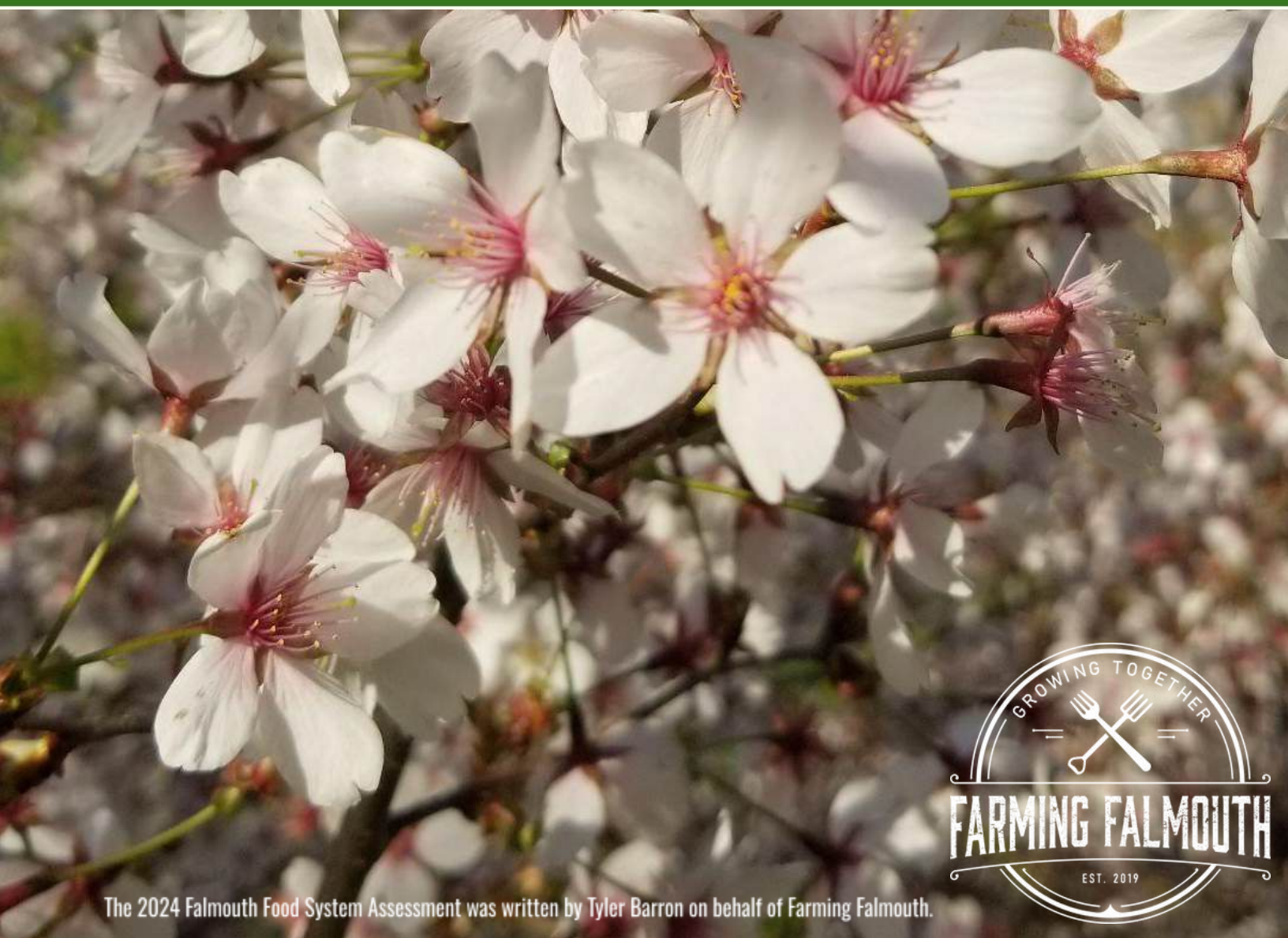




Falmouth Food System Assessment



The 2024 Falmouth Food System Assessment was written by Tyler Barron on behalf of Farming Falmouth.

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Reader's Guide

Thank you for your interest in the Falmouth Food System Assessment! You may be wondering how on Earth to engage with this document. Depending on your relationship to Falmouth's food system, this report can be useful in different ways:

❖ **General Public:**

- Learn about the definition of a [food system](#).
- Understand the [context of the food system](#) and [livability](#) within Falmouth.
- Read about [food production in Falmouth](#) and how to [grow or harvest your own food](#).
- Make plans to reduce your [food waste](#).
- Find out how to access [supplemental and emergency food options](#) like SNAP, HIP and local food pantries.
- Familiarize yourself with the results of the [Falmouth Food Survey](#) along with [recommendations](#) from this food system assessment.

❖ **Community leaders, representatives and food system advocates:**

- Support Falmouth's food system by adopting and implementing [five key recommendations](#).
- Contribute to the work of [food system transformation](#).

❖ **Institutions, distributors, marketers, retailers, and restaurateurs:**

- Learn more about the needs and concerns of Falmouth's [growers and producers](#).
- Delve into the potential of [institutional food service](#).
- Understand local efforts regarding [food processing, distributions, marketing and food recovery](#).

❖ **Growers and Producers:**

- Learn about the [status of the local and regional food system](#) and the results of the [Grower and Producer Survey](#).
- Better understand [consumer preferences](#) within Falmouth.
- Acquaint yourself with [food system resources](#).

To Begin With, The Sweet Grass by Mary Oliver

I.
Will the hungry ox stand in the field and not eat
of the sweet grass?
Will the owl bite off its own wings?
Will the lark forget to lift its body in the air or
forget to sing?
Will the rivers run upstream?

Behold, I say — behold
the reliability and the finery and the teachings
of this gritty earth gift.

II.
Eat bread and understand comfort.
Drink water, and understand delight.
Visit the garden where the scarlet trumpets
are opening their bodies for the hummingbirds
who are drinking the sweetness, who are
thrillingly gluttonous.

For one thing leads to another.
Soon you will notice how stones shine underfoot.
Eventually tides will be the only calendar you believe in.

And someone's face, whom you love, will be as a star
both intimate and ultimate,
and you will be both heart-shaken and respectful.

And you will hear the air itself, like a beloved, whisper:
oh, let me, for a while longer, enter the two
beautiful bodies of your lungs.

III.
The witchery of living
is my whole conversation
with you, my darlings.
All I can tell you is what I know.

Look, and look again.
This world is not just a little thrill for the eyes.

It's more than bones.
It's more than the delicate wrist with its personal pulse.
It's more than the beating of the single heart.
It's praising.
It's giving until the giving feels like receiving.
You have a life — just imagine that!
You have this day, and maybe another, and maybe
still another.

IV.
Someday I am going to ask my friend Paulus,
the dancer, the potter,
to make me a begging bowl
which I believe
my soul needs.

And if I come to you,
to the door of your comfortable house
with unwashed clothes and unclean fingernails,
will you put something into it?

I would like to take this chance.
I would like to give you this chance.

V.
We do one thing or another; we stay the same, or we
change.
Congratulations, if
you have changed.

VI.
Let me ask you this.
Do you also think that beauty exists for some
fabulous reason?

And, if you have not been enchanted by this adventure
— your life —
what would do for you?

VII.
What I loved in the beginning, I think, was mostly myself.
Never mind that I had to, since somebody had to.
That was many years ago.
Since then I have gone out from my confinements,
though with difficulty.
I mean the ones that thought to rule my heart.
I cast them out, I put them on the mush pile.
They will be nourishment somehow (everything is
nourishment
somehow or another).

And I have become the child of the clouds, and of hope.
I have become the friend of the enemy, whoever that is.
I have become older and, cherishing what I have
learned,
I have become younger.

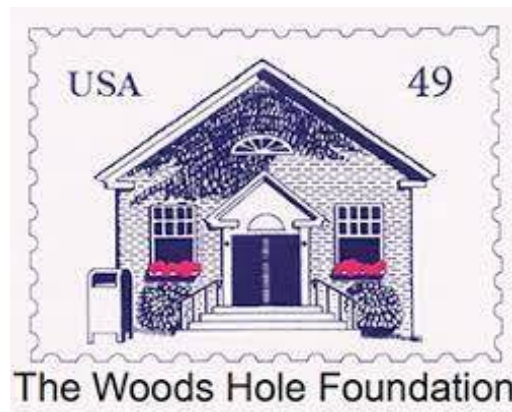
And what do I risk to tell you this, which is all I know?
Love yourself. Then forget it. Then, love the world.

Acknowledgements

First and foremost, I wish to extend my gratitude to the Woods Hole Foundation for its willingness to fund this food system assessment and for believing in the work of Farming Falmouth. Without their support, this project would not have been possible. I wish to thank the Board of Farming Falmouth for its continued support and patience as this project evolved and took shape over the past few years. I would like to express my deep gratitude to Holly Fowler of Northbound Ventures for her guidance and insight throughout this project. Her work and dedication to creating a better food system for all has been an ongoing source of inspiration for this assessment. I would also like to thank Jessica Wilson for her belief in this project, her thorough and thoughtful contributions, and her inspiring approach to creating more equitable food systems. Thank you to Johannes Raatz, a dear friend and labor union organizer, for your support facilitating the six input sessions. Thank you to Kristina Pechulis from the Massachusetts Food System Collaborative and Kerry Murphy, co-author of the Salem Food System Assessment, for your editing efforts. Thank you to Jordan Frye for your photographic contributions and ongoing support. Lastly, thank you to all of my loved ones for bearing with me and offering reassurance throughout this lengthy endeavor.

Special thanks to all of those who took part in the Falmouth Food Survey, Grower and Producer Survey, and various input sessions. Your perspectives and experiences have been instrumental in shaping our understanding of Falmouth's food system and identifying areas for improvement. Thank you to Bootstrap Farm Club and Shaw's Grocery Store for supporting the Falmouth Food Survey food purchase incentive and thank you to the Fisherman's Pantry for generously offering your space to host the in-person input sessions.

Finally, I express my appreciation to all those who have dedicated their time, energy, and passion to advancing a more resilient, equitable, and sustainable food system in Falmouth. Your commitment to this shared vision and willingness to affect change is essential to creating a healthier, more vibrant community for all.



The 2024 Falmouth Food System Assessment was written by Tyler Barron on behalf of Farming Falmouth.

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Executive Summary

This report sets out to build a comprehensive picture of the various components that amount to Falmouth's food system. The primary objectives of the Falmouth Food System Assessment are twofold:

1. Establish a baseline of information that can be used to inform and track change within the food system.
2. Nurture a vision for a food future grounded in resilience and sustainability.

This research was undertaken by Farming Falmouth, a non-profit founded to revitalize our local food system by cultivating an informed and engaged food community. Farming Falmouth is focused on supporting local agriculture and food production to both lighten our environmental footprint and widen access to fresh food throughout our community. This report takes inspiration from the 2011 Association to Preserve Cape Cod report, [Agricultural Land Use on Cape Cod](#); the New England State Food System Planners Partnership's 2023 report [A Regional Approach to Food System Resilience](#); and the Marion Institute's [2021 Southcoast Food System Assessment](#).

The methodology for the Falmouth Food Assessment was informed by the [Iowa State University Extension Community Food Systems Certificate program](#). Primary data was gathered through input sessions and surveys. Six input sessions were held, gathering stakeholders from the following groups: growers and producers; members of the food system whose work focused on food service, distribution, wholesale, processing and aggregation; and food system service providers. Two surveys were also employed: one for local growers and producers, and another for residents of Falmouth. Secondary data, including public data from local, state, and national sources, was gathered and analyzed to further understand the history and current state of Falmouth's food system. Research began in 2022 and ended in 2024, and the writing of this report was completed in 2025.

Through our research, several trends in Falmouth's food system became clear. These key findings, which substantiate our recommendations, include:

- ❖ Continued loss of farmland in Falmouth and Barnstable County
- ❖ Growers and producers desire for food system infrastructure and professional development
- ❖ Challenges faced by community members in obtaining local food and responding to the increasing cost of living
- ❖ Disproportionately higher rates of food insecurity for low-income people and people of color in Falmouth
- ❖ Success of local food growing initiatives and food education programs

In order to address conditions and needs identified by this assessment and ensure that the community of Falmouth reaps the economic, social, and ecological benefits of its food system, five recommendations have been provided.

1. **Implement Food-Forward Policies**

Historically, policy and planning have focused on infrastructure and economic growth in ways that have unintentionally shaped our food system and overlooked its impact on the economic, social and ecological health of our communities. In response to these trends, food-forward policies take into account the crucial role that food systems play in providing food security, promoting health, supporting the economy, protecting the environment, and fostering equity, inclusion, and belonging. Ensuring that the benefits of our food system are enjoyed by all current and future residents of Falmouth requires a deliberate and collective effort to meet a wide range of community needs. Reclaiming the potential of Falmouth's food system relies on the adoption of cohesive and comprehensive policies and planning strategies that embrace the value of food systems, align with regional efforts, and are

based on a robust, long-term vision. These could include policy and market-based strategies to preserve agricultural land as well as hiring a food system coordinator. Creating a community-led body, such as a food policy council, is a key recommendation for both implementing more food forward policies while also ensuring these policies are shaped and vetted by those closest to the issues at hand. Effective implementation of food-forward policies will involve ongoing measurement, investment, and accountability and will rely on collaborative relationships grounded in trust, a shared vision, and shared values.

2. Support Growers and Producers

Sustainable and responsible food production practices can help protect natural resources, maintain biodiversity, and help offset the environmental ramifications of our global food system while reminding us of our relationship to the land. Providing support to the people, businesses, and organizations involved in the production of food is therefore an essential component of ensuring the long-term resilience and sustainability of Falmouth's food system. Growers and producers in Falmouth face limited access to land, markets, technical assistance, succession planning, financial support, labor, and resources to run their operations. They require immediate, targeted interventions, and creative solutions to overcome these and other challenges. Given the desire for different types of shared infrastructure (i.e. commercial kitchens, washing and storage facilities, and shared production), a cooperative food hub model could be an effective way to support Falmouth's small growers. The long-term economic viability of growers and producers is predicated upon substantive cultural and political strategies that take into account and promote the value of food production. These strategies must ensure that Falmouth's growers and producers are properly resourced and that land and water are made accessible by purchasing parcels, permanently conserving them, and making them available to the next generation of farmers. Such changes will enable local food production to grow and flourish, and will allow the community of Falmouth to reap the economic, social, and ecological benefits of its food system.

3. Invest in Local Food Supply Chains

Investment in the food supply chain can spark and sustain economic growth by supporting the livelihood of farmers, growers, processors, distributors, retailers, food service workers, and chefs. Well planned and supported food supply chains can enhance resilience by making a community and region less reliant on resources that are trucked or flown in, and less susceptible to external shocks, such as natural disasters and supply chain disruptions. Facilitating networking opportunities, establishing robust marketing strategies, improving waste reduction efforts, and creating shared infrastructure could aid in the transition towards resilience by building off the strengths, and leveraging the collective needs of those involved in Falmouth's food supply chains. Such initiatives could provide Falmouth's food suppliers with ways to innovate and grow new product lines, coordinate resources, and find the best locations to distribute the bounty of local food. By supporting food supply chains, we simultaneously acknowledge the importance of food in our personal lives and its role on a collective level. As a pillar of cultural identity and heritage, intentional food supply chains can help us to preserve and celebrate our unique cultural aspects as well as create new opportunities for empowerment, connection, and social cohesion.

4. Ensure Equitable Access within Falmouth's Food Environments

Health disparities manifest most evidently within the food system through inequitable access to nutritious food and healthy food environments. These disparities are often compounded by differences in social determinants of health such as income, education, housing, healthcare, and neighborhood characteristics—many of which are present in Falmouth. The work of addressing and ultimately eliminating the unjust, unfair, and preventable differences in health outcomes that results from these disparities, otherwise known as health equity, is an essential component of transforming Falmouth's food system. Ensuring that everyone in Falmouth has an opportunity to be as healthy as possible will require a concerted effort and strategic interventions that establish preferential options for those who are most in need. Steps towards improving equitable access include increasing SNAP enrollment and HIP utilization and expanding awareness of and access to local food options. Effectively addressing the root causes of inequity will involve uncomfortable yet necessary changes, including shifting from a paradigm that promotes economic prosperity to one that prioritizes health, and transitioning from approaches that favor individual responsibility to those that focus on the economic, political, and socio-cultural conditions of our food environments.

5. Enhance Food Education

A healthy food environment cannot be complete without food education as it is the foundation for an informed, engaged and food literate community. Food education, rooted in the values of resilience and sustainability, therefore plays a critical role in the success and viability of the Falmouth food system. Farm to School programming for children and young adults, and educational campaigns and initiatives for the general public create opportunities to improve understanding of the intricacies of the food system, empowering individuals and groups to make informed decisions and create positive, lasting change. At all ages, food education and food experiences offer us the chance to learn, unlearn, and relearn how to engage with the food and land that sustains us. These opportunities allow us to reevaluate and reestablish our connection to the land, the water, and each other in ways that foster respect and belonging, and in ways that help us remember that ecological health is synonymous with human health. Enhancing food education helps to demystify our food system and provides a common ground upon which we can question our assumptions, learn from our mistakes, and imagine a food future worth living in.

Introduction

Roots of the Falmouth Food System Assessment

“One must cultivate one’s own garden.”

- Voltaire

**“My job as a gardener or educator is to know that the potential is there
and that it will unfold.**

**People have a potential for growth;
it’s inside, it’s in the seed.”**

*- Myles Horton, *The Long Haul: An Autobiography**

At the root of this project is a hopeful vision in which Falmouth and Cape Cod sow the seeds and reap the ecological, social and economic benefits of a resilient and sustainable food system. This report is an attempt to honor this vision, sustain current conversations, and inspire the actions and policies needed to bring this vision to life. Moreover, it is an acknowledgement of the potential for growth and transformation that lies within the community of Falmouth.

On a more day to day level, the impetus for this project was driven by the need of Farming Falmouth to have a better understanding of the barriers, strengths, and opportunities within the Falmouth food system. An increasingly common tool for determining these conditions, food system assessments improve awareness and deepen a community’s relationship to their food system. Like many such assessments, this report is a comprehensive evaluation of the various components of Falmouth’s food system that uses qualitative and quantitative information to provide a “snapshot” of current conditions. Ideally, it is a living document and educational resource which serves as a baseline for tracking change regarding food-related concerns, needs, and activities of members of the community. It is also the hope that this assessment is embraced as a tool for transformation and guides the work of interested parties in addressing the quality, meaning, and longevity of the food system we all share. Although this report focuses primarily on Falmouth, it speaks to conditions facing many towns on Cape Cod and will hopefully inspire regional collaboration, assessment, and action.

A key factor informing this project has been the desire to help facilitate the transition to a more resilient food system in the wake of the Covid-19 pandemic. While the acute effects of the Covid-19 pandemic may have dissipated, this global shock highlighted the fragility, interdependence, and inequities of our global food system and simultaneously drew attention to the fact that many communities, including Falmouth, rely on this fragile system to meet our basic needs. This report points out the need for investment and equilibrium within Falmouth’s food system, with a goal of mitigating future food system disruptions.

In the busyness of life it can be all too easy to lose sight of how food nourishes us and gives us the energy to go about our day, how it bonds us to each other and to those who have come before us, and how it intimately connects us to the Earth, and all of the creatures that contribute to its vibrancy. Fortunately, every meal we eat and every fruit or vegetable we pick can be an opportunity to slow down, express gratitude, and bask in the beauty, meaning, and wonder of food. It is my dearest hope that this food system assessment is something akin to a blessing or invocation of what is possible, and an acknowledgment of the invisible graces that sustain us. May it remind the reader, and the community of Falmouth, to embrace our sense of belonging to the food we eat, the Earth we inhabit, and to each other. May it remind us to consciously cultivate a relationship to food—and to the food system—that is commensurate with its life-giving, life-affirming invitation.

May it illuminate a path forward.

Methodology

Recipe for the Falmouth Food System Assessment

The methodology for the Falmouth Food Assessment was initially informed by the Iowa State University Extension [Community Food Systems Certificate program](#). This course provided a model for how to conduct a food system assessment that was subsequently tailored to address the needs and conditions of Falmouth.

In the spring of 2022, primary data collection began with an online and in-person input session for three different focus groups. The first focus group convened 14 growers and producers in the Falmouth area, the second group brought together 16 participants engaged in food service, distribution and wholesale, and the third included 24 community members whose work indirectly relates with the food system through education, health, policy, economic or cultural development, science, conservation, etc. These meetings were designed to encourage feedback from members of the community on the strengths, challenges, and opportunities within Falmouth's food system. Information gathered from these input sessions was transcribed and can be found in [Appendix D. Input Session Notes](#). ChatGPT was used as an aid to reshape these notes into a narrative form.

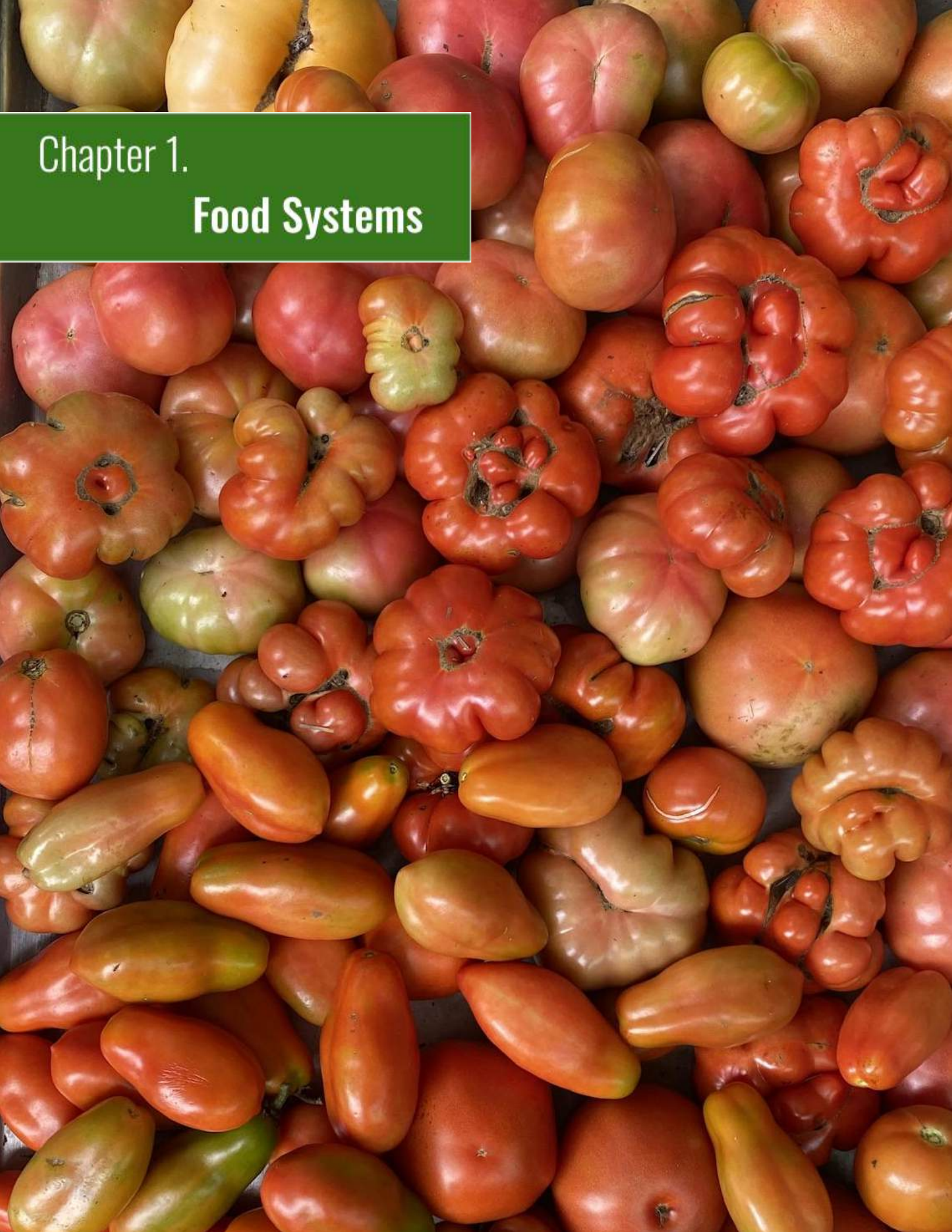
Between May and September 2022 the Falmouth Food Survey was made available to the general public and advertised on social media, by email, and through local flyers. In total, it garnered 473 responses. These responses were incentivized through prizes of up to \$150 for food purchases. This food-specific data collection effort was the first of its kind for the community of Falmouth and provided respondents with an opportunity to share information regarding food preferences, access, and environments.

Between June and October 2022, the Falmouth Grower and Producer Survey was also made available to those actively growing or

harvesting food in the Falmouth area. This survey, which captured responses from 11 individuals, included 31 questions ranging from acres harvested and land tenure to growing methods and operational challenges. The most recent attempt to understand these realities dates back to a Cape-wide effort undertaken in 2011 by the Association to Preserve Cape Cod, resulting in the report titled, [Agricultural Land Use on Cape Cod: Looking to the Future](#).

With the support of Northbound Ventures, data collected from these surveys were analyzed to better understand the needs and concerns of Falmouth's residents, growers, and producers. Relevant data has been presented based on respondents' income, race and ethnicity, and age; this ensures that all voices are heard, including those of under-resourced and underrepresented populations in Falmouth. Information collected from these surveys can be found in [Appendix E. Falmouth Food Survey Questions and Responses](#) and [Appendix G. Grower and Producer Survey Questions and Responses](#).

Secondary data for the Falmouth Food System Assessment consists of a variety of publicly available information from the county, regional, state, and national level aimed at helping to contextualize local conditions. This information includes data sets, reports, publications, academic studies, community resources, and organizational websites that are incorporated throughout the document as citations, quotes, figures, and hyperlinks. A comprehensive set of food system resources is available at the end of the report in [Chapter 6. Food System Transformation](#).



Chapter 1.

Food Systems

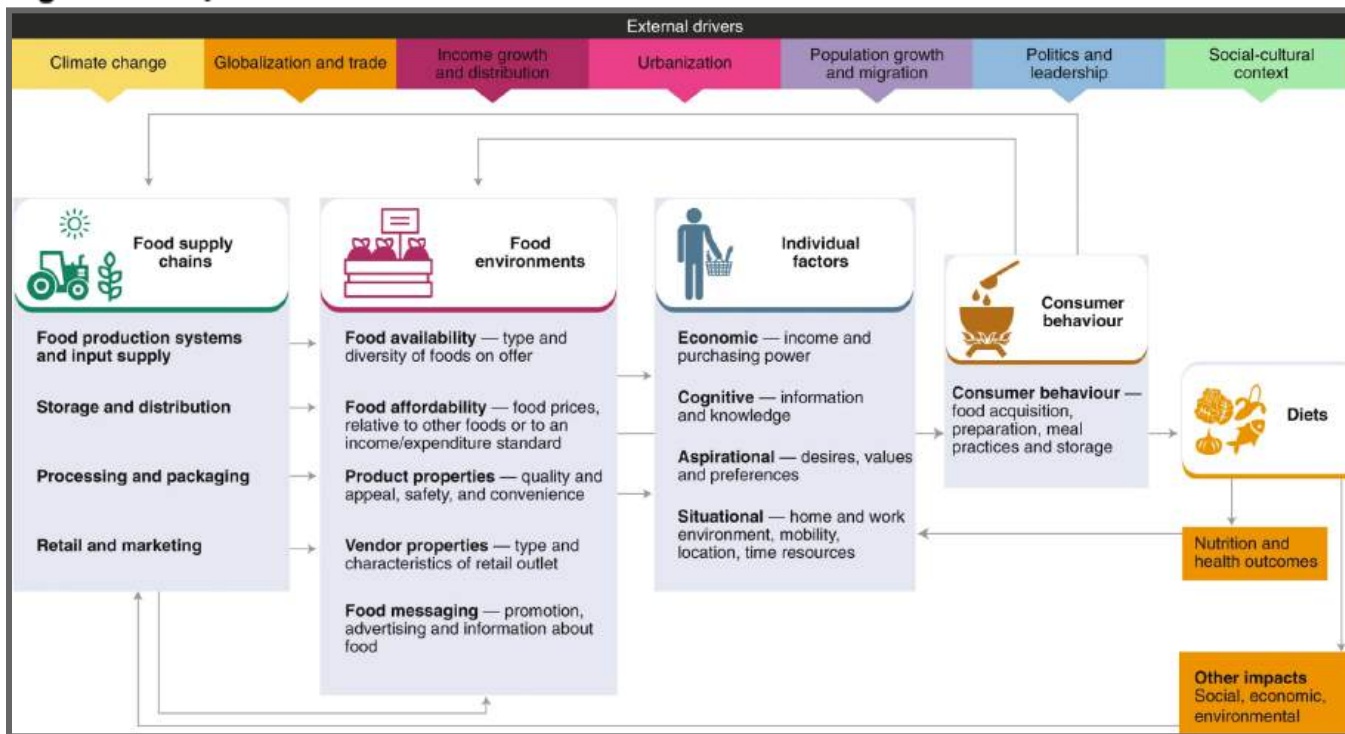
Chapter 1. Food Systems

An overview of the scope and impact of food systems

The concept of a food system helps to describe the journey of food from its point of origin, like farms and fisheries, to one's dinner plate—and all the steps along the way. It includes the activities, resources, infrastructure, and people that contribute to where and how food is produced, how it's processed and distributed, where we cook and buy food, how food is disposed of, and how these interactions shape and are shaped by our environment, economy, culture and social interactions. The notion of a food system is an attempt to account for a complex, interdependent, and dynamic set of connections and exchanges, and often entails defining the boundaries of this system, its building blocks, and the linkages between them. While this food system assessment endeavors to understand the building blocks and linkages within the geographic boundaries of Falmouth, food systems can be addressed from a variety of political or geographic scales.

It's important to contextualize our research within an understanding of the larger food system in order to recognize how each of us shapes and is shaped by its myriad complexities. Due to its comprehensive and detailed approach, Figure 1, from the [Food System Dashboard](#), was chosen as the model for this food system assessment. In order to situate the reader within this framework, this report has been structured in such a way that the main chapters and their corresponding sections reflect the elements contained within the two main categories: food supply chains and food environments.

Figure 1. Food Systems Framework



Note. From "Food Systems Framework" by Fanzo, J., Haddad, L., McLaren, R. et al. The Food Systems Dashboard is a new tool to inform better food policy. *Nat Food* 1, 243–246, 2020, (<https://doi.org/10.1038/s43016-020-0077-y>). Reprinted with permission.

The Global Food System

**“We are not exactly sure what we are growing toward,
but we compensate for this shortcoming by accelerating.”**

– Tomas Slack, Economics of Good and Evil

In its broadest sense, the food system can be viewed in the context of Earth's planetary boundaries. This global food system encompasses all of the complex interactions that take place to bring food from field to fork. Post-WWII, economic and population growth paired with agricultural intensification, consolidation, and specialization helped to create a comprehensive network of international supply chains and transnational corporations¹ upon which most of us now rely to meet our daily food needs. In one meal, we may consume chicken from Canada, rice from Louisiana, beans from India, squash from California, tomatoes from Mexico, peppers from Vietnam, corn from Brazil, cheese from Italy, and if we're lucky, an item or two from our own garden. Given the highly interdependent nature of our food experiences, it is vital to understand the workings and impacts of the global food system.

Despite the many conveniences and economic gains that this globalized system affords to some, it has produced a bounty of ecological and social ramifications. Agricultural land—70% of which is owned by 1% of farms—takes up nearly half of the Earth's habitable surface, uses 70% of extracted fresh water, and has accounted for 80% of the world's deforestation (Chandrasekhar et al., 2022). Pesticides, fertilizers, growth hormones, antibiotics, heavy metals, manure, and other toxic chemicals associated with industrial operations are key contributors to soil, water, and air pollution. The global food system produces 26% of the world's greenhouse gas emissions, 75% of which is related to the consumption of animal-sourced food (C40 Cities Climate Leadership Group & C40 Knowledge Hub, 2023), and is the leading cause of biodiversity loss, as evidenced by the fact that livestock make up roughly 62% of the Earth's biomass, humans 34%, and wildlife only 4% (Ritchie, 2022).² Industrial fishing practices and higher demand for seafood have resulted in 70% of fish populations now being overfished, meaning fish populations are at or beyond their ability to replenish themselves, such that by 2048 the global fishing industry may cease to exist (Oceanos, n.d.).

This extensive system of food production employs half of the world's workforce, yet many of those who labor to bring food to our plates struggle to put food on their own and are caught in cycles of poverty marked by inadequate access to education, healthcare, and housing. Although more than enough food is produced to feed the entire world's population, one third of this food is wasted, and nearly 800 million people face chronic hunger and malnourishment (The World Counts, n.d.). Compounded by climate change and exploitation, the impacts of the global food system tend to harm those who are most vulnerable, underserved and underrepresented, driving the wedge of inequity further between the haves and have-nots. Unsurprisingly, these adverse conditions come with a cost. The price tag of the externalized damage, while likely underestimated, is considered to be \$12.7 trillion, equating to 10% of global GDP. Of this cost, 76% is associated with the cost of unhealthy dietary patterns, 20% is associated with environmental costs and 4% with the social costs of poverty and undernourishment (Lord, 2023). Within the United States alone, when “the present and future costs of the food system's contributions to water and air pollution, reduced biodiversity, or greenhouse gas emissions” are taken into considerations, the true costs of the U.S. food system triples from \$1.1 trillion to \$3.2 trillion per year (The Rockefeller Foundation, 2021).

As overwhelming and daunting as these challenges may seem, our ignorance of the effects of the global food system does nothing to mitigate them. Many changes are needed to transform our industrial, profit-driven global food system into one that is sustainable, resilient, and supports the livelihoods and well-being of all people, especially those most impacted by it. Fortunately, the work of transformation can occur at a local and regional level, through our workplaces, schools, institutions, and at the dinner table.

¹ For more information on the power structures of transnational food and agricultural organization, visit: <https://shahidi.berkeley.edu/>

² Refer to [Appendix A](#), Figure A1 and A2

Local and Regional Food Systems

**“We cannot solve our problems
with the same thinking we used to create them.”**

– Albert Einstein

Although the impetus behind this project was to better understand *Falmouth's* food system, it has become clear that an analysis limited to the municipal boundaries of Falmouth, while necessary, is not sufficient to meaningfully grapple with the intricacies of its food system. The Falmouth food system is highly permeable, seasonal, and transcends a variety of geological, ecological, and political boundaries. While this report focuses on Falmouth's food supply chain and food environments, the challenges and opportunities facing its food system play out across Barnstable County and the broader region. Due to the need for more collaborative strategies for change, this report advocates for a regional approach to food systems. For the purposes of this report, a working definition of “local” refers to everything within a 50-mile radius of Falmouth, which includes Barnstable, Dukes and Nantucket counties; parts of Bristol, Norfolk and Plymouth counties (Southeast Massachusetts); and parts of Newport, Washington, Kent and Providence counties in Rhode Island. A working definition of “regional” includes all of New England.

Local has many connotations which are considered positive without any explanation as to why. Born & Purcell (2006), in their article titled [Avoiding the Local Trap: Scale and Food Systems in Planning Research](#), refer to the tendency to assume that local is better as “the local trap.” The notion of “the local trap” helps to draw attention to the fact that local food system practices may not always align with the values of ecological sustainability, social justice, freshness, quality, and nutrition that we are seeking. Within the context of ecological sustainability, for example, “local foods” may be touted as more sustainable because food has to travel fewer miles; however, data suggest that when greenhouse gas emissions are taken into consideration, it is the type of food and not the distance that it travels that matters most. Transportation accounts for just 5% of food system emissions and the remaining 95% is composed of factors related to meat production, including land-use change that results in deforestation, changes in soil carbon, as well as on farm emissions through methane, fertilizers, manure, and farm machines (Ritchie, 2020)³. Local food may seem like a sustainable choice, yet many foods produced locally—depending on the type and production practices involved—can contribute significantly to greenhouse gas emissions. Born & Purcell acknowledge that “local,” like all scales, is a strategy as well as a social construction that is fluid, fixed, and fundamentally relational:

[S]cale is not an end goal itself; it is a strategy. Scale is a means that may help achieve any of many different goals. Which goal is achieved will depend not on the scale itself but on the agenda of those who are empowered by the scalar strategy. Localizing food systems, therefore, does not lead inherently to greater sustainability or to any other goal. It leads wherever those it empowers want it to lead... Local as an end, for its own sake, is merely nativism, a defensive localism that frequently is not allied with social-justice goals (Born & Purcell, 2006, pg. 196, 202).

Other considerations when employing “local” as a food system framework include the possibility that, “‘local’ reinforces the popular assumption that if the problem is the conventional, concentrated, industrialized, globalized, natural resource-degrading food system, the antidote is the reverse, i.e., localism” (Ruhf & Clancy, 2022, pg. 13). While transitioning away from a lopsided, global food system is an essential component of social, economic, and environmental resilience, shifting from one polarity to the other without addressing the in-between overlooks the reality and practical abilities of communities, such as Falmouth, to achieve such a dramatic transition.

Importantly, “local,” depending on how it is used and by whom, has the power to establish or reinforce belonging. Without awareness of its implications and meaning, the term “local” can either be used as a description that privileges certain experiences and identities, or one that celebrates and honors differences.

³ Refer to [Appendix A](#), Figure A3

When poorly defined, or not self-defined, it has the potential to generalize and overshadow the myriad nuances within a complex, ever-changing food system. Within the context of Falmouth's food system, "local," when appropriate and effective, ought to be employed as a scalar strategy that reinforces belonging and empowers under-resourced and underrepresented populations, as opposed to a tool that further concentrates wealth and opportunity.

A convincing approach for a scalar strategy that addresses social, environmental and economic demands of food systems can be found in Ruhf & Clancy's 2022 publication titled, [*A Regional Imperative: The Case for Regional Food Systems*](#). The authors claim that embracing a regional approach, and moving beyond the boundaries of what may be considered local, is an effective strategy "for building urban-rural connections, rising above parochial planning and advocacy, solving border-transcending problems, and addressing economic and social issues such as transportation, environmental degradation, land use, infrastructure, emergency food planning, and workforce development" (Ruhf & Clancy, 2022, pg. 177). They argue that regional food systems "offer greater food volume and supply; crop, natural resource and cultural diversity; and resource efficiencies" and are "well positioned to withstand disruption and add resilience through redundancy, diversity, greater food security, and energy and transportation efficiencies" (Ruhf & Clancy, 2022, pg. 177). While their research focuses primarily on the Northeast region as a basis for developing a robust regional food system, the authors emphasize that regional thinking is a means to foster creative solutions, inclusive governance structures, customized strategies to address inequity, and sustainable working relationships can be applied to various geographies as needed. Ultimately, the authors maintain that regionalism is a powerful and necessary tool for the development of sustainable and resilient food systems and that the goals for each region, however defined, is to determine its capacity and work to meet it.

Regional food systems, which "are composed in part of multiple local food systems" and which "are more than the sum of the local systems within its boundaries" (Ruhf & Clancy, 2022, pg. 13), offer a collective, and often more holistic, approach to understanding local interests and concerns. Regionalism can be used as a tool that fosters belonging by putting us in dialogue with other towns, regions, cultures, climates, and contexts; emphasizes the ways in which scale affects the flow of people, products, services and resources; and helps us to contextualize and define what we mean by local. By employing regionalism as a tool for change and by exploring regional partnerships that aggregate efforts and span differences, we position ourselves to better understand and implement strategies to facilitate a more resilient and sustainable Falmouth food system.

Table 1. Food System Characteristics

Local Food System Characteristics:	Regional Food System Characteristics:
- "Predominantly small-scale farms but also including some smaller midsize farms - Direct marketing (e.g., farmers markets, CSAs, farm stands, farm-to-retail [restaurant, school, institution], custom meat slaughter and processing) - Emphasis on nearby producer-consumer connections, consumer awareness, "community" - Primary focus on fresh food products; - Self-provisioning (e.g., backyard and community gardens) - Some small-scale processing and product aggregation for retail and institutional purchase - Home and community scale processing of food - Geographic sourcing within a boundary or distance that includes a preponderance of the elements in this list" (Ruhf & Clancy, 2022, pg. 13-14)	- Producing of a volume and variety of foods "to meet as many of the dietary needs and preferences of the population as possible with the resource capacity of the region" - Not seeking or claiming self-sufficiency - Going 'beyond local' and providing more volume, variety and market options than are typical in a 'local food system' - Acknowledging inequity and systemic oppression in the present system and seeking regionally relevant solutions "that address the unique needs of the marginalized food system sectors and communities" - Connecting to various scales and acknowledging the benefits, and downsides, of local, national and global food systems - Rejecting "one-size-fits all agriculture and food policies" - Considering "scale, markets, and values, not just geography" - Providing "more affordable, appropriate, good food options to mainstream markets" - Encouraging decentralization in markets, infrastructure, and governance when appropriate - Developing "new institutions and forms of governance" (Ruhf & Clancy, 2022, pg. 54-55)
<i>Note.</i> From "A Regional Imperative: The Case for Regional Food Systems" by Ruhf, K. Z., & Clancy, K., September, 2022, (http://www.lysoncenter.org/images/A-Regional-Imperative-Report-09-2022.pdf).	

Food System Values

Essential to the health and security of any food system are two key elements: resiliency and sustainability. In service of using these words to their fullest potential and to contextualize them with the domain of the food system, an explication of these two elements is included below.

Resilience

Resilience is often characterized by flexibility and resourcefulness on a short-term basis and can be broadly defined as the “process and outcome of successfully adapting to difficult or challenging life experiences” (APA Dictionary of Psychology, n.d.). Further contextualization of this word is required when we begin to ask how we determine the need for such a process in the first place, the steps involved in this process, what the intended outcomes and metrics of success are, what current capacities for adaptation exists and for whom, and what might be regarded as a challenge. In the context of a food system, resiliency typically “means having a low vulnerability to both acute and insidious disruptions in food production, supply, and access, and an increased capacity to withstand or adapt to disruption” (Ruhf & Clancy, 2022, pg. 58). Resilience is often considered a property of a network or system and can be broken down into two categories – general and specified. “General resilience is the coping capacity of the whole system and includes three system behaviors: response, recovery, and transformation,” while “specified resilience is resilience to a specific disturbance by a specific component of the system, such as the resilience of a particular pasture to seasonal drought” (Ruhf & Clancy, 2022, pg. 59). With ongoing disruptions due to climate change, and more immediate and acute disruptions seen as a result of the Covid-19 pandemic, our ability to create and transform food systems with resilience in mind will be of paramount importance. Resilience ensures the capacity to adapt, recover, and thrive in the face of immediate uncertainties and future challenges.

Described in Table 2 below are six criteria of a resilient food systems from Harris & Spiegel's 2019 report published by the Vermont Law School's Center for Agriculture and Food systems, titled *Food Systems Resilience: Concepts & Policy Approaches*. These criteria include 1) awareness, 2) diversity, 3) integration, 4) self-regulation, 5) adaptation and 6) inclusivity/equitability and can be broken down based on the three pillars of food security: availability, accessibility, and utilization. The first five traits of resiliency are adapted from *The Resilience Dividend: Being Strong in a World Where Things Go Wrong* (2014), in which the author, Judith Rodin, claims that they are present, to some degree, in every resilient system. Due to the nature of the food system being not just a physical, but also a social, system the sixth trait, inclusivity, was added by Harris & Spiegel (2019) as a criteria of resilient food systems.

One criteria worth highlighting is diversity. When thinking about the food system, diversity is a multifaceted concept that includes ecological, biological, social, economic, and agricultural diversity. Within the context of agricultural diversity, Ruhf & Clancy (2022) offer that features and processes themselves such as scales, products, production strategies, food producers, markets and ownership models, food access, hunger relief resources, as well as climates, cultures, institutions and ecology ought to be as diverse as possible. Diversity, especially when accompanied by redundancy and embraced in multiple forms and on multiple scales, has the potential to contribute to positive outcomes in many contexts. On a microscopic scale, soil biodiversity helps to promote productive soils through water retention, decomposition, nitrogen fixation and nutrient mobilization. On a human scale, a diverse range of crops supports nutrition and access to various vitamins, minerals and micronutrients. On the regional scale, diversity of fields and landscapes, when “combined with agroecological practices, re-establish natural pest and disease control systems” (Frison & Jacobs, n.d.). Due to the interconnected nature of diversity, changes at these various scales are often mutually reinforcing: crop diversity promotes soil biodiversity, diversity of fields and landscapes promotes biodiversity, biodiversity contributes to overall resilience, which in turn supports the conditions that contribute to diversity. Within the context of social and economic change, diversity also has the potential to drive positive outcomes.

By providing alternative revenue streams and spreading out risk, diversity supports the financial independence and security of small farms as well as the communities that rely on them. Diversification of systems of agricultural production, for example, provides a wider range of sources of income, decreases the vulnerability of farming households to commodity price volatility and mitigates the adverse effects of extreme weather events by supporting biodiversity and limiting monocultures (Frison & Jacobs, n.d.). Regardless of the scale or situation, diversity as a strategy—by virtue of providing more options and outcomes—yields greater flexibility and adaptability, qualities that underpin any thriving natural system, including the food system.

Table 2. Criteria, Definitions & Outcomes of a Resilient Food System

Criteria	Aware	Diverse	Integrated	Self-Regulating	Adaptive	Inclusive & Equitable
Definition	"The system has knowledge of its assets, liabilities, and vulnerabilities. This includes situational awareness, which allows for assessing new information and adjusting to shocks and stressors in real time."	"The system has various sources of capacity enabling it to function when some elements are challenged; the system contains redundant or complementary elements."	"The larger system has coordination of function across all internal systems, allowing disparate ideas and elements to coalesce into collaborative solutions through information sharing and transparent communication."	"The system can regulate itself without extreme malfunction. Cascading disruptions do not cause complete failure; the system can fail safely."	"The system is flexible and can adapt to changing circumstances, modifying behaviors and adapting existing resources to new purposes."	The system "emphasizes the need for broad consultation and engagement of communities, including the most vulnerable groups"
Outcomes	- Funding research - "Disseminating information about assets, liabilities, and vulnerabilities."	- Increase resource capacity - "Provide people with options for accessing various goods, services, and capital."	- Secure technology networks - "Dynamic information streams between different governance bodies across sectors and at different levels within the system."	- Strong local economies and local governance - Support for sustainable planning practices addressing conservation or climate adaptation	- New leader training - Local business development - Facilitation of "information flow between academic, private, and government sectors"	- "All people within the system have equitable access to resources" - "Policies that allow some people within a system to return to a previous food-insecure state are not inclusive"
<i>Note.</i> From "Food Systems Resilience: Concepts & Policy Approaches" (pg. 19) by Jenileigh Harris and Emily J. Spiegel, June 2019, (Center for Agriculture and Food Systems (https://www.vermontlaw.edu/wp-content/uploads/2024/07/Food-Systems-Resilience_Concepts-Policy-Approaches.pdf)						

Broadly defined by the United Nations Brundtland Commission in 1987, sustainability is seen as "meeting the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations, n.d.). The concept of sustainability is often linked to resilience and may involve resilience as a prerequisite, yet differs in that it is often considered a goal and a process, while resilience is regarded as a feature or quality of a system. This difference can be understood by looking at the global food system, which can exhibit resilience, but the goals and processes associated with this system are geared towards efficiency and profit. When applied to the food system, sustainability describes a system that:

[D]elivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised. This means that: it is profitable throughout (economic sustainability); it has broad-based benefits for society (social sustainability); and it has a positive or neutral impact on the natural environment (environmental sustainability) (Nguyen & U.N. Food and Agriculture Organization, 2018, pg 1).

In contrast with the overconsumption, resource depletion, and malnutrition that accompany the profit driven global food system, sustainable food systems often involve practices like agroecology, organic agriculture, and agroforestry that aim to balance the current and future needs of people, plants, animals, and the environment. Although sustainability can manifest through a variety of practices and can look different depending on the location and scope, it provides an essential framework for the reorientation and transformation of our food systems.

Food Sovereignty

Although the food system is a concept designed to help us understand a series of interactions and connections mediated by geology, ecology and biology, these interactions and connections are fundamentally created by and in service to people. It can be all too easy to forget this truth when food systems are abstracted and essentialized through strategies, scales and statistics. Focusing on a people-oriented food system, however, helps us to remember that the information used to convey these strategies, scales, and statistics is inseparable from the lived experiences it reflects. While transforming experience into information through a food system assessment, for example, may help us to better understand a set of conditions and factors, using this understanding to create policies and strategic actions is ultimately necessary to improve people's lived experience.

