Southeastern Massachusetts

FOOD SYSTEM ASSESSMENT

2021

MARION INSTITUTE
SOUTHCOAST FOOD POLICY COUNCIL

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Letter From Marion Institute's Executive Director

The Marion Institute's (MI) mission is to engage individuals and communities in an integrative approach to whole-body health. We do this through programming that focuses on creating the foundational norm of building resilient communities, promoting health equity, and advocating for food justice. The final sentence in our mission statement reads, "*We believe optimal health is a basic human right, not a privilege*." In a very real sense, this statement was challenged in ways we could have never expected by COVID-19. The pandemic laid bare the inequities in the communities we serve, and in our country. We faced drastic unemployment rates, severe food insecurity, and unprecedented loss. We witnessed first hand how the pandemic disproportionately impacted low-income, minority communities and culturally, we began to recognize and acknowledge how institutional and structural racism negatively impacts health and food systems.

We now know that the vast majority of hospitalized patients and COVID deaths were because patients had pre-existing chronic illnesses related to poor metabolic function - many as a direct result of poor diets. Our current, industrialized food system created a perfect environment for COVID-19 to thrive. It is a system based on a history of inequity that grows, processes, markets and distributes an abundance of cheap, inflammatory, nutrient-depleted, immune suppressing, ultra-processed foods. It is a broken system and one that we cannot afford to continue. Local food policy councils offer a path forward.

"Food Policy Councils operate in many cities, towns and regions throughout Massachusetts with the goal to improve the local food system. These coalitions bring organizations and public agencies together to build relationships, share best practices, and reduce duplicative efforts. The councils also advocate for policies to improve the food system in their community. Councils operate in a variety of ways and take on many different issues, but they all share the goal of supporting a food system that best serves their communities."

THE MA FOOD POLICY COUNCILS NETWORK

The Marion Institute brought the Southcoast Food Policy Council (SFPC) on as an official program of the MI at the end of 2019. The SFPC had previously been known as the Southeastern Massachusetts Food Security Network (FSN) and operated as a Greenhouse Initiative (fiscal sponsorship) of the MI. The FSN 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 MI had been a core member and strategic partner of the FSN since its inception. Hence, it was a natural progression to bring this network in house as one of our core programs given its alignment with our mission to increase food security throughout the region and improve community health.

The SFPC is a coalition of nearly 300 stakeholders. Members-at-large include food producers, consumers, government representatives, public and private institutions, local industry, foundations, and social service agencies. Working together, the SFPC promotes community food security, defined 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.[1] For members of the Southcoast Food Policy Council who are predominantly involved in direct services, the MI provides a platform that encourages and facilitates coordination and collaboration among the myriad sectors of our regional food system. Our goal is to address the long-term systemic issues associated with food injustice and insecurity that plague Southeastern Massachusetts communities, while supporting a regionally-based, environmentally sustainable, food economy.

1. Bellows, A. and Hamm, M. *U.S.-Based Community Food Security: Influences, Practice, Debate. Journal for the Study of Food and Society, Vol. 6, No. 1, Winter 2002*, Pp. 31-44

As March 2020 began, no one could have predicted the pivotal role that the SFPC would play in the Southcoast's emergency response to regional food insecurity. The SFPC framework allowed us to rapidly respond to food emergencies exacerbated by the COVID-19 crisis and emerge as a response leader because our mission set the stage for such action. At the onset of the pandemic, the MI convened SFPC stakeholders and community partners to participate in weekly, virtually-held, meetings to provide updates from their respective areas, access and mobilize resources, share information and observations, and encourage and facilitate collaboration. The following infographic on the combined impact of SFPC members' emergency food responses during the pandemic provides just a snapshot of the regional response efforts that were designed and implemented to safeguard communities and ensure our most vulnerable and deserving citizens were supported. Personally, I am awed and humbled by my SFPC partners. What we were collectively able to accomplish this past year due to their extraordinary grit and resolve has been remarkable and I feel fortunate to work among them.

While tackling the novel issues that arose from the pandemic, the SFPC continued to work on updating the 2014 Southeastern MA Food System Assessment. Even though the pandemic slowed our progress, it provided insights and opportunities by emphasizing the numerous service gaps and emergency situations caused by an overreliance on an industrial food system. Completion of this assessment will allow the SFPC to look forward and begin to prioritize policies and projects for the future. In addition, a recently launched FoodAlert listserv and FoodFinder mobile application will further facilitate coordination and communications among local food system stakeholders. As an active member of the Massachusetts Food System Collaborative's (MFSC) local food policy councils project, the SFPC will carry the voice of the southeastern counties to the state, conveying challenges, concerns, strategies, and successes that contribute to and inform initiatives beneficial to the Commonwealth as a whole.

To help in building a truly sustainable and equitable future, we need to acknowledge the embedded incentives that reinforce injustices in our food system and do what the MI has always done as an organization – challenge the readily accepted in favor of broader, deeper understanding and intentional engagement. Racial justice, food justice, and environmental justice are inseparable. When we work on one, we are advancing the ideal of all.

Looking forward, I am excited by MI's role in making the connections necessary to strengthen our regional food system, improve community health, and eliminate food insecurity. We are eager to use the amazing examples set by those in our region to advocate for more progressive policy and funding to empower those positioned to lead change.

With gratitude,

Liz

LIZ WILEY
EXECUTIVE DIRECTOR
MARION INSTITUTE

SOUTHCOAST FOOD POLICY COUNCIL IN ACTION

These measures represent a portion of the collective organizational effort of Southcoast Food Policy Council members and partners from March 2020 to March 2021.

$26.2M
Value of food delivered

393,719
Households and individuals served

2,903,014
Community meals served and delivered

12.3M
Pounds of food distributed

17,069
Volunteers

264,892
Pounds of local food
(PRODUCE, MEAT, DAIRY)

857,644
School meals

1332
Contact hours with food partners in meetings

160
Volunteer chefs

126
Pop-up facilities or pantries

$1.7M
Distributed in food-related grants

69,114
USDA farmer boxes

34,600
Oysters donated to food pantries

14
Restaurant partnerships

60
Businesses that donated

46
Farmers donated food

CONTRIBUTORS

Annelle Delorme-Hagerman Food Pantry, Somerset
BayCoast Bank, Fall River
Boys and Girls Club of Fall River
Boys and Girls Club of Greater New Bedford
Brandy Hill Apartments, Wareham
Bristol Community College
Business Innovation Center, Soup for the Soul, Fall River
Church of the Good Shepherd, Wareham
Citizens for Citizens, Fall River
Coastal Foodshed, New Bedford
Coastline Elderly Services, Inc., New Bedford
Damien's Place- Family Pantry, East Wareham
Dartmouth United Outreach
Elliot Farm, Lakeville
Greater Fall River Community Food Pantry
Immigrants Assistance Center
Lasagna Love, Mattapoisett
M.O. L.I.F.E., Inc., Fairhaven
Marion Institute, Marion
Mobile Ministries, Inc., New Bedford
My Brother's Keeper, Dartmouth
New Bedford Public Schools
NorthStar Learning Centers, New Bedford
PAACA, New Bedford
PACE, New Bedford
Renegades Rising
Round the Bend Farm, Dartmouth
Salvation Army, New Bedford
Shah Foundation, Boston
Southcoast Community Foundation, New Bedford
United Way of Greater Fall River
United Way of Greater New Bedford
Veterans Association of Bristol County Inc.
Wareham Public Schools
Westport Food Pantry
YMCA Southcoast
Youth Opportunity Unlimited (YOU)
YWCA Southeastern MA, New Bedford
Boston Bay Consulting
Massachusetts Aquaculture Association, Oyster Purchasing Program

Project Partners

Marion Institute's Southcoast Food Policy Council
The Marion Institute's Southcoast Food Policy Council (SFPC) is guided by a mission to connect, convene, and advocate for local food producers, consumers, and community members who seek policy and systems that strengthen our regional food system, improve community health, and eliminate food insecurity. There are currently more than 300 members of the council, who represent community-based organizations, food relief and social service agencies, institutions, philanthropy, and food entrepreneurs and enterprises.

Coastal Foodshed
The mission of Coastal Foodshed (CFS) is to strengthen the local food economy by making it easier for growers to sell, and consumers to buy healthy, affordable, local foods. Coastal Foodshed works to increase public awareness and knowledge of health, nutrition, and sustainable agriculture, and to improve access to food. CFS aggregates, transports, distributes, sells, and promotes local food through four main programs: New Bedford Farmers Markets, Mobile Farm Stand, Virtual Market, Learn to Love Local.

Southeastern Massachusetts Agricultural Partnership
The Southeastern Massachusetts Agricultural Partnership (SEMAP) is dedicated to preserving and expanding access to local food and sustainable farming through research and education. As one of nine "buy local" groups in Massachusetts, SEMAP supports area farmers through resource sharing, networking events, legislative advocacy and technical assistance to navigate regulatory requirements like the Food Safety Modernization Act (FSMA).

Southcoast Food Policy Council

Member Organizations

A.D. Makepeace Company
Algonquin Heights
American Red Cross Cape, Islands & Southeast MA Chapter
Angels Anonymous
Annelle Delorme-Hagerman Food Pantry
BayCoast Bank
Bristol Community College
Bristol County Agricultural High School
Business Innovation Center, Soup for the Soul, Fall River
Cambodian American Rescue Organization
Catholic Social Services of Fall River
Catholic Social Services, New Bedford
Church of the Good Shepherd, Wareham
Citizens for Citizens, Fall River
City of Fall River, Dept. of Health and Human Services
City of New Bedford Housing & Community Development
City of New Bedford, Council
City of New Bedford, Mayors' Office
Coastal Foodshed
Coastline Elder Services
Community Economic Development Center, New Bedford
Congressional Representative Bill Keating
Damien's Place Food Pantry
Dartmouth Council on Aging
Dartmouth United Outreach
Eating With the Ecosystem
Edible South Shore
Eliot Community Human Services
Fall River Family Resource Center
Fall River Public Schools
First Citizens Credit Union
Franklin Food Pantry
Gifts to Give
Greater Fall River Community Food Pantry
Greater New Bedford Community Health Center
Groundwork Southcoast
Hearts of Hope
House of Hope
Immigrants' Assistance Center
Inter-Church Council of Greater New Bedford
The Island Foundation
M.O. L.I.F.E., Inc
MA Department of Agricultural Resources (MDAR)
Mansfield Food Pantry
Marion Council on Aging
Mass in Motion, Fall River
Mass in Motion, New Bedford
Massachusetts Communities Action Network
Massachusetts Food System Collaborative
MassDevelopment Transformative Development Initiative
My Brother's Keeper
New Bedford City Council
New Bedford Health Department
New Bedford Public Schools
New Life South Coast Church, New Bedford
Old Bedford Village
PAACA, New Bedford
PACE, New Bedford
Renegades Rising
Representative Alan Silvia
Representative Antonio Cabral
Representative Carole Fiola
Representative Christopher Hendricks
Representative Christopher Markey
Representative Norman Orrall
Representative Patricia Haddad
Representative Paul A. Schmid, III
Representative Susan Gifford
Representative William Straus
Round the Bend Farm
Salvation Army
SEMAP
Senator Marc Pacheco
Senator Mark Montigny
Senator Michael J. Rodrigues
Seven Hills Behavioral Health
Sid Wainer & Son
Southcoast Health
Southcoast LGBTQ Network
Southeastern Regional Planning and Economic Development District
SSTAR, Fall River
St. Anne's Food Pantry
St. Anthony of Padua, New Bedford
St. Mary's of Assumption Church
St. Patrick's Food Pantry
Terra Cura Inc.
The Greater Fall River Food Bank
The Livestock Institute
Town of Plymouth
UMass Dartmouth
United Neighbors of Fall River
United Way of Greater Fall River
United Way of Greater New Bedford
Veterans Association of Bristol County Inc.
Wareham Public Schools
Westport Food Pantry
WIC, Fall River
WIC, New Bedford
YMCA Southcoast

Supporters/Donors

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Coastal Foodshed
Elks Wareham – New Bedford Lodge 73 Inc.
First Citizens Credit Union
First Citizens Federal Credit Union
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Dan King, Mobile Market Manager

Southeastern Massachusetts Agricultural Partnership
Karen Schwalbe, Executive Director

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Holly Fowler, Co-founder & CEO, Northbound Ventures Consulting, LLC

Researchers and Contributing Authors
Andrew May, Research Assistant, Friedman School of Nutrition Science and Policy at Tufts University

Abigail Hevey, Co-Founder and Manager of Grants & Development, Coastal Foodshed

Reviewers
Winton Pitcoff, Director, Massachusetts Food System Collaborative

Greg Watson, Director of Policy and Systems Design, Schumacher Center for a New Economics

---

Community Contributors
Edward Anthes-Washburn, Chief Executive Officer & Port Director, New Bedford Port Authority

Rachel Davis, Community Benefits Manager, Southcoast Health

Joyce Dupont, Director of Wellness & Community Programs, Greater New Bedford Community Health Center

Deanna "Dee" Elliot, Director, Farm & Community Collaborative, Inc.

Patrick Farah, Energy Officer, Town of Plymouth Massachusetts

Kim Ferreira, Co-founder, Coastal Foodshed

Victoria Grasela, Vice President of Marketing & Community Engagement, United Way of Greater New Bedford

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Mary Rapoza, Director Parks Recreation and Beaches, City of New Bedford

Jesse Rye, Co-Executive Director, Farm Fresh Rhode Island

Adele Sands, Superintendent, Bristol County Agricultural High School

Rob Shaheen, Food Services Director, New Bedford Public Schools

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We also wish to acknowledge all community stakeholders who informed this assessment through their participation in the various surveys and engagement sessions.

Land Acknowledgement

We cannot talk about food in a place without acknowledging the land from which it comes. We cannot explore the present, or consider the future, without understanding the past, which includes acknowledging the harmful historical legacies that persist within and around us.

For the purpose of the Southeastern Massachusetts Food System Assessment, Southeastern Massachusetts encompasses the present day counties of Bristol, Norfolk, and Plymouth in the now Commonwealth of Massachusetts. We acknowledge that this land is the traditional unceded territory of the Wôpanâak (Wampanoag) and Massa-adchu-es-et (Massachusett). Pre-English invasion, this place, its gifts of fertile soil, waters, wildlife, and beauty, had already sustained Indigenous tribes for 12,000 years. We honor and respect the precious food sources discovered, harvested, and cultivated by Native peoples and remain grateful to them for their connectedness to this land and their food traditions.

We make this acknowledgement with intention and accept the responsibility of all we continue to learn. We will honor the resources which sustain us today through their protection. May food be just one of many connections we use in our work to repair relationships with Indigenous people of all Nations living here today.

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DESIGN BY MEDIUMSTUDIO mediumstudio

Executive Summary

The Marion Institute's Southcoast Food Policy Council (SFPC) is guided by a mission to connect, convene, and advocate for local food producers, consumers, and community members who seek policy and systems that strengthen our regional food system, improve community health, and eliminate food insecurity. There are currently more than 300 members-at-large of the council, who represent community-based organizations, food relief and social service agencies, institutions, philanthropy, food entrepreneurs, and enterprises.

In early 2020, the Marion Institute's Southcoast Food Policy Council began its effort to prepare an updated food system assessment for Southeastern Massachusetts, specifically the counties of Bristol, Norfolk, and Plymouth, with four objectives:

1. Provide an updated landscape of the region's food system assets, incorporating broader primary research and food economy perspective.

2. Share progress since the 2014 assessment and current challenges.

3. Identify intervention points where policy can support an equitable and sustainable food system for all in the region.

4. Help raise awareness of Southeastern Massachusetts' context for contributing to statewide and New England food system planning work.

It is necessary to acknowledge that this assessment has taken place almost entirely in the context of the COVID-19 pandemic, which has undoubtedly influenced recent data points and survey results referenced. This has made for highly dynamic research, and we cannot be sure of the long-term impacts of COVID on supply chains, food insecurity, the labor market, and more. Readers are asked to keep this unique context in mind as they use this report for planning, community advocacy, and public policy decision-making.

Food Production and Harvesting

Food production data presented is derived from the United States Department of Agriculture Census of Agriculture conducted every five years (e.g., 2007, 2012, 2017). In the Southeastern Massachusetts counties of Bristol, Norfolk, and Plymouth, there are 1,643 farms and 99,688 acres of land in farms. From 2012 to 2017, the number of farms has decreased 8.1% and the amount of land in farms decreased by 8.0%, outpacing the state in both instances. This shift in farm acreage more than reverses a 7.8% gain documented between 2007 and 2012.

Overall, the market value of the region's agricultural products decreased by 25%, from $157,222,000 in 2012 to $118,400,000 in 2017, with Plymouth County witnessing the largest percentage drop (-33%). The top market value category for the region continues to be *Fruit, Tree Nuts, and Berries,* which brought in 44% of total market value, primarily from the cranberry industry; followed by *Nursery, Greenhouse, Floriculture, and Sod* at 25% of market value; *Livestock, Poultry and Their Products* at 14%; and *Vegetables, Potatoes, and Melons Harvested for Sale* at 14%.

The number of farms raising vegetables fell by 15% from 250 farms in 2012 to 212 farms in 2017 even while the land dedicated to vegetables increased. In 2017, 3,491 acres were devoted to vegetables, representing 10% of the region's total cropland, 12% of cropland harvested, and an increase of 18% since 2012. The top three vegetable crops by acreage are sweet corn (37%), pumpkins (12%), and squash (10%).

In the *Livestock, Poultry, and Their Products* category, there are several sub-categories where the number of farms went up even as the market value of those products declined and vice versa. *Aquaculture* and *Milk & Other Dairy Products* combined represent 70% of market value in this category. In 2017, there were 49 aquaculture farms (+5) that generated $6,571,000

in market value (-2%). Dairy farms declined by one to 14 total in the region, but their collective market value increased 29% to $4.9 million, which in absence of higher milk prices is likely the result of more value-added product sales (e.g., cheese, yogurt, ice cream). *Other Animals & Animal Products* stands out as farms decreased from 112 to 76, signaling possible consolidation, while market value grew 286%, from $369,000 in 2012 to $1.4 million in 2017.

Direct market sales (e.g., sales from farmers markets, farm stands, community supported agriculture) increased by 23% between 2012 and 2017 from $8,705,000 to $10,633,000, with Plymouth County's sales more than doubling. Direct market sales now account for 9% of regional market value (5.5% in 2012) and $6.27 in spending per capita for the region ($5.02 in 2012) or $15.90 per household ($13.42 in 2012).

The USDA Census of Agriculture provides valuable insight into the people who grow our food. In 2017:

- Women make up 40% of the region's farm operators.
- Farm operators in the region are predominantly white (98%).
- Only 63% of principal operators list farming as their primary occupation.
- From 2012 to 2017, the number of farms hiring labor decreased from 695 to 595 (-14%), the number of workers decreased from 3,371 to 2,763 (-18%), but wages paid were only down to $39,350,000 from $40,729,000 (-3%) suggesting farms are having to pay higher average wages for labor and may not be able to afford all the labor they need.
- The average age of principal farm operators for the region is 59.8 in 2017, up from 58.3 in 2012, 56.5 in 2007 and 54.8 in 2002. Although the number of farmers under 35 years old increased 69% between 2012 and 2017, they are but a fraction of those 65 and older eying retirement and require ongoing support to sustain and grow their enterprises.
- Access to capital and land are challenges for both beginning farmers and farmers who identify as Black, Indigenous, and other people of color (BIPOC).

Bristol, Plymouth, and Norfolk counties are home to a combined 18 coastal towns, all with active commercial fisheries. There were 1,636 active permitted harvesters and 1,417 homeported vessels across the region as of 2018. Commercial fishermen in the three counties took 32,637 trips, landing a total of 571,953,330 pounds of seafood valued at approximately $469,763,709. The Port of New Bedford continues to play an outsized role in the regional food system, contributing economic value estimated at $11.1 billion, business revenue of $3.8B, 6,808 direct jobs, and $362 million in direct wages. However, an estimated 78% of product passing through New Bedford is exported, even as fishers and harvesters look for new ways to market more directly to local consumers.

In addition to the commercial agriculture, fishing and aquaculture operations in the region, there is much smaller scale production to acknowledge as part of the overall food system. There are community gardens scattered across the three counties, though with less centralized organization and support than several years ago. Urban agriculture remains nascent in a region with a number of densely populated centers ripe for increased green, productive space. Updated local growing ordinances and resource sharing would support individual and organizational initiatives to grow more food in parks and backyards, on vacant lots and rooftops.

Food Processing and Distribution

Food processing and distribution are critical steps in the food value chain for making sure that food produced or harvested reaches consumers in a functional format and efficient manner. Southeastern Massachusetts has long been well equipped with large commercial processing houses, broadline distributors, and wholesale food manufacturers in large part thanks to the massive fish and seafood industry located here. More recently, food system assets in the form of shared commercial kitchens, food hubs, and humane animal slaughter facilities have been established to accommodate smaller scale business models, often targeting retail and direct to consumer channels.

In September 2018, Meatworks opened an 11,000 square foot USDA-inspected multi-species slaughterhouse and meat processing facility for cattle, hogs, sheep, and goats in Westport, Massachusetts. The facility is owned and operated by The Livestock Institute of Southern New England, a 501(c)(3) non-profit organization dedicated to addressing issues facing livestock farmers through educational programming and infrastructure improvements. Meatworks adds throughput capacity of 5,000 cattle equivalents per year to the region and to date, the facility has provided processing services to over 400 local and regional producers from Massachusetts, Rhode Island, Connecticut, and New York. Advance reservations of 18 months during the peak of COVID-19 suggests that more capacity is needed if the region is to accommodate sustained scale in the future as part of its food system resilience strategy.

Dartmouth Grange Kitchen (Dartmouth, Massachusetts) and Hope & Main (Warren, Rhode Island) continue to serve as the primary commercial kitchens in the region. Hope & Main has helped to launch almost 300 businesses since opening in 2014. In addition to rental

space for its members, Hope & Main also provides small-batch manufacturing or co-packing for a variety of products. Co-packing is an important value-chain tool in helping food businesses scale up and grow without leaving the region. Farmers and food producers surveyed continue to be interested in commercial kitchen spaces where they can have value-added products made for them or rent time directly to produce one or more foods.

In 2017, Coastal Foodshed (CFS) spun off from Mass in Motion New Bedford (MiM NB) to focus on filling gaps in food access and distribution on the Southcoast. Since then, CFS has expanded from managing the New Bedford Farmers Markets to operating as a local food hub that sources locally grown and manufactured product from farmers and food makers and then sells it through three main programs: the New Bedford Farmers Market, the Mobile Farm Stand, and the Virtual Market. Customers using Supplemental Nutrition Assistance Program (SNAP) benefits to purchase their food are able to shop through all three programs. CFS programs reach 19 towns, from Fall River to Taunton to Wareham and in 2020, CFS sold more than $340,000 worth of local food directly and indirectly on behalf of more than 50 local farmers and food makers, including processing more than $50,000 in SNAP transactions. A survey of local producers suggests that Coastal Foodshed could continue to expand its food hub services, offering additional aggregation and transportation options to farmers with the potential to channel more locally grown product to wholesale buyers like restaurants and institutions.

Food Access and Consumption

Consumers access food in a variety of ways, from traditional supermarkets to big box stores, independent grocers and co-operatives, convenience stores, farmers markets, and other direct to consumer channels. Away from home food options include restaurants, institutional food service, and community meal programs. Food pantries, shelters, and other community service agencies that provide food staples and meal components are also resources.

In Southeastern Massachusetts, 80% of residents surveyed (n=490) rely primarily on grocery stores and big box stores for their food at home. For 39% of respondents, worrying about whether food would run out before there was money to buy more in the past 12 months was often or sometimes true. The reality of food running out before there was money to buy more was often or sometimes true for 30% of survey participants. Given these indicators of food insecurity, it is understandable that 23% of households in the survey sample had relied on a food pantry in the last 12 months and for 3%, food pantries were the primary food source. Seventy percent of those surveyed reported being mostly satisfied with the quality and variety, but less so with the price of food available. Specifically affordable meat and seafood topped the “hardest to get food items” list, followed by fresh fruits and vegetables.

In 2019, food insecurity in Massachusetts was 8.2%, lower than the national average of 10.9%. This represented a decrease from the 2015 level of 10.3% for the state. In 2020, food insecurity rose to 17.5% across Massachusetts, the largest percent increase (+59%) of food-insecure individuals in the nation. Food insecurity for children in the state also rose by the highest relative percentage nationwide (102%). Norfolk County was one of a handful of counties across the nation anticipated to experience some of the worst food insecurity with a 163% projected increase among children. Nineteen percent of census tracts in Southeastern Massachusetts are rated as low-income/low-access, where a significant number or share of residents is more than 1 mile (urban) or 20 miles (rural) from the nearest supermarket and where more than 100 housing units do not have access to a vehicle and are more than a ½ mile from the nearest supermarket.

The federal government’s SNAP is a critical safety net for low-income individuals and families, but not everyone who qualifies for this benefit enrolls in the program. This difference in eligibility and participation is known as the “SNAP Gap.” SNAP participation has risen across Southeastern Massachusetts by 9.4% since 2014, but the SNAP Gap is still 45%. An estimated 360,219 individuals in the three county region are eligible for SNAP, but only 196,912 were enrolled in the program as of February 2021.

Food Loss & Waste Reduction, Recovery, and Recycling

A combined 63.1 million tons of inedible or unused food material was generated nationally in the commercial, institutional, and residential sectors in 2018, which is 21.6% of total municipal solid waste (MSW) generation. Reducing organic waste and increasing food recovery benefits local people, the environment, and the economy. Since instituting a statewide commercial organics waste ban in 2014, Massachusetts has seen the amount of food rescued and/or donated increase 30% and food collection had doubled, helping to defer an estimated 1.5 million tons of food. There are 12 operations in Southeastern Massachusetts that accept diverted food material and several municipal and commercial options available to Southeastern Massachusetts households to assist with residential composting. Residents participating in one of the private organics management services collectively diverted approximately 49 tons of organic waste from the landfill in 2020.

Inconsistency in product labeling and best by dates continue to contribute to premature discardment of edible food. Consumer education about the dates on packaged goods could help reduce this category of food loss. This could be combined with increasing awareness of protections for those donating food, which would prevent food loss as well as help feed those in need.

Gleaning is a farm level food recovery action. More than a third of the edible produce grown in the United States remains in the field. The reason may be due to the cost to harvest it versus the price a crop will fetch, consumer preference variability, and labor availability. In the farmer/producer survey, only one out of 43 farms said that they regularly participate in gleaning and 16 said they had never gleaned. While gleaning activity remains nascent in Southeastern Massachusetts, increased coordination and infrastructure to support gleaning could help farmers retain greater crop value and make more local food available to the community.

Food Economy

The local food economy is driven by numerous direct and indirect inputs across the food value chain. In Massachusetts, food and agriculture are credited with 349,245 jobs and $40 billion towards direct economic activity.

In Southeastern Massachusetts alone, there are over 11,000 food and beverage stores, food services and drinking places, food manufacturing businesses, and agriculture, forestry, fishing and hunting entities. The sectors listed contribute $5.7 billion in direct wages to the state's overall $15.7 billion direct wages. Average monthly employment across these sectors in the region is 208,871.

The food services and drinking places sector contributes the most to the local food economy in terms of the number of businesses, total wages, and average employment, yet its average weekly salaries are consistently below the other sectors. The food services sector has been particularly hard hit during the COVID-19 pandemic and restaurants and other food establishments are struggling to fill available positions due to a national labor shortage and wage competition. Federal and state economic stimulus packages may help food businesses recover from setbacks caused by the COVID-19 pandemic.

Food System Regulations & Policy

The Southcoast Food Policy Council and partners across the region will be monitoring and engaging on a number of federal, state, and local policy fronts. Issues in play related to the food system include access to land, land tenure, preservation of prime agricultural land, tax implications for small agricultural parcels, right to farm laws, climate change mitigation, soil health, minimum wage mandates, consumer and institutional local food purchasing incentives, and expanded food loss reduction and recovery strategies. This means those at the table will have on their plates to consider where food is grown or harvested, by whom, using what practices, at what cost to the farmer/fisher/producer and to the consumer, based on internal and external factors. And in this setting, those at the table will first need to contend with ensuring those most likely to be impacted by any decisions made or regulation proposed are helping set the policy agenda and lead actions with their voices, perspectives, and power in the food system.

Introduction

Much has happened in the regional food systems space in the years since the first Southeastern Massachusetts Food System Assessment was compiled in 2014. A statewide food strategy was adopted by the Commonwealth, the state's organics waste ban went into effect, the pilot of a Healthy Incentives Program (HIP) was a wild success exceeding expectations as a model for food access and economic development, a new U.S. Department of Agriculture (USDA) Census of Agriculture was released, farm to school initiatives emerged, and so much more. As a direct result of the inaugural assessment, the Southeastern Massachusetts Food Security Network transformed into the Southcoast Food Policy Council to create a coalition in the Southcoast region to focus on policy and systems change to create a stronger and more resilient local food system.

When the Marion Institute and Coastal Foodshed initiated a joint study of the region's food system and feasibility for a food hub, no one knew that 2020 would be a year of unprecedented change. We have witnessed an extraordinary struggle with COVID-19, culminating in loss and economic hardship. Accompanying this, we are engaged in a historic, resurgent movement for social justice. The pandemic has shed light on the many gaps and social inequities that have remained hidden in our country for far too long. These inequities, and the resulting problems, are epitomized by a food system that is not only incapable of providing the answers to chronic food insecurity, but has created a new crisis - *nutritional insecurity* - resulting in the health crisis we currently face. At the onset of the pandemic, we witnessed these problems firsthand by the way the industrialized food system could not keep up with demand and left grocery store shelves bare, while food decayed at farms and spoiled in fields. However, as the months rolled on, the pandemic revealed how sick we are as a culture. The industrial food system has set an exceptionally low baseline for public health and we can now attest to the dire consequences of this, written in the nation's sickness and mortality rates. Of equal importance, our nation's history of structural racism must be acknowledged as a fundamental cause of the unacceptable and persistent health disparities facing our country.

On February 13, 2020, an initial in-person quarterly meeting of the Southcoast Food Policy Council was held and served as a kick-off event for the Food Assessment process. By early March , the pandemic had emerged. What was meant to be a straightforward six-month exercise to update the original food system assessment of 2014 was first paused and then resumed as the public health crisis settled in, exposing fragilities and externalized costs in our food systems.

The result is a report that points to the progress made to strengthen the Southcoast's local food system since 2014, while exploring work that still needs to be done. In the last twelve months, parts of the food economy have suffered greatly due to closed or limited food service operations, employee layoffs, and revised demand for food items. Food insecurity has increased with the temporary or permanent loss of employment, as evidenced by higher participation at local food pantries and in free meal services, especially for Black, Indigenous, and other people of color (BIPOC).[2] Simultaneously, some farm and food businesses have managed to pivot and survive, even grow, responding to shifting consumer patterns in demand for local and direct sources of food. Emergency food providers have adapted to a dynamic federal relief distribution program, in addition to their regular programming, and wherever possible, have maximized available resources to ensure those in need continue to have access to adequate nutrition.

Additionally, we must place this document in the context of the regional and statewide work being completed around the local food system. Food Solutions New England (FSNE) is a regional network supported and coordinated by the University of New Hampshire Sustainability Institute. FSNE's *A New England Food Vision* was released in 2012 and called for the region's six states to collectively build the capacity to produce at least 50% of clean, fair, just and accessible food for all New Englanders by 2060. Almost a decade later, it is time to evaluate progress toward this goal and update the plan. Regional research will begin in Summer 2021 with a second edition of the plan anticipated mid-2022. In the meantime, the Massachusetts Local Food Action Plan, completed in 2015, continues to encapsulate a statewide strategy in support of the vision centered around four main goals:

2. Feeding America. The Impact of the Coronavirus on Food Insecurity in 2020 & 2021. March 2021. p. 2.

1. Increase production, sales and consumption of Massachusetts-grown foods;
2. Create jobs and economic opportunity in food and farming, and improve the wages and skills of food system workers;
3. Protect the land and water needed to produce food, maximize environmental benefits from agriculture, and ensure food safety; and
4. Reduce hunger and food insecurity, increase the availability of healthy food to all residents, and reduce food waste.

Implementation of the plan is facilitated by the Massachusetts Food System Collaborative (MFSC), whose mission is to support collective action toward an equitable, sustainable, resilient, and connected local food system in Massachusetts. MFSC currently focuses on the following projects:

- Healthy Incentives Program Funding
- Food Waste Reduction
- Urban Agriculture
- Farming and Public Health
- Race and Equity at Farmers Markets
- Mobile Food Vendors
- Food System Legislation
- Local Food Policy Councils

Report Objectives and Active Use

This report is designed to build upon the foundational mission of the Southeastern Massachusetts' first food system assessment and serve as an active tool for planning, community advocacy, and public policy.

We started with the ***objectives*** to:

- Provide an updated landscape of the region's food system assets, incorporating broader primary research and food economy perspective
- Share progress since the 2014 assessment and current challenges
- Identify intervention points where policy can support an equitable and sustainable food system for all in the region
- Help raise awareness of Southeastern Massachusetts' context for contributing to statewide and New England food system planning work.

with the ***purpose*** of...

- Deepening stakeholder understanding of the regional food system
- Increasing awareness of the food system's assets, challenges, and opportunities
- Improving connections and alignment across sectors of the food system
- Informing decision-making aided by recent data
- Improving indicators of population, environmental, and economic health

With these goals in mind, we invite all readers of this report to use it as a working, living document. While the information gathered ultimately represents a snapshot in time, the following questions, sorted by role(s) in the food system, are meant to prompt ongoing reflection and discussion as we consider what is happening, where, by whom, with what intended outcomes for our community.

Consumers

- Do you have consistent and reliable access to food that supports health?
- Does that food also respect your dietary and cultural preferences?
- If you or a neighbor needs help to get food, do you know where to look for assistance? If you don't know, please see Appendix A.
- What ideas do you have to make it easier for you and people you know to get or grow food?
- What else would you like to learn about our food system?

Food Businesses

- Does the information in this report reflect your experience working in food or farming?
- What education or information would you like buyers and consumers to know about the food you produce and/or sell?
- What changes to laws, licensing, lending or other business requirements would improve employer and employee success?

Planners and Policy Makers

- What responsibility or influence do you have to directly impact the food system?
- What processes are in place to ensure planning and policy efforts targeting community improvement include preservation and/or enhancement of equitable access to land to grow food?
- What processes are in place to ensure planning and policy efforts targeting community improvement include equitable access to health promoting foods?

Where do you see opportunities for policy to improve the food system or address other determinants of food access, security, and public health? **Share your ideas with us at sfpc@marioninstitute.org.**

Methodology

To retain consistency with the 2014 assessment, the geographic scope of this regional food system assessment focuses on the three counties of Bristol, Norfolk, and Plymouth in Southeastern Massachusetts. This area also corresponds to the services and outreach of the Southeastern Massachusetts Agricultural Partnership (SEMAP). The Southcoast, and focus area of the food policy council, generally encompasses Somerset to Wareham, including the Gateway cities of Fall River and New Bedford. The City of New Bedford features prominently, in part due to the importance of the seaport as a major economic and food system asset in the region, state, and country. Other large commercial and population centers on the Southcoast are referenced as well. The following section on demographics provides a high-level profile of the region, parts of which are elaborated on in other sections.

This study relies on both primary and secondary research sources. Primary research consisted of an in-person project launch event in February 2020 as part of the SFPC quarterly meeting. A virtual community gathering, organized in collaboration with the Town of Plymouth, was held in June 2020. Surveys for three different stakeholder groups were administered during the summer and early fall of 2020. From September to December, more than 20 phone interviews were held with stakeholders identified by SFPC members. Over the course of the entire last year, weekly SFPC virtual meetings have provided a variety of detail and perspective from member organizations.

The first survey was directed at any organization engaged in food relief services in the region. The information gathered by this survey sought to not only understand the pattern of need among those seeking free food resources, but the capacity and constraints of the agencies themselves. This survey was undertaken in the early months of the pandemic and we have learned much since. The demands on food relief agencies have been a dynamic space as documented by the weekly calls hosted by the Marion Institute and we continue to learn as federal and state relief efforts unfold.

The second survey was conducted primarily in service to a food hub feasibility study for Coastal Foodshed, but its findings also offer insight in this report. From the responses of local farmers, we can see a localized perspective of the current state of farming and what could be enabled by policy change, capital investments, new market opportunities and other improvements.

The final survey was the most ambitious undertaken and benefited greatly from the support of the United Way of Greater New Bedford and the Immigrant Assistance Center to translate the survey into Spanish and Portuguese and administer it where possible. This allowed for a profile of respondents more diverse in socio-economic status. The results from 490 people across the three-county area help us understand the patterns and preferences of consumers in the region.

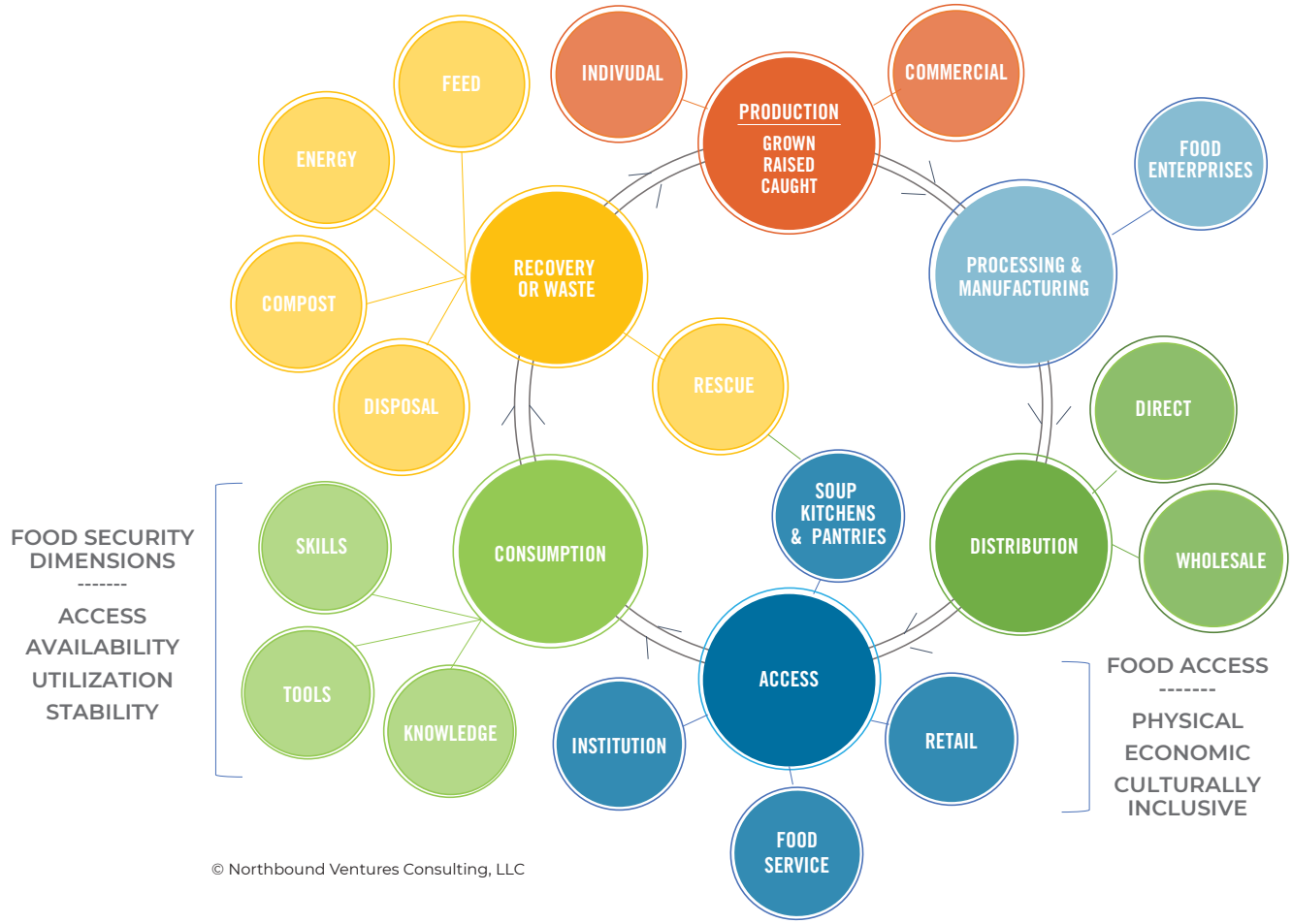
Secondary data was compiled from publicly available data sets, industry reports, community sponsored research, academic studies, media, and organizational websites. These sources are cited throughout the document with corresponding figures, tables and footnotes.

Wherever possible, research draws on the most recently available data. In some cases, the only quantitative milestones since the 2014 assessment are based on studies that are a few years old. Readers should take note of given dates and consider the potential effects of COVID-19 on 2020 information, even if not mentioned explicitly.

What Is A Food System?

The term *food system* is often used to convey the value chain that includes the resources and services of food production, transport, processing or manufacturing, distribution, and consumption or end of life. "Local and regional food systems" refers to place-specific clusters of agricultural producers of all kinds—farmers, ranchers, fishers—along with consumers and institutions engaged in producing, processing, distributing, and selling foods.[3] Figure 1 provides an illustration of the food system and its relationship to food access and security, but does not elaborate on inputs to the system (e.g., capital, labor, equipment, transportation, natural and synthetic resources, knowledge), which provide critical foundation to all that is represented.

FIGURE 1. FOOD SYSTEM & VALUE CHAIN



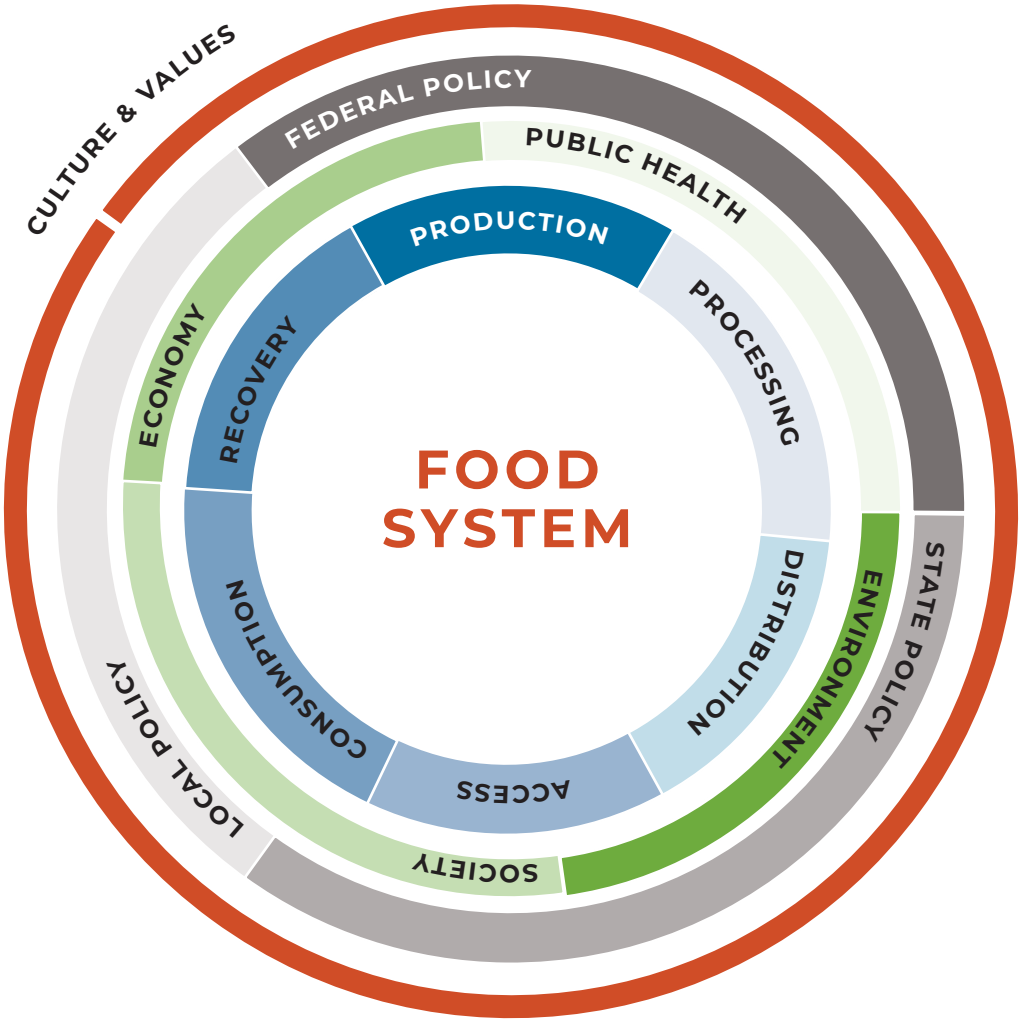
"'Local and regional food systems' refers to place-specific clusters of agricultural producers of all kinds—farmers, ranchers, fishers—along with consumers and institutions engaged in producing, processing, distributing, and selling foods."

Source: Trends in U.S. Local and Regional Food Systems: A Report to Congress.

3. USDA Economic Research Service. Trends in U.S. Local and Regional Food Systems: A Report to Congress. January 2015.

The food system both impacts and is influenced by a variety of other factors and systems including the environment, public health, and the economy. These in turn are reflective of varying levels of policy, which is often the expression of a society's culture and values. This is why a systems-thinking approach is needed when addressing change in the food system. While complex, food policy councils must consider these multi-faceted, interdependent relationships as they consider food and agriculture-related policies and programs. In order to create a food system that works for everyone, we need to address policy and decision-making at all levels. Food policy councils work in the outer levels of Figure 2 and are focused on the long-term systemic changes that need to be addressed in order to elevate the direct services of the inner sectors (blue).

