culturally-appropriate foods.
  - Expand local marketing and consumption of aquaculture and fisheries products.
  - Longer-term, as described in “A New England Food Vision,” reconversion of recently regrown woodlands could be an option for increasing available farmland.
- In addition to farmland, the second critical component of increasing agricultural production is farmers. There is a need to support and encourage more young and beginning farmers in the region. Several programs in the region have begun addressing this program in recent years; these could be expanded and promoted. These new farmers must be able to access farmland either for rent or for purchase, often a barrier given extremely high land values in the region.

- Very low or even negative net farm incomes for existing farms also clearly represent a barrier to sustaining the region's existing farms. The factors accounting for these low incomes vary greatly with the type of farm and marketing channel chosen. Anecdotally, growers report an even more complex set of considerations including tax and insurance issues. There is a need for further research on the factors involved and the most effective actions or policies that could help stabilize farm incomes.
- Direct market sales appear to be on an upward trend according to Census of Agriculture data, but farmers anecdotally report that direct market sales are "stagnant" in some cases. There is a need to further research on direct market sales and how to expand the customer base, especially by improving access to locally-grown food to low-income residents of the region. (See Chapter 4 for further discussion.)
- To expand access to locally grown foods for a wider segment of the region's population, there is a need for more farms growing at a wholesale scale that can supply supermarkets and institutions such as schools and hospitals. Our region has a very small number of farms currently producing crops for this market scale. This is partly due to land access, but also due to marketing strategies chosen by farmers.
- One barrier to diversifying or expanding production often mentioned by farmers is the lack of Cooperative Extension services in the region. SEMAP's site contains an extensive resource list of service providers for farmers, but this does not replace the crop-specific expertise formerly provided by Extension agents. In the coming months SEMAP plans to explore the possibility for expanding Extension services in the region, in cooperation with UMass and other partners.

Anecdotally, farms interviewed for profiles above provide additional details of challenges faced by local farms.

- For small scale organic vegetable growers, barriers include limited opportunities for direct market sales, including the number of well-attended farmers' markets. This perceived limited interest could possibly be related to a lack of education or awareness on sustainable agriculture. Additional barriers include land access, lack of equipment and tool sharing, and the fact that some municipalities are not designated as "Right to Farm," which can lead to neighbor complaints and even lawsuits related to farming activities. (See Chapter 6 for further detail).
- For local meat producers, a big challenge is processing, and a lack of statewide slaughtering facilities. (See Chapter 3 for further detail).

Gaps, Barriers, and Needs related to community gardens and urban agriculture include:

- The second and continuing years of community gardens can be difficult as interest wanes and commitment becomes important. Those gardens that are developed by, or

have connections to, stable entities including cities and towns, churches, schools, and non-profits have the greatest chances of success, but even these need at least one champion who is committed for the long term.

- There are a number of important regional resources for gardens. Some partnership and coordination between these entities could help to spur community-garden continuation and growth.
- There are many resources for small start-up grants for gardeners, including from Fall River and New Bedford. Some coordination in grants giving and support could help to ensure that gardens continue into second and further years.
- Gardens tend to be clustered in the South Coast area. A regional gathering of garden coordinators and would-be gardeners might capitalize on what seems to be growing interest in community gardens and help to catalyze the development of new gardens. SRPEDD will be addressing this need and others above through its continuation of the Community Gardens project begun by UMass Dartmouth.
- There is an opportunity to increase the number and size of “kitchen/pantry-ready gardens,” growing more soup friendly crops that have a long storage life and helping to create a distribution plan for garden produce.