Food sovereignty is an important framework and movement that prioritizes people-oriented food systems. Formalized in 1996 by members of La Via Campesina, an international farmers' organization, food sovereignty is based on six pillars: 1) focus on food for people, 2) value food providers, 3) localize food systems, 4) make decisions locally, 5) build knowledge and skills, and 6) work with nature (U.S Food Sovereignty Alliance, n.d.). The 2007 Declaration of Nyéléni defines food sovereignty as:

[T]he right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems. It puts the aspirations and needs of those who produce, distribute and consume food at the heart of food systems and policies rather than the demands of markets and corporations (International Forum on Food Sovereignty, 2007).

This bottom-up approach recognizes both people and communities as the principal actors of food system transformation. It offers a model for change grounded in the experiences, aspirations, and needs of those closest to the food system and in doing so promotes empowerment, equity and justice.

Citizen Participation

In thinking about food system transformation, it is important to consider the varying degrees of citizen participation that affirm or deny power to those looking to make change. Proposed by Sherry Arnstein in 1969, The [Ladder of Citizen Participation](#), Figure 2, offers a model for understanding the varying degrees of participation, from nonparticipation (no power), to tokenism (counterfeit power), to citizen power (actual power). Arnstein argues that:

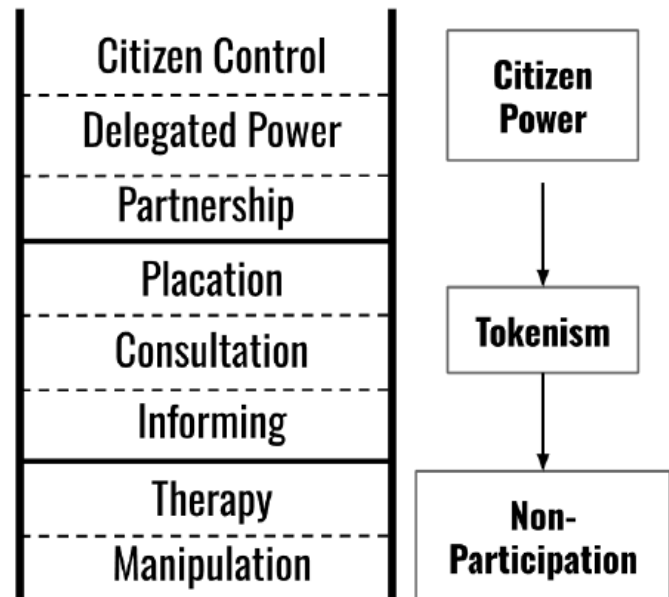
It is the redistribution of power that enables the have-not citizens, presently excluded from the political and economic processes, to be deliberately included in the future. It is the strategy by which the have-nots join in determining how information is shared, goals and policies are set, tax resources are allocated, programs are operated, and benefits like contracts and patronage are parceled out. In short, it is the means by which they can induce significant social reform which enables them to share in the benefits of the affluent society... participation without redistribution of power is an empty and frustrating process for the powerless (Arnstein, 1969, 216).

Furthermore Arnstein suggests that:

The idea of citizen participation is a little like eating spinach: no one is against it in principle because it is good for you. Participation of the governed in their government is, in theory, the cornerstone of democracy—a revered idea that is vigorously applauded by virtually everyone ...And when the have-nots define participation as redistribution of power, the American consensus on the fundamental principle explodes into many shades of outright racial, ethnic, ideological, and political opposition (Arnstein, 1969, 216).

While the Ladder of Citizen Participation has its limitations, its simplicity offers users an accessible model for understanding power discrepancies and opportunities for reallocating power where, and for who, it is most needed. When considering the role of reallocating power within the food system, the Ladder of Citizen Participation offers the chance to reimagine how systems of power can uphold the rights of people to have healthy and culturally connected foods, to define their food and food systems, and to have a resilient, sustainable, and equitable local food system.⁴ It can also help us to reimagine how marginalized and low-income groups can deliberately be included in the economic and political processes that define our food environments. Inclusion in these processes, as well as an equitable distribution of the benefits that these processes provide,⁵ can offer a way to counter many of the well-entrenched power discrepancies⁶ that plague our food system.

Figure 2. Ladder of Citizen Participation



Note: Adapted from "Eight Rungs on a Ladder of Citizen Participation" by S. Arnstein, 1969 (https://www.historyofsocialwork.org/1969_ENG_Ladderofparticipation/1969.%20Arnstein.%20ladder%20of%20participation.%20original%20text%20OCR%20C.pdf)

⁴ Who has the responsibility to uphold these rights? Furthermore, does a local or regional food system, or its constituent agricultural or aquacultural parts, deserve rights? For more information on rights of nature laws, follow this link: <https://www.garn.org/rights-of-nature/>

⁵ See [Food Equity and Justice](#) resources section

⁶ These include the disproportionate control of large agribusinesses, the disempowerment of farm laborers and food service workers, and the lack of access to land and capital for growers—particularly those who are low-income and people of color—to name a few.



Chapter 2.

Community Context

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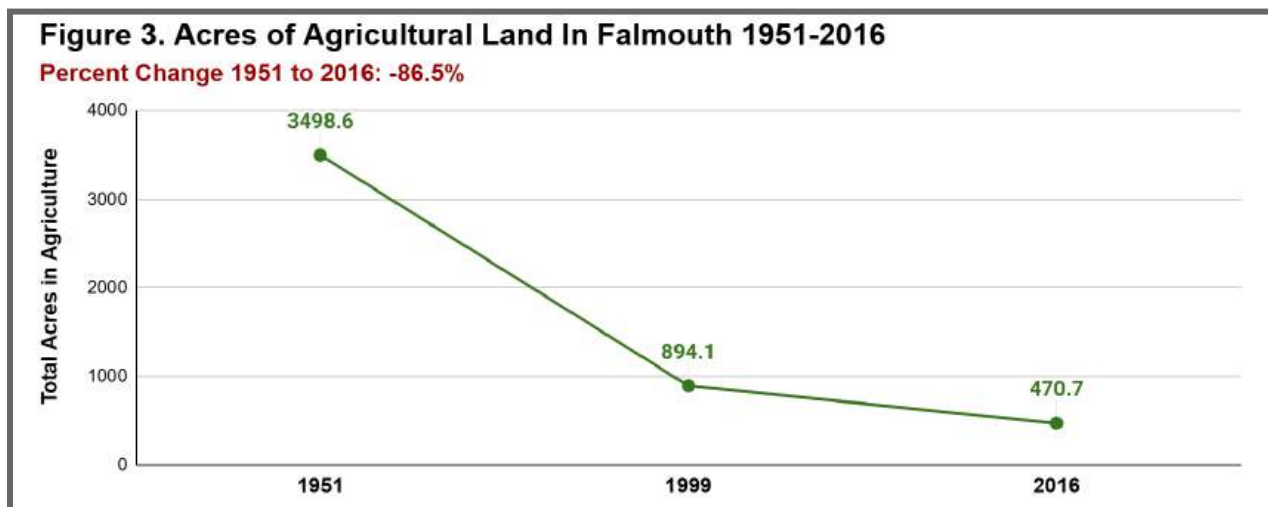
An overview of Falmouth's agricultural history, demographic make-up, and livability metrics

A Brief History of Falmouth's Food System:

Suckanesset—or what is now known as Falmouth—has been home to the Wampanoag tribe and their ancestors since time immemorial, and along with it an indigenous food system based on hunting, fishing, gathering, trading, and the cultivation of crops such as tobacco, melons, gourds, squash and corn. Within the first 100 years of English colonial settlement, Falmouth's original inhabitants were violently displaced and their food system destroyed. European practices that relied on clear cutting and grazing soon became the predominant form of land use ushering in a new era of Falmouth's food history. This period was marked by the creation of grist mills, animal husbandry, logging, cranberry bog production, a notable influx of farmers from Portuguese colonized areas, and intensive strawberry production such that Falmouth was the country's highest-yield producer in 1920 (Oldenbourg, 2007).

Between 1950 and now, Falmouth's working farmland has been reduced by over 86.5%.

The most recent iteration of Falmouth's food system began after WWII and has manifested in the form of severe agricultural decline. **Despite Falmouth's agricultural potential—with nearly 20% (10,309 acres) of Cape Cod's best soils⁷—between 1950 and now, the town's working farmland has been reduced by over 86%.** Land use patterns have almost exclusively favored residential development, leading to a loss of cultural heritage, species diversity, wildlife habitat, and economic resilience. While it remains to be seen if or when the tide will turn on the trend of agricultural decline across Cape Cod, it is certain that these rapid and drastic changes will continue to influence Falmouth and its food production capabilities.



Note. Adapted from "Physical Resources Datasets" by MassGIS, n.d., (<https://www.mass.gov/info-details/massgis-data-layers#census/demographic-data->).

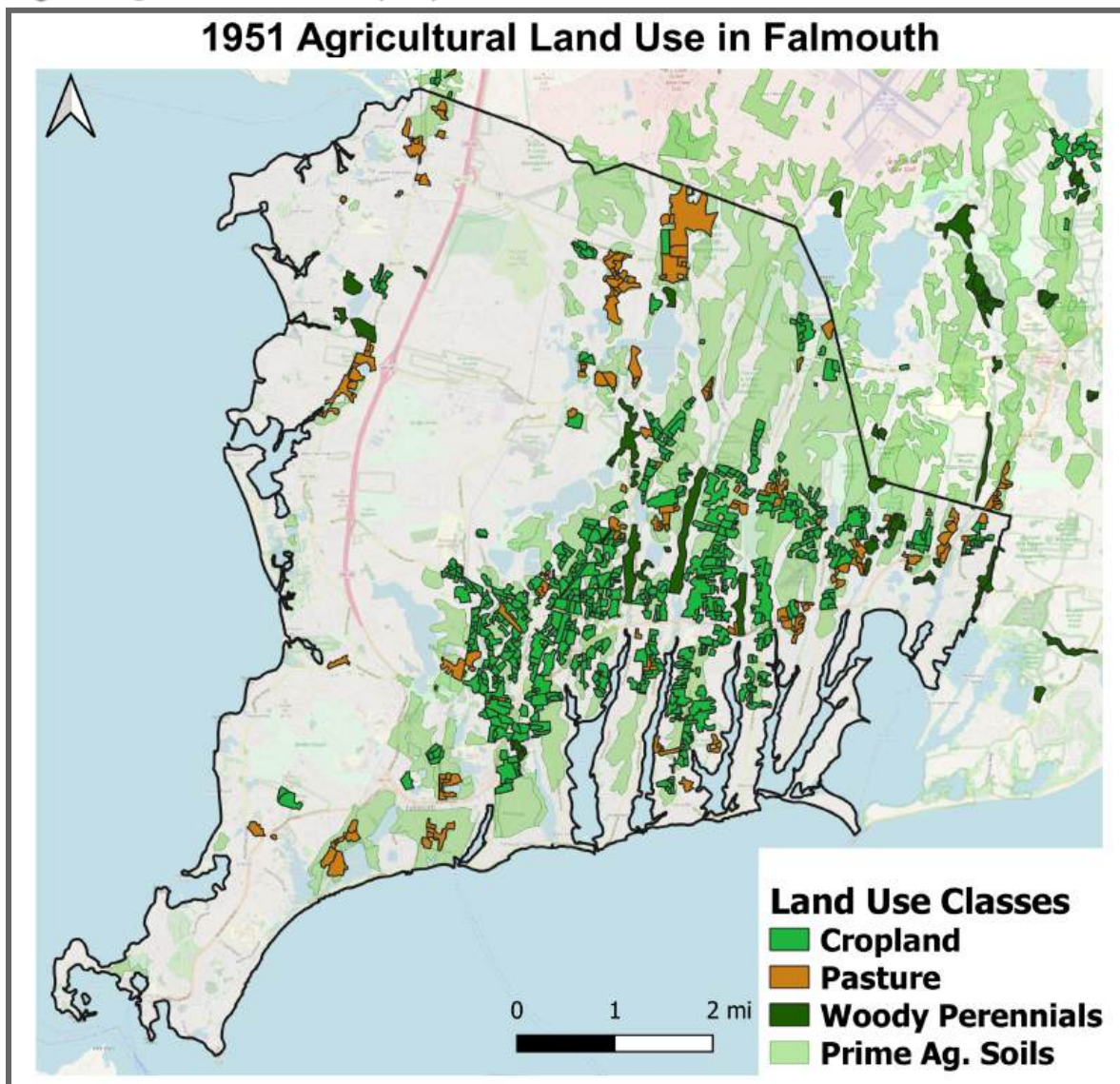
Figure 3 (above) depicts the number of acres in agriculture in Falmouth between 1951 and 2016. Based on data from the MassGIS⁸ (Bureau of Geographic Information), the cumulative total acres of cropland and land dedicated to pasture, hay, and woody perennials in Falmouth has decreased by a factor of over 7 in just 65 years. This precipitous decline in agricultural land represents a 86.5% decrease since 1951, amounting to 11% (3,027.9) of Falmouth's total land area. A breakdown of land use classifications by year used for these calculations can be found in [Appendix H](#).

⁷ Refer to [Appendix J](#) for a map of Cape Cod's agricultural soils.

⁸ Values for farmland acreage were calculated using shapefiles and corresponding attribute tables from [MassGIS Land Use Data Layers](#).

Figures 4 and 5 (*below*) offer a visual comparison of farmland loss in Falmouth between 1951 to 2016.⁹ This transition has been overlaid on a map of Falmouth's prime agricultural soils, or "land that has the best combination of physical and chemical characteristics for economically producing sustained high yields of food, feed, forage, fiber, and oilseed crops, when treated and managed according to acceptable farming methods" (MassGIS, 2021). As acknowledged by the 2016 Comprehensive Plan, "farmland is viewed as more valuable when subdivided into single-family home lots", yet "Falmouth's remaining farmlands are critical to our community's resiliency and open space network" (Town of Falmouth Planning Board, 2016, pg. 3). Furthermore, this report states that "in order to fully realize the long-term vision¹⁰, we must shift haphazard growth and guide development" (pg. 3). While realizing a long-term vision will take time and commitment, this assessment aims to shift these patterns of haphazard growth and provide meaningful recommendations to guide development in support of a sustainable, resilient and equitable food system.

Figure 4. Ag. Land Use in Falmouth (1951)

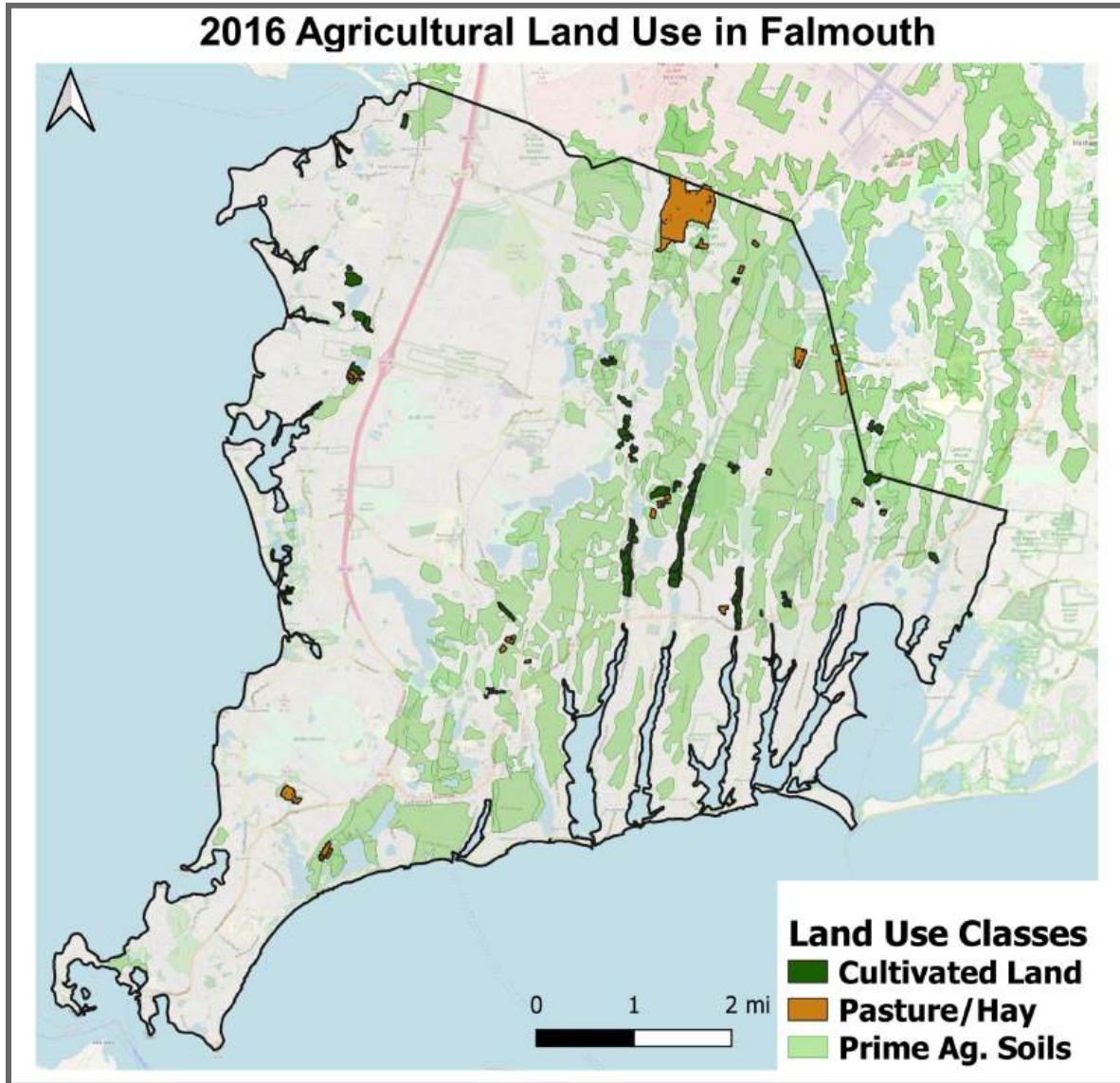


Note. Data for Figure 4 and 5 adapted from "Physical Resources Datasets" by MassGIS, n.d., (<https://www.mass.gov/info-details/massgis-data-layers#survey/demographic-data->).

⁹ Given that the land use classifications have not been consistent over time, different land use classes are found between the 1951 and 2016 maps.

¹⁰ While it is unclear from this report what exactly this 'vision' is, the report offers a variety of policy recommendations that can be found in the [Falmouth and Cape Cod Plans & Assessments](#) section.

Figure 5. Ag. Land Use in Falmouth (2016)

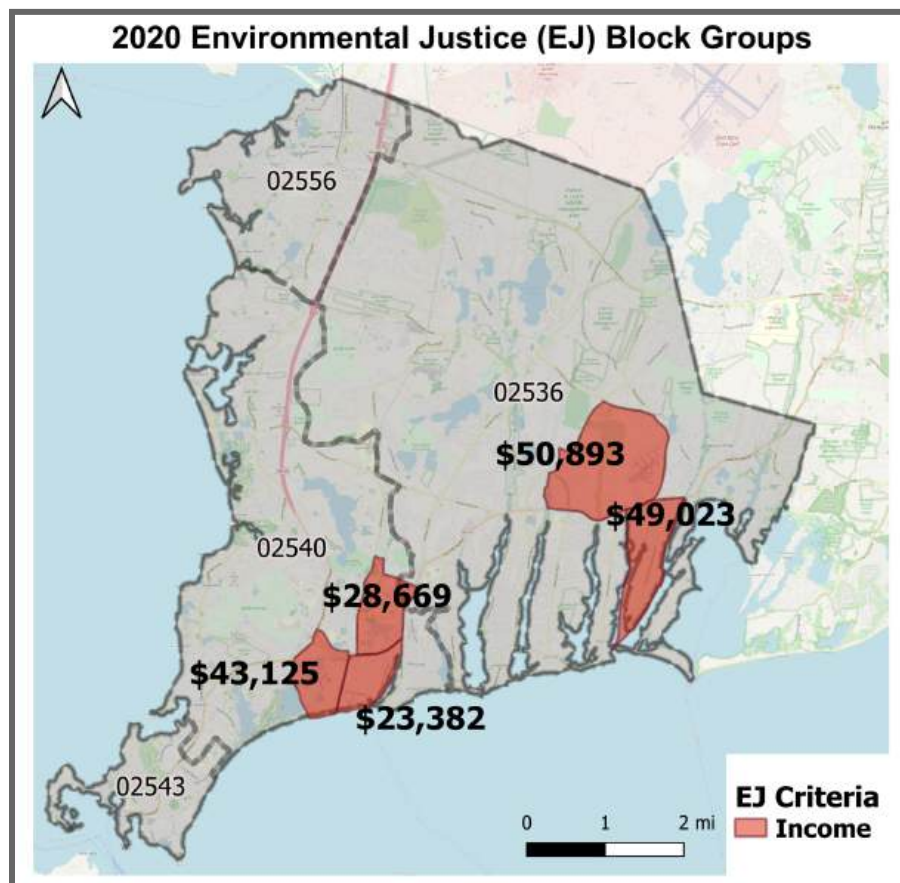


Note. Data for Figure 5 adapted from "Physical Resources Datasets" by MassGIS, n.d., (<https://www.mass.gov/info-details/massgis-data-layers#survey/demographic-data->).

Demographics

- ❖ Based on most recent estimates, Falmouth is home to 33,104 people, which represents a 1.8% increase from 2020, and Barnstable County is home to 232,457 people. According to the 2020 Census, the 02536 Zip Code contains the majority of Falmouth residents, representing 19,993 people (61.4%), the 02540 Zip Code accounts for 8,450 people (26.0%), the 02556 Zip Code contains 3,338 people (10.3%), and the 02543 Zip Code accounts for 756 (2.3%).^{11,12}
- ❖ According to 2020 Census data, Falmouth's population was majority white (87.4%), female (52.4%), falls between the ages of 18-65 (48.9%), and lives in the 02536 Zip Code (61.4%).
- ❖ 8.5% of Falmouth's population is below the poverty threshold, which in 2024 equates to an income of \$15,060 for a one-person household.¹³
- ❖ In 2021, Falmouth's median household income was \$78,884. For the 14,043 households calling Falmouth home, over 48% earn below the median income; roughly 31% earn less than \$48,840, or amount needed to afford the median priced rent; and over 83% earn less than \$219,000, the amount needed to afford a median priced single family home (Falmouth EDIC, n.d.).
- ❖ Falmouth contains five environmental justice (EJ) block groups, totalling 18.0% of the Town's population (MassGIS, 2020). Individuals in these EJ block groups earn an annual median that is less 65% of the statewide median income.

Figure 6. EJ Block Groups in Falmouth (2020)



Note. Adapted from "2020 Environmental Justice Populations" by MassGIS, 2024.
(<https://www.mass.gov/info-details/massgis-data-2020-environmental-justice-populations>).

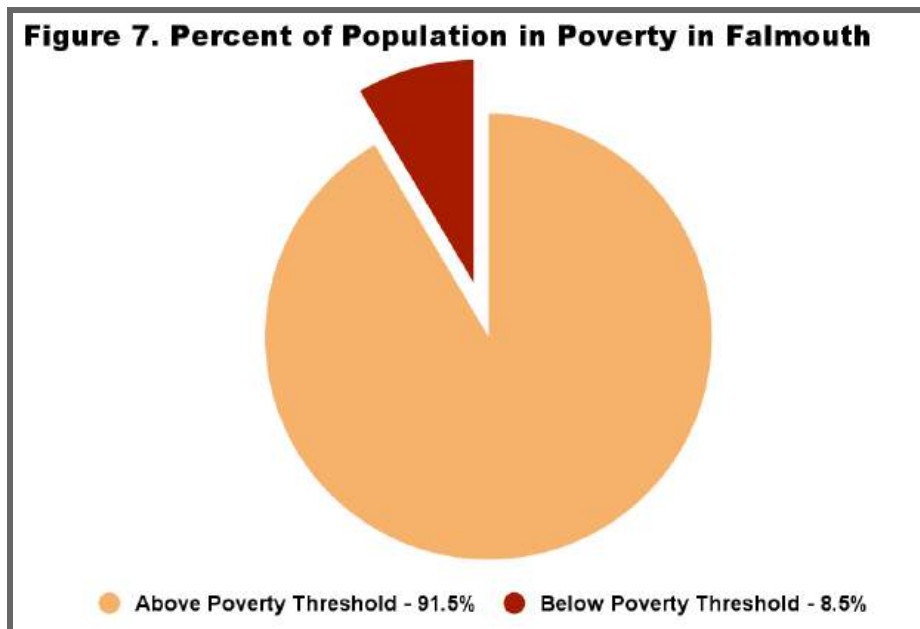
¹¹ Refer to [Appendix I](#)

¹² For more information on zip code tabulation areas: <https://data.census.gov/profile/02540?g=86oXX0oUS02540>

¹³ For more information on poverty threshold guidelines: <https://aspe.hhs.gov/topics/poverty-economic-mobility/poverty-guidelines>

Figure 6 depicts Falmouth's five environmental justice block groups.¹⁴ Environmental justice is based on the principle "that all people have a right to be protected from environmental hazards and to live in and enjoy a clean and healthful environment" (Cape Cod Commission, n.d.). Within Massachusetts, a community is defined as an environmental justice population if it meets one or more of the following criteria: 1) the annual median household income is 65% or less of the statewide annual median household income; 2) minorities make up 40% or more of the population; 3) 25% or more of households lack English language proficiency, and 4) minorities make up 25% or more of the population and the annual median household income of the municipality in which the neighborhood is located does not exceed 150% of the statewide annual median household income (MA Office of Environmental Justice & Equity, n.d.). Within Falmouth, five block groups are designated as environmental justice block groups on the basis of income, meaning that residents of these neighborhoods earn less than 65% of the statewide annual median income. In 2020, 65% of the statewide annual median income was \$57,077.¹⁵

In total Falmouth's five environmental justice block groups represent 18% of the total population of the town, or 5,861 residents (MassGIS, 2020). The lowest annual median income within these neighborhoods was \$23,382, followed by an income of \$28,669, \$43,125, \$49,023 and \$50,893.



Note: Adapted from "QuickFacts: Falmouth" by the U.S. Census Bureau, 2020, (<https://www.census.gov/quickfacts/fact/table/falmouthtownbarnstablecounty/massachusetts/INC910222#INC910222>).

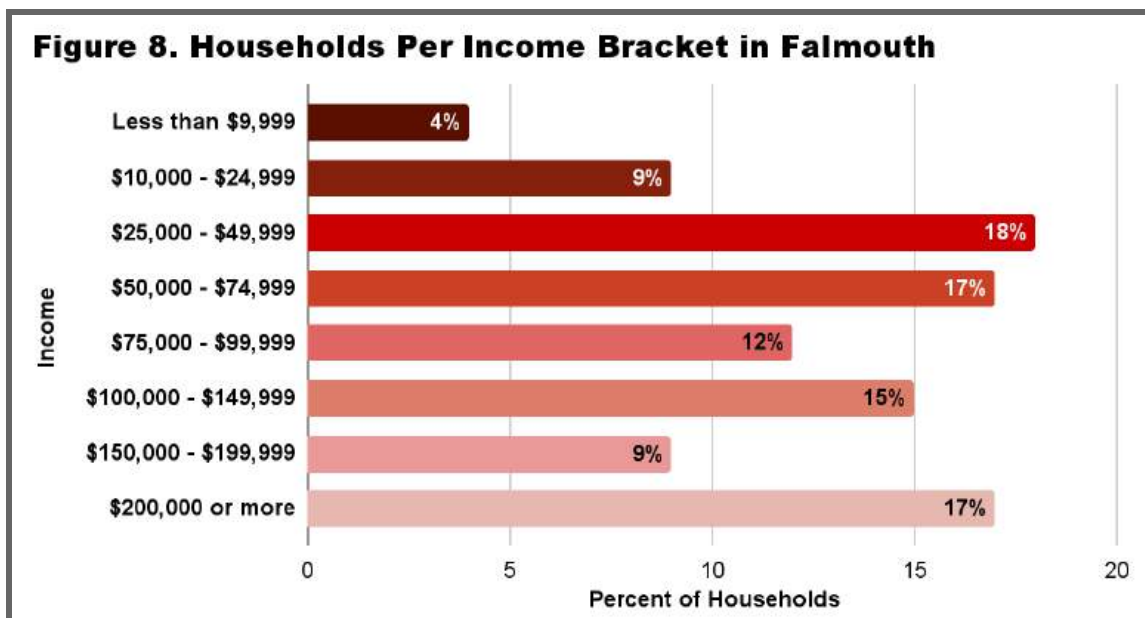
Figure 7 (left) indicates the percentage of Falmouth's population in poverty, which in 2022 was 2,765 people, or 8.5% of the population (U.S. Census Bureau, 2022). "While documented poverty rates are lower compared to the state, the true cost of living in the region [Barnstable County] requires an income level that far exceeds poverty level incomes. Median household incomes are notably lower among renter-occupied households among householders who are under 25 years of age, over 65 years of age, or Black (Cape Cod

Healthcare, 2023, pg. 65). In 2021, Falmouth's median household income was \$78,884. For

the 14,043 households calling Falmouth home, over 48% earn below the median income; roughly 31% earn less than \$48,840, or amount needed to afford the median priced rent; and over 83% earn less than \$219,000, the amount needed to afford a median priced single family home (Falmouth EDIC, n.d.). The economic stress and instability faced by Falmouth residents—exacerbated by the seasonal nature of Falmouth's economy—creates conditions in which residents "may be forced to prioritize the costs of basic needs like housing, food, or childcare over healthcare services, contributing to poorer health outcomes over time" (Cape Cod Healthcare, 2023, pg. 65).

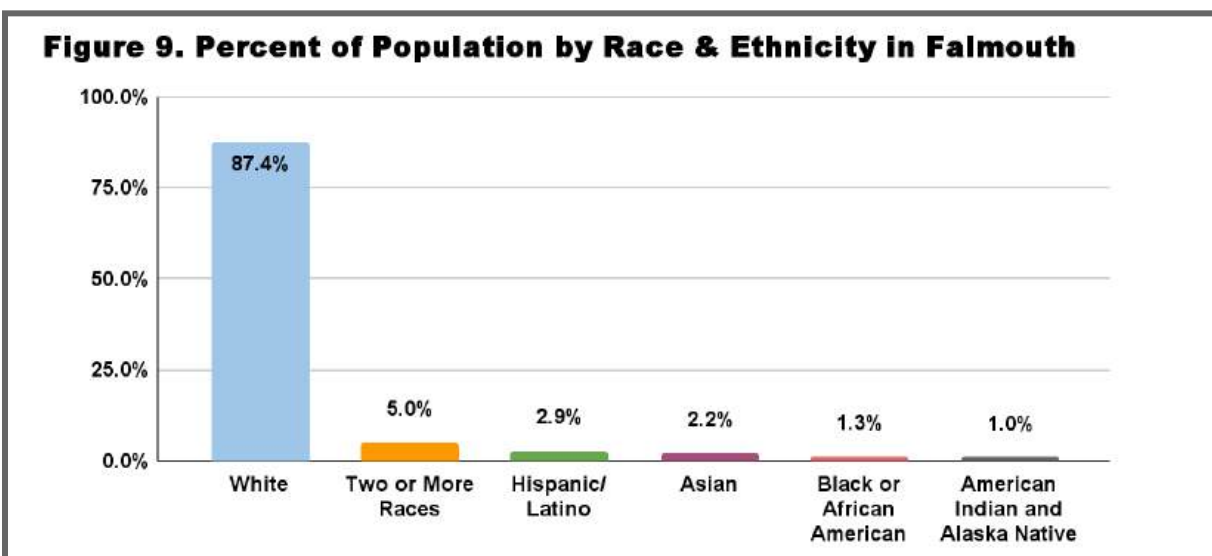
¹⁴ A block group is the smallest geographic area for which the Bureau of the Census collects and tabulates census data

¹⁵ 2020 statewide median income was \$87,812, based on information from <https://www.statista.com/statistics/205951/median-household-income-in-massachusetts/>



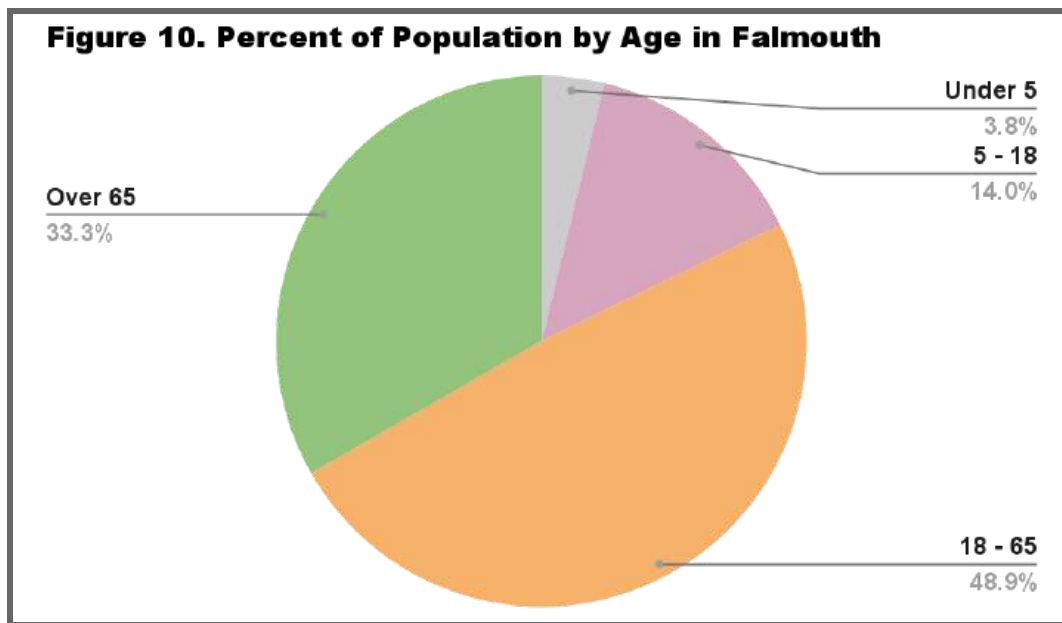
Note. Adapted from "American Community Survey - 5 Year Data" by the U.S. Census Bureau, 2021.
<https://www.census.gov/data/developers/data-sets/acs-5year.html>.

Figure 8 (above) provides a breakdown of households per income bracket in Falmouth. In 2020, the most common income for residents was between \$25,000-\$49,999 (18%), followed by those earning \$50,000-\$74,999 (17%), \$200,000 or more (17%), \$100,000-\$149,999 (15%), \$75,000-\$99,999 (12%), \$10,000-\$24,999 (9%), \$150,000-\$199,99 (9%), and less than \$9,999 (4%). Over half of residents (53%) earn more than \$75,000, which is just shy of Falmouth's 2021 median household income of \$78,884, roughly 31% earn less than \$48,840, or the amount needed to afford the median priced rent.



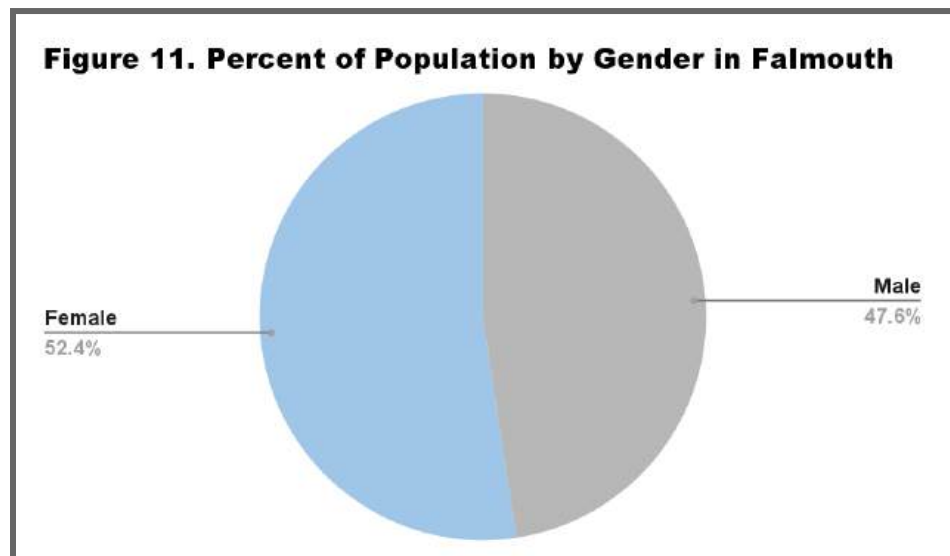
Note. Adapted from "QuickFacts: Falmouth" by the U.S. Census Bureau, 2020.
<https://www.census.gov/quickfacts/fact/table/falmouthtownbarnstablecountymassachusetts,MA/INC910222#INC910222>.

Figure 9 (above) provides a breakdown of Falmouth's population by race and ethnicity. According to the 2020 Census, an overwhelming majority of residents identified as White (87.4%), followed by those who identified as two or more races (5.0%), Hispanic/Latino (2.9%), Asian (2.2%), Black or African American (1.3%), and American Indian and Alaska Native (1%).



Note. Adapted from "QuickFacts: Falmouth" by the U.S. Census Bureau, 2020, (<https://www.census.gov/quickfacts/fact/table/falmouthtownbarnstablecountymassachusetts,MA/INC910222#INC910222>).

Figure 10 (above) demonstrates Falmouth's population by age. According to the 2020 Census, the most common age group for residents is 18-65 (48.9%), followed by those over 65 (33.3%), between 5-18 (14.0%), and under 5 (3.8%). The median age in Falmouth is 56.5 years while the median age in Barnstable County is 55.7 years. As of 2018, Barnstable County had the highest median age of any county in Massachusetts (Strate et al., 2019).



Note. Adapted from "QuickFacts: Falmouth" by the U.S. Census Bureau, 2020, (<https://www.census.gov/quickfacts/fact/table/falmouthtownbarnstablecountymassachusetts,MA/INC910222#INC910222>).

Figure 11 (above) indicates percent of Falmouth's population by gender. Based on results from the 2020 Census, 52.4% of residents identified as female while 47.6% of residents identified as male.

**“We would rather be ruined than changed. We would rather die in our dread/
Than climb the cross of the moment and let our illusions die.”**

– W.H. Auden, *The Age of Anxiety*

“We have yet to understand that if I am starving, you are in danger.”

– James Baldwin

Livability is a broad reaching concept that may include elements such as transportation, politics, environment, community development, health, equity, housing, economics, as well as the food system. It can be further defined as “the sum of the factors that add up to a community’s quality of life—including the built and natural environments, economic prosperity, social stability and equity, educational opportunity, and cultural, entertainment and recreation possibilities” (Partners for Livable Communities, n.d). What and how people eat impacts livability in many ways¹⁶; health, economic stability, environmental sustainability, and social cohesion. In efforts to help contextualize Falmouth’s food system within the conversation of livability, this food system assessment provides a range of pre-existing metrics as well as a new set of metrics calculated through the Falmouth Food Survey and Grower and Producer Survey. These additional factors highlight the interconnections of the food system and speak to the quality of life of the consumers and growers of Falmouth.

The metrics referred to in the sections below can be used to better comprehend the conditions that influence and are affected by Falmouth’s food system. Whether its air pollution and fast-food restaurant density, or upward income mobility and economic connectedness, inclusion of these metrics forms a holistic understanding of the lived experiences in Falmouth. By themselves, none of this data is enough to provide a complete measure of livability, but when looked at in relationship to one another and over time they offer a more comprehensive interpretation that can help to inform social, economic and environmental change. Reactivity, forgetfulness, and acquiescence to the status quo all too often dictate the course of events within our communities. However, by actively reclaiming our power and embracing a definition of livability that speaks to the needs and conditions of all residents of Falmouth and that centers resilience, sustainability, and equity, we stand to improve our collective experiences, and our food system.



¹⁶ This overlap between a livable future and a healthy, equitable and resilient food system is studied in detail by [Johns Hopkins Center for a Livable Future](#).

Health Indicators

Categories of health indicators, or ways of measuring specific health characteristics in a population, include the physical environment, health behaviors, health care, health outcomes and health risk factors, and social determinants of health. These metrics of livability, many of which are provided by the [Barnstable County Department of Human Services](#), establish a baseline that can be used to understand factors that influence and are influenced by the food system. Each indicator is collected using a variety of sources and is evaluated on a scale that ranges from excellent, good, average, poor to very poor. While all of the health indicator categories are included in Appendix B, several key findings that relate to the food system are included in Table 3 (*below*). These indicators suggest that the domains of health in Barnstable County most in need of attention are its physical environments, health outcomes and health risk factors, and social determinants of health (Barnstable County Department of Human Services, n.d.).

Table 3. Selected Health Indicators in Barnstable County (Ranked from Excellent to Very Poor)	
Population with low access to grocery stores → Very poor	Income inequality → Very poor
SNAP households with low access to grocery stores → Very poor	Farms with direct sales → Very poor
Renters spending more than 30% income on rent → Poor	Vegetable acres harvested → Very poor
Low-income/low access to health foods → Very poor	Heart Disease Prevalence → Very Poor
Note. From "Health Data" by the Barnstable County Department of Human Services, n.d., (https://publichealth.networkofcare.org/barnstable-ma/HealthData).	

Further information on the state of health and well-being in Barnstable County can be found in Cape Cod Healthcare's [2023-2025 Community Health Needs Assessment](#). Findings from this report reveal that "access to affordable and healthy food" (51.5%) was the third most frequently identified social issue (Cape Cod Healthcare, 2023, pg. 29). Additional findings indicate a variety of factors that relate to the food system due to their impact on food security, nutrition and culturally connected foods (see section on [Food Environments](#)).

- **Barnstable County's population is older than the state overall**¹⁷ and over 32% of Falmouth's population is over age 65 (pp. 10-11).
- **Racial diversity is increasing throughout the Cape.** While less than 20% of Barnstable County's residents identify as non-white, this population is growing. In the Upper Cape, the population identifying as a racial or ethnic minority grew at a rate of nearly 5% between 2015-2020. "In interviews with stakeholders, immigrants were identified as a particularly vulnerable population in that they do not receive the same attention or resources as their native-born counterparts" (pg. 13).
- **Housing and homelessness is the top social concern**, as indicated by 75.5% of respondents to the Community Health Needs Assessment. Residents of Barnstable County are cost burdened (meaning they devote 35% or more of household income to housing costs) at a rate higher than the state overall. Over 56% of renters and 37% of owners with a mortgage are cost burdened (p. 19).
- **Local healthcare services are overburdened** with the top barrier experienced to accessing healthcare in 2022 being local waits for appointments, experienced by over 50% of those surveyed (pg. 35). This is seen as a confluence of other community health issues, including lack of housing, a majority elderly population, and a seasonal economy, which can't support a robust regional healthcare system.
- **Diet-related disease is prevalent among those over 65.** The most recent data shows hypertension (high blood pressure) and hyperlipidemia (high cholesterol) are the most prevalent cardiovascular conditions among medicare users in Barnstable County, and in both cases are higher than the state average (pg. 43).

¹⁷ The median age in Barnstable County is 53.7 years and in MA is 39.6 years (Cape Cod Healthcare, 2023, pg. 10).

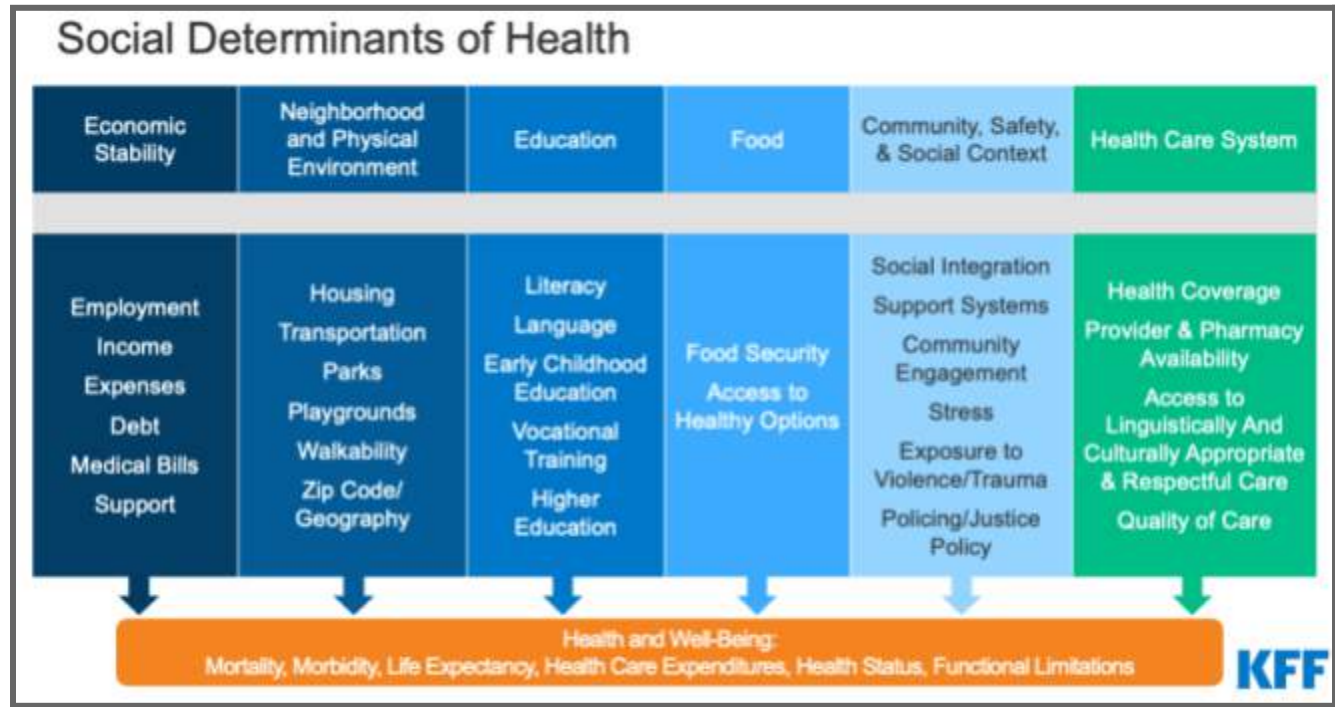
Social Determinants of Health

A category of health indicators included in the Barnstable County Health Indicators Dashboard that deserves further clarification are “Social Determinants of Health (SDOH).” Defined as non-medical factors that influence health outcomes, SDOH include conditions like access to high education, transportation and health coverage as well as the economic systems and policies, social norms and politics that inform these conditions. According to the World Health Organization, studies suggest that SDOH accounts for between “30-55% of health outcomes. In addition, estimates show that the contribution of sectors outside health to population health outcomes exceeds the contribution from the health sector... [SDOH] have an important influence on health inequities—the unfair and avoidable differences in health status seen within and between countries.” (WHO et al., n.d.). Given their impact on health outcomes, SDOH are a vital tool in the work of addressing inequities within the food system.

With the awareness that “in countries at all levels of income, health and illness follow a social gradient: the lower the socioeconomic position, the worse the health (WHO et al., n.d.),” we are forced to reckon with the socioeconomic differences on a local level. Where do these gradients of health exist in Falmouth and how can they be addressed through the lens of SDOH? To think though such a question, the World Health Organization’s Commission on SDOH¹⁸ advocates for three key recommendations:

- 1. Improving daily living conditions
- 2. Confronting the unequal distribution of money, power & resources
- 3. Measuring + understanding the problem & assessing impact of actions

Figure 12. Social Determinants of Health



Note. From “Social Determinants of Health” by Drake & Rudowitz (KFF), 2022.
(<https://www.kff.org/coronavirus-covid-19/issue-brief/tracking-social-determinants-of-health-during-the-covid-19-pandemic/>). CC BY-ND-NC 4.0.

¹⁸
<https://www.who.int/initiatives/action-on-the-social-determinants-of-health-for-advancing-equity/world-report-on-social-determinants-of-health-equity/commission-on-social-determinants-of-health>

Economic Mobility

A glimpse into Opportunity Insight's Opportunity and Social Capital Atlases

The following section explores the role of economic mobility in shaping community outcomes. *Neighborhood Opportunity* looks at the economic mobility associated with geography and parental income while *Social Capital*, or the strength of our relationships and communities, investigates the impact of social cohesion and economic connectedness on economic mobility. Due to ways in which socio-economic dynamics influence access to and quality of food resources,¹⁹ these metrics are relevant to the work of better understanding and transforming Falmouth's food system.