FIGURE 2: FOOD SYSTEM RELATIONSHIP TO OTHER SYSTEMS AND POLICY



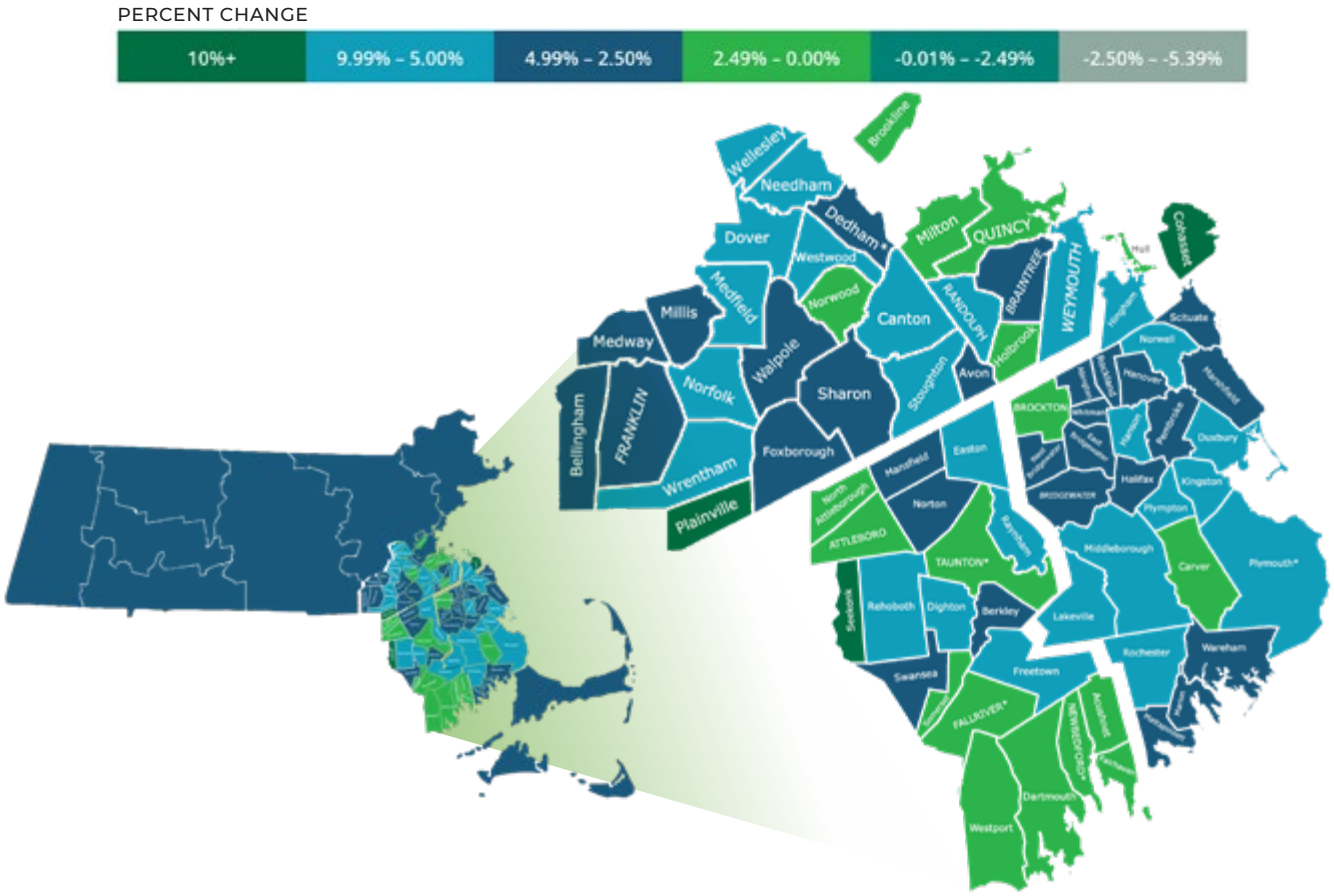
Regional Demographics

Population

According to U.S. Census data and 2019 American Community Survey Estimates, the national population grew by 6.8% or approximately 20 million people over the past decade. During the same time frame, Massachusetts' population grew 5% or by 373,000 people. The state's Southeastern counties of Bristol, Norfolk and Plymouth saw a similar trend but with slower growth in Bristol (2.7%). The total combined population for the three counties is 1,699,294, which represents just over a quarter of the state's population (26%). Figure 3 shows the three-county region by city or town and population change since the 2010 Census.

FIGURE 3: PERCENT POPULATION CHANGE FOR THE COUNTIES OF NORFOLK, BRISTOL, AND PLYMOUTH, 2010-2019

Source: U.S. Census Bureau, Massachusetts Secretary of State



Race and Ethnicity

In the Southeastern counties, population growth was experienced most among people of color. Black/African American, Hispanic/Latino* and Asian communities grew by 0.7%, 1.1% and 1.1% respectively. People who identify as "two or more races" also saw an increase of nearly 1% across the region. Racial and ethnic identities differ between the three counties as well. Bristol's Hispanic/Latino population increased to 8% in 2019, nearly doubling over 2010 data; while Norfolk experienced an influx of people identifying as Asian alone up to 11%. In Plymouth County, Black or African Americans consist of 10% of the population compared with Bristol (4.3%) and Norfolk (7.1%). It is worth noting that the Southeastern region as a whole experienced a higher rate of growth (2.1%) in the foreign-born population compared to the national rate of 1%.

*While this report uses "Latino" per the U.S. Census Bureau race categories, the authors recognize and respect individual preference to use Latino/a/x/e.

Income, Poverty and Unemployment

Between 2015-2019, the average median household income in Massachusetts was $81,215, much higher than the national average of $62,843. Median household income among the three Southeastern counties ranged from below the state average in Bristol ($69,095), to above it in Plymouth ($89,489) and Norfolk ($103,291). New Bedford ($43,503) and Fall River ($46,321) median household incomes are well below that of Bristol County.

Between 2010 and 2019, poverty rates in Massachusetts decreased to 9.4% with slightly lower prevalence in Norfolk and Plymouth counties of 6.3% and 7.4%, respectively, and a slightly higher rate of 11.3% in Bristol County. Table 1 provides select details of demographic, social, and economic data for the Southcoast's commercial centers (New Bedford and Fall River) and Norfolk, Bristol, and Plymouth counties against state and national statistics.

TABLE 1. SELECT DEMOGRAPHIC, SOCIAL, AND ECONOMIC COMPARISON

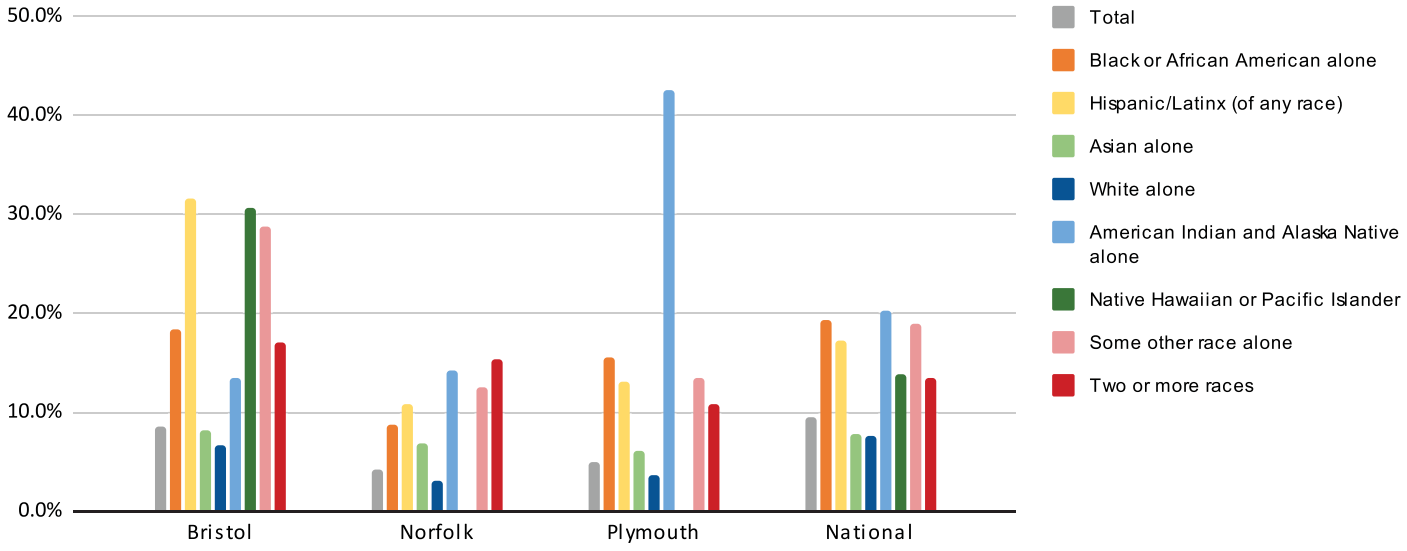
Source: American Community Survey 2019 5-Year Estimate Subject Tables (U.S. Census)

	New Bedford	Fall River	Bristol	Plymouth	Norfolk	Massachusetts	United States
Population	95,239	89,388	561,037	515,303	700,437	6,850,553	324,697,795
Median Household Income	$46,321	$43,503	$69,095	$89,489	$103,291	$81,215	$62,843
Poverty (children under 18)(%)	--	--	16.7	9.3	6	11.6	18.5
Poverty (%)	--	--	11.3	7.4	6.3	9.4	10.5
Total Households	38,888	38,456	217,912	187,460	265,300	2,617,497	120,756,048
Median Age	36.6	39.6	41	42.7	40.9	39.7	38.1
Education Attainment (%)	51.2	52.5	85.7	92.9	93.9	90.8	88
Foreign Born (%)	--	--	12.7	9.5	18.4	17.3	13.6
Race and Ethnicity (%)							
White	67.1	84.6	84.1	82.9	77.6	78.1	60.7
Black or African American	10.2	8.3	4.3	10	7.1	7.6	12.7
American Indian and Alaska Native	0.8	2.1	0.1	0.2	0.1	0.2	0.8
Asian Alone	2.0	2.1	2.3	1.4	11.1	6.6	5.5
Native Hawaiian and Pacific Islander	0.2	0.1	0.1	0.0	0.0	0.0	0.2
Other Race	25.8	7.5	6.2	3.3	1.7	4.8	4.9
Two or More Races	5.2	4.4	3	2.2	2.4	3.3	3.3
Hispanic or Latino	20.8	10.5	8.0	3.9	4.5	11.8	18.0

Income inequality, or inequity, is rooted in historical and contemporary systemic racism, with significant economic disparities between Black/African American, Hispanic/Latino, and white households. In Bristol County, households of color face poverty at more than double the rate of white households with 18.1% of Black or African American families and 27.2% of Hispanic/Latino families living in poverty compared to 9.5% of white families. These households are particularly vulnerable to food insecurity, housing insecurity, and unemployment. Figure 4 illustrates this disparity of poverty by race in the region.

FIGURE 4. FAMILIES WITH A HOUSEHOLDER BELOW THE POVERTY LINE BY COUNTY

Source: American Community Survey 2019 5-Year Estimate Subject Tables (U.S. Census)



Income and poverty can be directly linked to employment. Overall, the unemployment rate between 2010 and 2019 dropped significantly across the nation to 3.4% and both Massachusetts and the three Southeastern counties experienced similar trends. Due to COVID-19 shutdowns, unemployment rates in Massachusetts more than doubled from 2.8% in November 2019 to 6.7% in November 2020 (adjusted for seasonal unemployment), impacting young people, those without a college degree, women and communities of color most profoundly. According to the Bureau of Labor Statistics, the average national unemployment rate in December 2020 was 6.7% compared to 16% for teenagers, 9.3% for Hispanics/Latinos and 9.9% for Black or African Americans. High contact professions like restaurant and hospitality workers experienced more layoffs with an estimated 75% increase in unemployment over the past year occurring in food services and bars.

The same publicly available datasets highlighted here contain much broader and detailed information that can also help inform food system conversations. The composition of households, cost of housing, access to transportation, and local economic opportunity often present alongside established food system challenges. While the selected demographics play an important role in beginning to understand people in a place, there is more to consider as part of future decision-making. Just as there are clear differences among cities and towns within a single county, so too do neighborhoods vary within a given city or town. To any extent possible, more granular and specific information (e.g., block- or street-level data) should be sought and developed, as it will help to target policy and initiatives, with the intent of achieving more efficient and effective outcomes.

CHAPTER 1.

Food Production & Harvest

Key Takeaways

- Food production relies on both land and water resources and varies in scale from global commercial operations to backyard gardens.
- The total number of farms is in decline and prime agricultural land is threatened by development.
- Low profit margins mean many farms struggle financially. Established farmers still need support to sustain and grow their operations including access to affordable land, working capital, skilled labor, and technical assistance.
- Farmers and commercial fishers continue to age and lack of racial diversity in these occupations calls for increased attention to supporting both young and BIPOC individuals to gain access to the resources needed to start and/or operate a business.
- Climate change and unpredictable weather not only make it harder and more expensive to grow food, but threaten food traditions, supply, and the local economy.
- Over reliance on too few crops could prove devastating to the local economy should any one or combination of them fail or lose market demand for a sustained period of time.
- Research and resident education could help foster consumer demand for more diverse regional products. Producers need markets and methods to increase wholesale and direct-to-consumer sales of locally harvested products, especially landed fish and aquaculture species.
- Urban agriculture remains nascent in a region with a number of densely populated centers ripe for increased green, productive space.
- Community-based food production could be supported and scaled through the adoption of progressive urban agriculture ordinances and resident education.

COMMERCIAL AGRICULTURE

The USDA Census of Agriculture is conducted every five years and is considered the most comprehensive set of county level agricultural data available. There are limitations to the data however. Not all farms are included in the census. Periodic changes in definitions, how questions are asked, and what is included in a census category can make longitudinal comparisons difficult. Any data in which an individual or agricultural operation could be identified are suppressed, preventing some same year comparisons and incomplete totals. In smaller agricultural regions, the addition or loss of a single large farm operation can produce a swing in the data that may look more significant than it is in reality. Readers can explore nuances of the data in this section, in exhaustive detail, using the referenced USDA sources.

The 2014 food system assessment referenced change between the 2007 and 2012 censuses though some agricultural data points are available reaching back more than a century. In this assessment, data from the 2017 census is added to provide a decade worth of perspective for the region. This section recounts the basic statistics of the number of farms, land in farms, crops grown, market value of product, and farmer demographics.[4] County profiles for Norfolk, Bristol, and Plymouth respectively are included in Appendix B. The Massachusetts Department of Agricultural Resources (MDAR) is also a valuable resource. MDAR's mission is to help keep Massachusetts agriculture economically and environmentally sound, and the state's food supply safe and secure. It is an important creator and conduit of information for the agricultural community and others in support services roles.

Farms and Land

Farms in Massachusetts tend to be smaller and in 2017, 80% were individually or family-owned operations. In 2017, farms under 10 acres were 33% of the total, with farms 10-49 acres another 35% of the total farms in the state. The average amount of land per farm in Massachusetts has crept steadily lower since the year 1974. In 2007 and 2012, the average farm size shrunk from 85 acres to 67 acres and in 2017, the state average is still hovering there at 68 acres, while it is even lower in Southeastern Massachusetts at just 61 acres.

In the counties of Bristol, Norfolk, and Plymouth, the collective number of farms and the total land in farms decreased between 2012 and 2017, in line with the state overall. The number of farms was 1,923 in 2007, 1,787 in 2012, and 1,643 in 2017, a 15% loss in the last decade (Figure 5). Across the Commonwealth, the total number of farms has declined 6%, from 7,691 in 2007 to 7,241 in 2017. While the total number of farms has decreased, organic farms have increased in all counties. In 2017, there were a total of 20 (+2) organic farms in Bristol County, 6 (+4) in Norfolk County, and 23 (+15) in Plymouth County.

The total acres of land in farms also declined between 2012 and 2017, reversing an otherwise positive increase between 2007 and 2012. In 2007, total land in farms in Southeastern Massachusetts counties was 100,518 acres, 108,349 in 2012 (+7.5%), and 99,688 in 2017 (-8.3%) for a ten-year net loss of less than 1%. Massachusetts overall lost 5%, from 517,879 acres in 2007 to 491,653 acres in 2017. While a decade's loss of 1% might not seem like a lot, it is more than 8,000 acres at a significant per acre opportunity cost as the *New England Vegetable Management Guide* illustrates (https://nevegetable.org/cultural-practices/table-15-approximate-yields). New England has some of the highest farm real estate values in the country, driven by competing development pressures. The per acre farm real estate value has risen from $10,700 in 2016 to $11,300 in 2020, the fourth highest of any state in the country after Rhode Island, New Jersey, and Connecticut.[5]

The U.S. Census of Agriculture further divides "land in farms" into four main categories depending on its primary use: cropland, woodland, permanent pasture and rangeland, and land in buildings, facilities, ponds, roads, etc.

The region's cropland as a whole increased between 2012 and 2017 to 34% (30% in 2012). Land in buildings, facilities, ponds, roads, etc. edged up one percentage point to 37%. Woodland occupies just 23% of land in farms now (28% in 2012) and permanent pasture or rangeland just 6% (8% in 2012).

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4. U.S. Census of Agriculture, Massachusetts:
   a. 2007:https://www.nass.usda.gov/Publications/AgCensus/2007/Full_Report/Volume_1,_CHAPTER_2_County_Level/Massachusetts/mav1.pdf
   b. 2012:https://www.nass.usda.gov/Publications/AgCensus/2012/Full_Report/Volume_1,_CHAPTER_2_County_Level/Massachusetts/mav1.pdf
   c. 2017:https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_CHAPTER_1_State_Level/Massachusetts/mav1.pdf
5. USDA NASS. *Land Values 2020 Summary*. August 2020.

FIGURE 5. TOTAL FARMS, 2007-2017

SOURCE: UNITED STATES 2017 CENSUS OF AGRICULTURE

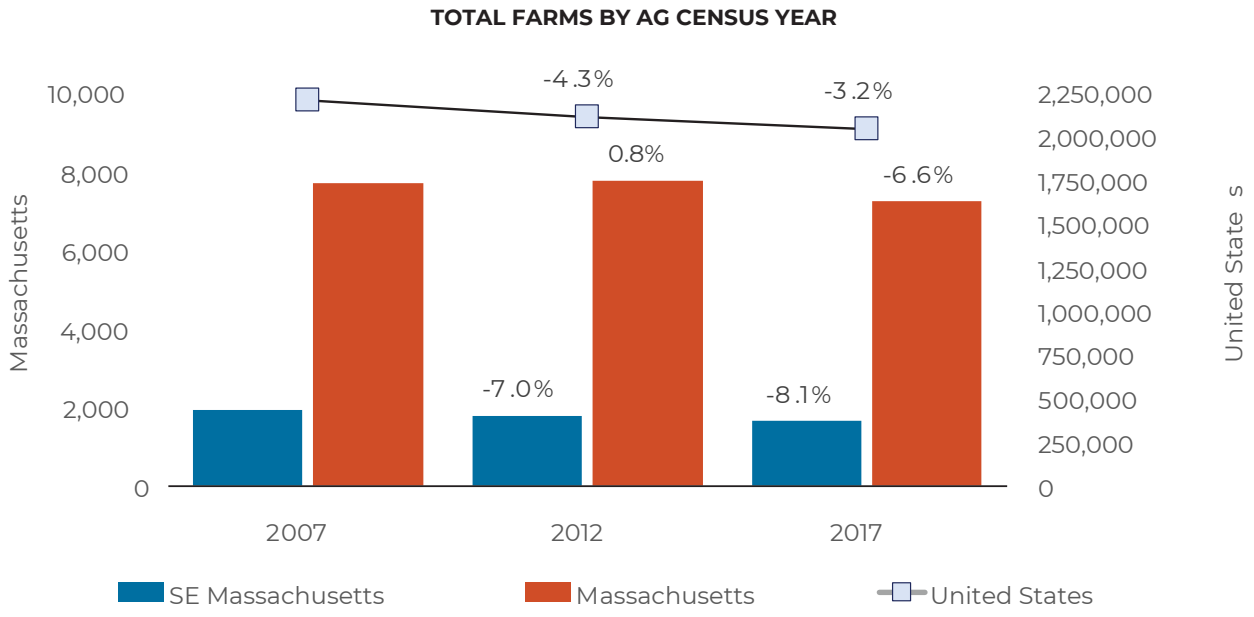
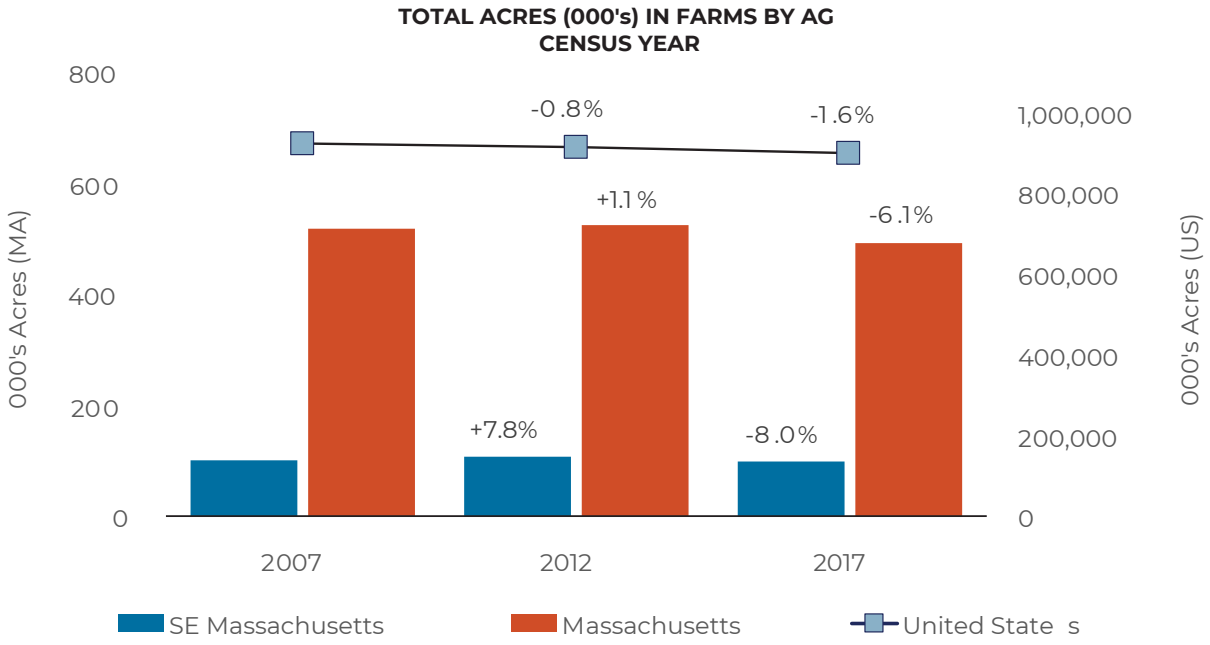


FIGURE 6. TOTAL LAND IN FARMS, 2007–2017

SOURCE: UNITED STATES 2017 CENSUS OF AGRICULTURE

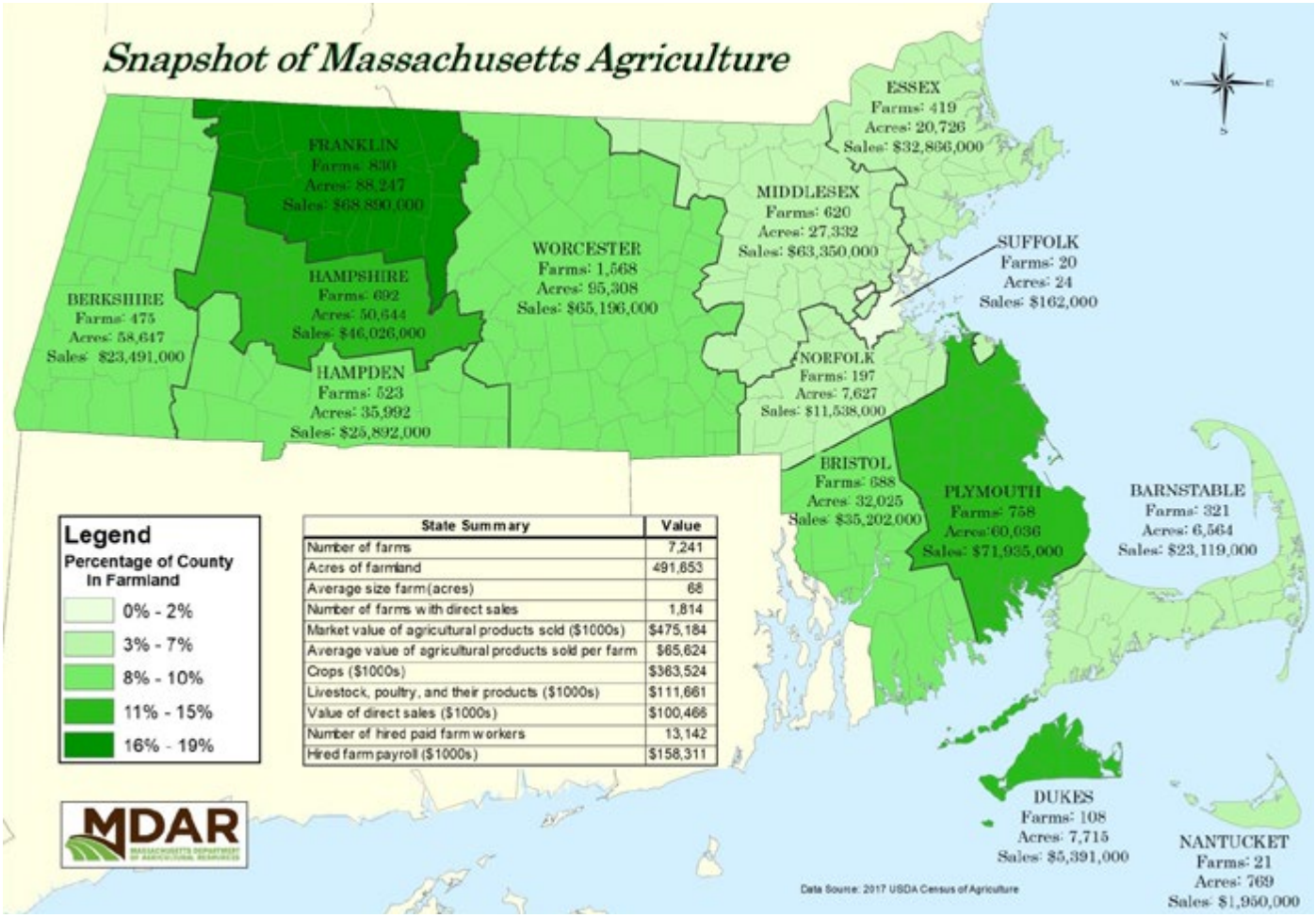


Market Value of Agriculture

The total market value of agricultural products sold in Massachusetts was $475 million in 2017. Of this total, Norfolk County contributed $11.5 million, Bristol County $35 million and Plymouth County $72 million for a total of $118.5 million of which $9.7 million was organic product sales. Plymouth County leads not only the Southeastern Massachusetts region, but the state as a whole with a 15.2% contribution to total market sales of agricultural products. This is due to the cranberry harvest concentrated there, worth $60 million as the state's second-largest agricultural commodity. The total market value of agricultural sales in the region represents a decrease of 25% from $157,222,000 in 2012 with Plymouth County accounting for 91% of the difference.

FIGURE 7. SNAPSHOT OF MASSACHUSETTS AGRICULTURE, 2017

Source: Massachusetts Department of Agricultural Resources



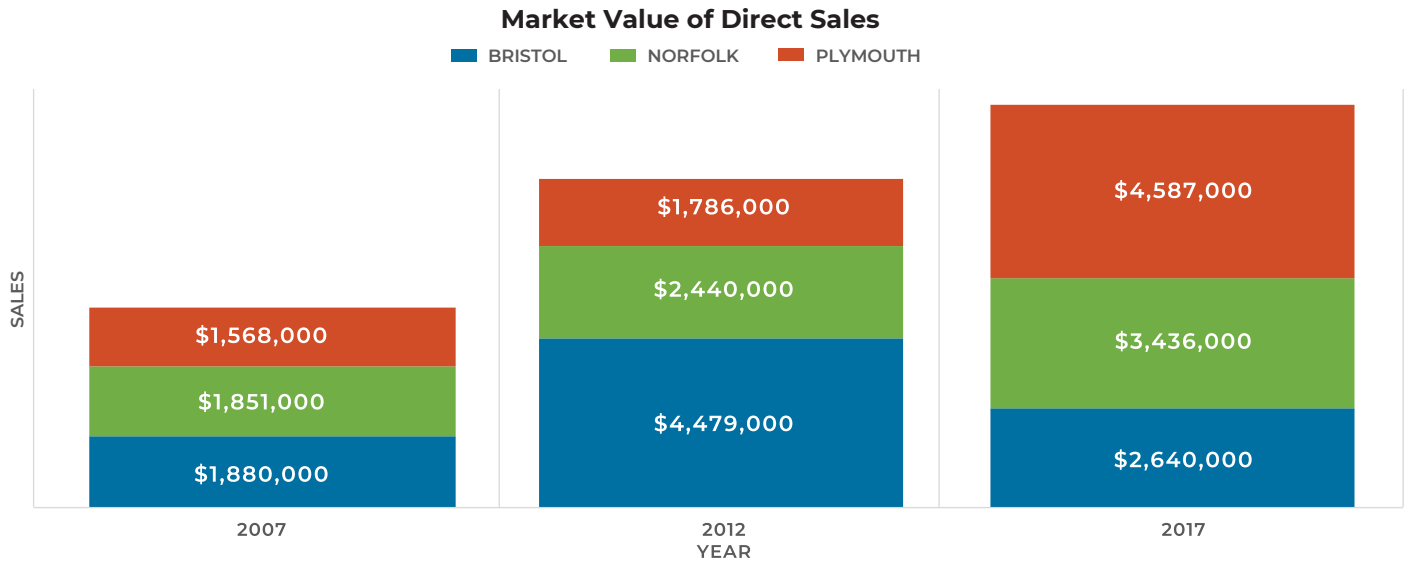
State Summary	Value
Number of farms	7,241
Acres of farmland	491,653
Average size farm (acres)	68
Number of farms with direct sales	1,814
Market value of agricultural products sold ($1000s)	$475,184
Average value of agricultural products sold per farm	$65,624
Crops ($1000s)	$363,524
Livestock, poultry, and their products ($1000s)	$111,661
Value of direct sales ($1000s)	$100,468
Number of hired paid farm workers	13,142
Hired farm payroll ($1000s)	$158,311

In 2017, Massachusetts ranked third in the country for direct to consumer sales per farm, with $55,384 sold per farm.[6] Direct consumer sales are measured through sales that occur between a producer and consumer at locations such as a farmers market, farm stand, or via a CSA (Community Supported Agriculture) program with a farm. Despite interim shifts, the net change of the market value of direct sales between 2007 and 2017 is an increase in all counties (40% in Bristol County, 86% in Norfolk County, and 193% in Plymouth). Direct market sales increased by 23% between 2012 and 2017 from $8,705,000 to $10,633,000 and now account for 9% of regional market value (5.5% in 2012) and $6.27 in spending per capita for the region ($5.02 in 2012) or $15.90 per household ($13.42 in 2012).

6. University of Massachusetts Amherst. Center for Agriculture, Food, and the Environment. https://ag.umass.edu/resources/massachusetts-agricultural-data/market-value/ag-sales-to-consumers. Accessed August 6, 2020.

FIGURE 8. MARKET VALUE OF DIRECT SALES FOR BRISTOL, NORFOLK, AND PLYMOUTH COUNTIES, 2017

Source: United States 2017 Census of Agriculture



In large part thanks to the cranberry industry, the category of *Fruits, Tree Nuts, and Berries* continues to be the largest by market value for the Southeastern Massachusetts counties (44%). The next largest is *Nursery, Greenhouse, Floriculture, and Sod* (25%), *followed by Livestock, Poultry & Their Products* (14%), and *Vegetables Harvested for Sale* (14%).

The number of farms producing fruit and berry crops continued a decade-long decline from 497 in 2007, 471 in 2012, and 412 in 2017. Despite this trend, the acres dedicated to fruit and berry crops remained relatively unchanged from 2012 (12,866 acres) to 2017 (12,590 acres), and is still more than in 2007 (12,171 acres). Consolidation of farms in the cranberry industry is partly responsible for this dynamic, where it now takes more acreage per operation to be competitive with farms in other leading producer states like Wisconsin.

The number of farms raising vegetables fell by 15% from 250 farms in 2012 to 212 farms in 2017 even while the amount of land harvested increased from 5,407 to 6,111 acres. The top three vegetable crops by acreage are sweet corn (37%), pumpkins (12%), and squash (10%). The square feet under glass of *Greenhouse Vegetables* more than doubled to 534,904 ft^2. Investment in greenhouse infrastructure is a key strategy for season extension and can increase the year round availability of regionally produced food, especially tomatoes, greens, and herbs. While incomplete data from Plymouth County prevents direct year over year comparison of market value, trends from the other two counties suggest the market value of the crops grown under glass is increasing exponentially.

In the *Livestock, Poultry & Their Products* category, there are several sub-categories where the number of farms went up even as the market value of those products declined and vice versa. *Aquaculture* and *Milk & Other Dairy Products* combined represent 70% of market value in this category. In 2017, there were 49 aquaculture farms (+5) that generated $6,571,000 in market value (-2%). Dairy farms declined from 15 to 14 total in the region, but their collective market value increased 29% to $4.9 million, which in absence of higher milk prices is likely the result of more value-added product sales (e.g., cheese, yogurt, ice cream). *Other Animals & Animal Products* stands out as farms decreased from 112 to 76, while market value grew 286%, from $369,000 in 2012 to $1.4 million in 2017. Tables showing crop details and trends by county for the last full decade are included in Appendix C.

FIGURE 9. COMBINED AGRICULTURAL SALES BY PRODUCT CATEGORY, 2017

Source: United States 2017 Census of Agriculture

Combined County Agricultural Sales by Product Category (2017)

Farmer Demographics

The USDA changed the way it collects information about principal producers and farmers in the 2017 Census of Agriculture. Up to four producers per farm can now be identified. This change makes it difficult to say for sure how much of the registered change is real or attributable to the new counting methodology. It is likely more the latter than the former. As it stands, the number of principal producers (called operators in the 2012 Census) increased between 2012 and 2017 from 1,747 to 2,277 (total producers = 2,831). In 2017, the male to female producer ratio was 3:2 and 98% of producers were White, up from 96% in 2012. These numbers tell us that while women now make up 40% of principal producers, racial diversity is lagging, in large part as the result of systemic racism. More about historical discriminatory policy leveraged against farmers of color is discussed in Chapter 6.

TABLE 2. SOUTHEASTERN MASSACHUSETTS PRODUCER PROFILE, 2007-2017

Source: 2017 USDA Census of Agriculture, County Profiles

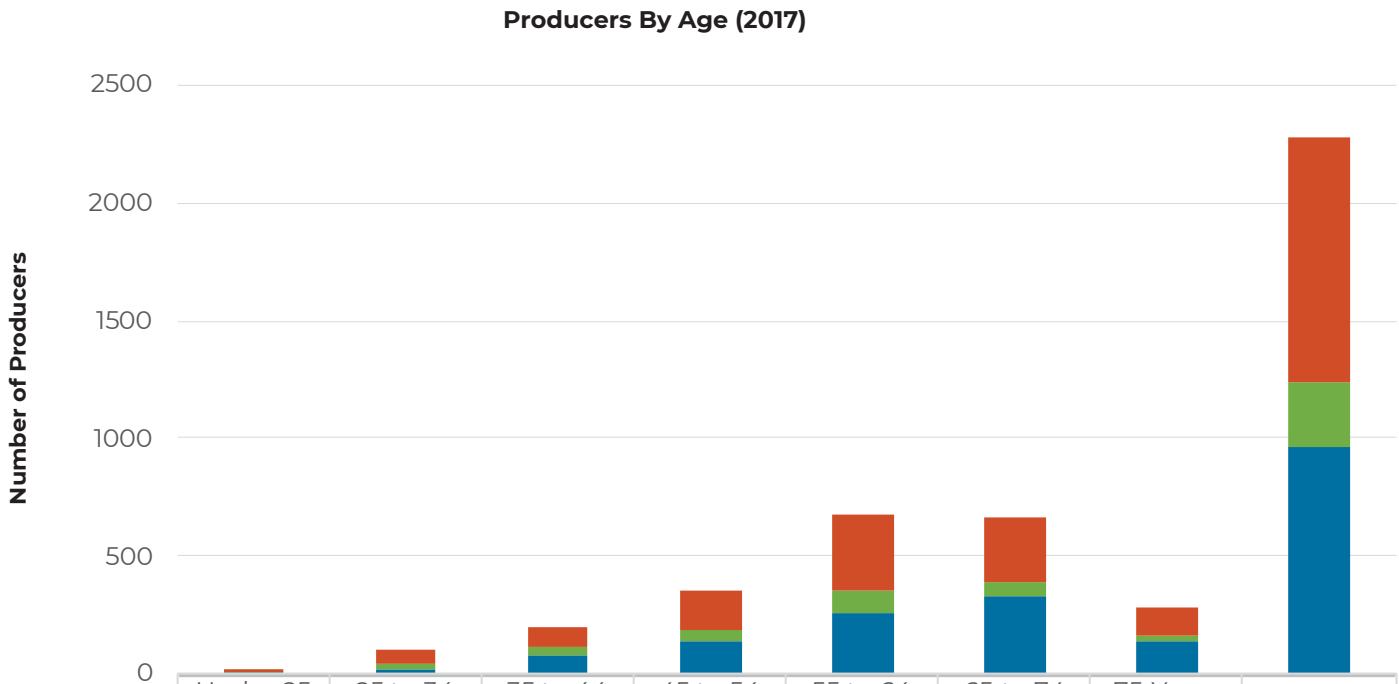
	Bristol	Norfolk	Plymouth	Southeastern Massachusetts	Massachusetts
Year					
2007	777	264	782	1,823	7,691
2012	717	205	825	1,747	12,275
2017	962	279	1,036	2,277	13,371
Gender (2017)					
Male	564	164	649	1,377	7,418
Female	398	115	387	900	5,953
Race and Ethnicity (2017)					
White	951	266	1,021	2,238	12,402
Black or African American	0	0	2	2	166
American Indian and Alaska Native	0	2	5	7	29
Asian	0	2	5	7	95
Native Hawaiian and Pacific Islander	0	0	0	0	6
More than one race reported	0	0	0	0	80
Two or More Races	0	0	0	0	0
Hispanic or Latino	18	4	9	31	207

The average age of the principal producer is at a 20-year high of 59.8 years of age, up from 58.3 in 2012 and 54.8 in 2002. Additionally, 71% of all farmers in the Southeastern Massachusetts region are 55 years of age or older, with 42% age 65 years or older. It is important for farmers nearing retirement to have a succession plan in place to best ensure continuity of productive land management. Yet research suggests less than a third (29%) have taken this step.[7] Land For Good's Farm Legacy Program is a succession plan tool that helps ensure working farms stay in production as farms pass an ownership/operator change, a time of risk for conversion and development. Land For Good is a 501(c)(3) charitable organization based in Keene, New Hampshire, with field agents that serve all New England states. MDAR also offers one-on-one succession planning assistance and group trainings to Massachusetts farm families.

The 2017 USDA Census of Agriculture is the first census to collect data specifically for *Young* as well as *New and Beginning Producers*. In 2017, Southeastern Massachusetts accounted for 19% of the state's farms with a young principal producer; 135 young principal producers (aged 35 years or younger) are farming 5,229 acres on 118 farms in the region. Contrast this to the number of principal producers aged 65 years and older (952); young farmers are just 14% of the necessary replacement rate.

FIGURE 10. PRODUCERS BY AGE IN SOUTHEASTERN MASSACHUSETTS

Source: 2017 USDA Census of Agriculture, County Profiles



	Under 25 Years	25 to 34 Years	35 to 44 Years	45 to 54 Years	55 to 64 years	65 to 74 years	75 Years and Over	Total
Plymouth	5	58	79	163	324	282	125	1036
Norfolk	1	23	32	51	93	56	23	279
Bristol	8	18	81	134	255	330	136	962

The combination of an aging farmer population and lack of racial diversity calls for increased attention to supporting young, Black, Indigenous, and people of color who want to farm to gain entry to the occupation. Assistance might include sponsorship in farm incubation programs, participation in reparations, advocacy for immigration and labor reforms, and access to capital for a land purchase and start up costs. As the next section reveals, once established, these operators would benefit from ongoing support to be able to sustain and grow operations.

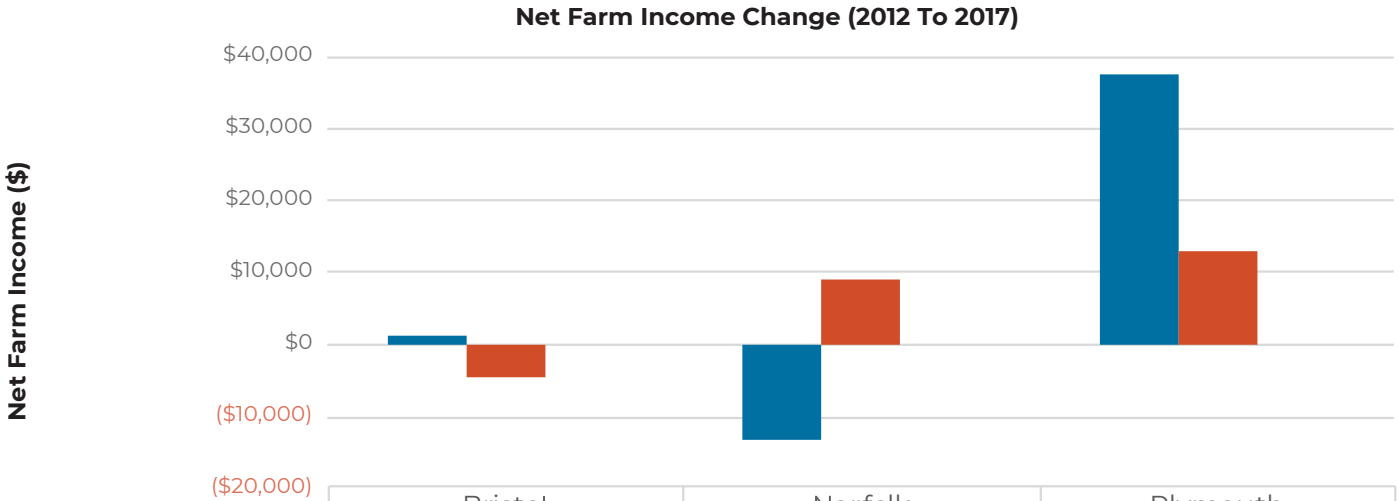
7. Harris, Michael J. and Mishra, A. US. Farm Succession Plans and the Process of Transferring Land Ownership. 2016.

Farm Income, Cost of Farming, and Farm Labor

In 2017, the average per farm production expense in Massachusetts was $68,038. It was $62,621 in Bristol County, $56,075 in Norfolk County, and $102,004 in Plymouth County. Average net farm income declined in Bristol County from $1,203 to -$3,922. Plymouth County also saw decline, but remained net income positive at $14,144, the highest in the region. Norfolk County gained 164% for an average net farm income of $8,330. These numbers show just how close many farms are to break even if not accumulating losses.

FIGURE 11. NET FARM INCOME CHANGE, 2012-2017

Source: 2017 USDA Census of Agriculture, County Profiles



	Bristol	Norfolk	Plymouth
2012	$1,203	-$13,764	$36,944
2017	($3,922)	$8,830	$14,144
% change since 2012	-426%	164%	-62%

From 2012 to 2017, the number of farms hiring labor decreased from 695 to 595 (-14%), the number of workers decreased from 3,371 to 2,763 (-18%), but wages paid were only down to $39,350,000 from $40,729,000 (-3%) suggesting farms are having to pay higher average wages for labor and may not be able to afford all the labor they need. Only 36% of farms in the region reported hiring farm labor in 2017 versus 39% in 2012. The Southeastern Massachusetts Region represented roughly 21% of all hired farm labor in the state of Massachusetts during the 2017 Census of Agriculture, accounting for nearly 25% of all farm wages statewide. Of the 2,367 farms hiring labor across the state, approximately one in four were located in the region.

Local Producer Insights

Conversations with local growers and agriculture advocacy group representatives reveal a number of shared challenges faced by regional farmers including:

- cost of labor, lack of skilled workers, and seasonal turnover;
- competition for land use with real estate development and solar; and
- limited commercial resources for the industry such as composting venues, equipment dealers, and agricultural inputs, with the exception of Progressive Grower, an agricultural supplier based in Wareham.

Finite capacity limits farmers' ability to participate in important direct-to-consumer sales channels like farmers markets. This may in part explain the trend of more farms establishing and/or enhancing their farmstands with a greater variety of product from other farmers. Many farms utilize agritourism in the form of on-farm events and pick-your-own access to bring consumers to them and augment their revenue streams. Some of the state-level resources that support area farmers include the MassGrown Map (where to buy local) and MassGrown Exchange (platform for connecting supply to demand).

Farmer-Producer Survey

Between May and July 2020, the research team conducted a survey of farmers and producers that resulted in 43 unique farm responses. The survey was primarily distributed by SEMAP to its approximately 200 member listserv and Coastal Foodshed, whose staff personally called and emailed its market vendors. The survey intended to capture a variety of data from agrarian operators in Southeast Massachusetts and determine the capacity of producer interest in typical food hub services. The survey form is provided in Appendix D. More detailed analysis is presented in a food hub feasibility study for Coastal Foodshed, but select findings are included here as a comparative perspective against the publicly available data of the 2017 Census of Agriculture. Table 3 provides a summary of the farms represented in the study.

TABLE 3. FARMER-PRODUCER SURVEY PROFILE OF PARTICIPATING FARMS

	n=43 unless otherwise indicated n (%)
Incorporation Type	
For profit	38 (88)
Not for profit or cooperative	5 (12)
Years in Business	
RANGE	**0-150+ YEARS**
5 years or less	17 (40)
6 - 10	9 (21)
11-20	5 (12)
21-50	9 (21)
More than 50	3 (7)
Total Acreage; Own and/or Lease Land	
Total owned	2,146 acres
Total leased	1,152 acres
Own only	13 (30)
Lease	12 (28)
Own and lease both	18 (42)
Lease Term	**(n=32)**
No Lease, Family Owned, or N/A	9 (28)
Annual (Year-to-Year)	11 (33)
Unlimited, Indefinite or Automatic Rollover	4 (12)
Within 5 Years of Today	5 (15)
Greater than 5 Years from Today	3 (10)
Land Tenure	**(n=18)**
Concerned about tenure	8 (44)
Not concerned about tenure	10 (56)
Acres in Production	
TOTAL	**1,573 ACRES**
Less than 10 acres	23 (53)
11 to 30 acres	11 (26)
31 to 50 acres	5 (12)
More than 50 acres	4 (9)
Fallow Acres	511 acres
Estimate Net Farm Income	
Less than $0	3 (7)
$1 - 99,999	22 (51)
$100,000 - 249,999	11 (26)
$250,000 - 499,999	4 (9)
$500,000 - 999,999	1 (2)
$1,000,000 or more	2 (5)
Farm Labor	**AVERAGE**
Full-time	2.4 (n=30)
Part-time	2.3 (n=27)
Seasonal full-time	2.5 (n=19)
Seasonal part-time	3.2 (n=19)
Interns	1.8 (n=5)
Volunteers	4.5 (n=15)

Of the 43 farms in the survey, 88% operate as for-profit businesses with the remainder a combination of non-profit or a cooperative model. Assessing economic health, 51% reported a net farm income of less than $99,999 per year, including a few with negative profitability. Farms surveyed employ an average of 2.4 full time employees, 2.3 part-time employees, and a variety of seasonal workers, interns, and volunteers to augment labor. In this sample, 91% of the farms are using less than 50 acres for production compared to census data for the region that cites the average farm as being approximately 55 acres with an average income from farm related sources of $30,800 and an average three or four hired employees.