### **Chapter 3: Food Processing and Distribution**

- Of all the components of the food system outlined in this Assessment, the processing and distribution step is the most difficult to research. To better understand this sector, it will be essential to conduct interviews with some of the companies listed above and with individuals and non-profits that have knowledge of this sector. Information about product sources, the amount of local product purchased, distribution routes, customers, and sales volumes is in most cases not available online, and this information tends to be conveyed and held in anecdotal and relationship-based ways.
- The Rhode Island Food Assessment offers a perceptive comment that is both a barrier and an opportunity for growth of the local food system:  
“Increasingly, restaurants that support ‘local’ and farmers themselves are celebrated while the businesses that slice, freeze, pack, store, and ship these foods (local or not) are rarely supported as part of the local food system. . . . Their expertise could be better utilized to bring locally grown and locally processed foods to consumers of all income levels.”<sup>140</sup>
- On-farm and off-farm processing hold promise for increasing both production and consumption of local foods on a year-round basis. Only 6% of Southeastern Massachusetts farms produced value-added products in 2012 and only 4% had on-farm

---

<sup>140</sup> Karp Resources, “Rhode Island Food Assessment,” 47.

packing facilities, while 17% of vegetable growers grew at least some product for processing, but on only 2% of vegetable acreage. Further research is needed to determine the best opportunities for utilizing and expanding local capacity in this area.

- Further interviews with the key local models of Red Tomato and Farm Fresh Rhode Island's Market Mobile program would be a helpful starting place for further investigation of this sector.
- The Southeastern MA Livestock Association (SEMALA) is working to address the need for USDA-certified meat processing facility in the region.

#### **Chapter 4: Food Access and Consumption**

- Continue working to increase SNAP and WIC participation and redemption rates in the region. It may be helpful for the Network to invite the Department of Transitional Assistance to its meetings on an occasional or regular basis.
- Increase SNAP and WIC acceptance at farmers' markets. The 2014 USDA Farmers Market Program Support Services Terminal Purchase Program appears to offer an excellent short-term opportunity to help more markets acquire wireless EBT machines.
- Promote and expand the Summer Nutrition program to help support year-round child food security.
- Expand the Mass in Motion Healthy Corner Stores Initiative to provide more options for healthy food purchases in areas with low supermarket access.
- There is a need for more data on the restaurant and grocery industries in our region: number of employees, sales, potential for increasing purchases of local farm products, and potential for increasing donations to the emergency food system.
- Increase direct market sales of local farm produce to customers of all income levels. Work towards an increase in the current level of \$5.02 per capita per year by the next Ag Census in 2017.
- Expand the UMass Dartmouth/Chartwells Farm to Institution project initiated by SEMAP.
- Continue working to increase communication and information-sharing among food banks through the Food Pantry Subcommittee of the Network, in order to increase the availability of emergency food overall, and especially fresh foods in local pantries.
- Compile and coordinate information on existing nutrition education programs. Network members could then expand or fill in gaps in existing programming as needed.
- Southeastern Massachusetts Food Security Network members have indicated that a need exists for additional drop off points and times from the Greater Boston Food Bank.

## **Chapter 5: Food Waste Reduction, Recovery, and Recycling**

- Reducing food waste is a critical economic, environmental, and food security need for the region, as well as for the country as a whole.
- One of the main goals of the Southeastern Massachusetts Food Security Network is to strengthen the informal food recovery network in the region and help local food banks and pantries more efficiently communicate with each other and arrange transportation and storage when surplus food is available. The Food Pantry Subcommittee of the Network is currently working on solutions that will help its members accomplish this goal. An important first step is to catalog fresh food storage capacity at local food banks.
- Barriers to food recovery include liability concerns, distribution and storage logistics, and the facilities and funds needed to glean, collect, package, and distribute recovered food. Addressing such barriers is a major need and opportunity for the region and the Network.
- The Massachusetts Organic Waste Ban, set to go into effect October 1, 2014, will ban large food waste generators from sending food waste and organics to landfills and incinerators. This regulation creates a potential bottleneck, since the region does not yet have the capacity to process this additional food waste, but should create an incentive for large institutions to increase food recovery and donations to emergency food providers. Collective advocacy by Network members is needed to make sure that this opportunity is realized.
- More information is needed about the potential “fertilizer byproducts” from new anaerobic digester facilities being built in the region, in order to determine the potential for “closing the loop” of the food system in the region by returning food waste compost to local farms or community gardens.