Figure 13. Key Findings from Social Capital Atlas

KEY FINDINGS

- Social networks are highly stratified by socioeconomic class: people tend to befriend others with similar incomes.
- Children who grow up in communities with more economic connectedness (cross-class interaction) are much more likely to rise up out of poverty.
- Other forms of social capital — how tight-knit a community is or levels of civic engagement — are not strongly associated with economic mobility.
- Differences in economic connectedness can explain the relationship between upward mobility and other factors, such as poverty rates and racial segregation.
- The social disconnection by class is due in equal part to segregation by income across social settings and friending bias within settings, the tendency for people to befriend people similar to them.
- Both segregation and friending bias are shaped by the structure of institutions and can be reduced through targeted changes in local policies.

Note. From "Key Findings" by Chetty et al., 2022. (https://opportunityinsights.org/wp-content/uploads/2022/07/socialcapital_nontech.pdf). Copyright 2024 by Opportunity Insights.

Figure 14. Key Findings from Opportunity Atlas

KEY FINDINGS

- Children's outcomes in adulthood vary sharply across neighborhoods that are just a mile or two apart
- Places that have good outcomes for one racial group do not always have good outcomes for others
- Moving to a better neighborhood earlier in childhood can increase a child's income by several thousand dollars
- Traditional indicators of local economic success such as job growth do not always translate into greater upward mobility
- Historical data on children's outcomes are a useful predictor of children's prospects for upward mobility today
- The new data uncover "opportunity bargains" — affordable neighborhoods that produce good outcomes for children

Note. From "Key Findings" by Chetty et al., 2022. (https://opportunityinsights.org/wp-content/uploads/2021/12/atlas_summary.pdf). Copyright 2024 by Opportunity Insights.

Neighborhood Opportunity

With the guiding question, "which neighborhoods in America offer children the best chances of climbing the income ladder?" Opportunity Insight's [Opportunity Atlas](#) has used anonymized data on 20 million Americans to get a sense of where we must look to address economic mobility. The Opportunity Atlas maps "individuals back to the census tract (geographic units consisting of about 4,250 people) in which they grew up [then]... estimates children's average earnings, incarceration rates, and other outcomes by their parental income level, race, and gender" (Opportunity Insights & US Census Bureau, 2020). Table 4 (*below*) demonstrates the economic outcomes of children, at age 35, based on their neighborhood and parents income percentile and points to the economic disparities across Falmouth's villages and neighborhoods. As this research indicates, census tracts²⁰ 144.02, 145, 146, and 147 have the lowest economic outcomes, regardless of the parent income percentile, for children of all races and genders who grew up in these areas.

¹⁹ See [Chapter 5, Food Environments and Consumer Behavior](#)

²⁰ Refer to [Appendix C](#) for more information on Falmouth Census Tracts

Table 4. Household Income at Age 35 Based on Parent Income and Neighborhood					
Census Tract	Neighborhood (Zip Code Approximation)	Parent Income Percentile			
		All Incomes	75th	50th	25th
143	North Falmouth (02556)	\$58,391	\$55,740	\$46,602	\$38,352
144.02	East Falmouth, West Falmouth + Falmouth (02536, 02574, 02540)	\$43,908	\$50,765	\$39,665	\$29,649
145	East Falmouth (02536)	\$43,720	\$50,478	\$42,003	\$34,187
146	East Falmouth (02536)	\$43,305	\$49,129	\$40,711	\$32,902
147	Teaticket (02536)	\$45,040	\$53,873	\$42,907	\$33,155
148	Falmouth (02540)	\$58,538	\$65,168	\$53,731	\$43,689
149	Woods Hole + Falmouth (02543, 02540)	\$60,412	\$58,532	\$51,458	\$44,883
<i>Note.</i> Adapted from "Opportunity Atlas" by Opportunity Insights and the U.S. Census Bureau, (https://www.opportunityatlas.org/). Copyright 2024 by Opportunity Insights.					

As Table 4 (*above*) indicates, the average household income at age 35 for those who grew up in East Falmouth or Teaticket was \$43,993 while for those who grew up in Falmouth, North Falmouth, and Woods Hole was \$59,114. This data, and more importantly these lived experiences, supports a key finding that "children's outcomes in adulthood vary sharply across neighborhoods that are just a mile or two apart" (Opportunity Insights & US Census Bureau, 2020).

Social Capital

In addition to its Opportunity Atlas, Opportunity Insights has used data from 21 billion friendships on Facebook to build its [Social Capital Atlas](#). This tool measures three types of social capital—economic connectedness, cohesiveness, and civic engagement—in efforts to help answer the question: "can socially connected communities provide pathways out of poverty?" Fortunately, Opportunity Insights, as well as other research,²¹ indicate that the answer to this question is yes; social connection to more affluent and educated individuals can indeed affect economic outcomes and can even "be valuable for transferring information, shaping aspirations and providing mentorship or job referrals" (Rice & Galbraith, 2008). According to Opportunity Insights, "children who grow up in communities that are rich in bridging social capital—[for example] where low-income families are more likely to

"Across the lifespan, residents of impoverished communities are at increased risk for mental illness, chronic disease, higher mortality, and lower life expectancy. Children make up the largest age group of those experiencing poverty. Childhood poverty is associated with developmental delays, toxic stress, chronic illness, and nutritional deficits. Individuals who experience childhood poverty are more likely to experience poverty into adulthood, which contributes to generational cycles of poverty. In addition to lasting effects of childhood poverty, adults living in poverty are at a higher risk of adverse health effects from obesity, smoking, substance use, and chronic stress. Finally, older adults with lower incomes experience higher rates of disability and mortality" (U.S. Dept. Health & Human Services, n.d.).

²¹ Refer to 1) Matthew O. Jackson's Inequality's Economic and Social Roots: The Role of Social Networks and Homophily: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3795626; and 2) Burchardi and Hassan's The Economic Impact of Social Ties: Evidence from German Reunification: <https://academic.oup.com/qje/article-abstract/128/3/1219/1849933?redirectedFrom=fulltext&login=false>

interact with high-income families—have significantly better chances of rising out of poverty” (Opportunity Insights, 2022). America’s rate of income inequality is higher than any other developed nation (Campbell et al., 2022) and has increased 20% from 1980 and 2016 (Pew Research Center, 2020). As such, Americans stand to benefit from interventions that help build social capital.

Of the three forms of social capital measured by the Social Capital Atlas, economic connectedness has been found to be the best predictor of upward economic mobility.²² Defined as the share of high income friends among people with low-incomes, economic connectedness is determined by a combination of both exposure and friend bias. Exposure is understood as the share of high-income people in low-income people’s communities, while friend bias is the likelihood that low-income people form friendships with the high-income people in their community. A high friending bias suggests that even when there are people of different backgrounds around, there is a higher chance friendships remain class-based and income segregated. Given their potential to increase economic connectedness, opportunities that result in the economic integration of institutions and neighborhoods as well as cross-class social engagement look to “be the most promising route to improving rates of upward economic mobility in the U.S” (Reeves & Fall, 2022).

“Poorer populations systematically experience worse health than richer populations...Such trends within and between countries are unfair, unjust and avoidable. Many of these health differences are caused by the decision-making processes, policies, social norms and structures which exist at all levels in society” (WHO et al., n.d.).

Figure 15 indicates that Falmouth (02540) exhibits high upward mobility (82nd percentile), whereby adult children of low-income families earn an average of \$40,800 a year, and high economic connectedness (75th percentile) when compared to the country as a whole. When looking specifically at components of economic connectedness, however, Falmouth exhibits high exposure (88th percentile), or the share of high-income people in low-income people’s communities, yet a high friending bias (14th percentile), suggesting that while a large share of the people whom low-income people meet have high incomes, low-income people are less likely to form friendships with these people. Interestingly, despite its high economic connectedness (84th percentile), East Falmouth (02536) exhibits low upward economic mobility (39th percentile), whereby adult children of low-income families earn an average of \$32,500 a year, as seen in Figure 16. Similar to Falmouth (02540), when looking specifically at components of economic connectedness, East Falmouth (02536) exhibits high exposure (85th percentile) yet a high friending bias (23rd percentile). This data suggests that the greatest opportunity for increased economic connectedness may depend on the interventions that support the formation of friendships across class lines.

These findings beg the questions: Can social capital, especially economic connectedness, help communities in Falmouth and provide pathways out of poverty? How can underserved neighborhoods and communities build friendship and increase exposure as a means of improving upward economic mobility? Furthermore, how might upward economic mobility and social capital be facilitated by interventions within the food system (i.e. farmers’ market, educational workshops, community events, etc)? Ultimately, how might these interventions form a positive feedback loop in support of a more sustainable and resilient food system in Falmouth and on Cape Cod? More research will need to be done to answer these questions in order to better understand the intersections between economic mobility and the food system within and beyond Falmouth.

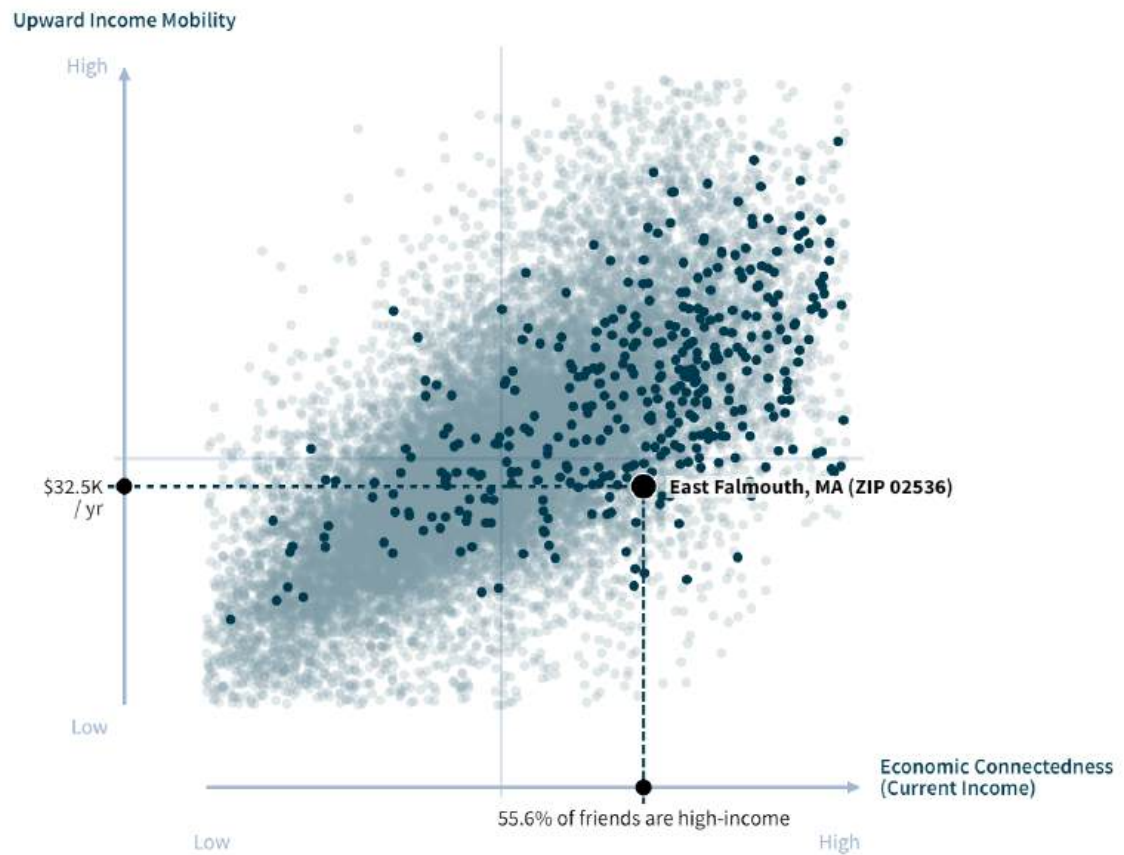
²² The average income in adulthood for children who grew up in low-income families

Figure 15. Economic Connectedness in East Falmouth (02536)

Economic Connectedness (Current Income)

and Upward Income Mobility

East Falmouth, MA (ZIP 02536) compared to ZIP codes in Massachusetts



**OPPORTUNITY
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SOCIAL CAPITAL ATLAS

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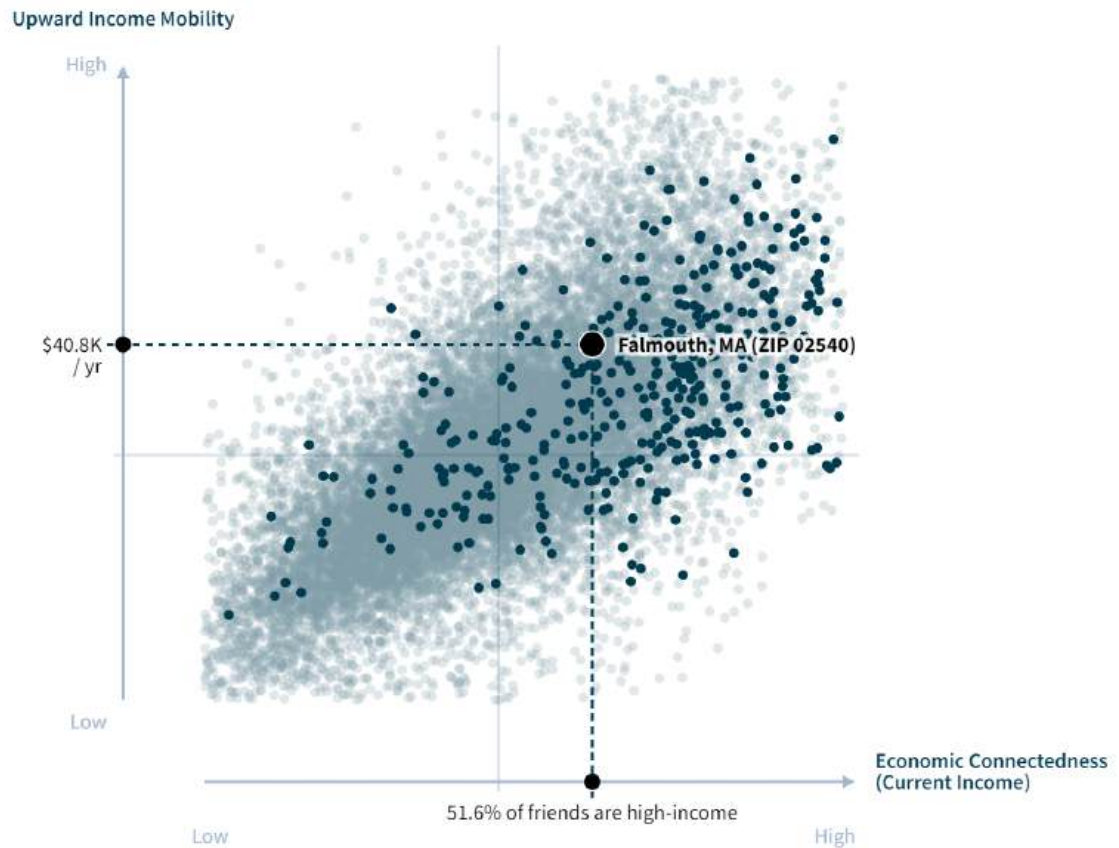
Note. Figure 15 is from "Social Capital Atlas" by Opportunity Insights and Social Capital Atlas (<https://socialcapital.org/>).

Figure 16. Economic Connectedness in Falmouth (02540)

Economic Connectedness (Current Income)

and Upward Income Mobility

Falmouth, MA (ZIP 02540) compared to ZIP codes in Massachusetts



OPPORTUNITY INSIGHTS **SOCIAL CAPITAL ATLAS**
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Note. Figure 16 is from "Social Capital Atlas" by Opportunity Insights and Social Capital Atlas (<https://socialcapital.org/>).

Section 3.

Understanding Falmouth's Food System



Chapter 3. Understanding Falmouth's Food System

Local insights for a resilient and sustainable food future

Introduction:

The 2024 Falmouth Food System Assessment sets out to build a comprehensive picture of the various components that amount to Falmouth's food system. The primary objectives of this project are twofold:

- 1) Establish a baseline of information that can be used to inform and track change within the food system.
- 2) Nurture a vision for a food future grounded in resilience and sustainability.

In order to accomplish these objectives, this project takes the form of a food system assessment, which is an increasingly common tool to improve awareness and deepen a community's relationship to their food system. As is the case with many assessments, this report uses qualitative and quantitative information to provide a "snapshot" of current conditions. It highlights features of the food system, pulls out trends, and draws attention to questions and concerns held by various stakeholders.

This project was undertaken by Farming Falmouth, a non-profit whose mission is to revitalize Falmouth's food system by cultivating an informed and engaged food community. Since its inception in 2019, it has quickly filled a gap within the community and offered new ways of bringing people closer to where and how their food is grown. With some of the Cape's best soils and miles of coastline, Farming Falmouth's efforts seek to acknowledge the Town's potential to produce a diversity of food, and do so in thoughtful, fair and sustainable ways. In efforts to better understand the Falmouth's potential to produce a diversity of food with its bounty of natural resources, and to learn more about what barriers may be preventing people from accessing this abundance, Farming Falmouth began the work of this assessment in the fall of 2020.

Methodology:

The methodology for the Falmouth Food Assessment was initially informed by the Iowa State University Extension [Community Food Systems Certificate program](#). This course provided a model for how to conduct a food system assessment that was then tailored to address the needs and conditions of Falmouth. However, much of the work was inspired by efforts closer to home. The Marion Institute's [2021 Southeastern Massachusetts Food System Assessment](#), due to its proximity and thoroughness, offered an invaluable framework and source of inspiration. Less recent, but equally robust, the 2011 Association to Preserve Cape Cod report, [Agricultural Land Use on Cape Cod](#) provided an overview of agriculture on Cape Cod and a reminder that without documentation and data collection some stories aren't told. Lastly, the New England State Food System Planners Partnership's 2023 report, [A Regional Approach to Food System Resilience](#), offered a hopeful, bold, and collaborative roadmap, spelling out what is possible on a regional level and what must be done to get there.

This work was also informed by a constellation of primary and secondary data. The bulk of secondary data can be attributed the USDA Census of Agriculture, while less common data sources include the USDA Economic Research Service, the MA Department of Elementary and Secondary Education, the USDA Food and Nutrition Service Farm to School Census, the MA Department of Transitional Assistance, Feeding America, Falmouth Town Assessors, and the Cape Cod Blue Economy Implementation Plan. Primary data was gathered through focus groups and surveys. Three focus groups were held, gathering stakeholders from the following groups: farmers and growers; food service workers; and community food system stakeholders. Two surveys were also employed: one for Falmouth based growers and producers, and another for residents of Falmouth.

2022 Grower and Producers Input Sessions

- In March of 2022, two input sessions—one virtual and one in person—were hosted to convene growers and producers in the Falmouth area. These sessions were conducted as a means to explore the strengths, challenges, and opportunities within the Falmouth food system from the perspective of those who were actively growing and producing food at the time. Combined, these sessions drew 14 participants who helped to paint a picture of the realities, concerns, and needs of farmers in and around Falmouth.

2022 Food Service, Processing and Distribution Input Session

- A month later in April of 2022, the second set of input sessions—one virtual and one in person—were hosted to convene members of the food system in the Falmouth area whose work focused on food service, distribution, wholesale, processing and aggregation. These sessions were conducted as a means to explore the strengths, challenges and opportunities within the Falmouth food system and combined, these sessions drew 16 participants.

2022 Food System Service Provider Input Sessions

- In May of 2022, two final input sessions—one virtual and one in person—were hosted to convene members of the food system in the Falmouth area whose work indirectly engages with the food system through education, policy, economic or cultural development, nutrition, science, conservation, etc. Like the previous sessions, these were conducted as a means to explore the strengths, challenges, and opportunities within the Falmouth food system and combined, involved 24 participants.

2022 Grower and Producer Survey

- Between June to October of 2022 a grower and producer survey was sent to all participants of the grower and producer input sessions, as well as all other known growers and producers in and around Falmouth. Given that this survey was the first of its kind for Falmouth, outreach for this survey yielded 11 respondents, which is estimated to be roughly half of all growers and producers in the Falmouth area. Although data from this survey doesn't fully represent the experience of those growing food for Falmouth, it does help us to get a sense of the current conditions and needs for those who responded and helps to form a baseline of information for future surveys.

2022 Falmouth Food Survey

- Between May and September of 2022, the Falmouth Food Survey was conducted in order to learn about consumer preferences and patterns within the Falmouth area. The survey was advertised through flyers that were distributed around town as well as email communication, word of mouth, and Facebook. Participation in the survey took place online, included 30 questions, and garnered a total of 473 responses, 84.1% (398) of which belonged to Falmouth zip codes (02536, 02540, 02543, 02556, 02540, 02541), representing 1.2% of the total population of Falmouth. To encourage participation, a prize toward food purchases was offered to a limited number of participants. Information below highlights key trends, preferences, and barriers that consumers face within the Falmouth food system as indicated by the survey results. Due to the impact of socioeconomic status on food access and health outcomes, many of the questions are broken down by income bracket.

Findings:

The sections below offer an overview of the primary data that was collected over the course of this assessment. The information is presented chronologically, starting with the six input sessions that were hosted between March - May 2022. While the notes reflecting these input session conversations, with the help of ChatGPT, have been turned into a narrative form, an original bullet-point version can be found in [Appendix D](#).

Results from the Falmouth Food Survey, conducted between May - September 2022, offer a more nuanced understanding of consumer preferences and behavior in the Falmouth area. Data from the survey is presented through a variety of graphs and charts, and a full list of questions and answers can be found in [Appendix E](#). Lastly, information from the Grower and Producer Survey, active between June - October 2022, is made available through a variety of visual representations. A full list of questions and answers for the survey can be found in [Appendix G](#).

Grower and Producer Input Sessions

Strengths:

1. **Strong local support and market demand:** There is a significant local interest in and preference for locally produced food, evidenced by the presence of farmers' markets, community-supported agriculture (CSA) farms, and small grocers selling local food, along with the recent Food Justice Initiative hosted at the high school. Tourism dollars represent a seasonal and predictable flow of cash.
2. **Agricultural heritage and resources:** Falmouth possesses prime agricultural soils and a long-standing appreciation for agriculture, reflected in the town's farming traditions of shellfishing, cranberry production and small scale farms and farm stands.
3. **Sustainable coastal food production:** Falmouth benefits from its coastline and ocean access, offering opportunities for sustainable food production through shellfish and seaweed farming. The presence of underutilized marine resources and increasing support for shellfish farms presents a potential for further development.
4. **Community engagement and education:** Falmouth demonstrates a strong commitment to community engagement and education in the food system through initiatives such as school and community gardens, and the involvement of agriculture and conservation organizations like the Agricultural Commission, Farming Falmouth and The 300 Committee.
5. **Supportive policies and infrastructure:** Falmouth's status as a Right-to-Farm town, along with the presence of supportive organizations like the Agricultural Commission, Farming Falmouth, and The 300 Committee, creates a favorable environment for agricultural activities. The town's GIS mapping program also aids in planning and resource management

Challenges:

1. **Land and resource limitations:** The high cost of land in Falmouth and its limited availability pose significant challenges for farmers and growers. The expensive land prices make it difficult for new entrants to establish themselves and for existing farmers to expand their operations. Moreover, the scarcity of available land further restricts the growth potential of the local food system. Compounding these challenges is the limited knowledge and awareness of food production among the general population, which hampers support for initiatives that could address land access issues and promote sustainable agriculture.
2. **Workforce challenges and market engagement:** Falmouth's food system faces a shortage of available labor, which is compounded by the low wages and high costs associated with farming and

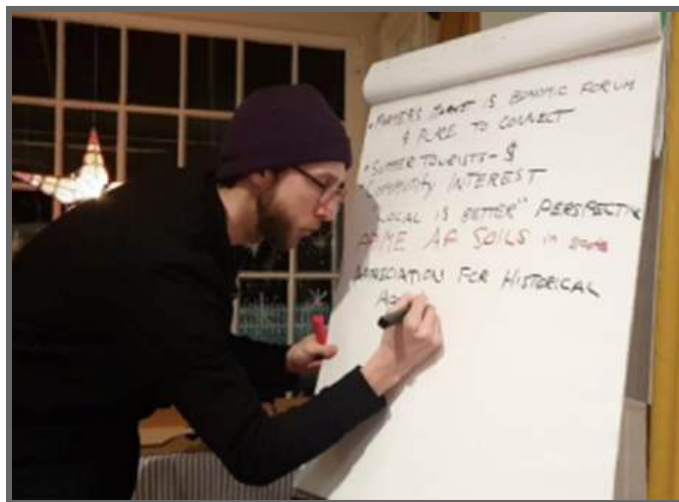
food production. This scarcity of labor affects the ability of farmers and growers to sustain their operations and compete with global food supply chains. Small farmers in Falmouth also struggle to find their market niche and face difficulties in effectively marketing their products. Additionally, there is concern that limited culinary skills and food education among food buyers contribute to market challenges, as there is a lack of awareness and demand for local, high-quality food options.

3. **Infrastructure and support gaps:** The continual loss of local agricultural infrastructure in Falmouth presents a significant obstacle to the development and expansion of the local food system. Insufficient infrastructure, such as processing facilities and storage spaces, hampers farmers' ability to scale up production and efficiently bring their products to market. Lengthy permitting processes and a lack of access to business expertise and community feedback further exacerbate the challenges faced by farmers and growers in the region. Limited marketing opportunities and inadequate support networks add to the existing gaps in the agricultural ecosystem.
4. **Environmental and regulatory factors:** The Falmouth food system is subject to various environmental and regulatory challenges. Weather conditions, such as extreme temperatures or unpredictable weather patterns, can significantly impact crop yields and harvests. Limited seed availability further compounds these challenges, making it harder for farmers to access the necessary resources for cultivation. Additionally, farmers and growers face regulatory hurdles and compliance requirements that can be burdensome and time-consuming. For instance, shellfish harvesting is subject to strict regulations, which can affect pricing, access to markets, and waterfront activities. Furthermore, water quality issues arising from shoreline homes and recreational uses can negatively impact the local food system.
5. **Educating consumers and strengthening connections:** Consumer education plays a critical role in the success and viability of the Falmouth food system. Limited awareness and understanding among consumers regarding the true costs and value of farming creates challenges and unrealistic expectations for local farmers and growers. Building stronger connections between farmers, growers, and consumers is essential for fostering support and demand for local products. By implementing consumer education initiatives, the community can increase awareness, appreciation, and understanding of the benefits of consuming locally produced food, such as freshness, sustainability, and support for the local food economy. Establishing stronger connections through farmers markets, CSA programs, and direct sales channels can enhance understanding and bolster demand for local products.

Opportunities:

1. **Strengthening the culture of local food system:** Foster community support and engagement in the local food system through initiatives such as agrihoods, food co-ops in each village, and a marketing campaign promoting locally grown food. Encourage the inclusion of oysters at the farmers market and host events that highlight food or incorporate local food to increase awareness and appreciation.
2. **Improving infrastructure and support:** Establish a community farm and kitchen that provides essential resources like tractors and greenhouses to local growers. Create a CSA aggregator to streamline the process of selling and purchasing local food. Develop a local food distribution system with dedicated locations and delivery options to connect growers directly to consumers.
3. **Building networks and collaboration:** Facilitate connections between farmers and restaurants to enhance support for local growers. Establish a farmer-specific contact list, organize farmer-specific meetings, and create an agricultural listserv to foster communication and resource sharing. Encourage mutual aid and collective support within the farming community.
4. **Policy advocacy and funding opportunities:** Advocate for state legislative support for local food initiatives. Secure community preservation grants and other funding opportunities to subsidize farming activities. Work towards true fishery management and enforce existing shellfish and water quality regulations.

5. **Education and awareness:** Increase education and awareness at various levels, including consumer awareness, farm-to-school opportunities, and farmer-specific events and support. Spark inspiration for homesteading through conversations, videos, and hands-on experiences with soil and vegetable planting.



Food Service, Processing and Distribution Input Sessions

Strengths:

1. **Community support and engagement:** Strong charity and generosity in the community, demonstrated through initiatives such as donations, school programs, and support from organizations like the Falmouth Service Center help to foster a sense of solidarity and mutual aid.
 2. **Presence of food system infrastructure and resources:** The food system benefits from a diverse range of resources and infrastructure, including the Cape Cod Culinary Incubators, school food programs, the Falmouth Market, local fisheries, the MA Emergency Food Assistance Program and collaborative efforts like Farming Falmouth's gleaning program.
 3. **Effective food distribution networks:** Falmouth greatly benefits from the efficiency and effectiveness of both global and regional food distribution networks, facilitated by dozens of distribution vendors and supported by organizations like the Greater Boston Food Bank.
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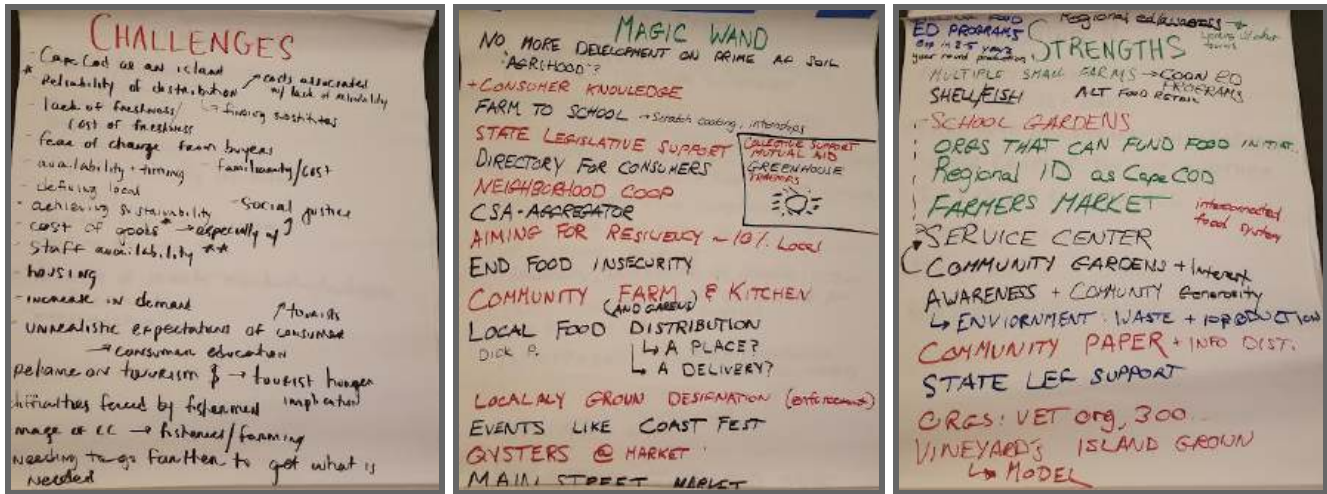
Challenges:

1. **Geographic isolation and logistical difficulties:** Falmouth's geographical isolation poses challenges in terms of transportation and access to resources. Reliability and costs associated with distribution networks are significant challenges. The Cape's island-like existence complicates delivery logistics and increases associated expenses.
 2. **Resistance to change and consumer behavior:** Fear of change and reluctance to shift away from established purchasing habits present obstacles to implementing sustainable food practices and supporting local farms and fisheries. Familiarity and cost considerations often prevent consumers from embracing new food sources or alternative distribution models, hindering efforts to achieve sustainability and address food insecurity.
 3. **Tourism-driven economy and seasonal fluctuations:** Falmouth's reliance on tourism dollars creates challenges in balancing the needs of tourists with those of the local community, particularly regarding food availability, pricing, and demand fluctuations. Unrealistic expectations of tourists and consumers, coupled with the seasonal nature of tourism, make it difficult to manage and meet the increased demand for fresh and local food products.
 4. **Structural and systemic barriers:** Income inequality, housing shortages, and staff availability issues contribute to challenges in hiring and retaining food system workers, exacerbating existing disparities within the community. Lack of affordable housing options for staff and limited access to affordable commercial composting solutions further compound the structural barriers faced by food system stakeholders.
 5. **Environmental and waste management challenges:** Limited municipal composting infrastructure and recycling options, coupled with the absence of local delivery services and affordable composting solutions, contribute to food waste and environmental concerns. Loss of farmland, nutrient depletion from hauling food waste, and the carbon footprint associated with transportation pose significant environmental challenges, necessitating systemic changes and innovative solutions to mitigate their impact on the food system.
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Opportunities:

1. **Addressing the housing crisis:** Implementing initiatives such as housing banks, more multi-family homes, and accessory dwelling units (ADUs) can help alleviate the housing crisis, providing affordable housing options for food system workers and community members.
2. **Enhancing local food production and distribution:** Increasing incentives to reduce food waste and finding creative solutions such as a local food calendar (that would tell people where to get local food and when) can promote more reliable local food production and availability, fostering a stronger connection between producers and consumers. Investing in a community commercial kitchen, cold storage facilities, and assistance with value-added products can support small-scale farmers and food entrepreneurs, expanding their capacity to participate in the local food economy.
3. **Improving transportation and infrastructure:** Enhancing transportation options, including delivery services and connections to more towns on the Cape, can help eliminate food deserts and improve access to fresh, local food for residents. Establishing a wholesale farmers market and facilitating networking opportunities can further strengthen the local food system by promoting collaboration and expanding market access for farmers and producers.
4. **Increasing community education and engagement:** Prioritizing consumer education initiatives and community organizing efforts, such as a community calendar, farm-to-table events, or a local food media campaign, can raise awareness about the benefits of local food, encourage support for farmers, and promote sustainable food practices.
5. **Sustainable waste management and environmental stewardship:** Implementing municipal composting systems and promoting the use of biocontainers can help reduce food waste and

minimize the environmental impact of food packaging. Curbing practices like short term rentals (i.e. Airbnb) and advocating for changes in town by-laws can contribute to improving affordability, preserving community character, and supporting long-term sustainability efforts.



Food System Service Provider Input Sessions

Strengths:

- 1. Community Engagement and Institutional Support:** Involvement from various organizations and community groups, alongside institutional backing from entities like the Ag Commission, suggests the potential for a strong foundation of community engagement and institutional support for the local food system.
- 2. Educational Programs and Awareness Initiatives:** An array of educational programs, including school gardens, Farming Falmouth's Growing Together Series, Coonamessett Farm education programs, and awareness campaigns like Buy Fresh Buy Local, contribute to raising awareness and educating the community about sustainable food practices and the importance of supporting local producers.
- 3. Food Economy Potential:** The presence of multiple small farms, farmers markets, and alternative food retailers suggests the economic potential of the local food economy on Cape Cod.

Challenges:

- 1. Access and Opportunity Barriers:** Educational and economic barriers hinder youth education in agriculture, which also limits opportunities for learning and involvement in farming. Language barriers and cultural differences present challenges in accessing culturally connected foods and participating in the local food system, particularly for multicultural communities in Falmouth and on Cape Cod.
- 2. Infrastructure and Resource Constraints:** Limited farm infrastructure due to high costs, including heated greenhouses for year-round production and processing facilities, pose challenges for local farms and impact their ability to meet demand and sustain operations. High barriers to industry entry, including the cost and availability of land, zoning restrictions, and lack of financial incentives and subsidies, impede the establishment and growth of farms in Falmouth.
- 3. Coordination and Communication Deficits:** Inadequate coordination and communication between entities within the food system, such as farms, restaurants, and community gardens, hinder

collaboration and resource sharing, limiting the potential for innovation and growth. Restrictions on community gardens on state-funded property and lack of support for farmer communication and cooperation exacerbate challenges in promoting local food production and distribution.

4. **Policy and Financial Limitations:** Current policies that do not support smaller farms and limited access to financing and incentives for agriculture pose significant challenges for aspiring farmers and existing farm operations. Development pressures on farmland and the need for land preservation for farming purposes further compound challenges related to land access, affordability, and sustainability.
5. **Climate Change and Environmental Pressures:** Climate change impacts, including shifts in weather patterns and limited land availability due to development pressures, pose significant threats to agricultural productivity and resilience in Falmouth. Barriers to industry entry and limited land restrictions exacerbate environmental challenges, making it increasingly difficult for farmers to adapt and sustain agricultural practices in the face of changing environmental conditions.

Opportunities:

1. **Integration of Agriculture into Education:** There is potential to integrate gardening and farming into the STEM curriculum, leveraging school farms and gardens to provide hands-on learning experiences for students. Instilling the importance of food production early on can help foster a deeper understanding and appreciation for agriculture.
2. **Community Advocacy and Collaboration:** A unified vision of agriculture in Falmouth and collective advocacy for school food programs can help mobilize community support and resources towards enhancing the local food system. This includes promoting the establishment of a food hub to streamline food distribution and leveraging federal American Rescue Plan Act (ARPA) funding for food system enhancement projects.
3. **Land Use and Preservation:** Utilizing open spaces for food production and advocating for changes in regulations related to conservation land to allow for agricultural production can expand opportunities for local food production. Establishing an agricultural preservation committee can further support efforts to protect farmland and promote sustainable agriculture.
4. **Resource Coordination and Support:** More coordination of resources and collective lobbying efforts are needed to address challenges and support small farms and fisheries. This includes aggregating demand between various actors in the food system, fostering partnerships, and providing more funding for farm preservation.
5. **Youth Engagement and Future-focused Initiatives:** Emphasizing youth engagement in agriculture through programs like World Wide Opportunities on Organic Farms (WWOOF), TerraCorps or FoodCorps on Cape Cod and integrating food production into the school curriculum can cultivate the next generation of food system leaders. Additionally, initiatives such as winter greenhouses and affordable on-farm housing options can help sustain and expand local food production efforts.

Falmouth Food Survey



Win up to \$150
towards food purchases!*

FALMOUTH FOOD SURVEY
TELL US ABOUT THE FOOD
YOU EAT, GROW, AND BUY

-TAKES 10 MINUTES TO COMPLETE-

bit.ly/ffs2022

*All eaters from Falmouth and the surrounding area are eligible to participate.

Thank you for helping us to better understand Falmouth's food needs!

This survey is being conducted by Farming Falmouth Inc. and funded by a grant from the Woods Hole Foundation. Contact tyler@farmingfalmouth.org for more info.

FARMING FALMOUTH
1990-2022

The Woods Hole Foundation

Consumer Needs and Preferences:

The Falmouth Food Survey garnered 473 responses from a wide range of the population. This first set of questions (1-6) from the survey largely explore consumer preferences. In general, respondents are looking for nutritious and fresh foods, with price being a major factor for almost all shoppers.

Respondents voiced a preference for convenient and local foods. As is typical in many communities, driving to the grocery store is the most common way people access food. Local food options (including the farmers market, CSAs, and home and community gardens) are most frequently used by higher income respondents. A majority of respondents reported cutting food spending since the pandemic. Finally, respondents noted that they face most obstacles purchasing local, bulk, and cultural foods.

Table 5 (below) provides an overview of the number of respondents based on age, income, zip code, race and ethnicity and number of members per household. According to the results, over half of respondents are older than 55 years, with the highest percentage of responses per income

bracket belonging to those who are between 55 to 64 years. 38.1% of respondents live in the 02536 zip code (East Falmouth or Teaticket) while 30.7% of those who participated live in the 02540 zip code (Falmouth). The largest share of respondents, or 19.6%, earn \$75,000 and \$99,999 per year, and over half (58.8%) of respondents earn more than \$75,000. European or White respondents represent 85.5% of the total and those who identified as two or more races represent the second largest share of respondents at 5.1%. Over half of respondents (57.7%) live in households with two adults, and nearly 75% of respondents live in households with no children.

Table 5. Characteristics of Survey Participants (Q15-20)

Age (n=449)	#	%
17 years or younger	1	0.2%
18-24 years	18	4.0%
25-35 years	76	16.9%
36-44 years	57	12.7%
45-54 years	59	13.1%
55-64 years	100	22.3%
65-74 years	93	20.7%
75 years and older	45	10.0%

Zip Code with more than 5 responses (n=449)			
	02536	171	38.1%
	02540	138	30.7%
	02543	50	11.1%
	02556	27	6.0%
	02649	15	3.3%
	02574	10	2.2%
	02532	6	1.3%
	Other	32	7.1%
Income (n=449)			
	Less than \$25,000	25	5.6%
	\$25,000 to \$34,999	27	6.0%
	\$35,000 to \$49,999	52	11.6%
	\$50,000 to \$74,999	81	18.0%
	\$75,000 to \$99,999	88	19.6%
	\$100,000 to \$124,999	54	12.0%
	\$125,000 to \$149,999	43	9.6%
	\$150,000 or more	79	17.6%
Race & Ethnicity (n=449)			
	Asian (Chinese, Filipino, Asian Indian, Korean, Japanese, etc.)	6	1.3%
	Black/African-American (Haitian, African American, Jamaican, Ethiopian, Somalian, Nigerian)	2	0.4%
	Brazilian or Portuguese	6	1.3%
	European or White (German, Irish, English, Italian, French, Polish)	384	85.5%
	Hispanic/Latino or Spanish Origin (Mexican, Mexican American, Puerto Rico, Cuban, Salvadorian, etc.)	6	1.3%
	Middle Eastern/ North African (Lebanese, Iranian, Egyptian, Moroccan, Algerian, etc.)	1	0.2%
	Other	21	4.7%
	Two or more races	23	5.1%
How many adults 18 years and older currently live in your household? (n=449)			
	1 adults	122	27.2%
	2 adults	259	57.7%
	3 adults	49	10.9%
	4 adults	16	3.6%
	5+ adults	3	0.7%
How many children 17 years and younger currently live in your household? (n=449)			
	0 children	335	74.6%
	1 child	59	13.1%
	2 children	41	9.1%
	3 children	10	2.2%
	4 children	3	0.7%
	5+ children	1	0.2%

Figure 17. Question One

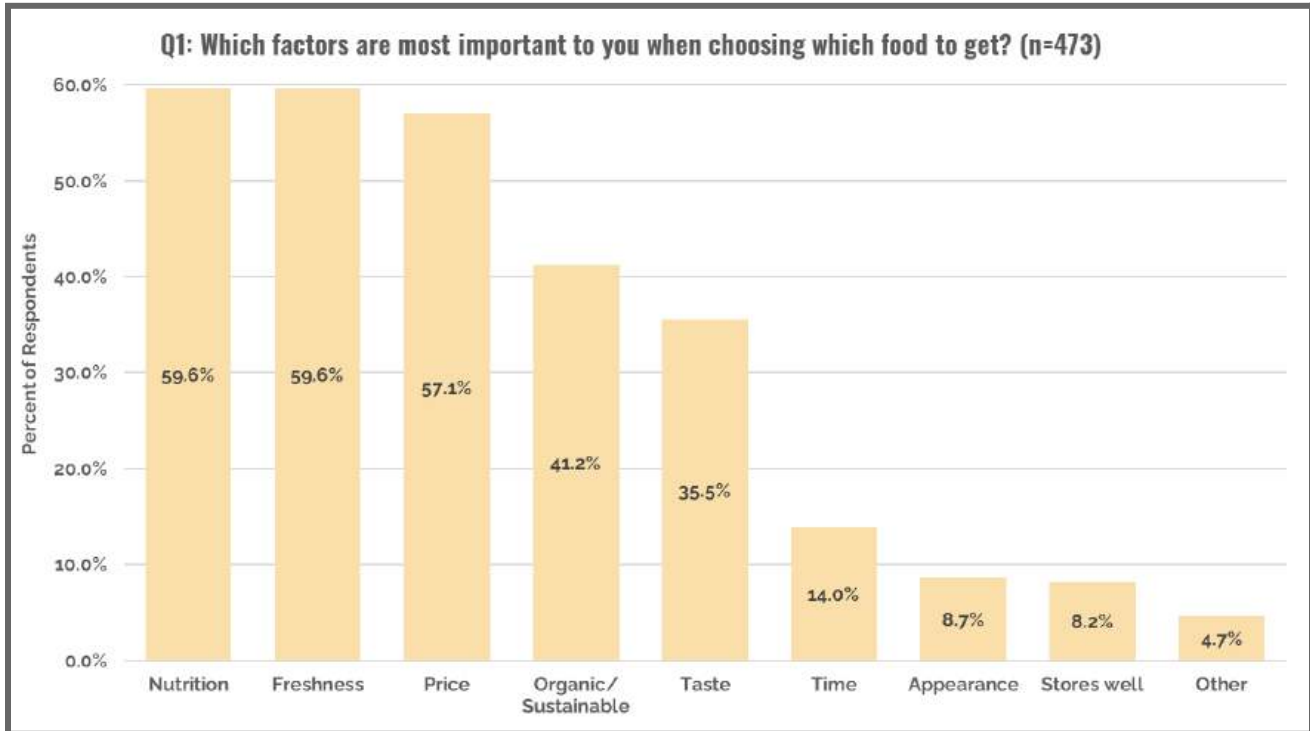


Figure 17 (above) shows the percent of respondents per answer for Question 1 of the Falmouth Food Survey. Overall results indicate that nutrition and freshness (282 responses each) are the most important factors for choosing food, followed closely by price (270 responses). Of those who responded with “other,” answers included personal dietary habits, amount of packaging, food that can be eaten by most people, allergies, and whether or not the food is vegan or vegetarian.

Income	First	%	Second	%	Third	%
Less than \$25,000	Price	23.2%	Nutrition	21.7%	Organic/Sustainable	14.5%
\$25,000 to \$34,999	Freshness	28.2%	Price	26.9%	Nutrition	20.5%
\$35,000 to \$49,999	Price	26.5%	Nutrition	23.1%	Freshness	15.6%
\$50,000 to \$74,999	Price	21.7%	Freshness	19.9%	Nutrition	17.7%
\$75,000 to \$99,999	Nutrition	21.9%	Price	20.2%	Freshness	19.4%
\$100,000 to \$124,999	Nutrition	21.9%	Freshness	20.6%	Price	19.4%
\$125,000 to \$149,999	Freshness	24.0%	Nutrition	22.4%	Price	16.0%
\$150,000 or more	Freshness	26.7%	Nutrition	18.7%	Taste	16.9%

Table 6 (above) provides insight into which factors are most important based on respondents' economic brackets. The most common factor determining food choice for those earning less than \$75,000 is price, and for those earning more than \$75,000 is nutrition and freshness, with price ranking third. Only for respondents earning more than \$150,000, is price no longer one of the top three factors.

Figure 18. Question Two

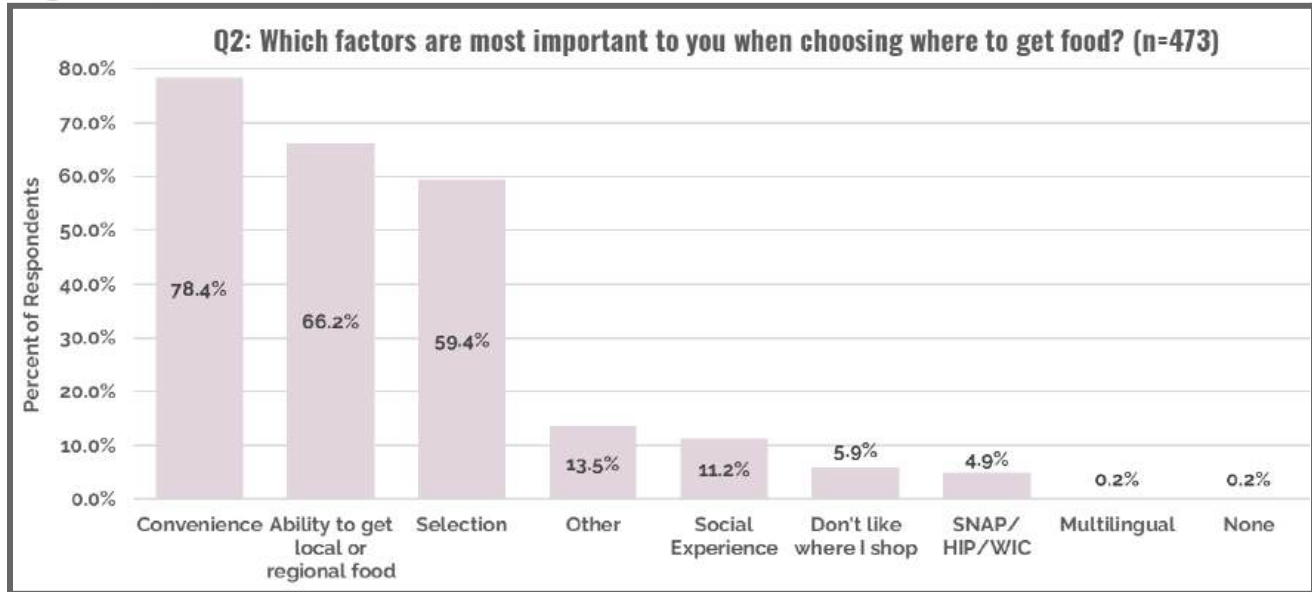


Figure 18 (above) shows which factors are most important to consumers in the Falmouth area when choosing where they go to get food. Overall, convenience of location was most favored among respondents, followed by the ability to get food grown locally or regionally, and having a greater selection of products at a given location. Regardless of economic bracket, convenience of location was the most important factor. "Other" responses commonly reiterated price as well as other factors like customer rewards programs, smaller community stores, reliability of options, friendliness and helpfulness of employees, packaging, cleanliness of store, sales and weekly deals.