The top four production methods employed by producers are conventional, greenhouse, organic, and pesticide/chemical free. The top three crops produced by the farm sample are vegetables, fruits and berries, and ornamental flowers, followed by three categories of animal proteins - meat, eggs, and poultry. Direct-to-consumer is the leading market approach with 74% having their own farmstand or farm store, 28% selling to another farmer for the same, 60% vending at farmers markets, and 40% offering CSA shares. Just two farms reported selling to institutions, which may be linked to the timing of the survey and closures during the pandemic. It may also just be the usual challenge of meeting institutions' high product volumes, wholesale pricing, and procurement requirements (e.g., liability insurance). There is interest in scaling up production and services of a food hub, but cautionary advice that whatever is created be additive rather than cannibalize existing activity. Thirty-three farms said they would be interested in expanding production, but only 20 currently have access to land (1-100 acres) that could be used. The list of conditions required for expansion include access to capital, more and reliable labor, land (at an affordable cost), land tenure, new or stable market demand, infrastructure investment, equipment, and childcare. The top four food hub services that producers said they would be likely to use and willing to pay for are:

- delivery (a truck pick-ups product at your farm and delivers it to your end client);
- shared product (you provide ingredients to food hub staff to produce a value-added product that they and you sell);
- aggregation (your product is bought and combined with other product for wholesale); and
- commercial kitchen (you rent kitchen space to produce a value-added product).

Delivery needs, as described, would not require a food hub entity to take possession of product, only charge a straight freight service fee. Aggregation fits squarely in the traditional food hub operations, whereby the food hub entity would likely take possession of product and manage contracts with the end client on behalf of growers. The other top services both would require a commercial kitchen and dedicated staff to either manage commissary operations or kitchen renters. It is worth noting that any of the above could support increased gleaning in the region. These practices are explored more in Chapter 4: Food Loss and Waste Reduction.

Farming and raising animals remains a challenging occupation despite its necessity and importance to the regional economy. The cost of land is high and the availability and affordability of skilled labor evasive. The impacts of climate change are already evident. Low profit margins mean many farms struggle financially. Established and emerging farmers need support to sustain and grow their operations including access to affordable land, working capital, skilled labor, and technical assistance. More about key policies and approaches in response to these challenges are explored in Chapter 6. There are also several federal and state grant and technical programs that the SFPC might consider in service to the local agricultural community and consumers who need and want increased access to food grown in Southeastern Massachusetts. Appendix E provides a sample list of federal and state resources with brief descriptions of each and links to more information.

FARMER PROFILE:

Freedom Food Farm

Crop diversification, regenerative farming practices that support health and the environment, season extension infrastructure, and value-added production are some of the ways we can grow more food in the Northeast and ensure it is available to all for year-round consumption. Freedom Food Farm (FFF) in Raynham (Bristol County) demonstrates all of these strategies. Chuck Currie established FFF in 2012 on leased land in Rhode Island and moved operations to Massachusetts in 2014. Since then, he has been joined by fellow vegetable, grain, and livestock farmer, Marie Kaziunas. Together with three year-round and two season staff members, they manage five acres of field vegetables, a one acre no-till market garden, three acres of grain, seven greenhouses, and 30 acres of pasture and hay for their livestock. The remainder of the farm's 88 acres are kept as natural habitat supporting biodiversity.

The farm produces a wide range of holistically grown products including produce, grains, eggs, honey, pasture-raised meat, and plant starts. Access to Hope & Main, a commercial kitchen located in Warren, Rhode Island, allows FFF to make veggie burgers, bone broths, stocks, soups, sauerkraut and kimchi, tomato sauce, elderberry spread, dill pickles, hot sauce, and more for year-round consumption.

The farm provides this regenerative, full-diet year-round to the community via a farm stand, a community supported agriculture (CSA) program, and farmers markets. SNAP and HIP are accepted at the farm store and farmers markets and WIC coupons at participating farmers markets. Produce is donated to local food pantries and distribution programs including Food Not Bombs and Hope's Harvest RI. FFF's best practices have been recognized by the state for their contribution to climate resiliency and approach to helping create a just and equitable food system and can be a model for others in the region and beyond.

Source: Freedom Food Farm

"The Port of New Bedford is a major catalyst of economic activity in the New Bedford region, as well as in the Commonwealth of Massachusetts. The activity in the New Bedford/Fairhaven Harbor supports $11.1 billion of annual economic activity, or about 2 percent of the total state Gross Domestic Product for the Commonwealth. The seafood industry and marine cargo, ferry and marina operations directly and indirectly generate nearly 14,500 jobs in the Commonwealth of Massachusetts and impact another 26,500 related jobs in the seafood supply chain."

NEW BEDFORD/FAIRHAVEN HARBOR ECONOMIC IMPACT REPORT (2019)

Commercial Fisheries

As a coastal state, commercial fishing and shellfish aquaculture play important roles in the Commonwealth's food economy and those of many of the local coastal towns and cities located in Southeastern Massachusetts. In 2021, The Massachusetts Division of Marine Fisheries (DMF) published *Port by Port: Profiles and Analysis of the Massachusetts Commercial Fishery*, documenting the current state of commercial fisheries in Massachusetts' coastal towns and the challenges and barriers to fishermen and the sector.

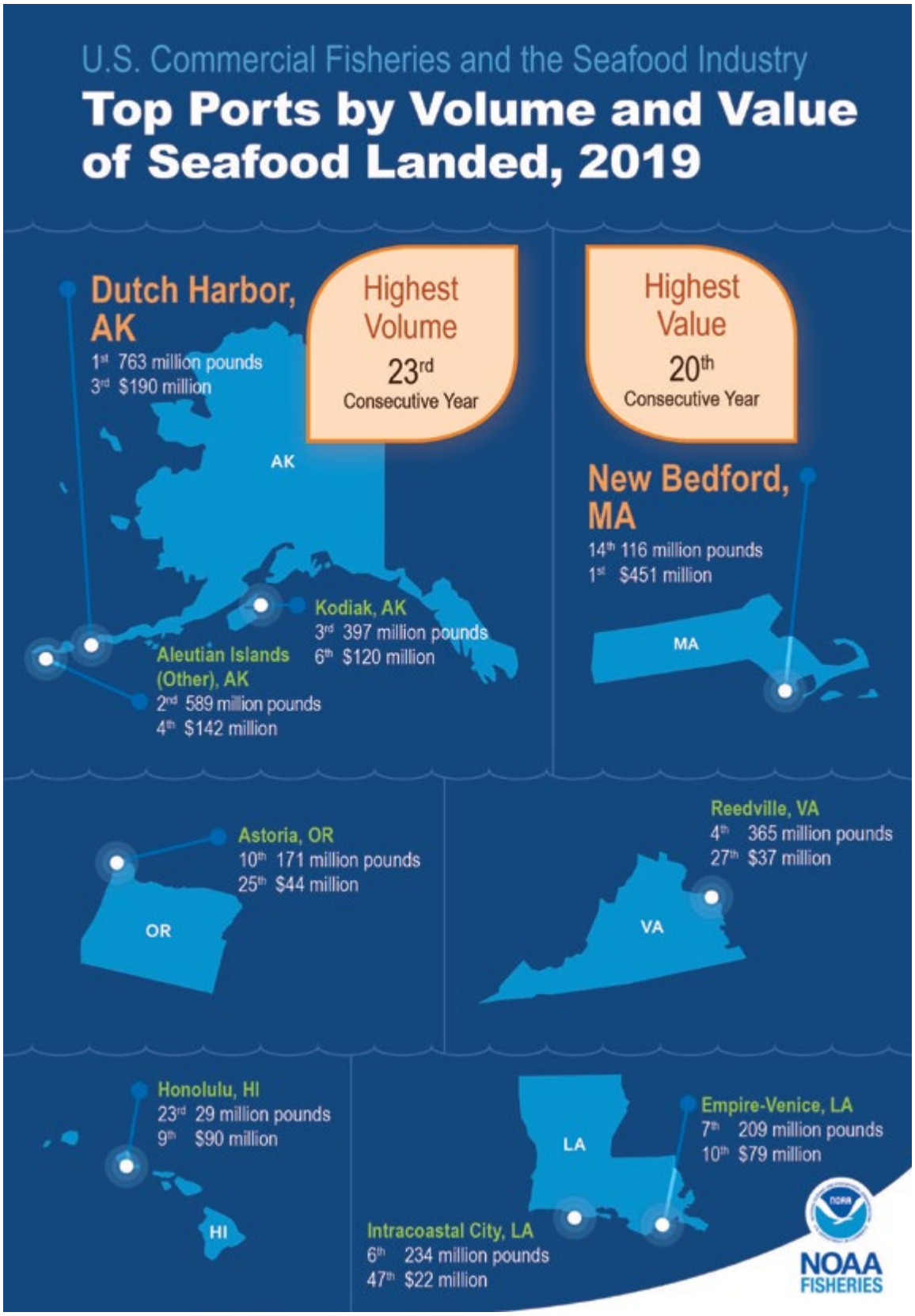
Bristol, Plymouth, and Norfolk counties are home to a combined 18 coastal towns, all with active commercial fisheries. Based on the findings from DMF's report, there were 1,636 active permitted harvesters and 1,417 homeported vessels across the 18 towns in 2018. Commercial fishermen in the three counties took 32,637 trips, landing a total of 571,953,330 pounds of seafood valued at approximately $469,763,709. The most common species landed within the three counties are the American Lobster, Bluefin Tuna, the Northern Quahog, and the Sea Scallop, and across the Commonwealth's commercial fishing industry, the top five most valuable species are Sea Scallops, Lobster, Oyster, Surf Clams, and Jonah Crab. Using the same methodology of the 2014 assessment (total exports of Fish, Crustaceans & Aquatic Invertebrates as a percent of total landings), an estimated 78% of product passing through New Bedford is exported and restaurant operators interviewed for this report stated that for them, it is often still cheaper and easier to buy Icelandic than local.[8]

The Port of New Bedford in Bristol County remains the most valuable and most active commercial fishing port in the Commonwealth, and in 2018, accounted for almost 92% of the ex-vessel value of landed seafood in the three counties, and approximately 66% of the total ex-vessel value across the entire Commonwealth. The Port of New Bedford has also been listed yearly as the most valuable commercial fishing port in the nation by NOAA since 2001, mostly due to the highly valued Sea Scallop. New Bedford/Fairhaven Harbor Economic Impact Study released in 2019 shows sustained growth since the last study in 2015 with economic value estimated at $11.1 billion (+1.4B), business revenue at $3.8B (+$473.6M), direct jobs at 6,808 (+583), and direct wages at $362 million (+42 million).

8. Massachusetts Export Center. *MA Exports by Commodity* (2018).

FIGURE 12. TOP PORTS BY VOLUME AND VALUE OF SEAFOOD LANDED, 2019

Source: NOAA Fisheries of the United States



While DMF's report focuses mainly on the harvesting of seafood, these coastal towns are also home to seafood processing, distribution, and retail supply chain infrastructure. The Massachusetts Local Food Action Plan and the Port of New Bedford's Economic Impact Report further detail the global reach of the Commonwealth's seafood supply chain infrastructure which is centered in the Port of New Bedford. As the state's local food plan points out, "the State's seafood industry has shifted from serving local and domestic markets, to serving primarily the export-driven commodity market."

The barriers and challenges to sustainability and growth within sea harvesting are not so different from land-based production. Similar to aging farmers, DMF reports an increase in the median average age of Massachusetts' commercial fishermen, suggesting that fewer young people are pursuing careers in commercial fishing. The report points to the need for increased access for new and younger fishermen: "Many commercial fisheries are limited entry, meaning new permits are not available and those seeking to enter a fishery must obtain an existing permit from someone seeking to leave the fishery. The general trend in limited entry fisheries is a steady decline in the number of permits and a slowly rising median age of permit holders. There are new permits being issued for open entry fisheries that result in a stable number of permits being issued overall.[9]

The Mass Food Plan also points to this challenge: "As more of the fishing workforce nears retirement, there is also an anticipated labor shortage that compromises the industry's future." Various sources put the average age of a New England commercial fisherman at or north of 50 years and almost a third of the fishermen and owners in the U.S. are aged 55 years or older. Research conducted in Alaska, Maine, and Oregon focuses on this "greying of the fleet" and recent federal legislation aims to lower the barriers to entry for younger fishers. In 2020, Congress passed the Young Fishermen's Development Act, which creates a $2 million annual grant fund "to train and foster the next generation of U.S. commercial fishermen".[10] Modeled after the USDA's Beginning Farmer and Rancher Program, multi-year grants of up to $200,000 annually will be available for uses other than to purchase fishing permits, quota, or other harvesting rights. This legislation received bi-partisan support including from Massachusetts' senators and representatives. Rep. Seth Moulton (MA-06) said, "Commercial fishing is part of (...) New England's identity and economy, but the legacy will end if we don't make it easier for the next generation to get started. These grants will help the industry expand and evolve. Every fisherman and lobsterman I've ever met wants to keep the fish stock and our oceans healthy. I'm proud that this money will give new opportunities to young people and also help teach fishermen how to build new gear and fish in new ways that protect our oceans. Congress's investment will pay off in new technology that works and has buy-in from the people using it to make a living."[11]

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REP. SETH MOULTON (MA-06)

9. MA Division of Marine Fisheries. *Port by Port: Profiles and Analysis of the Massachusetts Commercial Fishery* (April 2021).
10. National Fisherman. Congress passes Young Fishermen's Development Act for the new generation https://www.nationalfisherman.com/national-international/congress-passes-young-fishermen-s-development-act-for-the-new-generation. Accessed May 17, 2021.
11. Fishing Communities Coalition. *Young Fishermen's Development Act Passes Congress*. https://fishingcommunitiescoalition.org/news/2020/12/20/young-fishermens-development-act-passes-congress. Accessed May 17, 2021.

The need for adequate infrastructure was also cited as a challenge: "Surveys of harbormasters and commercial fishermen indicate that, despite the industry's successes, many access and infrastructure challenges limit growth—and in some cases, impair operations. Among the most frequently cited issues were shallow water and the need for dredging, a lack of affordable berthing for commercial users, the need for more space to load and unload catches and gear, and a lack of parking." The harbormaster and fishing industry surveys distributed to inform the report showed that the most important infrastructure challenges facing the industry are: 1) dredging needs; 2) lack of dockage; and 3) lack of parking.

In October 2020, New Bedford was awarded a $16 million Economic Development Administration (EDA) grant for port infrastructure improvements to protect commercial fishing businesses from floods and severe weather events, like the 2018 severe winter storm that brought hurricane force winds and flooding. The investment will be matched with $4 million in local funds and is expected to create or retain 400 jobs and spur $4 million in private investment. The matching funds will come from the state and the New Bedford Port Authority. Funding for this was made possible because the port is located in a federal tax cuts and opportunity zone.[12]

The above mentioned reports outline goals and recommendations to mitigate ongoing challenges and ensure the commercial fishing industry and seafood supply chain remain robust. As the Mass Food Plan points out, "Efforts by local groceries, community supported fisheries and institutional procurement by hospitals and schools are enabling fishermen to reorient their businesses to local markets, and earn more for their catch than is possible in international trade. These models are also enabling more Massachusetts residents to access and consume locally-caught and landed seafood." It is important that Massachusetts continues to expand local markets for seafood, innovate market models, enact strategies to train an incoming workforce, and improve efforts to educate residents on the value of local seafood as a high-quality protein source to advance the growth of the industry. In September 2020, the USDA awarded New Bedford-based Blue Harvest Fisheries a contract worth $4.4M to purchase local, third-party sustainable certified Haddock, Ocean Perch, and Atlantic Pollock to use in the federal government's Commodity Procurement Program. This is significant in moving all-natural, individual quick freeze (IQF) groundfish to schools, food banks, and households across the United States.

While climate change, overfishing, the emergent offshore wind industry, and regulatory changes are additional challenges within the commercial fishing industry, particularly at the point of harvest, this food assessment looks to organizations and academic institutions at the forefront of these issues to lead those discussions and provide guidance.

Aquaculture

Aquaculture is the rearing of aquatic animals or the cultivation of aquatic plants for food, which can be land or marine-based in fresh, brackish, or saltwater. While ancient as a practice, aquaculture has proliferated since the 1970s and now represents more than 50 percent of all seafood produced for human consumption, a percentage anticipated to rise while fishing harvests remain flat.[13] The United States ranks 17th globally in total aquaculture production, despite being one of the largest consumers.[14] By weight, approximately 90 percent of the seafood we eat comes from abroad, over half of it from aquaculture. Driven by imports, the U.S. seafood trade deficit has grown to $16.8 billion in 2017.[15] Like the 2017 Census of Agriculture, the 2018 Census of Aquaculture is a national census conducted by the U.S. Department of Agriculture's (USDA) National Agricultural Statistics Service (NASS) to collect data about the aquaculture industry. The fourth and latest census reported 3,456 aquaculture farms in the United States, with 180 located in Massachusetts, an increase of 35 operations in the state since 2013. Aquaculture represents almost 8% of all agriculture sales in the Commonwealth ($29.4M sales), the majority of which is shellfish.[16] As of 2013, the shellfish aquaculture industry in Massachusetts generated approximately $45.5 million in the Massachusetts economy and was responsible for over 900 jobs.

The DMF 2018 Annual Report lists 391 private shellfish propagation permits for a total of 1202.7 acres under cultivation, across 17 communities. By pieces and value, Duxbury is the largest aquaculture producer of oysters in the state, and therefore the Southeastern Massachusetts region, with Plymouth, Wareham and Westport also in the top ten.

12. WBSN. New Bedford Lands $16M Port Infrastructure Grant.
https://wbsm.com/new-bedford-lands-16m-federal-port-infrastructure-grant. Accessed February 18, 2021.
13. NOAA. U.S. Aquaculture. https://www.fisheries.noaa.gov/national/aquaculture/us-aquaculture. Accessed May 17, 2021.
14. Ibid
15. Ibid
16. USDA 2017 Census of Agriculture; NASS 2018

Local industry is currently dominated by a single product – raw oysters served on the half shell, with the state's oyster industry doubling in size every five years and landing $30 million worth of oysters in 2019.[17,18] Risks identified with this fast growth and over reliance on a single species were witnessed during 2020 as many restaurants paused, reduced, or entirely ceased operations, cutting off a valuable market channel for local oysters resulting in an estimated 80% loss for the year.[19] While landings were down, a surplus of oysters was still of concern as they continue to grow, surpassing their prime marketability. Some oysters were able to be bought and repurposed for environmental mitigation, while others were donated to local food banks.

One stakeholder interviewed for this report remarked that, "Aquaculture is a young person's game." Cape Cod Extension offers a variety of classes, workshops, and seminars to help growers and residents alike navigate what's involved in leasing water rights for cultivation. A business start-up course in aquaculture at Roger Williams University in nearby Bristol, Rhode Island routinely draws over 100 registrations. There is room to grow if aspiring entrepreneurs, young or old, can successfully maneuver the site selection, licensing, and permitting processes. See DMF resources and full details at https://www.massaquaculturepermitting.org.

PROGRAM PROFILE:

Oysters for All

In 2020, the Massachusetts Aquaculture Association Oyster Purchasing Program (MAA OPP) continued an effort begun by the Woods Hole Sea Grant Program and Cape Cod Cooperative Extension in 2019 to support local oyster growers, encourage new processing capacity for oysters, and provide a quality, healthy protein to food pantries and food banks in the form of shucked oysters.

Project financing was made possible by grant funding from Catch Together and Farm Credit East, in-kind contributions from the oyster growers, and additional matching funds from Cape Cod Cooperative Extension and a local shellfish dealer. MAA OPP purchased 147,200 oysters, the equivalent of 19,627 shucked oyster servings, from 37 farms, had the oysters shucked in Rhode Island, and then donated them to the Greater Boston Food Bank. With coordination and distribution support from the SFPC and the United Way of Greater New Bedford, St. Anthony's of Padua in New Bedford received 116 pints of frozen shucked oysters and the Veteran's Association in Fall River received 60 as part of a total 24 service agencies engaged. While only a fraction of the surplus oyster supply was distributed, this model of collaborative effort of philanthropy, industry, and community service agencies helped farmers burdened by market losses and provided a valuable food resource to community members in an especially challenging year for food security.

Sources: MAA OPP and Metro Daily West "Oysters from SouthCoast growers help food banks in New Bedford and Fall River" (February 15, 2021)

17. Woods Hole Oceanographic Institution. Bay State Aquaculture Projects Get Green Light from National Sea Grant Program. https://www.whoi.edu/press-room/news-release/aquaculture-seagrant/. Accessed May 17, 2021.
18. WBUR. Program Offers A Lifeline To Fishermen, And A Home For Unwanted Oysters. https://www.wbur.org/earthwhile/2020/12/24/oyster program-coronavirus-covid-massachusetts. December 24, 2020.
19. Ibid

Oysters also happen to be one of the most highly regulated agricultural products. The National Shellfish Sanitation Program (NSSP) is the federal/state cooperative program recognized by the U. S. Food and Drug Administration (FDA) and the Interstate Shellfish Sanitation Conference (ISSC) for the sanitary control of shellfish produced and sold for human consumption. Under this guidance, a certified facility is required to sell to retail, otherwise sales may only be made to a licensed distributor. While farmers were able to pivot during COVID-19 to increase their direct-to-consumer sales, shellfish farmers were more limited, which has led to some exploration of how to allow smaller growers into farmers markets. Currently, MDAR's Mass Grown map lists just three operations in Southeastern Massachusetts selling direct to the public – Westport Sea Farms (Westport), Island Creek Oysters (Duxbury), and Plymouth Rock Oysters (Plymouth).

Given the great seafood trade imbalance, the case for growing more seafood in the United States is strong, but this should be accompanied by continued research and support for more diverse species cultivation, including consumer engagement to increase corresponding demand. The current permitting process is complex and redundant as a result of overlapping authorities. More streamlined permitting for additional growers and clearer regulatory requirements to facilitate direct increased consumer sales are still needed as well as financial tools to incentivize both supply and demand sides. The state's step-by-step guide to permitting aquaculture in MA (https://www.massaquaculturepermitting.org/) is a good start to helping interested parties navigate the process.

New Bedford Ocean Cluster

The New Bedford Ocean Cluster (NBOC) was formally established in the fall of 2017 joining other members of the Iceland Ocean Cluster Network, which includes Portland, Maine, Seattle, Washington, Connecticut, Alaska, Norway, and Iceland. Its founding partners are the New Bedford Port Authority and Spherical Analytics, an Internet of Things (IoT) technology firm. The mission of the NBOC is to work collaboratively with a range of private sector, public sector, and academic partners to establish New Bedford as the leading ocean economy on the east coast of the United States.

NBOC organizes its activities around four initiatives - aquaculture, commercial fishing and processing, offshore renewables, and technology and innovation. Related to the food system, NBOC seeks to make New Bedford a model of responsible aquaculture development, integrating innovative aquaculture businesses and practices with the existing world-class commercial fishing, harvesting, and processing supply chain. It also wants to ensure the port continues to harvest and process more fish and derive more dollar-value from each resource by equipping local fishers and processors to optimize their businesses using best practices gleaned from a global network.

Source: New Bedford Ocean Cluster

URBAN AGRICULTURE

Urban agriculture is defined as "part of a local food system where food is produced within an urban area and marketed to consumers within that area. Urban farming can also include animal husbandry (e.g., breeding and raising livestock), beekeeping, aquaculture (e.g., fish farming), aquaponics (e.g., integrating fish farming and agriculture), and non-food products such as producing seeds, cultivating seedlings, and growing flowers. Urban farms can also contribute to the revitalization of abandoned or underutilized urban land, social and economic benefits to urban communities, and beneficial impacts on the urban landscape."[20]

In Massachusetts, urban agriculture is institutionalized and supported by the MDAR. The purpose of the MDAR Urban Agriculture Program is "to advance Commonwealth goals and objectives, leverage collective resources, and support commercial projects designed to increase the production, processing, and marketing of produce grown and sold in urban centers across the Commonwealth. Expenditures will promote strategies to address food insecurity and to increase access of fresh, local produce in urban neighborhoods with a high concentration of low-moderate income residents." The agency awarded $315,000 to nine urban agriculture projects and organizations for fiscal year 2019.[21] The Massachusetts Food System Collaborative maintains an urban agriculture working group and this work is further supported by food policy councils across the state.

Urban agriculture remains an emerging part of how and where food is produced in Southeastern Massachusetts. Research found descriptions of projects without recent details to suggest initiatives are active or ongoing (e.g., 2017 urban agricultural plan for Brockton). Stakeholders with a pulse on urban agriculture across the state were challenged to name an operation or organization focused in Southeastern Massachusetts. The closest seems to be Groundwork Southcoast in New Bedford.

Groundwork Southcoast

Groundwork Southcoast's Executive Director Maura Ramsey says, "Food is a way that we get people to care about the environment," and food access is a major part of work performed by the organization's youth development program. Groundwork Southcoast is part of a national network of trusts that share a mission "to bring about the sustained regeneration, improvement, and management of the physical environment by developing community-based partnerships that empower people, businesses and organizations to promote environmental, economic, and social well-being."[22] Groundwork is a model for equity work and racial reconciliation in the community and advocates for much needed resources to be directed at the region's three Gateway cities.

Established in 2017, Groundwork Southcoast quickly assumed responsibility for 25 raised beds on asphalt in a former parking lot and brownfield at Riverside Park in New Bedford. Without an enclosure, the garden was left vulnerable to vandalization and not able to serve its intended purpose to help address food insecurity in the neighborhood. After three years of planning with the city, Groundwork Southcoast was finally able to install a fence at the site in December 2020. The organization has received a grant from MDAR to replace the original large beds and double the space dedicated to growing with 100 smaller beds. Cold frames will be added to the beds to extend the growing season and the fence will also support vertical production.

The garden is open to the neighborhood and whichever plots are not taken up by neighbors will be managed by the Groundwork Green Team. As a result of the COVID-19 pandemic, Groundwork Southcoast started a program, *Sow and Grow*, to help families grow their own food at home. The program had 60 participants in its first year and these families will be eligible to adopt a raised bed at Riverside Park upon its completion. For the 2021 season, the program received 1200 requests without outreach. To meet this demand, Groundwork Southcoast envisions activating idle community spaces for food production around the city and establishing an orchard at Riverside to augment harvested products for its food relief efforts. It currently prunes existing fruit trees around the city, but more funding is required to support additional tree identification and gleaning throughout the city. The interest in Groundwork's urban farming program combined with the demographic statistics of who farms versus who lives in densely populated areas illustrates why urban agriculture is so important to promote and support in the region. It seems highly unlikely that people of color will gain access to rural agricultural lands, but urban farming could be at their doorstep.

20. U.S. EPA. Agriculture. www.epa.gov/agriculture/agricultural-crops#UrbanAgriculture. Accessed February 26, 2021.
21. www.ncsl.org/research/environment-and-natural-resources/growing-interest-in-urban-agriculture.aspx. Accessed February 26, 2021.
22. Groundwork Southcoast. groundworksouthcoast.org. Accessed February 26, 2021.

COMMUNITY GARDENS

Unlike urban agriculture, community and backyard gardens predominantly function to grow produce for individual consumption rather than sale. Harvested food may be shared with neighbors, donated to food relief, or sold provided local ordinances allow these practices. At the time of the 2014 assessment, there was a lot of momentum around community gardens in the region. The Office of Campus and Community Sustainability at UMass Dartmouth had completed a project entitled "Mapping and Documenting Regional Community Gardens Needs and Best Practices," which inspired a database of regional gardens and coordinators and identified ways to sustain and grow community gardens. The database and community garden project lived briefly under Southeastern Regional Planning and Economic Development District (SRPEDD) before staff changes left it without leadership. SEMAP hosts a list of community gardens in the region on its website, which include:

- Wareham Community Gardens with 49 organic plots available to rent for $35 per plot season;
- Hefland Farm Community Gardens in Dartmouth with 145 plots to rent annually for $55 (10' x 20') or $30 (10' x 10'); and
- The Community Garden at Davis-Douglas Farm in Plymouth with 17 (8' x 4') beds plus two accessible stand-up beds for $60 for Wildlands Trust members.

While important links in establishing community food security and continuing cultural food ways, community gardens rely heavily on volunteers and typically have limited revenue and funding streams, leaving them vulnerable without dedicated stewardship. The former community garden project has fallen idle in recent years, but a version of the original recommendations remain relevant along with new ones:

- actively verify and update the list of community gardens hosted on SEMAP's website annually; add number, size, and cost of plots available and required use parameters;
- support existing gardens to become financially self-sustaining;
- provide training and education to members of the community to enable their participation in community gardening; and
- consider ways to make access by community members more equitable (e.g., fee waivers, ADA garden beds).

Gardens benefit from institutional stability offered by a connection to municipalities, churches, schools, and non-profit organizations. The Marion Institute's Grow Education program will have 19 school gardens installed across New Bedford Public Schools by spring 2022. With a revitalization of coordination and resources, community gardens can provide another avenue for producing local foods and building resilient communities in Southeastern Massachusetts. Hyper local food production could be supported and scaled through the adoption of progressive urban agriculture ordinances and resources to support residents growing food for themselves and to share with others. By exploring and adopting innovative approaches to food production, the region could be among the state's leaders in this area.

CHAPTER 2.

Food Processing & Distribution

Key Takeaways

- There is significant processing capacity on the Southcoast for fish and seafood, but the scale of these facilities is not adapted to smaller food businesses.
- Animal slaughtering capacity, especially for smaller species (e.g., chickens, rabbits), remains a potential supply chain constraint despite additional infrastructure developed since the last regional food system assessment in 2014.
- There are two well established commercial kitchens available to the region and still interest by growers for value-added production capacity and infrastructure.
- A survey of 43 local farmers and producers shows willingness to pay for several food hub related services including point to point delivery and product aggregation to reach additional markets.
- The distribution sector continues to experience acquisitions of regional companies and witness consolidation concentrated in national broadliners.

PROCESSING AND DISTRIBUTION

are critical steps in how food moves from farms, lines, and nets to consumers. Food manufacturing and processing involves some treatment of a raw product (e.g., peeling, cutting, combining, curing) to prepare it for sale in a consumer or retailer preferred format (e.g., apple slices, fresh apple cider, shelf stable apple sauce). In New England, where the direct-to-consumer channel is the predominant sales path for farmers, on-farm processing capacity in the form of produce wash stations to small scale animal slaughter can be obligatory. Where on-site processing is not cost effective or prohibitive for lack of other resources (e.g., space, labor), shared regional assets provide a valuable alternative.

On-farm processing protocol for products, other than USDA regulated meat, poultry, and eggs, is subject to the rules of the Food and Drug Administration's (FDA) Food Safety Modernization Act (FSMA). FSMA was signed into law in 2011 and represents the most significant evolution of our country's food safety practices in more than 60 years. The law includes new regulations for farms that grow fresh fruits and vegetables and for on- and off-farm facilities that process food for consumption. Detailed guidance documents are available in English and Spanish on the FDA's website under Frequently Asked Questions About FSMA. In addition to these federal guidelines, food business operators in Massachusetts should also consult the Massachusetts Department of Public Health, Food Protection Program and their local board of heath (LBOH).

Southeastern Massachusetts has long been well equipped with large commercial processing houses, broadline distributors, and wholesale food manufacturers (e.g., Blount Fine Foods, Ocean Spray, North Coast Seafoods) in large part thanks to the massive fish and seafood industry. More recently, food system assets in the form of shared commercial kitchens, food hubs, and humane animal slaughter facilities have been established to accommodate smaller scale business models, often targeting retail and direct-to-consumer channels.

In Massachusetts, aspiring food entrepreneurs can rent time in a commercial kitchen or use a residential kitchen for manufacturing under cottage food laws. The primary permitted uses under the latter are for either a:

- *Retail Residential Kitchen* for production of foods that can be safely held at room temperature and are sold direct to the consumer (e.g., farmers markets, craft fairs, sales by internet or mail); or
- *Wholesale Residential Kitchen* for sale of products to retail stores, grocery stores, restaurants, etc. These are inspected and licensed by the Massachusetts Department of Public Health, Food Protection Program.

For food safety reasons, "neither retail nor wholesale residential kitchens may manufacture finished products that require hot or cold holding, including meat or fish that is raw or heat-treated, certain cut produce including melons, leafy greens, and tomatoes."[23]

The Port of New Bedford is home to a robust seafood processing cluster with more than 50 processors with a global reach. Significant volumes of seafood come into New Bedford from Asia and Europe to be processed and then distributed back out globally. This global reach is outlined in New Bedford's Economic Impact Report: "From the processor, the seafood can be trucked locally to wholesalers, go to a cold storage warehouse, trucked to an airport such as Boston's Logan International Airport or New York's John F. Kennedy International Airport where it is flown to various domestic and international destinations, or trucked to the Port of New York and New Jersey where it is put on container vessels to be shipped internationally. It can also be trucked from New Bedford to Worcester where it is railed out to the West Coast for export to Asia." The irony of this impressive capacity is that locally landed fish can be hard to come by. Restaurants and institutions routinely source Icelandic cod and other species for their menus, because the price is competitive and the product plentiful. The Gulf of Maine Research Institute's *A Fisherman's Guide to Selling Seafood in Massachusetts* (December 2018) provides guidance on what is required to sell what is harvested based on form and market channel. For instance, if a fisherman wants to:

- sell whole fish and/or live lobster/crab (NOT including any other shellfish) directly to consumers from a vessel, this requires a Retail Boat Seafood Dealer permit.
- sell at a farmers market, this requires a Retail Seafood Dealer permit, or the Retail Seafood Truck Dealer permit.
- sell directly to consumers from a vehicle, the Retail Seafood Truck Dealer permit applies here too.
- truck fish to customers like restaurants, schools, retail stores, then a Wholesale Seafood Truck Dealer permit is needed.

23. Mass.gov. Residential Kitchen Questions and Answers. https://www.mass.gov/info-details/residential-kitchen-questions-and-answers. Accessed May 20, 2021.

Each of these permits comes with a list of requirements, restrictions, and fees further explained in the reference document. Filleting fish, the format most potential customers are accustomed to, invites a whole other nexus of permitting by the Department of Public Health, DMF, and FDA. Access to a licensed commercial facility and Hazard Analysis Critical Control Point (HACCP), a management system that addresses food safety through the analysis and control of biological, chemical, and physical hazards from the production of raw materials, also come into play.

Distribution is often thought of as just the transport of food, but distributors also assist with marketing and sales and ensure food is properly stored and handled while in transit. The types of distributors include broadline (high volume, thousands of products), specialty (focus on a category like produce or meat), and cash and carry (warehouse wholesalers catering to food service operators).

Food hubs also aggregate and distribute food and can present an alternative to sourcing exclusively from national broadliners and is a strategy for creating a local food supply chain that supports the growth and success of small farms. Food hubs support local economic development, spurring small business development and growth. Food hubs that prioritize food justice and equitable access to nutrient-dense foods can help in the effort to reduce disparities and improve the social determinants of health in a region.

Notable in the distribution sector is the 2020 acquisition of one of the region's oldest and most recognized regional produce wholesalers - Sid Wainer & Sons Specialty Produce & Foods. A number of other food distributors that were listed in the 2014 report are now permanently closed or have also been acquired, indicating continued consolidation in the industry. Leading national broadline distributors serving the region are Sysco Boston (Plympton), PFG/ Reinhart (Taunton), United Natural Foods International (Providence, RI), and US Foods (North Kingston, RI). Cargill, a national meat wholesaler, maintains a base in Wareham.

Since the last assessment, food hubs, commercial kitchens and local food processors across New England have evolved considerably. The Western Massachusetts Food Processing Center, (Greenfield, MA), Vermont Food Venture Center (Hardwick, VT), Mad River Food Hub (Waitsfield, VT), CommonWealth Kitchen (Dorchester, MA), UTEC Kitchen (Lowell, MA), Farm Fresh RI (Providence, RI), and Hope & Main (Warren, RI) are considered national models of success in building regional food system resiliency. In 2020, Farm Fresh Rhode Island (FFRI) moved from Pawtucket to a new 3.2 acre / 60,000 square feet facility in Providence that houses FFRI and Red Tomato operations, a farmers market, and space for nine other food businesses. FFRI shares daily, year-to-date and year-over-year data related to its mobile market and wholesale activity on its website, which is excellent for witnessing demand in the region. Large institutional buyers and clients of FFRI on the Southcoast include the University of Massachusetts - Dartmouth dining services program operated by Chartwells, a division of Compass Group. FFRI has been supportive and encouraging of the efforts Coastal Foodshed has made in servicing the region. The following profiles highlight other critical food system processing and distribution assets in the region.

PROCESSORS

Meatworks of Southern New England

At the last assessment, new animal processing capacity for the region was eagerly anticipated with the buildout of Meatworks in Westport, Massachusetts. After a Dartmouth slaughterhouse closed in 2007, local farmers were left with the options of two USDA-licensed facilities in Athol, Massachusetts - Adams Farm and Blood Farm - or navigating interstate regulations to Rhode Island, New York, New Hampshire, and Maine. All of these represented a lengthy and costly trip for animals and farmers alike, further complicated when Blood Farm was destroyed by fire in 2013.
In September 2018, Meatworks opened an 11,000 square foot USDA-inspected multi-species slaughterhouse and meat processing facility for cattle, hogs, sheep, and goats. The facility is owned and operated by The Livestock Institute of Southern New England (formerly the Southeastern Massachusetts Livestock Association), a 501(c)(3) non-profit organization dedicated to addressing issues facing livestock farmers through educational programming and infrastructure improvements.

Meatworks has the throughput capacity of 5,000 cattle equivalents per year and clients can make reservations 18-months in advance. To date, the facility has provided processing services to over 400 local and regional producers from Massachusetts, Rhode Island, Connecticut, and New York. In early 2019, it opened a retail store to make more of the products it handles available to local consumers.

Since 2019, The Livestock Institute has been partnering with others as a founding member of the New England Grazing Network. The network aims to advance the New England Food Vision's call for two million acres of pasture land by 2060 to achieve 50% local food production. This requires quadrupling of current pasture acres through best management practices, increased technical assistance to build regional capacity, and outreach to consumers and environmental groups to increase support for and purchase of regeneratively-grazed food and fiber products.

While Meatworks represents a significant gain in regional slaughtering capacity, stakeholders expressed the need for even more. The National Agricultural Law Center's brief entitled State Meat Inspection Laws: Massachusetts explains, "the state of Massachusetts does not have a state meat inspection program currently, so all inspected facilities within the state are governed by USDA/FSIS regulations and guidance as to the facility and practice requirements."[24] Relevant statutory language regarding slaughter is outlined by Mass. Ann. Laws ch. 94, §118-§139. At the time of writing, the Massachusetts Farm Bureau Federation (MFBF) was conducting a survey to assess the slaughter and meat processing needs of livestock producers. According to MFBF President, Mark Amato, "The agricultural community in Massachusetts has long suffered a shortage of meat processing facilities. We only have two red meat facilities in the Commonwealth and no poultry facilities. This limited capacity was highlighted during COVID, when out-of-state processing facilities were forced to shut down and we experienced meat shortages. Building new meat processing facilities will help bolster the agricultural community, and help to make the state more self-sufficient." Results of the survey will be made available to the public with the intent to inform new development needed by local farmers.[25] A mobile poultry processing unit as one solution has faced several challenges including the demand for its use is overly concentrated on certain days and responsibility for maintenance isn't clear or shared.

"The agricultural community in Massachusetts has long suffered a shortage of meat processing facilities. We only have two red meat facilities in the Commonwealth and no poultry facilities. This limited capacity was highlighted during COVID, when out-of-state processing facilities were forced to shut down and we experienced meat shortages. Building new meat processing facilities will help bolster the agricultural community, and help to make the state more self-sufficient."

MARK AMATO, PRESIDENT, MASSACHUSETTS FARM BUREAU FEDERATION

Copicut Farms

Copicut Farms was highlighted in the 2014 assessment and remains a model of on-farm processing in the region. Copicut's owners designed, built, and operate their own state-licensed poultry slaughtering facility in North Dartmouth. The facility maintains the highest levels of food safety and guarantees that animals are treated humanely throughout all life stages. Pork and lamb are processed at local Animal Welfare-Approved facilities under USDA inspection. Small-scale poultry processing that once existed in the region is gone and many farms outsource this service due to cost and regulations, but Copicut embraces it as part of a holistic approach to an agrarian enterprise.

24. National Agricultural Law Center. Meat Processing Laws in the United States: A State Compilation. nationalaglawcenter.org/state-compilations/meatprocessing. Accessed June 2, 2021.
25. Massachusetts Farm Bureau Federation, Inc. New England, New York Commercial Livestock Producers Survey. April 2021.

COMMERCIAL KITCHENS AND CO-PACKING

Dartmouth Grange

Dartmouth Grange, established in 2007, continues to serve the Southcoast community with its Grange Kitchen. Entrepreneurs, artisan food producers, farmers, caterers, and culinary trainers have 24/7 access to a 2,000 square foot workspace for food preparation, production, and storage for light small-scale food production and food service operations. The commercial kitchen is equipped with conventional and double stacked convection ovens, a six burner range, 20- and 40 quart commercial mixer, 40-gallon tilt skillet, 40-gallon steam jacket kettle, semi-automated wet filling machine, refrigerator and freezer space, and prep sinks and tables. Unlike many commercial kitchens, Dartmouth Grange does not impose a minimum use fee, making it that much more accessible economically to new and growing businesses.[26]

Hope & Main

Hope & Main is another incubator space, located in nearby Warren, Rhode Island. Established in 2014, it has helped to launch almost 300 businesses since opening. In addition to rental space for its members, Hope & Main also provides small-batch manufacturing or co-packing for a variety of products including nut butters, salsas, sauces, brewed tea, granola bars, dry mixes, and smoked fish pate. Co-packing is an important value-chain tool in helping food businesses scale up and grow without leaving the region.

FOOD HUBS

Coastal Foodshed

Coastal Foodshed grew out of the work of Mass in Motion New Bedford (MiM NB), which was created through the Massachusetts Department of Public Health to affect policy, systems, and environment changes in the areas of healthy eating and active living. MiM NB eventually began creating and managing programs that were filling identified gaps and acting as a conduit for food access and distribution. In time, MiM NB reached its limit in capacity and found, due to its structure, it was unable to apply for certain funding sources, seek donors, and expand its work to continue meeting the community's need without veering too far off course from Mass in Motion's original mission.

In 2017, Coastal Foodshed was created as a direct response to this barrier, allowing MiM NB to return fully to its original focus as a policy, systems, and environment change agent. In 2018, Coastal Foodshed officially became incorporated as a 501(c)(3) nonprofit. Since then, CFS has expanded from managing the New Bedford Farmers Markets to operating as a de facto local food hub that sources local food from farmers and food makers and then sells it through three main programs: the New Bedford Farmers Market, the Mobile Farm Stand, and the Virtual Market. The New Bedford Farmers Market and the Mobile Farmstand currently only operate in New Bedford, but the Virtual Market delivers to hundreds of Southcoast residents living in 19 towns, from Fall River to Taunton to Wareham. Customers using SNAP benefits to purchase their food are able to shop through all three programs. Farmers and food makers are also able to sell their products directly to customers through the Virtual Market and New Bedford Farmers Markets.

In 2020, CFS sold more than $340,000 worth of local food directly and indirectly on behalf of more than 50 local farmers and food makers through its three programs. CFS directly sold an average of $2,250 worth of local food on a weekly basis in 2020, up from $306 per week in 2018. CFS also processed at least one transaction for 613 unique SNAP customers, selling $16,326 in local food to SNAP customers, while processing an additional $34,188 worth of SNAP transactions on behalf of New Bedford Farmers Market vendors.

Even with the addition of Meatworks, growth of Coastal Foodshed, and availability of nearby commercial kitchen incubators, primary research indicated that more local food processing and distribution capacity is still needed. Early in the COVID-19 pandemic, demand for animal slaughtering at Meatworks spiked, but has since receded. Future sustained demand for local meat would require additional processing capacity to avoid long wait times (e.g., 18 months) for appointments. In the farmer/food producer survey, 19 respondents need point-to-point delivery services, 18 are interested in food hub staff making a value-added product for them from farm ingredients, another 17 farmers and food producers were interested in a traditional commercial kitchen model, and 17 support product aggregation for accessing wholesale markets. Development of any of these should include consideration of how they can also support local fishers and the movement and processing of fish and seafood to keep more of what is harvested for local consumption as well.

26. Dartmouth Grange. The Grange Kitchen. www.dartmouthgrange.org/grange-kitchen.html. Accessed May 17, 2021.

CHAPTER 3.

Food Access And Consumption

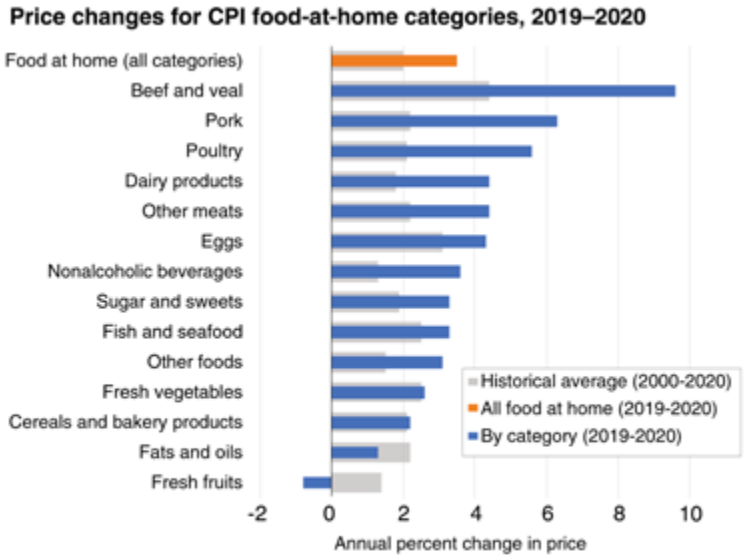
Key Takeaways

- In Southeastern Massachusetts, residents surveyed rely primarily on grocery stores and big box stores for their food at home (80%).
- 19% of census tracts in Southeastern Massachusetts are rated as low-income/low-access, where a significant number or share of residents is more than 1 mile (urban) or 20 miles (rural) from the nearest supermarket and where more than 100 housing units do not have access to a vehicle and are more than a ½ mile from the nearest supermarket.
- Consumers surveyed in the region often or sometimes experienced food running out before there was money to buy more over the past 12 months.
- Affordable meat and seafood and then fresh fruits and vegetables are considered the "hardest to get food items" for regional consumers.
- Participation in the federal government's Supplemental Nutrition Assistance Program (SNAP) participation has risen across Southeastern Massachusetts by 9.4% since 2014.
- The difference between those eligible for SNAP and those using the benefit is 45% or an estimated 163,307 individuals.
- The Healthy Incentives Program (HIP) is a valuable program, but regionally underutilized, that provides additional funding to SNAP eligible families and supports local farms with targeted spending on fresh fruits and vegetables through direct to consumer channels. More educational tools for farmers to share with their customers would be valuable.
- Consumers in the region would welcome more fresh, locally grown food via community gardens, farmers markets, and grocery stores.

reaches consumers through a variety of indirect and direct channels that include retail stores like supermarkets, independent grocers and co-operatives, convenience stores, and farmers markets. Non-grocery channels are restaurants, institutional food service, and community meal programs. Food pantries also provide food staples and increasingly non-food specific stores have added fresh and/or packaged consumer goods to their offer (e.g., Walmart, Dollar Stores). There are a number of proprietary datasets used to study consumers' diet quality and health as a function of the food environment or the number and types of food outlets available in their local communities. The USDA uses the Nielsen TDLinx (food-at-home (FAH) establishments), NPD ReCount (food-away-from-home (FAFH) establishments), and National Establishment Time Series (NETS) (establishments across all industries using the North American Industrial Classification System (NAICS) and the Standard Industrial Classification (SIC)).[27] Retail food pricing is a function of farm-level commodity prices coupled with other touchpoints in the value chain - packaging, processing, transportation, marketing, and ultimately competitive factors. Monthly food category pricing is measured by the Consumer Price Index (CPI). Grocery store food prices increased 3.5 percent in 2020 compared with 2019, a 75% increase over annual inflation (2%) as a result of supply chain disruptions and shifting consumer patterns caused by COVID-19.[28] Figure 13 shows this price change by food category with fresh fruits being the one outlier in terms of price change.