## **Chapter 6: Regulations and Policy**

- Southeastern Massachusetts has relatively low coverage of town AgComs and Right To Farm By-laws when compared to the western and central parts of the state. Increasing town AgCom representation in the region could help advocate for the interests of both existing and new farmers.
- Some policy priorities of statewide advocacy organizations suggest that there may be a need for Food Policy Councils or other food policy advisory bodies in the region that can represent the interests of a broad spectrum of food system stakeholders. The Advocacy and Education Subcommittee of the Southeastern Massachusetts Food Security Network has begun exploring some avenues for collective advocacy by the Network’s members. These efforts could evolve or tie into Food Policy Council work regionally or statewide.

- A policy initiative similar to the Connecticut Farmland Restoration Program could help Southeastern Massachusetts make the best use of the idle or underutilized farmland currently available in the region.
- Findings from the Boston Bounty Bucks program suggest an opportunity for our region to examine the possibility of a matching coupon program to leverage federal SNAP and WIC benefits at farmers' markets, with lessons from the pioneering New Bedford GreenBucks program.
- Network members should monitor the evolving situation with SNAP cuts in the 2014 Farm Bill and the "Heat and Eat" approach to compensating for these cuts currently being pursued by the state of Massachusetts.
- Clearer communication with local Boards of Health would be beneficial as food system stakeholders work to expand access to local foods in the region.
- Updates to procurement policy could help encourage the expansion of local food sales to colleges and universities, provided other barriers to institutional sales can be overcome.
- Support for tax deductions for smaller businesses that donate unused food to emergency food providers and promotion of protections under the Bill Emerson Food Donation Act may represent opportunities for collective advocacy by Network members.
- As mentioned at the beginning of this chapter, increasing participation in the policy-making process is critical to expanding food justice and food access in the region. One upcoming opportunity is the National Anti-Hunger Policy Conference, March 1-3, 2015, in Washington, D.C. (<http://www.antihungerpolicyconference.org/>). This conference could be a valuable opportunity for Network members and others to obtain training on addressing policy issues relevant to the region.

## **b) Other Gaps, Barriers, and Needs**

One gap found in many Food System Assessments is a lack of focus on environmental impacts of the food system. As noted in "Are We Planning for Sustainable Food Systems? An Evaluation of the Goals and Vision of Food System Assessments and their Usefulness to Planning,"

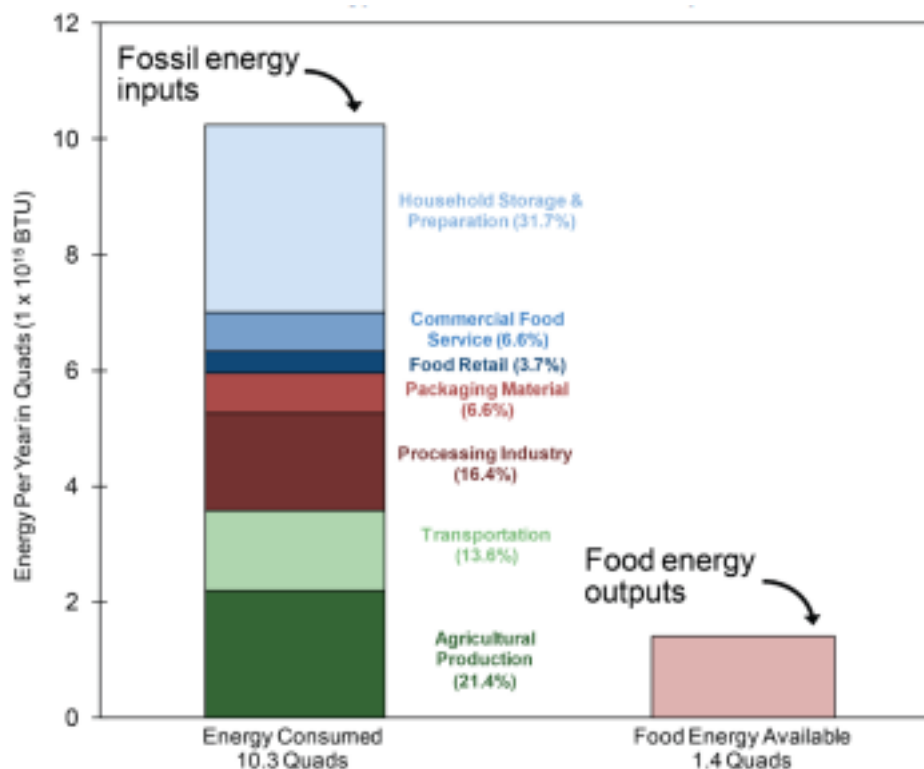
*"FSAs need to spend more time addressing the environmental problems associated with the food system. During this period of economic downturn environmental concerns have fallen out of vogue to a certain extent, but the problems associated with our current food and farming systems will not go away even if the spotlight has. Future FSAs should do more to include environmental issues in their analysis, particularly if their geographic scope includes lots of farmland. Farms are a major source of non-point source water*