Figure 19. Question Three

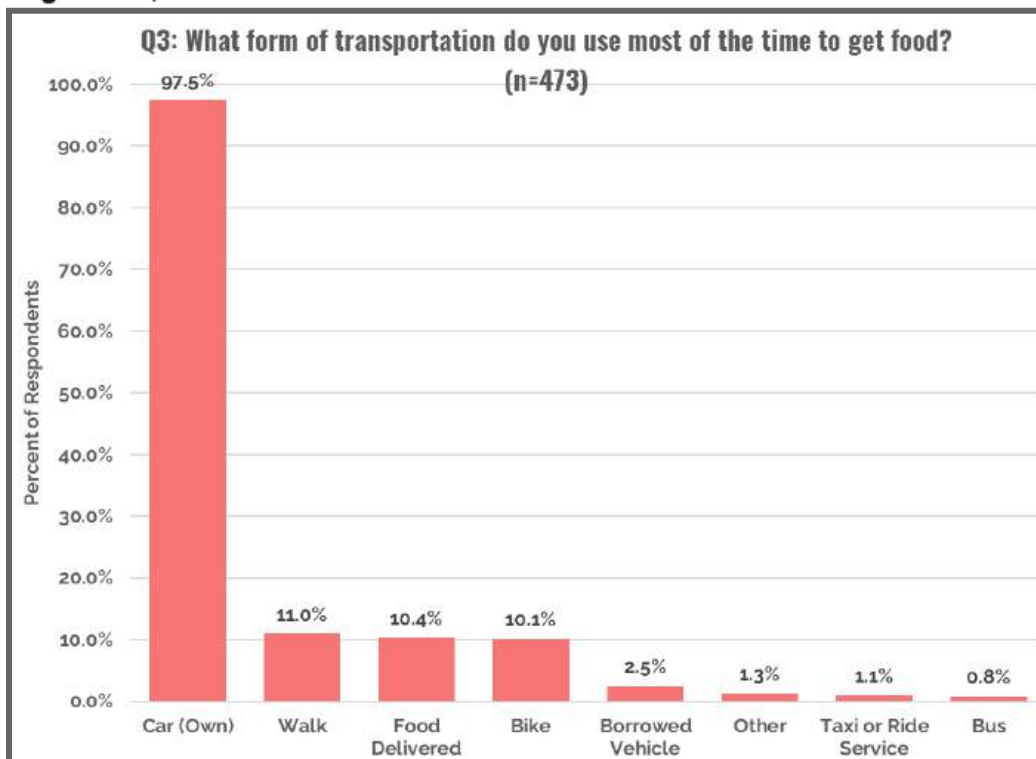


Figure 19 (left) illustrates the range of transportation modalities and their respective usage based on the percent of respondents. As would be expected, the most common form of transportation was one's own car, as indicated by 97.5% of respondents. The next most common forms of transportation are walking, food delivery, and biking, employed by roughly 10% of respondents.

Figure 20. Question Four

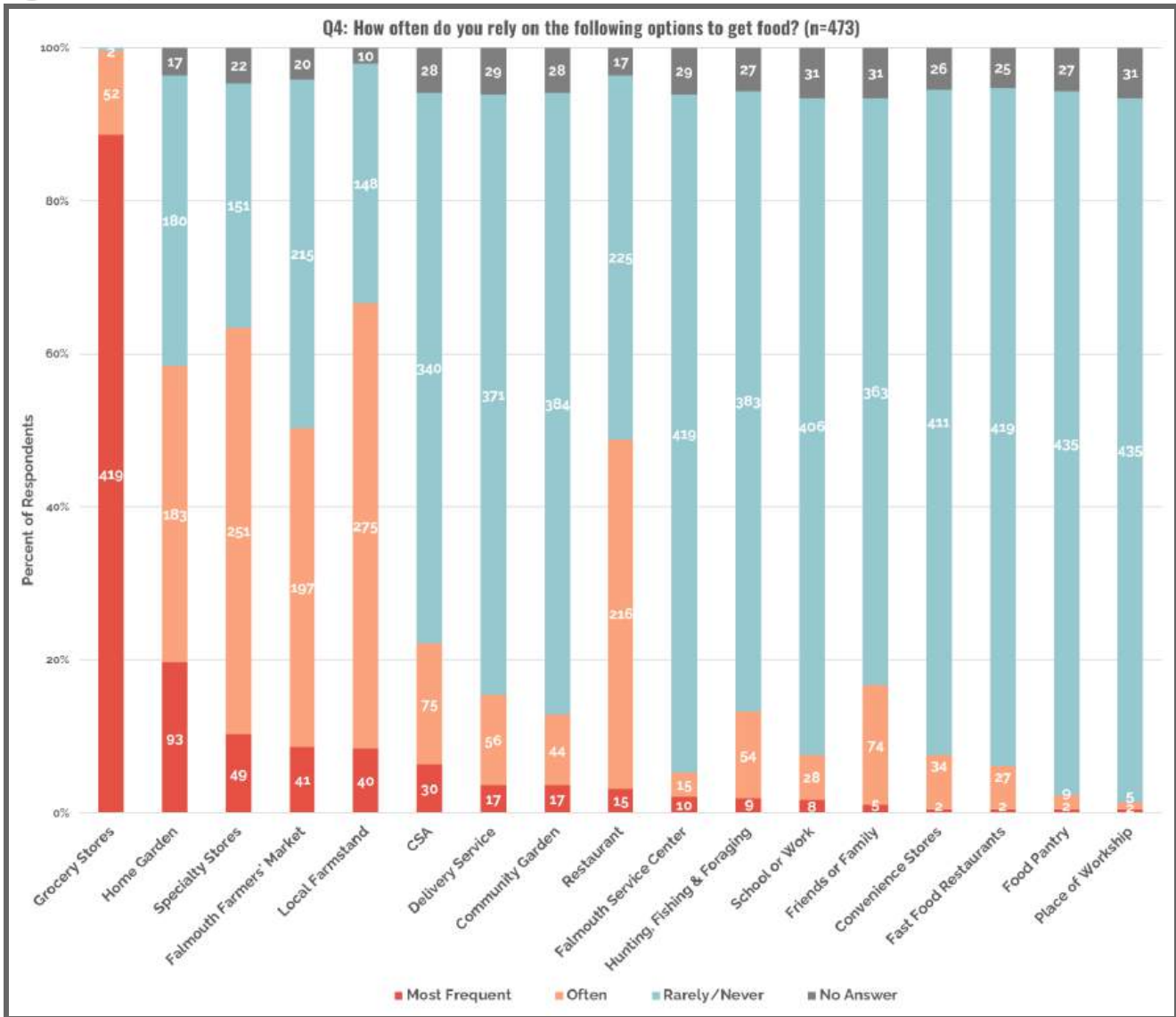


Figure 20 (above) demonstrates the percentage of respondents based on the variety and frequency of food environments in the Falmouth area. Due to the fact that food environments are not mutually exclusive, each option is based on the total number of respondents. According to the result of the survey, all but two respondents "frequently" or "often" use of grocery stores to obtain food. 19.8% of respondents indicated that they "most frequently" rely on home gardens to get food, whereas a combined percentage of "most frequent" and "often" usage suggest that 58.3% of respondents rely on home gardens to obtain food. Other "most frequent" and "often" combinations include local farm stands, specialty stores, and the Falmouth Farmers' Market and used by 66.5%, 63.4%, and 50.3% of respondents, respectively.

Table 7. Income and Reliance on Local Food Options (home gardens, community gardens, CSAs, local farm stands and the Falmouth Farmers' Market)					
	Number of respondents who answered " <u>most frequent</u> " or " <u>often</u> "	Number of respondents who answered " <u>rarely/never</u> "	Ratio of " <u>most frequent</u> " and " <u>often</u> " respondents to " <u>rarely/never</u> " responses	Percent of Respondents who answered " <u>most frequent</u> " or " <u>often</u> "	Percent of Survey Respondents
Less than \$25,000	44	79	0.56	4.7%	5.6%
\$25,000 to \$34,999	48	98	0.49	5.1%	6.0%
\$35,000 to \$49,999	106	174	0.61	11.3%	11.6%
\$50,000 to \$74,999	166	219	0.76	17.7%	18.0%
\$75,000 to \$99,999	180	240	0.75	19.2%	19.6%
\$100,000 to \$124,999	110	152	0.72	11.8%	12.0%
\$125,000 to \$149,999	91	119	0.76	9.7%	9.6%
\$150,000 or more	191	192	0.99	20.4%	17.6%

Table 7 (*above*) provides a breakdown of income and reliance on local food options, including home gardens, community gardens, CSAs, local farm stands, and the Falmouth Farmers' Markets. When comparing the ratio of those who "most frequently" or "often" (high reliance) use local food options to those who "rarely/never" (low reliance) make use of these options, the survey indicates that reliance on local food options increases with income. The ratio of high to low reliance survey respondents nearly doubles when comparing those making less than \$35,000 to those making \$150,000 or more. Additionally, respondents making more than \$50,000 are nearly 1.5 times as likely to rely on local food options as those making less than \$50,000. Falmouth's high-income residents more frequently relying on local food options than its low-income residents is an inequity in Falmouth's food system that has the potential to affect health outcomes, the local economy, and people's connection to the land, their food, and each other. Addressing the discrepancies between Falmouth's high and low-income residents will require inventions that take into account that rising cost of food is seen as the greatest barrier to getting or consuming food (Question 8). However, with respondents desiring more local food at groceries stores and restaurants (Question 29) and with most consumers at all income levels struggling to obtain local food (Question 7), increasing access to local food (both through location and affordability) can meet the needs of consumers as well as create new markets and bolster sales for growers.

A further breakdown Table 8 reveals is that for respondents making less than \$50,000, the ratio of those who indicated that they "most frequently" and "often" relying on local food options to those who "rarely/never" relied on these options was 0.56, meaning that for roughly every 11 respondents who demonstrated high reliance on food options, there are 20 respondents who indicated low reliance. For those making between \$50,000 and \$150,000, this ratio was 0.75, suggesting that for roughly every 15 respondents who indicated high reliance on local food options, there are 20 respondents who indicated low reliance. Lastly, for those earning over \$150,000, this ratio was 0.99, meaning that for every 20 respondents demonstrating high reliance on local food options there is nearly an equivalent number of low-reliance respondents.

Table 8 also compares the percent of respondents per income bracket to the percent of respondents who answered "most frequent" or "often." The difference between these two percentages, while small in most cases, indicates whether or not local and regional food access is proportional to the percent of respondents per income bracket.

Figure 21. Question Five

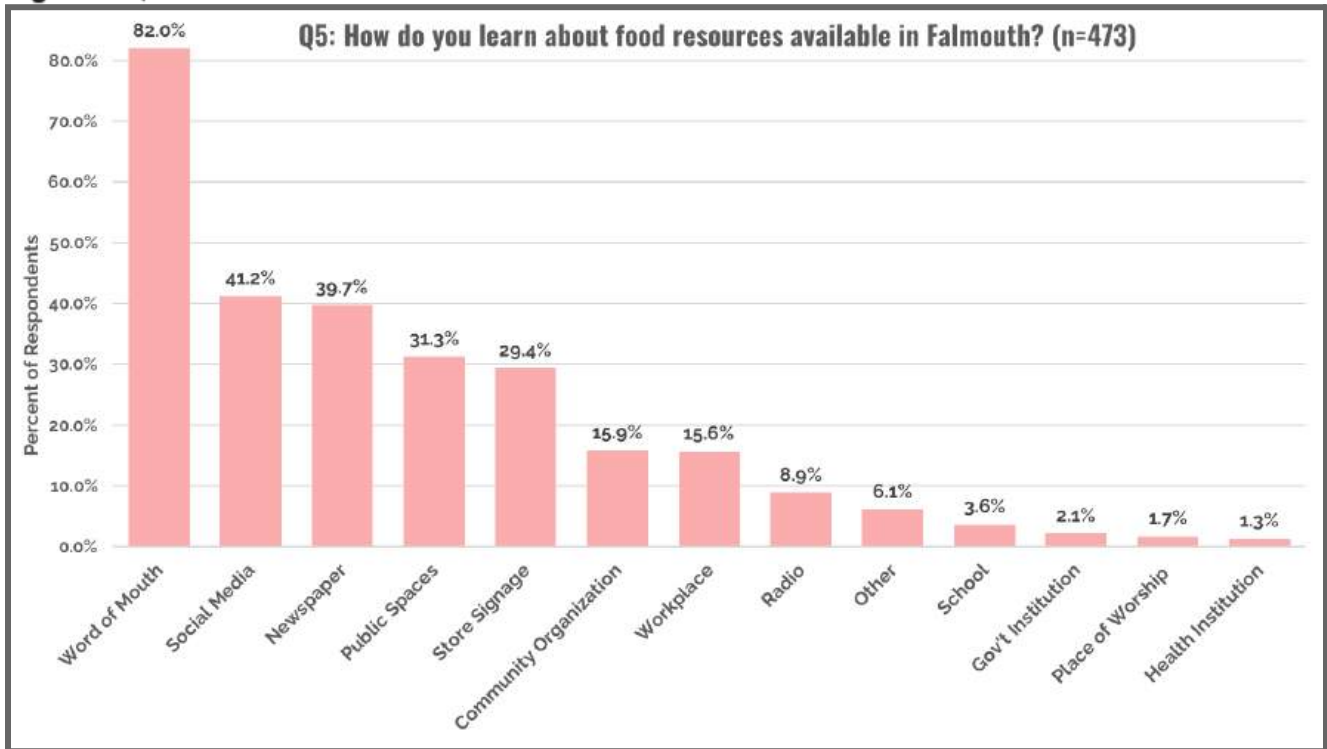


Figure 21 (above) depicts the range of options for how people learn about food resources such as price breaks, locally grown options, and community meals in Falmouth. For survey respondents, the most common means of learning about food resources is word of mouth, which is nearly twice as popular as other options. The second most common avenue for learning about food resources is social media, followed closely by the local newspaper. For those who responded with "Other," answers include online searches, the Falmouth Patch, Fabulous Falmouth, and mail flyers while some indicated that they don't know where to go for this type of information.

Figure 22. Question Six

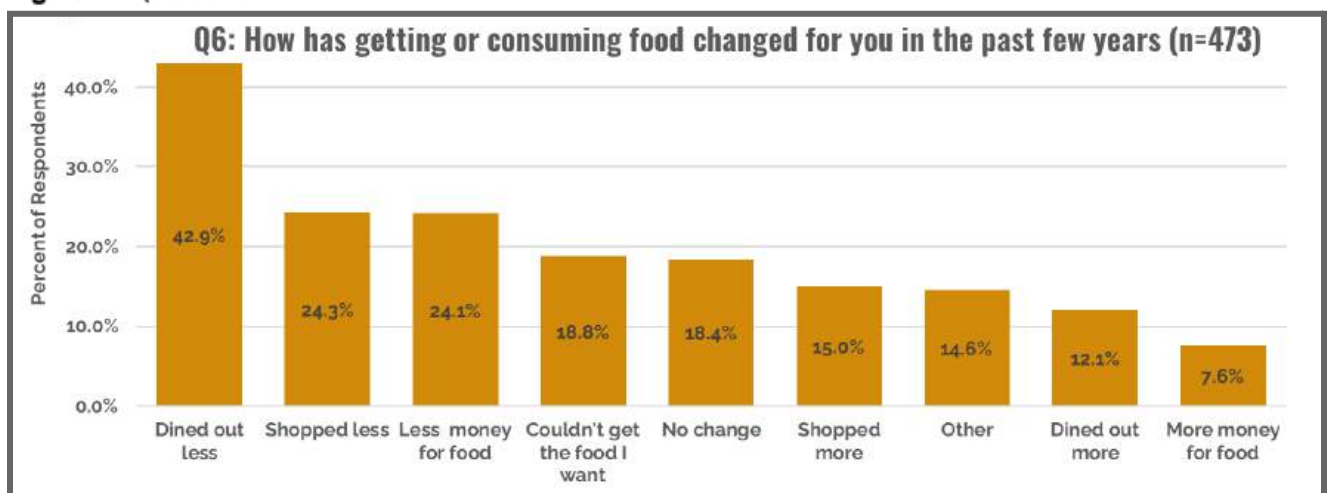


Figure 22 (above) reveals that for most respondents, the past few years have resulted in less dining out, less shopping, less money for food, and less access to desired foods. These results, which may

correspond to less revenue for local restaurants, grocers and farms, can be contextualized by the impacts of the Covid-19 pandemic on supply chains, as well as the concurrent rising cost of foods.

Figure 23. Question Seven

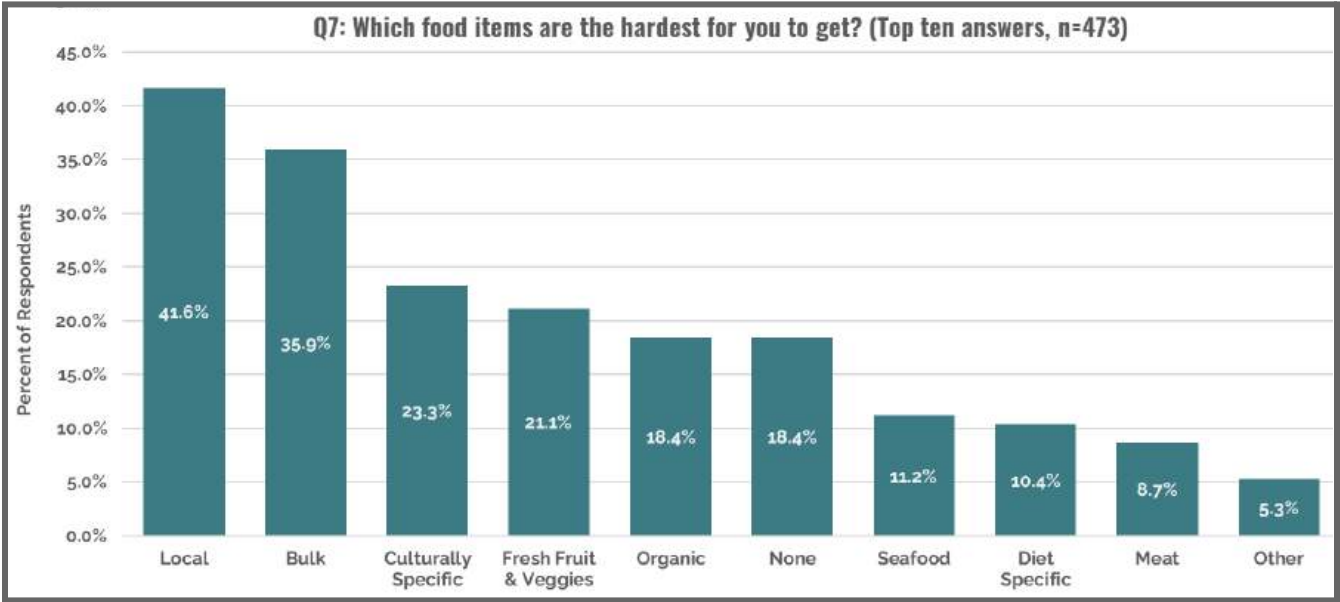


Figure 23 (above), which demonstrates what food options are most difficult to obtain in the Falmouth area, suggests that survey respondents (41.6%) have the most difficult time finding local food. This preference for local food is consistent across nearly all income levels. The next most difficult food option for respondents are bulk options (35.9%), followed by culturally specific items (23.3%), fresh fruits & vegetables (21.1%), and organic items (18.4%).

Figure 24. Question Seven Open-response Wordcloud



Figure 24 (above) is a categorized wordcloud of all "Other" responses for Question 8. "Availability of certain foods," "farmers market hours," and "lack of interest in cooking" ranked as the top three responses.

Figure 25. Question Seven, Top Five Answers

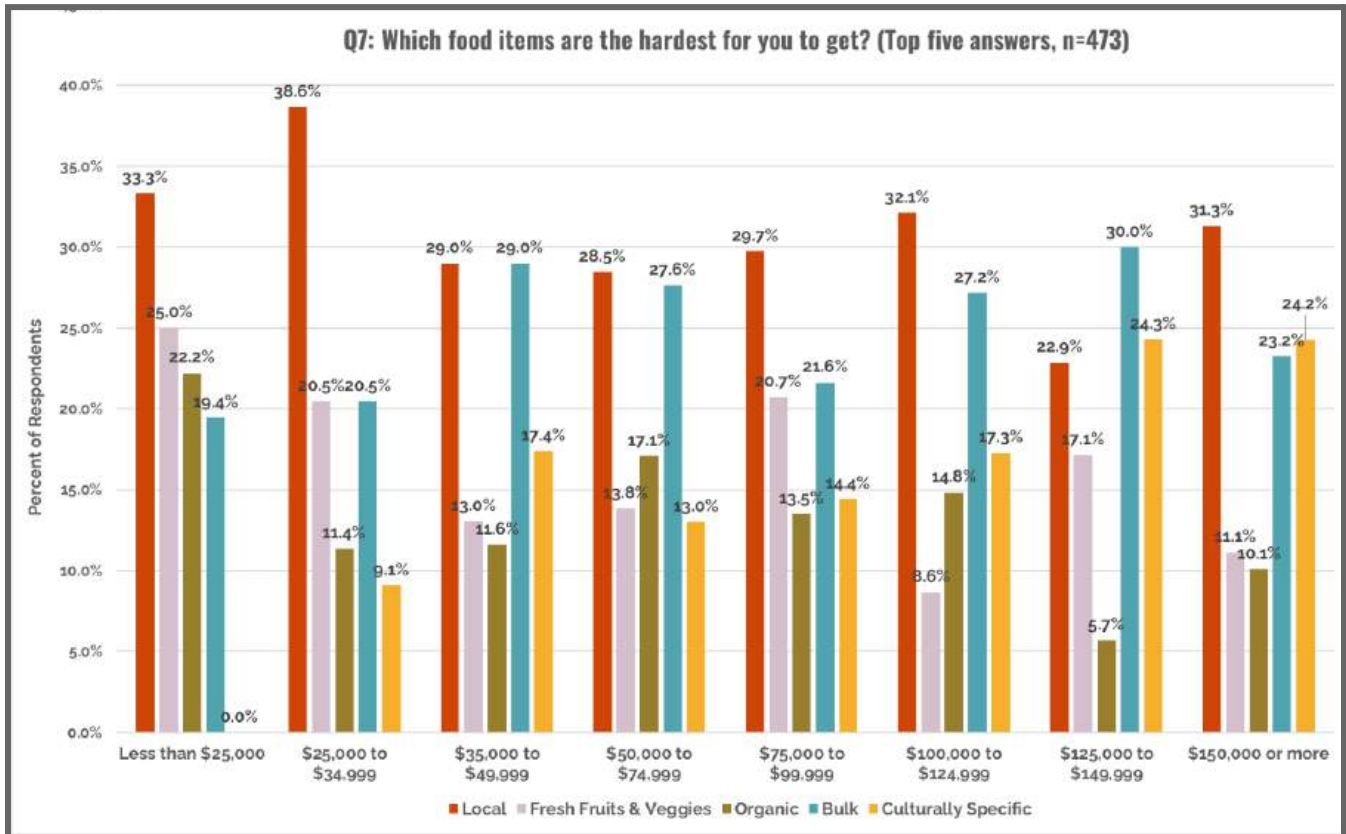


Figure 25 (above) provides an overview of the top five answers to Question 7 broken down by income bracket. This information highlights the fact that for nearly every income bracket, local food is the hardest to obtain. Likewise, bulk food items and culturally specific food tend to be difficult to obtain regardless of income.

Affordability:

The following section predominantly explores the role of affordability within the context of the Falmouth Food Survey. Questions 6 - 23 reveal that the cost of food is the highest barrier for survey respondents and that they are looking for tips on getting the most for their money at the grocery store. Food insecurity rates are 2.4 times higher for all Non-white races and ethnicities in comparison to Whites/Europeans. Over half (52%) of respondents making less than \$25,000 a year are considered food insecure, while nearly half (48.1%) of respondents earning between \$25,000 to \$34,999 a year are food insecure. Additionally, 15 out of 73 (20.5%) of respondents who screened positive for food insecurity are SNAP recipients, suggesting an even greater need for nutrition assistance.

Figure 26. Question Eight

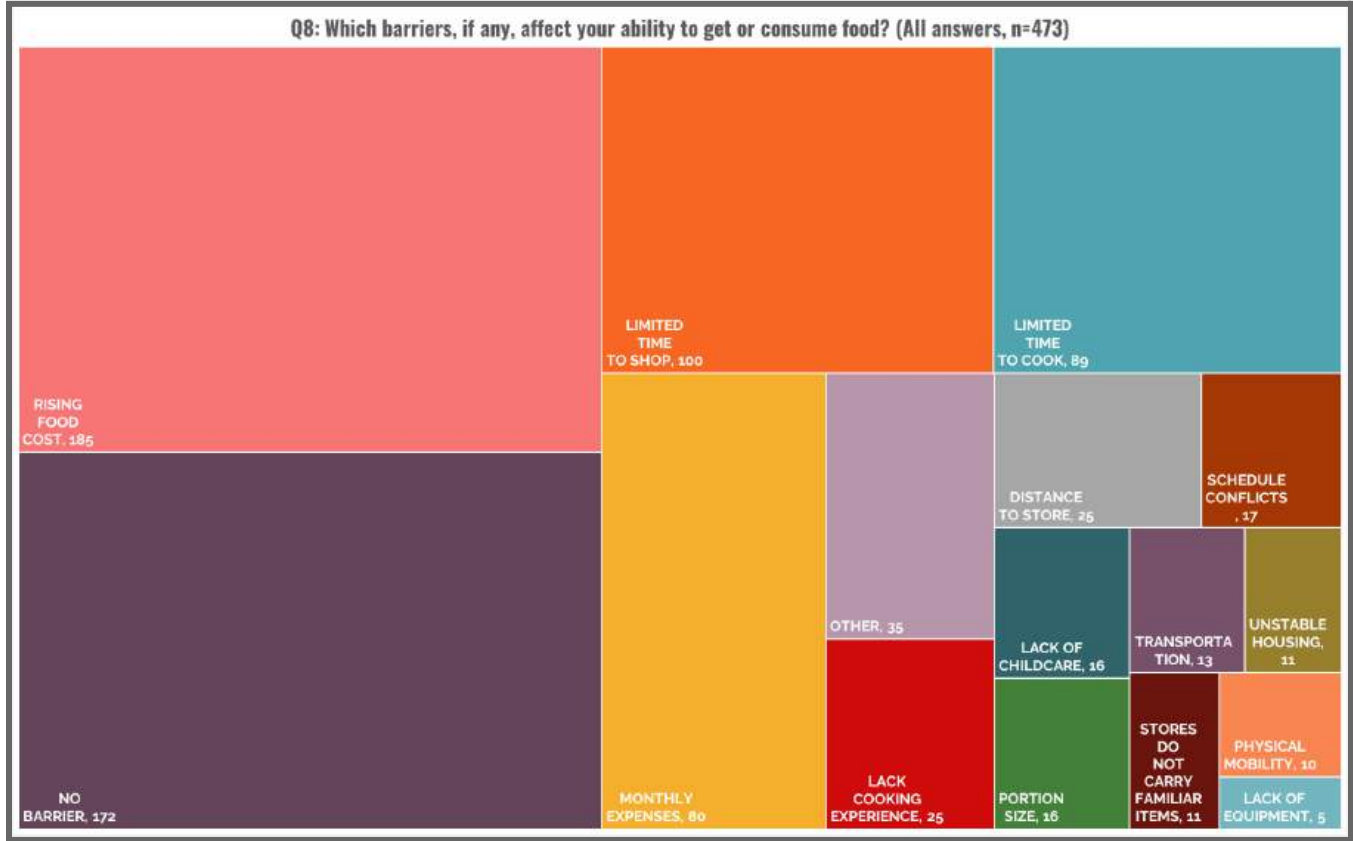


Figure 26 (above) provides an overview of all answers for Question 8: which barriers, if any, affect your ability to get or consume food? The most common answer for all respondents was the rising cost of food, a factor that has been documented on a national scale over the past few years.

"I know I should buy more local or organic but it seems expensive even though I have the money."

- Survey Respondent, Q8

"It's more that we're forced to eat less healthy or safe options due to finances."

- Survey Respondent, Q8

Although the second most common response within the survey indicates that respondents experience no barrier in their ability to get or consume food, Figure 27 (below) helps to tease out the relevance of this particular response in regards to income. **A breakdown by income bracket suggests that those earning less than \$50,000 a year are experiencing barriers to getting and consuming food, primarily the rising cost of food and the competing cost of monthly bills and expenses. For annual earners making between \$50,000 to \$75,000, rising cost of food still seems to be the most relevant concern, followed by "no barrier" and then monthly expenses. However, once respondents earn more than \$75,000 a year the significance of rising food prices and monthly expenses begins to diminish and is replaced by factors such as having limited time to shop and not enough time to prepare meals. Two of the 35 "Other" responses are provided above quotes.**

Figure 27. Question Eight, Top Five Answers

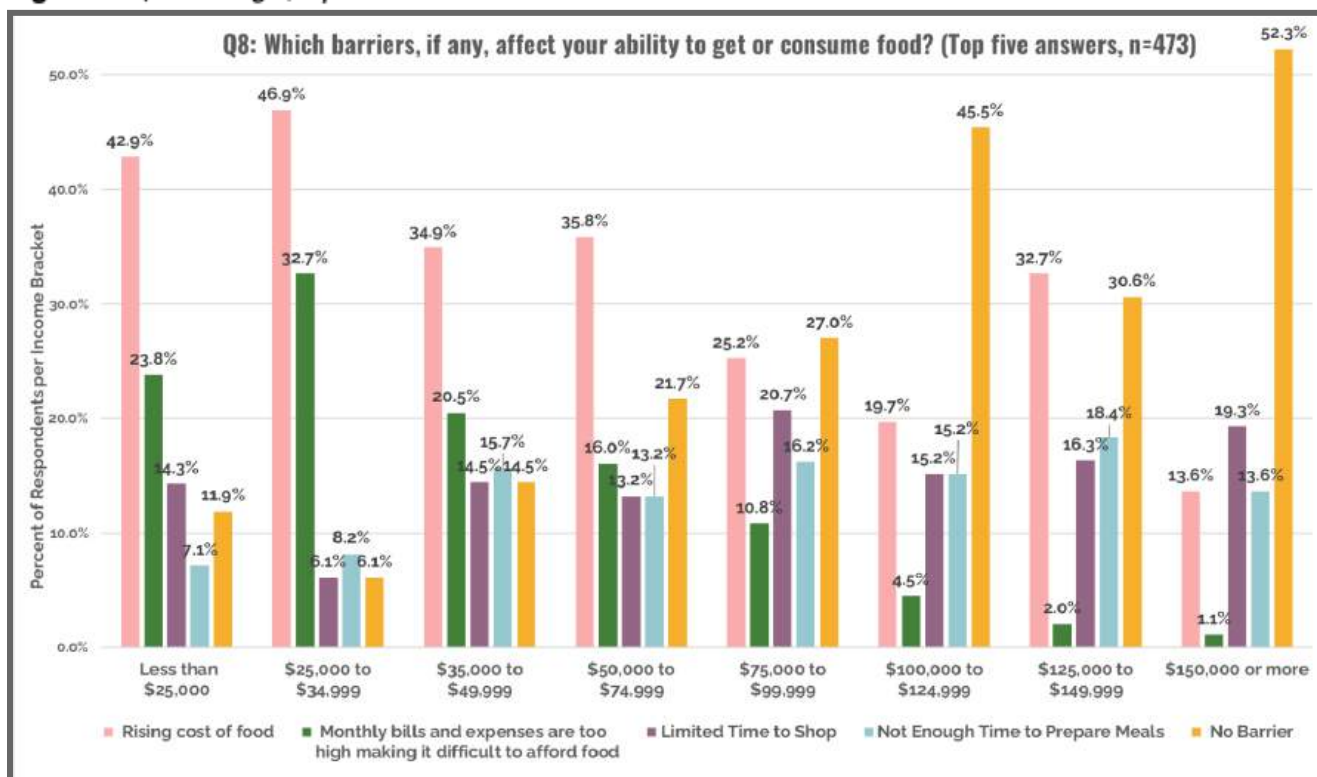
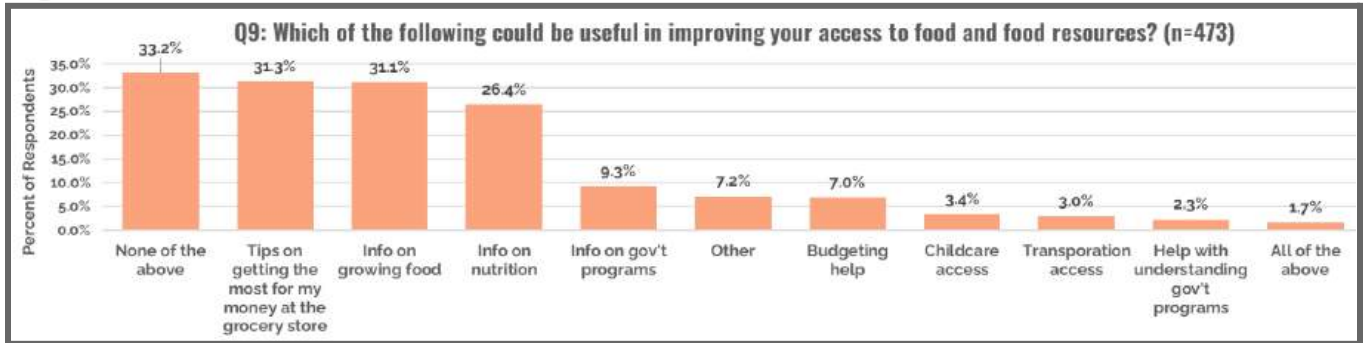
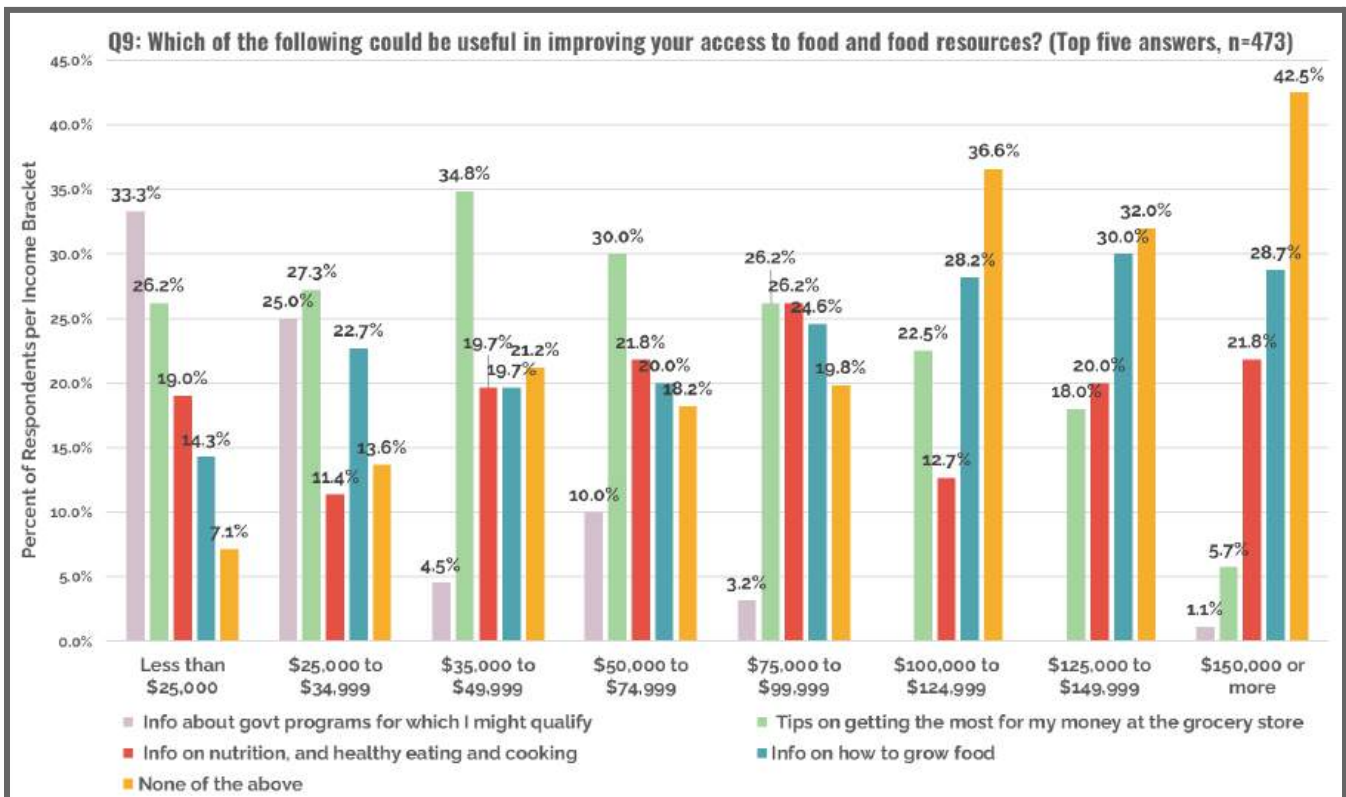


Figure 28. Question Nine



Respondents earning less than \$50,000 a year are experiencing barriers to getting and consuming food, primarily the rising cost of food and the competing cost of monthly bills and expenses.

Figure 29. Question Nine, Top Five Answers



A similar story of economic influence plays out when considering the range of responses for Question 9: which of the following could be useful in improving your access to food and food resources? While Figure 28 (above) shows that "none of the above" was the most common response overall, Figure 29 (above) shows that the relevance of this answer is different for different income brackets. Most important to improving access to food and food resources for those earning less than \$25,000 a year is information about

qualification for government programs, followed by tips on getting the most with one's money at the grocery store; information on nutrition, healthy eating and cooking; information on how to grow food; and lastly, none of the above. This arrangement of responses, however, is perfectly inverse for those earning more \$125,000 a year. For annual earners between \$25,000 and \$100,000, the most common response was the desire for getting the most out of one's money at the grocery store. Given the relatively large number of "other" responses for Question 9, these answers are categorized into a wordcloud and five examples for two of the largest categories are provided below.

Figure 30. Question Nine Open-response Wordcloud



Food Education:	More Local Options:
- Food preparation - How to make use of all veggies in the grocery store - How to ensure CSA items don't spoil - Lawn to garden conversions - Simple and easy recipes	- Buying club to source regional food - Bulks stores and food co-ops - More vendors at the Farmers' Market - More farms - CSA delivery

Figure 31. Question Ten

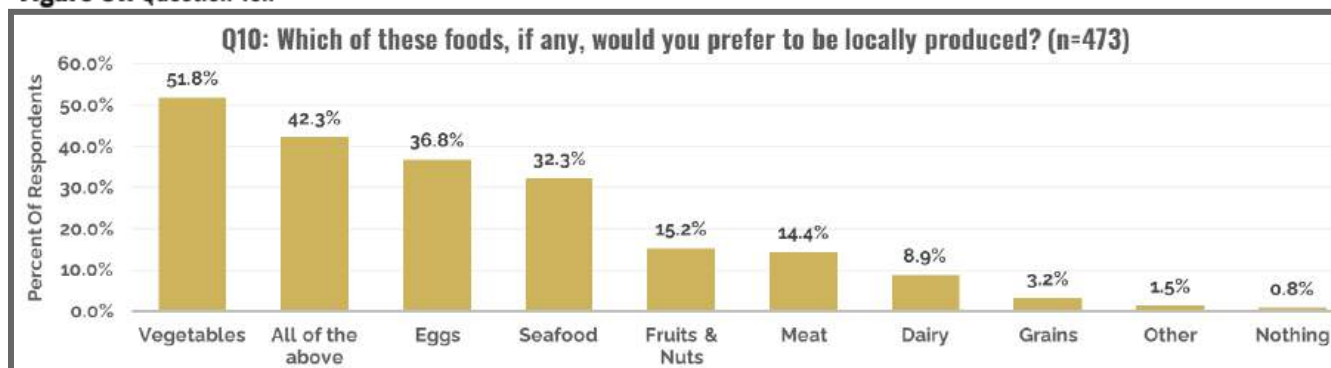


Figure 31 (above) indicates preferences among survey respondents for which food they would like to be produced locally. Results show that 51.8% of respondents are interested in seeing more local vegetables, yet given the second most frequent response is "all of the above" it seems like respondents would like to see more locally produced goods, regardless of what they are.

	Table 8. Food Insecurity by Demographic			
	# of FI Respondents	% of FI Respondents	Total # of Respondents	Responses Per Demographic as % of Total Responses
Asian (Chinese, Filipino, Asian Indian, Korean, Japanese, etc)	4	66.7%	6	1.3%
Black/African-American (Haitian, African American, Jamaican, Ethiopian, Somalian, Nigerian)	1	50.0%	2	0.4%
Brazilian or Portuguese	1	16.7%	6	1.3%
Hispanic/Latino or Spanish Origin (Mexican, Mexican American, Puerto Rico, Cuban, Salvadorian, etc)	4	66.7%	6	1.3%
Middle Eastern/ North African (Lebanese, Iranian, Egyptian, Moroccan, Algerian, etc)		0.0%	1	0.2%
Other	8	38.1%	21	4.7%
Two or more races	3	13.0%	23	5.1%
European or White (German, Irish, English, Italian, French, Polish)	52	13.5%	384	85.5%
Total	73	16.3%	449	100.0%
Non-Whites	21	32.3%	65	14.5%
Whites/Europeans	52	13.5%	384	85.5%

Question 11 and 12 of the Falmouth Food Survey provide a window into food insecurity rates that are shown here based on demographic, as well as by income and age. A positive indication of food insecurity²³ is determined by a "sometimes" or "often" response to the statements provided in Question 11 or Question 12.

- Q11: Within the past 12 months, I worried whether food for me or my family would run out before I got money to buy more.
- Q12: Within the past 12 months, the food I bought for me or my family didn't last and I didn't have money to get more.

For Q11, 380 (88%) respondents revealed that the corresponding statement was "never true," while 52 (11%) indicated it was "sometimes true" and 17 (4%) indicated it was "often true." For Q12, 401 (89%) respondents revealed that the corresponding statement was "never true," while 36 (8%) indicated it was "sometimes true" and 12 (3%) indicated it was "often true." Table 8 (*above*) gives a breakdown of food insecurity rates in Falmouth based on demographic, and Figure 32 highlights a key disparity within the data—food insecurity rates are 2.4 times higher for all Non-white races and ethnicities in comparison to Whites/Europeans.

Food insecurity rates are 2.4 times higher for all Non-white races and ethnicities in comparison to Whites/Europeans.

²³ Food insecurity screening based on Hunger Vital Signs Tool : <https://childrenshealthwatch.org/public-policy/hunger-vital-sign/>

Figure 32. Food Insecurity by Race/Ethnicity

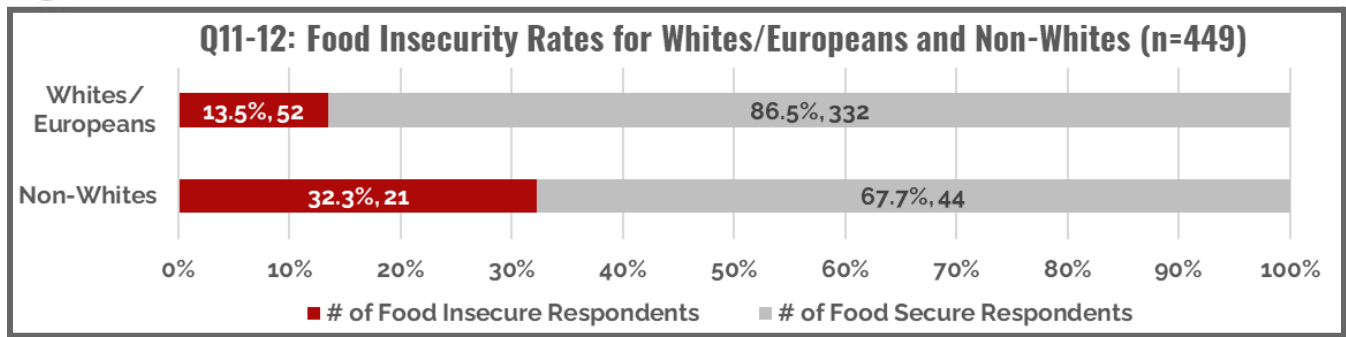


Figure 33. Food Insecurity by Income

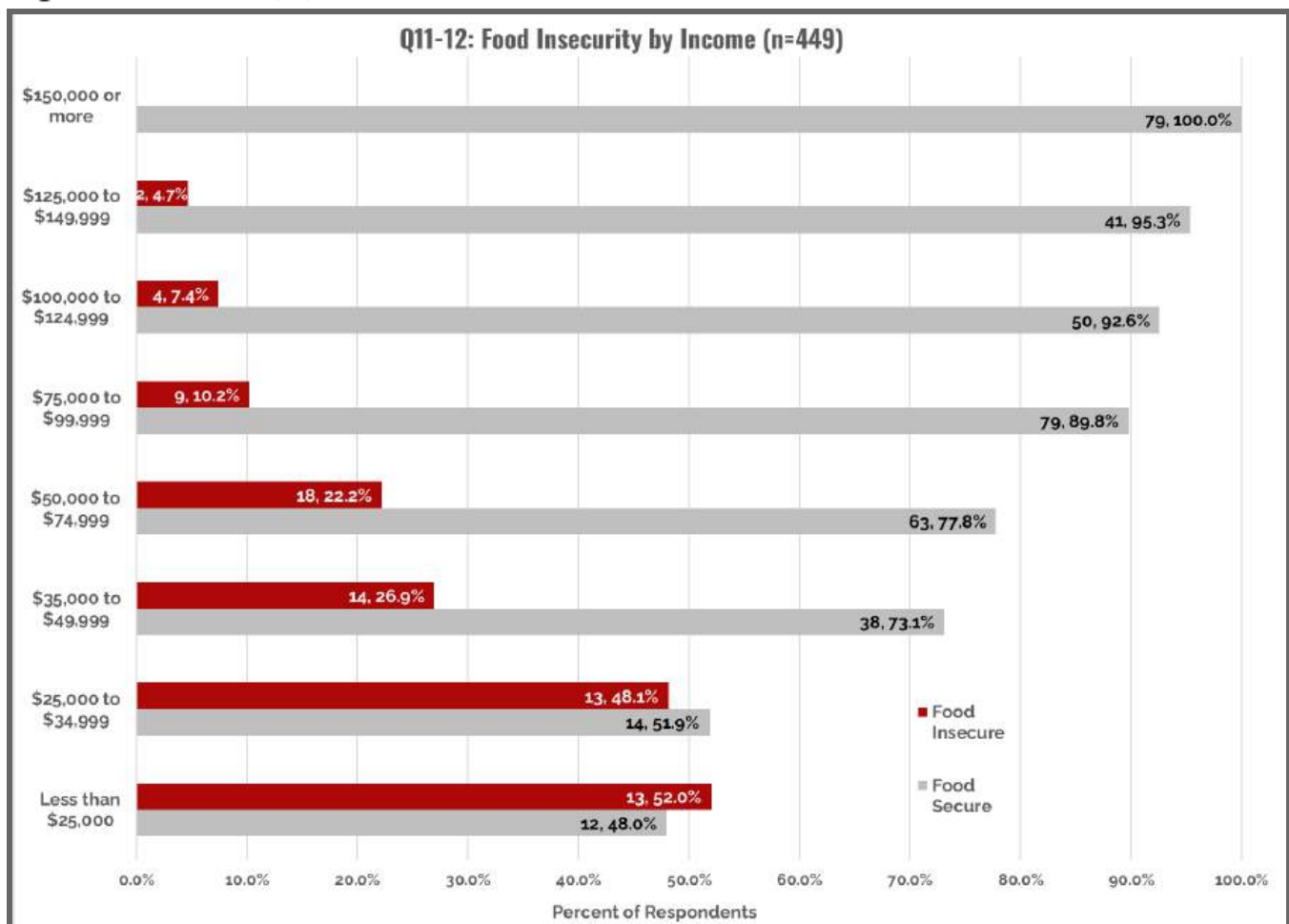


Figure 33 (above) demonstrates how food insecurity rates present themselves across income brackets within the Falmouth area. **Survey results show that over half (52%) of respondents making less than \$25,000 a year are considered food insecure, while nearly half (48.1%) of respondents earning between \$25,000 to \$34,999 a year are food insecure.** The proportion of food insecure respondents drops to 26.9% for those earning between \$35,000 and \$49,999 and 22.2% for those earning between \$50,000 - \$75,000. Food insecurity rates continue to decrease as income increases until annual income reaches \$150,000 at which point food insecurity reaches 0%. As one might suspect, overall trends suggest that food insecurity rates decrease with an increasing income.