FIGURE 13. PRICE CHANGES FOR CPI FOOD AT HOME CATEGORIES, 2019-2020

SOURCE: USDA, ECONOMIC RESEARCH SERVICE USING U.S. DEPARTMENT OF LABOR, BUREAU OF LABOR STATISTICS CONSUMER PRICE INDEX DATA



Note: CPI = Consumer Price Index.
Source: USDA, Economic Research Service using U.S. Department of Labor, Bureau of Labor Statistics Consumer Price Index data.

In 2019, U.S. consumers, businesses, and government entities spent $1.77 trillion on food and beverages in grocery stores and other retailers and on away-from-home meals and snacks, with food-away-from-home representing 54.8 percent of total food expenditures.[29] Prior to the pandemic, the amount of disposable income Americans spent on food was at an all time low of 9.5% divided between food-at-home (4.9%) and food-away-from-home (4.6%). Food expenditures as a percent of total household budget is inversely correlated to income (Figure 14). In 2019, households in the lowest income quintile spent an average of $4,400 on food (36% of income), while households in the highest income quintile spent an average of $13,987 on food (8.0% of income). Food ranks third behind housing and transportation as a percent of average household expenditures.[30]

27. Clare Cho, Patrick W. McLaughlin, Eliana Zeballos, Jessica Kent, and Chris Dicken. *Capturing the Complete Food Environment With Commercial Data: A Comparison of TDLinx, ReCount, and NETS Databases*, TB-1953, U.S. Department of Agriculture, Economic Research Service, March 2019.
28. USDA ERS. Consumer and Producer Price Indexes. https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=76961 Accessed May 20, 2021.
29. Ibid.
30. USDA ERS. Ag and Food Sectors and the Economy. https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/ag-and-food-sectors-and-the-economy/. Accessed May 20, 2021.

FIGURE 14. FOOD SPENDING AND SHARE OF DISPOSABLE INCOME SPENT ON FOOD ACROSS U.S. HOUSEHOLDS, 2019

Source: USDA, Economic Research Service using U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey, 2019

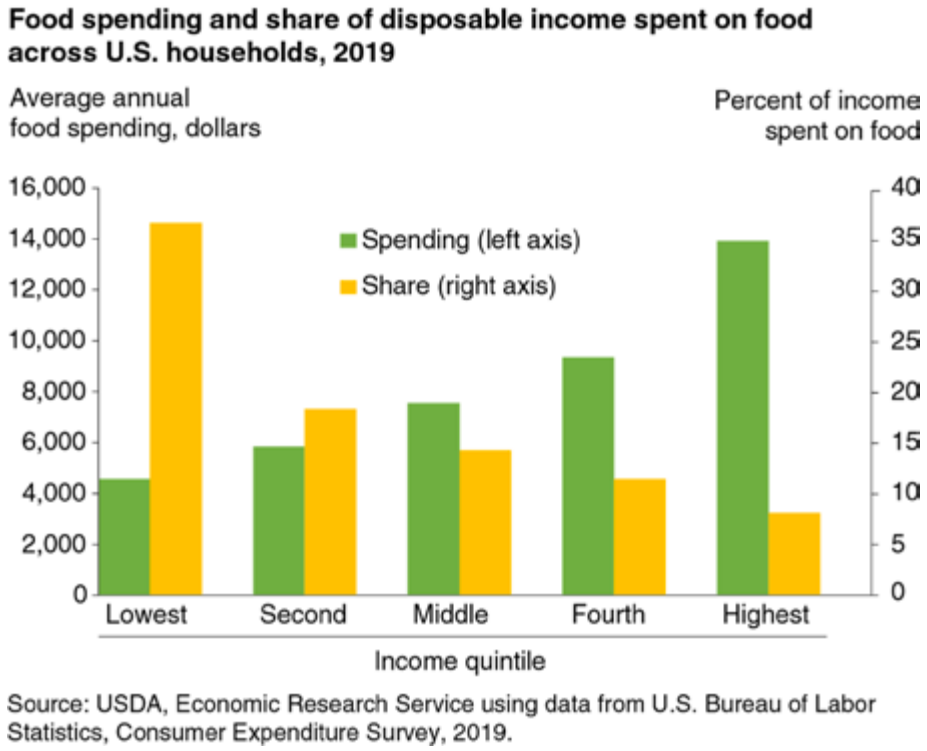
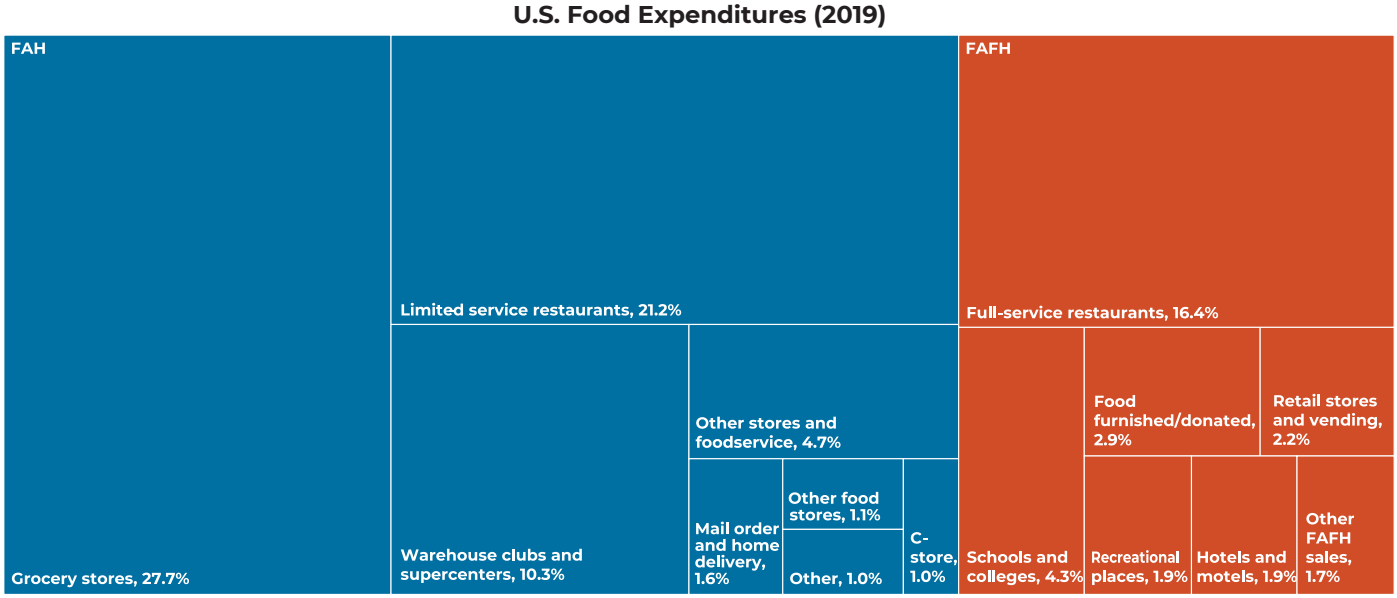


Figure 15 shows all food expenditures by source in 2019. Grocery stores capture just 28% of all food expenses, followed by limited-service restaurants (22%), full-service restaurants (16%), and warehouse clubs or supercenters (10%). All other sources represent 5% or less of the total including other stores and food service (5%), schools and colleges (4%), and food furnished or donated (3%). Direct sales to the consumer by farmers, manufacturers, and wholesalers are just 0.4% ($7,012M).

FIGURE 15. FOOD EXPENDITURES, WITHOUT TAXES AND TIPS FOR ALL PURCHASERS, 2019

SOURCE: CALCULATED BY USDA, ECONOMIC RESEARCH SERVICE FROM VARIOUS SOURCES



Other FAH: Mass merchandisers (0.5%), Direct selling by farmers, manufacturers, and wholesalers (0.4%), and Home production and donations (0.1%)

FOOD RETAIL

The USDA's Economic Research Service manages two data indexes that visualize the accessibility of food by geographic location. The Food Environment Atlas provides statistics on food choices including retailers that accept SNAP and WIC, while the Food Access Research Atlas maps supermarket availability against population demographics (e.g., low-income, vehicle access) to determine accessibility. Table 4 provides the latest data from the Food Environment Atlas for Southeastern Massachusetts with loss in food choice highlighted (e.g., Bristol County grocers).

TABLE 4. FOOD ENVIRONMENT IN SOUTHEASTERN MASSACHUSETTS, 2011-17

SOURCE: USDA, ECONOMIC RESEARCH SERVICE FOOD ENVIRONMENT ATLAS

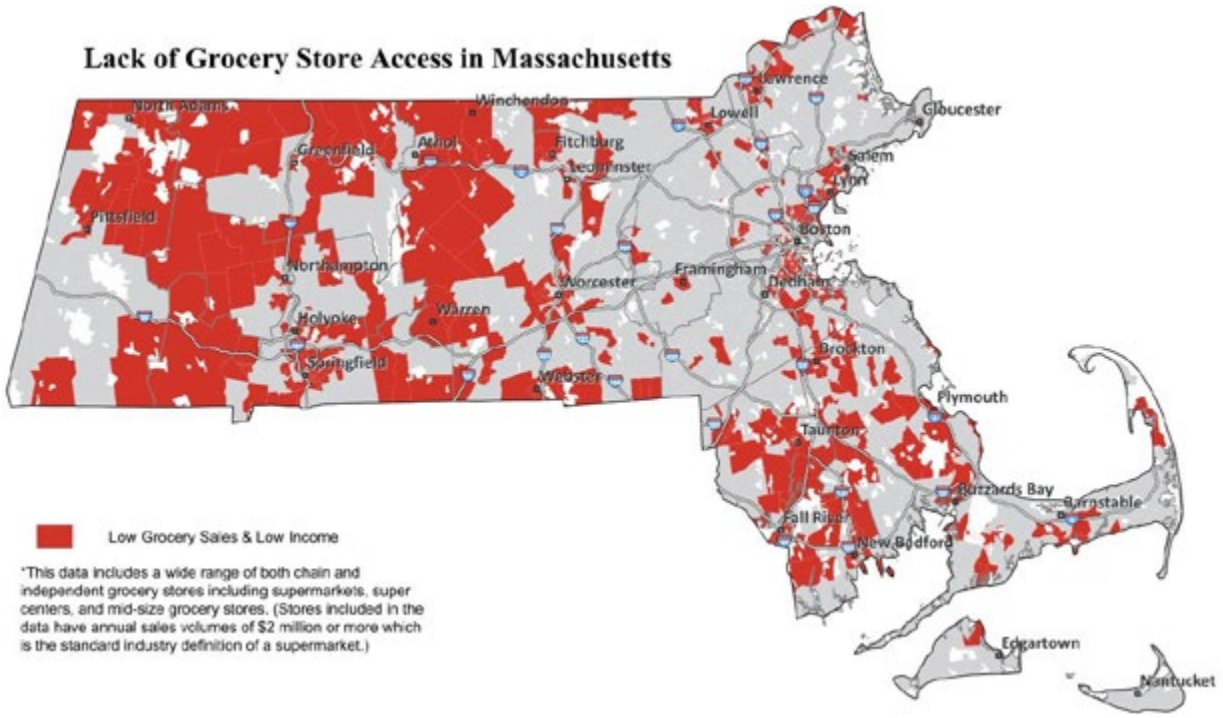
	Bristol	Norfolk	Plymouth
Grocery stores, 2011	101	100	81
Grocery stores, 2016	92	120	86
Grocery stores (% change), 2011-16	**-9%**	**20%**	**6%**
Grocery stores/1,000 pop, 2011	0.184	0.148	0.163
Grocery stores/1,000 pop, 2016	0.165	0.172	0.168
Grocery stores/1,000 pop (% change), 2011-16	**-10%**	**17%**	**3%**
Supercenters & club stores, 2011	5	7	2
Supercenters & club stores, 2016	8	7	3
Supercenters & club stores (% change), 2011-16	**60%**	**0%**	**50%**
Supercenters & club stores/1,000 pop, 2011	0.009	0.010	0.004
Supercenters & club stores/1,000 pop, 2016	0.014	0.010	0.006
Supercenters & club stores/1,000 pop (% change), 2011-16	**57%**	**-3%**	**46%**
Convenience stores, 2011	257	243	232
Convenience stores, 2016	308	280	251
Convenience stores (% change), 2011-16	**19%**	**15%**	**8%**
Convenience stores/1,000 pop, 2011	0.47	0.36	0.47
Convenience stores/1,000 pop, 2016	0.55	0.40	0.49
Convenience stores/1,000 pop (% change), 2011-16	**18%**	**12%**	**5%**
Specialized food stores, 2011	53	65	51
Specialized food stores, 2016	42	57	52
Specialized food stores (% change), 2011-16	**-21%**	**-12%**	**2%**
Specialized food stores/1,000 pop, 2011	0.096	0.096	0.102
Specialized food stores/1,000 pop, 2016	0.075	0.082	0.102
Specialized food stores/1,000 pop (% change), 2011-16	**-22%**	**-15%**	**-1%**
SNAP-authorized stores, 2012	462	304	300
SNAP-authorized stores, 2017	484	338	315
SNAP-authorized stores (% change), 2012-17	**5%**	**11%**	**5%**
SNAP-authorized stores/1,000 pop, 2012	0.84	0.45	0.60
SNAP-authorized stores/1,000 pop, 2017	0.86	0.48	0.61
SNAP-authorized stores/1,000 pop (% change), 2012-17	**3%**	**8%**	**2%**
WIC-authorized stores, 2011	97	51	60
WIC-authorized stores, 2016	92	53	60
WIC-authorized stores (% change), 2011-16	**-5%**	**4%**	**0%**
WIC-authorized stores/1,000 pop, 2011	0.177	0.075	0.120
WIC-authorized stores/1,000 pop, 2016	0.165	0.076	0.117
WIC-authorized stores/1,000 pop (% change), 2011-16	**-7%**	**1%**	**-3%**

Grocery

In 2017, the Massachusetts Public Health Association (MPHA) created a grocery map (Figure 16) measuring the percentage of residents living more than a mile from a grocery store. The analysis relied on data pinpointing low-income areas against the locations of supermarkets. The map showed that in New Bedford, despite having multiple supermarkets scattered around the city, 22% of low-income residents, those with a per capita income level of less than $36, 895, had reduced access to grocery stores.[31] In response to the illustrated statewide need, the Massachusetts Food Trust (MFT) program was launched in 2018. MFT provides loans, grants, and business assistance for increasing access to healthy, affordable food in low-income, underserved areas in partnership with the Massachusetts Department of Agricultural Resources (MDAR). Funding for Coastal Foodshed to explore expanded food hub services on the Southcoast and for Farm and Community Collabortive's Farm to Future Program are examples of MFT support in the region. Increased access to full-service grocery stores and more fresh food options in smaller markets remain food justice priorities for the region. Through its Healthy Markets Initiatives, Mass in Motion New Bedford encourages local corner stores and small markets to sell and promote fresh produce, whole grains, and low-fat dairy products. In 2019, the City of New Bedford, YMCA Southcoast, and Coastal Foodshed engaged a team of students from Boston University to explore models for a downtown grocery store. Their report outlines smaller, fresh food alternatives to a large format supermarket for New Bedford's downtown residents. It is viewable at www.bu.edu/ioc/metrobridge.

FIGURE 16. GROCERY STORE ACCESS IN MASSACHUSETTS, 2017

SOURCE: MASSACHUSETTS PUBLIC HEALTH ASSOCIATION



Farmers Markets and Farmstands

In addition to supermarkets, specialty markets, and convenience stores, farmers markets and farm stands augment the food retail landscape of Southeastern Massachusetts. There are 45 outdoor farmers markets, open late spring to fall across the region, and 12 indoor winter markets. These outlets provide direct access to locally grown, raised, and harvested products for residents and visitors alike. SNAP benefits can be used at all but 14 markets through the market manager's stand or directly with some producers. Vendors typically include those that offer a number of value-added, manufactured, and prepared foods as well. Since 2017, the Healthy Incentives Program (HIP) has provided additional funding to SNAP eligible families that targets spending on fresh fruits and vegetables from local farms. See Chapter 6 for more information about HIP outcomes to date and why it is important to continue to support this program for the benefit of consumers and local producers alike.

31. Massachusetts Public Health Association. https://mapublichealth.org/priorities/access-to-healthy-affordable-food/ma-food-trust-program/. Accessed February 19, 2021.

Farm & Community Collaborative, Inc.

Inspired by the work of Coastal Foodshed in the region, Farm & Community Collaborative (FC&C) was founded by Deanna "Dee" Elliot in 2018. Dee is a second generation farmer of Eliot Farm in Lakeville, Massachusetts. Dee's upbringing on the farm and complementary work in the non-profit sector provided her with a unique set of skills to leverage grants and other state and regional assistance programs available through MDAR.

Considered a sister organization to Eliot Farm, FC&C's work is organized around two programs - Farm to Future and Farm to Food Bank. Farm to Future is a workforce development program targeting individuals from the region's urban centers. Participants gain skills through direct employment in the growing, harvesting, marketing, and sale of produce by way of retail farm stands, a CSA program, farmers markets, and mobile markets. For some Farm to Future participants, the program may be their first experience on a farm or with agriculture. Adding participation in the Brockton farmers market in 2019 has proven a win, win, win model for deepening engagement in the communities FC&C hopes to support. The market allows FC&C to earn revenue to support its programs, while providing participants a full cycle experience from growing to selling. Additionally, FC&C purchases from other small farmers, offering them another market opportunity.

FC&C's Farm to Food Bank program began in collaboration with People Acting In Community Endeavors (PACE), a community service agency supporting Greater New Bedford. As Dee describes it, "the pandemic made food relief an explosive need." As a result, the organization focused much of its energy on its Farm to Food Bank program, facilitating the purchase and delivery of nearly 70,000 pounds of local fresh produce to food banks in 2020. FC&C also partners with PACE's Youthbuild Program, which serves as a pipeline for the Farm to Future program.

Based on FC&C's experience, Dee noted two challenges. The first is that customers don't always understand the benefits they have access to or how to use them (e.g., SNAP, HIP) so more educational tools about programs for farmers to share with their customers would be valuable. The second is the limitation of land. Dee would like to buy or lease more land to expand programs and impact, but lack of suitable property and cost are enormous barriers. Food for thought.

Source: FC&C

INSTITUTIONAL FOOD SERVICE

Many institutions offer food access through either self-operated or outsourced food service programs ranging from small grab and go kiosks to sit down dining. This means that schools, colleges and universities, hospitals, work places, government facilities, and correctional institutions can wield considerable purchasing power in the food system and influence how food is prepared and marketed to consumers. In the case of in-patient healthcare and imprisonment, those receiving food may have less control over their food choices. Many dining operations were closed or provided only limited access and service during the course of this study. Food services at workplaces and on higher education campuses may look different post-pandemic depending on the lasting impacts of remote work, study, and telemedicine. More detailed information is provided below for select institutional segments.

Public K-12 Schools

Schools may participate in a number of federal child nutrition programs administered by the USDA's Food and Nutrition Services (FNS) aimed at ensuring children have the nutrition necessary "to promote health and educational readiness."[32] The Healthy, Hunger-Free Kids Act of 2010 updated the national nutrition guidelines for these programs to align more closely with the Federal Dietary Guidelines for Americans, though some targets have been adjusted or extended since the original legislation was passed. Past and proposed changes related to milk, whole grains, and sodium requirements are listed on the USDA's website (https://www.fns.usda.gov/cn/fr-112520).

32. USDA ERS Food & Nutrition Assistance. Child Nutrition Programs. https://www.ers.usda.gov/topics/food-nutrition-assistance/child-nutrition-programs/. Accessed MAy 22, 2021.

The National School Lunch Program (NSLP) is the country's second largest food and nutrition assistance program after SNAP with nearly 100,000 public and nonprofit private schools (grades PK-12) and residential child care institutions participating in the program in fiscal year (FY) 2019.[33] Research conducted in 2010 showed that children from food-insecure and marginally secure households rely more heavily on school meals for their food and nutrient intake than do other children.[34] The following details related to each program are taken directly from the government's program web pages (https://www.ers.usda.gov/topics/food-nutrition-assistance/child-nutrition-programs/):

- *National School Lunch Program (NSLP):* Provides low-cost or free lunches to school-aged children. Any student in a participating school can get an NSLP lunch regardless of the student's household income. Households with incomes at or below 130 percent of poverty received free lunches. Households with incomes between 130 and 185 percent of poverty are eligible for reduced-price lunches.
- *School Breakfast Program (SBP):* Provides free or reduced-price breakfasts to students at participating schools and to children in residential child care institutions.
- *Child and Adult Care Food Program (CACFP):* Provides meals and snacks to children at family day care homes, child care centers, homeless shelters, and after-school programs, and to older or functionally impaired adults at adult day care centers. Community programs may also serve breakfast or lunch on weekends, holidays, and school breaks, where at least 50 percent of the children are eligible for free and reduced-price meals.
- *Summer Food Service Program (SFSP):* Meals and snacks served at schools, camps, parks, playgrounds, housing projects, community centers, churches, and other public sites where children gather in the summer. Site eligibility is dependent on operating in areas where at least half of the children come from families with incomes at or below 185 percent of the Federal poverty level, or half or more of the children served by the site meet other FNS income criterion.
- *After-School Snacks and Suppers:* Offers nutritious snacks as part of after-care educational programs or enrichment activities through the NSLP or CACFP of participating schools. Snacks are subsidized on a sliding scale, based on whether students qualify for free, reduced-price, or full-price lunches. Schools in which at least 50 percent of students qualify for free or reduced-price meals are "area eligible" and subsidized at the free rate for all participating students.

TABLE 5. FEDERAL CHILD NUTRITION PROGRAMS IN THE U.S., FY 2019

Source: USDA ERS Food and Nutrition Assistance

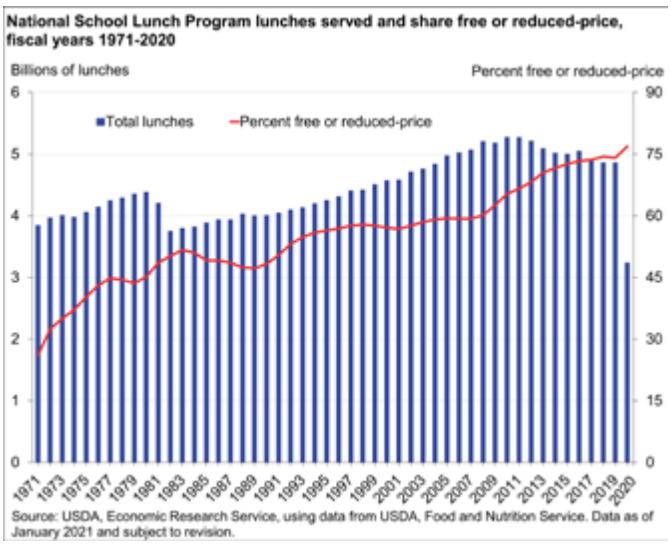
Program	Children	Adults	Cost
National School Lunch Program	29.4 million/daily or 5 billion in FY2019 (Peak participation was in FY11 at 31.8 million/daily)	N/A	$14.1 billion
School Breakfast Program	14.7 million/daily or 2.4 billion in FY2019 (80% free and 5% reduced price)	N/A	$4.5 billion
Child and Adult Care Food Program	4.5 million/daily average	135,000/daily average	$3.7 billion
Summer Food Service Program	2.7 million/daily during summer break	N/A	$0.5 billion
After-School Snacks and Suppers	1.2 million snacks daily (92% served in high-need area eligible schools)	N/A	$0.5 billion

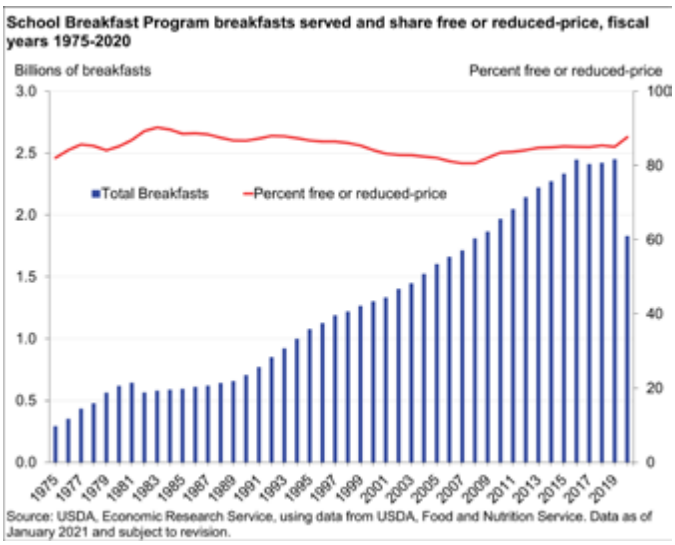
Since a peak in participation in FY2011 (5.3 billion), overall participation in the NSLP has declined, while participation in the SBP continued to rise until plateauing in 2016 at the current rate (2.4 billion). Figures 17-18 track participation since 1971. Both programs show a steeper increase in participants that qualify for free meals immediately following the 2008 recession.

33. USDA ERS Food & Nutrition Assistance. Child Nutrition Programs - National School Lunch Program. https://www.ers.usda.gov/topics/food-nutrition-assistance/child-nutrition-programs/national-school-lunch-program/. Accessed May 22, 2021.
34. bid.

FIGURES 17-18. PARTICIPATION BY PROGRAM AND CERTIFICATION STATUS, 1971-2019

Source: USDA ERS Food and Nutrition Assistance





The Community Eligibility Provision (CEP) for all districts was authorized as part of the Healthy, Hunger-Free Kids Act of 2010 and allows local education agencies (LEAs) that have demonstrated a minimum Identified Student Percentage of ≥40 percent in the prior school year to serve free breakfast and lunch to all students regardless of income eligibility. "Identified Students" are those certified for free meals without the use of household applications (e.g., those directly certified through SNAP). One of the benefits of CEP is that it helps remove the stigma of status in school lunch and ensures every child that needs a meal receives one. LEAs can check their annual CEP eligibility status on the Department of Elementary and Secondary Education (DESE) website (https://www.doe.mass.edu/news/news.aspx?id=26134).

In Massachusetts, the federal child nutrition programs are operated at the state-level by DESE through agreements with local school districts. There are a total of 400 school districts and 911,465 students enrolled in Pre-Kindergarten to 12th Grade in Massachusetts. Southeastern Massachusetts represents 85 districts and 255,253 students. In terms of student enrollment, Brockton is the fifth largest district in the state (16,024), New Bedford the eighth largest (12,880), and Fall River the tenth (10,229).[35]

The trends seen on the national level are also experienced at the local level. A selection of districts in Southeastern Massachusetts shows an increase in students who may qualify for free and reduced meals from school year 2014-15 to school year 2019-20 based on High Needs and Economically Disadvantaged populations, defined as:

- **High Needs:** Calculated based on the number of high needs students, divided by the adjusted enrollment. A student is considered high needs if he or she is designated as either low-income (prior to School Year 2015), economically disadvantaged (starting in School Year 2015), English Language Learner (ELL), former ELL, or a student with disabilities. A former ELL student is a student that is not currently an ELL, but had been at some point in the two previous academic years.
- **Economically Disadvantaged:** Calculated based on a student's participation in one or more of the following state-administered programs: the Supplemental Nutrition Assistance Program (SNAP), the Transitional Assistance for Families with Dependent Children (TAFDC), the Department of Children and Families' (DCF) foster care program, or MassHealth (Medicaid).[36]

35. Massachusetts Department of Elementary and Secondary Education. Profiles Help - About the Data. https://profiles.doe.mass.edu/help/data.aspx?section=students. Accessed May 18, 2020.
36. Massachusetts Department of Elementary and Secondary Education. Profiles Help - About the Data. https://profiles.doe.mass.edu/help/data.aspx?section=students. Accessed May 18, 2020.

TABLE 6. COMPARISON OF ECONOMICALLY DISADVANTAGED AND HIGH NEED STUDENTS IN SELECT SOUTHEASTERN MASSACHUSETTS SCHOOL DISTRICTS

SOURCE: MASSACHUSETTS DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION

YEAR AND METRIC	BRIDGEWATER	BROCKTON	FALL RIVER	NEW BEDFORD	QUINCY	TAUNTON	WAREHAM	SOUTHEAST REGION (AVG)	MASS.
2014-2015									
ED	12%	46%	57%	56%	32%	37%	40%	40%	26%
HN	25%	63%	67%	69%	54%	48%	52%	54%	42%
2015-2016									
ED	14%	47%	59%	56%	35%	38%	44%	42%	27%
HN	27%	64%	70%	73%	56%	50%	56%	56%	44%
2016-2017									
ED	16%	53%	66%	64%	36%	42%	50%	47%	30%
HN	27%	68%	74%	77%	56%	52%	60%	59%	45%
2017-2018									
ED	16%	55%	68%	67%	36%	45%	52%	48%	32%
HN	28%	70%	76%	80%	57%	54%	62%	61%	47%
2018-2019									
ED	16%	54%	67%	66%	35%	43%	51%	48%	31%
HN	29%	72%	76%	80%	59%	55%	61%	62%	48%
2019-2020									
ED	18%	58%	70%	68%	35%	46%	53%	50%	33%
HN	31%	73%	78%	81%	59%	57%	62%	63%	49%

School meals are an important nutrition delivery vehicle and also represent an opportunity to support the local economy through procurement policies and practices. According to the USDA's 2019 *School Nutrition and Meal Cost Study*, the average reported cost in the 2014-15 school year to produce a school lunch was $3.81 and a school breakfast was $2.72. The average USDA reimbursement for a free lunch was $3.32 and for a free breakfast $1.88, which leaves a gap between revenues and expenses that schools may make up with a la carte or other non-reimbursable sales. Food accounts for 45% of the total cost of production, labor another 45%, and the remaining 10% to other direct and indirect costs (e.g., equipment, utilities).[37] School food service programs may be challenged to source local food due to a number of factors, including cost, vendor liability requirements, distributor exclusivity, client contract obligations, equipment/facility limitations, and labor agreements.

The USDA's Farm to School Census is conducted every five years to measure public school district progress against a number of metrics ranging from food sourced to nutrition programming and much more. The last census conducted in 2015 drew 250 responses from Massachusetts that showed districts spent an average of 22% of their overall food budget on local food (including fluid milk) and 12% (excluding fluid milk).[38] Total food purchases (including fluid milk) reported by just 123 of the state's school districts totaled over $48 million (n=123).

Table 6 provides a back of the envelope estimation of the total cost of school meal production in Massachusetts using an average of the past two year's participation rates and national meal cost averages. Because schools in the USDA Farm to School Census were allowed to define "local" for themselves, this percentage is likely an overestimation. There is likely self-selection bias represented in the data as well. Still, this offers insight into the potential amount schools *might* allocate to foods locally grown, raised or harvested. And for each dollar spent locally, there is an even greater potential economic impact or multiplier effect.[39] According to the Farm to School Census, the most common barriers to sourcing more local are availability (e.g., seasonal incongruence with the academic year, local production cannot meet entire volume required), higher cost, and logistics (e.g., product is not available through primary distributor, direct sale deliveries are complicated).

37. USDA FNS. Fox, Mary Kay and Gearn, Elizabeth. *School Nutrition and Meal Cost Study*. April 2019.
38. USDA FNS. Farm to School Census. https://www.fns.usda.gov/cfs/farm-school-census. Accessed May 18, 2021.
39. Roche, E., Becot, F., Kolodinsky, J., and Connor, D. Economic Contribution and Potential Impact of *Local Food Purchases Made by Vermont Schools*. May 2016.

TABLE 7. ESTIMATED EXTENDED TOTAL SCHOOL MEAL FOOD SPEND AND LOCAL SPEND FOR MASSACHUSETTS K-12 DISTRICTS

SOURCE: USDA FNS CHILD NUTRITION TABLES, FARM TO SCHOOL CENSUS DATA AND SCHOOL NUTRITION AND MEAL COST STUDY

Massachusetts | Service Days: 180								
Meal	**Feb '20**	**Feb '21 (prelim)**	**Percent Change**	**YOY Average**	**Average Meal Cost**	**Estimated Total Production Cost**	**Estimated Total Food Cost**	**Estimated Local Spend**
						YOY Avg x Avg Meal Cost x Service Days	National average: 44.7%	Current state average: 22%
Lunch	524,078	312,841	-40.3%	418,460	$3.81	$ 286,979,557	$ 128,279,862	$ 28,221,570
Breakfast	221,726	243,094	9.6%	232,410	$1.88	$ 78,647,518	$ 35,155,441	$ 7,734,197
Totals	745,804	555,935		650,869		$ 365,627,076	$163,435,303	$ 35,955,767

Note: Participation data are based on average daily meals adjusted by an attendance factor of 0.927.

Massachusetts Farm to School (FTS) is part of the National Farm to School Network, an "information, advocacy and networking organization for communities working to bring local food sourcing, school gardens and food and agriculture education into schools and early care and education settings."[40] The mission of FTS is to strengthen local farms and fisheries and promote healthy communities by increasing local food purchasing and education at schools."[41] According to FTS, 110 Massachusetts farms sell to schools and 25% have grown their businesses to meet this demand.[42] Among FTS' initiatives is the Massachusetts Farm to School Institute, a year-long program available to a select number of school districts each year to build their farm to school strategy. Districts may then be eligible for grant funding to support implementation of their plans. In 2019, New Bedford Public Schools (NBPS) and Norfolk Agricultural High School were both invited to participate in the Institute. Descriptions and progress of their respective strategies can be found in Appendix J. NBPS Food and Nutrition Services is in the process of planning upgrades to existing food service facilities as well as developing a central kitchen that will allow it to service students more efficiently, incorporate more local products in school menus by the 2022-23 school year, and embed nutrition and agricultural lessons into 3rd grade curriculum across the district with support from the Marion Institute's Grow Education Program. In July 2021, the USDA awarded the Grow Education program a two-year implementation grant of $98,237 to support this effort.

Colleges & Universities

Colleges and university dining service programs have been encouraged to source more local, sustainable, fair food for over a decade by campus stakeholders, advocacy organizations, and campaigns like the Real Food Challenge, Menus of Change, and the Association for the Advancement of Sustainability in Higher Education. A number of institutions in Massachusetts consistently rank among the most successful and progressive in their ability to source locally grown, raised, caught, and produced food including the University of Massachusetts Amherst, rated the #1 dining service in the country by The Princeton Review for the last five consecutive years (2016-2020). The Farm to Institution New England (FINE) Farm and Sea to Campus Network exists to support all New England higher education and private institutions to develop transparent regional supply chains and educate campus communities about regional food systems.

In 2018, two Southcoast institutions, the University of Massachusetts Dartmouth (UMass Dartmouth) and Massachusetts Maritime Academy (MMA) were among the first recipients of the New England Food Vision Prize, a $250,000 award created by the Henry P. Kendall Foundation to accelerate progress towards the New England Food Vision 50% locally produced food by 2060. Combined, these institutions serve over 1.1 million meals per year to their campus communities.

40. National Farm to School Network. http://www.farmtoschool.org/about. Accessed May 22, 2021.
41. Massachusetts Farm to School. About Us. https://www.massfarmtoschool.org/about-us/. Accessed May 22, 2021.
42. Massachusetts Farm to School. Farm to School in Every Community Fact Sheet. April 2021.

The dining services team at the UMass Dartmouth partnered with food service peers at Northeastern University, MMA, and Eastern Connecticut State University in making a commitment to locally source 75% of all fish served on each campus. At the time of their proposal, fish consumption during a single meal time was almost 1,200 portions or 72,000 portions per school year for UMass Dartmouth alone. Their winning proposal included a sub-award to the New Bedford Fishing Heritage Center to provide educational opportunities about using underutilized species like Pollock and Monkfish. As part of their commitment, shared food service management company, Chartwells Higher Education (Compass Group), altered procurement structures to enable increased sourcing from regional vendors like Farm Fresh Rhode Island. The same combination of partners, under the lead of MMA, received a second New England Food Vision Prize to advance the use of kelp and development of local aquaculture. The four campuses committed to offering kelp on the menu at least twice per month in residential dining halls, adding kelp as a choice to retail salad bars, and introducing it as a side option. Despite the disruptions of the pandemic, UMass Dartmouth and Farm to Institution New England hosted a New England Food Vision Prize capstone event in February 2021 - the virtual New England Sea Summit. The event focused on leveraging institutions to support local seafood producers, kelp, and underutilized species and is still accessible and free to view on the FINE website.[43]

Other higher education institutions in Southeastern Massachusetts have made commitments to use their dining services' procurement power to support the local food economy and support food access initiatives including:

- Wheaton College (Norton, MA) | Aramark
  "We purchase local, seasonal and responsibly raised, grown and sourced products whenever possible. We firmly believe responsible sourcing has a direct impact on people, animals, and the environment. We engage suppliers and partners to source environmentally and socially responsible products."[44]
- Bridgewater State University (Bridgewater, MA) | Sodexo
  "We are committed to offering quality, fresh, healthy and locally sourced ingredients. Some of our local farm partners are Wilson Farms (Lexington, MA), Joe Czajkowski Farm (Hadley, MA), Steere Orchards (Greenville, RI). To see what's local today check out our Local Boards in Flynn Dining Commons as well as East Campus Commons."[45]
- Dean College (Franklin, MA) | Sodexo
  "We purchase locally whenever possible for the freshest ingredients in our recipes. We source 100% sustainable seafood, eggs from cage-free chickens, ethically and responsibly sourced coffee, and fresh milk from local dairy farms."[46]
- Stonehill College (Easton, MA) | Sodexo
  "We work closely with local produce distributors to maximize the fruits and vegetables purchased from local farms. We also purchase from local dairies, and participate in farm to school initiatives. Tracking local purchases helps us to meet our Better Tomorrow Plan commitment of 20% local purchase by 2020. We are proud to feature the following local suppliers: Garelick Farms Milk, Gifford's of Maine Ice Cream, Ben and Jerry's, Fantini Bakery, Maine Family Farms, Red's Best Seafood, Deep River Chips, Pioneer Valley Grower's Association, LEF Farms, Grandy Oats, Joseph's Tortilla Wraps, Murray's Family Farms, New England Coffee."[47]
- Bristol Community College (Fall River, MA) | Epicurean Feast Cafes
  "We continue to work with food distributors and suppliers who share our environmental concerns and favor those who share our commitment to protect the environment. This includes serving locally grown produce, foods and products sourced from local farms and companies."[48]
- Massasoit Community College (Brockton, MA) | Self-operated
  The Brockton Campus offers Women, Infants, & Children (WIC) to students and a food pantry that provides fresh food including eggs, milk, canned goods, and frozen meals (including vegan meals).[49] The dining hall in the student center was renovated in 2019 and there is an edible community garden on campus.

43. FINE. 2021 New England Sea Summit. https://www.farmtoinstitution.org/sea-summit-2021
44. Wheaton College Dining Services. Sustainability. https://wheatoncollege.campusdish.com/Sustainability. Accessed May 22, 2021.
45. Bridgewater Dining. Sustainability. https://bridgew.sodexomyway.com/explore/sustainability. Accessed May 22, 2021.
46. Dean College Campus Dining. https://deandining.sodexomyway.com. Accessed May 22, 2021.
47. Stonehill Dining. Sustainability. https://stonehill.sodexomyway.com/explore/sustainability. Accessed May 22, 2021.
48. Epicurean Feast Cafes. Food Philosophy. https://www.epicureanfeast.com/foodphilosophy. Accessed May 22, 2021.
49. Massasoit Community College. Massasoit C.A.R.E.S. https://massasoit.edu/student-services/dean-of-students/massasoit-c-a-r-e-s/. Accessed May 22, 2021.

SUPPLEMENTAL AND EMERGENCY FOOD SERVICE AGENCIES

Supplemental and emergency food providers include pantries, shelters, churches, senior centers, and hunger-relief organizations that allocate food resources to individuals and families whose food needs are not sufficiently met by means of traditional food retail or institutional access. They are especially important for members of the community that may not qualify for other assistance, like SNAP, but who face food insecurity nonetheless. Organizations may provide bags or boxes of fresh and non-perishable food items, hot meals served on-site, to-go meals, or all of these options to their clients.

Food Access and Security

Even if food is physically available in a place, it is not a given that all who need it may access it. Food access is multi-dimensional and requires that:

- consumers be able to either go to where they can get food or have the food delivered to them (physical access);
- food items are affordable or free (economic access); and food items align with a consumer's preferred or required diet (cultural or physiological access).

Food security demands that accessible food also be reliably available and that the consumer possess the skills, knowledge, and equipment necessary for utilization. By the USDA's definition, 89.5 percent (116.0 million) of U.S. households had access, at all times, to enough food for an active, healthy life for all household members throughout 2019.[50] This means that 10.5 percent (13.7 million) of U.S. households were uncertain of having, or unable to acquire enough food to meet the needs of all their members due to insufficient funds or other resources for food, at some time during 2019. Of these, 6.4% percent experienced low food security and 4.1% experienced very low food security.[51]

The correlation between household income and food security is well documented by academic research and tracked annually by the USDA Economic Research Service. Depending on a household's overall financial stability and other factors (e.g., educational attainment, inflation), temporary or extended unemployment can contribute to a decline in food security. According to a study of adults who lost work during COVID-19 published in The Journal of the American Medical Association (JAMA) in January 2021, "unemployment insurance was associated with a 35% relative decline in food insecurity and a 48% relative decline in eating less due to financial constraints. The $600 per week federal supplement was associated with additional reductions in food insecurity."[52]

Feeding America is the nation's largest hunger relief organization working to address hunger through a network of over 200 food banks across the country, including the Greater Boston Food Bank, which serves Southeastern Massachusetts. According to 2019 data from Feeding America's Map the Meal Gap, prior to COVID-19, food insecurity in Massachusetts was 8.2%, lower than the national average of 10.9%. This represented a decrease from the 2015 level of 10.3% for the state.

As businesses closed and unemployment spiked in 2020, food insecurity rose to 17.5% across Massachusetts, the largest percent increase (+59%) of food-insecure individuals in the nation.[53] Food insecurity for children in the state also rose by the highest relative percentage nationwide (102%). Norfolk County was one of a handful of counties across the nation anticipated to experience some of the worst food insecurity with a 163% projected increase among children. The report also states that Black and Latino communities have been disproportionately impacted by food insecurity during COVID-19. The impacts of systemic racism drive health inequities, social injustices, and the higher prevalence of poverty in these populations. Table 8 summarizes pre-pandemic data from Feeding America's Map the Meal Gap.

50. USDA ERS. Food Security in the U.S. Key Statistics and Graphics. https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics/. Accessed May 20, 2021.
51. Ibid.
52. JAMA Network Open. https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2775731. Accessed February 28, 2021.
53. Feeding America. *The Impact of the Coronavirus on Food Insecurity in 2020*. Updated October 2020. p.3.

TABLE 8. FOOD INSECURITY, PROGRAM ELIGIBILITY AND MEAL COST

SOURCE: FEEDING AMERICA MAP THE MEAL 2019 DATA

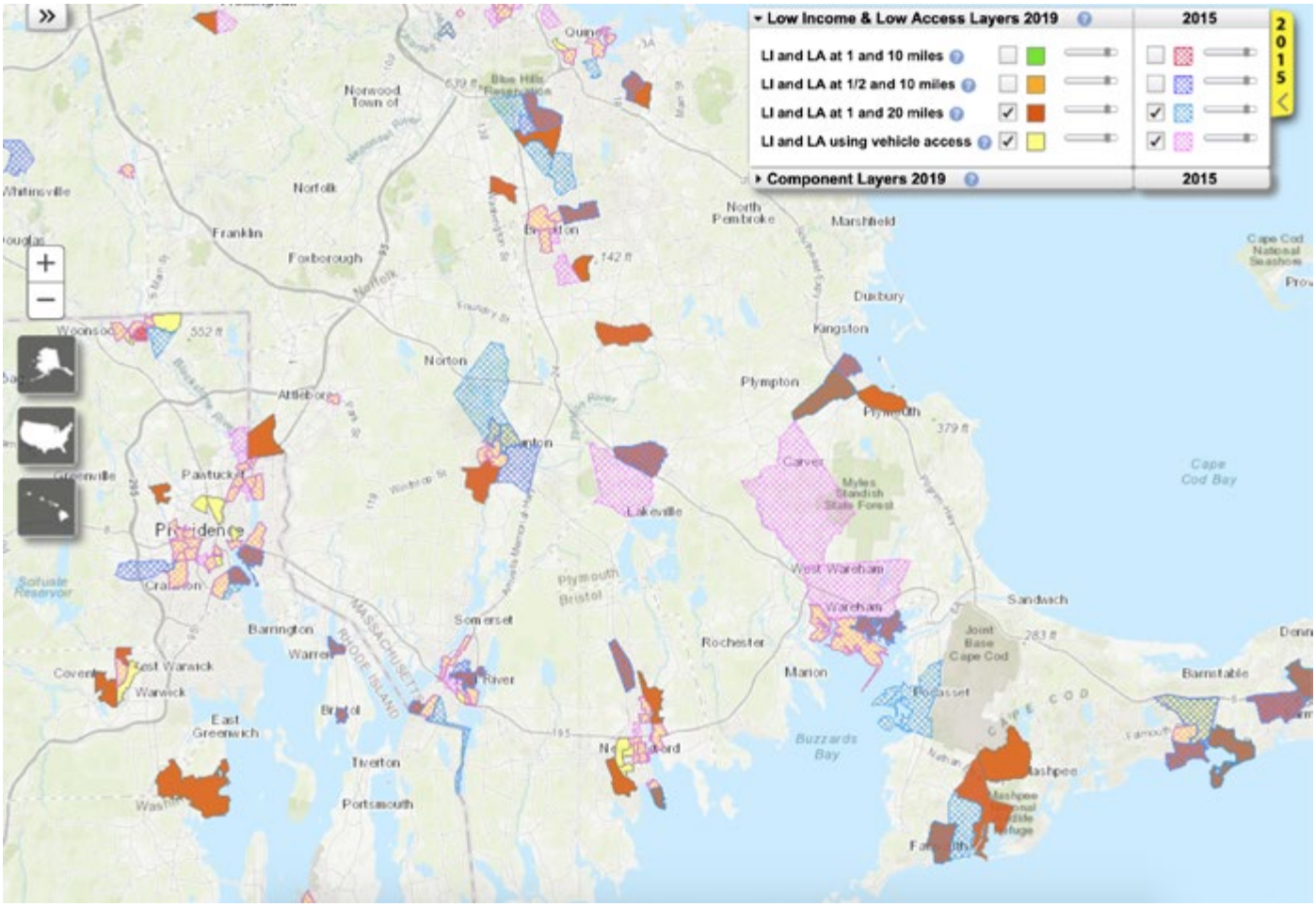
	Bristol		Norfolk		Plymouth		MA		US	
	Overall	Child	Overall	Child	Overall	Child	Overall	Child	Overall	Child
Food Insecurity Rate	9.8%	12.1%	5.9%	4.6%	6.1%	7.7%	8.2%	8.9%	10.9%	14.6%
Food Insecure People	54,720	14,060	41,100	6,810	31,400	8,640	566,903	120,250	35.2M	10.7M
Average Meal Cost	$3.57		$3.97		$3.99		$3.69		$3.13	
Estimated Program Eligibility	70%	79%	54%	73%	63%	66%	64%	74%	50%	77%

The USDA Food Access Research Atlas provides census tract level analysis of low-access (LA) based on supermarket availability overlaid with low-income (LI) households. With this tool, a direct comparison of change between 2015 and 2019 is possible. Figure 19 is set to show census tracts in Southeastern Massachusetts where a significant number or share of residents is more than 1 mile (urban) or 20 miles (rural) from the nearest supermarket and where more than 100 housing units do not have access to a vehicle and are more than a ½ mile from the nearest supermarket, or a significant number or share of residents are more than 20 miles from the nearest supermarket.[54] In Bristol County 40 of 126 census tracts are LI/LA, 20 of 101 census tracts in Plymouth County are, and 9 of 130 census tracts in Norfolk County.[55] Notice that most of these tracts are concentrated in the larger regional cities and towns of New Bedford, Fall River, Wareham, Brockton, Taunton, and Plymouth. This tool is particularly useful for planners and policy makers in targeting food system interventions to the neighborhoods with the greatest need for improved access to nutrition.