*pollution and harmful greenhouse gasses, and although these issues are hard to quantify, it is important that they not be ignored.”<sup>141</sup>*

This Assessment certainly shares this limited focus on environmental issues. Future research could focus on:

- Reducing energy use in the food system in Southeastern Massachusetts. As shown in the table below, the largest contributor to this energy use, contrary to a common focus on transportation, is actually home storage and preparation of food. Additional focus on public education to minimize energy use and food waste in home food storage and preparation could improve both environmental sustainability and food security.
- Impacts of agriculture on climate and of climate change on current and future agricultural production and fisheries production in the region.
- Impact of agriculture on water quality in the region.

### Energy Flow in the U.S. Food System



142

The study “Are We Planning for Sustainable Food Systems” also describes one specific Food System Assessment that “ . . . acknowledged that labor issues were largely absent from their

<sup>141</sup> Pierce-Quinonez, 39.

<sup>142</sup> Center for Sustainable Systems, University of Michigan. 2013. “U.S. Food System Factsheet.” Pub. No. CSS01-06. [http://css.snre.umich.edu/css\\_doc/CSS01-06.pdf](http://css.snre.umich.edu/css_doc/CSS01-06.pdf). Original chart data source:

Martin C. Heller and Gregory A. Keoleian, “Life Cycle-Based Sustainability Indicators for Assessment of the U.S. Food System.” Center for Sustainable Systems, University of Michigan, 2000. [http://css.snre.umich.edu/css\\_doc/CSS00-04.pdf](http://css.snre.umich.edu/css_doc/CSS00-04.pdf).

original study and plan, and this seems to be a problem for a lot of plans. If Food Systems are being advocated for as a job creation engine, its important to explore how many jobs are actually being created, and whether or not these jobs can pay a living wage.”<sup>143</sup>

Jobs in agriculture are briefly discussed in Chapter 2. Jobs in the remainder of the food system, as with details about the processing and distribution sectors, are difficult to track and identify. This becomes especially difficult when low-wage, low-skilled jobs are involved, as they may often be held by undocumented workers.

“The Hands That Feed Us,” a 2012 report by the Food Chain Workers Alliance,<sup>144</sup> provides an extremely thorough and eye-opening national overview of the conditions faced by workers along the food chain. Using national data sources and interviews with 47 food businesses and 629 food chain workers, the report profiles conditions in the production, processing, distribution, retail, and food service sectors and includes recommendations for policymakers, consumers, and employers. The data, issues, and recommendations provided in this report would provide a valuable starting point for further investigation of labor issues in the food system in Southeastern Massachusetts.

### **c) Implementation Plan and Conclusion**

The Southeastern Massachusetts Food Security Network intends to use this Assessment as the basis for an implementation plan for the region. We will begin this process at the Network’s next quarterly meeting and intend to revisit this process at 1-, 2-, and 5-year milestones. The next USDA Census of Agriculture will be conducted in 2017 and released in 2019, providing us with a useful framework for measuring ongoing changes in some elements of the region’s food system.