Survey results show that over half (52%) of respondents making less than \$25,000 a year are considered food insecure, while nearly half (48.1%) of respondents earning between \$25,000 to \$34,999 a year are food insecure.

Figure 34. Food Insecurity by Age

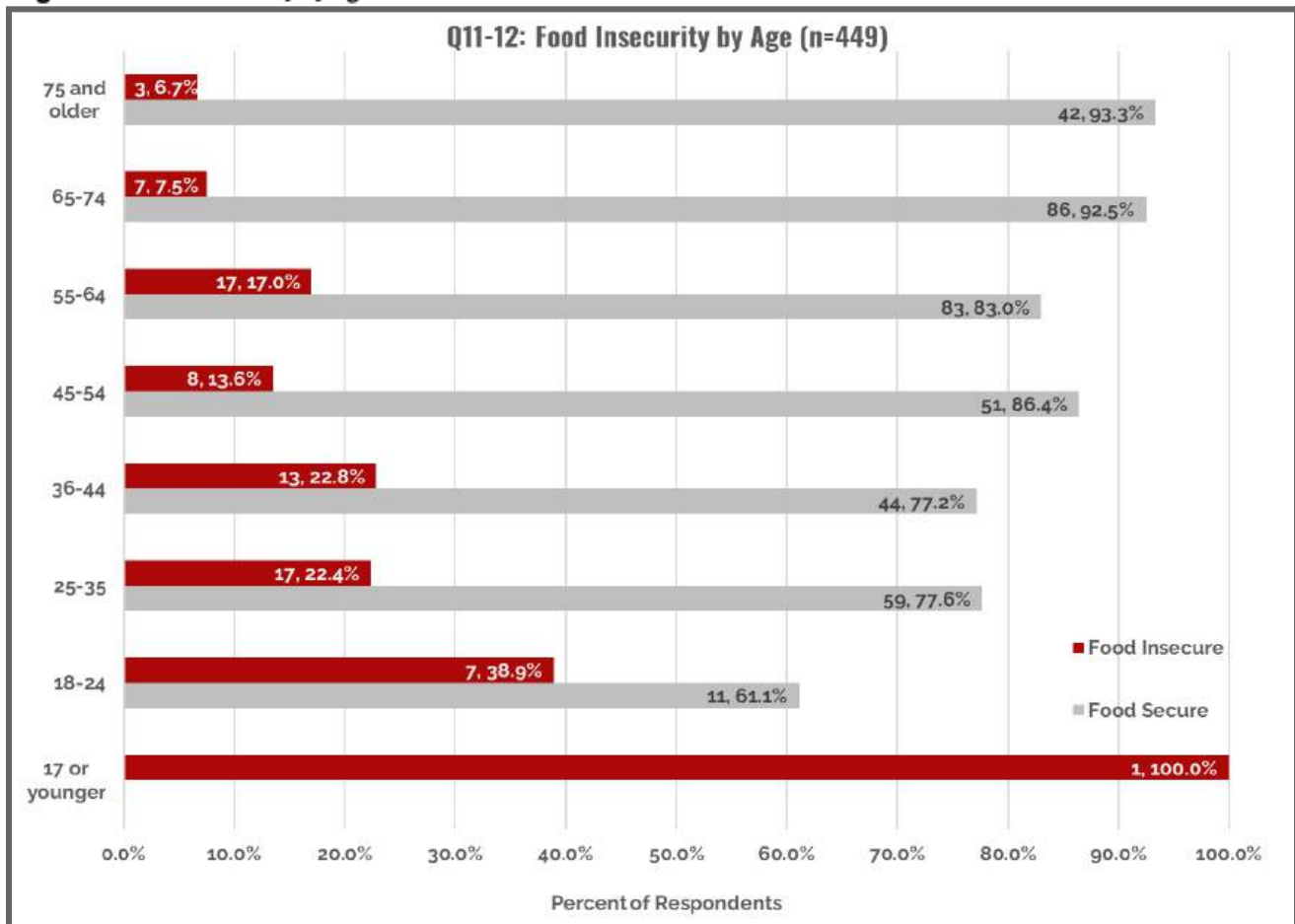


Figure 34 (above) depicts food insecurity rates across age brackets for survey respondents. As a general trend, food insecurity rates tend to decrease with increasing age. Results indicate that the sole respondent 17 years or younger screened positive for food insecurity based on responses to Questions 11 and 12. While this is not a representative sample, it is important to note that as of February 2024, 23% of Massachusetts families with children are food insecure (Project Bread, n.d.). With increasing age, food insecurity drops to roughly 40% for those between ages 18 to 24, and to roughly 22% for those between ages 25 to 44. 13.6% of survey respondents aged 45 to 54, 13.6% screen positive for food insecurity and 17% of those between 55 and 64 screen positive for food insecurity. 7.5% of respondents aged 65 to 74 are considered food insecure while 6.7% of respondents aged 75 and older are considered food insecure.

Figure 35. Food Insecurity and SNAP Status

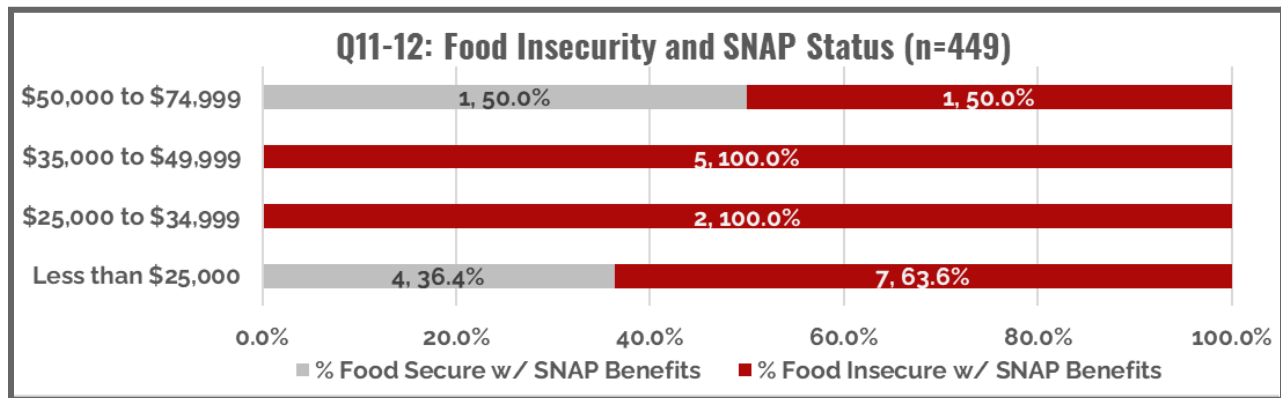


Figure 35 (above) gives a sense of food insecurity rates for those who are enrolled in SNAP. These numbers help to indicate how far SNAP benefits go in improving food security and suggest that more often than not respondents receiving SNAP benefits are still experiencing food insecurity. Overall, 15 out of 20 (75%) of respondents receiving SNAP benefits are food insecure, and 15 out of 73 (20.5%) of respondents who screened positive for food insecurity are SNAP recipients. 7 out of 11 (63.6%) of respondents using SNAP benefits and earning less than \$25,000 are still food insecure, while 100% of respondents earning between \$25,000 and \$50,000 a year who are food insecure are also SNAP recipients. 50% of the SNAP recipients earning between \$50,000 to \$75,000 a year are food insecure.

Figure 36. Question Thirteen

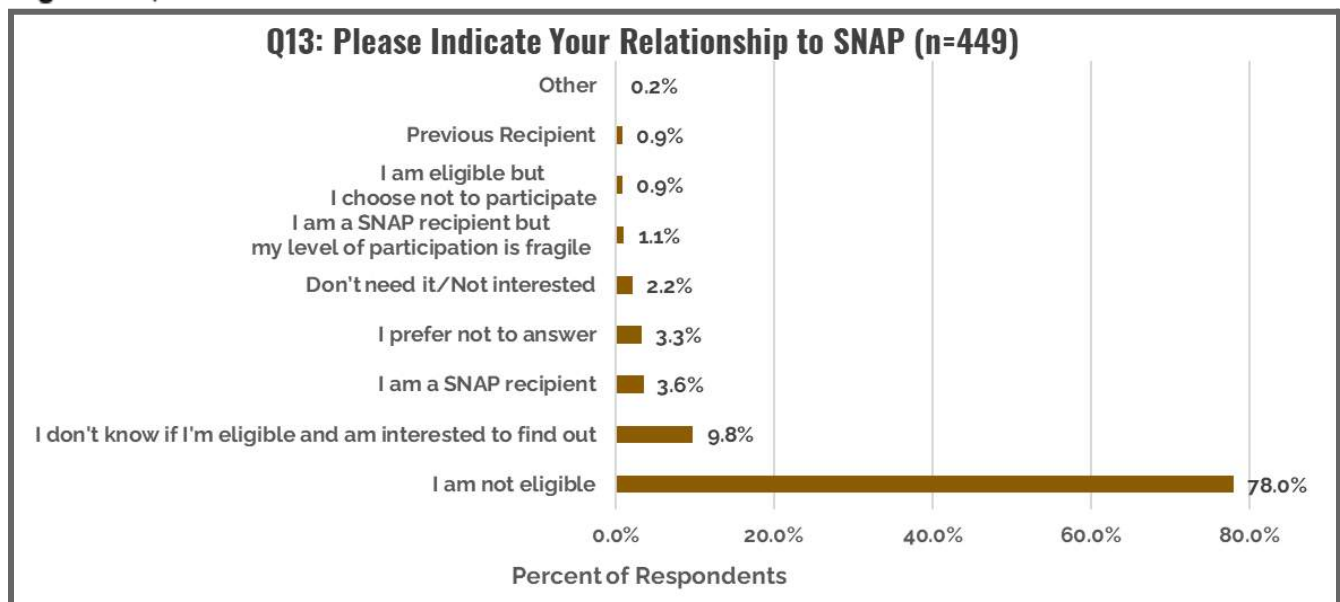


Figure 36 (above) provides an overview of survey respondents' relationship to SNAP. Responses in this figure have been categorized to include "Other" answers when possible. Survey results indicate that over 75% of respondents report that they are ineligible for SNAP benefits. 44 respondents (9.8%) indicate that they don't know if they are eligible but are interested in finding out, and 16 respondents (3.6%) are currently SNAP recipients. 5 respondents (1.1%) are fragile SNAP recipients in that they could lose benefits with change of income.

Figure 37. Question Fourteen

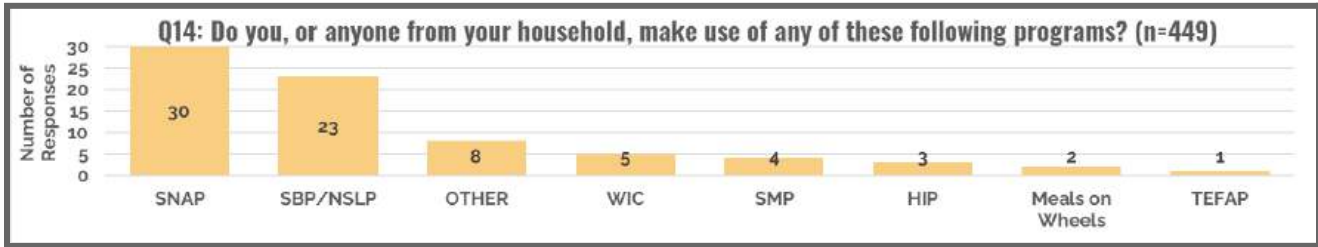


Figure 37 (above) depicts the range of nutrition assistance programs used by survey respondents and/or their household members. Most common for those making use of such programs is SNAP, representing 30 responses, or 6.7% of all households. The second most common assistance program, used by 5.1% of households, is the School Breakfast Program and National School Lunch Program. Other less frequently used programs include Women, Infants and Children, Summer Meals Program (which was only offered during the Covid-19 pandemic), the Healthy Incentives Program, Meals on Wheels and The Emergency Food Assistance Program. Common answers for "other" were the Falmouth Service Center. This figure excludes the 391 respondents who answered "none" to this question.

Food Sovereignty:

This final section provides an overview of how respondents relate to and see themselves as an integral part of Falmouth's food system. Survey results indicate that supply chain disruption, local development, and loss of farms and farmland are the biggest threat to the food system. Respondents are most interested in workshops regarding how to garden, raise livestock, and grow food. Those who earn between \$25,000 to \$50,000 and are between the ages of 18 to 35 expressed the most interest in having a community garden plot. In order to improve their access to local food, survey respondents expressed the greatest interest in having more local food at grocery stores and restaurants, followed by longer farmer's market hours.

Figure 38 (right) depicts the sentiments of survey respondents towards Question 24: Do you believe it's a priority for Falmouth to strengthen its food system, thereby enhancing food security? 19.1%, or 81 respondents, indicate that they had no opinion and 4.0%, or 17 respondents, answered no to Question 24. Fortunately for the Falmouth food system, and its future, over three quarters of survey respondents indicated that they believe its a priority to strengthen the food system and enhance food security.

Figure 38. Question Twenty-four

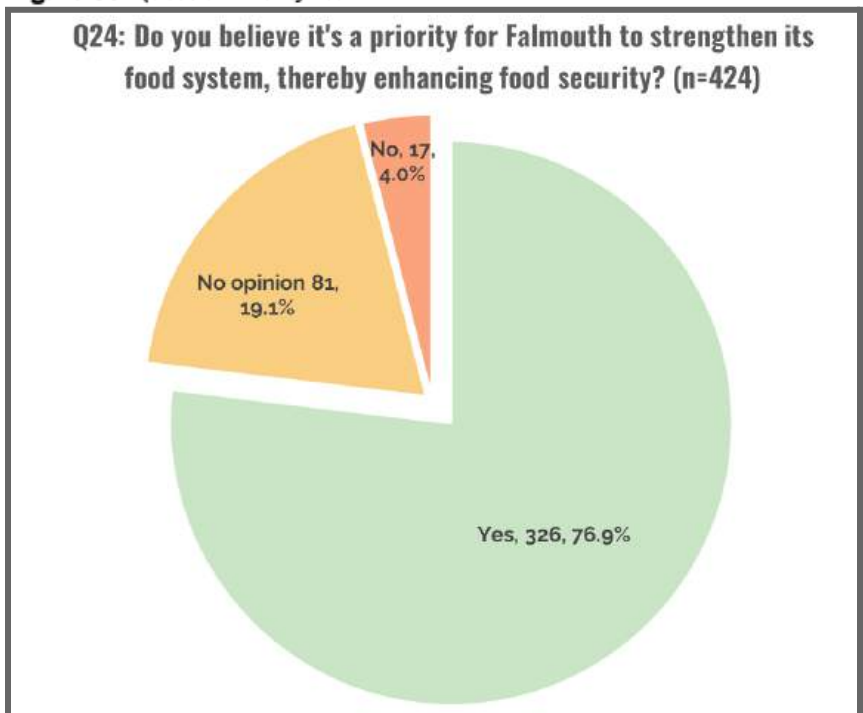


Figure 39. Question Twenty-five

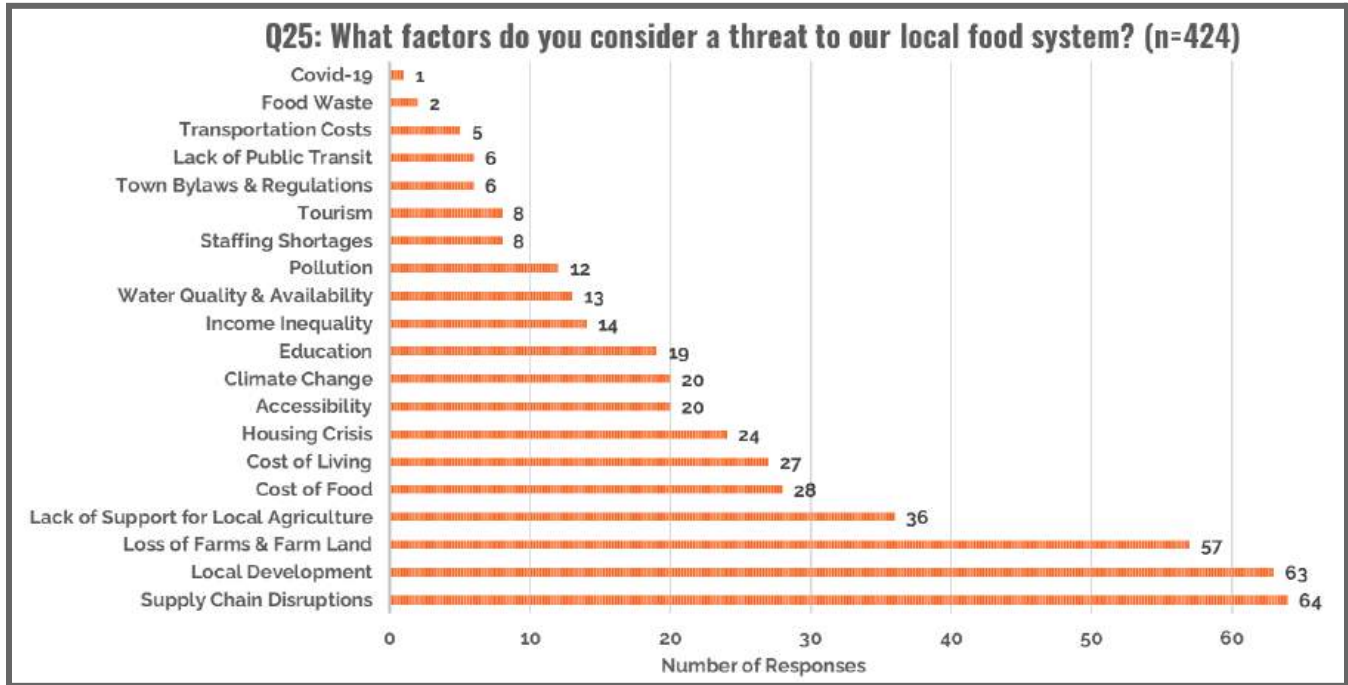


Figure 39 (above) provides a range of answers that have been categorized for Question 25, which was an open response question posed to those who answered "yes" to Question 24. Of these responses, most common was the concern of supply chain disruptions that affected the entire country, and globe, during the Covid-19 pandemic, followed by local development. Concerns over loss of farms and farmland, which can be attributed to local development, as well as lack of support for local agriculture rank as the third and fourth most common threats to Falmouth's food system. A taste of some of these open-ended responses is provided below. Figure 40 (below) provides a range of the open responses to Question 25 that were categorized for Figure 3.

Figure 40. Question Twenty-five Open-response Answers



Figure 41. Question Twenty-seven

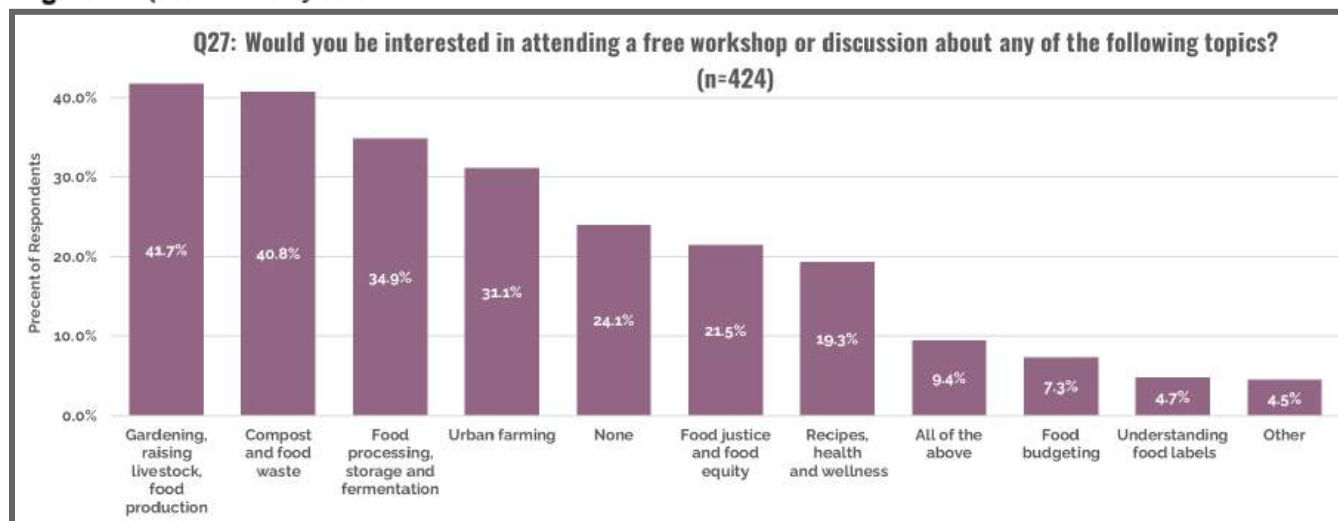


Figure 41 (above) provides an overview of workshop and discussion topics that survey respondents are most interested in attending. Of highest interest are workshops regarding how to garden, raise livestock, and grow food, followed closely by workshops on composting and food waste. The third most commonly selected topic was food processing, storage, and fermentation.

Table 9. Age, Income and Interest in a Community Garden Plot (n=424)

Income	Less than \$25,000	\$25,000 to \$34,999	\$35,000 to \$49,999	\$50,000 to \$74,999	\$75,000 to \$99,999	\$100,000 to \$124,999	\$125,000 to \$149,999	\$150,000 or more
Interested	11	13	25	26	27	10	7	15
Not interested	13	12	22	50	58	43	33	59
Ratio	0.85	1.08	1.14	0.52	0.47	0.23	0.21	0.25
Age	17 or younger	18-24	25-35	36-44	45-54	55-64	65-74	75 and older
Interested	1	13	41	22	16	22	12	7
Not interested	0	5	33	35	39	70	75	33
Ratio	-	2.60	1.24	0.63	0.41	0.31	0.16	0.21

Table 9 (above) indicates interest in community garden plots by age and income. When looking at the ratio of respondents who are interested to those who are not interested in having a community garden plot, survey results suggest that based on both age and income, respondents who earn between \$25,000 to \$50,000 and are between the ages of 18 to 35 express the most interest. Desire for a community garden plot, based on ratio of interested to not interested respondents, seems to diminish with increasing age and income.

Figure 42. Question Twenty-eight

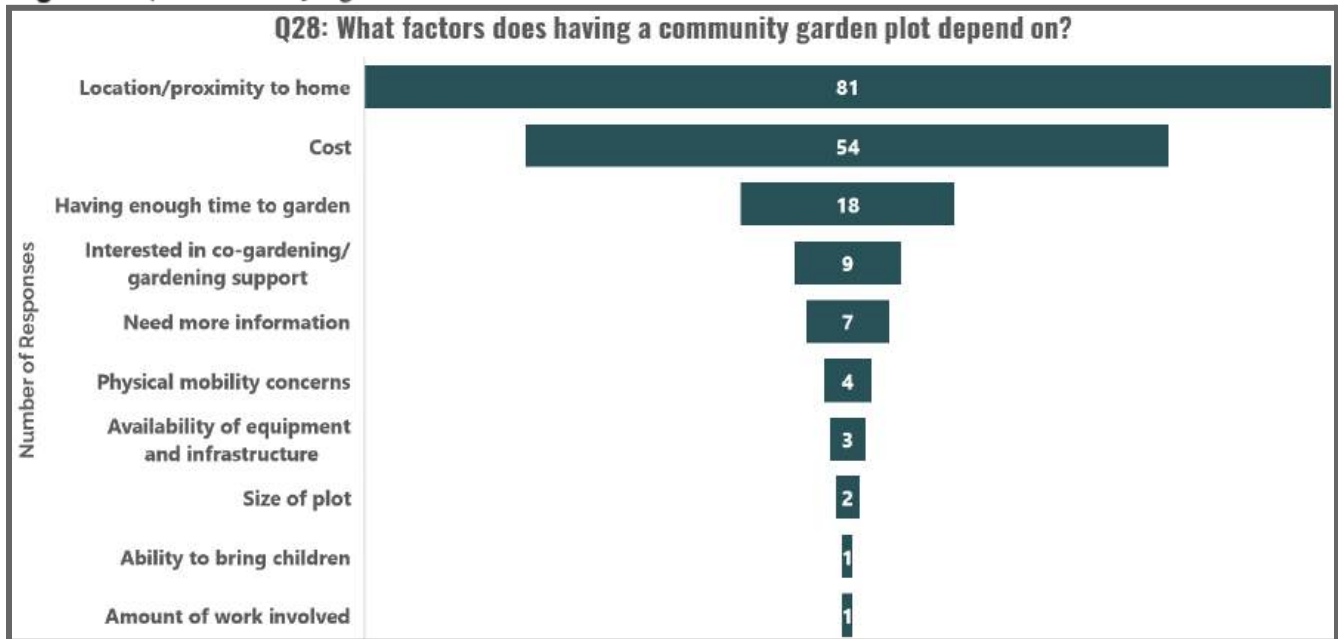


Figure 42 (above) provides a range of factors for survey respondents who answered “yes” to being interested in having access to a community garden plot. These factors have been categorized based on open-response answers. Most important for those interested in having a plot is the location of the garden and its proximity to home.

Figure 43. Question Twenty-nine

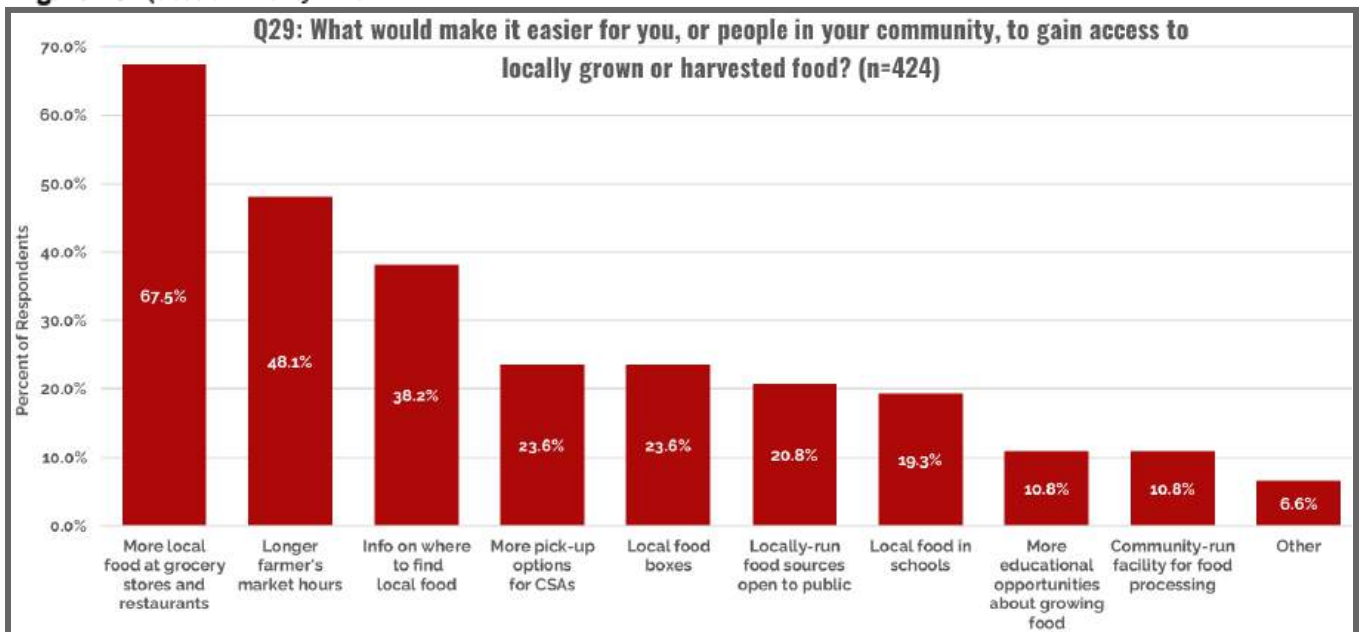


Figure 43 (above) depicts the range of answers to Question 29, which aims to get a better sense of what might make it easier in the Falmouth area to access locally grown or harvested food. Survey results suggest that respondents feel their access might be improved by having more local food at grocery stores and restaurants. The second most common response for what might make it easier for respondents to access

local food is having longer farmer's market hours while the third most common response is having information on where to find local food.

Figure 44. Question Twenty-nine, Top Five Answers

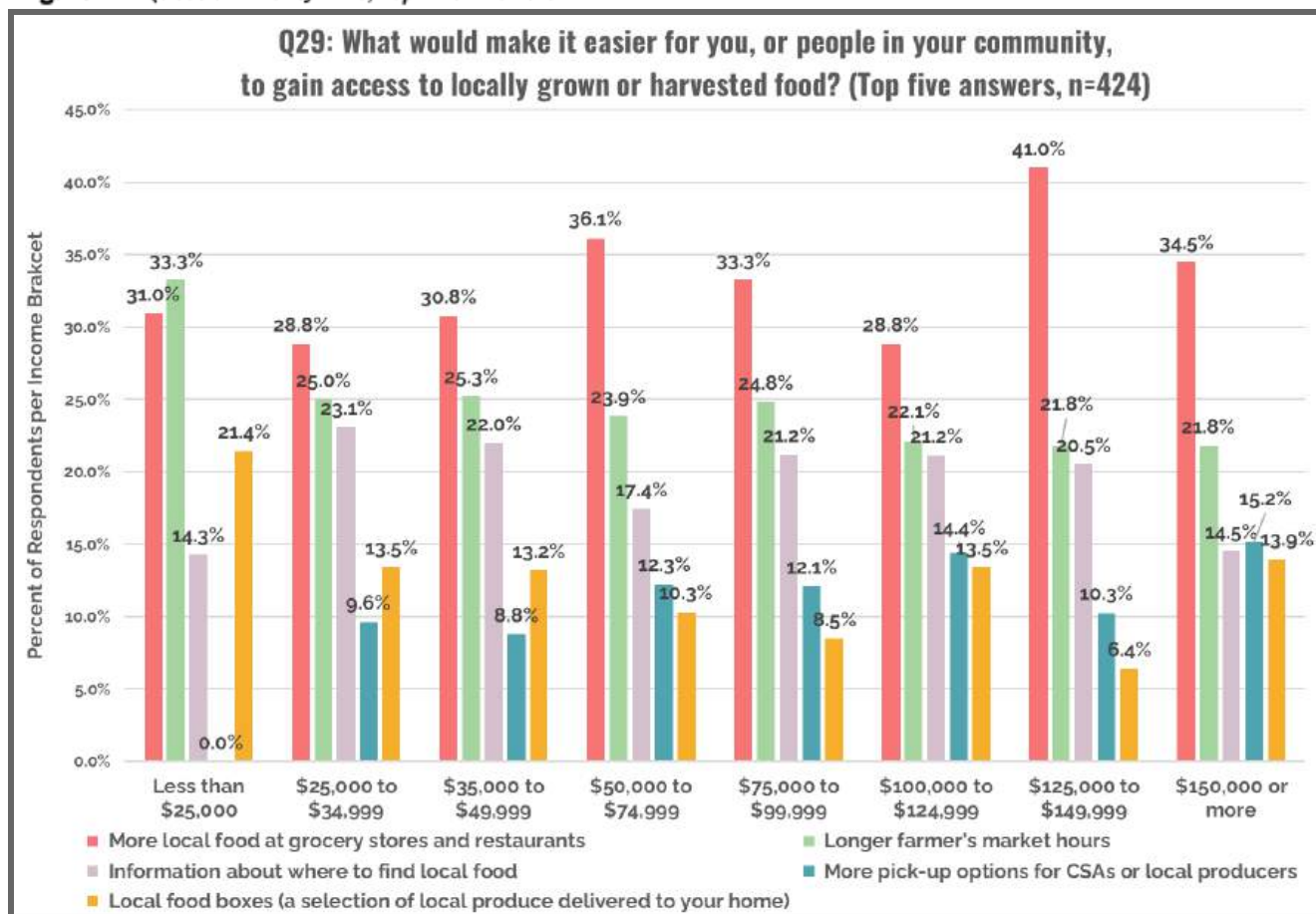


Figure 44 (above) provides a breakdown of the top five responses based on income for Question 29. In all income brackets except for those earning less than \$25,000, having more local food at grocery stores and restaurants is the most popular response.

Listed below are a variety of responses to Question 30: Do you have any questions, comments or concerns you'd like to share? These responses help to paint a picture of people's sentiments, frustrations and solutions to the problems they, and others, are facing in the Falmouth food system.

"The Farmers Market is fun to attend, if you can devote/commit the time in the middle of the day to obtain your produce. Most working people can't manage that, i.e. the 17.5% facing food insecurity. For those people, we need to bring the food to where they are schools, churches, community centers, homes and figure out creative ways of subsidizing it. As a long term goal, Farming Falmouth might consider establishing an endowment that could buy food from local producers and put it into the local food supply, or offer grants to local producers, allowing them to produce food and sell it at a discount to the local schools, and so on. I think if food cost is not considered as a key part of the solution then we will only succeed in getting local food into the hands of those who can already afford it. I also think this is why community gardens are such a cost effective/powerful solution. Could consider providing free garden plots, seeds, transplants, plus training/coaching/encouragement."

"I am trying to grow food at home this summer. I would like to buy more local food for my family, but I can't get to the farmers market regularly and csa options are limited and I don't know if I need a full csa share with my home garden producing too. I worry that food costs are going up and the available farmable land in Falmouth is getting developed into vacation homes. I would like to buy locally produced meat but the cost per pound is prohibitive."

"I want to grow my own food. I don't know how. Our society and school system did not/does not teach this anymore. We are all victims of convenience."

"I think many of these options are great, but many are costly and only available to those who can afford them, which is becoming fewer and fewer, I know it is being considered in this survey, but it's just so important to make sure that healthy locally grown food can also be accessible despite income levels."

"Would love for the farmers market to not occur during the 9-5 work day! It was great when I worked a non-traditional work schedule, but I can't make it during the week :("

"Access to accurate information regarding the nutritional components and affordability of food should be broken down for low-income people who are constantly fed misinformation, including that local, organic food is not affordable or accessible. Promoting home gardening should be a priority in my opinion and as a community we should boycott unsustainable food practices in our community, (ex. imported fish and meat)."

"As a low wage earner but not eligible for SNAP the biggest barrier to buying local is the price differential. Conventional groceries give you more for your money. I would love to eat locally produced, environmentally friendly foods but they are cost prohibitive. While understanding that local producers need to make their own living it still puts local products out of reach for a large proportion of our community."

"As stated before I'm very interested in the Falmouth Farmers Market but cannot patronize it due to the hours. Having it on a weekday and closed by 5 makes it impossible for me and many others who have to work, and cannot afford to leave work, to attend."

"Cost of locally grown food at farmers' markets is so high I can't justify it."

"I am glad you are doing this. It is most needed. It is getting more difficult to live in Falmouth on a fixed income. I hope this will provide help."

"Overall I would love to support local farmers. I generally shop for food at the big grocery stores (Stop and Shop, Shaws) and supplement at Windfall Market. I also buy a lamb share from Peterson Farm. I would love to shift my habits to buying more from local farmers, but I am not sure how, or the ways I know how (Farmer's Market, Farm stand) are not attainable with my current work schedule."

"I think it is underestimated how much the cost of food drives choices. If you want the public to buy these sustainable products, you'll have to get the price down. It should not be an elitist thing to be able to buy good, local food; but rather something accessible for all."

"I would be VERY interested in more educational programs geared around homesteading skills. Would also like to see some one-on-one resources where someone would come to my house to help me plan how best to utilize my space for gardening."

"I know there are some options like the farmers market, but with 2 kids (under 4 years old) access to those places can be challenging, so we rely a lot on food delivery like PeaPod. CSAs can also be challenging because you don't know what you will receive each week (I understand it's based on harvest) but that can also be challenging for parents as kids may be expecting something or just not have time to learn a new recipe. We used CSA before becoming parents, and stopped due to this challenge."

Falmouth Food Survey Key Findings:

- ❖ Between May and September of 2022, the Falmouth Food Survey was conducted in order to learn about consumer preferences and patterns within the Falmouth area and garnered a total of 473 responses.
- ❖ Based on information from a total of 473 respondents, results indicate:
 - **Consumer Preferences and Needs:**
 - Nutrition, freshness and price are the top three factors in determining which food to get.
 - When choosing where to get food, convenience of location was most favored among respondents, followed by the ability to get food grown locally or regionally, and having a greater selection of products at a given location.
 - Reliance on local food options (home gardens, community gardens, CSAs, local farm stands and the Falmouth Farmers' Markets) increases with income.
 - Local, bulk, and culturally-specific foods are considered the hardest to obtain.
 - **Affordability:**
 - The greatest barrier to respondents getting or consuming food is rising food costs.
 - Most important to improving access to food and food resources for those earning less than \$25,000 a year is information about qualification for government programs. For those earning between \$25,000 and \$100,000, the most common response was the desire for getting the most out of one's money at the grocery store.
 - Food insecurity rates are 2.4 times higher for people of color in Falmouth in comparison to Whites/Europeans.
 - Over half (52%) of respondents making less than \$25,000 a year are considered food insecure, while nearly half (48.1%) of respondents earning between \$25,000 to \$34,999 a year are food insecure. Generally, food insecurity is lower among older individuals and higher among those with lower incomes.
 - 75% of respondents receiving SNAP benefits are food insecure, suggesting that SNAP benefits are not going far enough.
 - Nearly one out of every ten respondents indicate that they don't know if they are eligible in SNAP but are interested in finding out.
 - **Food Sovereignty:**
 - The most important factors for respondents regarding their interest in having a community garden plot is the location of the garden and its proximity to home.
 - Based on both age and income, respondents who earn between \$25,000 to \$50,000 and are between the ages of 18 to 35 express the most interest in having community garden plots.
 - For all income brackets, respondents believe that having more local food at grocery stores and restaurants would make it easier to gain access to locally grown or harvested food.
 - 76.9% of survey respondents believe it's a priority for Falmouth to strengthen its food system.
 - The top three factors considered a threat to Falmouth's food system are supply chain disruptions, local development, and loss of farms and farmland.

Grower and Producer Survey:

Food production in Falmouth:

Data collected from the Grower and Producer Survey reveals that the 11 respondents²⁴ account for 61 acres of land (5 acres of which lies outside Falmouth) and 10.25 acres of water dedicated to food production. The 2022 Grower and Producers Survey represents the interests and concerns of those managing 34% of Falmouth's agricultural land and 25% of its water area used for food production.

To arrive at this estimate, a number of factors were taken into account. A similar methodology²⁵ to the 2011 APCC Agricultural Land Use on Cape Cod report reveals that as of 2024, 567 acres of land were involved in agriculture and 41.14 acres²⁶ of water were dedicated to aquaculture. When compared to numbers from the 2011 APCC report, which indicates that 617.94 acres were in use for agriculture and 38 acres for aquaculture (Geist & Beauchamp, 2011, pg. 12), there appears to be a decrease of 47.8 acres. However, it is important to note that these numbers overestimate the amount of land actually involved in the production of food. When acreage for land uses that aren't involved in the production of food are removed—categories that were included in the 2011 APCC report—as well as any acreage for parcels with an unknown growing status,²⁷ the total amount of land dedicated to growing food in Falmouth in 2024 drops to 399 acres. This number further decreases to 166 acres when acreage for cranberry bogs is removed.

This analysis, which makes use of 2024 Town Assessor Data, reveals that 0.59% of the total land area of Falmouth is being used to grow food. Additionally, this analysis shows that 18 parcels are dedicated to the production of food and that these parcels account for 29.3% of Falmouth's total agricultural land (land that includes food production, trees, flowers, cranberries, etc). Getting closer to the actual acreage of farmland provides a more concrete baseline of information, reveals a more accurate snapshot of the state of agriculture in Falmouth, and appropriately situates the 2022 Grower and Producers within the context of land involved in food production.



²⁴ Question 1 - 12 reflects the views of 11 growers and producers. Starting with Question 13, the survey reflects the views of 10 respondents (n=10), and starting with Question 20 it reflects the views of 8 respondents (n=8).

²⁵ Sum of relevant LUCs from 2024 Town Assessors Data along with any available online information; See page 9 - 10 of the APCC report for details: <https://apcc.org/resources/reports/agriculture/>

²⁶ Information on shellfish growers and acreage based on correspondence with Town of Falmouth Marine and Environmental Services

²⁷ Internet research and google maps were used to determine land use for each parcel. Parcels that had an agricultural land use code but showed no signs of agricultural activity were labeled as having an 'unknown' growing status. Refer to [Appendix F](#).

List of Known Growers and Producers in Falmouth Area:

Name	Food produced in Falmouth	Food sold in Falmouth	Website
Peach Tree Circle Farm	✓	✓	https://www.peachtreecirclefarm.com/
Pariah Dog Farm	✓	✓	https://www.instagram.com/pariahdogfarm/?hl=en
Coonamessett Farm	✓	✓	http://coonamessettfarm.com/
Tony Andrews Farm	✓	✓	https://www.tonyandrews-farm.com/
Peterson Farm	✓	✓	https://www.petersonshepherds.org/
DaSilva Farms	✓	✓	http://www.dasilvafarm.com/
Monomoit Wild	✓	✓	https://www.monomoitwild.com/where-to-find-our-salt-and-syrup
The Sunny Farm	✓	✓	https://www.facebook.com/TheSunnyFarm/
Nobska Farms	✓	✓	https://www.facebook.com/NobskaFarms/
Freshfield Farm	✓	✓	N/A
Mr. T's Bees	✓	✓	https://mrtbees.net/where-to-find-us
Esker Farms	✓	✓	https://www.instagram.com/eskerfarm/?hl=en
Cape Cod Flower Truck	✓	✓	https://app.barn2door.com/ccflowertruck/all
Silverbrook Farm		✓	http://www.silverbrook-farm.com/
Lilac Hedge Farm		✓	https://lilachedgefarm.com/
Allen Farms		✓	https://allenfarmsorganics.com/
Moonlight Rose Alpacas		✓	http://moonlightrosealpacas.com/

Shellfishing Operations in Falmouth	Website
Nantucket Sound Shellfish Company	https://twitter.com/localShellfish
Ward Aquafarms	https://www.wardaquafarms.com/
Falmouth Shellfish Cooperative	https://www.sippewissettoysters.com/about-us
Odd Duck Oyster Company	N/A
Quisset Oyster Company	N/A
Woods Hole Oyster Company	N/A
Cape Cod Oyster Company	http://www.capeoysters.com/

Table 10. 2022 Grower and Producer Survey Profile

Years in Business	Number of operations (n=11 unless otherwise indicated)	Corresponding Acres Per Category
5 years or less	3	10
6-10 years	2	4.7
11-20 years	4	31.55
20-50 years	2	25
Anticipated Years Left Operating		
1-5 years	1	5
5-10 years	5	39
10-25 years	2	5.75
More than 25 years	3	21.5
Acreage of Operations*		
5 acres or less	4	12.5
5+ to 10 acres	3	22.75
10+ to 20 acres	2	36
Unknown acreage	2	N/A
Total owned	6	53.8
Total leased	5	17.45
Total Owned or Leased	11	71.25
Acres Not In Use	6	37.25
Land tenure		
Not concerned about tenure	6	43.75
Concerned about tenure	4	24.7
Haven't thought about it	1	2.8
Succession Plan		
Yes	1	4.5
No	10	66.75
Estimated Net Income*		
\$1 - 20,000	6	-
\$20,000 - \$40,000	2	-
\$40,000 - \$80,000	1	-
\$120,000 - \$250,000	1	-
\$250,000 - \$500,000	1	-
Source of Income		
	n=10	
Primary	4	35.55
Secondary	6	35.7

*certain information has been left blank to ensure the anonymity of growers and producers

2022 Grower and Producer Survey Profile, Continued

Labor Type	Operations with worker type	Total Number of workers/volunteers
Full-time	7	16
Part-time	4	5
Season full-time	2	12
Season part-time	3	5
Volunteers	4	7

Succession Planning:

Question 5 and 6 uncover the sustainability of current growing and producing operations in Falmouth. It is evident that of the business owners surveyed, the majority plan to retire in 5-10 years and do not have a plan in place for their business to continue.