54. USDA ERS. Food Access Research Atlas.
https://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas/. Accessed May 22, 2021.
55. Healthy Food Access Portal. Research Your Community.
https://www.healthyfoodaccess.org/access-101-research-your-community. Accessed May 22, 2021.

FIGURE 19. LOW INCOME, LOW ACCESS FOOD AREAS IN SOUTHEASTERN MASSACHUSETTS, 2015 AND 2019

SOURCE: USDA FOOD ACCESS RESEARCH ATLAS

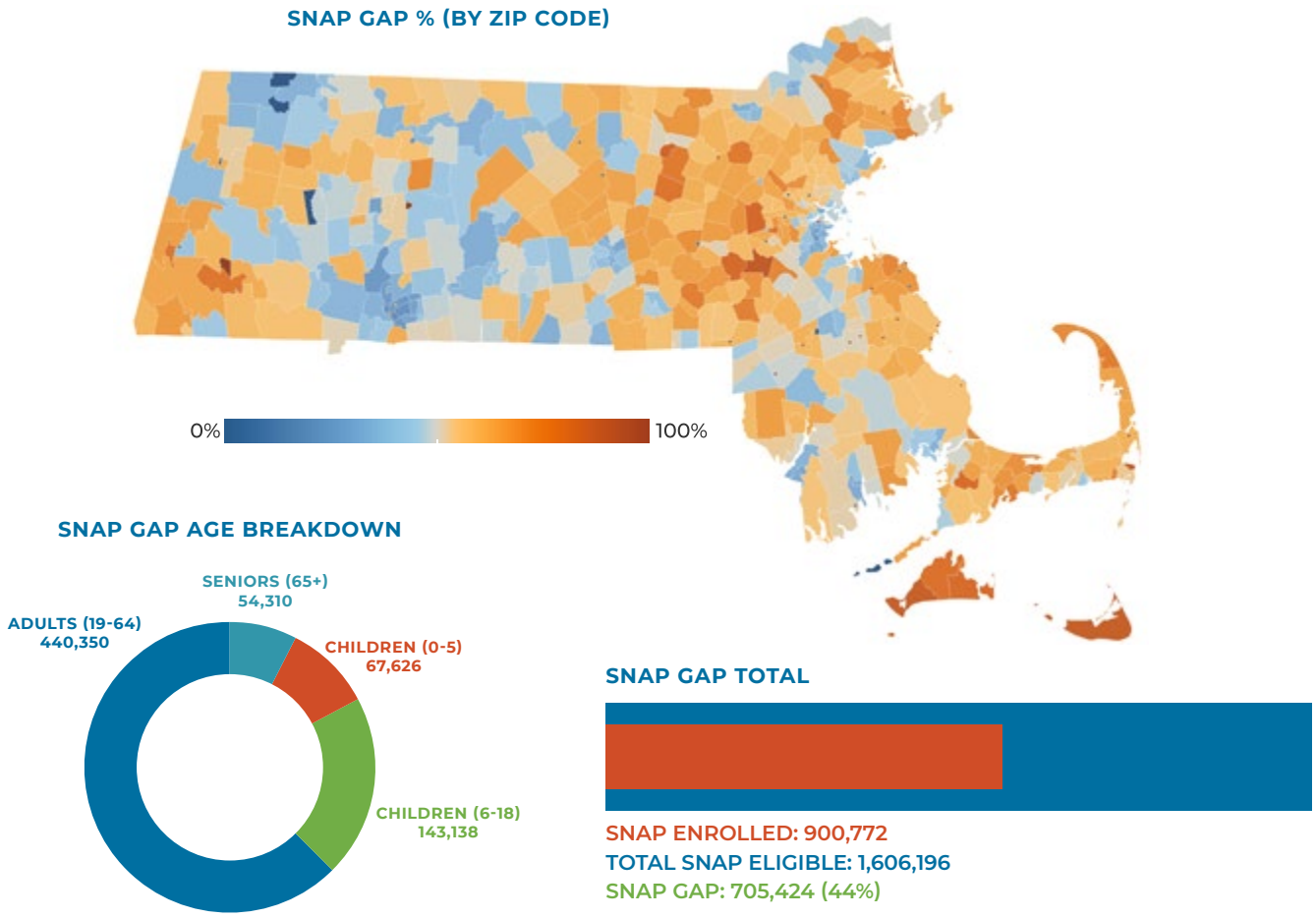


SNAP is a critical safety net for low-income individuals and families, but not everyone who qualifies for this benefit takes advantage of the program. This difference in likely eligibility and use is known as the "SNAP Gap." Data from the Massachusetts Department of Transitional Assistance showed that as of December 2020, 1,606,196 individuals were eligible for SNAP in Massachusetts, but only 900,772 were enrolled, a difference of 44%. Roughly one in three food insecure households with children in Massachusetts are receiving SNAP today.[56] Figure 20 shows the SNAP Gap by zip code and by age.

56. Project Bread. Hunger by the Numbers. https://www.projectbread.org/hunger-by-the-numbers. Accessed February 19, 2021.

FIGURE 20. SNAP GAP IN MASSACHUSETTS

SOURCE: WESTERN MASS FOOD BANK VIA TABLEAU PUBLIC



SNAP participation has risen across Southeastern Massachusetts since the last food system assessment (Table 9), but the SNAP Gap is still 45%. An estimated 360,219 individuals are eligible for SNAP, but only 196,912 were enrolled in the program as of February 2021 (Figure 21).

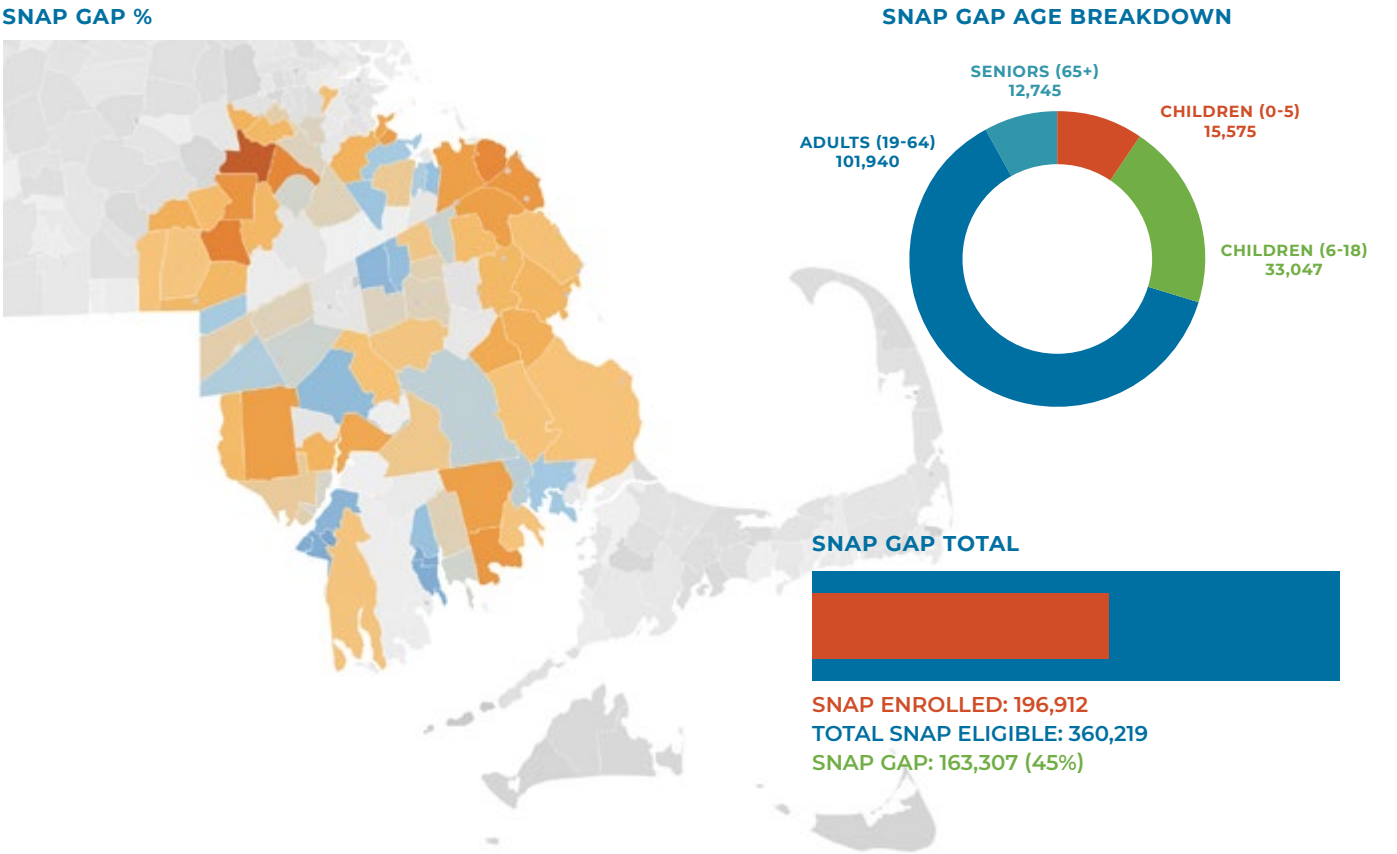
TABLE 9. INDIVIDUALS PARTICIPATING IN SNAP IN SOUTHEASTERN MASSACHUSETTS BY COUNTY, 2014 VERSUS 2020

SOURCE: MA DEPARTMENT OF TRANSITIONAL ASSISTANCE

	2014	2020	Percent Change
Bristol	85,114	92,331	+8.5%
Norfolk	39,858	45,592	+14.4%
Plymouth	51,491	55,163	+7.1%
Total	176,463	193,086	

FIGURE 21. SNAP GAP IN SOUTHEASTERN MASSACHUSETTS

SOURCE: WESTERN MASS FOOD BANK VIA TABLEAU PUBLIC



Supplemental Food Provider Survey

Southeastern Massachusetts is fortunate to have dozens of service agencies, which support food access in the community. In an effort to understand the network of partnerships for food distribution in the region, the collaborators of this assessment distributed a Supplemental Food Providers Survey between May and July 2020 to many organizations in the region and received responses from 43 organizations (Appendix F). This allowed for Southcoast stakeholders to establish a better understanding of who is being served, how, at what frequency, and the capacity for expansion. Additionally, an aggregated schedule of organizations providing supplement food assistance was created that revealed a handful of gaps in service, notably on the weekends for lunch and dinner. For more detailed information, see Appendix G.

According to the survey, supplemental food providers in the region were serving over 27,000 clients each week (more than 10,000 households). These services are being provided with an average of just 2-3 staff members, which translates to a large reliance on volunteers. Even at these service levels, 47% of organizations stated they had the ability to serve more people in the community at their current capacity.

Asked if they were currently providing or could be providing fresh, uncooked produce to those seeking food assistance, 89% responded affirmatively and 82% said they are interested in purchasing food from local producers. In an effort to be accommodating of dietary needs, 65% of respondents are able to offer low-sodium, low-sugar, gluten-free, and kosher options to their clients. The Greater Boston Food Bank is the primary source of food items for 39% of respondents. Another 25% is secured from donations and 18% from local restaurants, businesses, retailers, or farms with the remainder purchased. More than half (54%) offer other food related services or resources such as recipes, education, nutrition classes, or enrollment assistance in SNAP, HIP, or WIC.

One survey question aimed at understanding what would help these organizations run their supplementary food services better, which could allow for more purchasing of local food or an increase in food related services. To this question, 26% said refrigerated or frozen storage space and 21% said additional funding. In interviews with stakeholders, it became clear that the timing and format of deliveries of product from the Greater Boston

Food Bank did not always align with the days of the weeks and times when consumers reliant on this food would be able to pick it up based on where and when it could be delivered and stored logistically. The opportunity for strategic shared refrigerated storage around the community, at service agencies or other places in high need neighborhoods, was a common topic. One very concrete example was given by Joyce Dupont, Director of Wellness & Community Programs, Greater New Bedford Community Health Center. From its own food insecurity assessment, the center knows that 70% of its patients have some food insecurity. In the summer of 2020, the center was hosting mobile markets the second Monday of every month, but was concerned that the timing required to host the market (10a-12p) due to the delivery schedule of food from the Greater Boston Food Bank and lack of cold storage meant they were likely not reaching those in highest need. With strategically placed cold storage in one or two key neighborhoods, Joyce was confident the center would be able to provide the capacity to distribute this food on a weekend day for example.

At the time of the survey, 13% of agencies had experienced a loss of funding, loss of staff or volunteers, increased costs, or were forced to suspend or close operations entirely. Despite ordinary and extraordinary challenges, Southcoast organizations had impressive collective impact during the past year as the infographic at the beginning of this report illustrates.

Consumer Engagement

A stakeholder engagement session related to the study was held virtually on June 17, 2020 in cooperation with the Town of Plymouth. About a dozen community members and project partners informally spoke for 90 minutes about key food systems assets (e.g., University of Massachusetts Extension, Mayflower Brewery, YMCA, local markets), observed trends in food access, considered how information is shared, and highlighted where there might be opportunities for improvement and increased food system resiliency. Those participating represented tribal groups, schools, higher education, farms, urban agriculture advocates, planners, and policy makers.

At the time, the closure of farmers markets due to COVID-19 was being felt within the group and sentiment was strong that they should return, and that there be even more of them, in different places, more days of the week. Gardens at local schools, housing complexes, and elsewhere in communities were heralded with new awareness of available resources built through just this group's exchange. It was noted that while there are not currently a lot of restrictions related to growing food, there is also not a lot of language spelling out what is or is not allowed. Specific language in state and municipal guidance for things like "micro-farms" would be useful and urban agriculture ordinances that spell out food production allowances on vacant lots, rooftops, etc whether for individual consumption, donation, or sale. One strategy identified that could support aspiring growers to get started without the burden of land costs was a land bank of municipal properties offering low-cost lot leases with access to utilities. Town of Plymouth representatives are very interested in civic agriculture. The town and the Plymouth County Conservation District have initiated projects that establish pollinator habitat and help to grow interest in where and how food is produced. It is hoped that this assessment can encourage more localized planning that engages the community in these efforts.

The Food Preferences and Patterns Survey, conducted between July and October, aimed to learn how Southcoast residents get food and find out about food resources, as well as understand what influences their decisions about food (e.g., availability, affordability, quality, variety). The survey was available in both digital and paper formats in English, Spanish, and Portuguese. Partner community agencies helped to administer the survey to their constituents where possible. Figure 22 shows responses to the survey by zip code. The highest participation was in southern Bristol County. Table 10 presents the consumer profile of the 490 respondents and additional details of the results highlighted here are available in Appendix H.

Gender participation in the survey (83% female) is aligned with national research that shows women primarily shop for and prepare food 80% of the time.[57] Overall racial diversity slightly outperformed the regional averages. Based on a combination of household size and annual household income, a minimum of 8% and a potential maximum of 25% of the respondents meet the federal and state poverty guidelines.[58]

57. Pew Research Center. Among U.S. couples, women do more cooking and grocery shopping than men. https://www.pewresearch.org/fact-tank/2019/09/24/among-u-s-couples-women-do-more-cooking-and-grocery-shopping-than-men/. Accessed June 2, 2021.
58. U.S. Department of Health & Human Services. 2020 Poverty Guidelines. https://aspe.hhs.gov/2020-poverty-guidelines. Accessed June 2, 2021.

FIGURE 22. RESPONSE BY ZIP CODE TO THE CONSUMER PATTERNS AND PREFERENCES SURVEY

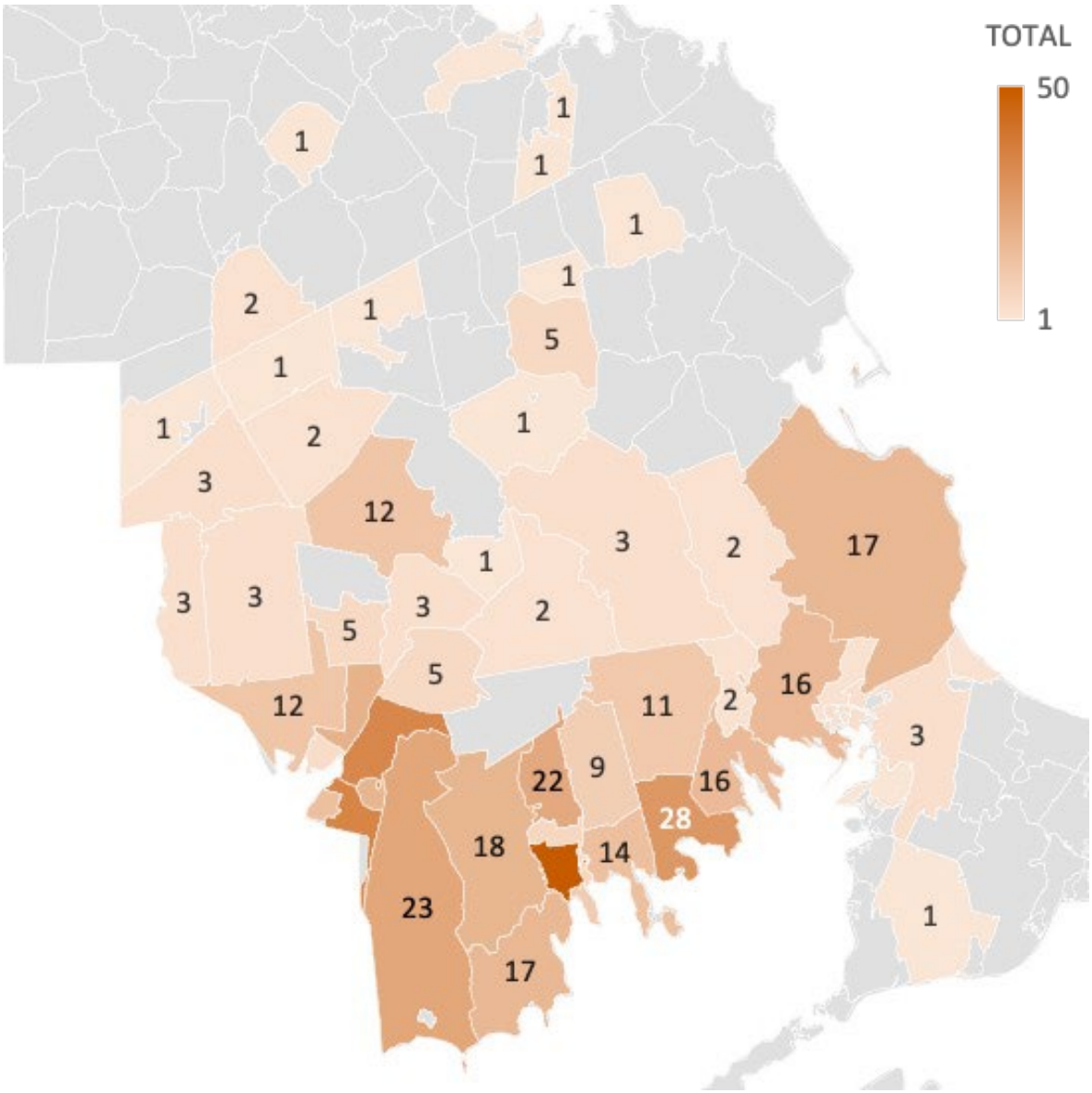


TABLE 10. PROFILE OF CONSUMERS REPRESENTED IN THE FOOD PREFERENCES AND PATTERNS SURVEY

Characteristics of survey participants	Total	Men	Women	Not specified
	n(%)	n(%)	n(%)	n(%)
	490(100)	75(15)	408(83)	7(1)
Age				
18-24 years	12(2)	3	9	0
25-34 years	57(12)	7	50	0
35-44 years	89(18)	9	79	1
45-54 years	91(19)	18	73	0
55-64 years	105(22)	15	89	1
65-74 years	89(18)	13	76	0
75+ years	47(10)	10	32	5
Race				
American Indian/Alaska Native				9(2)
Asian				3(1)
Black				12(2)
Black; White/Caucasian				6(1)
Native Hawaiian or Other Pacific Islander				21(4)
White/Caucasian				381(77)
Three or more races				2(0.4)
Other				58(12)
Hispanic/Latino				
No				466(95)
Yes				24(5)
Annual Household Income Level				
Less than $20,000 USD				124(25)
$20,001 - 45,000 USD				119(24)
$45,001 - 60,000 USD				63(13)
$60,001 - 75,000 USD				33(7)
$75,000 - 100,000 USD				59(12)
$100,001 - 150,000 USD				55(11)
More than $150K USD				40(8)
What is the number of adults over 18 living in your household?				(n=44)
1 adult				158(33)
2 adults				246(51)
3 adults				51(11)
4 adults				21(4)
5+ adults				8(2)
What is the number of children 18 and younger living in your household?				
0 children				332(68)
1 child				70(14)
2 children				58(12)
3 children				18(4)
4 children				8(2)
5+ children				4(1)

The survey of consumers in the region borrowed two questions from the USDA's Economic Research Service *U.S. Household Food Security Survey Module: Six-Item Short Form* to measure food security:

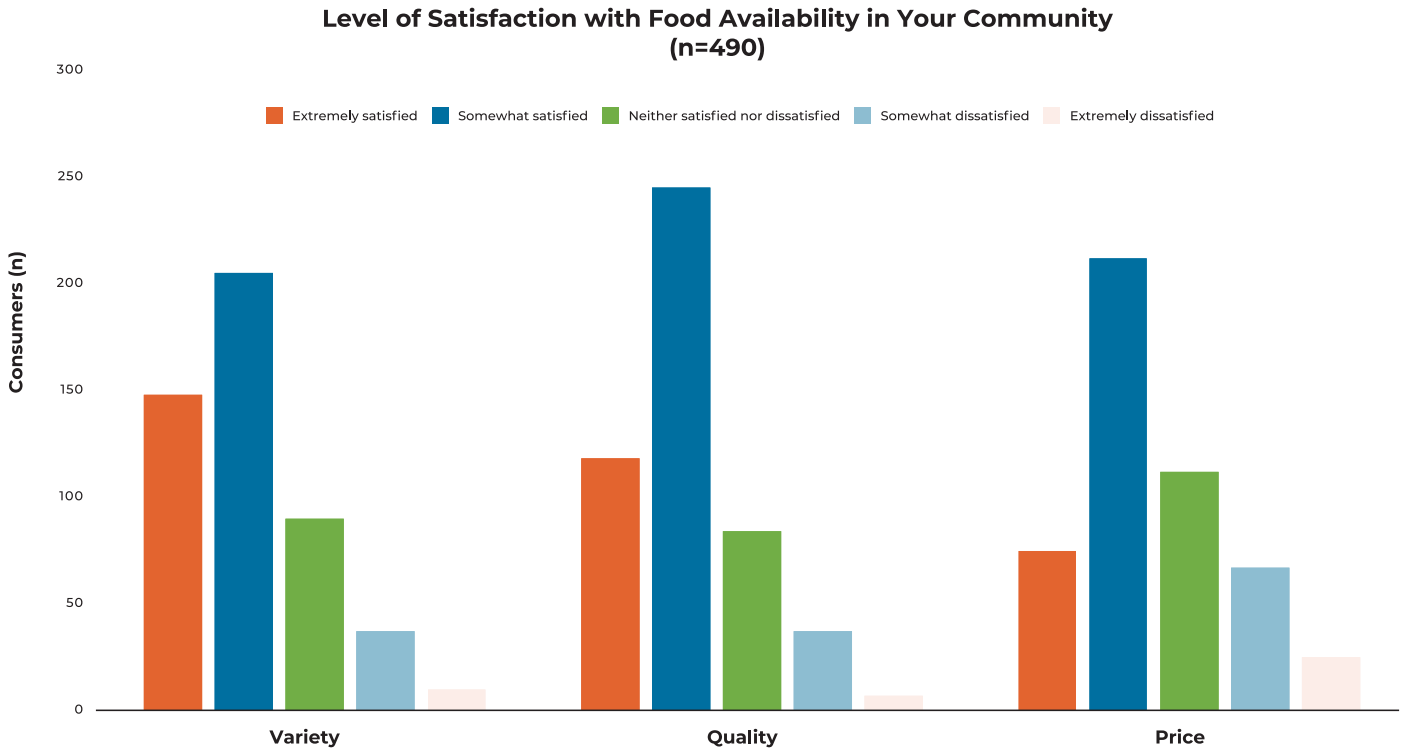
1. Within the past 12 months we worried whether our food would run out before we got money to buy more.
   > Often true, Sometimes true, or Never True
2. Within the past 12 months, the food we bought didn't last and we didn't have money to get more.
   > Often true, Sometimes true, or Never True

In our findings, 13% of respondents said "often true" and another 26% "sometimes true" to the first question. For the second question, 11% said "often true" and 20% "sometimes true." The majority of grocery shopping is done at traditional groceries and big box stores for 80% of survey participants, but 3% listed food pantries as their primary source. A total of 23% of households in the sample had relied on a food pantry in the last 12 months.

Of the expenses mentioned that compete with food, 55% were made up of household and/or cost of living expenses including utilities, mortgage, or rent. These were followed by health care costs and transportation. This last point is key as 80% said their own car is how they get to food most of the time. When they get food, over 70% of respondents reported being mostly satisfied with the quality and variety, but less so with the price of the food available.

Specifically, affordable meat and seafood topped the "hardest to get food items" list (135 mentions), followed by fresh fruits and vegetables (62 mentions). Some of the difficulty in accessing these two categories could be attributed to scarcity during the pandemic, but other research suggests the same could be true even absent the stockpiling and supply chain disruptions of the last year.

FIGURE 23: CONSUMER SATISFACTION WITH FOOD CHOICES AVAILABLE IN THE COMMUNITY



Word of mouth from family, neighbors, friends, and others in the community is the strongest medium of communication for how consumers learn about food resources. They also receive information through community-based organizations, their workplace, public boards, and other sources.

Among the 125 open comments in the survey, the need for more access to food, be it through farm stands, farmers market, grocery stores, small food markets, or community gardens, received the most mentions. Accessibility in terms of affordability, transportation, and awareness of food were also frequent. A number of respondents advocated on behalf of their neighbors or proposed solutions for specific locations - a grocery store in the north end and center of New Bedford, a food bank in Plymouth, refrigeration units in local community centers (e.g., YMCA). One local resident shared their personal vision in writing, "I wish there was a community garden. I wish I had the capital to open up one in the empty lot where the old mattress store in North Plymouth was. A place for low income families to acquire organic/locally sourced food. A space for people to walk through and feel at peace. A place to teach younger generations how to grow and harvest their own food."

Consumers would like more ...	
Farmers markets / farm stands / support for farmers	23
Consumer awareness and education tools	17
Affordable fresh food	16
Community gardens	15
Transportation to/from food	12
Local food in grocery stores	9
Grocery stores/smaller markets	6
Acceptance of SNAP/EBT/WIC/HIP	5

"I wish there was a community garden. I wish I had the capital to open up one in the empty lot where the old mattress store in North Plymouth was. A place for low income families to acquire organic/locally sourced food. A space for people to walk through and feel at peace. A place to teach younger generations how to grow and harvest their own food."

RESIDENT OF PLYMOUTH, MA

There are many options for food, including those that are free, but still a portion of Southeastern Massachusetts consumers face food access challenges. The frequency of available food, type of food, price point, and transportation, among other factors, may not support individual access and consumption. For the elderly in particular, loss of taste and smell is common, as is dental loss, which is not typically covered by Medicare. Medication complications may cause lack of appetite or confusion. Any individual with compromised physical mobility may find it difficult to hold a knife, open a can, stand at a counter long enough to prepare food, manage heavy pots, or lift down dishes from a cabinet. Some housing may lack food related appliances (e.g., a refrigerator, microwave).

It is important to remember that behavior related to the purchase and consumption of health-promoting foods is not based solely on knowledge and preference. In addition to physical and economic limitations, there may be other health and housing complications that make accessing healthy food challenging. The SFPC should continue to speak directly with residents about possible neighborhood-level solutions and policy levers that could help improve the daily lived experience in terms of food access and increase food security, while supporting local farms and food businesses.

Massachusetts Food Security Infrastructure Grant Program

On May 17, 2020, the Office of Governor Charlie Baker and Lt. Governor Karyn Polito announced $56 million in funding to respond to impacts of the COVID-19 pandemic. Distributed through the Food Security Infrastructure Grant Program, the goal of these dollars was to ensure that individuals and families throughout the Commonwealth have equitable access to food, especially local food. The program also sought to ensure that farmers, fishermen and other local food producers are better connected to a strong, resilient food system to help mitigate future food supply and distribution disruption. The funding was allocated as follows:

- A $36 million COVID-19 Food Security Infrastructure Grant Program to ensure individuals and families have access to food. Eligible services included:
    - Increasing capacity for food direct delivery;
    - Increasing capacity of food banks and food pantries;
    - Increasing capacity of local food distribution partners;
    - Innovative solutions to enable those receiving SNAP and WIC benefits to receive food more easily;

    - Innovative solutions for urban farming; and
    - Farms, retailers, fisheries, and other food system businesses to help them adapt to the disruptions and to allow them to provide greater access to local food.
- $5 million increase for the Healthy Incentives Program (HIP) to meet increased demand for local produce and to increase access points that process SNAP and HIP benefits.
- $12 million for the provision of 25,000 family food boxes per week through a regional food supply system. Each family food box contains 30 to 35 meals. Food boxes would be distributed throughout the state to food pantries.
- $3 million in funding as an immediate relief valve to food banks.

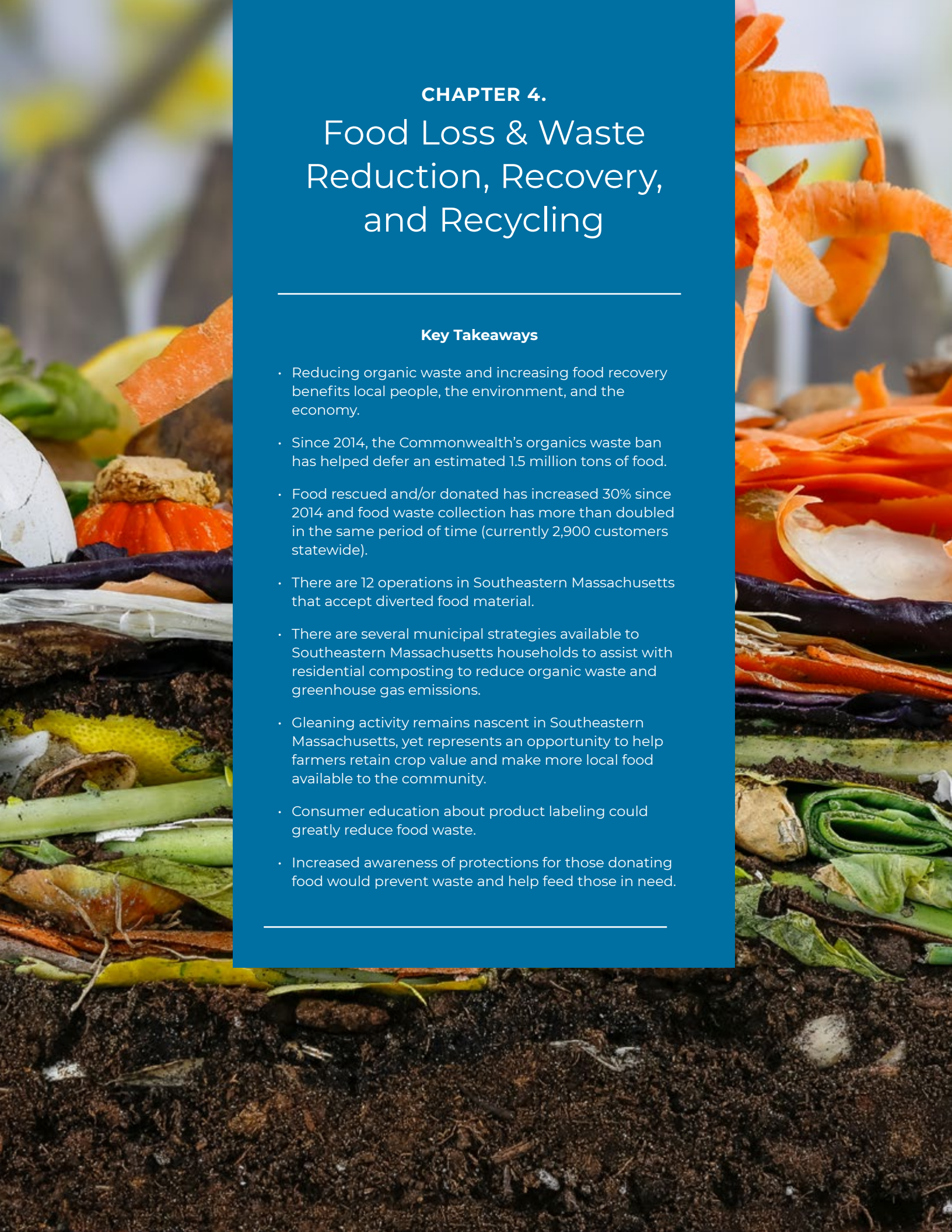
Entities were allowed to submit up to three proposals, each for a maximum amount of $500,000 USD. Table 10 presents the total number and value of projects submitted by county in Southeastern Massachusetts that did and did not receive funding. Specific awards received by organizations in the region are listed in Appendix I. Notably, the New Bedford Public School District's Food Nutrition Services was awarded all three of its requests for a total of $1,420,340, making it the largest single recipient of funds of any organization in the state.

TABLE 11. MASSACHUSETTS FOOD SECURITY INFRASTRUCTURE GRANT PROGRAM

SOURCE: MA EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS (EEA) AND NORTHBOUND VENTURES CONSULTING, LLC

Location	Funded			
	# PROJECTS	% OF TOTAL	VALUE OF PROJECTS	% OF TOTAL
Bristol	29	8%	$4,135,054	12%
Norfolk	15	4%	$1,354,278	4%
Plymouth	25	7%	$1,867,245	5%
SE MA Sub-total	69	19%	$7,356,577	21%
Other	297	81%	$27,679,959	79%
Total	366		$35,036,536	

	Not funded			
	# PROJECTS	% OF TOTAL	VALUE OF PROJECTS	% OF TOTAL
Bristol	90	9%	$17,359,849	11%
Norfolk	51	5%	$10,572,562	7%
Plymouth	121	12%	$11,761,338	8%
SE MA Sub-total	262	27%	$39,693,749	26%
Other	722	73%	$115,305,843	74%
Total	984		$154,999,592	



CHAPTER 4.

Food Loss & Waste Reduction, Recovery, and Recycling

Key Takeaways

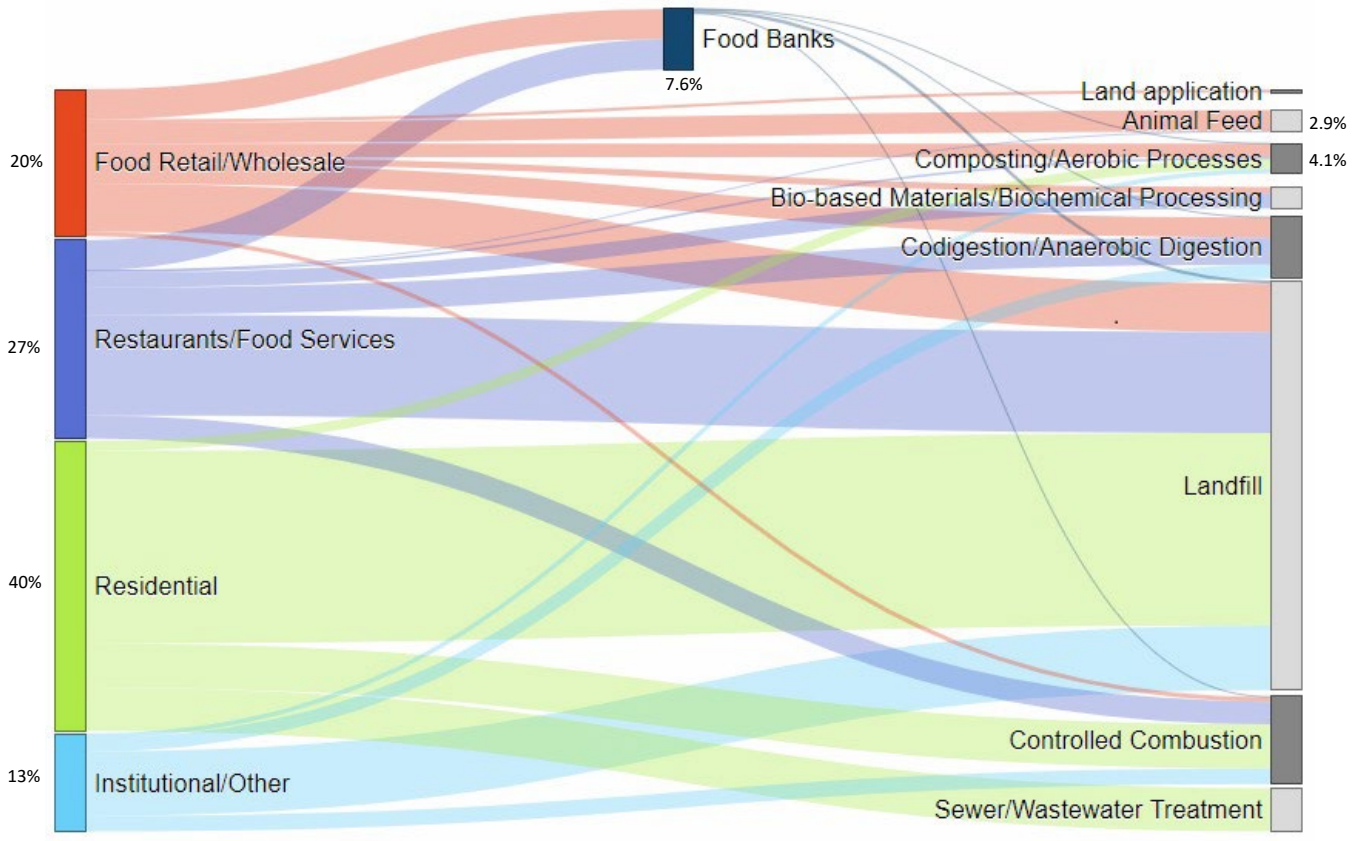
- Reducing organic waste and increasing food recovery benefits local people, the environment, and the economy.
- Since 2014, the Commonwealth's organics waste ban has helped defer an estimated 1.5 million tons of food.
- Food rescued and/or donated has increased 30% since 2014 and food waste collection has more than doubled in the same period of time (currently 2,900 customers statewide).
- There are 12 operations in Southeastern Massachusetts that accept diverted food material.
- There are several municipal strategies available to Southeastern Massachusetts households to assist with residential composting to reduce organic waste and greenhouse gas emissions.
- Gleaning activity remains nascent in Southeastern Massachusetts, yet represents an opportunity to help farmers retain crop value and make more local food available to the community.
- Consumer education about product labeling could greatly reduce food waste.
- Increased awareness of protections for those donating food would prevent waste and help feed those in need.

REDUCING FOOD LOSS AND WASTE

The U.S. Environmental Protection Agency (EPA) estimates that a combined 63.1 million tons of inedible or unused food material was generated in the commercial, institutional, and residential sectors in 2018, which is 21.6% of total municipal solid waste (MSW) generation. Figure 24 shows generation by key sector and management flows exclusive of the industrial sector, which is not part of MSW. For more information about the industrial sector and detail by segment, please see the U.S. EPA's *2018 Wasted Food Report*.[59]

FIGURE 24. WASTED FOOD GENERATION AND MANAGEMENT FLOWS, 2018

Source: U.S. EPA

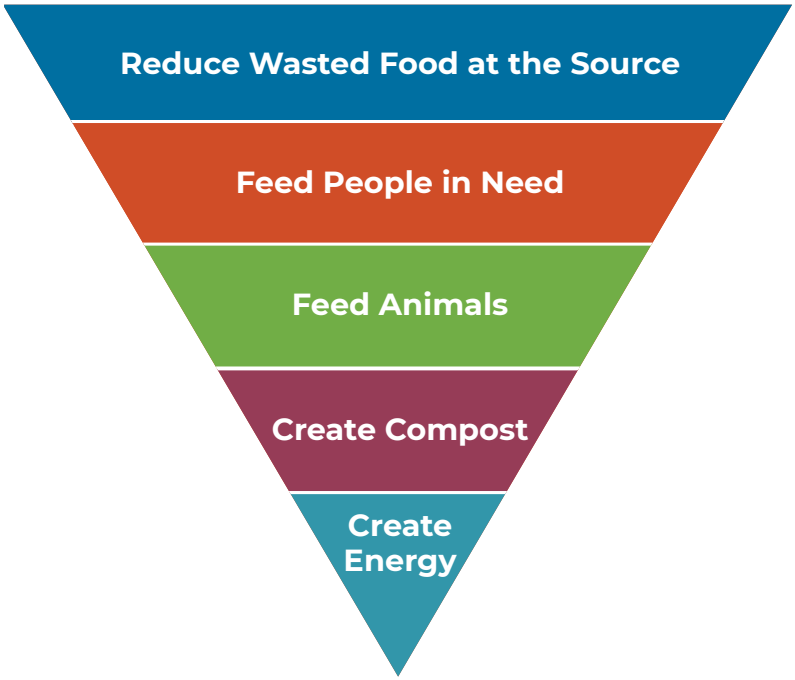


Sending organics to the landfill is a major issue as they produce methane emissions, a greenhouse gas more potent than carbon dioxide. Fortunately, there are many proven alternatives within reach. The EPA's Food Recovery Hierarchy has long been a reference for how to reduce food waste, but over the years, many environmental and advocacy groups have seen the need to adapt it in ways that recognize community versus commercial interventions and prioritize composting over industrial energy use. An example is Figure 25 from the Massachusetts Food System Collaborative.

59. U.S. EPA Office of Resource Conservation and Recovery. *2018 Wasted Food Report: Estimates of generation and management of wasted food in the United States in 2018*. https://www.epa.gov/sites/production/files/2020-11/documents/2018_wasted_food_report.pdf (November 2020).

FIGURE 25. MASSACHUSETTS FOOD WASTE REDUCTION PRIORITIES

SOURCE: MASSACHUSETTS FOOD SYSTEM COLLABORATIVE



FOOD RECOVERY

Food recovery can happen at different places in the food system - on the farm, at retail, and pre- and post-consumer food service. Gleaning is the act of collecting otherwise unharvested crops from farmers' fields. A 2019 study revealed that more than a third of the edible produce grown in the United States remains in the field.[60] The reason may be due to the cost to harvest it versus the price a crop will fetch, consumer preference variability, and labor availability. In the farmer/producer survey, only one farm said that they regularly participate in gleaning activity, while 16 said they had never gleaned. Hope's Harvest Rhode Island (HHRI) launched in 2018 as Rhode Island's first farm-based gleaning project. HHRI recovers food from farms in RI and Southeastern Massachusetts, but currently only distributes to RI-based food pantries and soup kitchens. As the organization grows, there may be increased coordination with MA farms and hopefully the opportunity to channel more local food to Southeastern MA consumers. Four farms in the survey regularly donate product and ten regularly compost.

At retail, surplus inventory or products nearing their best by date may be collected and redistributed. In food service, extra food may be donated to food pantries, shelters, and other local service agencies, though this tends to be one of the most misunderstood areas of food recovery. The U.S. EPA, which developed the food recovery hierarchy, provides this information:

> "Regulations governing how food is donated vary from state to state, but at the federal level, the 1996 Bill Emerson Good Samaritan Food Donation Act 4 is the primary regulation affecting food donation programs. The law protects good faith food donors from civil and criminal liability should the product later cause harm to its recipient. Furthermore, it gives uniform federal protection to donors who may cross state lines (FDC, 2014). Even so, misinformation about regulatory constraints (which impact, for instance, good food past saleable date or food bank acceptance limitations) is among the most commonly noted barriers to food donation efforts. Other barriers include transportation costs, lack of refrigerated trucks and drivers, chain of custody issues, or insufficient onsite storage and refrigeration (FWRA, 2013)."[61]

60. Gregory A. Baker, Leslie C. Gray, Michael J. Harwood, Travis J. Osland, Jean Baptiste C. Tooley, On-farm food loss in northern and central California: Results of field survey measurements, Resources, Conservation and Recycling, Volume 149, 2019, Pages 541-549, ISSN 0921-3449, https://doi.org/10.1016/j.resconrec.2019.03.022.
61. Postconsumer Food Diverted Through Donation, Animal Feed, Anaerobic Digestion, and Composting for 2013. U.S. Environmental Protection Agency Office of Resource Conservation and Recovery. April 2015.

The Commonwealth of Massachusetts also provides protection for food donors under the Massachusetts Good Samaritan Law. The Harvard Food Law and Policy Clinic provides a legal fact sheet detailing these liability protections and the Natural Resources Defense Council has released recommendations to strengthen the Bill Emerson Good Samaritan Act, primarily addressing liability related to food donation and label literacy.