The Network’s goals for increasing both production of and consumption of locally-grown food, with the long term goal of community food security for all of the region’s residents, are well summarized in the words of “A New England Food Vision”: “. . . heightened regional food production is just a means to an end: it is useful only if it delivers real social and environmental benefits.” The report continues, “Rising demand by those who can afford the best-quality food can only go so far to boost regional food production; deliberate efforts towards achieving a larger, shared vision of a better food system for everyone to enjoy are critical as well.”<sup>145</sup>

---

<sup>143</sup> Pierce-Quinonez, “Are We Planning for Sustainable Food Systems,” 40.

<sup>144</sup> The Food Chain Workers Alliance, “The Hands That Feed US: Challenges and Opportunities for Workers Along the Food Chain.” 2012. <http://foodchainworkers.org/wp-content/uploads/2012/06/Hands-That-Feed-Us-Report.pdf>.

<sup>145</sup> Donahue et al., “A New England Food Vision,” 11.

## APPENDICES

### Appendix 1: USDA Census of Agriculture – National Summary, 2002-2012

	2002	2007	2012
<b>Farms</b>	2,128,982	2,204,792	2,109,303
<b>Land in farms (acres)</b>	938,279,056	922,095,840	914,527,657
<b>Total land area (acres)</b>	2,263,960,501	2,260,994,361	2,260,583,852
<b>Principal operators</b>	2,128,982	2,204,792	2,109,303
<b>Total operators</b>	3,115,172	3,337,450	3,180,074
<b>Principal operators 34 and younger</b>	123,059	118,613	119,833
<b>Principal operators 65 and older</b>	557,830	655,654	701,276
<b>Beginning farmers</b>	593,109	583,286	469,098
<b>Market value of agricultural products sold (\$1,000)</b>	200,646,355	297,220,491	394,646,980

Chart created by the Farmland Information Center from the last three Censuses of Agriculture.  
<http://www.farmlandinfo.org/statistics>.

## Appendix 2: Purchase Of Agricultural Conservation Easements: Status of State Programs as of January 2013

### Massachusetts Agricultural Preservation Restriction Program (APR)

Year of Inception / Year of First Acquisition	Easements or Restrictions Acquired	Acres Protected	Land in Farms (acres)	Program Funds Spent to Date	Additional Funds Spent to Date
1977/1980	832	69,035	517,879	\$214,214,124	\$85,686,660

Source: Farmland Information Center, Purchase of Agricultural Conservation Easement Programs, 2013 State PACE Table. [http://www.farmlandinfo.org/statistics#FIC\\_PACE\\_Program\\_Survey](http://www.farmlandinfo.org/statistics#FIC_PACE_Program_Survey).