Figure 45. Question Five

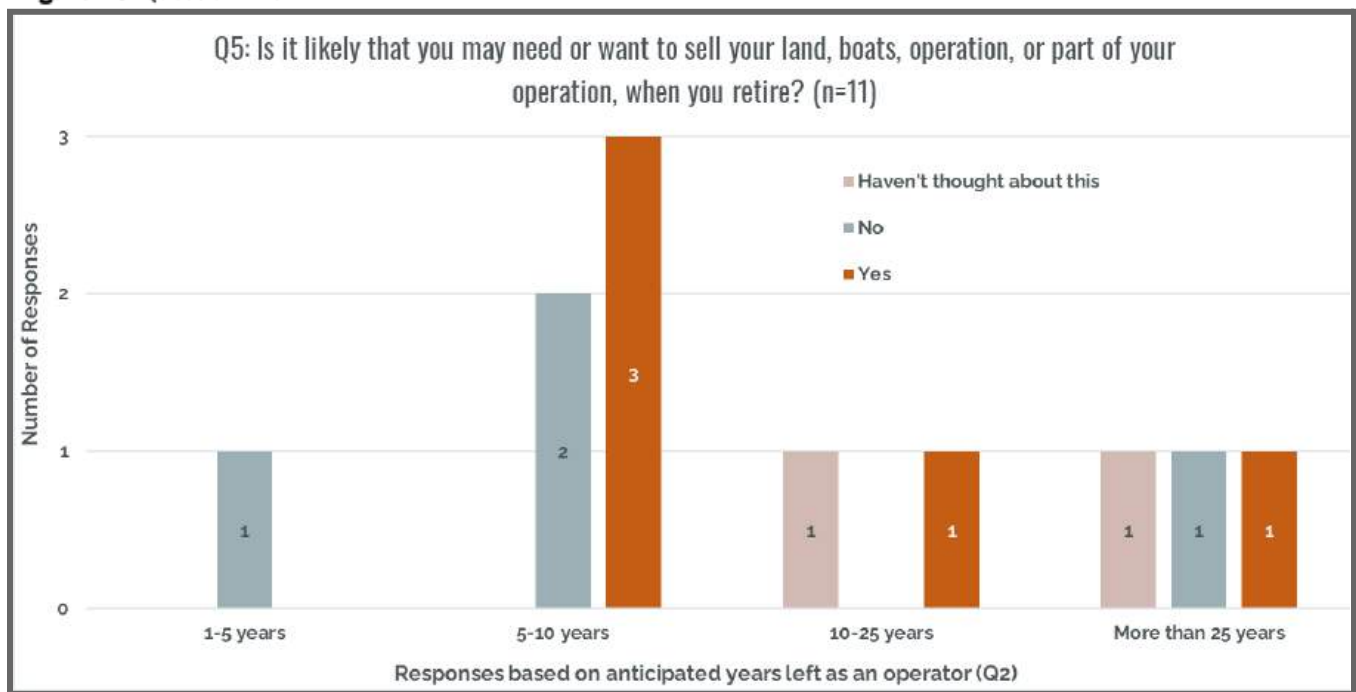
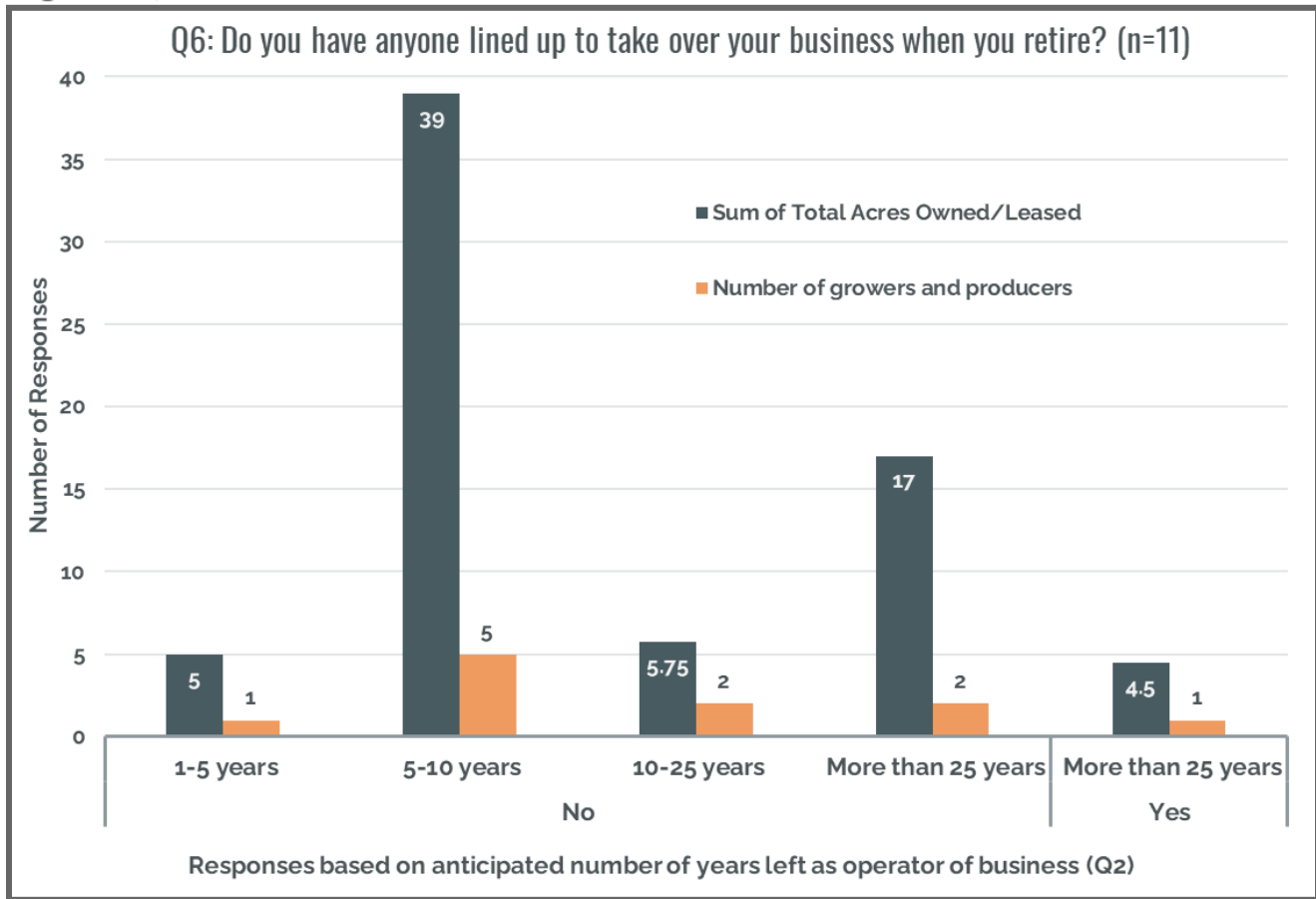


Figure 45 (above) suggests that, regardless of when they anticipate retiring, most growers and producers will likely want to sell their land, boats or operation when they retire. The greatest number of growers and producers interested in selling will take place over the next 10 years. According to the survey, four out of 10 growers and producers said they would not want to sell, and two out of 10 indicated they "haven't thought about this."

Figure 46. Question Six



Planned retirement for growers and farmers, coupled with lack of succession planning, are major threats to Falmouth's food system. The current situation could lead to a decrease in the acres of active farmland, a decrease in the total number of growers in Falmouth, and together pose a substantial threat to the sustainability and resilience of Falmouth's food system. Figure 46 (above) compares the yes or no responses of Question 6, which indicates succession of growers' and producers' operations, to the total acreage and number of operations.

70% of farmland surveyed in Falmouth will be subject to turnover by 2032. Currently no succession plans are in place to ensure continued stewardship of this land and operation of these businesses.

Alarmingly, when the data is adjusted and aquaculture removed from the equation (a form of food production controlled by the Town and therefore less subject to development and land-use change), the Grower and Producer Survey indicates that 70%, or 39 of the 56 acres, of farmland surveyed in Falmouth will be subject to turnover by 2032 and that currently no succession plans are in place to ensure continued stewardship of this land and operation of these businesses. This means that of the total estimated farmland in Falmouth (166 acres), 23% of the land actively producing food may no longer be in production by 2032.²⁸

²⁸ 39 acres of Falmouth farmland (excluding out-of-town production captured by the survey) divided by 166 food-producing acres

Though it is difficult to determine how this translates to a decrease in local food production, a 23% decrease in food producing capacity is substantial and warrants concern.

Figure 46 also reveals that within the next 10 years (by 2032), 55% of respondents are likely to retire, all of whom have no one lined up to take over their business. If we take these responses as a proxy for the full population of Falmouth growers and producers, this loss of growers and producers, unless replaced by a new generation, may represent a 27% decline²⁹ in the total number growers in the Falmouth area. The amount of area in production by those who aim to retire in the next decade and have no business succession plan in place (including growers outside of Falmouth) represents 62% of all acreage reflected in the survey, or 44 acres. 91% of the total number of operators surveyed have no succession, and when adjusted to remove aquaculture, this percentage jumps to 100%.

Economic Viability of Small Farms:

Questions 11 through 19 touch upon the economic viability of small farms in Falmouth. A majority of growers and producers indicated that access to infrastructure (55%) was a challenge to operating or expanding. Six out of 10 survey respondents shared that food production is a secondary source of income. When prompted to consider what might help their businesses grow or be more profitable, the greatest number of growers and producers responded with professional development (45%), followed by desire for access to and awareness of grant programs (36%). While improving outcomes for small farms is limited by access to land and resources, providing opportunities for professional development as well as new avenues for processing, distribution, and marketing could help Falmouth tap into the potential that lies within its collection of small farms.

Figure 47. Question Eleven

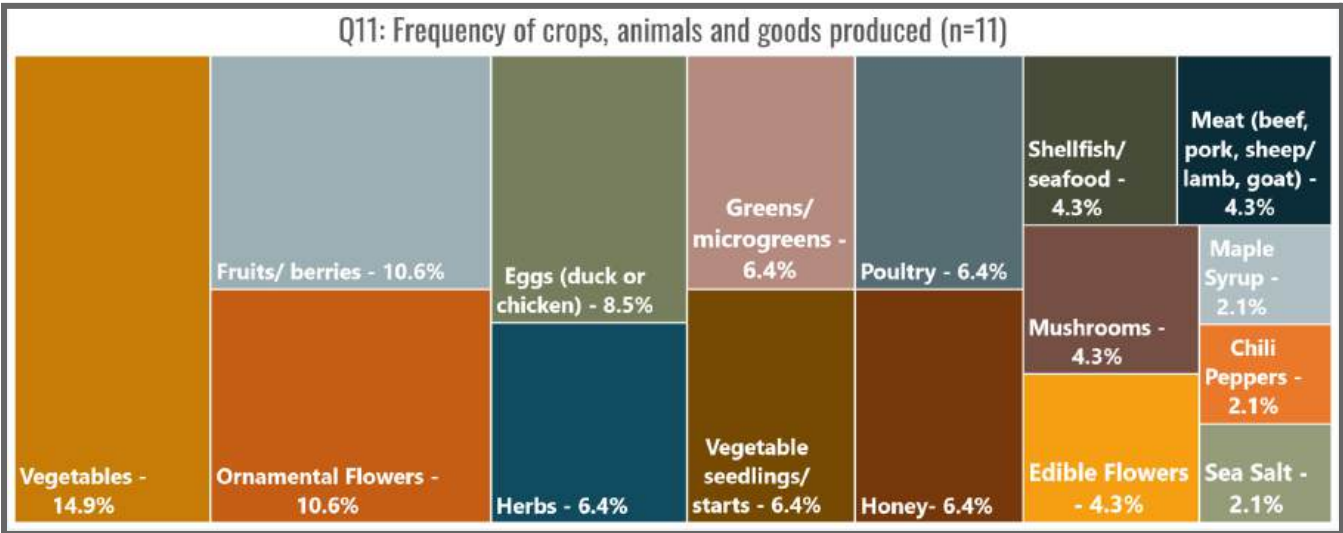


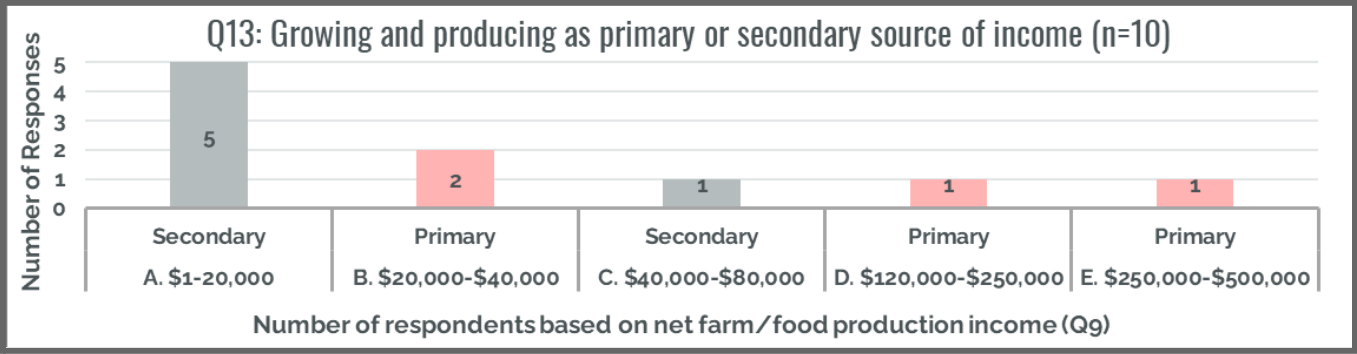
Figure 47 (above) reveals the range of crops produced in the Falmouth area based on frequency indicated by growers and producers. The most common response was vegetable production (15%), followed by ornamental flowers and fruits/berries (10.6% each). The majority of growers surveyed (64%, or 7 growers) account for all vegetable production, and of those, 5 growers accounted for all of the fruit/berry production. The third most common product in and around Falmouth, as indicated by the survey, are eggs (8.5%), followed by herbs, green/microgreens, vegetable seedlings/starts, poultry and honey (6.4% each) all as the

²⁹ This value is based on the assumption Falmouth is home to 22 growers and producers, half of which were represented by the Grower and Producer Survey

the fourth most common good produced. Mushrooms, meat, shellfish, and edible flowers each reflect 4.3% of the total responses with maple syrup, chili peppers and sea salt (2.1% each).

To be clear, these percentages represent frequency, not market share or volume. Based on the 2017 Census of Agriculture,³⁰ it is likely that cranberries and shellfish aquaculture take up the greatest proportion of market share and volume of food grown in Falmouth, most of which is sold and distributed elsewhere.

Figure 48. Question Thirteen



Making sufficient profit is challenging for Falmouth's small farmers. In total, six out of the 10 survey respondents shared that food production is a secondary source of income. As Figure 48 (above) shows, five out of the five growers and producers earning less than \$20,000 a year indicated that growing food is a secondary source of income while four out of the five producers earning more than \$20,000 considered food production their primary source of income.

Figure 49. Question Fourteen

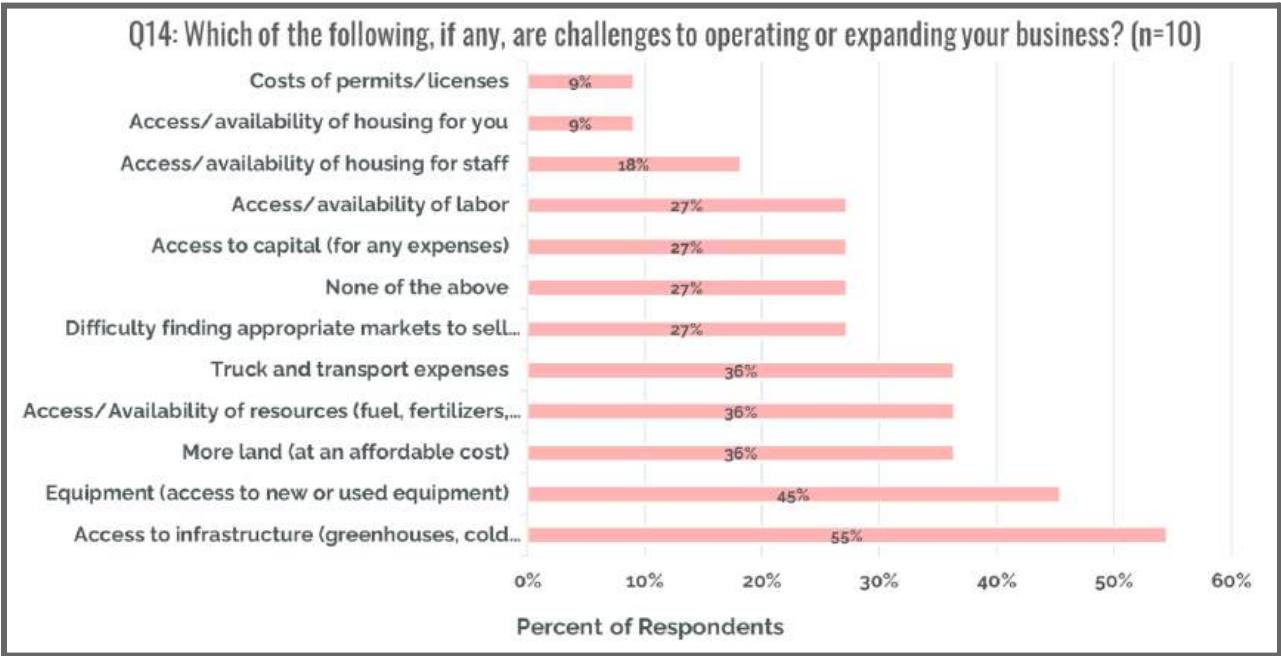


Figure 49 (above) displays the variety of challenges to operating or expanding faced by growers and producers in the Falmouth area. The greatest percent of survey respondents indicated that access to infrastructure (55%) was a challenge to operating or expanding, followed by access to new or used equipment (45%). Subsequent challenges included more land at an affordable cost; access/availability of

³⁰ 2022 Census of Agriculture numbers were withheld for a variety of categories

resources; and truck and transport expenses (27%), followed by difficulty finding appropriate markets; access to capital; and access/availability of labor each represented 27% of producers' challenges.

None of the above also registered at 27% which suggests that either these business owners are perfectly situated in the market, or that the available choices for this question did not provide space for other, more nuanced concerns. Given the list of challenges collected through the grower and producer input sessions, it is likely that the latter is true. Access to housing for staff was a concern for 18% of respondents while housing for producers and cost of permits/ licenses reflected the needs of 9% of respondents.

A majority of growers and producers indicated the access to infrastructure was a challenge to operating or expanding their businesses.

Figure 50. Question Fifteen

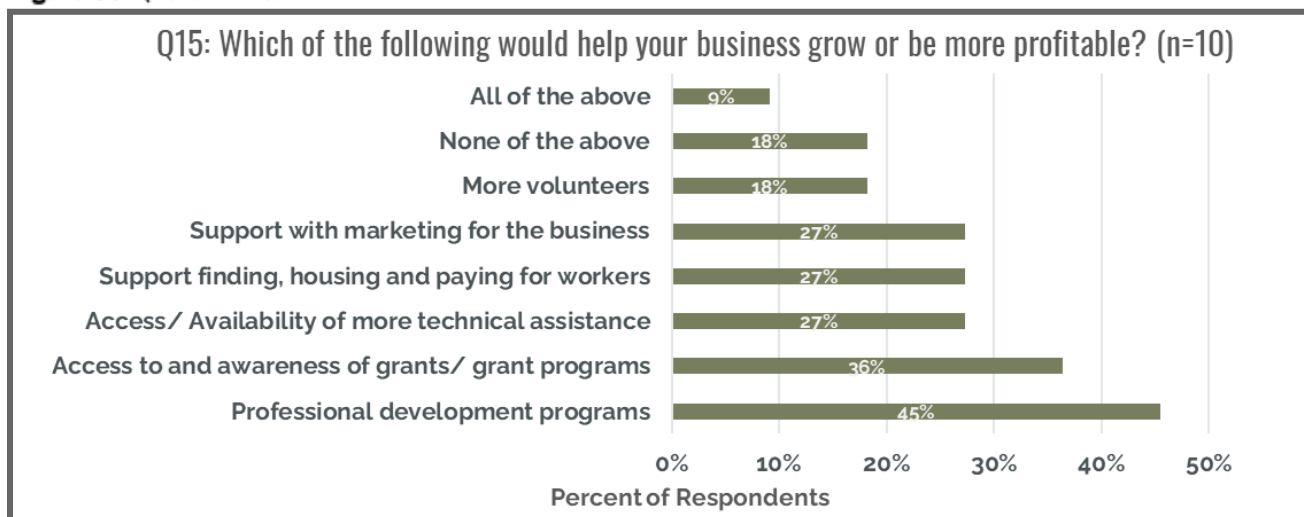


Figure 50 (above) looks at what initiatives and ideas might effectively help growers and producers in the Falmouth area. **The greatest number of growers and producers responded with professional development (45%), followed by desire for access to and awareness of grant programs (36%).** In order of need, growers additionally indicated the desire for support finding, housing, and paying for workers (27%); support with marketing for the business (27%) along with access/availability of more technical assistance (27%), which could take the shape of record keeping, business planning, sourcing equipment and supplies, setting up irrigation or propagation systems, trellising, or identifying and dealing with pests. More volunteers (18%) ranked fourth, while none of the above and all of the above came in 5th and last, respectively. Similar to Question 14, the responses to none of the above may reflect the limitations of the answers themselves rather than the sentiment that there is nothing to support the growth and profitability of local businesses.

When asked what might make their businesses more profitable, the greatest number of growers and producers responded with professional development, followed by desire for access to and awareness of grant programs.

Figure 51. Question Seventeen

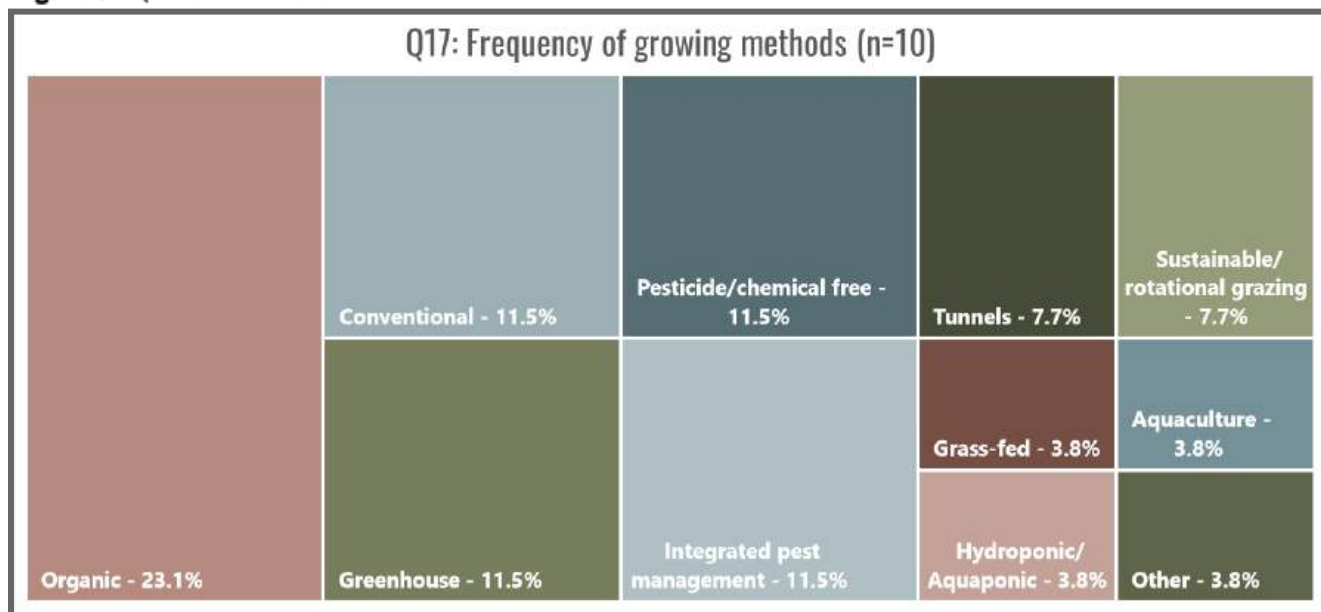


Figure 51 (*above*) catalogs the most common food production practices and techniques used in the Falmouth area. Although none of the survey respondents indicated that they have organic certification (Q25), the most frequent response was that of organic production (23.1%). This reality may be attributed to the fact that many farms follow organic practices, or go above and beyond the certification requirements, but forgo the certifications process due to associated costs, the extra burden of record keeping and because it may not be required by markets and distributors.³¹ The second most common response was the use of conventional production methods (11.5%), greenhouses (11.5%), integrated pest management (11.5%) and pesticide/chemical free (11.5%) followed by tunnels (7.7%) and sustainable/rotational grazing (7.7%). Least common practices were grass-fed (3.8%), hydroponic/aquaponic (3.8%), aquaculture (3.8%) and other (3.8%), which included mushroom inoculation, sea salt production, foraging, and maple sugaring.

³¹ For more information on the challenges of getting or staying certified organic, follow these links:
<https://modernfarmer.com/2018/05/5-reasons-getting-usda-organic-certification-is-really-difficult/>;
<https://sustainableagriculture.net/blog/recent-reports-highlight-barriers-and-opportunities-for-organic-farming/>

Figure 52. Question Nineteen

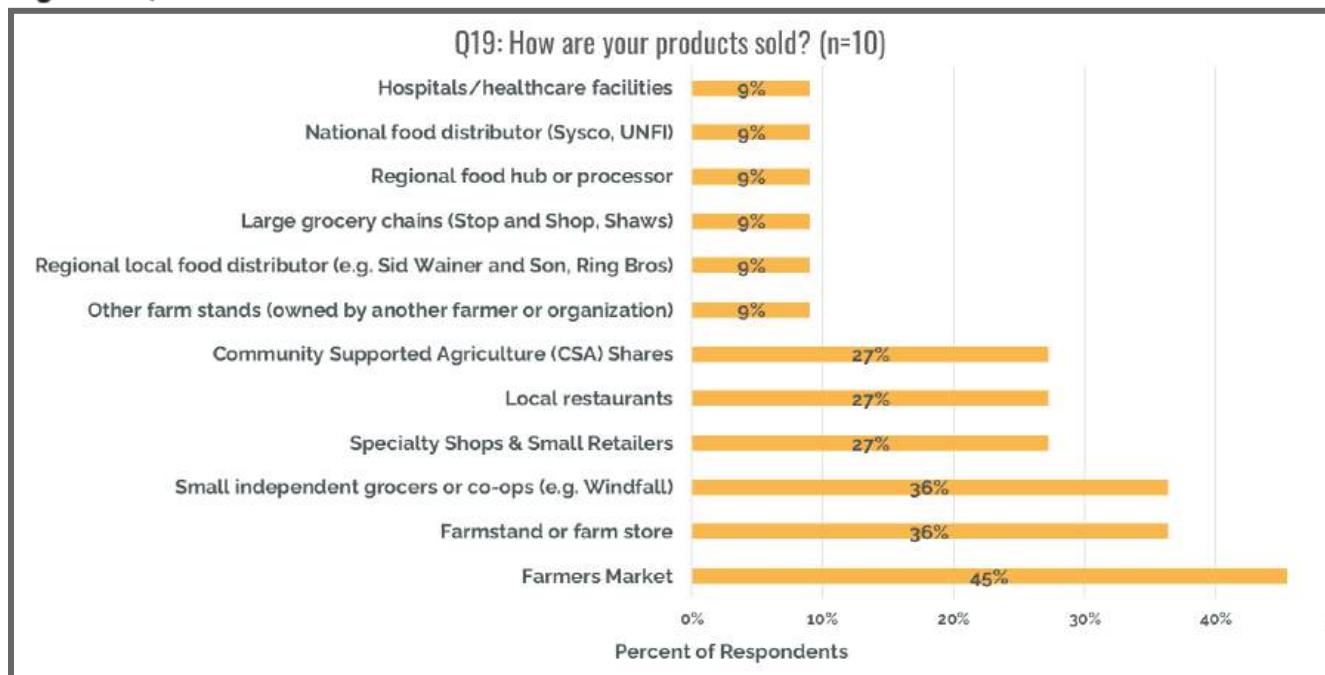


Figure 52 (above) demonstrates the percentage of growers and producers that sell their goods at a variety of locations and to a range of distributors, grocers and institutions. Most respondents sell their goods at the Falmouth Farmers Market (45%), followed by their own farmstand/farm store and small independent grocers like Windfall Market (36%). Three of 11, or 27%, of growers and producers sell their goods through a CSA program, local restaurants or specialty shops and small retailers. Least common among respondents were other farm stands, regional food distributors, large grocery chains, regional food hubs/processors, national food distributors and hospitals/healthcare facilities with only one producer selling through each of these market options. No producers indicated that they sell their goods to any K-12 schools.

Infrastructure, Activities, and Services:

Question 20 through 29 provide an overview of the infrastructure, activities, and services that support the needs of Falmouth's growers and producers. Survey results indicated that most of the post-harvest activities that occur on-site are cooling, washing, packing, sorting and labeling, and that 7 out of 8 growers and producers (87.5%) engaged in some type of post-harvest activity. 38% of growers and producers reported relying on the use of a commercial kitchen and a majority of survey respondents indicated that they would be interested in a commercial kitchen (50%). 88% of growers and producers indicated that their goods are either infrequently or regularly donated. When asked to reflect on suggestions proposed by fellow growers and producers, 50% of respondents indicated that they would like to see more support to keep Falmouth's prime agricultural soils in production, which would require purchasing new land and maintaining production on land that is currently in use. Likewise, 50% of growers and producers would like to see the Town of Falmouth prioritizing local food production by including measures in the Local Comprehensive Plan, implementing supportive ordinances, and changing restrictive zoning codes.

Figure 53. Question Twenty

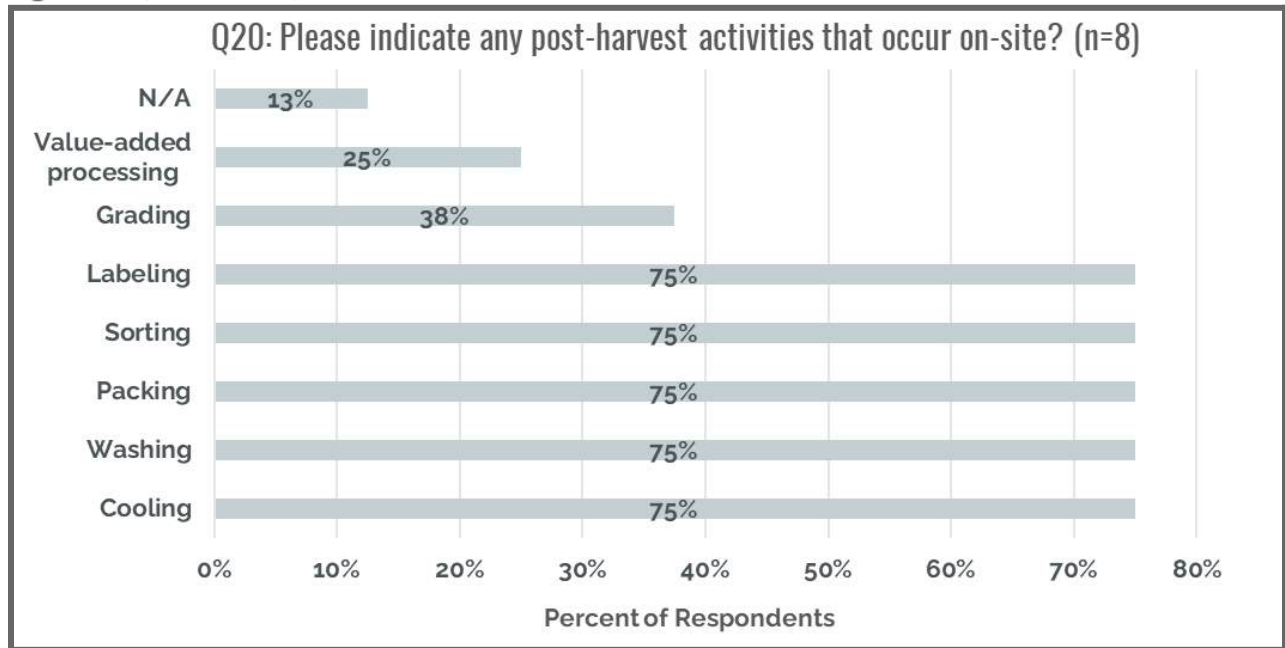


Figure 53 (above) reveals that most of the post-harvest activities that occur on-site are cooling, washing, packing, sorting and labeling, and that 7 out of 8 growers and producers (87.5%) engaged in some type of post-harvest activity. Food grading, or the process of inspecting and assessing food for quality, freshness and market value, is performed on-site by 38% of producers, while value-added processing is only performed by 25%. Given that value-added products can utilize surplus produce, diversify income streams, and are well tailored for direct to consumer sales, it begs the question: why is the percentage of producers engaged in value-added processing so low? Is this a result of a lack of resources, infrastructure, time or information? Is there enough consumer demand for value added products? With the Falmouth Farmers Market—an ideal location to sell value-added products—serving as the most common venue for producers, it seems likely that the number of growers involved in value-added processing could increase. Moreover, improving access to infrastructure, cited as the most common challenge for operating or expanding business, could open opportunities and access to markets in order to address the lack of value-added production.

Figure 54. Question Twenty-one

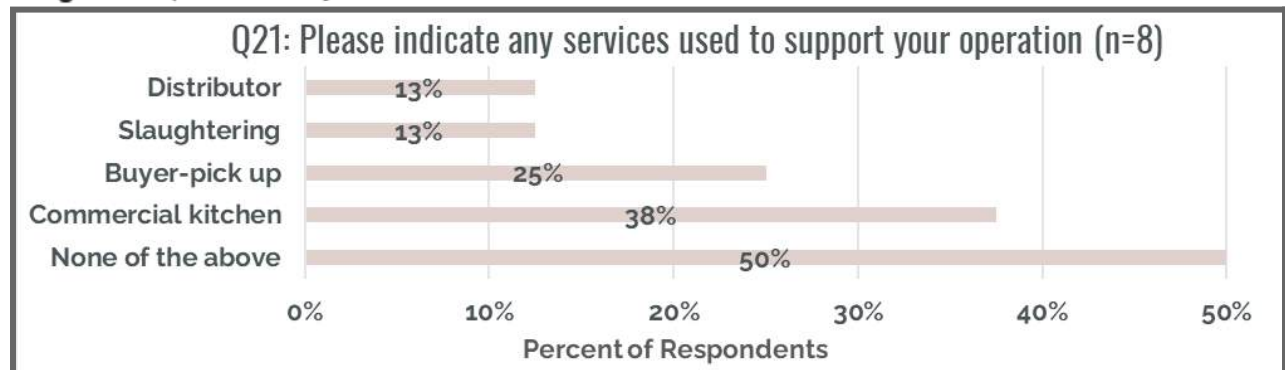


Figure 54 (above) provides us a window into the types of services that bolster the efforts of local growers and producers. While 50% of respondents acknowledged that they don't use any additional services to support their operations, 38% of growers and producers reported relying on the use of a commercial

kitchen. Respondents indicated that buyers pick-up goods from 25% of growers, and 13% of producers make use of slaughtering and distribution services. Question 21, much like Question 20, suggests that more emphasis could be placed on the role of value-added processing and the presence of commercial kitchens within Falmouth.

Figure 55. Question Twenty-two

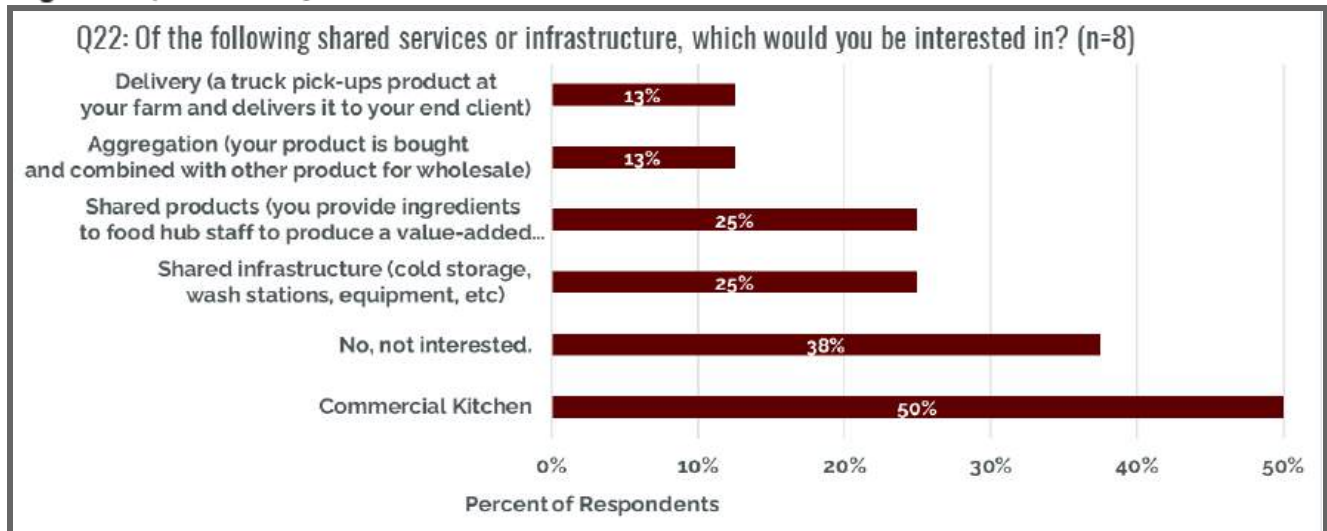


Figure 55 (above) offers insights into which shared services or infrastructure are most preferred by growers and producers in the Falmouth area. The greatest number of survey respondents indicated that they would be interested in a commercial kitchen (50%). This was followed by a lack of interest in shared services or infrastructure (38%), interest in shared infrastructure (25%) like cold storage, wash stations, and other equipment, and shared product creation through a food hub (25%). Aggregation for wholesale and delivery services represented the interest of 13% of growers and producers, respectively.

Figure 56. Question Twenty-three



Figure 56 (above) shows the percentage of growers and producers who donate their goods, or allow them to be gleaned. 100% of respondents indicated that their goods are never gleaned - a statistic that can be seen as an ideal opportunity to broaden local food recovery efforts. Promisingly, 88% of growers and producers indicated that their goods are either infrequently or regularly donated.

Figure 57. Question Twenty-four



Figure 57 (above) shows the percentage of growers and producers who compost their products. A majority of respondents (62.5%) reported composting regularly while 37.5% reported never composting. It is important to note here that the capacity for composting varies by product and that not all growers may have the same need for composting or the space to do so.

Figure 58. Question Twenty-nine

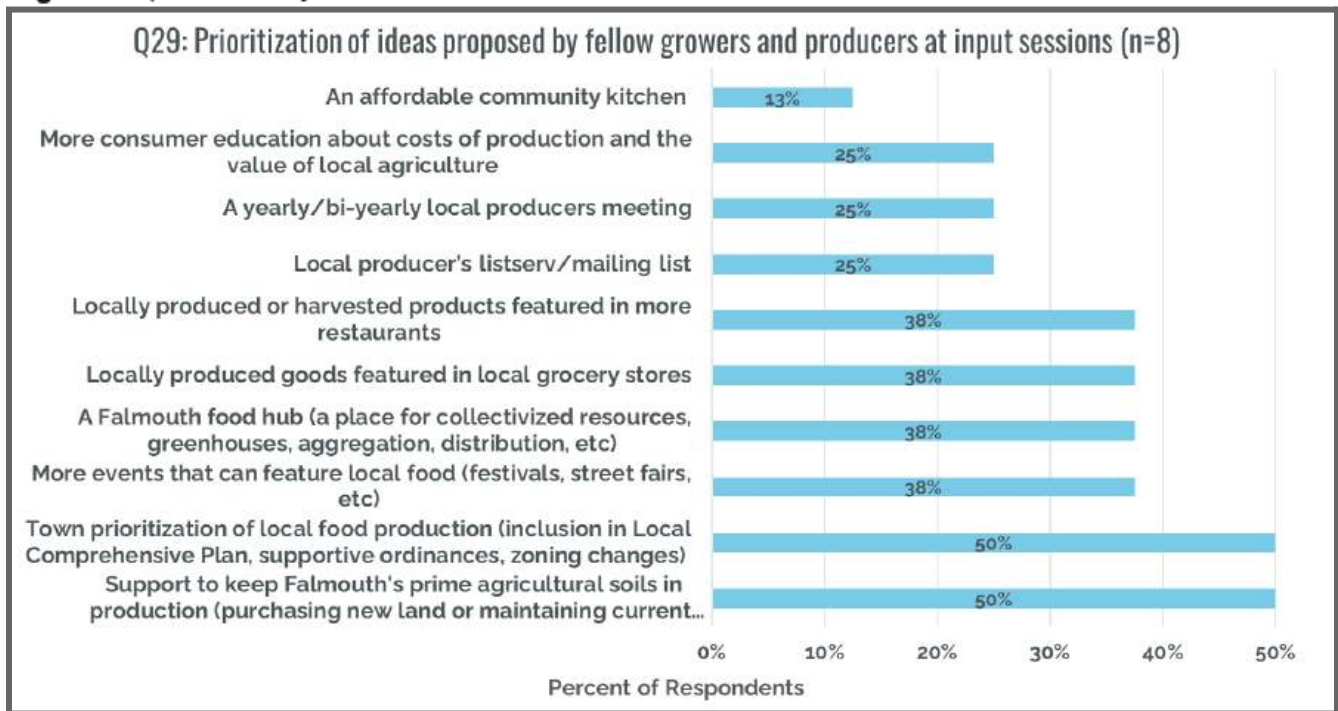


Figure 59 (above) provides a reflection on suggestions made from both grower and producer input sessions, whereby survey respondents prioritized ideas offered during these events. 50% of respondents indicated that they would like to see more support to keep Falmouth's prime agricultural soils in production, which would require purchasing new land and maintaining production on land that is currently in use. Likewise, 50% of growers and producers would like to see the Town of Falmouth prioritizing local food production by including measures in the Local Comprehensive Plan, implementing supportive ordinances and changing restrictive zoning codes. Ideas that were second most important to growers and producers,

totally 38% of respondents, included more events that can feature local food like festivals and street fairs; a Falmouth food hub that could offer resources for aggregation, distribution, processing, etc; more locally produced goods featured in grocery stores; and more locally produced or harvested goods in restaurants. 25% of respondents expressed interest in a listserv or mailing list, a yearly/bi-yearly local producers meeting and more consumer education; and 13% expressed interest in an affordable community kitchen.

Additional information from the 2022 Grower and Producer Survey not represented by the figures above indicated that one out of eight growers use certifications for their business (Question 25) and only one out of eight growers didn't make use of the internet for their business (Question 26). Three out of eight growers and producers ordered production inputs from the internet, two obtained inputs from within Falmouth and the surrounding counties, one from areas outside of Falmouth and the surrounding counties, and one from all of the above (Question 27). When asked which inputs growers and producers would like to be able to purchase locally (Question 28), answers included equipment and implements, fertilizers and compost, animal feed, and seeds through a local shellfish hatchery. Space for questions, comments and concerns indicated interest in foraging regulations within Falmouth, along with a clear definition of local.

Aquaculture in Falmouth:

Shellfish harvested in Falmouth based 2022 Grower and Producer Survey



The 2022 Grower and Producer Survey captured data from two out of the seven shellfish companies currently granted licenses in Falmouth, or 25% of the total acreage of grants. These seven companies, over half of which are dedicated to oyster production, include:

- Falmouth Shellfish Collaborative
- Woods Hole Oyster Company
- Odd Duck Oyster Company
- Nantucket Sound Shellfish Company
- Cape Cod Oyster Company
- Quissett Oyster Company
- Ward Aquafarms

The two companies surveyed represent 29% of all shellfish producers in Falmouth. Key interests and concerns from the two companies who participated in the 2022 Grower and Producer Survey as well as the Grower and Producer input sessions are listed below:

Interests:

- Being allowed more space in protected waters in order to diversify products
- Professional development programs
- Local producer's listserv/ mailing list
- More events that can feature local food (festivals, street fairs, etc.)
- Yearly/bi-yearly local producers meeting
- Locally produced or harvested products featured in more restaurants
- Town prioritization of local food production (inclusion in Local Comprehensive Plan, supportive ordinances, zoning changes)
- A Falmouth "raw bar" where local harvests could be supported and showcased
- A working waterfront space in Falmouth
- An analytically driven fishery management plan
- Greater enforcement of existing local shellfish and water quality regulations

Concerns:

- Lack of diversity of permitted local shellfish buyers
- Lack of recognition of the value and history of the local shellfish harvesters
- Lack of a working waterfront
- Impact on water quality from shoreside homes and recreational uses
- Decreasing space for potential new shellfish farms because of negative homeowner sentiments who think they also own the water
- Harassment of commercial wild harvesters for working in front of homeowners "private views"
- Significant impacts of overregulation
- Underutilization of Falmouth's natural marine resources

Grower and Producer Survey Key Findings:

- ❖ Between June to October of 2022 a grower and producer survey was sent to all participants of the grower and producer input sessions, as well as all other known growers and producers in and around Falmouth. Outreach for this survey yielded 11 respondents, which is estimated to be roughly half of all growers and producers in the Falmouth area.
- ❖ **Succession Planning:**
 - 10 out of 11 respondents have no succession plan in place. By 2032, 55% of respondents are likely to retire, all of whom have no one lined up to take over their business.
 - The grower and producer survey indicates that 70%, or 39 acres, of farmland surveyed will be subject to turnover by 2032 and that currently no one is lined up to continue stewarding this land and operating these businesses. This means that of the total estimated farmland in Falmouth (166 acres), 23% of the land actively producing food may no longer be in production by the end of the decade.
- ❖ **Economic Viability:**
 - 55% of growers and producers indicated that they are not concerned about the tenure/ownership of their land, fishery or operation. 75% of growers and producers who shared that they *are* concerned about tenure earn less than \$20,000 a year.
 - 73% of growers and producers reported earning less than \$40,000 per year, with 55% of growers and producers earning between \$1-20,000 per year. Five out of the six growers and producers earning less than \$20,000 a year indicated that growing food is a secondary source of income while four out of the five producers earning more than \$20,000 considered food production their primary source of income. In total, six out of the 11, or 60% of survey respondents stated that food production is a secondary source of income.
 - Growers and producers in and around Falmouth hired a total of 38 employees and relied on 7 volunteers. The highest ratio of worker type to operation is seasonal full-time employee with 6 season full-time workers per 1 operation. Most survey respondents included themselves as one of their full-time staff.
 - Over half of all the land leased or owned (52%) by growers and producers is fallow or not in use.
 - When asked which challenges exist to operating or expanding their businesses, most pressing, as acknowledged by 55% of respondents, was access to infrastructure, followed by challenges related to accessing new or used equipment indicated by 45% of growers and producers. More land at an affordable cost, access/availability of resources, and truck and transport expenses all ranked as the third most important challenge to operating or expanding businesses, reported by 27% of growers and producers.
 - When asked what might help their business grow or be more profitable 45% of growers and producers indicated a desire for professional development programs, followed by access to and awareness of grant/ grant programs by 36% of respondents. Tied for third and representing 27% of growers and producers is the need for support finding, housing and paying for workers and support with marketing for the business, along with access/availability of more technical assistance which could include for example support with record keeping, business planning, sourcing equipment and supplies, setting up irrigation or propagation systems, trellising, or identifying and dealing with pests.

❖ **Infrastructure, Activities, and Services:**

- Survey results indicated that most of the post-harvest activities that occur on-site are cooling, washing, packing, sorting and labeling, and that 7 out of 8 growers and producers (87.5%) engaged in some type of post-harvest activity.
- 38% of growers and producers rely on the use of a commercial kitchen and a majority of survey respondents (50%) indicated that they would be interested in a commercial kitchen.
- 88% of growers and producers indicated that their goods are either infrequently or regularly donated.
- When asked to reflect on suggestions proposed by fellow growers and producers, 50% of respondents indicated that they would like to see more support to keep Falmouth's prime agricultural soils in production, which would require purchasing new land and maintaining production on land that is currently in use. Likewise, 50% of growers and producers would like to see the Town of Falmouth prioritizing local food production by including measures in the Local Comprehensive Plan, implementing supportive ordinances and changing restrictive zoning codes.

❖ **Aquaculture in Falmouth:**

- The 2022 Grower and Producer Survey captured data from two out of the seven shellfish companies currently granted licenses in Falmouth, or 25% of the total acreage of grants.
- Key interests from these shellfish companies represented in the Grower and Producer Input Sessions as well as the Grower and Producer Survey include:
 - Being allowed more space in protected waters to diversify products.
 - Greater enforcement of existing local shellfish and water quality regulations.
 - Access to a working waterfront space.
 - Professional development programs.
- Key concerns from these shellfish companies include:
 - Lack of diversity of permitted local shellfish buyers.
 - Impact on water quality from shoreside homes and recreational activities.
 - Loss of space and negative interactions from waterfront homeownership.

Recommendations

The Falmouth Food System Assessment aims to establish a baseline of information that can be used to inform and track change within the food system and to nurture a vision for a food future grounded in resilience and sustainability. A key contributor to the vision of a more resilient and sustainable regional food system is the New England State Food System Planners Partnership. Grounded in the provocation, “can the six New England states provide 30% of their food from regional farms and fisheries by 2030?”, their 2023 report titled, [A Regional Approach to Food System Resilience](#), explores how much food needs to be produced, the potential of our food supply chains, the changes to consumption patterns, and the best market channels to achieve this goal. This report also poses a question that is vital to the work of this assessment: “what might change if we intentionally and regionally plan for our future, making significant investments in strengthening our regional food system and communities?” (New England State Food System Planners Partnership, 2023, pg. 2-3). With this provocation in mind, what might it look like if Falmouth, and Barnstable County, were to make strategic investments in a strong regional food system? What are realistic goals and how can Falmouth work to meet these goals? By situating itself within a larger, more robust, regional framework, it is the hope that this project provides information and insight for Falmouth, and its food system, to live these questions and eventually the answers.

The urgency to answer these questions can be found, for example, in the American Farmland Trust's 2022 report titled, [Farmland Under Threat: Choosing an Abundant Future](#). Their research spells out the value of preserving farmland and reveals that from 2001-2016, each day the United States lost 2,000 acres of farmland and ranchland.

If this trend continues, another 18.4 million acres will be converted between 2016 and 2040—an area nearly the size of South Carolina. Of this total, 6.2 million acres will be converted to urban and highly developed land uses such as commercial buildings, industrial sites, and moderate to-high-density residential development. The remainder, 12.2 million acres, will be converted to low-density residential areas, which range from large-lot subdivisions to rural areas with a proliferation of scattered houses (American Farmland Trust, 2022, pg. ii).

Within Massachusetts the projected loss of farmland between 2016-2040 may total 89,400 acres, while in Barnstable County it may total 1,000 acres (an area roughly 1/15th the size of the town of Mashpee) (American Farmland Trust, n.d.-b).

In concert with these findings, and with the growing evidence regarding the social, environmental, and economic ramifications of the global food system, this report sheds light on some of the obvious, and not-so-obvious, issues facing Falmouth's food system. Much like the 2011 Association to Preserve Cape Cod report, [Agricultural Land Use on Cape Cod](#), the Falmouth Food System Assessment attests to the loss of food production capacities within Falmouth and Barnstable County, along with the more personal and communal concerns born of this uncertainty.