- Legal Fact Sheet for Massachusetts Food Donation: Liability Protections - July 2015 http://www.recyclingworksma.com/wp-content/uploads/2015/07/Legal_Fact_Sheet_-MA_Liability_Protections-FINAL_RWF.pdf
- Recommendations to Strengthen The Bill Emerson Good Samaritan Act http://www.chlpi.org/wp-content/uploads/2013/12/recommendations-bill-emerson-good-samaritan-act-fs.pdf

ORGANICS RECYCLING

In October 2014, the Massachusetts Department of Environmental Protection (MassDEP) began the implementation of a commercial organic waste ban targeting businesses and institutions ("generators") that dispose of one ton or more of these materials per week.[62] The ban was designed as one of the agency's initiatives for diverting at least 35 percent (350,000 additional tons) of all food waste from disposal statewide by 2020. Food scraps can be diverted for animal feed, converted to energy, or composted. As of 2017, the ban had been credited with creating over 500 jobs in the state (150% increase since 2010).[63] Based on MassDEP's April 2021 update to the Zero Waste Caucus and correspondence with a department representative, it is estimated that 1.5 million tons of food waste have been diverted since inception of the ban. Food rescued and/or donated has increased 30% since 2014 and food waste collection has more than doubled in the same period of time (currently 2,900 customers statewide).

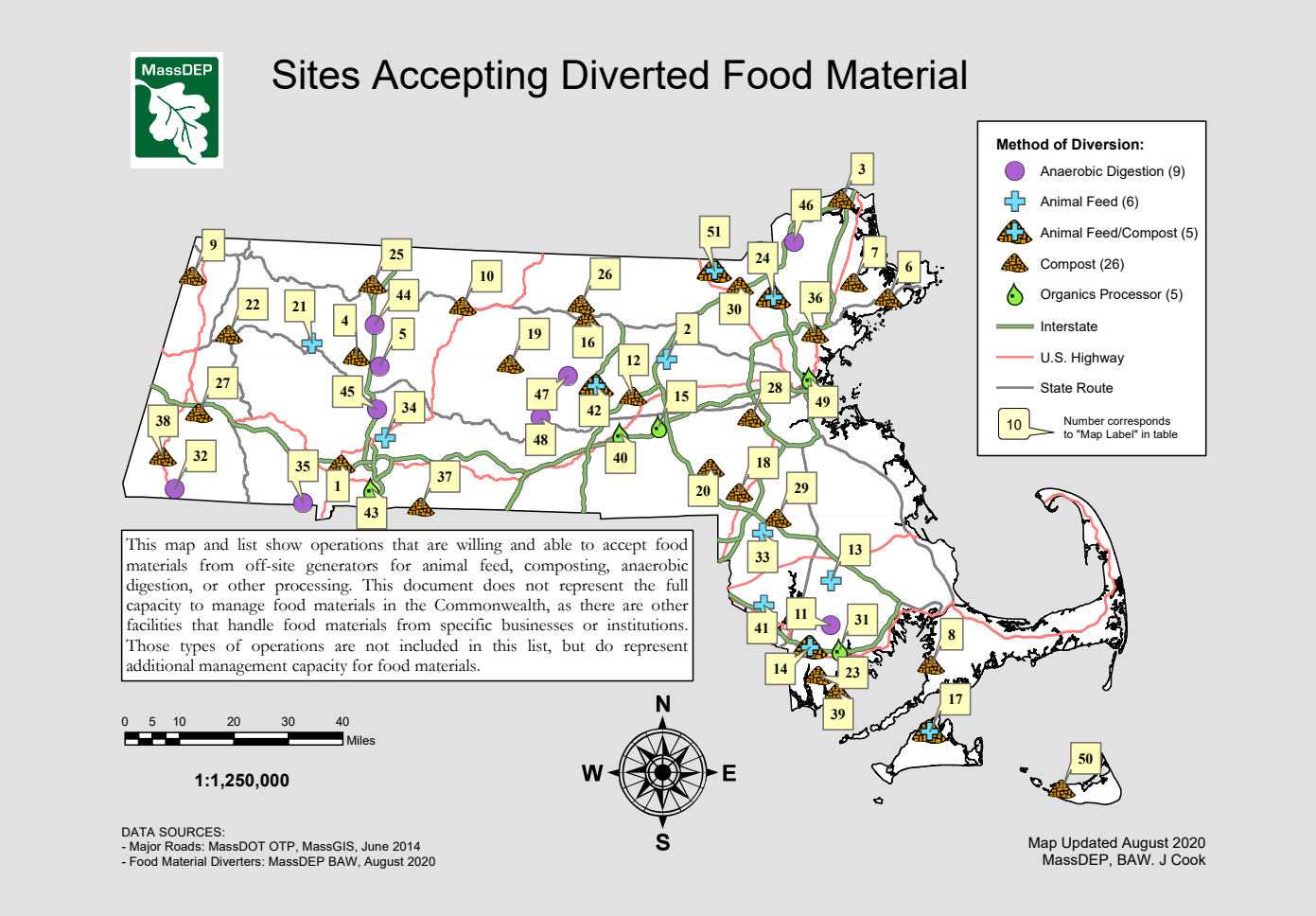
Figure 26 shows sites around the state that accept diverted food material including the following operations in the Southeast:

#11 CRMC Bio Energy, New Bedford (Anaerobic Digester)
#13 Dooley's Stock Farm, Lakeville (Animal Feed)
#14 Double "S" Farm, North Dartmouth (Animal Feed/Compost)
#18 Groundscapes Express, Wrentham (Compost)
#20 Hidden Acres Farm / Cassidy Farm, Medway (Compost)
#23 King Fisher, Dartmouth (Compost)
#28 Needham Dept. of Public Works, Needham (Compost)
#29 Newland Farms, Norton (Compost)
#31 Parallel Products, New Bedford (Organics Processor)
#33 Plante Brothers Farming, Norton (Animal Feed)
#39 Tom's Best Organic Compost at Olde Dartmouth Farm, South Dartmouth (Compost)
#41 Two Village Farm, Swansea (Animal Feed)

62. Mass.gov. List of Food Waste Generators in Massachusetts (2011). https://www.mass.gov/doc/map-list-of-food-waste-generators-in-massachusetts/download. Accessed May 22, 2021.
63. ICF. *Massachusetts Commercial Food Waste Ban Economic Impact Analysis*. December 2016.

FIGURE 26. SITES ACCEPTING DIVERTED FOOD MATERIAL, 2020

Source: MassDEP



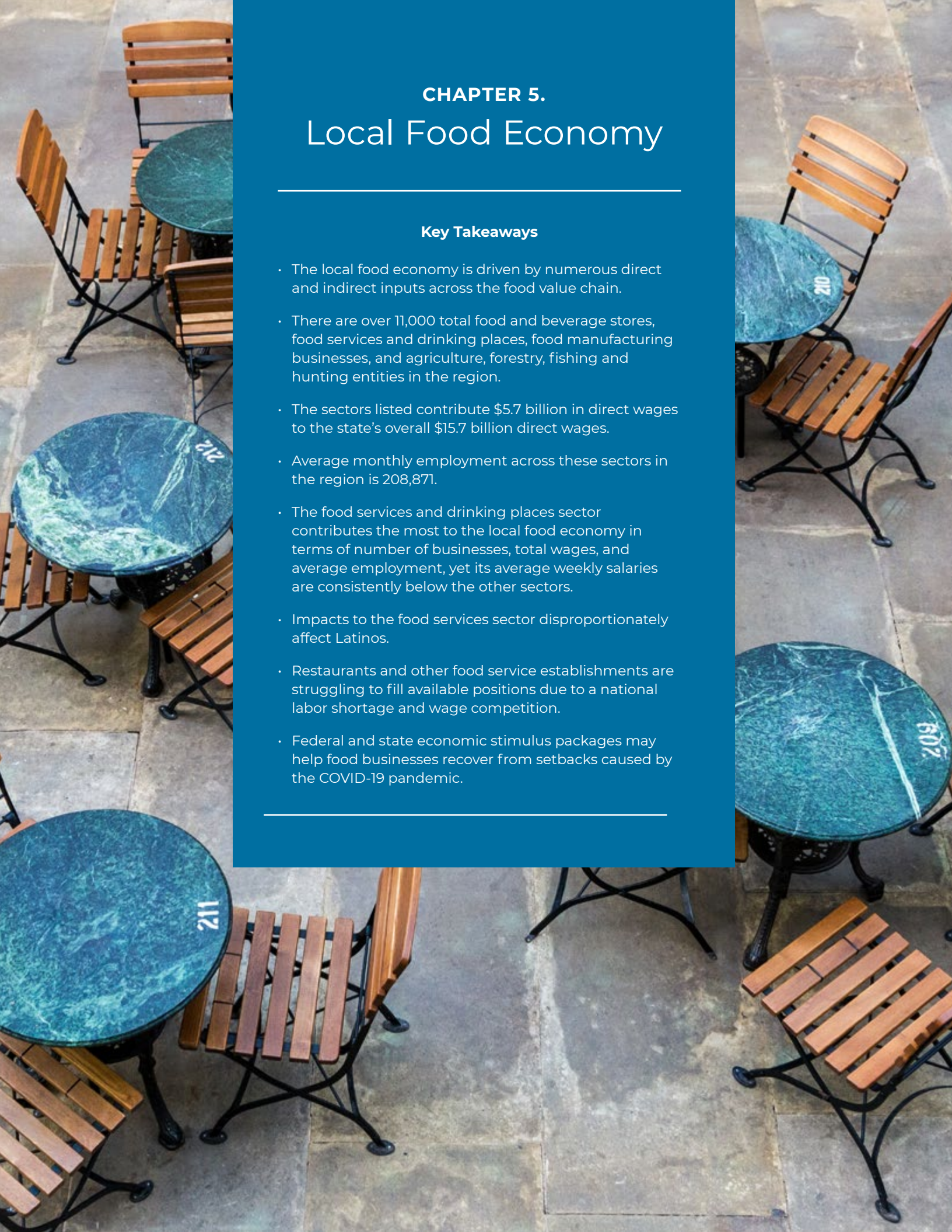
Looking ahead, MassDEP is considering an amendment to the legislation that would lower the threshold for the existing ban on disposal of commercial organic (food) materials to apply to facilities that generate one-half a ton per week or more of these materials for disposal. The ban of one ton per week that took effect in October 2014 applied to about 2,000 entities and this expansion targeted to take effect October 2021 is estimated to engage another 2,000 businesses. The original goal behind the ban was to reduce food waste disposal by 450K tons annually by 2020. The proposed new goal targets reduction by an additional 500K tons annually by 2030.

RESIDENTIAL COMPOSTING

In 2020, composting was hot! According to BioCycle, the leading publication of the organics recycling industry, composting equipment inventory sold out faster than in years prior and food scrap drops-offs were up, spurred by more people cooking at home, municipal curbside collection, and growth of organics collections services. Composting not only mitigates greenhouse gas emissions, but compost can support carbon sequestration, and amend soil for continued production of food.

Households in Southeastern Massachusetts are encouraged to participate in residential composting and there are strategies, equipment, and services to support this activity. An open multi-bay system that the homeowner turns manually can be used directly in a yard with nominal investment; provided it is allowed by city or town ordinance. Another option is a closed bin system. As of April 2021, 30 communities across the three county region offer a bin program, whereby residents and non-residents in some cases, can get a composting system (e.g., Earth Machine, New Age Composter, tumbler) at a discount thanks to a MassDEP grant program. A current list of cities and towns with available bins is maintained on the state's web page *Where to Get a Bin* (https://www.mass.gov/service-details/get-a-low-cost-compost-bin).

Composting is a science and for those not yet ready to manage it themselves, there are at least two private compost service companies operating in the region. City Compost provides pick-up of food scraps and delivery of finished compost to almost 200 clients in 41 communities in Bristol, Norfolk, and Plymouth counties. These homes collectively diverted approximately 49 tons of organic waste from the landfill in 2020. The current service fee is $12-25 to start and then $5-$9 per pick-up depending on frequency. Clients who do not need finished compost can opt to donate it to local food programs. Bootstrap Composting offers Norfolk County communities services competitive with City Compost - $11 per visit for weekly pick-ups or $15 per visit for bi-weekly service. Regardless of the method, composting can be contagious, meaning once one household starts doing it, others may notice and start as well. Trash is diminished and cleaner and important nutrients are recovered for producing more food someplace else, maybe in your backyard or nearby community garden.



CHAPTER 5.

Local Food Economy

Key Takeaways

- The local food economy is driven by numerous direct and indirect inputs across the food value chain.
- There are over 11,000 total food and beverage stores, food services and drinking places, food manufacturing businesses, and agriculture, forestry, fishing and hunting entities in the region.
- The sectors listed contribute $5.7 billion in direct wages to the state's overall $15.7 billion direct wages.
- Average monthly employment across these sectors in the region is 208,871.
- The food services and drinking places sector contributes the most to the local food economy in terms of number of businesses, total wages, and average employment, yet its average weekly salaries are consistently below the other sectors.
- Impacts to the food services sector disproportionately affect Latinos.
- Restaurants and other food service establishments are struggling to fill available positions due to a national labor shortage and wage competition.
- Federal and state economic stimulus packages may help food businesses recover from setbacks caused by the COVID-19 pandemic.

NATIONAL AND STATE FOOD ECONOMY IMPACTS

Every part of the food value chain contributes directly or indirectly to the local economy. Farm inputs like seed, feed, fertilizer, and equipment suppliers must be counted along with the sales and jobs from production, processing, distribution, and retail. There is also "induced impact," or a multiplier effect, which accounts for "the spending by employees of the industry, and that of indirect firms whose jobs are directly dependent on the food and agriculture industries."[64] Select impacts of food and agriculture in the local economy have been sprinkled throughout this report. This section provides additional national and state context, looks specifically at labor data for the region, and identifies resources for continued community-level analysis.

In 2019, new national research was released which examines the impact of the food and agricultural sectors on the economy (Figure 27). The research was commissioned by a group of 23 food and agriculture organizations representing all parts of the food value chain, state government, and industry groups and uses Impact Analysis for Planning (IMPLAN), an input-output (I-O) modeling system, and numerous datasets in its methodology. Updated in 2020, the latest data concludes that food and agriculture combined represent approximately one-fifth of the country's economic activity and directly supports nearly 20 million jobs or more than 13% of US employment. In Massachusetts, food and agriculture were credited with 349,245 jobs and $40 billion towards direct economic activity.[65]

64. Feeding the Economy. U.S. Food and Agriculture Industries Economic Impact Study, 2021. https://feedingtheeconomy.com. Accessed May 22, 2021.
65. Ibid.

FIGURE 27. 2020 ECONOMIC IMPACT OF THE FOOD AND AGRICULTURE INDUSTRIES, U.S. AND MASSACHUSETTS

SOURCE: FEEDING THE ECONOMY

United States

- **Direct Jobs** 19,301,794
- **Direct Wages** $683.45 Billion
- **Direct Output** $2.70 Trillion
- **Business Taxes** $797.22 Billion
- **Exports** $155.58 Billion

Massachusetts

- **Direct Jobs** 349,245
- **Direct Wages** $14.17 Billion
- **Direct Output** $40.49 Billion
- **Business Taxes** $14.35 Billion
- **Exports** $579.18 Million

FEEDING THE ECONOMY

U.S. FOOD AND AG INDUSTRIES

Economic Impact in Massachusetts

Direct Economic Impact	Jobs	Wages	Output
Agriculture	16,900	$617,967,000	$873,209,400
Manufacturing	86,500	$5,230,525,600	$14,194,496,100
Wholesaling	21,947	$3,035,992,700	$4,204,894,100
On-Premise Retailing	187,280	$6,230,777,900	$14,927,712,200
Off-Premise Retailing	86,288	$3,044,727,700	$6,230,144,200
Total	349,245	$14,169,958,900	$40,491,352,000

Supplier Economic Impact	Jobs	Wages	Output
Agriculture	7,030	$162,004,600	$244,215,000
Mining	173	$11,940,200	$90,094,100
Construction	5,696	$195,375,400	$395,406,400
Manufacturing	31,269	$1,185,015,500	$5,434,329,400
Wholesale	18,427	$1,369,868,900	$3,247,885,400
Retail	2,569	$125,469,000	$271,903,500
Transportation & Communication	20,399	$1,904,813,000	$5,501,359,000
Finance, Insurance & Real Estate	27,351	$1,909,071,900	$3,936,092,400
Business & Personal Services	44,066	$4,589,545,900	$5,332,363,000
Travel & Entertainment	5,094	$270,479,200	$446,757,000
Government	2,550	$200,997,000	$428,024,600
Other	0	$0	$0
Total	141,342	$11,945,250,000	$25,338,917,000

Induced Economic Impact	Jobs	Wages	Output
Agriculture	212	$16,086,900	$28,360,000
Mining	97	$7,090,100	$39,214,600
Construction	1,512	$116,179,400	$301,041,300
Manufacturing	6,982	$667,677,200	$3,259,979,200
Wholesale	5,169	$384,074,600	$1,598,372,100
Retail	20,173	$903,767,900	$1,173,313,500
Transportation & Communication	13,545	$1,362,365,000	$4,164,314,600
Finance, Insurance & Real Estate	30,616	$3,149,580,200	$13,736,894,500
Business & Personal Services	34,379	$6,812,486,000	$12,400,388,800
Travel & Entertainment	15,045	$603,230,000	$1,225,963,100
Government	2,725	$223,479,400	$390,522,700
Other	5,150	$240,047,700	$333,233,600
Total	134,518	$14,688,552,000	$37,577,895,000

	Jobs	Wages	Output
Total Economic Output	349,245	$40,804,752,000	$103,375,164,000

Tax Impact	Business Taxes
Federal Taxes	$6,757,630,800
State Taxes	$5,593,140,300
Total Taxes	$14,352,770,300

Exports	Export Value
Customs Value at Point of Shipment	$579,179,700
Total Exports	$579,179,700

2021 Sponsors

American Bakers Association · American Beverage Association · American Farm Bureau Federation · American Feed Industry Association · American Frozen Food Institute · American Soybean Association · Association of Equipment Manufacturers· Biotechnology Industry Organization · Consumer Brands Association · Corn Refiners Association · CropLife America · Distilled Spirits Council of the United States · The Fertilizer Institute · FMI – The Food Industry Association · Global Cold Chain Alliance · Institute of Shortening and Edible Oils · International Dairy Foods Association · National Association of State Departments of Agriculture · National Automatic Merchandising Association · National Chicken Council · National Confectioners Association · National Grain and Feed Association · National Grocers Association · National Milk Producers Federation · National Oilseed Processors Association · National Pork Producers Council · National Restaurant Association · North American Meat Institute · North American Millers' Association · SNAC International · The Sugar Association Inc. · U.S. Grains Council · United Fresh Produce Association · USA Rice

FEEDING THE ECONOMY

feedingtheeconomy.com

SOUTHEASTERN MASSACHUSETTS' FOOD LABOR AND WAGE STATISTICS

The Southeastern Massachusetts county labor market information (LMI) presented in Table 12 is derived from NAICS based employment and wage data for all employers subject to state and federal unemployment compensation laws.[66] Note the total number of food-related establishments listed here varies from Table 3 given the difference in the underlying dataset. From the state's LMI data we can deduce some specifics of Southeastern Massachusetts contribution to the food and agricultural economy of the Commonwealth, including the following:

- Total number of food and beverage stores: 2,406
- Total number of food services and drinking places: 7,364
- Total number of food manufacturing businesses: 388
- Total number of agriculture, forestry, fishing and hunting entities: 940
- Total wages: $5,737,238,372
- Average monthly employment: 208,871

TABLE 12. EMPLOYMENT AND WAGE DATA BY FOOD AND AGRICULTURE INDUSTRY FOR BRISTOL, PLYMOUTH, AND NORFOLK COUNTIES, 2019

Source: Massachusetts Department of Unemployment Assistance

	SOUTHEASTERN MASSACHUSETTS		
Food and beverage stores	**No. of Establishments**	**Total Wages**	**Average Monthly Employment**
Food and beverage stores	1203	$676,524,179	25,648
Grocery stores	648	$580,147,157	22,161
Specialty food stores	165	$40,301,909	1,278
Beer, wine, and liquor stores	390	$56,075,112	2,208
Sub-totals	2,406	$1,353,048,357	51,295
Food services and drinking places	**No. of Establishments**	**Total Wages**	**Average Monthly Employment**
Food services and drinking places	3682	$1,477,740,547	66,948
Special food services	243	$129,526,643	3,918
Drinking places, alcoholic beverages	140	$17,265,739	970
Restaurants and other eating places	3299	$1,330,948,165	62,059
Sub-totals	7,364	$2,955,481,094	133,895
Food manufacturing	**No. of Establishments**	**Total Wages**	**Average Monthly Employment**
Food manufacturing	204	$435,974,146	7,897
Sugar and confectionery product manufacturing	11	$7,559,893	234
Fruit and vegetable preserving and specialty	6	$24,198,260	357
Dairy product manufacturing	3	$1,636,228	58

66. Mass.gov. Labor Market Information. https://lmi.dua.eol.mass.gov/LMI/EmploymentAndWages#. Accessed May 22, 2021.

Animal slaughtering and processing	7	$6,787,398	142
Seafood product preparation and packaging	23	$98,135,325	1,744
Bakeries and tortilla manufacturing	102	$137,611,091	2,804
Other food manufacturing	32	$72,901,749	1,310
Sub-totals	388	$784,804,090	14,546

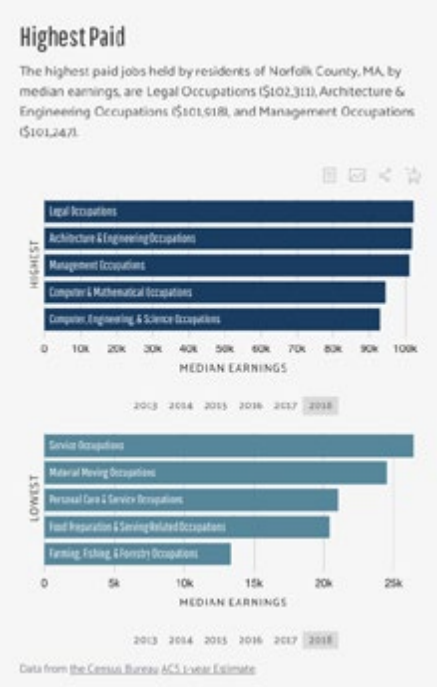
Agriculture, Forestry, Fishing and Hunting	**No. of Establishments**	**Total Wages**	**Average Monthly Employment**
Agriculture, Forestry, Fishing and Hunting	328	$224,166,006	3,049
Crop production	77	$73,647,089	1,700
Vegetable and melon farming	12	$9,992,051	283
Fruit and tree nut farming	23	$16,176,596	240
Greenhouse and nursery production	20	$19,579,045	397
Other crop farming	3	$2,494,955	48
Animal production and aquaculture	31	$4,743,145	129
Aquaculture	8	$1,041,302	28
Cattle ranching and farming	5	$280,405	12
Other animal production	12	$1,408,939	39
Fishing, hunting and trapping	179	$141,888,247	1,101
Fishing	179	$141,888,247	1,101
Agriculture and forestry support activities	35	$3,434,542	108
Support activities for crop production	5	$385,883	9
Support activities for animal production	19	$1,844,052	74
Support activities for forestry	4	$934,327	17
Sub-totals	940	$643,904,831	8,335

Total	***11,098***	***$5,737,238,372***	***208,071***

Comparing industry sectors, food services and drinking places is the largest contributor in terms of number of businesses, total wages, and average employment, yet the average weekly salaries are consistently below the other sectors. Data from the Census Bureau and American Community Survey confirms that jobs in food preparation and farming are among the lowest paid in the region (Figure 28).

FIGURE 28. HIGHEST AND LOWEST WAGE JOBS IN BRISTOL, NORFOLK, AND PLYMOUTH COUNTIES, 2018

SOURCE: DATAUSA



COVID-19 IMPACTS AND INEQUITIES

March to August 2020 were particularly bleak months for Massachusetts labor. From July 2019 to July 2020, Massachusetts had the largest unemployment rate increase of any state (+13.2 percentage points) and in June and July 2020, the state had the highest overall unemployment rate in the country.[67] The Massachusetts Restaurant Association (MRA) reported that 93% of restaurant operators in the state had to lay off or furlough staff at an average reduction of 87%. More than 211,000 of the 261,000 employed in February 2020 in food service had either been laid off or furloughed in the early months of COVID-19. Research conducted by the MRA and National Restaurant Association estimated a 96% decline in restaurant sales in the state or $1.3 billion in lost restaurant sales for the month of April 2020 alone.[68]

Black, Indigenous, and other people of color were disproportionately affected by these job losses, of which 60% were in the food service industry according to the Bureau of Labor Statistics.[69] In March 2020, the percent of employment fell by 1.1% for white people, but 1.6% for Black people, 1.7% for Asian people, and 2.1% for Latinos, a group disproportionately represented in food services.[70]

As the country tries to emerge from COVID-19 and fully reopen, restaurants and other food service establishments are struggling to fill available positions. The labor shortage facing the nation as a whole may weigh especially heavily on a sector of the industry that has traditionally not paid as competitively as others and yet also cannot gain traction to offer higher wages without adequate staffing. Recent economic stimulus from the state should help this quagmire. The *Act Enabling Partnerships for Growth* (H. 5250) adopted in February 2021 includes:

- $20 million for restaurant recovery grants;
- $35 million in loan funding for community development lending institutions to extend capital to small

67. U.S. Bureau of Labor Statistics. *Unemployment rates by state, January 2020–July 2020*. August 2020.
68. MassLive. Massachusetts restaurants have cut 93% of staff due to coronavirus pandemic, loss in statewide sales expected to exceed $1.3 billion in April. https://www.masslive.com/boston/2020/04/massachusetts-restaurants-have-cut-93-of-staff-due-to-coronavirus-pandemic-loss-in-statewide-sales-expected-to-exceed-13-billion-in-april.html. Accessed April 27, 2020.
69. U.S. Department of Labor - Bureau of Labor Statistics. The Employment Situation - April 2020. May 8, 2020.
70. NPR. Job Losses Higher Among People Of Color During Coronavirus Pandemic. https://www.npr.org/2020/04/22/840276956/minorities-often-work-these-jobs-they-were-among-first-to-go-in-coronavirus-lay. April 2020.

businesses, with a focus on minority- and women-owned businesses that have historically had trouble accessing financing and have been disproportionately impacted by the pandemic; and
- creation of a "Future of Work" commission to study how to promote sustainable jobs with fair benefits and workplace safety standards across industries.[71]

FOOD ECONOMY RESOURCES FOR COMMUNITIES

In 2016, the USDA published *The Economics of Local Food Systems: A Toolkit to Guide Community Discussions, Assessments and Choices*. The toolkit was developed in response to growing consumer demand for local food, emerging food businesses to meet this demand, and increasing investment in the sector. The USDA needed a rigorous model and method for evaluating the effectiveness of its own programs and a way to help community stakeholders assess the value of local food system activities. The toolkit, available free to all, has several modules including a more technical explanation of how IMPLAN is used to calculate the economic multiplier of an initiative. Use of the toolkit and its success has endured and in 2020, the USDA and its academic research partners launched "The Economics of Local Food: an Emerging Community of Practice," an online portal (https://localfoodeconomics.com), which aggregates and connects resources that illustrate the economic potential of local and regional food systems and their impact on communities and business development. Even if a deep economic dive is not the goal, the community of practice provides an assortment of reference material that consumers, entrepreneurs, investors, and public agencies alike will find informative.The SFPC is encouraged to explore this resource as it continues to establish greater understanding of Southeastern Massachusetts' local food economy and its contribution to the regional and state economy as a whole.

FOOD ECONOMY ASSET PROFILE:
Bristol County Agricultural High School

Bristol County Agricultural High School ("Bristol Aggie") in Dighton is one of only two agricultural schools left in Massachusetts and the only one with a working dairy. Norfolk County Agricultural High School in Walpole was previously mentioned in this report. Bristol Aggie draws from 16 towns and four cities with some students traveling up to 1.5 hours to attend classes. Total enrollment is in the process of growing from 450 to over 600.

The curriculum at Bristol Aggie is entirely science-based with programs in agricultural mechanics, animal science, arboriculture, floriculture, landscape design, and natural resource management available. The school is a pipeline for well-respected programs in agriculture, forestry, and natural resources at institutions like the University of Massachusetts - Amherst, University of Maine - Orono, University of Vermont, University of New Hampshire, and Paul Smith's College.

Bristol Aggie's mission as a school is to provide an opportunity for acquiring a high-quality academic, vocational/technical, and social education that prepares students for the changing world. The 220-acre campus on the banks of the Taunton River is a place that welcomes a community of collaborators interested in innovation and exchange that advances the field of agriculture. As an anchor institution in Southeastern Massachusetts, it also represents a critical asset in the food system. Bristol Aggie helps ensure that there is a well-trained workforce of the occupational services that are the backbone of agriculture. Contrary to what the name might suggest, Bristol Aggie is not a school where students come to learn to grow food per se, but a place for students to acquire the skills to support those that do grow food and rely on farm equipment, animals, and arable land to do so.

To learn more about the exceptional assets that are the agricultural schools of Southeastern Massachusetts, visit https://bristolaggie.org and https://www.norfolkaggie.org.

71. Mass.gov. Governor Baker Signs Economic Development Legislation. https://www.mass.gov/news/governor-baker-signs-economic-development-legislation-0. Accessed March 13, 2021.

CHAPTER 6.

Food System Regulations & Policy Horizon

Key Takeaways

- Conservation of working lands is vital to ensuring local food system resiliency. Development should avoid prime agricultural soils and policy should help keep farmland affordable and in production.
- State legislation aimed at increasing economic opportunity through higher minimum wage earnings may stretch those who grow, process, and deliver food to consumers to afford labor without raising the cost of food.
- Maintaining working lands is an important strategy for farmers, consumers, economic development, and climate change mitigation.
- Addressing food security and access is a priority for promoting health equity. A program like HIP that enables increased access to fresh fruits and vegetables for low-income households, while supporting local farmers, is critical.
- New national food loss and waste policy recommendations have the potential to expand successful food waste diversion programs and services, enhance consumer education on household food waste reduction strategies, and enable more food to flow to consumers by resolving misunderstandings caused by current product date labeling.

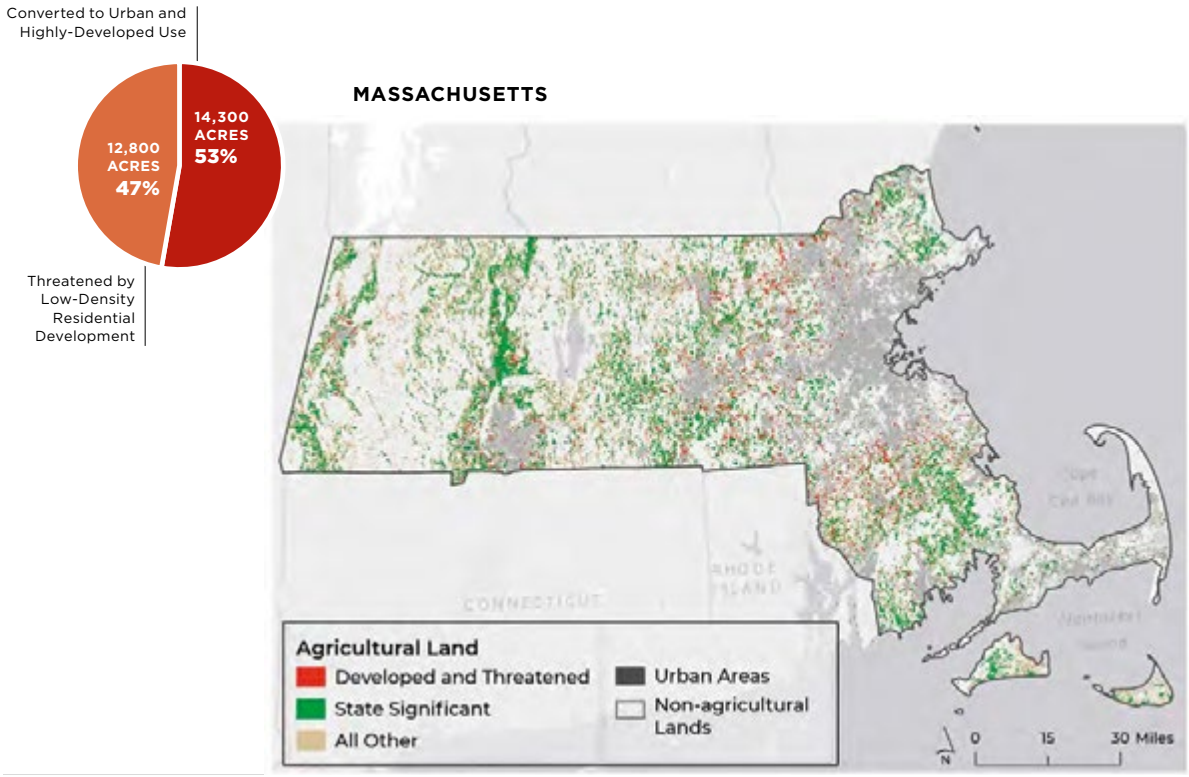
NATIONAL, STATE AND LOCAL POLICY ENGAGEMENT

Agricultural Land Conservation

There is no food system without food, so the continued ability to produce and harvest nutrients sustainably is critical. At the national level, research and advocacy organizations like American Farmland Trust (AFT) have highlighted the importance of preserving agricultural land for production for over 40 years. Agriculture and our environment are inextricably linked, with their fate carrying significant consequences to public health and economic resiliency. According to AFT, 11 million acres were lost over the past 15 years and 2,000 acres of agricultural land paved, fragmented, or converted to uses that jeopardize farming each day.[72] A special report by AFT entitled, *Farms Under Threat: A New England Perspective (October 2020)*, reveals that in Massachusetts, 14,300 acres were converted to urban and highly-developed (UHD) use and another 12,800 acres threatened by low-density residential development (LDR) between 2001-2016. Figure 4 shows these impacts across the state.

FIGURE 29: AGRICULTURAL LAND AND DEVELOPMENT IMPACTS FOR MASSACHUSETTS, 2001-2016

SOURCE: AMERICAN FARMLAND TRUST, FARMS UNDER THREAT: A NEW ENGLAND PERSPECTIVE



AFT's analysis reveals the highest rates of pressure on farmland conversion are parcels adjacent to urban and peri-urban communities, which also tend to represent the greatest levels of economic, racial, age diversity, and inequity. Farmers face the business viability challenge of balancing a higher per acre cost of land in exchange for access to larger consumer markets versus more affordable land farther afield, which may carry additional expenses for transportation, marketing, or other requirements to reach potential consumers.[73] These challenges disproportionately impact farmers of color, for whom the ability to acquire or inherit land and to secure the capital necessary for farm operations has been systematically suppressed by historically discriminatory U.S. Department of Agriculture practices. It is estimated that in the last 100 years, over one million Black farmers in the South alone have been dispossessed of their land, while Black farmers in the Northeast never had much opportunity to purchase farmland in the first place.[74]

72. American Farmland Trust. https://farmland.org/about/whats-at-stake/. Accessed January 6, 2021.
73. American Farmland Trust. *Farms Under Threat: A New England Perspective*. 2020.
74. Harvard Law School Center for Health Law and Policy Innovation. *Clinic Students Reflect on "Land Loss, Wealth, and Reparations". (January 27, 2020)*. https://www.chlpi.org/clinic-students-reflect-on-land-loss-wealth-and-reparations/. Accessed March 16, 2021.

On November 19, 2020, U.S. Senators Cory Booker (D-NJ), Elizabeth Warren (D-MA), and Kirsten Gillibrand (D-NY) introduced the Justice for Black Farmers Act, legislation aimed at addressing and correcting the USDA's historic discrimination.[75] The recently passed American Rescue Plan includes $10.4 billion in agricultural support, of which approximately half will go to disadvantaged farmers. The Farm Bureau, an industry organization, estimates about a quarter of disadvantaged farmers are Black. The plan's funding will provide debt relief as well as grants, training, education, and other forms of assistance aimed at acquiring land.[76]

According to American Farmland Trust's 2020 report *Farms Under Threat: The State of the States*, Massachusetts ranks ninth nationwide for states at highest risk for conversion of productive agricultural land to non-agricultural uses and ninth again for states most responsive to the "visible changes in [the] agricultural landscape." The report highlights Massachusetts' early leadership in agricultural land protection with its adoption of a purchase of agricultural conservation easement program (PACE) in 1977, but also calls out the fact that it has never implemented its agricultural district program, which bundles benefits and protections to save land and support farm viability.[77]

The Massachusetts Agricultural Preservation Restriction (APR) Program "helps to preserve agricultural land to keep valuable farmland soil from being built on by development companies for non-agricultural purposes that could be detrimental to the environment. 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 prevents any use of the property that will negatively impact its future agricultural viability." There are currently 6,780 acres under APR in the Southeastern Massachusetts region: 4,944 across in Bristol County, 1,355 in Plymouth County, and 481 in Norfolk County. This is an increase of 481 acres, or 7.4%, since the last assessment in 2014.[78]

TABLE 13. APR PROPERTIES AND ACREAGE BY COUNTY

SOURCE: MASSACHUSETTS PRESERVATION RESTRICTION PROGRAM

County	Properties	Acres
Bristol	67	4,943
Norfolk	6	481
Plymouth	14	1,355

Under the Massachusetts Farm Viability Enhancement Program (FVEP) managed by MDAR, farmers have access to technical assistance and business planning to expand, upgrade, and modernize their operations. It also provides capital to implement recommended improvements in exchange for term easements for either five or 10 years.

In light of the continued trend in agricultural land loss and the challenges this poses to regional food system resiliency, future development that threatens prime agricultural land should be considered with this in mind. Local land-use policies can be amended to acknowledge and give importance to maintaining adequate prime agricultural production acres.

Agricultural Commissions

An 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. AgComs represent the farming community, encourage the pursuit of agriculture, promote agricultural economic development and protect farmlands and farm businesses, and preserve, revitalize and sustain agricultural businesses and land. In some communities they 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

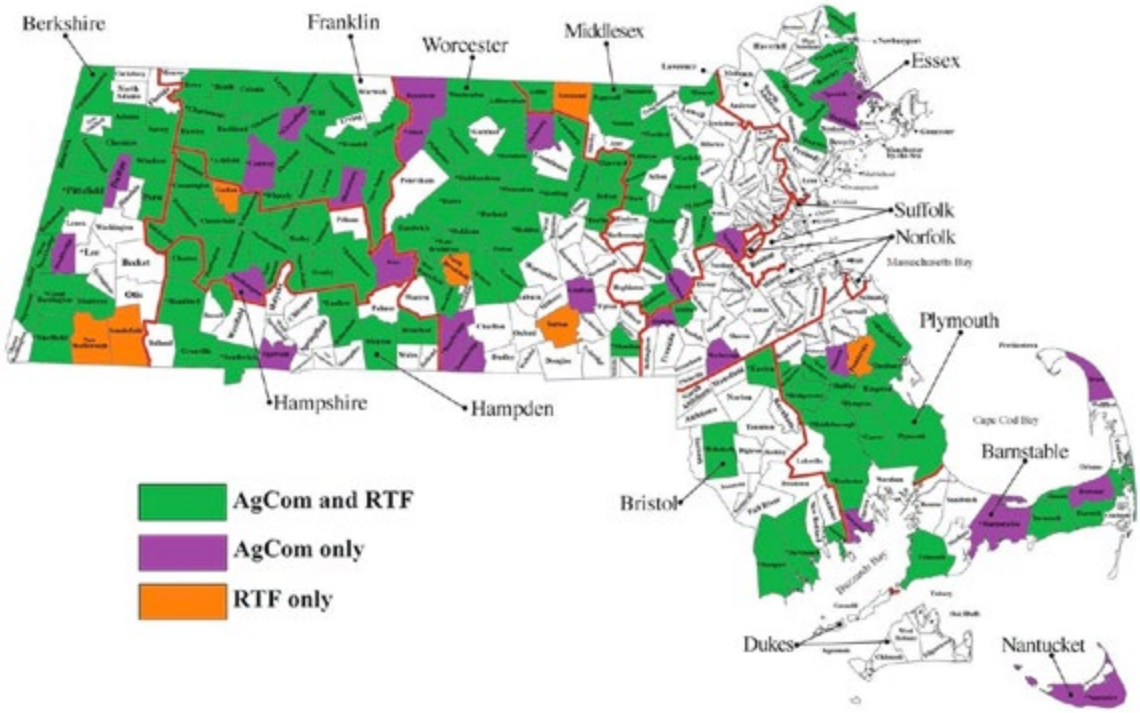
75. Cory Booker. *Booker, Warren, Gillibrand Announce Comprehensive Bill to Address the History of Discrimination in Federal Agricultural Policy.* https://www.booker.senate.gov/news/press/-booker-warren-gillibrand-announce-comprehensive-bill-to-address-the-history-of-discrimination-in-federal-agricultural-policy. Accessed March 16, 2021.
76. Farm Bureau. *What's in the American Rescue Plan Act of 2021 for Agriculture? (March 8, 2021).* https://www.fb.org/market-intel/whats-in-the-american-rescue-plan-act-of-2021-for-agriculture. Accessed March 16, 2021.
https://www.fb.org/market-intel/whats-in-the-american-rescue-plan-act-of-2021-for-agriculture
77. American Farmland Trust. *Farms Under Threat: The State of the States.* 2020
78. Massachusetts Department of Agricultural Resources, Agricultural Preservation Restriction Program Representative.

marketing coordination to assist all farms in town. Others have played key roles in mediating farmer/neighbor disputes, or simply providing referrals for farmers needing better information."[79]

The Massachusetts Association of Agricultural Commissions (MAAC) is a statewide organization that supports individual Agricultural Commissions. According to MAAC's website, there were 172 Agricultural Commissions within the Commonwealth of Massachusetts and as of May 2017 there are 140 towns that have local Right to Farm Bylaws.[80]

FIGURE 30: AGCOM AND RTF MASSACHUSETTS COMMUNITIES, 2017

Source: Massachusetts Association of Agricultural Commissions



Changes in Southeastern Massachusetts communities with AgComs and Right To Farm Bylaws (RTF) since the last assessment are shown in Table 14.

TABLE 14. CHANGE IN AGCOM AND RTF COMMUNITIES 2014 TO 2017

SOURCE: MASSACHUSETTS ASSOCIATION OF AGRICULTURAL COMMISSIONS

County	AgCom and RTF	AgCom Only	RTF Only	Change
Norfolk	1	2	0	No change
Bristol	5 (+1)	0	0	Fairhaven became a AgCom and RTF community
Plymouth	12 (+3)	2 (-2)	1 (+1)	Plympton, Marshfield, and Pembroke added RTF Bylaws

In January 2021, an amendment was made to Mass. Gen. Laws ch. 111, s. 31, which gives any LBOH the legal authority to promulgate reasonable health regulations. Under the updated law, LBOHs are required to solicit comments on proposed agricultural regulations from an established municipal agricultural commission (AgCom) if one exists in the municipality. A copy of any proposed regulation must be provided to the AgCom when the regulation impacts farms, farmers markets, non-commercial keeping of poultry, livestock, and bees, or non-commercial production of fruit, vegetables, and horticultural plants.

79. Massachusetts Association of Agricultural Commissions. About AgComs. https://www.massagcom.org/AgComs.php. Accessed January 24, 2021.
80. Ibid.

The amendment follows a year in which food access and regional food system resiliency was tested. It is envisioned to encourage partnership within municipalities to protect public health and promote farming and other agricultural initiatives.[81]

Small Agriculture Parcels

The Massachusetts Food System Collaborative is tracking a number of bills that have been filed in the 192nd General Court for the 2021-22 session that could change or determine how small parcel agriculture is treated for taxation purposes.[82] Current law (Article XCIX (99)) that grants authority to the legislature to value land and assess tax obligation according to its agricultural or horticultural use, only applies to parcels of five acres or more that have been in agricultural or horticultural use for at least two years. This disadvantages farming of even smaller parcels, which frequently is the case in urban centers, communities of color, and low-income areas. Sometimes a smaller parcel is all that is available or affordable to beginning farmers. Proposed legislation would value parcels that are two acres or larger in cities and towns where the population is under 50,000 and 1/4 acre or larger in cities and towns with populations greater than 50,000, provided the parcel has been actively devoted to agricultural or horticultural uses for two years. Other proposed legislation would consider non-contiguous parcels as a whole, recognize community gardens, and provide special tax exempt status to operations within gateway communities provided all other specifications are met.

Massachusetts Healthy Soils Program

As part of the aforementioned $626 million economic development bill, H.5250, An Act Enabling Partnerships for Growth, there is a provision for the Massachusetts Healthy Soils Program. The purpose of the Massachusetts Healthy Soils Action Plan is "to provide evidence-based recommendations that help people better manage soils of five major land types including: Forests, Wetlands, Agriculture, Turf and Ornamental Landscapes (developed open space), and Impervious and Urbanized Lands . Through targeted conservation, soil-smart development, and better soil management, the recommendations of the HSAP will propose a coordinated approach to protecting the productivity of our working lands and diverse wild lands, assisting cities and towns to improve resilience and reduce their vulnerability to natural hazards and climate change."[83] Passage of the bill was positively received by numerous stakeholder groups, who recognize the potential of the program to address climate change emissions through soil carbon sequestration, increase earnings for farmers which has a multiplier effect in the local economy, and make more locally grown products available while preserving the Commonwealth's working lands. Implementation is anticipated to proceed rapidly and the Southeastern counties will undoubtedly be included in numerous steps.

Climate Change

In September 2016, Governor Charlie Baker signed Executive Order No. 569: Establishing an Integrated Climate Change Strategy for the Commonwealth. The order acknowledges the serious threat climate change poses to the environment and the state's residents, communities, and economy and calls for a comprehensive strategy to reduce greenhouse gas emissions. In March 2021, legislation S.9: An Act creating a next-generation roadmap for Massachusetts climate policy, was signed into law. Broad in its scope to help the Commonwealth meet its target of net-zero emissions by 2050, agriculture should be among the beneficiaries of the outcomes of the future plan. Whether land or water-based production, rising temperatures, variable precipitation, extreme weather events, and rising sea levels all pose a threat to Massachusetts' agriculture and fisheries and in turn the resiliency of our food systems, communities, and economy. Created by the Baker-Polito administration as an education and action tool, the Resilient MA Climate Clearinghouse website (https://resilientma.org) aggregates research, maps, and other resources that help to explain the potential impacts of climate change and provide strategies by sector to mitigate and adapt to this change. Sections of the website are dedicated to agriculture and coastal zones respectively, with special attention paid to how heat, drought, flooding, acidification, pests, disease and more may impact crops, livestock, and marine species. The Agricultural Climate Resiliency & Efficiencies (ACRE) program is a competitive grant program, created by the Baker-Polito administration with MDAR, that reimburses agricultural operations for the implementation of practices that address the sector's vulnerability to climate change, improve economic resiliency and advance general goals identified in the Massachusetts Local Action Food Plan. The ACRE program is oversubscribed, with less than 50% of total requested funds awarded in FY21. SEMAP's buy local peer in the

81. Massachusetts Health Officers Association. Legislation Alert: An Act relative to agricultural commission input on board of health regulations. https://mhoa.com/legislation-alert-an-act-relative-to-agricultural-commission-input-on-board-of-health-regulations/. June 1, 2021.
82. Massachusetts Food System Collaborative. Small Parcel Agriculture: Policies for the changing face of Massachusetts agriculture. March, 2021.
83. Mass.gov. *Massachusetts Healthy Soils Action Plan 3 Public Meetings to Introduce Results of Analysis*. https://www.mass.gov/doc/healthy-soils-action-plan-public-meetings/download. Accessed June 30, 2021.