### Appendix 3: List of APR Parcels in Bristol, Norfolk, and Plymouth County as of 2013

Project ID	Project Name	Municipality	County	Closing Date	Acres
122111003PER1	Pereira 1	Acushnet	Bristol	21-Dec-11	89.00
123086027HYD	HYDE	Berkley	Bristol	30-Dec-86	60.00
042089027CHA	CHAMBERLAIN	Berkley	Bristol	20-Apr-89	83.00
032392027JAC	JACK_O_LANTERN TRUST	Berkley	Bristol	23-Mar-92	50.00
112796027DIL	DILLINGHAM	Berkley	Bristol	27-Nov-96	47.00
051881072RAP	MFCLT/RAPOSA	Dartmouth	Bristol	18-May-81	125.00
041983072MCC	MFCLT/MCCONVILL	Dartmouth	Bristol	19-Apr-83	154.00
102485072KIN	KING REALTY INC	Dartmouth	Bristol	24-Oct-85	25.00
122785072YAC	YACUBIAN	Dartmouth	Bristol	27-Dec-85	88.00
123086072BRO	BROWNELL	Dartmouth	Bristol	30-Dec-86	104.00
060595072MOT	MOTHA	Dartmouth	Bristol	5-Jun-95	33.00
062895072BUR	BURGESS	Dartmouth	Bristol	28-Jun-95	70.00
071599072BET	BETTENCOURT, J.	Dartmouth	Bristol	15-Jul-99	75.00
122399072ISL	MLCT/ISLAND VIEW FARM	Dartmouth	Bristol	23-Dec-99	59.00
022300072DAR	MLCT/DARTMOOR FARM	Dartmouth	Bristol	23-Feb-00	118.00
122700072RYD	RYDER	Dartmouth	Bristol	27-Dec-00	18.00
011403072KIN	MLCT/King	Dartmouth	Bristol	14-Jan-03	116.00
062806072SIL	Silverbrook Farm	Dartmouth	Bristol	28-Jun-06	41.00
050707072DAR	Town of Dartmouth	Dartmouth	Bristol	7-May-07	75.00
060606094VIV	Viveiros	Fairhaven	Bristol	6-Jun-06	71.00
122280211SHE	SHERMAN	North	Bristol	22-Dec-80	34.00

		Attleborough			
<b>072386211EVAA</b>	EVANS A	North Attleborough	Bristol	23-Jul-86	23.00
<b>072386211EVAD</b>	EVANS D	North Attleborough	Bristol	23-Jul-86	80.00
<b>072386211EVAE</b>	EVANS E	North Attleborough	Bristol	23-Jul-86	136.00
<b>072386211TOM</b>	TOMLINSON(EVAN S)	North Attleborough	Bristol	23-Jul-86	75.00
<b>100301218NOR</b>	Town of Norton	Norton	Bristol	3-Oct-01	53.00
<b>021782245BOR</b>	Borden Colony	Raynham	Bristol	17-Feb-82	220.00
<b>121682245BRE</b>	BRESSE	Raynham	Bristol	16-Dec-82	63.00
<b>101981247ROS</b>	ROSE	Rehoboth	Bristol	19-Oct-81	47.00
<b>081993247CAR</b>	CARDONO	Rehoboth	Bristol	19-Aug-93	54.00
<b>062895247FER</b>	FERRY	Rehoboth	Bristol	28-Jun-95	70.00
<b>040397247SAN</b>	SANTOS	Rehoboth	Bristol	3-Apr-97	12.00
<b>011403247PRA</b>	Three R's/ CW Pray	Rehoboth	Bristol	14-Jan-03	41.00
<b>062713247RIV1</b>	River St Realty Trust 1	Rehoboth	Bristol	27-Jun-13	19.60
<b>062912265YAG1</b>	Yaghjian 1	Seekonk	Bristol	29-Jun-12	31.00
<b>042090292CHA</b>	CHACE	Swansea	Bristol	20-Apr-90	127.00
<b>042090292DAL</b>	D ALLESANDRO	Swansea	Bristol	20-Apr-90	71.00
<b>072500293MTH</b>	MT.HOPE PARTNERSHIP, REED	Taunton	Bristol	25-Jul-00	130.00
<b>041983334SOU</b>	SOUZA	Westport	Bristol	19-Apr-83	76.00
<b>111584334TRI</b>	TRIPP	Westport	Bristol	15-Nov-84	77.00
<b>120784334MED</b>	MEDEIROS	Westport	Bristol	7-Dec-84	190.00
<b>032686334PIM</b>	PIMENTEL	Westport	Bristol	26-Mar-86	30.00
<b>120186334PIM</b>	ARRUDA	Westport	Bristol	1-Dec-86	63.00
<b>060387334RAP</b>	RAPOSA	Westport	Bristol	3-Jun-87	95.00
<b>092188334PER</b>	PERRY	Westport	Bristol	21-Sep-88	80.00
<b>030989334SHA</b>	SHARPLES	Westport	Bristol	9-Mar-89	60.00
<b>071889334SCH</b>	SCHMID	Westport	Bristol	18-Jul-89	91.00
<b>051490334TUC</b>	TUCKERMAN	Westport	Bristol	14-May-90	204.00
<b>061695334AZE</b>	AZEVEDO	Westport	Bristol	16-Jun-95	97.00
<b>041097334COS</b>	WLCT/COSTA	Westport	Bristol	10-Apr-97	91.00
<b>062298224NOQ</b>	NOQUOCHOKE ORCHARD	Westport	Bristol	22-Jun-98	58.00
<b>071698334RUS</b>	RUSSELL	Westport	Bristol	16-Jul-98	80.00
<b>071201334RUS</b>	MLCT/RUSSELL	Westport	Bristol	12-Jul-01	214.00
<b>123103334SCH</b>	MLCT/Schmid	Westport	Bristol	31-Dec-03	91.00
<b>050504334HIX</b>	MLCT/Hixbridge	Westport	Bristol	5-May-04	161.00
<b>052005334FER</b>	Ferry, Michael	Westport	Bristol	20-May-05	72.00