To effectively live the questions that help us imagine a more resilient and sustainable food system and to rise to the urgency provoked by the past, present and future loss of agricultural land, the following section provides key recommendations tailored specifically to the conditions and needs of Falmouth's food system. These recommendations draw not only upon a new set of information gathered through the 2022 Falmouth Food Survey, the Grower and Producer Survey and the six stakeholder input sessions, but also on the work of countless regional, national, and global reports, toolkits, and resources. By acting on these recommendations and their corresponding initiatives, Falmouth has the potential to create a more resilient and sustainable food system that benefits the entire community.

Implement Food-Forward Policies:

Historically, policy and planning have focused on infrastructure and economic growth in ways that have unintentionally shaped our food system and overlooked its impact on the economic, social and ecological health of our communities. In response to these trends, food-forward policies take into account the crucial role that food systems play in providing food security, promoting health, supporting the economy, protecting the environment, and fostering equity, inclusion, and belonging. Ensuring that the benefits of our food system are enjoyed by all current and future residents of Falmouth requires a deliberate and collective effort to meet a wide range of community needs. Reclaiming the potential of Falmouth's food system relies on the adoption of cohesive and comprehensive policies and planning strategies that embrace the value of food systems, align with regional efforts, and are based on a robust, long-term vision. These could include policy and market-based strategies to preserve agricultural land as well as hiring a food system coordinator. Creating a community-led body, such as a food policy council, is a key recommendation for both implementing more food forward policies while also ensuring these policies are shaped and vetted by those closest to the issues at hand. Effective implementation of food-forward policies will involve ongoing measurement, investment, and accountability and will rely on collaborative relationships grounded in trust, a shared vision, and shared values.

- 1) Create a local food policy council representative of residents and food system stakeholders.
 - a) Align town goals with state and regional food system objectives found in the following reports: Massachusetts Food System Collaborative's [*Local Food Action Plan*](#), the [*Massachusetts Farmland Action Plan*](#), the [*Massachusetts Shellfish Initiative Strategic Plan*](#), New England Food System Planners' [*A Regional Approach to Food System Resilience*](#), and American Farmland Trust's [*Farms Under Threat 2040: Choosing an Abundant Future*](#).
 - b) Collaborate with nearby educational and scientific institutions and government agencies to leverage resources and expertise in developing comprehensive strategies for enhancing local food production, distribution, and waste management.
 - c) Set clear guidelines to increase local or regional food purchasing for municipal agencies and local institutions.
- 2) Adopt long-term planning strategies and goals for the food supply chain and food environments grounded in key values and principles.
 - a) Hire a food system coordinator to institutionalize investment in the food system and to oversee long-term planning efforts.
 - b) Create preferential zoning for agriculture through agricultural overlay districts, adopt market approaches like transfer of development rights, and approve by-laws that establish a minimum amount of agricultural land-use in Falmouth.
 - c) Reinforce a vision of Falmouth with a prosperous, sustainable, and resilient food system.
 - d) Create a clear definition of local and regional that support the needs of the community.
- 3) Engage collaboratively on issues affecting Falmouth by pairing food system transformation with solutions that address other social determinants of health like housing, transportation, employment, health care, etc. as these factors also influence people's ability to secure healthy food
 - a) Focus on building relationships and trust between town government and groups that want to improve the food system.
- 4) Periodically update the food system assessment to track progress within Falmouth.

Support Growers and Producers:

Sustainable and responsible food production practices can help protect natural resources, maintain biodiversity, and help offset the environmental ramifications of our global food system while reminding us of our relationship to the land. Providing support to the people, businesses, and organizations involved in the production of food is therefore an essential component of ensuring the long-term resilience and sustainability of Falmouth's food system. Growers and producers in Falmouth face limited access to land,

markets, technical assistance, succession planning, financial support, labor, and resources to run their operations. They require immediate, targeted interventions, and creative solutions to overcome these and other challenges. Given the desire for different types of shared infrastructure (i.e. commercial kitchens, washing and storage facilities, and shared production), a cooperative food hub model could be an effective way to support Falmouth's small growers. The long-term economic viability of growers and producers is predicated upon substantive cultural and political strategies that take into account and promote the value of food production. These strategies must ensure that Falmouth's growers and producers are properly resourced and that land and water are made accessible by purchasing parcels, permanently conserving them, and making them available to the next generation of farmers. Such changes will enable local food production to grow and flourish, and will allow the community of Falmouth to reap the economic, social, and ecological benefits of its food system.

- 1) Support professional development for growers and producers.
 - a) Develop comprehensive training programs that prioritize knowledge-sharing, skill-building, and capacity-building for current or aspiring growers and producers.
 - 2) Promote public/private partnerships that simultaneously leverage and transform the tourism economy in order to support agricultural production.
 - a) Organize gatherings, such as farm and community garden tours and workshops, to promote face-to-face interactions and foster an economic forum for growers and producers.
 - b) Create family friendly, fun educational events that inform summer visitors about the story of Falmouth's food system and the work being done.
 - c) Promote tourism that supports a vision of sustainability and resilience within Falmouth's food system.
 - 3) Preserve land for agricultural production and water for aquaculture production.
 - a) At a bare minimum, guarantee zero loss of farmland by working with growers and producers to ensure they are financially viable and/or that they have appropriate farmland transfer or succession plans in place.
 - b) Establish a local [farm link program](#) to connect farmers with non-farming landowners
 - c) Assess all publicly held land for its agricultural suitability and create a plan to return key parcels to agricultural production.
 - d) Identify key parcels that can be purchased by the town or local land trust for agricultural use. Prioritize saving entire farm parcels.
 - e) Conduct a thorough land inventory to determine precise acreage of land in agriculture.
 - f) Subsidize farmland acquisition for new and beginning farms, and for existing farm enterprises to expand.
 - 4) Facilitate access to public and private funding opportunities for growers and producers.
 - a) Offer local subsidies to support food growing efforts and to make local food more affordable.
 - b) Develop financial assistance programs (grants, loans, scholarships, etc) to help growers and producers overcome economic barriers.
 - c) Support growers and producers by working with them to make use of Massachusetts [agricultural grants and financial assistance programs](#), like the [Farm Viability Enhancement Program](#)
-

Invest in Local Food Supply Chains:

Investment in the food supply chain can spark and sustain economic growth by supporting the livelihood of farmers, growers, processors, distributors, retailers, food service workers, and chefs. Well planned and supported food supply chains can enhance resilience by making a community and region less reliant on resources that are trucked or flown in, and less susceptible to external shocks, such as natural disasters and supply chain disruptions. Facilitating networking opportunities, establishing robust marketing strategies, improving waste reduction efforts, and creating shared infrastructure could aid in the transition towards resilience by building off the strengths, and leveraging the collective needs of those involved in

Falmouth's food supply chains. Such initiatives could provide Falmouth's food suppliers with ways to innovate and grow new product lines, coordinate resources, and find the best locations to distribute the bounty of local food. By supporting food supply chains, we simultaneously acknowledge the importance of food in our personal lives and its role on a collective level. As a pillar of cultural identity and heritage, intentional food supply chains can help us to preserve and celebrate our unique cultural aspects as well as create new opportunities for empowerment, connection, and social cohesion.

- 1) Develop food system infrastructure for processing, distribution, and resource sharing based on current and anticipated needs of growers and producers, restaurants, grocery stores and food entrepreneurs.
 - a) Conduct a feasibility study for a food hub.
 - b) Explore the possibility of establishing dedicated spaces, such as a farmers market building and a working waterfront for fishermen.
- 2) Provide support, strengthen resource coordination, and reduce barriers for food retailers, restaurants, institutions and distributors who wish to source more regionally produced food.
 - a) Collaborate with chefs, restaurants, and culinary programs to strengthen connections between local farmers and the food industry.
 - b) Host networking events, workshops, and conferences that bring together stakeholders from across the food system—including farmers, distributors, retailers, and consumers—to build relationships, and share knowledge, resources, and best practices.
 - c) Establish a food system listserv to facilitate networking opportunities.
- 3) Create marketing strategies and campaigns to highlight local or regionally sourced food; strengthen capacity of [Buy Fresh Buy Local Cape Cod](#) specifically within Falmouth.
- 4) Enhance food composting and food recovery efforts.
 - a) Develop a composting site or facility in Falmouth.
 - b) Support residents and restaurants who wish to compost by subsidizing costs.
 - i) Create a pilot program with residents and restaurants.
 - ii) Support restaurants, especially during summer months, to ensure that they can comply with the [Massachusetts Commercial Food Waste Disposal Ban](#).
 - iii) Continue facilitating strategies within Massachusetts that have created success for its food waste bans like simplifying regulation, providing sufficient food waste infrastructure, minimizing the cost of compliance, and strong enforcement (Anglou et al., 2024).
 - c) Continue outreach to local farmers and growers, as well as other actors in the food supply chain like restaurants, groceries and distributors, to bolster local donation and gleaning efforts.

Ensure Equitable Access within Falmouth's Food Environments:

Health disparities manifest most evidently within the food system through inequitable access to nutritious food and healthy food environments. These disparities are often compounded by differences in social determinants of health such as income, education, housing, healthcare, and neighborhood characteristics—many of which are present in Falmouth. The work of addressing and ultimately eliminating the unjust, unfair, and preventable differences in health outcomes that results from these disparities, otherwise known as health equity, is an essential component of transforming Falmouth's food system. Ensuring that everyone in Falmouth has an opportunity to be as healthy as possible will require a concerted effort and strategic interventions that establish preferential options for those who are most in need. Steps towards improving equitable access include increasing SNAP enrollment and HIP utilization and expanding awareness of and access to local food options. Effectively addressing the root causes of inequity will involve uncomfortable yet necessary changes, including shifting from a paradigm that promotes economic prosperity to one that prioritizes health, and transitioning from approaches that favor individual responsibility to those that focus on the economic, political, and socio-cultural conditions of our food environments.

- 1) Increase access and opportunity at the Falmouth Farmers Market.
 - a) Explore alternatives and advertise changes that promote participation, such as expanding or changing hours, offering family friendly activities, and free samples.
 - b) Provide more on-site education and resources to draw in more people, particularly those who are low-income and people of color.
 - 2) Increase SNAP registration and HIP education.
 - a) Establish clear targets to reduce the SNAP gap in Falmouth.
 - b) Work with relevant organizations, such as the Falmouth Farmers Market, along with service providers, growers, and other stakeholders to include SNAP and HIP education resources on their website.
 - c) Run a six-month long SNAP enrollment campaign.
 - 3) Continue efforts to expand access to and awareness of local food options.
 - a) Ensure new community gardens are established given current locations are at capacity.
 - b) Work with first time gardeners to establish home plots. Prioritize supporting underrepresented and under-resourced communities.
 - c) Advocate for more gardens at faith-based, school, and business properties.
 - d) Continue and expand relationships with the Falmouth Service Center.
 - e) Create and disseminate a local food directory.
 - 4) Utilize the town resources, such as the GIS program, planning department, agricultural commission, and conservation commission to track and evaluate the distribution and accessibility of local food resources and identify areas for improvement in food justice, sustainability, and resilience.
-

Enhance Food Education:

A healthy food environment cannot be complete without food education as it is the foundation for an informed, engaged and food literate community. Food education, rooted in the values of resilience and sustainability, therefore plays a critical role in the success and viability of the Falmouth food system. Farm to School programming for children and young adults, and educational campaigns and initiatives for the general public create opportunities to improve understanding of the intricacies of the food system, empowering individuals and groups to make informed decisions and create positive, lasting change. At all ages, food education and food experiences offer us the chance to learn, unlearn, and relearn how to engage with the food and land that sustains us. These opportunities allow us to reevaluate and reestablish our connection to the land, the water, and each other in ways that foster respect and belonging, and in ways that help us remember that ecological health is synonymous with human health. Enhancing food education helps to demystify our food system and provides a common ground upon which we can question our assumptions, learn from our mistakes, and imagine a food future worth living in.

- 1) Develop an ongoing education campaign to support the above recommendations: one which emphasizes the social, environmental, and economic benefits of eating local and regional food.
 - a) Consider tactics like Meatless Mondays, local food challenges, or festivals and fairs that promote local or regional food.
 - b) Empower consumers with knowledge and skills through workshops, cooking classes, and farm tours.
- 2) Expand food system education in the Falmouth public schools.
 - a) Set goals based on the Farm to School Census.
 - b) Establish food system mentorship programs to build connection and training opportunities for aspiring growers.
- 3) Increase opportunities for "food experiences" for residents of all ages.
- 4) Create educational opportunities for skill areas most requested by survey respondents: tips on saving the most when shopping, growing your own food, and nutrition.

Section 4.

Food Supply Chains



Chapter 4. Food Supply Chains

Current conditions and insights of food production, processing, distribution, marketing, and waste

“Imagine if we had a food system that actually produced wholesome food.

Imagine if it produced that food in a way that restored the land.

Imagine if we could eat every meal knowing these few simple things:

What it is we’re eating. Where it came from. How it found its way to our table. And what it really costs.

If that was the reality, then every meal would have the potential to be a perfect meal.

We would not need to go hunting for our connection to our food and the web of life that produces it.

**We would no longer need any reminding that we eat by the grace of nature, not industry,
and that what we’re eating is never anything more or less than the body of the world.”**

– Michael Pollan, *The Omnivore’s Dilemma: A Natural History of Four Meals*

Vital to any region or locality is its food supply chain, which includes all of the steps needed to produce and transport food from farm to fork. Involved in this process is agricultural and aquaculture production, aggregation, processing, packaging, storage, marketing, wholesaling, distribution, recovery and waste reduction. A community’s active and planned engagement in this dynamic process can help bolster its ability to achieve food security and healthy diets, while reminding us that we do indeed “eat by the grace of nature.” Investment in the food supply chain sparks and sustains economic growth by supporting the livelihood of farmers, growers, processors, distributors, retailers, food service workers, and chefs. Effective food supply chains enhance resilience by making a community and region less reliant on resources that are trucked or flown in, and less susceptible to external shocks, such as natural disasters and supply chain disruptions. Sustainable and responsible food production practices help protect natural resources, maintain biodiversity, help offset the environmental ramifications of our global food system, and remind us of our relationship to the land. Furthermore, by supporting food supply chains we simultaneously acknowledge the importance of food in our personal lives and its role on a collective level. As a pillar of cultural identity and heritage, intentional food supply chains can help us to preserve and celebrate our unique cultural aspects as well as create new opportunities for empowerment, connection and social cohesion.

While the benefits of food supply chains are certainly desirable, they also come with a variety of costs and trade-offs. As the saying goes, “there’s no such thing as a free lunch.” To reap the benefits of effective food supply chains, localities and regions must invest in and maintain a range community assets including: 1) an affordable supply of housing and labor; 2) livable wages; 3) appropriate allocation and protection of water and land; 4) adequate infrastructure to handle transportation, processing and distribution; 5) economic forums that support and promote the sale of goods; 6) supportive policies and effective governance; 7) meaningful planning efforts; 8) education about the realities of food production; 9) marketing campaigns; 10) professional development opportunities; and 11) sufficient philanthropic and public investment to ensure these supply chains remain robust and can grow with the community.

Although the costs and challenges associated with the food supply chain in Falmouth are often overshadowed by the housing crisis, these realities are salient, pressing, and inescapable to those engaged in the food system. With the backdrop of data from the Census of Agriculture, the following sections provide a larger context to these challenges. Additionally, the following sections provide a snapshot of Falmouth’s food supply chain including non-commercial food production and food processing, distribution, marketing and waste.

Section 1. Commercial Food Production

Commercial food production encompasses the range of activities and enterprises intended to yield not only food, but also a profit. While these activities may include entrepreneurial efforts like incubator farms, urban farms or beginning farmer programs, commercial food production in Falmouth is limited to a handful of farmers and aquaculturists who sell their goods through farm stands, farmers markets, CSA programs, regional distributors, local restaurants and grocers. Within this section, information from the USDA Census of Agriculture and the Cape Cod Blue Economy Project provide a backdrop for this this small group of growers, many of whom regard food production as a secondary source of income and are faced with a variety of challenges that include limited access to land, markets, technical assistance, financial support, labor, and resources to run their operations. As discussed throughout this food system assessment, these conditions are further compounded by a conspicuous lack of food system infrastructure such as process or storage facilities, a well-oiled global food system, local and state policies that favor development, unaffordable land prices, few networking opportunities, minimal marketing support, as well as a dearth of consumer education about said challenges.

Key Findings:

- ❖ By all measures, farming in Falmouth has decreased steadily in recent years.
 - Between 2007 to 2022, the number of farms in Barnstable County decreased by 14%, matching the national trend (USDA National Agricultural Statistics Service, 2022).
 - According to the Census of Agriculture, as of 2022, Barnstable County has only 1140 acres left of harvested cropland, which is a 23% decrease from 2007. Specifically, 78 acres of this harvested cropland were allocated to vegetable production, which marks a 55% decrease since 2017 (USDA National Agricultural Statistics Service, 2022).
 - The 23% decrease in acres of harvested cropland in Barnstable County between 2007 - 2022 has coincided with a 25% increase in the number of second homes, representing a nearly perfect inverse correlation.
- ❖ Farms in Falmouth and Barnstable County tend to be smaller, and thus harder to sustain long-term.
 - The average farm size in Barnstable County in 2022 was 11 acres. To put this in context, mid-sized farms, which are associated with lower rates of poverty and unemployment, higher household income and greater socioeconomic stability (Union of Concerned Scientists, 2021), are defined as between 50-1000 acres.
- ❖ High value of farmland continues to be one of the largest obstacles for new and beginning farmers in Falmouth.
 - Massachusetts currently has the third highest cost per acre of farmland in the country at \$15,200 making entry into farming or expansion of operations exceedingly difficult (National Agricultural Statistics Service, 2022).
 - In contrast to residential land, farmland generates more in local property taxes than it requires in local municipal services (American Farmland Trust, 2008).
- ❖ Falmouth's growers and producers are aging, and do not have a plan for succession.
 - As of 2022, the ratio of farmers on Cape Cod over 65 to those under 35 is 4.8:1 while in 2017 was 2:1. The largest age group of farmers in the county is 65-74, representing 31% of the total.
- ❖ Falmouth's seafood and aquaculture businesses are a driving force of the local food economy.
 - Falmouth's reliance on the "dark blue" economy—businesses and organizations directly dependent on the water—amounts to nearly \$400 million in revenue and 3,520 employees, far exceeding all other towns on Cape Cod. These values correspond to 33% of the town's overall revenues and 18% of all employees (McGee et al., n.d., Appendix C-27).



USDA Census of Agriculture:

The USDA Census of Agriculture, conducted every five years, is a comprehensive survey that looks at many metrics including land use and ownership, producer characteristics, production practices, income, and expenditures from farms and ranches in the United States. The Census collects information from all agricultural producers, large and small, so long as they are engaged in farming activities that amount to \$1,000 or more in sales of products that were raised or sold, or normally would have been sold, during a Census year. These activities involve the cultivation of land for the production of crops or the raising of animals for food, fiber and other products intended for sale or personal use. All farmers are legally required to complete the Census and according to the National Agricultural Statistics Service, the completion rate for the Census is over 70% (Penn State Extension, 2023). The Census represents the largest accumulation of agricultural data in the country, helping to inform legislation, planning, and economic investment efforts. However, it is not without its limitations. The Census does not include all farms, periodically shifts definitions which complicates longitudinal comparisons, and suppresses information when operations could be identified, which creates gaps in the data.

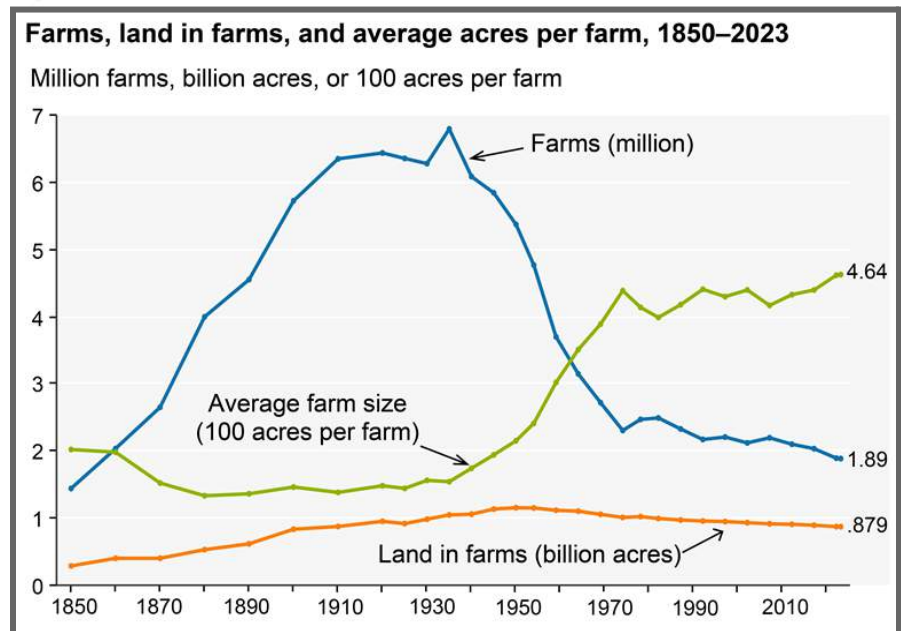
The following section includes data from the most recent Census of Agriculture published in February 2024, as well as information dating back to the 2007 census. Comparisons in the following section focus primarily on Barnstable County and Massachusetts, yet they also include larger national trends as well as survey data from organizations such as the American Farm Bureau Federation, the National Young Farmers Coalition and the Association to Preserve Cape Cod.

U.S Agricultural Trends and the Role of Mid-sized Farms

Within the United States, the number of farms peaked at 6.6 million in 1935 and has been declining ever since (USDA Economic Research Service, n.d.). The change was most pronounced between World War II and the early 1970s. As of 2022, the United States was down to 1,900,487 farms (USDA, 2023, pg. 4). Likewise, the acres of land in farms has had a corresponding downward trend with 880 million acres in 2022, compared to 915 million acres in 2011. Consolidation of farmland, prompted by government policies that favor large farms, in addition to the advantages gained by economies of scale, has led to a shrinking number of farm operations and therefore a shrinking number of farmers. This consolidation promotes a simplification of the landscape, whereby large-scale monocultures and the pesticides and fertilizers needed to maintain these operations degrade soil health and facilitate erosion. Furthermore, data has shown that in places where farmland consolidation has been the greatest, there is a corresponding social impact such that the number of Black farmers, new farmers, and young farms is also decreasing (Union of Concerned Scientists, 2021).

While large farms have gotten larger and small farms, although in some cases increasing in numbers, have gotten smaller (Union of Concerned Scientists, 2021), mid-size farms are disappearing. Despite the fact that their numbers have been halved between 1978 to 2017, their importance cannot be overlooked. The Union of Concerned Scientists 2016 report titled, [Growing Economies](#), indicates that mid-size farms (50-1000 acres) employ more people per acre than large, industrialized farms and they are more likely to purchase inputs locally. Additionally, "areas having more moderate-size farms have lower poverty and unemployment rates, higher average household incomes, and greater socioeconomic stability" (Union of Concerned Scientists, 2021). While small farms often lack capacity, and large farms lack flexibility, mid-sized farms play an important economic role in the community, can satiate shifting consumer demand for local produce, and have greater capacity to meet market demands of larger-scale buyers, such as grocery stores, hospitals, scientific institutions, and schools. Although the establishment and preservation of mid-sized farms may be difficult, and is particularly challenging in places like Cape Cod where land is limited and development is rampant, these operations are an important reminder of the immense potential that lies within the revitalization of our food system.

Figure 59. Farms, land in farms, and average acres per farm, 1850-2023



Note. From "The number of U.S. farms continues slow decline" by USDA ERS using data from USDA, National Agricultural Statistics Services, 2024. (<https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartid=58268>).

Benefits of Farmland Protection

In their 2008 report, [*Farms for the Future: Massachusetts' Investments in Farmland Conservation*](#), the American Farmland Trust draws attention to the ways in which farms and farmland are vital to the state's economy.

Cost of Community Services (COCS) studies done in towns and counties across the country consistently show that farmland generates more in local property taxes than it requires in local municipal services. Conversely, residential development generally fails to generate sufficient tax revenues to offset the costs of providing services to its residents. Unlike human residents, cows don't play soccer and cranberries don't go to school, so farms require little in the way of town services or infrastructure (American Farmland Trust, 2008).

Information collected from numerous COCS studies indicates that the median cost to provide community services per dollar of revenue collected is \$0.47 for working and open land, \$0.49 for commercial and industrial land, and \$1.09 for residential land. This means that residential land costs more in municipal services than they make, and that these costs are likely being offset by other sectors of the economy. COCS studies also help to address *three common misperceptions* by communities facing growth pressures:

- **Misperception # 1:** Open lands—including productive farms and forests—are an interim land use that should be developed to their “highest and best use.”
- **Misperception # 2:** Agricultural land gets an unfair tax break when it is assessed at its current use value for farming or ranching instead of at its potential use value for residential or commercial development.
- **Misperception # 3:** Residential development will lower property taxes by increasing the tax base (American Farmland Trust, 2016).

Although a half acre lot with a new home may generate more total revenue than if that same plot were planted with vegetables, this fast cash doesn't tell us about current and future expenditures needed to continually provide services to this home. As such, residential land uses on average “do not cover their costs, [and] they must be subsidized by other community land uses. [Therefore] converting agricultural land to residential land use should not be seen as a way to balance local budgets” (American Farmland Trust, 2016). In addition to providing fiscal stability by generating more public revenue than it receives in public services, farmland serves as the cornerstone of local economies and cultures, and provides a host of ecological benefits including aquifer recharge, surface and subsurface water filtration, flood reduction, and wildlife habitat (American Farmland Trust, n.d.).

Census of Agriculture Trends for Massachusetts and Barnstable County

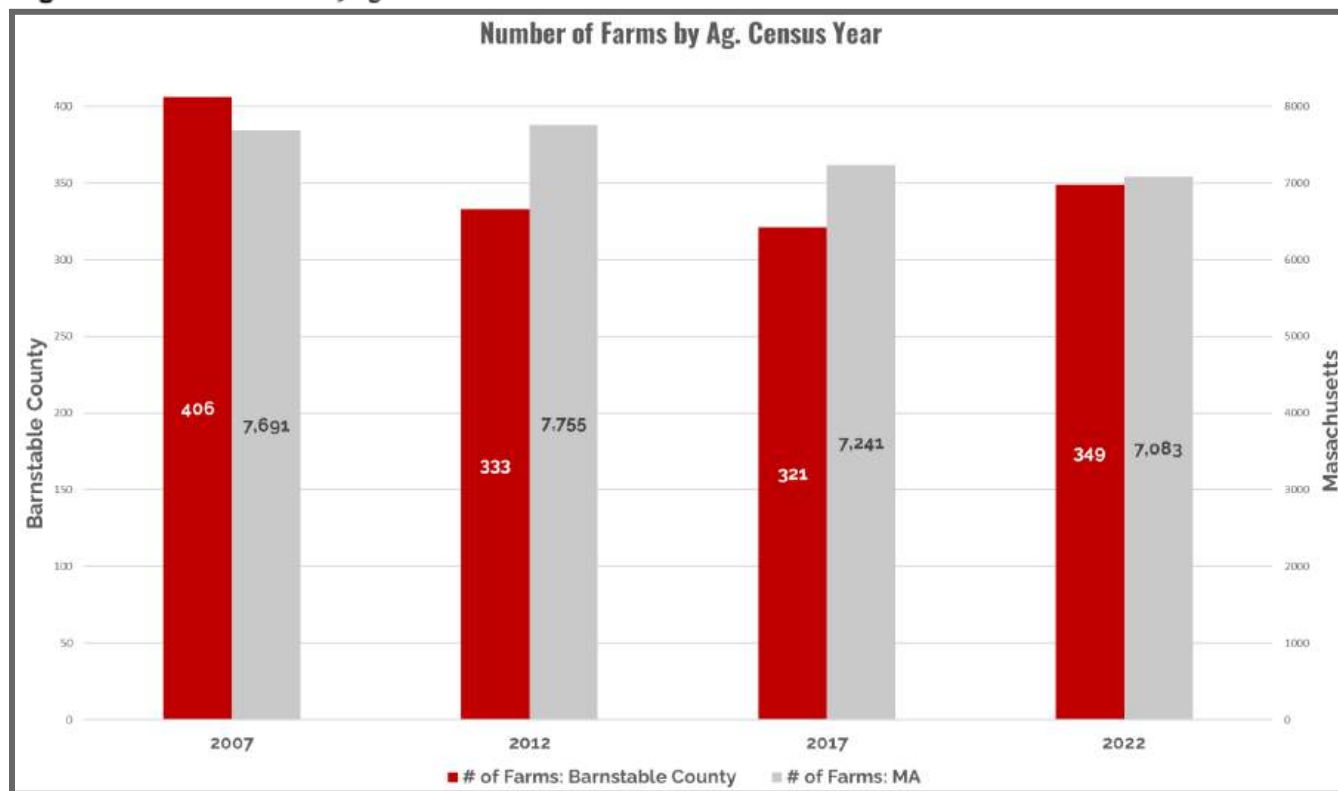
Number of Farms:

As shown in Figure 60, between 2017 – 2022 the number of farms in Barnstable County peaked in 2007 at 406 and five years later in Massachusetts at 7,755 farms. Massachusetts and Barnstable County saw an 8% and 14% decrease in the number of farms over this 15 year period, respectively. Barnstable County's pace of farm decline matched the national rate of 14%³² over the same period of time. At this rate, Barnstable county will be left with merely 190 farms by 2082. It is important to note that while there may have been an increase in the number of farms in Barnstable County between 2017 – 2022, there has been an overall loss of farmland. This suggests that people are interested in starting farms and reviving Barnstable County's agricultural roots, yet lack the land and resources to sustain or increase their operations.

Defined by the 2022 Census of Agriculture, a farm is “a place, urban or rural, that produced and sold, or normally would have sold, \$1,000 or more of agricultural products during the census year.”

³² The number of farms in the U.S in 2007 was 2,204,792, and in 2017 was 1,900,487 (Source: https://www.nass.usda.gov/Publications/AgCensus/2022/Full_Report/Volume_1,_Chapter_1_US/)

Figure 60. Number of Farms by Ag. Census Year



Note. Adapted from "USDA Census of Agriculture" by U.S. Department of Agriculture, National Statistics Service, 2007-2022, (<https://www.nass.usda.gov/AgCensus/>).

Land In Farms:

While the number of farms provides one perspective on agricultural trends in Massachusetts and Barnstable County, the U.S. Census of Agriculture offers further insight by tracking the amount of land that is in use by these farms. The sum of the total cropland, woodland, permanent pasture and rangeland, along with all other land used for farmsteads, buildings, livestock facilities, ponds, roads, etc. equals the amount of "land in farms" (Farmland Information Center, n.d.). Meanwhile, "harvested cropland" represents "row crops and closely sown crops; hay and silage crops; tree fruits, small fruits, berries, and tree nuts; vegetables and melons; and miscellaneous other minor crops" (USDA Economic Research Service, n.d.).

In line with the trend of agricultural decline, Barnstable County experienced a 40% decrease between 2017 - 2022 in the number of acres of land in farms, or 24% decrease since 2007. As of 2022, the county was left with 3,965 acres of land in farms. Of this land, 38%, or 1,509 acres, was dedicated to cropland and 29%, or 1,140 acres, was dedicated to harvested cropland. With 464,451 acres of land in farms as of 2022, Massachusetts saw a 5.5% decrease from 2017 and a 10% decrease from 2007.

Table 11. Land Harvested for Vegetables in Barnstable County, 2017-2022

	2017	2022	% Change
Farms	46	53	+15%
Acres	176	78	-55%

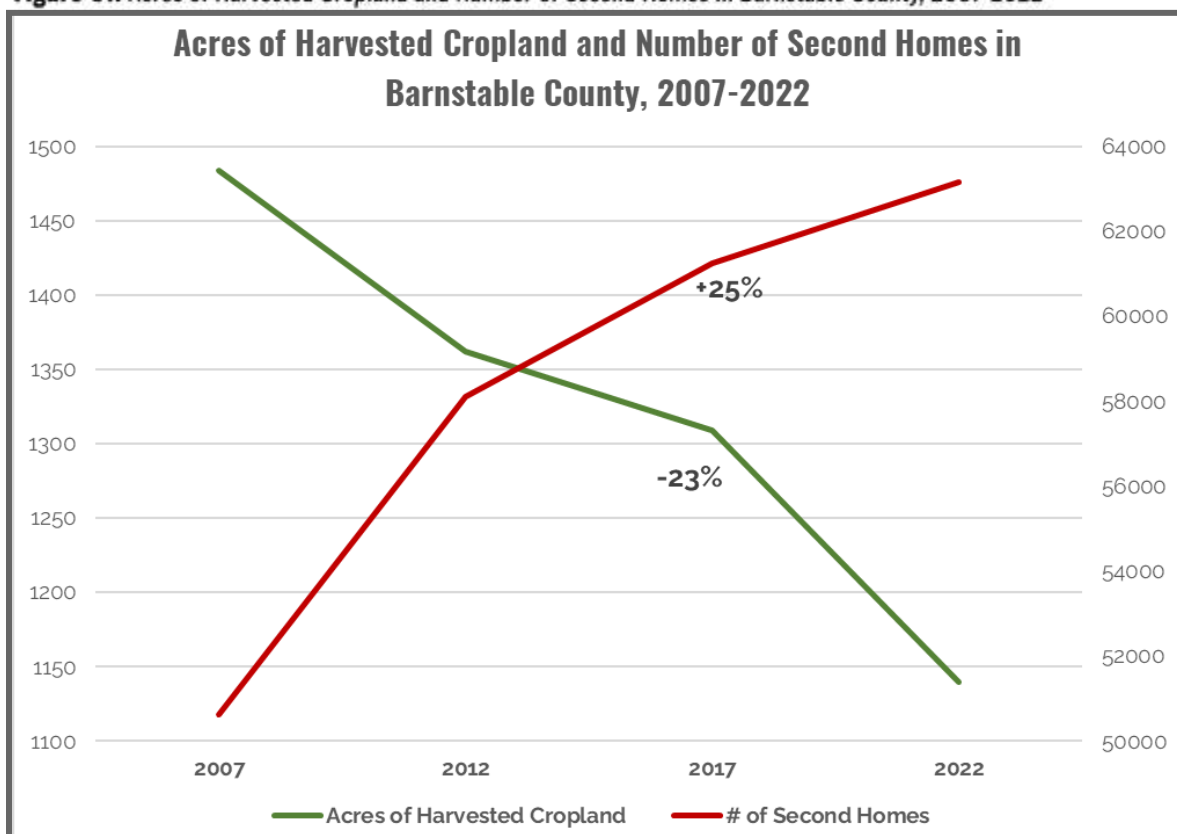
Note. Adapted from "USDA Census of Agriculture" by U.S. Department of Agriculture, National Statistics Service, 2017-2022, (<https://www.nass.usda.gov/AgCensus/>).

For comparison, as of 2022, Dukes County had 6,404 acres of land in farms, which was a 17% decrease from 2017. Martha's Vineyard, in particular, accounts for 1,428 of these acres. 2.6% of the land area of Martha's Vineyard is in farms, while 1.6% of the land area of Barnstable County is in farms.

A similar story has played out for the number of acres of harvested cropland. Between 2007 to 2022, Massachusetts experienced a 14% decrease in the amount of harvested cropland, from 153,993 to 131,731 acres, or an area nearly 80% the size of Falmouth. Over this 15 year period, 344 acres, or 23% of harvested cropland was lost, leaving Barnstable County with only 1,140 acres as of 2022. Specifically, 78 acres of this harvested cropland were allocated to vegetable production, which marks a 55% decrease since 2017. This overall decrease in the acres of harvested cropland not only means fewer farmers and farm workers, but also reduced local food production, loss of cultural heritage and loss of open space and biodiversity. Less farm space means less diversity, fewer food options, and a corresponding loss of flexibility and adaptability. Our resilience, and ability to withstand and effectively adapt to changes and disruptions that will continue to occur within the larger regional and national food systems, is also therefore compromised. Given the interdependencies inherent in the food system, Cape Cod will continue to rely on other regions to meet its food needs, yet its ability to contribute meaningfully to the regional supply of food remains questionable under the current conditions. If the trend continues at a rate of -23% every 15 years, Barnstable County will have a mere 308 acres of harvested cropland by 2067.

The 23% decrease in acres of harvested cropland in Barnstable County between 2007 - 2022 has coincided with a 25% increase in the number of second homes, representing a nearly perfect inverse correlation. Cape Cod has demonstrated that it is fertile ground for second homes, producing an additional 12,538 in 15 years (Cape Cod Commission, n.d.), yet the production of this insidious crop comes at the expense of livability and our own capacity for sustenance. Though we may be appealing to the tastes of those looking for their dream vacation home, and in doing so meeting market demands, trading harvested cropland for second homes creates pressure to produce more food with even less land. While not the only factor, housing is the primary driver of land use change and therefore must be addressed if we believe future generations of Cape Codders deserve to eat farm-fresh food.

Figure 61. Acres of Harvested Cropland and Number of Second Homes in Barnstable County, 2007-2022



Note. Adapted from "USDA Census of Agriculture" by U.S. Department of Agriculture, National Statistics Service, 2007-2022, (<https://www.nass.usda.gov/AgCensus/>) and "Cape Cod Housing Market Analysis" by the Cape Cod Commission, (<https://www.capecodcommission.org/our-work/housing-market-analysis/>).

Figure 62. Acres of Land in Farms by Ag. Census Year

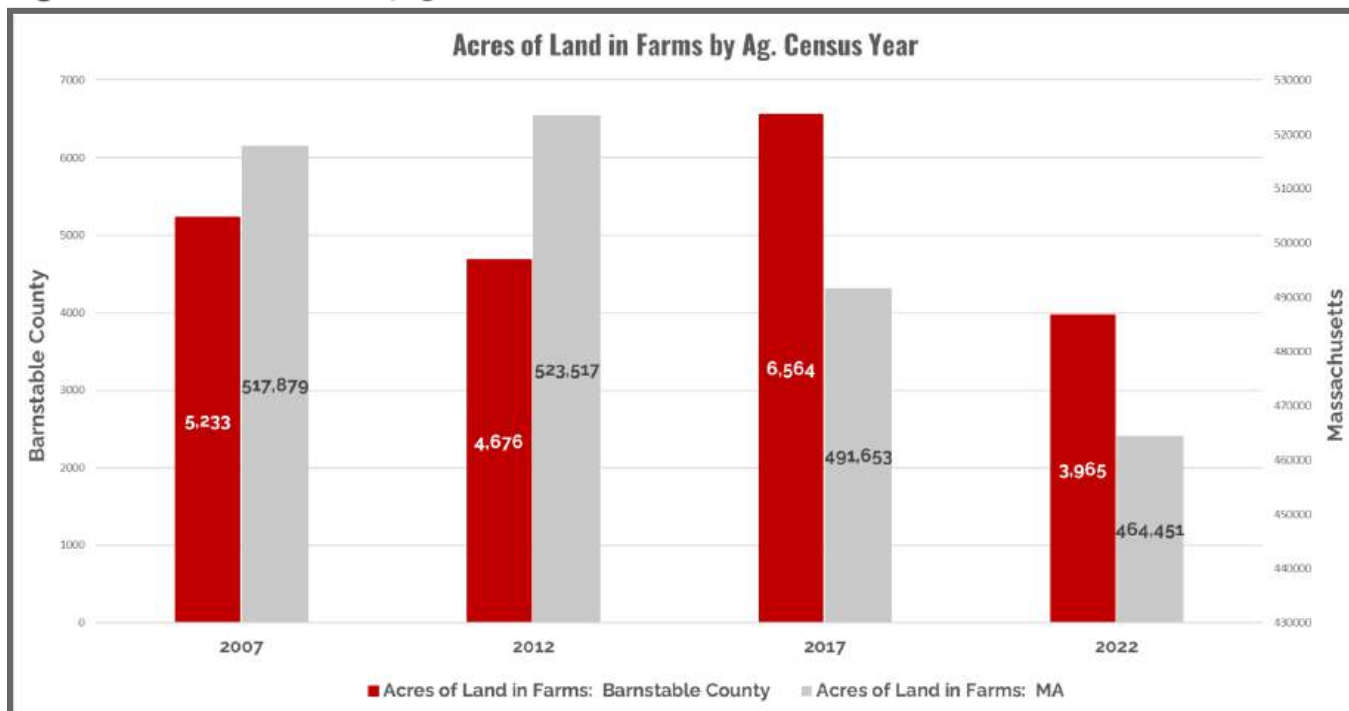
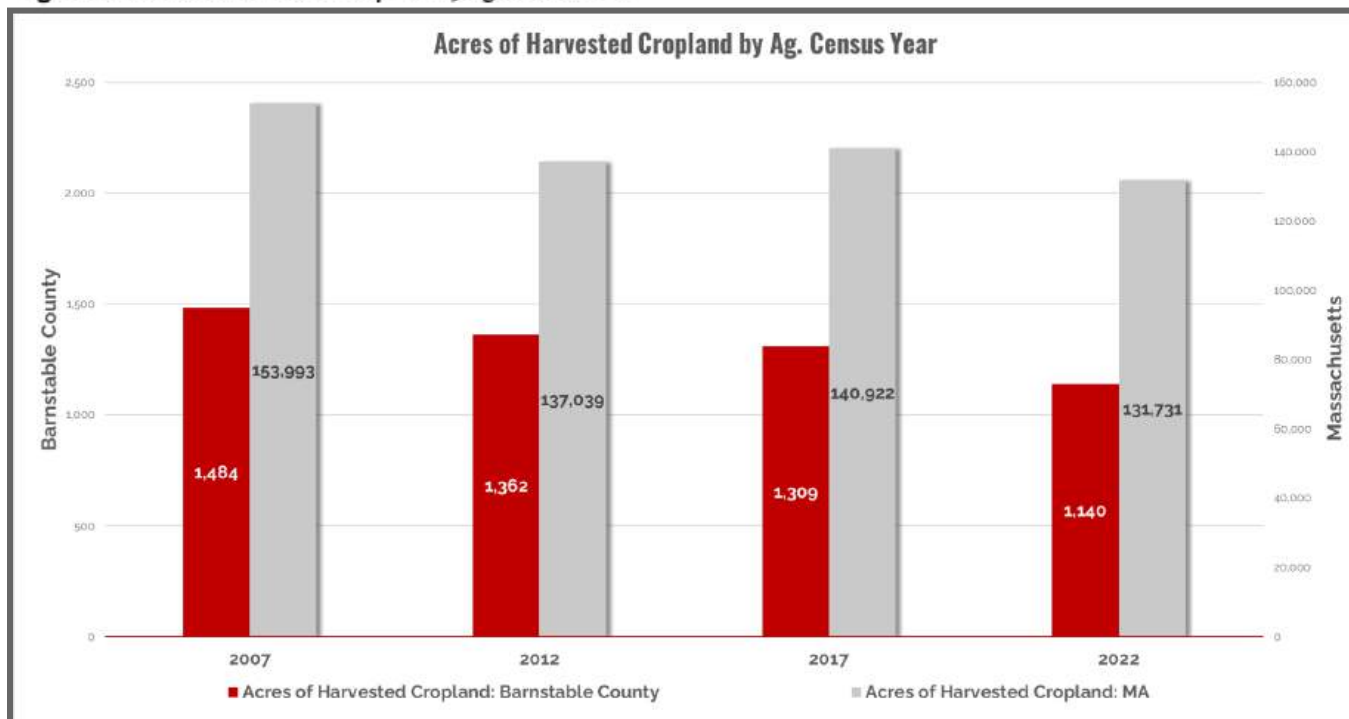
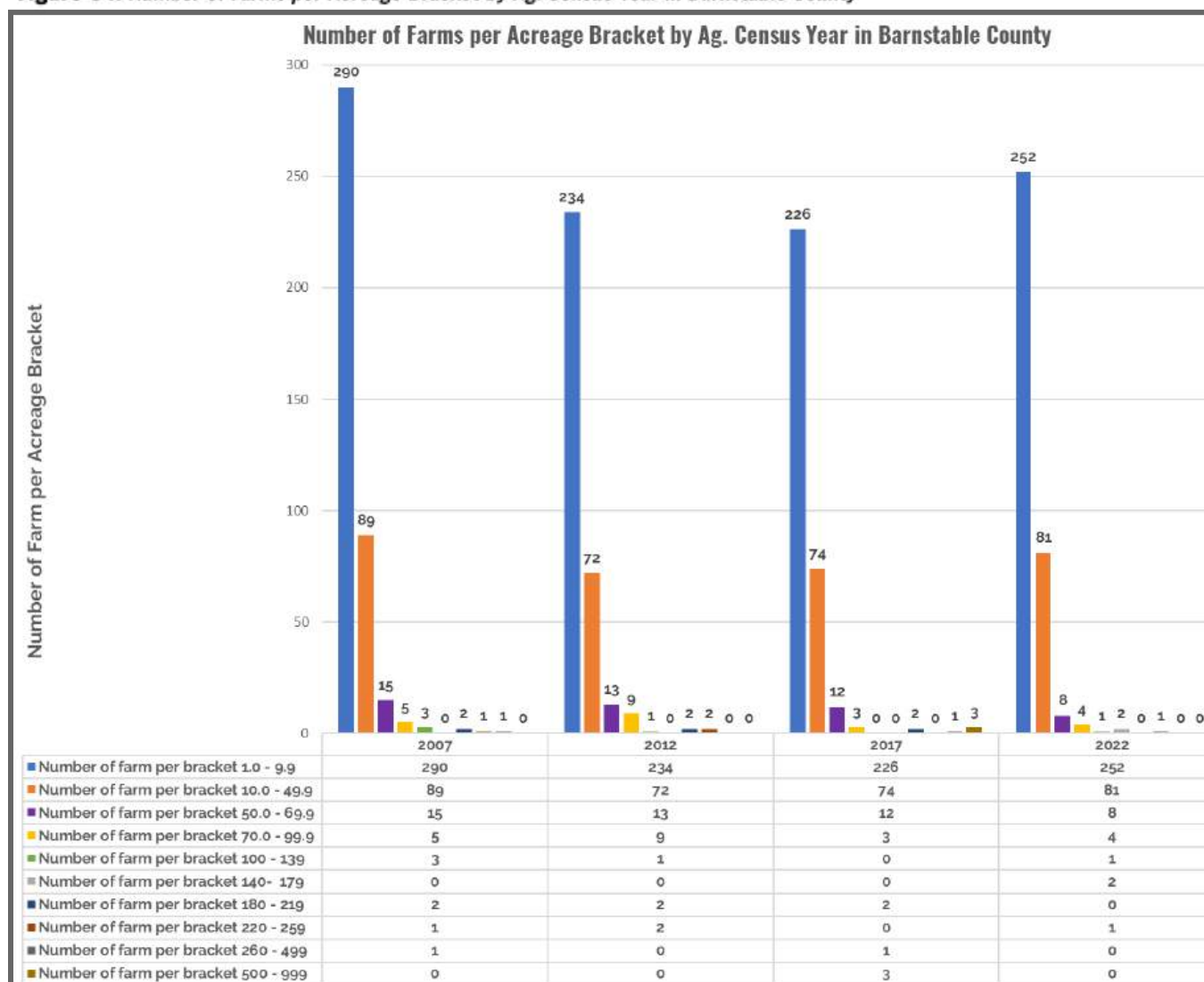


Figure 63. Acres of Harvested Cropland by Ag. Census Year



Note. Data for Figure 62 and 63 adapted from "USDA Census of Agriculture" by U.S. Department of Agriculture, National Statistics Service, 2007-2022, (<https://www.nass.usda.gov/AgCensus/>).

Figure 64. Number of Farms per Acreage Bracket by Ag. Census Year in Barnstable County



Note. Adapted from "USDA Census of Agriculture" by U.S. Department of Agriculture, National Statistics Service, 2007-2022, (<https://www.nass.usda.gov/AgCensus/>).