Pioneer Valley, Community Involved in Sustaining Agriculture (CISA), has taken the step to hire a project coordinator focused on climate and environment as part of its work to support local farmers. For communities, the Municipal Vulnerability Preparedness (MVP) program provides tools for planning and implementing priority projects, which may involve food system initiatives. (See *New Bedford Resilient Blueprint*.)

New Bedford Resilient Blueprint

At the beginning of 2021, New Bedford joined a handful of other Massachusetts municipalities in announcing a city-wide climate action plan. The plan's release came just days after the Massachusetts Legislature passed a statewide bill to achieve net-zero greenhouse gas emissions by 2050. The plan is motivated by the risk climate change poses to the region including a 5.8 degree increase in air temperature and a sea level rise of 1.6 feet in the next 30 years. Among the plan's 45 goals to mitigate and adapt to possible climate change impacts are a long-term adaptation strategy for the port, reductions in energy and water consumption, electric vehicle adoption, city-wide composting, and community solar projects. A priority action among the Public Health & Safety goals is *to improve access to local, healthy and affordable food*. This action is meant to address New Bedford residents who currently rely on food assistance programs and the 22% that are low-income and have low access to a grocery store. A dashboard on the New Bedford Resilient website (https://nbresilient.com/dashboard) will report progress toward the goals.

Minimum Wage in Massachusetts

In late June 2018, Massachusetts Governor Charlie Baker, signed a bill into law (MGL c.151) that progressively raises the state standard minimum wage from $11 an hour in 2019 to $15 an hour over five years. Massachusetts minimum wage is $13.50/hour as of January 1, 2021. The minimum wage for tipped employees who make more than $20 a month in tips is $5.55 an hour.[84] Minimum wage will go up in steps to reach $15 per hour by January 2023. The rate for tipped employees will go up in steps to reach $6.75 per hour by January 2023.

TABLE 15. MASSACHUSETTS MINIMUM WAGE INCREASE SCHEDULE

SOURCE: MA DEPARTMENT OF LABOR STANDARDS

Date	Minimum Wage	
	Standard	Tipped
1-Jan-20	$12.75	$4.95
1-Jan-21	$13.50	$5.55
1-Jan-22	$14.25	$6.15
1-Jan-23	$15.00	$6.75

Sections of the law address sectors of the food economy, specifically:

> "Section 2A - Agriculture and Farming. It is hereby declared to be against public policy for any employer to employ any person in agriculture and farming in this commonwealth at an oppressive and unreasonable wage and any contract, agreement or understanding for or in relation to such employment shall be null and void. A wage of less than $8.00 per hour in agriculture and farming shall be conclusively presumed to be oppressive and unreasonable, wherever the term ''minimum wage'' is used in this CHAPTER, except when such wage is paid to a child seventeen years of age or under, or to a parent, spouse, child or other

84. Mass.gov. MA Department of Labor Standards. Massachusetts law about minimum wage. https://www.mass.gov/info-details/massachusetts-law-about-minimum-wage. Accessed May 29, 2021.

member of the employer's immediate family. The cost of board, lodging or other facilities shall not be included as a part of the wage paid to any employee to the extent it is excluded therefrom; provided, however, that the commissioner may determine the fair value of such board, lodging or other facilities for defined classes of employees and in defined areas, based on average cost to the employer or to groups of employers similarly situated, or average value to groups of employees, or other appropriate measures of fair value. Such evaluations, where applicable and pertinent, shall be used in lieu of actual measure of cost in determining the wage paid to any employee."[85]

"Section 2B - Migrant farm workers; compulsory health insurance: Any agricultural employer or grower who employs a migrant farm worker not under a contract approved by the Federal Government or a political sub-division thereof shall provide for said worker, after ten days of employment, health insurance coverage which shall provide him the cost of hospital room and board not to exceed the sum of forty-five dollars multiplied by the number of days of hospital confinement, or the sum of three thousand one hundred and fifty dollars, whichever is lesser, the cost of hospital services and supplies not to exceed the sum of four hundred and fifty dollars with out-patient laboratory and X-ray examination fees not to exceed the sum of fifty dollars for injuries resulting from an accident and fifty dollars for sicknesses suffered by him within each twelve-month period he is so employed, surgical fees not to exceed the sum of four hundred dollars for each operation in accordance with a schedule of fees contained in the policy covering the types of surgery, in-hospital physicians fees not to exceed the sum of seven dollars multiplied by the number of days of hospital confinement, or the sum of four hundred and ninety dollars, whichever is lesser. There shall be withheld from each weekly payment of wages or salary from said worker an amount equal to forty per cent of the insurance premium payable on said policy, the employer to contribute the remaining sixty per cent. Said employer shall then pay the entire premium when due to the insurer. If an employer or grower fails to withhold from such worker's wages the weekly sum as aforesaid, he shall be liable for the payment of the entire premium. If the worker is disabled for a full week and is unable to work for said week the employer shall pay the entire cost of the premium for that week.

For the purposes of this section the term 'migrant farm worker' shall mean an employee who seasonally travels interstate to gain employment and lives in a labor camp provided by the employer. Said term shall not include students regularly enrolled in institutions of secondary and higher learning, nor shall it include a worker who is covered by a family medical plan."[86]

Deciphering farm labor laws is not always easy, so it is valuable that the region has SEMAP both scanning the horizon for policy changes, advocating on behalf of the agricultural community, and assisting farmers to interpret and implement regulation applicable to their unique operations.

Healthy Incentives Program

Piloted in 2017, the Healthy Incentives Program (HIP) provides SNAP eligible consumers in Massachusetts with additional funds to purchase any variety of fruits and vegetables (e.g., fresh, canned, dried, frozen, seed/seedlings) from HIP vendors, so long as they do not contain added salt, sugar, fat or oil. Funds are based on household size and capped at $40 (1-2 persons), $60 (3-5 persons), or $80 (6+ persons) per month. To date, the program has resulted in 89,000 SNAP families purchasing $22 million worth of fresh, healthy, local foods from more than 200 farms. HIP is credited with a 1250% increase in SNAP spending with farm retailers from 2016 to 2019, a real boost for direct-to-consumer sales, which tend to be the most profitable for farmers.[87]

HIP has been objectively highly effective despite a number of starts and stops that have dampened even greater impact since its inception. In 2020, the Massachusetts legislature passed and Governor Baker signed a law making the program year-round, but the advocacy campaign for funding must be sustained. The Commonwealth's fiscal year 2022 budget includes $13 million for HIP. The Massachusetts Food System Collaborative encourages individuals and organizations alike to write to legislators and provides talking points with which to advocate for continued funding for the program that supports both farmers and food insecure households.

85. The 192nd General Court of the Commonwealth of Massachusetts. https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXXI/CHAPTER151/Section2A. Accessed May 29, 2021.
86. The 192nd General Court of the Commonwealth of Massachusetts. https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXXI/CHAPTER151/Section2B. Accessed May 29, 2021.
87. Massachusetts Food System Collaborative. HIP Fact Sheet Citations. https://mafoodsystem.org/projects/hip-citations/. Accessed May 14, 2021.

There is also more work to be done to raise awareness of HIP with eligible consumers and to support HIP vendors as mentioned by participating farmers earlier in this report. As of April 2021, the percentage of SNAP households using HIP remained low in Southeastern Massachusetts at just 1% in Bristol County, 3% in Norfolk County, and under 1% in Plymouth County.[88] The DTA's data visualization tool (https://dtafinder.dtadash.ehs.mass.gov/hip/) provides a valuable resource for helping consumers to find HIP locations across the state, but may also help SFPC members to identify gaps in availability in the region.

Institutional Procurement Policy & Incentives

A few states have introduced a local food sourcing incentive or reimbursement program whereby public schools are monetarily rewarded for reaching a local food target as a percent of total food spend. A study of New York's local food purchasing incentive in 2019 showed 49 school food authorities claimed to have met a 30% target in the 2018-19 school year and that 72% of schools anticipated reaching that target by 2024.[89] In May 2021, Vermont's legislature approved and Governor Phil Scott signed legislation approving $500,000 to fund a one-year local food incentive pilot program for public schools. Other New England states like Maine and Rhode Island are watching Vermont's pilot closely. In the meantime, a petition to the Massachusetts Senate (S.349) and accompanying bill in the House (H.686) have been introduced with the intent to establish farm to school grants to promote healthy eating and strengthen the agricultural economy. If successfully passed and funded, the Massachusetts program would provide grants to qualifying public schools and child care centers for kitchen equipment, staff training, infrastructure and programming tools like schools gardens, and the purchase of foods raised, grown or produced in Massachusetts. The current bill has been referred to the committee on Education as of March 29, 2021.

Food Loss and Waste Policy Action

In April 2021, the Natural Resources Defense Council (NRDC), Harvard Food Law and Policy Clinic, ReFED, and the World Wildlife Fund released the *U.S. Food Loss & Waste Policy Action Plan*. The plan outlines five priority policy areas for the United States aimed at addressing food loss and waste (FLW).

1. Prevent and keep food waste out of landfills
2. Increase surplus food donation (less than 10% of excess food is currently donated)
3. Show leadership at home and abroad
4. Educate and activate consumers (~40% of food waste happens at the household level)
5. Standardize national date labeling

While this policy agenda is aimed at Congress and federal agencies, community-based advocacy for this policy agenda is helpful. Shared success is important from mitigating the impacts of climate change to responsible management of waste streams to ensuring more edible food flows to those who need it most. Specific local actions and approaches may include:

- Incentivize organic waste measurement, rescue, recycling, prevention, and innovation
- Continue to create alternative market channels for producers and consumers
- Establish coordination for gleaning
- Enable greater food donation by farmers
- Establish and fund new positions for regional food supply chain coordinators
- Share guidance on food safety and consumer protections for food donations
- Build demand for compost
- Foster public-private partnerships
- Eliminate barriers to feeding food scraps to animals
- Support the expanded Massachusetts Organics Waste Ban
- Educate and activate consumers to reduce food waste, 37% of which happens at home
- Advocate for standardized national date labeling[90]

88. Commonwealth of Massachusetts Department of Transitional Assistance. *Healthy Incentives Program Monthly Update - April 2021.*
89. Levy, Samantha and McPeters, Kali. 27 January, 2020. American Farmland Trust & Farm to Institution New York State. *Growing Opportunity for Farm to School: How to Revolutionize School Food, Support Local Farms, and Improve the Health of Students in New York.*
90. World Wildlife Fund. Food Waste Action Plan. https://foodwasteactionplan.org. Accessed May 22, 2021.

Appendices

Southeastern Massachusetts
FOOD SYSTEM ASSESSMENT

APPENDIX A:
Food Access Resources for Southeastern Massachusetts

Project Bread FoodSource Hotline: 1-800-645-8333
Website: https://www.projectbread.org/get-help
Hotline Hours: Mon-Fri 8am-7pm, Sat 10am-2pm

Comprehensive statewide information and referral service in Massachusetts for people facing hunger. Always free and confidential for all Massachusetts residents to find meal programs and food pantries, check eligibility and get help applying for financial assistance for groceries, learn how to use benefits, and more. Assistance is available in 180 languages.

Massachusetts Department of Transitional Assistance Line: (877) 382-2363
Website: https://www.mass.gov/service-details/department-of-transitional-assistance-dta
How to Use HIP: https://www.mass.gov/info-details/how-to-use-the-massachusetts-healthy-incentives-program-hip

Information about the Supplemental Nutrition Assistance Program (SNAP) and how to apply. Information about how to use the Healthly Incentives Program (HIP).

United Way of Greater New Bedford Hunger Commission: 2-1-1 and Local Food Pantries
Website: https://unitedwayofgnb.org/hunger-commission/
Food pantries list (updated March 31, 2021): http://bit.ly/UWGNB-FoodPantries

The Federal Communications Commission (FCC) designated 211 as the 3-digit number for information and referrals to social services and other assistance in 2000. The 211 service is provided by more than 200 local organizations that are committed to serving their communities. The United Way of Greater New Bedford operates the 211 service for the region. United Way of Greater New Bedford's Hunger Commission coordinates food distribution to emergency food pantries and kitchens, working with locations throughout Bristol and Plymouth Counties to alleviate hunger.

City of New Bedford Homeless Service Providers' Network: Street Sheet
Street Sheet (view or download and print): https://unitedwayofgnb.org/street-sheet/

A list of local food pantries and weekly meal schedule. Available in English, Spanish, and Portuguese.

SEMAP Local Resource Guide
Website: https://semaponline.org/resources/for-consumers/

A list of local farms, food businesses, farmers markets, farm events, and more in Southeastern Massachusetts with information for how to augment spending capacity with the HIP program.

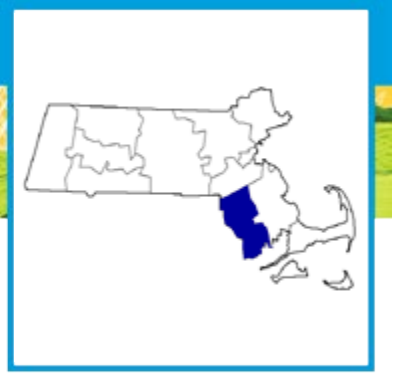
Southcoast Food Finder
Access Food Finder: https://foodfinder.marioninstitute.org

A web-based application that can be accessed from your computer or mobile device. It includes information on food providers, programs, and local food services located in Southcoast Massachusetts (e.g., farmer's markets, specialty grocery stores, food pantries, community meals).

Southcoast Food Alert
A listserv for local food providers and stakeholders in the community to communicate emergency food relief information amongst each other. SCFA provides a dedicated space for members to share, collaborate and organize the distribution of food resources, including but not limited to, food surpluses, food storage, food delivery and retrieval. To request access to the group, please send an email to sfpc@marioninstitute.org.

APPENDIX B:
USDA Agricultural Census County Profiles

2017 CENSUS OF AGRICULTURE *County Profile*



Bristol County
Massachusetts

Total and Per Farm Overview, 2017 and change since 2012

	2017	% change since 2012
Number of farms	688	-4
Land in farms (acres)	32,025	-8
Average size of farm (acres)	47	-4
Total	($)	
Market value of products sold	35,020,000	-7
Government payments	429,000	-72
Farm-related income	4,936,000	-18
Total farm production expenses	43,083,000	-3
Net cash farm income	-2,699,000	-413
Per farm average	($)	
Market value of products sold	50,901	-3
Government payments (average per farm receiving)	4,931	-71
Farm-related income	23,391	-4
Total farm production expenses	62,621	+1
Net cash farm income	-3,922	-426

7 Percent of state agriculture sales

Share of Sales by Type (%)

Crops	79
Livestock, poultry, and products	21

Land in Farms by Use (%) [a]

Cropland	41
Pastureland	11
Woodland	33
Other	15

Acres irrigated: 1,953
6% of land in farms

Land Use Practices (% of farms)

No till	6
Reduced till	3
Intensive till	13
Cover crop	12

Farms by Value of Sales

	Number	Percent of Total [a]
Less than $2,500	314	46
$2,500 to $4,999	78	11
$5,000 to $9,999	61	9
$10,000 to $24,999	79	11
$25,000 to $49,999	53	8
$50,000 to $99,999	40	6
$100,000 or more	63	9

Farms by Size

	Number	Percent of Total [a]
1 to 9 acres	235	34
10 to 49 acres	287	42
50 to 179 acres	132	19
180 to 499 acres	32	5
500 to 999 acres	2	(Z)
1,000 + acres	-	-

USDA United States Department of Agriculture
National Agricultural Statistics Service
www.nass.usda.gov/AgCensus

2017 CENSUS OF AGRICULTURE *County Profile*

Market Value of Agricultural Products Sold

	Sales ($1,000)	Rank in State [b]	Counties Producing Item	Rank in U.S. [b]	Counties Producing Item
Total	**35,020**	**6**	**14**	**2,046**	**3,077**
Crops	**27,679**	**7**	**14**	**1,467**	**3,073**
Grains, oilseeds, dry beans, dry peas	607	5	10	2,220	2,916
Tobacco	-	-	4	-	323
Cotton and cottonseed	-	-	-	-	647
Vegetables, melons, potatoes, sweet potatoes	8,905	5	14	239	2,821
Fruits, tree nuts, berries	4,588	4	13	216	2,748
Nursery, greenhouse, floriculture, sod	12,410	5	14	214	2,601
Cultivated Christmas trees, short rotation woody crops	(D)	10	11	(D)	1,384
Other crops and hay	(D)	8	13	1,814	3,040
Livestock, poultry, and products	**7,341**	**8**	**14**	**2,274**	**3,073**
Poultry and eggs	(D)	8	13	(D)	3,007
Cattle and calves	1,499	5	12	2,287	3,055
Milk from cows	4,256	5	11	655	1,892
Hogs and pigs	237	3	13	726	2,856
Sheep, goats, wool, mohair, milk	192	5	12	809	2,984
Horses, ponies, mules, burros, donkeys	356	5	12	599	2,970
Aquaculture	(D)	6	11	(D)	1,251
Other animals and animal products	115	7	12	707	2,878

Total Producers [c]	**1,167**
Sex	
Male	680
Female	487
Age	
<35	71
35 – 64	588
65 and older	508
Race	
American Indian/Alaska Native	-
Asian	1
Black or African American	-
Native Hawaiian/Pacific Islander	-
White	1,155
More than one race	11
Other characteristics	
Hispanic, Latino, Spanish origin	31
With military service	133
New and beginning farmers	242

Percent of farms that:

Have internet access	**75**
Farm organically	**3**
Sell directly to consumers	**19**
Hire farm labor	**29**
Are family farms	**96**

Top Crops in Acres [d]

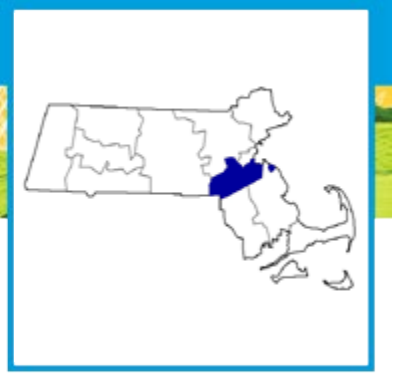
Forage (hay/haylage), all	5,159
Corn for silage or greenchop	1,884
Vegetables harvested, all	1,621
Land in berries	1,152
Cranberries	1,068

Livestock Inventory (Dec 31, 2017)

Broilers and other meat-type chickens	1,023
Cattle and calves	4,548
Goats	606
Hogs and pigs	(D)
Horses and ponies	1,563
Layers	5,428
Pullets	894
Sheep and lambs	1,011
Turkeys	437

See 2017 Census of Agriculture, U.S. Summary and State Data, for complete footnotes, explanations, definitions, commodity descriptions, and methodology.
[a] May not add to 100% due to rounding. [b] Among counties whose rank can be displayed. [c] Data collected for a maximum of four producers per farm.
[d] Crop commodity names may be shortened; see full names at www.nass.usda.gov/go/cropnames.pdf. [e] Position below the line does not indicate rank.
(D) Withheld to avoid disclosing data for individual operations. (NA) Not available. (Z) Less than half of the unit shown. (-) Represents zero.

2017 CENSUS OF AGRICULTURE *County Profile*



Norfolk County Massachusetts

Total and Per Farm Overview, 2017 and change since 2012

	2017	% change since 2012
Number of farms	197	-20
Land in farms (acres)	7,627	-19
Average size of farm (acres)	39	(Z)
Total	($)	
Market value of products sold	11,538,000	-8
Government payments	64,000	(D)
Farm-related income	1,184,000	-61
Total farm production expenses	11,047,000	-42
Net cash farm income	1,740,000	+152
Per farm average	($)	
Market value of products sold	58,571	+15
Government payments (average per farm receiving)	6,363	(D)
Farm-related income	17,945	-51
Total farm production expenses	56,075	-28
Net cash farm income	8,830	+164

2 Percent of state agriculture sales

Share of Sales by Type (%)

Crops	(D)
Livestock, poultry, and products	(D)

Land in Farms by Use (%) [a]

Cropland	40
Pastureland	11
Woodland	23
Other	25

Acres irrigated: 514

7% of land in farms

Land Use Practices (% of farms)

No till	9
Reduced till	7
Intensive till	10
Cover crop	13

Farms by Value of Sales

	Number	Percent of Total [a]
Less than $2,500	80	41
$2,500 to $4,999	28	14
$5,000 to $9,999	23	12
$10,000 to $24,999	18	9
$25,000 to $49,999	11	6
$50,000 to $99,999	14	7
$100,000 or more	23	12

Farms by Size

	Number	Percent of Total [a]
1 to 9 acres	81	41
10 to 49 acres	79	40
50 to 179 acres	32	16
180 to 499 acres	3	2
500 to 999 acres	1	1
1,000 + acres	1	1

USDA United States Department of Agriculture
National Agricultural Statistics Service
www.nass.usda.gov/AgCensus

2017 CENSUS OF AGRICULTURE *County Profile*

Market Value of Agricultural Products Sold

	Sales ($1,000)	Rank in State [b]	Counties Producing Item	Rank in U.S. [b]	Counties Producing Item
Total	**11,538**	**11**	**14**	**2,620**	**3,077**
Crops	**(D)**	**9**	**14**	**2,007**	**3,073**
Grains, oilseeds, dry beans, dry peas	-	-	10	-	2,916
Tobacco	-	-	4	-	323
Cotton and cottonseed	-	-	-	-	647
Vegetables, melons, potatoes, sweet potatoes	3,316	9	14	433	2,821
Fruits, tree nuts, berries	578	11	13	616	2,748
Nursery, greenhouse, floriculture, sod	6,660	9	14	326	2,601
Cultivated Christmas trees, short rotation woody crops	(D)	9	11	249	1,384
Other crops and hay	(D)	10	13	(D)	3,040
Livestock, poultry, and products	**(D)**	**12**	**14**	**2,899**	**3,073**
Poultry and eggs	45	12	13	1,279	3,007
Cattle and calves	(D)	9	12	(D)	3,055
Milk from cows	(D)	11	11	(D)	1,892
Hogs and pigs	24	11	13	1,326	2,856
Sheep, goats, wool, mohair, milk	17	12	12	2,230	2,984
Horses, ponies, mules, burros, donkeys	140	9	12	1,219	2,970
Aquaculture	-	-	11	-	1,251
Other animals and animal products	74	9	12	852	2,878

Total Producers [c]	**338**
Sex	
Male	196
Female	142
Age	
<35	37
35 – 64	210
65 and older	91
Race	
American Indian/Alaska Native	2
Asian	2
Black or African American	-
Native Hawaiian/Pacific Islander	-
White	325
More than one race	9
Other characteristics	
Hispanic, Latino, Spanish origin	9
With military service	25
New and beginning farmers	102

Percent of farms that:

Have internet access	**86**
Farm organically	**3**
Sell directly to consumers	**31**
Hire farm labor	**30**
Are family farms	**91**

Top Crops in Acres [d]

Forage (hay/haylage), all	1,916
Vegetables harvested, all	463
Sweet corn	129
Cultivated Christmas trees	83
Pumpkins	66

Livestock Inventory (Dec 31, 2017)

Broilers and other meat-type chickens	1,670
Cattle and calves	399
Goats	44
Hogs and pigs	36
Horses and ponies	473
Layers	1,861
Pullets	(D)
Sheep and lambs	161
Turkeys	(D)

See 2017 Census of Agriculture, U.S. Summary and State Data, for complete footnotes, explanations, definitions, commodity descriptions, and methodology.
[a] May not add to 100% due to rounding. [b] Among counties whose rank can be displayed. [c] Data collected for a maximum of four producers per farm.
[d] Crop commodity names may be shortened; see full names at www.nass.usda.gov/go/cropnames.pdf. [e] Position below the line does not indicate rank.
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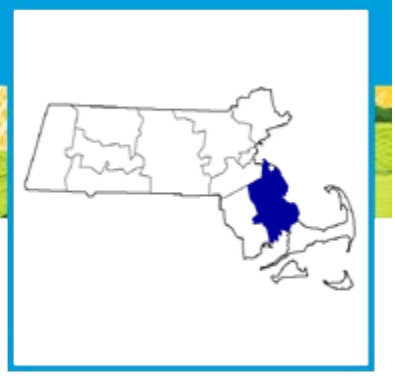
2017 CENSUS OF AGRICULTURE *County Profile*



Plymouth County Massachusetts

Total and Per Farm Overview, 2017 and change since 2012

	2017	% change since 2012
Number of farms	758	-8
Land in farms (acres)	60,036	-6
Average size of farm (acres)	79	+2
Total	($)	
Market value of products sold	71,935,000	-33
Government payments	316,000	-76
Farm-related income	15,790,000	+22
Total farm production expenses	77,319,000	-16
Net cash farm income	10,721,000	-65
Per farm average	($)	
Market value of products sold	94,901	-28
Government payments (average per farm receiving)	7,343	-43
Farm-related income	51,099	+16
Total farm production expenses	102,004	-8
Net cash farm income	14,144	-62

15 Percent of state agriculture sales

Share of Sales by Type (%)

Crops	86
Livestock, poultry, and products	14

Land in Farms by Use (%) [a]

Cropland	30
Pastureland	3
Woodland	17
Other	50

Acres irrigated: 11,888
20% of land in farms

Land Use Practices (% of farms)

No till	4
Reduced till	2
Intensive till	10
Cover crop	4

Farms by Value of Sales

	Number	Percent of Total [a]
Less than $2,500	267	35
$2,500 to $4,999	56	7
$5,000 to $9,999	73	10
$10,000 to $24,999	84	11
$25,000 to $49,999	80	11
$50,000 to $99,999	62	8
$100,000 or more	136	18

Farms by Size

	Number	Percent of Total [a]
1 to 9 acres	294	39
10 to 49 acres	273	36
50 to 179 acres	137	18
180 to 499 acres	42	6
500 to 999 acres	6	1
1,000 + acres	6	1

USDA United States Department of Agriculture
National Agricultural Statistics Service
www.nass.usda.gov/AgCensus

2017 CENSUS OF AGRICULTURE *County Profile*

Market Value of Agricultural Products Sold

	Sales ($1,000)	Rank in State [b]	Counties Producing Item	Rank in U.S. [b]	Counties Producing Item
Total	**71,935**	**1**	**14**	**1,446**	**3,077**
Crops	**62,140**	**1**	**14**	**941**	**3,073**
Grains, oilseeds, dry beans, dry peas	223	8	10	2,373	2,916
Tobacco	-	-	4	-	323
Cotton and cottonseed	-	-	-	-	647
Vegetables, melons, potatoes, sweet potatoes	3,810	8	14	399	2,821
Fruits, tree nuts, berries	47,114	1	13	64	2,748
Nursery, greenhouse, floriculture, sod	10,196	7	14	243	2,601
Cultivated Christmas trees, short rotation woody crops	140	8	11	215	1,384
Other crops and hay	658	9	13	2,195	3,040
Livestock, poultry, and products	**9,794**	**6**	**14**	**2,121**	**3,073**
Poultry and eggs	183	7	13	906	3,007
Cattle and calves	159	10	12	2,661	3,055
Milk from cows	645	9	11	994	1,892
Hogs and pigs	116	7	13	868	2,856
Sheep, goats, wool, mohair, milk	75	9	12	1,472	2,984
Horses, ponies, mules, burros, donkeys	629	1	12	333	2,970
Aquaculture	6,751	2	11	53	1,251
Other animals and animal products	1,236	2	12	148	2,878

Total Producers [c]	**1,326**
Sex	
Male	785
Female	541
Age	
<35	105
35 – 64	733
65 and older	488
Race	
American Indian/Alaska Native	5
Asian	5
Black or African American	4
Native Hawaiian/Pacific Islander	-
White	1,310
More than one race	2
Other characteristics	
Hispanic, Latino, Spanish origin	15
With military service	132
New and beginning farmers	358

Percent of farms that:

Have internet access	**89**
Farm organically	**3**
Sell directly to consumers	**18**
Hire farm labor	**44**
Are family farms	**92**

Top Crops in Acres [d]

Land in berries	11,438
Cranberries	11,354
Forage (hay/haylage), all	2,145
Vegetables harvested, all	1,407
Sweet corn	622

Livestock Inventory (Dec 31, 2017)

Broilers and other meat-type chickens	612
Cattle and calves	501
Goats	418
Hogs and pigs	839
Horses and ponies	2,371
Layers	5,850
Pullets	339
Sheep and lambs	921
Turkeys	(D)

See 2017 Census of Agriculture, U.S. Summary and State Data, for complete footnotes, explanations, definitions, commodity descriptions, and methodology.
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APPENDIX C:
Agricultural Crops

Top Fruit and Berry Crops by Number of Farms and Acres

CATEGORY	BRISTOL			NORFOLK			PLYMOUTH			TOTAL		
	2007	2012	2017	2007	2012	2017	2007	2012	2017	2007	2012	2017
TOTAL BERRIES												
FARMS	93	94	90	16	17	19	388	360	303	497	471	412
ACRES	930	1,059	1,152	(D)	168	(D)	11,241	11,639	11,438	12,171	12,866	12,590
CRANBERRIES												
FARMS	51	43	50	3	4	1	357	304	259	411	351	310
ACRES	864	997	1068	(D)	134	(D)	11,172	11,566	11,354	12,036	12,697	12,422
TAMED BLUEBERRIES												
FARMS	36	33	20	8	11	18	21	31	32	65	75	70
ACRES	45	25	(D)	(D)	20	24	32	40	45	77	85	69
STRAWBERRIES												
FARMS	13	20	21	7	4	6	18	28	24	38	52	51
ACRES	12	22	16	11	7	8	17	19	28	40	48	52
RASPBERRIES												
FARMS	12	16	6	5	3	6	11	28	22	28	47	34
ACRES	4	8	6	(D)	2	(D)	4	19	9	8	29	15
ALL NONCITRUS FRUITS												
FARMS	43	38	42	14	9	28	29	23	50	86	70	120
ACRES	(D)	(D)	272	123	96	56	(D)	(D)	(D)	123	96	328
APPLES												
FARMS	37	21	37	13	8	21	24	23	32	74	52	90
ACRES	119	87	108	100	(D)	20	45	(D)	145	264	87	273
PEACHES												
FARMS	18	17	14	11	5	8	12	13	18	41	35	40
ACRES	28	29	30	17	18	32	9	6	10	54	53	72
PEARS												
FARMS	15	13	7	2	2	9	4	11	7	21	26	23
ACRES	14	18	(D)	(D)	(D)	1	1	5	6	15	23	7
PLUMS & PRUNES												
FARMS	10	5	2	3	2	5	3	7	3	16	14	10
ACRES	4	5	(D)	(D)	(D)	(D)	2	1	1	6	6	1

Vegetables Harvested: Number of Farms and Acres, 2007-2017

	BRISTOL			NORFOLK			PLYMOUTH			TOTAL		
	2007	**2012**	**2017**	**2007**	**2012**	**2017**	**2007**	**2012**	**2017**	**2007**	**2012**	**2017**
VEGETABLES HARVESTED FOR SALE												
FARMS	96	124	99	30	44	46	61	82	67	187	250	212
ACRES HARVESTED	1,786	1,659	1,621	317	522	463	695	776	1,407	2,798	2,957	3,491
BEANS, SNAP												
FARMS	38	49	30	18	31	11	31	46	16	87	126	57
ACRES HARVESTED	30	62	42	6	15	8	44	52	107	80	129	157
CUCUMBERS & PICKLES												
FARMS	25	30	38	11	8	12	21	31	26	57	69	76
ACRES HARVESTED	15	21	20	2	6	7	(D)	19	22	17	46	49
LETTUCE, ALL												
FARMS	11	29	31	3	8	15	6	16	14	20	53	60
ACRES HARVESTED	24	106	45	2	14	8	4	4	5	30	124	58
PEPPERS, BELL												
FARMS	47	57	32	15	19	15	27	36	19	89	112	66
ACRES HARVESTED	58	59	47	4	6	5	11	12	8	73	77	60
PEPPERS OTHER THAN BELL												
FARMS	31	25	22	11	13	15	14	22	10	56	60	47
ACRES HARVESTED	53	57	54	2	2	(D)	5	5	3	60	64	57
POTATOES												
FARMS	19	27	15	14	28	15	16	27	18	49	82	48
ACRES HARVESTED	(D)	15	9	2	22	19	8	18	8	10	55	36
PUMPKINS												
FARMS	54	53	31	20	25	22	37	38	25	111	116	78
ACRES HARVESTED	189	147	91	74	77	66	112	112	258	375	336	415
SQUASH, ALL												
FARMS	42	44	59	5	6	16	29	34	33	76	84	108
ACRES HARVESTED	374	193	246	2	(D)	37	48	43	60	424	236	343
SWEET CORN												
FARMS	47	48	34	14	9	14	23	21	27	84	78	75
ACRES HARVESTED	726	698	557	152	187	129	369	353	622	1,247	1,238	1,308
TOMATOES												
FARMS	59	76	50	21	27	16	47	50	41	127	153	107
ACRES HARVESTED	100	82	73	24	31	36	40	32	28	164	145	137

Land Use and Sales, Nursery and Greenhouse Crops

	BRISTOL			NORFOLK			PLYMOUTH			TOTAL			
	2007	2012	2017	2007	2012	2017	2007	2012	2017	2007	2012	2017	% CHANGE
NURSERY, GREENHOUSE, FLORICULTURE, AND SOD – TOTAL:													
FARMS	84	94	58	42	44	56	60	72	46	186	210	160	-24%
VALUE OF SALES (000S)	$22,485	$14,783	$12,410	$8,069	$5,547	$6,660	$9,673	$10,196	$10,196	$40,227	$30,526	$29,266	-4%
ALL FLORICULTURE CROPS (BEDDING/ GARDEN PLANTS, CUT FLOWERS, FLORIST GREENS, FOLIAGE PLANTS, POTTED FLOWERING PLANTS, AND OTHER FLORICULTURE AND BEDDING CROPS:													
FARMS	61	55	39	30	33	41	48	43	26	139	131	106	-19%
SQ. FT. UNDER GLASS	775,463	655,371	511,226	373,214	333,829	285,990	688,484	372,026	105,660		1,361,226	902,876	-34%
ACRES IN THE OPEN	90	174	(D)	78	26	24	111	59	11		259	35	-86%
VALUE OF SALES (000S)	$15,904	$7,607	$1,674	$5,371	$3,988	$3,496	$6,440	$2,910	$608		$14,505	$5,778	60%
NURSERY STOCK													
FARMS	21	20	14	16	15	15	13	21	13	50	56	42	-25%
SQ. FT. UNDER GLASS	78,620	30,040	6248	(D)	46,366	(D)	28,300	40,585	(D)		116991	6,248	-95%
ACRES IN THE OPEN	181	147	152	38	(D)	19	79	127	76		274	247	-10%
VALUE OF SALES (000S)	$7,028	$6,101	$4,680	$2,627	$1,510	$2,373	$1,155	(D)	$959		$7,611	$8,012	8%
GREENHOUSE VEGETABLES, INCLUDING TOMATOES & OTHER:													
FARMS	14	41	26	9	6	21	9	17	10	32	64	57	-11%
SQ. FT. UNDER GLASS	32,531	105,028	136,173	67,534	(D)	143,771	57,762	42,662	254,960		215,224	534,904	149%
VALUE OF SALES (000S)	$209	(D)	$488	$71	$38	$779	(D)	(D)	$8,263		$38	$9,530	24979%

Livestock, Poultry, and their Products

	BRISTOL			NORFOLK			PLYMOUTH			TOTAL			
	2007	**2012**	**2017**	**2007**	**2012**	**2017**	**2007**	**2012**	**2017**	**2007**	**2012**	**2017**	**% CHANGE**
POULTRY & EGGS													
FARMS	168	138	101	54	43	74	89	113	109	311	294	284	-3%
VALUE OF SALES (000S)	$466	(D)	(D)	$52	(D)	(D)	$277	$105	$183	$795	(D)	$183	
CATTLE & CALVES													
FARMS	149	109	94	29	17	23	59	28	30	237	154	147	-5%
MARKET VALUE	$2,178	$1,331	$1,499	(D)	$113	(D)	$369	$116	$159	$2,547	$1,560	$1,658	6%
MILK & OTHER DAIRY PRODUCTS FROM COWS (2012 AND 2017: MILK FROM COWS)													
FARMS	21	10	10	7	1	1	13	4	3	41	15	14	-7%
VALUE OF SALES (000S)	$3,480	$3,155	$4,256	(D)	(D)	(D)	$558	$644	$645	$4,038	$3,799	$4,901	29%
HOGS & PIGS													
FARMS	46	40	48	8	6	17	25	28	12	79	74	77	4%
MARKET VALUE	$165	$343	$237	(D)	$6	$24	$53	$248	$116	$218	$597	$377	-37%
SHEEP, GOATS AND THEIR PRODUCTS													
FARMS	102	67	60	27	21	15	48	51	45	177	139	120	-14%
VALUE OF SALES (000S)	$163	$177	$192	$49	$32	$17	$65	$61	$75	$277	$270	$284	5%
HORSES, PONIES, MULES, BURROS, & DONKEYS													
FARMS	35	68	42	25	40	4	31	28	33	91	136	79	-42%
VALUE OF SALES (000S)	$395	$807	$356	$420	$2,687	$140	$688	$136	$629	$1,503	$3,630	$1,125	-69%
AQUACULTURE													
FARMS	4	4	1	(D)	(D)	(D)	43	40	48	47	44	49	11%
VALUE OF SALES (000S)	$630	(D)	(D)	(D)	(D)	(D)	$3,329	$6,918	$6,751	$3,959	$6,918	$6,751	-2%
OTHER ANIMALS & ANIMAL PRODUCTS													
FARMS	43	56	17	13	24	16	29	32	43	85	112	76	-32%
VALUE OF SALES (000S)	$210	$164	$115	(D)	$42	$74	$20	$163	$1,236	$230	$369	$1,425	286%

Grain, Bean, and Oilseed Production, 2012 & 2017

	BRISTOL		NORFOLK		PLYMOUTH		TOTAL		
	2012	**2017**	**2012**	**2017**	**2012**	**2017**	**2012**	**2017**	**% CHANGE**
CORN FOR GRAIN									
FARMS	4	5	-	-	3	5	7	10	43%
ACRES	26	19	-	-	(D)	(D)	26	19	-27%
BUSHELS	2,556	1,320	-	-	908	(D)	3,464	1,320	-62%
CORN FOR SILAGE OR GREENCHOP									
FARMS	21	38	-	-	4	5	25	43	72%
ACRES	1,527	1,884	-	-	(D)	(D)	1,527	1,884	23%
TONS	28,247	29,884	-	-	(D)	(D)	28,247	29,884	6%
DRY EDIBLE BEANS, EXCLUDING LIMAS									
FARMS	-	-	-	-	2	-	2	-	
ACRES	-	-	-	-	(D)	-	-	-	
CWT	-	-	-	-	(D)	-	-	-	
FORAGE - ALL HAY AND HAYLAGE, GRASS SILAGE, AND GREENCHOP									
FARMS	205	211	36	53	129	102	370	366	-1%
ACRES	4,951	5,159	1,543	1,916	2,399	2,145	8,893	9,220	4%
TONS, DRY EQUIVALENT	10,729	11,010	2,759	2,480	3,650	3,712	17,138	17,202	0%
SOYBEANS FOR BEANS									
FARMS	1	-	-	-	-	-	1	-	
ACRES	(D)	-	-	-	-	-	-	-	
BUSHELS	(D)	-	-	-	-	-	-	-	
WHEAT FOR GRAIN, ALL	-	-		-	-	-	-	-	
FARMS	2	-	1	-	-	-	3	-	

APPENDIX D:
Farmer/Producer Survey (Excerpt)

The following questions were part of the farmer survey conducted May-July of 2020. The full survey and results set is part of Coastal Foodshed's food hub feasibility study.

1. Contact information including name of farm, business, or organization (optional)
2. Incorporation Type Years in Business (#)
3. How many acres do you own?
4. How many acres do you lease?
5. What is the length of time left if leased? Are you concerned about your tenure on this land?
6. Total acres in production?
7. How many acres fallow that could be put into production?
8. Estimated Farm Net Income (2019)
9. Farm Labor / Number of employees by type
10. What growing methods does your farm employ?
11. What do you produce today?
12. Which value-added products do you make today yourself?
13. What post harvest activities are done on-site?
14. What services do you currently use?
15. How/where do you sell your product?
16. Is a portion of your product donated, gleaned, or composted?
17. Which if any terms/labels/certifications are used to market your product?
18. Would you be interested in expanding production (yes/no)? If yes, what would you need to grow?

#	*See Chapter 1 for questions 2-9 . Question 1 is omitted to preserve the anonymity of participating farms.*	
10	Growing Methods (43)	Conventional: 18 (42) Greenhouse: 17 (40) Organic: 15 (35) Pesticide/chemical free: 14 (33) Tunnels: 11 (26) Integrated pest management: 10 (23) No-till: 8 (19) Bio-dynamic: 4 (9) Sustainable grazing : 1 (2) Hydroponic/Aquaponic: 1 (2) Grass- Fed: 1 (2) Aquaculture: 1 (2)
11	Crops or animals Produced	Vegetables: 25 Fruit / berries: 21 Flowers - ornamental: 21 Meat, e.g., beef cattle, hogs & pigs, sheep/lamb, goat): 13 Eggs: 12 Poultry (e.g., chicken, quail, ducks, turkey): 10 Flowers - edible: 11 Honey: 6 Legumes / pulses (e.g., lentils, beans): 6 Grain for animal feed: 7 Fluid milk: 4 Microgreens: 3 Herbs: 2 Breeding stock: 2 Grains for human consumption (e.g., wheat, hops): 1 Maple syrup: 1

12	Value Added Production	Spirits: 0 Frozen dairy (e.g., ice cream, gelato): 0 Hard cider: 0 Dog Food: 1 Wine: 1 Cider/Juice: 1 Kombucha: 1 Catering Raw Bars: 1 Flour or other milled grain: 1 Beer: 1 Prepared Foods: 1 Yogurt: 2 Other frozen items: 2 Chicken Stock: 2 Cheese: 3 Beef jerky or other meat products: 3 Baked goods/bread: 3 Lacto-fermentation: 4 None: 5
13	Post-Harvest Activities On-site (n=42)	Cooling: 25 (60) Packing: 25 (60) Washing: 24 (57) Sorting: 23 (55) Labeling: 18 (43) Grading: 13 (31) N/A: 7 (17) Value-added processing, such as trimming, cutting, freezing, canning, etc.: 3 (7) Fermentation: 1 (2) Slaughter: 1 (2) Co-packing: 0 (0)
14	Currently Used Services (n=43)	Slaughterhouse: 12 (28) Buyer pick-up: 11 (26) Distributor: 11 (26) Another farmer for transport: 9 (21) Processor: 8 (19) Leased or rented dry storage: 4 (9) Contract hauler/trucking company (name): 4 (9) Leased or rented cold/frozen storage: 2 (5) Co-packer: 1 (2) Auction: 1 (2) Broker: 1 (2)
15	How Products Are Sold (n=43)	Own Farmstand or Farm Store: 32 (74) Farmers Market(s): 26 (60) Community Supported Agriculture (CSA) Shares: 17 (40) Small independent grocers or co-ops: 15 (35) Other Farmstand (e.g., owned by another farmer or organization): 12 (28) Food Bank or Food Relief Organization: 5 (12) Regional of Local Food Distributor (e.g. Sid Wainer & Son): 7 (16) Large grocery chains (e.g., Stop & Shop, Price Chopper, Whole Foods): 6 (14) Regional Food Hub or Processor (e.g., Western MA Processing Center, Commonwealth Kitchen): 4 (9) National Food Distributor (e.g., Sysco): 2 (5) Colleges or Universities: 2 (5) Corporate Dining (e.g., offices with a cafeteria for workers): 1 (2) Hospitals/Healthcare Facilities: 1 (2) K-12 Schools: 1 (2)

16	Product Donations (n=33)	Regularly: 4 (12) Sometimes: 14 (43) Infrequently: 13 (39) Never: 2 (6)
	Product Gleaning (n=26)	Regularly: 1 (4) Sometimes: 3 (11) Infrequently: 6 (23) Never: 16 (62)
	Product Composted (n=34)	Regularly: 10 (29) Sometimes: 10 (29) Infrequently: 9 (27) Never: 5 (15)
17	Certification, Labels (n=38)	Antibiotic free/no antibiotics: 7 (16) Pasture raised/free range: 10 (23) Commonwealth Quality: 6 (14) USDA Organic: 5 (12) Grass fed: 5 (12) Hormone Free/rBGH free: 3 (7) Good Agricultural Practices (GAP) & Good Handling Practices (GHP): 2 (5) Best Aquaculture Practices (BAP): 2 (5) Certified Naturally Grown or The Farmers Pledge: 2 (5) Sustainable: 2 (5) GMO-free: 1 (2)
18	Interest in Expanding Production and Needs to Grow (n=43)	Yes: 32 (74)* No: 11 (26) * Access to capital, more labor, reliable labor, land (at an affordable cost), land tenure, new or stable market demand, infrastructure investment, equipment, and childcare.