<b>122806334WOO</b>	MLCT / Wood	Westport	Bristol	28-Dec-06	13.00
<b>012712334HOW1</b>	Howe Family Farm 1	Westport	Bristol	27-Jan-12	35.00
					4665.60
<b>121180025WAD</b>	MFCLT/WADE	Bellingham	Norfolk	11-Dec-80	97.00
<b>011993099DAN</b>	DANIELS	Foxborough	Norfolk	19-Jan-93	75.00
<b>041985101DEL</b>	DELLEA	Franklin	Norfolk	19-Apr-85	113.00
<b>041583187DEA</b>	DEANGELIS	Millis	Norfolk	15-Apr-83	71.00
					356.00
<b>021505082ONE</b>	WT/ONeil	Duxbury	Plymouth	15-Feb-05	122.00
<b>082682083SPI</b>	SPIVACK	East Bridgewater	Plymouth	26-Aug-82	31.00
<b>070380146WIL</b>	WILKIE	Lakeville	Plymouth	3-Jul-80	190.00
<b>110686146ROT</b>	ROTCH	Lakeville	Plymouth	6-Nov-86	72.00
<b>062895182STE</b>	STEILL	Middleborough	Plymouth	28-Jun-95	47.00
<b>070798182MID</b>	TOWN OF MIDDLEBOROUGH	Middleborough	Plymouth	7-Jul-98	87.00
<b>100280219LOR</b>	LORING	Norwell	Plymouth	2-Oct-80	71.00
<b>121984239WHI2</b>	WHIPPLE	Plymouth	Plymouth	18-Dec-84	53.00
<b>121984239WHI1</b>	WHIPPLE	Plymouth	Plymouth	19-Dec-84	58.00
<b>112382250WHI</b>	WHITE FARMS INC	Rochester	Plymouth	23-Nov-82	188.00
<b>041583250CER</b>	CERVELLI	Rochester	Plymouth	15-Apr-83	96.00
<b>071105250HIL</b>	MLCT/Hiller	Rochester	Plymouth	11-Jul-05	71.00
<b>070610322AND</b>	Anderson Farm	West Bridgewater	Plymouth	06-Jul-10	117.00
<b>021214322CCR1</b>	C and C Reading Farm, Inc.	West Bridgewater	Plymouth	12-Feb-14	74.00
					1277
				Total	6299 ac.

#### **Appendix 4: Mass in Motion Healthy Markets**

Amaral's Fish Market  
488 Belleville Ave.  
Tel: 508-996-1222

Demello's Market  
1275 Cove Rd.  
Tel: 508-992-8879

Giammalvo's Market  
1914 Purchase St.  
Tel: 508-997-9373

The Butcher Shop  
123 Dartmouth St.  
Tel: 508-994-4942

Xavier's Market  
290 N Front St.  
Tel: 508-997-7126

Source: <http://massinmotionnewbedford.org/healthy-markets-initiative/>