APPENDIX E:
Select Federal and State Resources for Local Food Economies

USDA Grants and Opportunities
In May 2021, the USDA announced $92.2 million in competitive grant funding under the 2018 Farm Bill's Local Agriculture Market Program (LAMP). The funding targets underserved producers and communities and small and medium agricultural operations. More information about this grant opportunity, those listed below and others is available on the USDA website.
https://www.ams.usda.gov/services/grants

Farmers Market Promotion Program
Purpose: Development, improvement, and expansion of farmers markets, agritourism activities, and other direct producer-to-consumer market opportunities.
https://www.ams.usda.gov/services/grants/fmpp

Local Food Promotion Program
Purpose: Market research, feasibility studies, business planning, training and technical assistance for business enterprises and/or for producers working with the business enterprise, marketing to buyers and consumers; and non-construction infrastructure improvements to business enterprise facilities or information technology systems.
https://www.ams.usda.gov/services/grants/lfpp

Regional Food System Partnerships
Purpose: Support partnerships that connect public and private resources to plan and develop local or regional food systems.
https://www.ams.usda.gov/services/grants/rfsp

Community Facilities Direct Loan and Grant Program
Purpose: Fund development of essential community facilities in rural areas with no more than 20,000 residents.
http://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program

Economic Impact Initiative Grant Program
Purpose: Fund development of essential community facilities in communities with extreme unemployment and severe economic depression.
http://www.rd.usda.gov/programs-services/economic-impact-initiative-grants

Rural Business Development Grants
Purpose: Supports training and technical assistance; acquisition or development of land; construction or renovation of buildings, equipment, roads, and utilities; capitalization of revolving loan funds; rural transportation improvements; feasibility studies and business plans; and business incubators in rural areas with no more than 50,000 residents.
http://www.rd.usda.gov/programs-services/rural-business-development-grants

Value-Added Producer Grants
Purpose: Help agricultural producers with the processing and marketing of value-added products.
http://www.rd.usda.gov/programs-services/value-added-producer-grants

Beginning Farmer and Rancher Development Program
Purpose: Fund collaborative partnerships of public or private entities for education, mentoring, and technical assistance initiatives for beginning farmers or ranchers.
https://nifa.usda.gov/program/beginning-farmer-and-rancher-development-program-bfrdp

Community Food Projects Competitive Grant Program
Purpose: Fund community food projects that help promote the self-sufficiency of low-income communities.
https://nifa.usda.gov/program/community-food-projects-competitive-grant-program-cfpcgp

Food Insecurity Nutrition Incentive Grant Program
Purpose: Supports projects to increase the purchase of fruits and vegetables among low-income consumers participating in the Supplemental Nutrition Assistance Program by providing incentives at the point of purchase.
https://nifa.usda.gov/program/food-insecurity-nutrition-incentive-fini-grant-program

Office of Urban Agriculture and Innovative Production Competitive Grants
Purpose: Support the planning and development of urban agriculture and innovative production projects.
https://www.farmers.gov/manage/urban/opportunities

Community Compost and Food Waste Reduction Project Cooperative Agreements
Purpose: Assist local and municipal governments with projects that develop and test strategies for planning and implementing municipal compost plans and food waste reduction plans.
https://www.farmers.gov/manage/urban/opportunities

MDAR Grants and Opportunities
MDAR supports agricultural projects through the following grants and funding programs:

- Produce Safety, Environmental, and Energy Grant Programs
- Farm Financial Assistance Programs
- Farm Improvement Grants
- Grants for New Farms
- Grants to Improve Food Access
- Marketing and Promotion Grants
- Agriculture Preservation Restriction (APR) Program
- Agricultural Composting Improvement Program (ACIP)

More information about each is available on the Commonwealth's official website:
https://www.mass.gov/guides/agricultural-grants-and-financial-assistance-programs

APPENDIX F:
Supplemental Food Providers Survey

1. **Organization Name:**
2. **Contact Person Full Name:**
3. **Phone Number:**
4. **Email Address:**
5. **Location of Services Provided:**
6. **Hours of operation/Frequency of Distribution?**
7. **What are your eligibility requirements? (Check all that apply)**
   - ❑ None
   - ❑ Photo ID
   - ❑ Proof of residency (e.g. lease, utility bill or other proof of local address)
   - ❑ Must be 18+ year of age
   - ❑ One per family (e.g. bag or box of groceries)
   - ❑ Income verification (e.g., pay stub, Medicare or Masshealth card, DTA/EBT card, referral, benefit statement)
   - ❑ Other? _____

8. **Who does your organization serve?**
   Please describe the demographics of participants in your organization's food distribution services (age, race/ethnicity, language). Do they tend to have health issues, related to dietary needs? How do they find you? (e.g. community meal held by church and used by members, held by organization who gets referrals from a group home, etc.)

9. **Number of participants served per year, month, week or day?**

10. **What is the current capacity of your organization (# of staff, # of volunteers)?**

11. **Could you serve more individuals/families with your current capacity?**
    - ❑ Yes
    - ❑ No
    - ❑ Would depend on other constraints (e.g., funding)

12. **Briefly describe what you offer (e.g., bag of groceries, select your own items, hot meal, prepared meal to go).**

13. **Do you have the opportunity currently to provide fresh, uncooked produce?**
    - ❑ Yes
    - ❑ No
    - ❑ Not yet, but will soon

14. **Are you interested in buying product from local farmers/fishers?**
    - ❑ Yes
    - ❑ No
    - ❑ It depends

15. **If you have the ability to provide food for any special diets, please indicate which type(s)?**
    - ❑ Low Sodium
    - ❑ Diabetic
    - ❑ Gluten-free
    - ❑ Allergen-free
    - ❑ N/A
    - ❑ Other

16. **Do you offer any other food-related services or resources (e.g., cooking classes, recipes, nutrition classes)? If so, briefly describe.**

17. **Where do you source your food?**
    Please indicate your primary source of food and secondary sources. If possible, estimate the amount of food sourced from each and whether that food is donated or bought in. Please be as specific with source identification as possible.
    - Primary Source: _____
    - Additional Sources: _____

18. **Are you aware of other food pantries or resources in the area that your participants may also be visiting or using regularly? If so, which ones?**

19. **How has the coronavirus impacted your services? Do you anticipate these changes to be temporary (for how long) or permanent?**

20. **What would help you to run your organization's supplementary food services better?**
    - ❑ Aggregated purchasing of select items
    - ❑ Space for food preparation
    - ❑ Dry storage space
    - ❑ Refrigerated storage space
    - ❑ Frozen storage space
    - ❑ More space for participants to eat on site
    - ❑ Supplies for serving/distributing the food
    - ❑ Additional staff
    - ❑ Additional volunteers
    - ❑ Additional funding
    - ❑ Help with communications/marketing to the community
    - ❑ Transportation to/from the distribution location
    - ❑ Personal protective equipment
    - ❑ Other

21 **Do you have any excess capacity, equipment, or other resource to offer to others? (e.g., refrigerated truck, warehouse capacity)?**
    If yes, please describe below. What is the resource? Where is it? When is it available? Any other requirements or need to know information?

22. **Additional Comments**

n(%) n=43 unless otherwise noted	
7. What are your eligibility requirements?	Photo ID: 17 (40) Proof of residency (e.g., lease, utility bill or other proof of local address): 13 (30) None: 10 (23) One per family (e.g., bag or box of groceries): 7 (16) Pre-approved; association with a partner organization: 6 (14) Must be 18+ year of age: 4 (9) Demographics (e.g., age, number in household): 3 (7) Income Verification: 2 (5)
8a. Who does your organization serve?	General Everyone: 15 Organizational clients: 2 Age Elderly: 9 18 years and under: 2 Students: 2 Young adults: 1 Race/Ethnicity African American: 1 Cape Verdean: 2 Caucasian: 2 Latino: 2 Demographic Other Than Race Disabled: 2 Families: 3 Health impaired: 2 Immigrants: 2 Low income: 7 Single adults: 3 Single parents: 1 Unhoused/near houseless: 3 Veterans and their families: 1 Geography Acushnet: 2 Bristol: 1 Dartmouth: 2 Fairhaven: 1 Fall River: 3 Freetown: 1 Little Compton, RI: 1 Mansfield: 1 New Bedford: 3 Somerset: 2 Swansea: 2 Taunton: 1 Tiverton, RI: 1 Westport: 2 Select neighborhoods/community members: 3

8b. How do clients find you? **(Not asked, but answered by 12)**	Word of mouth: 9 (21) Referrals (e.g., from other pantries, nonprofits, hospital, church): 6 (14) Municipal list or website: 6 (14) Social media: 5 (12) Advertising (e.g., newspaper) : 4 (9) Outreach (e.g., flyer, newsletter): 2 (5) Organizational association: 2 (5) School communications: 1 (2) Case managers: 1 (2)
9. Number of participants served per year, month, week or day? (n=42)	27,128 weekly (using 2.6 average persons per household family/house-hold estimates given)
10. What is the current capacity of your organization (# of staff, # of volunteers)? **(n=36)**	Staff: 226 Volunteers: 658 Staff/Volunteer Ratio: ~1:3
11. Could you serve more individuals/ families with your current capacity?	Yes: 18 (42) No: 6 (14) Would depend on other constraints (e.g. funding): 19 (44)
12. Briefly describe what you offer (e.g., bag of groceries, select your own items, hot meal, prepared meal to go).	Box or bag of groceries: 21 (49) Client choice shopping: 12 (28) Hot or prepared meals: 10 (23) Non-perishable foods: 5 (12) Refrigerated or frozen meals: 2 (5) Toiletries / non-food items: 1 (2) Grocery gift cards: 1 (2)
13. Do you have the opportunity currently to provide fresh, uncooked produce? (n=42)	Yes: 33 (79) No: 7 (17) Not yet, but will soon: 2 (5)
14. Are you interested in buying products from local farmers/fishers?	Yes: 12 (28) No: 7 (16) It Depends: 24 (56)
15. If you have the ability to provide food for any special diets, please indicate which type(s)?	Yes: 16 (37) No: 2 (5) Did not answer or N/A: 25 (58)

16. Do you offer any other food-related services or resources (e.g., cooking classes, recipes, nutrition classes)? If so, briefly describe.	Yes: 17 (40) Recipes: 8 Nutrition classes: 5 Cooking classes: 4 Benefit enrollment: 2 Food security resources: 2 Pet food pantry: 1 Other assistance: 1 Food delivery: 1 Food budgeting: 1 No: 19 (44) Did not answer: 7 (16)
17. Where do you source your food?	Greater Boston Food Bank: 26 (60) Donations / food drives: 20 (47) Retailers: 12 (28) Farms: 7 (16) Local Restaurants: 6 (14) Other Regional Provider: 2 (5) Rhode Island Community Food Bank: 2 (5) United Way: 1 (2) Coastal Foodshed: 1 (2)
18. Are you aware of other food pantries or resources in the area that your participants may also be visiting or using regularly? If so, which ones?	Greater Fall River Pantry: 5 Salvation Army: 5 Damien's Pantry: 4 Citizens for Citizens: 4 Gates of Hope: 4 PACE: 4 Angels Anonymous: 3 St. Anne's: 3 Veterans Food Pantry: 3 St. Anthony's Church: 2 PAACA: 2 Church of Christ Fall River: 1 Church of the Good Shepherd: 1 East Bay Community Action Program: 1 Good Neighbors Food Pantry: 1 Grace Episcopal Church: 1 Mercy Meals: 1 MO' Life: 1 Shane Gives Thanks Pantry: 1 Sister Rose Soup Kitchen New Bedford: 1 St Joseph's Food Cellar: 1 St. Lawrence Church: 1 St. Patrick's Church: 1 St. Vincent De Paul: 1 YMCA: 1

20. What would help you to run your organization's supplementary food services better?	Additional funding: 30 (70) Refrigerated storage space: 21 (49) Frozen storage space: 19 (44) Personal protective equipment: 15 (35) Additional volunteers: 13 (30) Help with communications/marketing to the community: 10 (23) Dry storage space: 9 (21) Supplies for serving/distributing the food: 9 (21) Transportation to/from the distribution location: 8 (19) Aggregated purchasing of select items: 7 (16) Space for food preparation: 5 (12) Additional staff: 4 (9) Nothing: 2 (5) Client management software to better determine needs and utilization: 1 (2) Intercepting food before it gets wasted: 1 (2)
21. Do you have any excess capacity, equipment, or other resources to offer to others? (e.g., refrigerated truck, warehouse capacity)?	Trucks: 4+ Storage spaces/ commercial coolers and freezers: 2 Café spaces: 1 Food prep space: 1 Food waste reduction strategy expertise: 1 Venue space: 1

APPENDIX G:

Schedule of Supplementary Food Service Providers

Source: Supplemental Food Providers Survey 2020

WEEK	MEAL	MON	TUE	WED	THU	FRI	SAT	SUN
1	BREAKFAST / AM	Westport Food Pantry, Seven Hills Behavioral Health, Mercy Meals and More	Mercy Meals and More	Martha's Pantry at Grace (Episcopal Church), Seven Hills Behavioral Health, Mercy Meals and More	The Family Pantry - Damien's Place, Mercy Meals and More	Martha's Pantry at Grace (Episcopal Church), Our Daily Bread Mansfield Food Pantry, Eastbay Community Action Program (East Providence, RI), Little Compton Food Bank, Mercy Meals and More	The Family Pantry - Damien's Place, Our Daily Bread Mansfield Food Pantry, Saint Anne's Food Pantry, Mercy Meals and More	
	LUNCH / MIDDAY	PACE Food Bank, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence, RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services	PACE Food Bank, Greater Fall River Community Food Pantry, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence and Tiverton RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services	Salvation Army Soup Kitchen (Fall River), Solanus Casey Food Pantry, PACE Food Bank, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence, RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services	Solanus Casey Food Pantry, PACE Food Bank, Greater Fall River Community Food Pantry, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence, RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services, St. Anthony of Padua Food Pantry	PACE Food Bank, Gates of Hope Food Pantry, Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services		Salvation Army Soup Kitchen (Fall River)
	DINNER / PM		Business Innovation Center, Good Shepherd's Table Food Pantry	Catholic Community of Central Fall River, Eastbay Community Action Program (Tiverton RI, Available All-Day)	Good Shepherd's Table Free Meals, Citizens for Citizens Food Pantry, New Life South Coast Church	Catholic Community of Central Fall River		

KEY	No options	One (1) Option	Two (2) Options	Three (3) Options	Four (4) Options	Five or More (5+) Options

	BREAKFAST / AM	Westport Food Pantry, Seven Hills Behavioral Health, Mercy Meals and More	Mercy Meals and More	Martha's Pantry at Grace (Episcopal Church), Seven Hills Behavioral Health, Mercy Meals and More	The Family Pantry - Damien's Place, Mercy Meals and More	Martha's Pantry at Grace (Episcopal Church), Our Daily Bread Mansfield Food Pantry, Eastbay Community Action Program (East Providence, RI), Little Compton Food Bank, Mercy Meals and More	The Family Pantry - Damien's Place, Our Daily Bread Mansfield Food Pantry, Saint Anne's Food Pantry, Mercy Meals and More	
2	LUNCH / MIDDAY	PACE Food Bank, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence, RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services	PACE Food Bank, Greater Fall River Community Food Pantry, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence and Tiverton RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services	Salvation Army Soup Kitchen (Fall River), Solanus Casey Food Pantry, PACE Food Bank, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence, RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services	Solanus Casey Food Pantry, PACE Food Bank, Greater Fall River Community Food Pantry, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence, RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services, St. Anthony of Padua Food Pantry	PACE Food Bank, Gates of Hope Food Pantry, Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services		Salvation Army Soup Kitchen (Fall River)
	DINNER / PM		Business Innovation Center	Catholic Community of Central Fall River, Eastbay Community Action Program (Tiverton RI, Available All-Day)	Good Shepherd's Table Free Meals, New Life South Coast Church	Catholic Community of Central Fall River, Annelle Delorme-Hagerman Food Pantry		

	BREAKFAST / AM	Westport Food Pantry, Seven Hills Behavioral Health, Mercy Meals and More	Mercy Meals and More	Martha's Pantry at Grace (Episcopal Church), Seven Hills Behavioral Health, Mercy Meals and More	The Family Pantry - Damien's Place, Mercy Meals and More	Martha's Pantry at Grace (Episcopal Church), Our Daily Bread Mansfield Food Pantry, Eastbay Community Action Program (East Providence, RI), St. Lawrence Martyr Church Food Pantry, Little Compton Food Bank, Mercy Meals and More	The Family Pantry - Damien's Place, Our Daily Bread Mansfield Food Pantry, Saint Anne's Food Pantry, Mercy Meals and More	Angels Anonymous Food Pantry
3	LUNCH / MIDDAY	PACE Food Bank, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence, RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services	PACE Food Bank, Greater Fall River Community Food Pantry, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence and Tiverton RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services	Salvation Army Soup Kitchen (Fall River), Solanus Casey Food Pantry, PACE Food Bank, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence, RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services	Solanus Casey Food Pantry, PACE Food Bank, Greater Fall River Community Food Pantry, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence, RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services, St. Anthony of Padua Food Pantry	PACE Food Bank, Gates of Hope Food Pantry, Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services	Angels Anonymous Food Pantry	Salvation Army Soup Kitchen (Fall River), Christ the Rock Food Pantry, Angels Anonymous Food Pantry
	DINNER / PM		Business Innovation Center	Catholic Community of Central Fall River, Eastbay Community Action Program (Tiverton RI, Available All-Day)	Good Shepherd's Table Free Meals, New Life South Coast Church	Catholic Community of Central Fall River		

KEY	No options	One (1) Option	Two (2) Options	Three (3) Options	Four (4) Options	Five or More (5+) Options

	BREAKFAST / AM	Westport Food Pantry, Seven Hills Behavioral Health, Mercy Meals and More	Mercy Meals and More	Martha's Pantry at Grace (Episcopal Church), Seven Hills Behavioral Health, Mercy Meals and More	The Family Pantry - Damien's Place, Mercy Meals and More	Martha's Pantry at Grace (Episcopal Church), Our Daily Bread Mansfield Food Pantry, Eastbay Community Action Program (East Providence, RI), Little Compton Food Bank, Mercy Meals and More	The Family Pantry - Damien's Place, Our Daily Bread Mansfield Food Pantry, Annelle Delorme-Hagerman Food Pantry, Saint Anne's Food Pantry, Mercy Meals and More	
4	LUNCH / MIDDAY	PACE Food Bank, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence, RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services	PACE Food Bank, Greater Fall River Community Food Pantry, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence and Tiverton RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services	Salvation Army Soup Kitchen (Fall River), Solanus Casey Food Pantry, PACE Food Bank, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence, RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services	Solanus Casey Food Pantry, PACE Food Bank, Greater Fall River Community Food Pantry, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence, RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services, St. Anthony of Padua Food Pantry	PACE Food Bank, Gates of Hope Food Pantry, Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services		Salvation Army Soup Kitchen (Fall River)
	DINNER / PM		Business Innovation Center	Catholic Community of Central Fall River, Eastbay Community Action Program (Tiverton RI, Available All-Day)	Good Shepherd's Table Free Meals, New Life South Coast Church	Catholic Community of Central Fall River		

	BREAKFAST / AM	Westport Food Pantry, Seven Hills Behavioral Health, Mercy Meals and More	Mercy Meals and More	Martha's Pantry at Grace (Episcopal Church), Seven Hills Behavioral Health, Mercy Meals and More	The Family Pantry - Damien's Place, Mercy Meals and More	Martha's Pantry at Grace (Episcopal Church), Our Daily Bread Mansfield Food Pantry, Eastbay Community Action Program (East Providence, RI), Little Compton Food Bank, Mercy Meals and More	The Family Pantry - Damien's Place, Our Daily Bread Mansfield Food Pantry, Saint Anne's Food Pantry, Mercy Meals and More	
5	LUNCH / MIDDAY	PACE Food Bank, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence, RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services	PACE Food Bank, Greater Fall River Community Food Pantry, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence and Tiverton RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services	Salvation Army Soup Kitchen (Fall River), Solanus Casey Food Pantry, PACE Food Bank, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence, RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services	Solanus Casey Food Pantry, PACE Food Bank, Greater Fall River Community Food Pantry, Gates of Hope Food Pantry, Eastbay Community Action Program (East Providence, RI), Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services, St. Anthony of Padua Food Pantry	PACE Food Bank, Gates of Hope Food Pantry, Salvation Army (New Bedford), The Marion Institute, Gleason Family YMCA, Coastline Elderly Services		Salvation Army Soup Kitchen (Fall River)
	DINNER / PM		Business Innovation Center	Catholic Community of Central Fall River, Eastbay Community Action Program (Tiverton RI, Available All-Day)	Good Shepherd's Table Free Meals, New Life South Coast Church	Catholic Community of Central Fall River		

Deliveries:	My Brother's Keeper - Call between 10am-Noon Monday thru Friday to Schedule; Available in Dartmouth, New Bedford, Fall River, and Westport
	Freetown Council on Aging

KEY	No options	One (1) Option	Two (2) Options	Three (3) Options	Four (4) Options	Five or More (5+) Options

APPENDIX H:
Consumer Patterns & Preferences Survey

1. Please enter your five digit zip code.
2. What is your age?
3. What is your gender?
4. What is your race?
5. Are you Hispanic/Latino/a/x?
6. What is your ethnicity?
7. What is your annual household income level?
8. What is the number of adults over age 18 living in your household currently?
9. What is the number of children 18 and younger living in your household currently?
10. Do you work in the food sector or own a food business?
11. In which part of the food economy do you work or own a business?
12. Within the past 12 months we worried whether our food would run out before we got money to buy more.
13. Within the past 12 months, the food we bought didn't last and we didn't have money to get more.
14. Which expenses compete most with food?
15. What transportation do you use to get food?
    a. [Car - Own]
    b. [Car of friend or relative]
    c. [Car - Taxi/Uber/Lyft]
    d. [Bus]
    e. [Boat]
    f. [Bicycle]
    g. [Wheelchair]
    h. [Walk]
16. Which of the following have you or any members of your household used as food sources in the past 12 months?
17. Where do you go most frequently for the majority of your groceries / food?
18. How frequently do you go for groceries/food before Covid-19?
19. How frequently do you go for groceries/food now?
20. How frequently did you eat out or get prepared food for meals before Covid-19?
21. How frequently will you eat out or get prepared food for meals now?
22. Please rate your level of satisfaction with the food available in your community.
    a. [Price]
    b. [Quality]
    c. [Variety]
23. Which, if any, barriers do you experience to getting or using food for you or your family.
24. Which food items are hardest for you to get? Why?
25. What do you like most about where you get food?
26. How do you learn about local food sources / food resources?
27. Are there any questions you have about food in your community?
28. Do you have any suggestions for how to improve the food environment / food access in your community?
29. Please leave your email or phone number if you would like a direct response to a question or follow-up regarding your suggestions.

#	*See Chapter 3 for questions 1-9.*	
10-11	**Do you work in the food sector or own a food business?** **If yes, in which part of the food economy do you work or own a business?**	
		26(5)
	Work in	*1*
	Food Aggregation	*7*
	Food distribution	*1*
	Food distribution and retail grocery store	*2*
	Food processing / manufacturing	*1*
	Institutional food service (e.g. schools, colleges, hospital cafeteria)	*11*
	Restaurants	*2*
	Retail (e.g. grocery store, food market, convenience store)	*1*
	Wholesale	
		4(.8)
	Own a business	*1*
	Cater	*2*
	Food production / harvesting (fisher, farmer, rancher)	*1*
	Restaurants	
		1(.2)
	Work and own a business	*1*
	Craft food	
12	**Within the past 12 months we worried whether our food would run out before we got money to buy more.**	
	Often true	298(61)
	Sometimes True	65(13)
	Never True	127(26)
13	**Within the past 12 months, the food we bought just didn't last and we didn't have money to get more.**	
	Often true	338(61)
	Sometimes True	52(13)
	Never True	100(26)
14	**Which expenses compete most with food?**	(n=484)
	Rent / Mortgage	312(64)
	Utilities (electricity, fuel, water, cable)	253(52)
	Health care expenses (e.g., insurance, prescriptions, doctor visits)	187(39)
	Transportation (including car payment, vehicle lease, car insurance)	141(29)
	Debt	74(15)
	Education tuition	30(6)
	Childcare	30(6)
	Other	4(1)
	None	60(12)
15	**What transportation do you use most of the time to get food?**	
	Car - Own	391(80)
	Car of friend or relative	63(13)
	Walk	16(3)
	Car - Taxi/Uber/Lyft	8(2)
	Bus	4(1)
	Bicycle	3(1)
	Wheelchair	2(<1)
	Boat	2(<1)

16	**Which of the following have you or any members of your household used as food sources in the past 12 months?**	
	Family	145(30)
	Home Garden (growing our own food)	119(24)
	Food pantries	112(23)
	SNAP (Formerly known as Food Stamps)	112(23)
	None	106(22)
	Friends	92(19)
	Other	60(12)
	Church	59(12)
	Free meals from school	58(12)
	Community meals	38(8)
	Free meal or groceries at senior center	38(8)
	Community garden	21(4)
	Free meals at daycare	10(2)
	WIC	9(2)
17	**Where do you go most frequently for the majority of your groceries / food?**	
	Grocery store	302(62)
	Big Box (Walmart, BJ's, Target, Sam's Club, Costco)	88(18)
	Neighborhood market	37(8)
	Food pantry	14(3)
	Retail store (e.g., Dollar Tree, Family Dollar)	12(2)
	Farmers market/CSA	11(2)
	Specialty food store	8(2)
	Mobile market	6(1)
	Home garden	5(1)
	Convenience store (7-Eleven, Quick Stop)/Fast food	4(1)
	Co-op (Food Cooperative)	3(1)
18	**How frequently do you go for groceries/food (pre-Covid)?**	
	Daily	7(1)
	2-3 times per week	157(32)
	Once a week	199(42)
	A few times per month	103(21)
	Once a month	18(4)
	Less than once a month	6(1)
19	**How frequently did you eat out/get prepared foods (pre-Covid)?**	
	Daily	15(3)
	2-3 times per week	117(24)
	Once a week	111(23)
	A few times per month	109(22)
	Once a month	41(8)
	Less than once a month	18(4)
	Very rarely	49(10)
	Never	30(6)

20	**How frequently did you eat out or get prepared food for meals before Covid-19?**	
	Daily	15(3)
	2-3 times per week	117(24)
	Once a week	111(23)
	A few times per month	109(22)
	Once a month	41(8)
	Less than once a month	18(4)
	Very rarely	49(10)
	Never	30(6)
21	**How frequently will you eat out or get prepared food for meals now?**	
	Daily	19(4)
	2-3 times per week	47(10)
	Once a week	81(17)
	A few times per month	89(18)
	Once a month	49(10)
	Less than once a month	40(8)
	Very rarely	109(22)
	Never	56(11)

		Variety	**Quality**	**Price**
22	Extremely satisfied	148(30)	119(24)	76(16)
	Somewhat satisfied	205(42)	241(49)	210(43)
	Neither satisfied nor dissatisfied	90(18)	86(18)	115(23)
	Somewhat dissatisfied	37(8)	36(7)	66(13)
	Extremely dissatisfied	10(2)	8(2)	23(5)

23	**Which, if any, barriers do you experience to getting or using food for you or your family.**	
	The cost of food is too high	186(38)
	My monthly bills are too high making it difficult to afford food	105(21)
	I am concerned for my physical safety around the store	102(21)
	I have limited time to get food	54(11)
	I do not have enough time to prepare meals	55(11)
	Transportation is inconvenient	36(7)
	It is difficult to find food for my dietary restrictions	28(6)
	Transportation is costly	29(6)
	The store is too far from where I live	26(5)
	I do not have the experience to cook/prepare some ingredients	22(4)
	Stores do not carry familiar products/ingredients	19(4)
	Where I get food is not open when I have time to go for it	13(3)
	Physical/mobility limitations	7(1)
	Lack appropriate kitchen or kitchen equipment to prepare meals	5(1)
	Language barriers (signage and communicating with staff)	4(1)
	Lack of childcare	3(1)

24	**Which food items are hardest for you to get?**	(n=307)
	Affordable meat / seafood	135(44)
	Fresh fruit / vegetables / produce	62(20)
	Diet specific (e.g., allergen-free, vegetarian/vegan)	59(19)
	Organic/natural/non-GMO	35(11)
	Locally grown	24(8)
	Healthier options (fat free, no added sugars, etc.)	8(3)
	Milk	8(3)
	Culture specific	8(3)
25	**What do you like most about where you get food?**	(n=481)
	Selection of products	205(43)
	Quality of products	159(33)
	Price of products	152(32)
	Welcoming and friendly	126(26)
	Ability to use SNAP/EBT	92(19)
	Opportunity to support my local economy	87(18)
	I don't like where I have to acquire food.	26(5)
	Social experience	18(4)
	Convenience of location	17(4)
	I don't control where I shop	2(<1)
26	**How do you learn about local food sources / food resources?**	
	Word of mouth (family, neighbor, friend, others in my community)	298(61)
	Community Organization (local non-profit, community center,	119(24)
	YMCA)	106(22)
	Workplace (employers, co-workers)	106(22)
	Public Spaces (events, bulletin boards, grocery stores, flyers)	59(12)
	School (college/university, K-12 school, pre-K, daycare)	46(9)
	Church	31(6)
	Government Organizations (board of health, city website)	23(5)
	Health Institutions (hospital, elder care facility, doctor, physical	21(4)
	therapist)	
	Media/internet search	

APPENDIX I:

Food Security Infrastructure Grant Awards, Southeastern Massachusetts

Source: Commonwealth of Massachusetts Food Security Infrastructure Grant Program press releases

AWARDEE	LOCATION	PROJECT DESCRIPTION	FUNDING
Attleboro Area Council of Churches (DBA: Attleboro Area Interfaith Collaborative)	Attleboro	To increase its food distribution and emergency meals program, the organization will utilize program funding to purchase a new freezer for additional food storage capacity.	$21,691.00
Attleboro YMCA	Attleboro	The organization will utilize program funding to purchase a delivery truck to support the organization's food distribution efforts.	$93,420.00
Back Azimuth Farm	Middleborough	Back Azimuth Farm will purchase SNAP processing equipment.	$1,159.00
Blue Harvest Fisheries	New Bedford	To preserve and deliver additional fish products to the state's residents, the organization will expand its cold storage infrastructure to store and process groundfish. Infrastructure includes two slurry ice expansion machines, fish cooler, updated defrost controllers, water chilling system, insulated fish tubs, fish tub washing system, and a mobile restroom.	$500,000.00
Boys & Girls Clubs of Metro South	Taunton	This grant will fund the purchase and installation of a hydroponic shipping container farm at the Boys & Girls Club to increase access to locally grown produce.	$128,960.00
Braintree Public Schools	Braintree	Braintree Public Schools will purchase vending merchandise kiosks for schools to increase the accessibility of meal distribution within each school. Additionally, they will purchase a software to help provide choices for parents and students.	$42,614.00
Brix Bounty Farm	Dartmouth	In an effort to increase annual production of vegetables to be brought to the market, funding will invest in long-term production capacity improvements, such as a new propagation greenhouse, the addition of a third fieldhouse for year-round production and curing of onions and winter squash.	$44,265.00

Brockton Public Schools	Brockton	In an effort to increase fresh produce, funding will enable the school system to purchase a climate-controlled freight container farm, which will be able to support over 13,000 plants.	$118,260.00
Buzzards Bay Fisheries, Inc.	New Bedford	Funding will assist in the purchasing and installation of a haddock cutting machine for Buzzards Bay Fisheries, Inc. Importantly, the new equipment will provide an increase in fresh seafood for residents within the region and throughout the state, as well as, reduce labor time while increasing safety for staff.	$100,000.00
Citizens for Citizens	Fall River	To increase the capacity and distribution of food to those in need within the Fall River region, funding will assist the organization with the purchasing of a refrigerated truck and facility equipment.	$112,009.00
Coastline Elderly Services	New Bedford	Coastline Elderly Services will purchase and install refrigeration units to allow for the procurement, storage, and distribution of additional perishable foods, produce, and dairy products. Coastline Elderly Services provides meals to seniors in need.	$9,775.00
Dartmouth Public Schools	Dartmouth	Dartmouth Public Schools will purchase machinery to better seal and package food for transport as well as refrigeration, heating capacity, and insulated boxes to deliver to classrooms or make available to send home to students.	$65,307.00
Elliot Farm LLC	Lakeville	Elliot Farm will construct a new three level facility with additional food storage capacity, a packing and processing area, wash stations, and a retail area. Elliot Farm partners with Farm & Community Collaborative to improve access to local farm fresh produce for the Gateway Cities of Brockton, Fall River, New Bedford, and Taunton.	$500,000.00
F/V Mary Elizabeth and F/V Paula Lyn	Scituate	Seeking to expand capacity and distribution of freshly caught seafood, funding will enable the purchase of a refrigerated box truck to facilitate the storage and transportation of product to the local community and other fish processors located throughout the state. Importantly, these vessels will be involved in a partnership with Mullaney's Fish Market, which will be providing fish to the Scituate Food Pantry.	$118,343.00

Fall River Public Schools	Fall River	Program funding will enable the public school district, which is a high need district, to purchase a refrigerated truck to distribute food to students in need.	$106,250.00
Fishing Vessel Cheryl Ann	Scituate	With the need of nutritious proteins being made readily available within the local community and region, funding will purchase fish processing equipment on the deck of the Cheryl Ann, a groundfishing vessel out of Scituate, Massachusetts. Importantly, a portion of the catch will be donated to the Scituate Food Pantry for those in need.	$82,600.00
Fishing Vessel Phoenix	Marshfield	To deliver additional fish products to the state's residents, the vessel will utilize program funding to upgrade fish finder electronics and purchase new low environmental impact fishing gear that will allow for the harvesting of underutilized species. The investment will diversify the availability of seafood to consumers and utilize species that are more affordable to food insecure and low-income tract communities.	$41,000.00
Four Town Farm	Seekonk	Four Town Farm will install a ground level storage area comprised of 4 new shipping containers. The containers will be used to store excess packaging and essential farm supplies to extend the sales of produce through the winter months.	$43,100.00
Fourth Presbyterian Church Food Pantry	South Boston	To better meet the needs of the community, the food pantry will utilize program funding for investments in technology to enable food inventory choices, the preordering of food to decrease wait time, and better communications in a variety of languages to the organization's guests.	$9,500.00
Foxborough Schools' Food Service	Foxborough	Foxborough Schools' Food Service will purchase an online ordering system as well as storage and cooking equipment to better expand their program and feed those in their community.	$63,827.00
Franklin Public Schools	Franklin	Franklin Public Schools will purchase insulated food carriers to expand its food delivery capability both onsite and offsite to help deliver more food to those in need.	$6,328.00

Franklin Public Schools	Franklin	Franklin Public School's Food Service Program will expand outreach to the community by implementing a remote ordering system that can allow families to place meal orders online.	$5,304.00
Friends of Holly Hill Farm, Inc.	Cohasset	In an effort to increase production and extend the growing season, program funding will enable the purchase of a high tunnel, which will improve the farm's infrastructure to grow seedings year-round and produce more efficiently.	$31,057.00
Fund For the Needy of St. Bonaventure Parish	Plymouth	In an effort to increase food storage, funding for the project will go towards the purchasing of a food refrigeration unit. The project will assist in the organization's dedication to providing food to families within the area.	$3,800.00
Greater Fall River Community Food Pantry, Inc.	Fall River	In an effort to streamline mobile and remote registration, program funds will aid the food pantry in the purchasing of new technology, such as tablets.	$9,541.00
Greater Fall River Community Food Pantry, Inc.	Fall River	To increase the food pantry's capacity to serve a greater number of individuals and families in need, program funding is dedicated to a HVAC system to better regulate temperatures within food storage areas.	$67,075.00
Greater Fall River Community Food Pantry, Inc.	Fall River	To better serve the residents of Fall River and the surrounding communities, the food pantry will use program funding to purchase a refrigerated delivery vehicle. Additionally, storage and IT equipment will be purchased to streamline the process to better transport and provide food to those in need.	$78,287.00
Hartley-Rhodes, Inc	Rochester	Hartley-Rhodes will purchase a utility vehicle, trailer, and forklift attachment to be able to continue to harvest cranberries to meet demand as well as allow for proper social distancing for employees.	$21,664.00
Hockomock Area YMCA	North Attleborough	Hockomock Area YMCA will purchase three modular food centers as well as retrofit a farm barn as a series of Healthy Food Access Centers. These Healthy Food Access Centers will effectively and efficiently meet the growing needs of the communities they serve, including helping to address access/distribution, short-term storing, and sourcing issues.	$392,563.00

Hockomock Area YMCA	North Attleborough	Request is for a food delivery vehicle to deliver food to food insecure individuals in 15 area communities that are served by the Hockamock Area YMCA.	$108,750.00
Island Creek Oysters	Duxbury	To increase the life cycle of products, the company will utilize program funds to create a new fish canning line to allow for shelf-stable food production.	$416,716.00
Langwater Farm	Easton	Langwater Farm will build a year-round farm-stand/ store with commercial kitchen and refrigerated storage facilities in order to provide direct-to-consumer produce throughout the year.	$304,843.00
M&P Fishing Corporation/F/V Fishermen	New Bedford	Funding will enable the corporation to modernize the vessel with new technology that will both increase efficiency while fishing and save on fuel costs through the purchasing of semi-pelagic trawl doors, sensors, and related equipment.	$85,475.00
Marshfield Farmers' Market	Marshfield	Marshfield Farmers Market will expand virtual components of the farmers market by allowing for ordering, pickup, and local food distribution.	$891.00
Medfield Food Cupboard	Medfield	Program funding will enable the food pantry to increase its distribution with new technology that will streamline its efforts, such as computer and safety products.	$1,400.00
Medway Community Farm, Inc	Medway	To improve operations at the farm, the organization will utilize program funding to purchase infrastructure equipment, such as refrigeration.	$1,850.00
Moonrose Farm	Rehoboth	To better meet local demand by increasing yields of organically grown produce, the farm will use program funding to convert its current greenhouse into a heated propagation house. Additionally, by increasing yields, the farm will be able to provide larger produce donations and increase its own sales.	$10,984.00
Motor Vessel Yankee Rose, Inc.	Scituate	Motor Vessel Yankee Rose will purchase a KM Fish Machinery A/S model Mark 7 fish gutting machine, a model KM130-110 vertical fish elevator and a model KM10 fish washing unit and install them on the F/V Miss Emily.	$82,600.00

Mullaney's Fish Market	Cohasset	A joint proposal between Mullaney's Fish Market, Inc., XII Northeast Fishery Sector, Inc. and Friends of South Shore Seafood Development, Inc. to purchase equipment to facilitate start-up and increase processing capacity at a new facility already nearing completion in Scituate, Mass.	$243,250.00
New Bedford Public School District	New Bedford	New Bedford Public School will renovate and increase storage and refrigeration capacity as well as purchase packing equipment for the High School Central Kitchen. This renovation will allow the Food Services Department to provide food to 30 sites in the district.	$485,008.00
New Bedford Public School District	New Bedford	New Bedford Public School will renovate and redesign the High School Central Kitchen serving areas. This will include transforming the serving areas into a grab and go service area as well as allow the Food Services Department to provide food to 30 sites in the district.	$484,579.00
New Bedford Public School District	New Bedford	New Bedford Public School will purchase kitchen equipment as well as install a fourth serving pod in the High School Central Kitchen. This will allow the Food Services Department to provide 30 sites in the district.	$450,753.00
Old Colony YMCA	Brockton	In an effort to increase storage for both fresh and dry goods, program funding will assist the organization with the purchasing and installation of important infrastructure, such as refrigeration and freezer units, coolers, ice packs, insulated bags for safe food distribution, and the installation of a walk-in storage pod for dry goods.	$33,400.00
Oriental Farm	Brockton	Oriental Farm will purchase SNAP processing equipment.	$1,271.00
Osamequin Farm Inc	Seekonk	In an effort to bring additional farm fresh produce to the local market throughout the year, program funding will enable the farm to build a hoop house that can be used by Resident Farmers and staff year-round (in the winter it will serve as a nursery for seedlings, in the spring and fall as a combination nursery and tender annuals space, and in the summer as a tunnel for growing high value crops).	$22,203.00

Plymouth Rock Oyster Growers	Plymouth	To reduce human interaction during the ongoing pandemic, program funding will enable the organization to create an online marketplace to sell products directly to the consumer. Additionally, online tools, such as tutorials, will be featured on the site to inform customers of the product in an effort to make it more approachable.	$7,000.00
Quabbin Harvest	Orange	To meet the growing demand of fresh produce, the co-op will utilize program funding to purchase and install three new pieces of freezing/cooling equipment, which includes a two-door upright freezer to hold stock, a one-door upright freezer for non-meat foods, and a three-door cooler for dairy and prepared foods.	$9,966.00
Quincy Asian Resources, Inc.	Quincy	To increase accessibility of culturally appropriate fresh produce from Massachusetts farmers to Asian and immigrant community members, the organization seeks to utilize program funding to create an accessible, linguistically competent online ordering and delivery service platform that connects individuals to local farms.	$98,000.00
Quincy Community Action Programs, Inc.	Quincy	The organization will utilize funds to increase its food distribution in the Norfolk region by increasing cold food storage at the Southwest Community Food Center (SWCFC). The project will serve a greater number of people by enabling additional capacity to receive more rescued food. Furthermore, funds will go towards the purchase of a refrigerated cargo van that will allow for the expansion of its food delivery service, enhance the food rescue program, and provide additional Pop-Up Food Pantries in the region.	$68,871.00
Revival Farm	Plympton	Revival Farm will purchase a walk-in freezer so that the farm can increase production to meet the increased demand from local farm stands.	$22,023.00
Rosasharn Farm	Rehoboth	Program funding will go towards the purchase of refrigeration equipment for harvest preservation, which will enable the farm to increase its food production and better meet local demand.	$4,726.00
Round Island Shellfish	Fairhaven	Round Island Shellfish will purchase an ice machine and insulated storage bin to produce ice on site to be able to store and transport oysters to market.	$6,965.00

Sacred Heart Food Pantry	Middleborough	Request is to purchase refrigerators and a freezer to expand the capacity of the food pantry and increase the buffer capacity necessary to store additional perishable products.	$21,597.00
Sauchuk Farm, LLC	Plympton	Sauchuk Farm will purchase a new irrigation reel to be used on a variety of crops, to meet demand for locally grown food in the area.	$20,800.00
South Shore Community Action Council, Inc.	Plymouth	Program funding will enable the organization to increase its food distribution with the purchase of new equipment, such as a refrigerated vehicle and shelving.	$85,102.00
South Shore YMCA	Hanover	Seeking to expand its farm infrastructure, which directly benefits the local community, the organization will utilize program funding to construct a heated greenhouse to expand the growing season, the placement of fencing around garden beds, the installation of irrigation, and the purchase of a standalone walk-in refrigeration unit to keep foods fresh between harvesting and pick-up.	$60,500.00
Steppingstone, Inc.	Fall River	Working with high risk, low income populations, the organization is seeking to make upgrades to its food storage and delivery infrastructure to reduce waste, which will simultaneously provide more individuals in need with food. Equipment includes a cargo van, freezer unit, storage bins, and food preparation equipment.	$38,500.00
The Outreach Program	Duxbury	The Outreach Program will purchase a new delivery van to deliver ingredients and then packaged meals to food pantries and homeless shelters.	$35,000.00
The Salvation Army	Canton	To assist those in need, program funding will enable the organization to increase its food distribution network with kitchen capacity upgrades, such as refrigeration and freezer units, coolers, storage racks, and technology.	$276,063.00
Volante Farms Inc.	Needham	Volante Farms will build out a cold storage room that would allow the farm to store root vegetables into the winter.	$37,043.00
Walpole Community Food Pantry	Walpole	To better reach food insecure residents within the Town of Walpole and neighboring communities, program funding will assist in the purchasing of equipment to able to procure, store, package, and distribute food.	$90,707.00

Walpole Public Schools	Walpole	Walpole Public Schools will purchase mobile food stations and accompanying signage. The mobile food stations will allow their school nutrition department to safely and efficiently serve students.	$327,964.00
Wareham Public Schools	Wareham	Program funding will assist the Wareham Public Schools System with the distribution of meals to students with the purchasing of coolers for safe meal transportation and a refrigerated milk cooler for safe milk storage.	$9,350.00
Wareham Public Schools	Wareham	Seeking to make its food production process more efficient, the school district will utilize program funding to replace old kitchen equipment, including a refrigerated milk cooler.	$7,096.00
Wareham Public Schools	Wareham	To expand its food delivery program, the school will utilize program funding to purchase a cargo van to reach students in need.	$44,200.00
Winters Farm	Rehoboth	To meet the increased demand for local meats and poultry within the region, the farm is seeking to grow its storage capacity by utilizing program funding to purchase three commercial-grade freezers for meat once it has been processed and prior to being distributed and sold.	$16,500.00
YMCA Southcoast	Dartmouth	To increase distribution to their YMCA branches, the organization will use program funding to purchase a refrigerated van to be able to distribute produce on a regular and consistent basis.	$64,045.00

APPENDIX J:

MA Farm to School Institute 2019-20, New Bedford and Norfolk Aggie

Source: https://www.massfarmtoschool.org/wp-content/uploads/2021/03/2019-20-Institute-Newsletter.pdf

New Bedford School District

Our participation in the MA Farm to School (FTS) Institute program over the course of the last year has allowed our New Bedford (NB) Coalition to formalize and take strategic steps toward fulfilling our Farm to School Action Plan. Although we had some minor setbacks as we navigated and adjusted to COVID-19, we continued to make progress and deepen relationships that will allow us to meet our programming goals at six elementary schools in the '20-'21 school year. Our NB Coalition partners, the New Bedford Public Schools (NBPS) Central Administration and Food Service Department, The Marion Institute and Coastal Foodshed have continued to meet monthly to set and meet FTS deadlines; while collectively meeting weekly with community partners to discuss and develop an emergency food response to the pandemic through the Marion Institute's Southcoast Food Policy Council (SFPC).

In the classrooms, the Marion Institute's Grow Education program has planned and piloted an integrated FTS curriculum across the districts' third grade. This expansion includes the build-out of garden programming at each school, professional development opportunities for science and health teachers, and the introduction of two FoodCorps members. Data collection and evaluation across the school district has been initiated to include nursing and wellness impacts of FTS.

In the cafeteria, the success of our Food Service Departments' Fresh Fruit & Vegetable Program (FFVP) encouraged the expansion on the '20-'21 application to include the FFVP in all 19 elementary schools in New Bedford! We have established a purchasing bid to source fresh produce from local vendors, some of which will be locally-grown, in a way that meets the procurement guidelines set by the state. And we continue to deepen our relationships made with farmers through Coastal Foodshed's work and the SFPC meetings. Our participation in the MA FTS Institute has deepened our relationships with our community and expedited our intent to institutionalize Farm to School as part of our city's food resilience plan.

Norfolk Aggie

Norfolk Agricultural High School's farm to school plan focused on developing an integrated program in which students plan, plant, grow, maintain, prepare, market, and harvest food crops on campus for use in the school cafeteria and community.

The farm to school team met each month, bringing in additional team members beyond those who attended the Institute retreat. They launched a farm to school newsletter, began implementing the Harvest of the Month program, conducted an assessment of current produce usage by the school meal program, and incorporated campus raised beef into the meal program. Students quickly got to work researching and planning for how the school could grow, raise, and harvest more food for use in school meals and for sale to the community. From developing crop plans to researching irrigation and fencing needs to evaluating the feasibility of composting on campus, students were at the center of the farm to school effort.

When the campus closed in March, the farm to school program kept going. Teachers incorporated food and agriculture learning into their courses. They started a blog to encourage and support students gardening at home (https://aggievictorygarden.blogspot.com/). And the school shifted their existing growing operations to serve their community. When their annual plant sale had to be canceled, the school wanted to ensure that the plants were put to good use and quickly pivoted to a plan they called Aggie Abundance. Plants were donated to first responders in the community as well as to families and staff at the school. The newly empty greenhouse space was then used to plant more food crops that could help address food insecurity in the community. The school is transitioning from what is normally an on-campus pumpkin patch to now be a community garden Aggie Abundance, planted and maintained by teachers volunteering their time during the summer break. Check out this great story about their efforts in the Boston Globe!

**Year-end wrap up submitted by Institute coach.*

MARION
INSTITUTE

202 SPRING STREET
MARION, MA 02738
508-748-0816

MARIONINSTITUTE.ORG