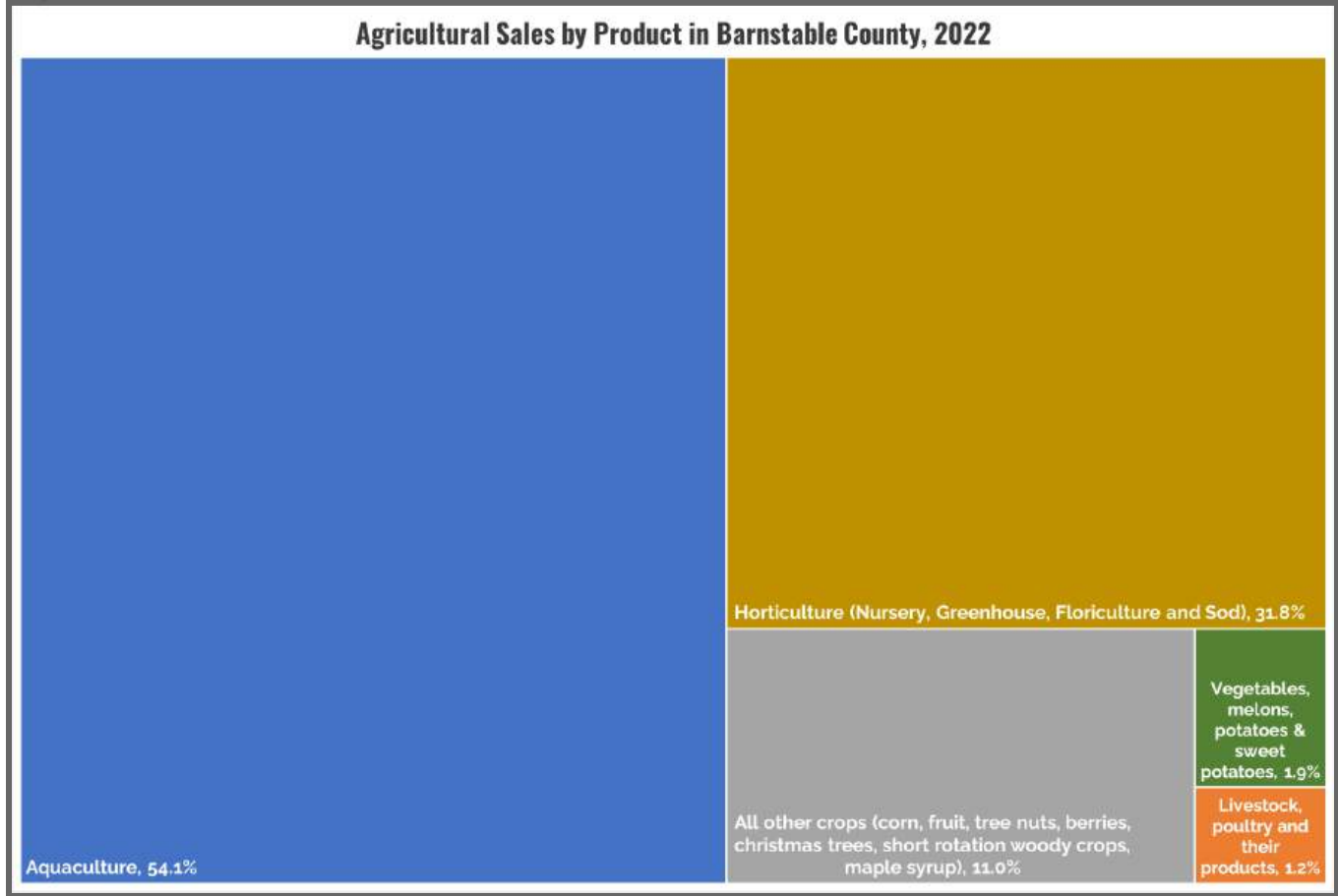
Compared to the national average in 2022 of 463 acres, the average size of a farm in Massachusetts as of 2022 was 68 acres. Meanwhile, the average farm size in Barnstable County in 2022 was a sixth of this size, totalling 11 acres per farm. This marks a 45% decrease from the 20 acre average in the 2017 agricultural census. Data from the Association to Preserve Cape Cod (APCC) 2011 report titled *Agricultural Land Use on Cape Cod* indicated that the average size farm on Cape Cod was 14.5 acres, and in Falmouth was 11.9 acres (Geist & Beauchamp, 2011).

As demonstrated in Figure 64 (above), most farms on the Cape are small, and getting smaller. Since 2007, almost all acreage brackets have seen a decrease in the number of farms, yet this change is most stark for mid-range farms (50- 1000 acres) which decreased 40%, from 27 to 16, between 2007 – 2022. In 2022, 95% of farms were less than 50 acres and 72% of farms were less than 10 acres in size. Between 2007 and 2022, farms under 50 acres saw a 12% reduction in their total number.

Income & Sales:

As shown in Figure 65 (below), in 2022, Barnstable County contributed \$40,060,000 in agricultural sales out of the state's \$607 million total. Within the county, aquaculture accounted for 54.1% of total sales and was valued at \$21,675,000. Horticulture sales amounted to 31.8% of sales, or \$12,722,000. Crops, including corn, fruit, tree nuts, berries, christmas trees, short rotation woody crops, and maple syrup totalled 11% of sales on Cape Cod and was valued at \$4,421,000. Unfortunately, more detailed information was not available in the 2022 census for these other crops; however, 2017 numbers reveal that berries accounted for \$2,668,000 suggesting they equate to more than half the value of these other crops. It is likely that a majority of these 2017 berry sales are due to the cranberry industry. Vegetables, melons, potatoes and sweet potatoes reflected 1.9%, or \$773,000, of total agricultural sales in 2022. In 2017, the value of vegetable sales was \$973,000 indicating a 20% decrease in sales over a five period. Livestock, poultry and their associated products were 1.2% of total sales in 2022, or \$469,000.

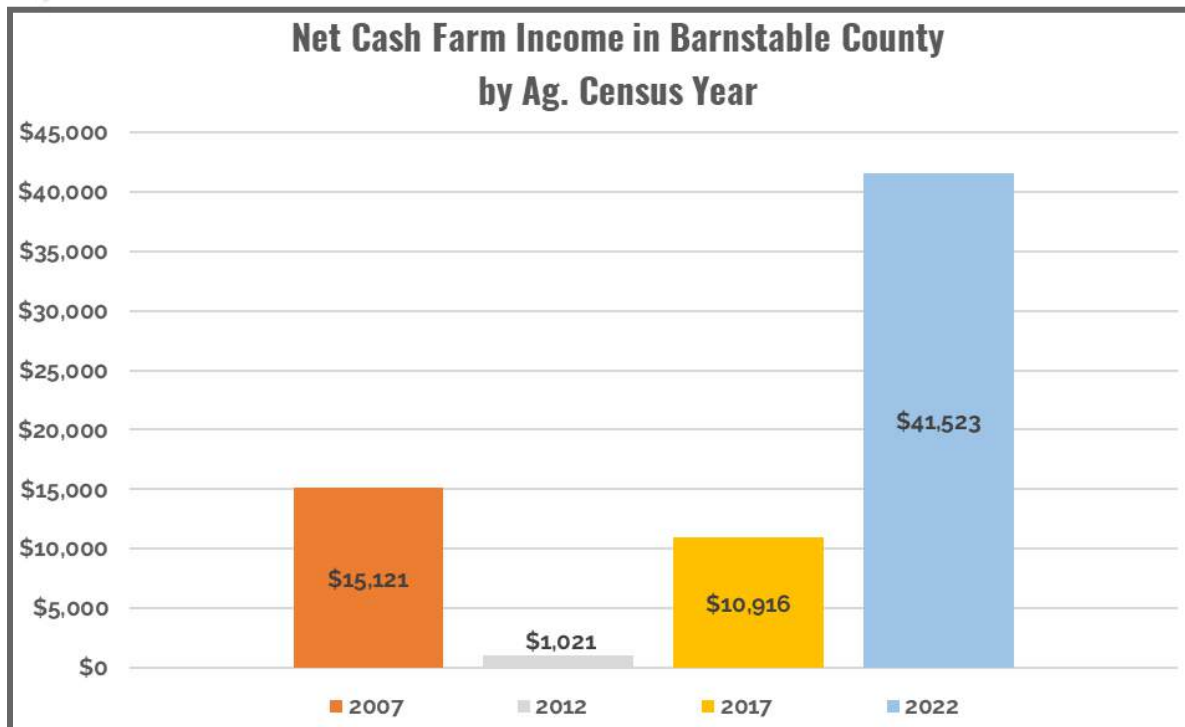
Figure 65. Agricultural Sales by Product in Barnstable County



Note. Adapted from "USDA Census of Agriculture" by U.S. Department of Agriculture, National Statistics Service, 2007-2022, (<https://www.nass.usda.gov/AgCensus/>).



Figure 66. Net Cash Farm Income in Barnstable County by Ag. Census Year



Note. Adapted from "USDA Census of Agriculture" by U.S. Department of Agriculture, National Statistics Service, 2007-2022. (<https://www.nass.usda.gov/AgCensus/>).

Net cash farm income describes the gross cash income of farms—all cash that comes in minus any expenses—for a given census year. Depicted in Figure 66 (above), in 2022, the Massachusetts average was \$13,511 per farm while in Barnstable County it was \$41,523 per farm. This reflects a nearly four-fold increase from 2017 and a forty-fold increase from 2012. These numbers fail to acknowledge the economic challenges that pose a threat to the well-being of farms, farmers, and communities that partake in agriculture. With farm real estate values up 10.9% from 2021 - 2022, Massachusetts currently has the third highest cost per acre of farmland in the country at \$15,200 making entry into farming or expansion of operations exceedingly difficult (National Agricultural Statistics Service, 2022). A 2021 survey from Morning Consult and the American Farm Bureau Federation, which sought to investigate the role of mental health with farmers and farmer workers, found that 80% were likely to say that financial issues and the state of the farm economy impacts their mental health (American Farm Bureau Federation & Morning Consult, n.d.). These invisible costs incurred by farmers and farm workers, and by association with their families, friends and communities, emphasize the need not only for increased social support but also economic support from consumers, retailers, institutions and municipalities.

Farmer Information and Demographics:

In 2017, the USDA Census of Agriculture changed its methodology and began reporting up to four producers per farm, with one designated as the “primary” producer. However, data from the 2022 census no longer includes information for “primary” or “principal producers.” To account for these discrepancies, information in the following table includes data corresponding to both total producers and primary producers; 2017 – 2022 reflect values for total producers while 2007 – 2012 reflect values for primary producers. As a result, it is difficult to determine actual trends in producer characteristics from 2022 through 2007.

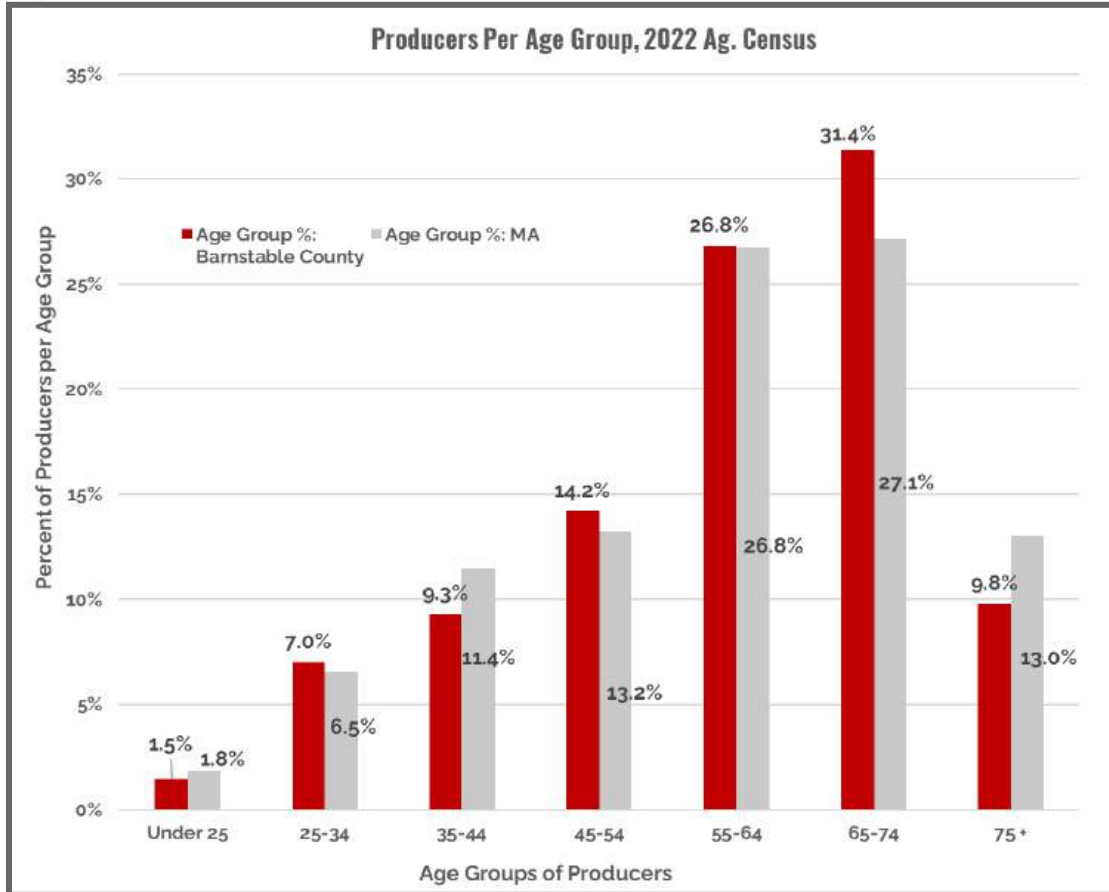
Data from the 2022 census indicated that of the 612 producers in Barnstable County, 55% of respondents reported that their primary occupation was farming, while 45% had a primary occupation “other” than farming. More than half (55%) of Barnstable County producers reside outside of the farm they operate, as compared to 69% of producers statewide. Cape Cod producers averaged 20.5 years in the farming profession.

The 2022 Census of Agriculture indicates that male producers outnumber women in Massachusetts by a factor of 1.33 and in Barnstable County by a factor of 1.89. When it comes to race and ethnicity, White farmers make up 97% of producers in Massachusetts and 99% in Barnstable County, vastly outnumbering all other races and ethnicities. These disparities within gender and race are unfortunately the result of countless years of systematic oppression on a national level and continue to manifest negative outcomes for those who identify as women and minority farmers. While Black Americans made up 14% of farmers in 1910, they now account for just 1.5% of the population of farmers (Horst, 2019). Having lost 80% of their land between 1910 to 2007, Black farms are on average much smaller and full-time Black farmers make over 7 times less than their White counterparts (Castro & Willingham, 2019). A similar story of income inequality plays out for women in farming as well. A study analyzing the 2012 census of agriculture points to the fact that farming is one of the most unequal professions in the United States whereby female farmers on average make 40% less than their male counterparts (Fremstad & Paul, 2020, pg. 124).



Producer Characteristics by Ag. Census Year								
Farm Experience	2007*		2012*		2017		2022	
	Barnstable County	MA	Barnstable County	MA	Barnstable County	MA	Barnstable County	MA
Primary Occupation Farming	217	3688	193	3878	252	5722	331	6003
Other Primary Occupation	189	4003	140	3877	254	7056	281	7281
Residence on Farm Operated	176	6093	183	6038	223	9268	274	9209
Residence Not on Farm Operated	230	1598	150	1717	283	3510	338	4075
Avg. Years on Present Farm	16.6	21.2	19.3	21.6	18.1	21.3	19	21.2
Avg. Years on Any Farm	23.6	N/A	20.7	N/A	19.8	23	20.5	23.1
Gender								
Male Producers	309	5465	233	5248	332	7206	400	7593
Female Producers	97	2226	100	2507	174	5575	212	5691
Race & Ethnicity								
White	N/A	N/A	332	7559	492	12402	605	12861
Black or African American	N/A	N/A	1	80	1	166	0	163
American Indian and Alaska Native	N/A	N/A	0	15	3	29	2	18
Asian	N/A	N/A	0	71	3	95	2	108
Native Hawaiian and Pacific Islander	N/A	N/A	0	1	1	6	0	9
More than one race reported	N/A	N/A	0	29	6	80	3	125
Hispanic or Latino	N/A	N/A	11	142	6	207	3	206
*2007 and 2012 represent "principal producer" characteristics, as opposed to 2017 and 2022, which represent averages and totals from all producers.								

Figure 67. Producers Per Age Group, 2022 Ag. Census



Age	Under 25	25-34	35-44	45-54	55-64	65-74	75 +	Avg. Age
Barnstable County	9	43	57	87	164	192	60	58.4
MA	243	870	1521	1756	3557	3605	1732	58.7

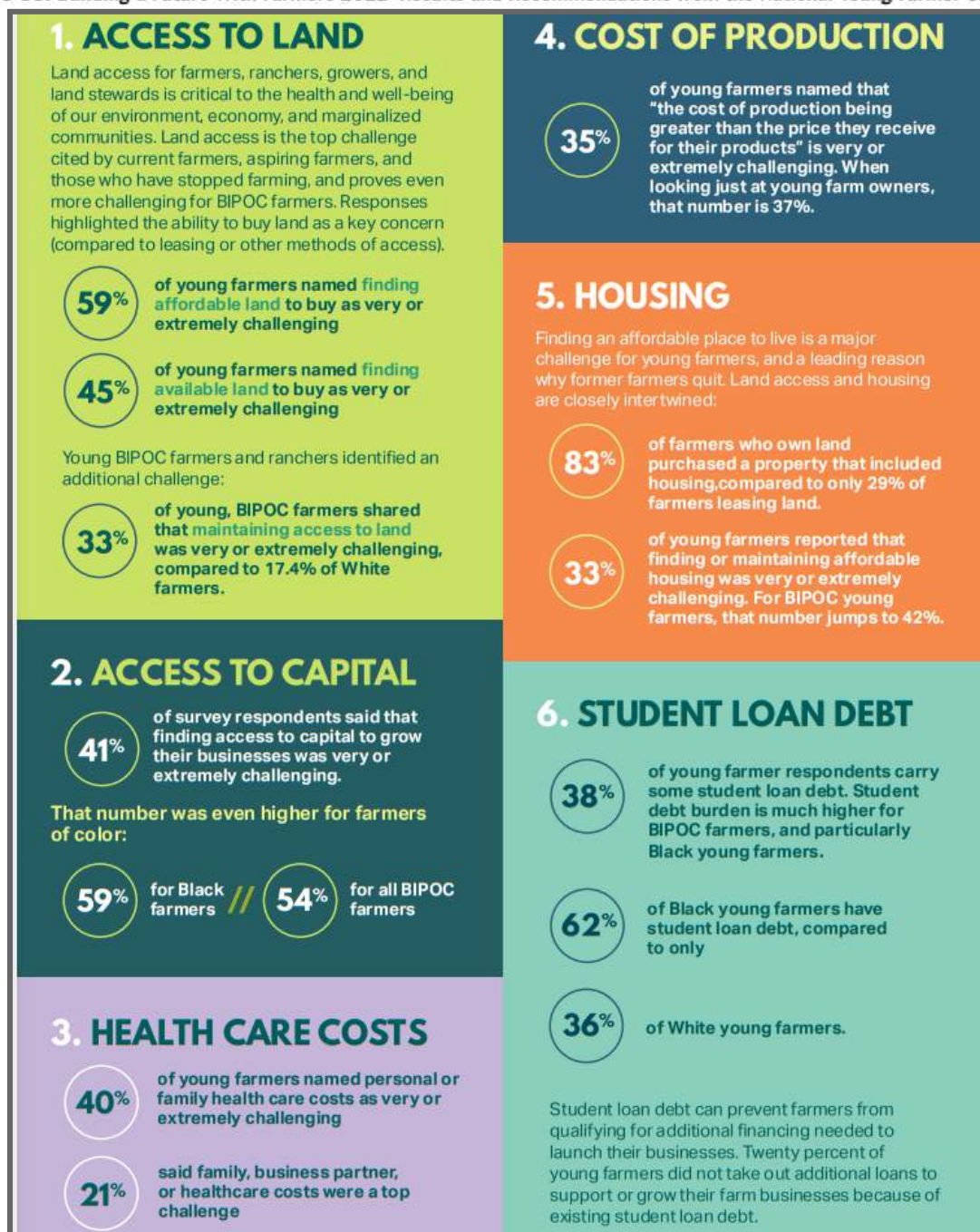
Note. Adapted from "USDA Census of Agriculture" by U.S. Department of Agriculture, National Statistics Service, 2007-2022, (<https://www.nass.usda.gov/AgCensus/>).

Nationwide, the average age of farmers as of 2022 was 58.1 years. Analysis by the National Young Farmers Coalition—an organization dedicated to shifting power and policy to support a new generation of working farmers—indicates that although this number of farmers under the age of 35 rose by 2,000 between 2012 and 2017, the ratio of primary producers over 65 to those under 35 is now greater than 6:1 (National Young Farmers Coalition, 2019). Data reflecting Barnstable County from the 2022 Census of Agriculture shows that the average age of farmers is 58.4 years, while statewide this number is 58.7 years. As of 2022, the ratio of farmers on Cape Cod over 65 to those under 35 is 4.8:1 while in 2017 was 2:1. The largest age group of farmers in the county is 65 - 74, representing 31% of the total.

New to the 2017 Census of Agriculture was the category of New and Beginning Producers (those who have been farming for 10 years or less), as well as that of Young Producers (those under age 35). As of 2022, in Barnstable County, 31% of all producers were New and Beginning Farmers, while only 8.4% were Young Producers. These values are true at the state level as well. On a national scale, the percentage of Young Producers was slightly greater at 9% while the number of New and Beginning Producers was slightly lower at 30%.

Information from the 2022 National Young Farmer Survey in Figure 68 (below), a study conducted by the National Young Farmer Coalition which included more than 10,000 participants under the age of 40, helps to draw attention to the challenges faced by this sector of the farming community. Young farmers are driven by sustainability with 83% of farmers naming conservation or regeneration as their primary purpose. These farmers are faced with difficulties ranging from student loan debt, access to capital, excessive healthcare costs, housing, and access to land to name a few. In almost every area, these challenges have a disproportionate negative impact on BIPOC farmers (National Young Farmers Coalition, 2019).

Figure 68. Building a Future With Farmers 2022: Results and Recommendations from the National Young Farmer Survey



Note. From [Building a Future With Farmers 2022: Results and Recommendations from the National Young Farmer Survey Infographic] by Ackoff et al. & National Young Farmers Coalition (pg. 10), 2022.
<https://www.youngfarmers.org/wp-content/uploads/2022/08/NationalSurveyReport2022.pdf>.
 Copyright 2022 by the National Young Farmers Coalition. Reprinted with permission.

The Blue Economy

Characterized by nearly 68 miles of coastline, Falmouth is home to a robust “blue economy” including recreational and commercial fishing and shellfishing, an active boating community, and ample oceanographic research. Though not a commonly used term within the food system, the “blue economy” as a framework helps to not only contextualize Falmouth within the region but also provides valuable data and recommendations. Defined by the Cape Cod Blue Economy Project, the blue economy is the range of businesses and organizations that are water-dependent and water-based. Categories of the blue economy, listed in order of highest to lowest percentage of revenue on Cape Cod, include: tourism & recreation (46%); research, education, advocacy & support services (31%); marine technology (7%); marine construction & facilities (7%); renewable living resources³³ (5%); ship & boat building (3%) and marine transportation (1%). According to the Cape Cod Blue Economy Implementation Plan, these categories are further broken down into “dark blue” and “medium blue” designations. “Dark blue” consists of businesses and organizations that are directly dependent on the water—like marinas, recreational boating, aquaculture, coastal freight and conservation organizations—while businesses that are reliant on “dark blue” businesses or that are located in the region due to the water are considered medium blue, such as restaurants, hotels, museums, engineering services and sporting goods stores (McGee et al., n.d., Appendix C-12 - C-17). Falmouth’s reliance on the “dark blue” economy amounts to nearly \$400 million in revenue and 3,520 employees, far exceeding all other towns on Cape Cod. These values correspond to 33% of the town’s overall revenues and 18% of all employees (McGee et al., n.d., Appendix C-27).

With the largest number of establishments and employees tied to full-service restaurants on Cape Cod, it is important to consider how the blue economy and Falmouth food system overlap and inform each other. For example, activities vital to the blue economy and food system, like shellfish aquaculture (the process of cultivating and farming aquatic invertebrates), have the potential to provide steady employment, a local food source, and if done intentionally, can restore estuaries and other bodies of water by removing excess nitrogen from the water column.³⁴ Moreover, many of the recommendations from the Cape Cod Blue Economy Project Implementation Plan³⁵ align with observations and data collected from growers and producers in Falmouth, including the need for subsidies and access to capital to encourage economic growth, tourism education programs that focus on the connection between a healthy economy and environment, workforce development and job training, networking opportunities, infrastructure improvements, supportive zoning and regulations as well as clear and supportive marketing strategies.

Shellfish Aquaculture

With Massachusetts being a “home rule” state, the site leasing and applications of shellfish aquaculture vary by municipality. Grant sites are licensed by each municipality and the Division of Marine Fisheries then issue a permit to licensees to conduct shellfish propagation and harvest activities. Currently, Falmouth has 41.14 acres of space held in shellfish aquaculture grants. By and large, these activities and the shellfish aquaculture industry are conducted by small-scale growers and directed towards two species: the quahog, or *Mercenaria mercenaria*, and the American oyster, or *Crassostrea virginica*. Since 1996, oysters in particular have been the primary species contributing to the establishment of new shellfish farming in coastal communities throughout Massachusetts. According to the Woods Hole Oceanographic Institution Sea Grant 2024-2027 Strategic Plan, the southeastern region of Massachusetts is home to 98% of the state’s aquaculture growers and 99% of corresponding acreage. From an economic standpoint, between 2004 to 2019, the total

³³ This includes fishing, shellfish aquaculture, and seafood markets along with “all other professional, scientific and technical services”

³⁴ See this article by the Falmouth Water Stewards to learn more about shellfish aquaculture demonstration project: <https://www.falmouthwaters.org/solutions-2/shellfish-aquaculture/>

³⁵ For more information on these recommendations, check out [Falmouth and Cape Cod Plans & Assessments](#) section

value of this industry grew from \$3,691,182 to over \$29,858,281 (Woods Hole Oceanographic Institution Sea Grant, 2022, pg. 20-21).

In order to continue supporting this growth, along with the environmental and social benefits of shellfish resources, the Massachusetts Shellfish Initiative (MSI) offers six objective categories with a variety of recommendations³⁶ that were developed to balance competing demands for shellfish resources, to address relevant, current and emerging challenges, and to benefit all shellfish stakeholders. These categories include, (1) fostering communication and coordination among local, state, and federal managers and developing improved guidance for such communication; (2) building public and stakeholder capacity to support shellfish resources and shellfish fisheries; (3) development of management, research, and industry resources; (4) supporting and promoting balanced and sustainable economic opportunities around shellfish; (5) supporting and promoting cultural and historical uses of shellfish; and (6) ensuring ecologically sound management and enhancement of shellfish resources and coastal ecosystems (Massachusetts Shellfish Initiative, 2021, pg. 4).

In addition to the MSI's objectives and recommendations, the WHOI Sea Grant's 2024-2027 Strategic Plan (pg. 22-23) also offers five key program goals related to the food system through its Sustainable Fisheries and Aquaculture focus area.

- *Goal 1:* Provide towns and communities with unbiased information on local seafood, how it is harvested and grown, its health and environmental benefits, and its seasonal availability.

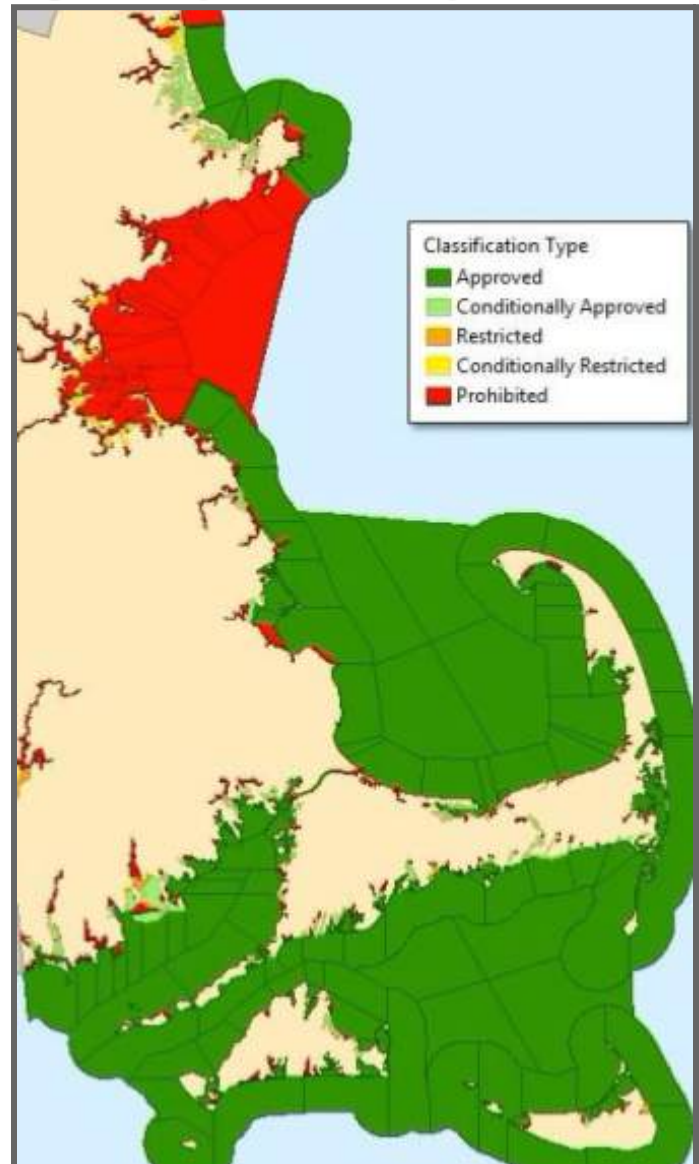
- *Goal 2:* Engage in collaborative research, monitoring, and education programs to assist the aquaculture industry with maintaining and enhancing production in a safe and sustainable manner.

- *Goal 3:* Identify and communicate best management practices to ensure a safe and sustainable seafood supply.

- *Goal 4:* Identify and communicate technical information to help local natural resource managers, harvesters, and growers manage the fisheries in their communities in ways that promote sustainable production.

- *Goal 5:* Assist the local and regional seafood industry when adapting to and recovering from short and long-term disruptions and changes in markets, production, and distribution.

Figure 69. Designated Shellfish Growing Areas



Note: From "Designated Shellfish Growing Areas" by the Massachusetts Division of Marine Fisheries, 2017 (<https://www.mass.gov/info-details/massgis-data-designated-shellfish-growing-areas>).

³⁶ To read more on each recommendation, please follow this link: <https://www.mass.gov/doc/msi-strategic-plan/download>

Section 2. Non-commercial Food Production

Non-commercial food production in Falmouth includes a host of activities, some personal and some communal, that afford people the opportunity to produce or harvest food on their own terms without the intent of making a profit. While examples of these activities range from corporate and faith gardens, public edible landscapes, agrihoods, to wild foraging and hunting, tactics for non-commercial food production most relevant to the Falmouth food system are listed below.

- ❖ Falmouth is home to three community gardens: the Marina F. Andrews, Emerald House and Peterson Farm gardens, as well as institutional and faith gardens.
- ❖ Farming Falmouth manages a community apple orchard and pawpaw grove as well as the Service Garden, which provides food to the Falmouth Service Center. In 2023, the Service Garden produced 1,400 lbs of food.
- ❖ The Town of Falmouth issued 2,353 shellfish permits in 2022: 1,078 residential permits, 155 non-resident permits and 1,119 senior permits.
- ❖ The Falmouth school system hosts two gardens. One is located at Mullen Hall; a second is located at the Falmouth High School and is operated by the Food Justice Initiative.



Community Gardens

Falmouth is currently home to three [community garden locations](#) - the Marina F. Andrews Community Garden, the Emerald House Community Garden and the newly constructed Peterson Farm Community Garden. The first of these three gardens was established at the town-owned Andrews Farm in 2019, where plots range from 10 x 10 feet and 10 x 30 feet. The second was established in 2021 and is located at the historic Emerald House property. The third garden, located at Peterson Farm, was established during the spring of 2024. All gardens offer shared resources for gardeners.

Given the waitlist at garden locations, it's clear that these spaces are helping to fulfill a need for the community and that further investment in community garden infrastructure has a promising future in Falmouth.

In addition to publicly available gardens, Falmouth is also home to faith and institutional gardens. The John Wesley United Methodist Church provides plots and gardening equipment to its congregants for \$20. Likewise, garden plots³⁷ are available to members of the Woods Hole Oceanographic Institution.



Emerald House Community Garden



Marina F. Andrews Community Garden



Peterson Farm Community Garden

³⁷ <https://web.whoi.edu/sustainability/initiatives/social-sustainability/whoi-garden/>

Community Orchards

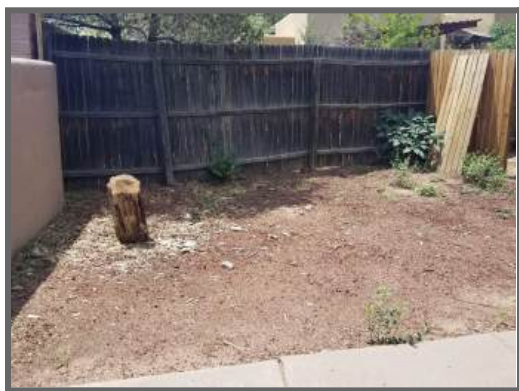
In the spring of 2021, Farming Falmouth planted a community orchard on the town-owned Andrews Farm. Consisting of 120 apple trees, as well as a mix of other fruit trees like peaches, pears, and plums, this community orchard is the first of its kind in Falmouth. In addition to providing fresh fruit for the community, this orchard has served and will continue to serve as an educational opportunity for gardeners to learn about the nuances of fruit-tree care.

In the spring of 2022, a grove of 20 Pawpaw trees was planted alongside the Marina F. Andrews Community Garden. Once these trees come to maturity, this grove will offer a unique opportunity to taste the largest edible native fruit of North America.



Residential Gardens

Gardening at home for those with the space, time, money, supplies and ability can be a viable source of local food. Transforming land once dedicated to lawns and hardscapes through practices such as permaculture, raised bed gardening, container planting and other home gardening techniques can help families and individuals meet their food needs. Evidence for the capacity of home gardens to substantially impact the food system has been most recognized during World War II when Victory Gardens, or gardens planted during the war to ensure adequate food supply, produced more than 15 billion pounds of food in 1943, or roughly 40% of all fresh produce consumed by Americans that year (Steinhauer, 2020).



→
**Example of
year-long
yard to garden
transformation**
→



School Gardens



Mullen Hall School gardens



Falmouth High School greenhouse

Falmouth currently hosts two school gardens: the Mullen-Hall gardens, which were established in 2012, and the gardens and greenhouse at Falmouth High School, which were established through the efforts of the Food Justice Initiative in 2022. The Mullen-Hall School Gardens transformed a previously unused area of the schoolyard into a garden that features raised beds, pollinator habitats, and gathering spaces. These gardens help enhance the classroom curricula for children in grades K-4 by providing hands-on learning experiences. The greenhouse and gardens at Falmouth High School are a key part of the educational offerings on race, food and climate led by the Food Justice Initiative (see section on [Falmouth Public Schools](#)).

Giving Gardens

Known as the [Service Garden](#), Farming Falmouth has transformed a fallow field at the town-owned Andrews Farm, adjacent to the Marina F. Andrews Community Garden, into a giving garden that provides fresh produce to the Falmouth Service Center. This partnership was born out of a need to support a growing demand at the service center and produced 1,400 lbs on a 1/16th of an acre in 2023.

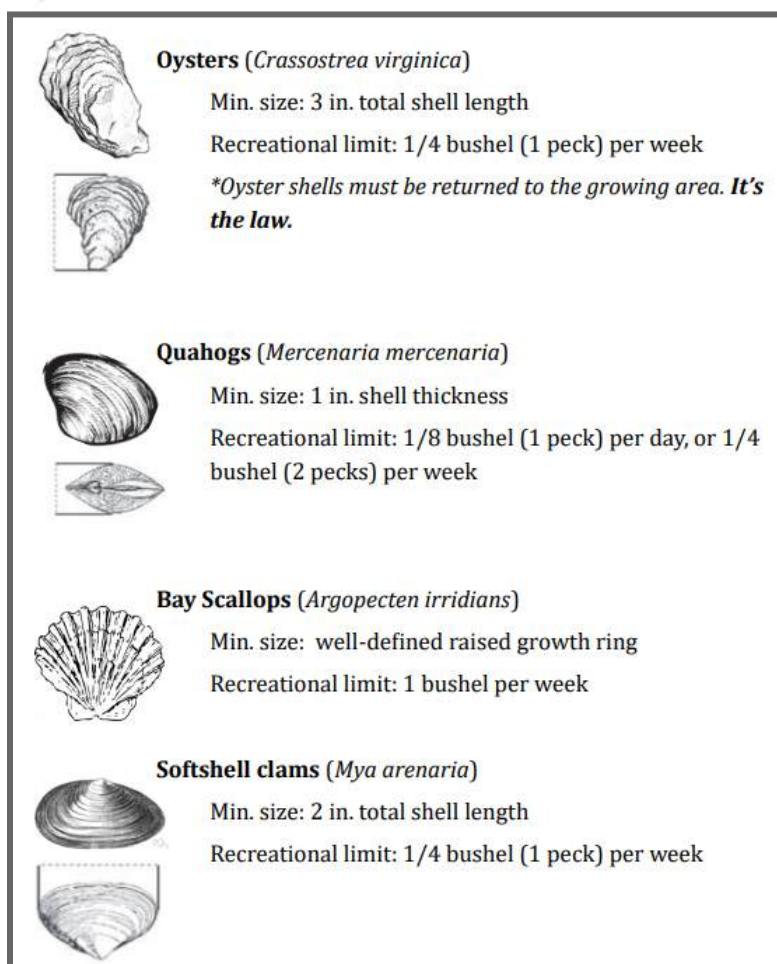


Farming Falmouth Service Garden, Summer 2024

Recreational Shellfishing

In Barnstable County, each year the 15 towns issue more than 17,000 [recreational shellfishing permits](#) (Woods Hole Oceanographic Institution Sea Grant, 2022, pg. 21). Of these roughly 17,000, the Town of Falmouth issued 2,353 permits in 2022: 1,078 residential permits, 155 non-resident permits and 1,119 senior permits.³⁸ Through use of these permits, residents and non-residents are offered access to seasonally available open shellfishing areas. Depending on one's taste, these shellfish permits provide a valuable opportunity and hands-on experience to connect with the food system as well as engage with a practice of foraging that has forever been a part of the history of Cape Cod and its people. If you instead prefer blue crabs, no permit or license is required unless using scuba equipment. There is a limit of 25 crabs/day, crabs caught must be a minimum of 5 inches wide (spine to spine), and taking egg bearers is prohibited.³⁹

Figure 70. Shellfish Size and Catch Limits in Falmouth



Note. From "Recreational Shellfishing in Falmouth: A Helpful Guide" the Town of Falmouth Marine and Environmental Services (pg. 3), (<https://www.falmouthma.gov/DocumentCenter/View/10776/A-Guide-to-Falmouth-Recreational-Shellfishing-PDF>).

³⁸ Information based on correspondence with Falmouth Town Clerk

³⁹ For more information on safety, storage and restrictions, the Town of Falmouth offers a useful [recreational shellfishing guide](#).

Hunting & Fishing

Hunting and fishing⁴⁰ can serve as valuable activities to reduce environmental impact, engage in outdoor recreation, consume an alternate source of protein, or continue a culinary or cultural tradition. For those interested in hunting in Falmouth, the appropriate licenses, permits and stamps issued by the State of Massachusetts are required. Deer hunting season is typically open between early October and late December; however, these dates vary for smaller game and birds. As a means of supporting forest conservation and reducing food security, the MassWildlife's Hunters [Share the Harvest Program](#) enables hunters to donate venison by bringing their deer to a participating processors, the closest of which is Ventura's Meat Market in Fall River, MA. Hunting is allowed on all of the 300 Committee Land Trust properties⁴¹ that have the proper setbacks and that aren't restricted by deed or easement agreements.

For those who prefer to catch their prey from above, both salt and freshwater licenses are likewise needed and issued by the State of Massachusetts. These licenses vary depending on age, residency, ability and fish species and can be purchased locally at Falmouth Bait & Tackle located in Teaticket, MA.

Figure 71. Fishing in Falmouth



Note: From "Fisherman" by Massachusetts Office of Tourism and Travel, 2013, <http://tinyurl.com/5f2p6jwb>, CC BY-ND 2.0 DEED.

⁴⁰ For more information check out the [hunting and fishing resources section](#)

⁴¹ <https://300committee.org/hunting-information/>

Section 3. Food Processing, Distribution, Marketing & Waste

The following sections investigate elements of the post-production food supply chain in and around Falmouth. This includes any known activities in the Falmouth area regarding aggregation, processing, transportation, distribution, marketing, recovery, and waste reduction along with relevant data collected from the 2022 Grower and Producers Survey.

Key Findings:

❖ **Processing, Distribution and Transportation:**

- Few slaughtering and animal processing facilities exist in Massachusetts, posing a barrier to growth of existing operations and development of new ones. Further research is needed to better respond to livestock producers in Falmouth and on Cape Cod to see how state and regional bottlenecks are affecting availability and price of local meat.
- Half of growers and producers in Falmouth are interested in using a commercial kitchen as a form of shared infrastructure, yet there are no publicly available kitchens in town. The new Cape Cod Culinary Incubator in Hyannis offers much needed space for growers and producers to create value-added products.
- While restaurants and institutions have a variety of distributors to choose from—some of which offer regionally sourced products—Cape Cod lacks any regional food infrastructure, such as a food hub, that could aggregate and distribute goods, and help to strengthen the regional food system by building connections between regional growers and consumers.

❖ **Food Waste and Composting:**

- As part of Farming Falmouth's efforts to salvage produce that might otherwise go to waste, between 2020 to 2024 their team of gleaners successfully harvested over 12,000 lbs of food that was donated to local food pantries. Additionally, Farming Falmouth's Share Your Bounty program, a food donation program that is the first of its kind in Falmouth, provides home gardeners with a place to bring their surplus fruits and vegetables. With all respondents to the grower and producer survey indicating that their goods or products are never gleaned, and 62.5% indicating that they never or infrequently donate their goods, Farming Falmouth's bounty is bound to grow. Continued outreach to local farms and gardeners, as well as other actors in the food supply chain like restaurants, groceries and distributors, could bolster local food recovery efforts.
- Restaurants, institutions, and residents looking to compost in Falmouth are limited to pick-up services offered through Black Earth Compost, which currently has 221 residents and 5 businesses enrolled. For those not already composting at home and who are interested and able to drop off their compost, food scrap collection sites are located at the Thomas B. Landers Waste Management facility and the Falmouth Public Schools Administration Building.
- Six of Falmouth's seven public schools have composting programs through Black Earth Compost – Mullen Hall, Morse Pond, North Falmouth Elementary, East Falmouth Elementary, Teaticket Elementary and Lawrence School.
- Between 2020 to 2024, residential composting in Falmouth has undergone a 121% increase from 100 to 221 participants. During this same time commercial efforts have decreased by 58%. With over 230 food establishments in Falmouth, the current proportion of commercial composting is close to 2.2%.

Processing

Processing is an essential element of the food supply chain as it allows for the transformation of raw ingredients into new or altered consumable products. It can include methods such as cutting and slicing, preservation and canning, freezing, drying and dehydrating, pasteurization, fermentation, milling and grinding, baking and roasting, slaughtering and packaging. The resulting food can offer consumers enhanced flavor, safety and shelf life and can offer growers an added source of revenue.

Depending on the type of food, and purpose of transformation, processing can take place either on-site or off-site. For many growers this distinction can hinge on other factors such as the cost-effectiveness of buying and maintaining equipment, the availability of space and labor to store and operate equipment, and the financial and time-costs associated with securing proper inspections and permits. Common forms of on-site food processing include canning and baking of room temperature foods, small-scale slaughtering of meat for personal use, and mobile processing units (MPUs). Often used by small-scale farmers, ranchers and producers involved in the commercial production of meat, MPUs eliminate the time, cost, and stress associated with transporting animals. MPUs are typically housed in trailers, trucks or other mobile structures and are designed to meet [regulatory requirements](https://nesfp.nutrition.tufts.edu/farmer-training/livestock-poultry/poultry-resources/eastern-massachusetts-mobile-poultry-processing/) in addition to standards regarding [food safety and permitting](https://nesfp.nutrition.tufts.edu/farmer-training/livestock-poultry/poultry-resources/eastern-massachusetts-mobile-poultry-processing/), sanitation, and animal welfare.

Off-site processing facilities include commercial and commissary kitchens, and slaughtering facilities. Commercial kitchens are professional facilities designed to meet health and safety standards and are equipped for the preparation, cooking, and storage of foods on a larger scale. They are often owned and operated by individual food businesses, serving as a dedicated location for the efficient production of food for commercial purposes. Commissary kitchens, also known as culinary incubators, provide affordable space for food entrepreneurs, startups, food trucks, and caterers. They can serve as a location for culinary innovation, food and business education, shared resources, and job training. Other off-site processing services can include the creation of value-added products for farmers whereby surplus produce is delivered, transformed and returned as a means to provide additional revenue and reduce food waste, along with co-packing and co-manufacturing (processes that allow business owners to outsource the packaging or manufacturing of goods).

Unlike commercial and commissary kitchens, slaughtering facilities are specialized in that they are designed for the processing of livestock—including cattle, pigs, sheep and poultry—for human consumption. These facilities are subject to strict regulations to ensure animal welfare and sanitation and must operate under USDA or State inspection.

Figure 72. Eastern Massachusetts Mobile Poultry Processing Unit



Note: From (Eastern Massachusetts Mobile Poultry Processing Unit) by New Entry Sustainable Farming Project.

(<https://nesfp.nutrition.tufts.edu/farmer-training/livestock-poultry/poultry-resources/eastern-massachusetts-mobile-poultry-processing/>).

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Commercial & Commissary Kitchens

Figure 73. Cape Cod Culinary Incubator



Note: From "Kitchen Equipment" by the Cape Cod Culinary Incubator, (<https://www.thefoodcorridor.com/blog/kitchen-conversations-cape-cod-culinary-incubator/>). Reprinted with permission.

A national resource for commercial and commissary kitchens is [The Kitchen Door](#). This site aims to connect food entrepreneurs with commercially-licensed kitchens by providing a list of kitchens by zip code. While many private commercial kitchens are located in Falmouth to support individual businesses and organizations and may be available for rental through word-of-mouth or personal connections, none are publicly advertised within Falmouth through The Kitchen Door. Data from the grower and producer survey indicated that 3 out of 8 respondents are already making use of a commercial kitchen (Q21), while 4 out of 8 are interested in a commercial kitchen as a shared service (Q22).

Closest to the Falmouth area at roughly 20 miles away, and the only commissary kitchen on Cape, is the [Cape Cod Culinary Incubator](#) (CCCI). Located in Hyannis, this 1500 sq ft kitchen features double stacked convection ovens, proofing/baking ovens, a steam oven, 6 burner gas range, 30 gallon steam kettle, griddle, fryolator, walk-in cooler and freezer, mixer as well as other appliances. The CCCI aims to support makers by hosting business and marketing workshops and coordinating

events for networking opportunities. Space is available for rent by members who have completed an application, obtained necessary insurance and permits, and completed all necessary documentation. Other commissary kitchens⁴² close to Falmouth include the [Dartmouth Grange](#) (Dartmouth, MA), [Hope & Main](#) (Warren, RI), [Farm Fresh RI](#) (Providence, RI) and the [Commonwealth Kitchen](#) (Dorchester, MA).

Slaughtering Facilities & MPUs

Those involved in the production of meat in Falmouth are limited to three in-state, commercial, USDA-inspected facilities. Owned and operated by The Livestock Institute of Southern New England, [Meatworks](#) in Westport, MA is the closest slaughtering facility to the Cape and provides 11,000 sq ft of space for the processing of cattle, hogs, sheep and goats. Further afield is Adams Farm in Athol and Blood Farm in Groton. Results from the Grower and Producer Survey indicate that 1 out of 8 growers and producers make use of unspecified slaughtering services.

For those involved in processing only poultry, two MPUs and two state-inspected facilities exist in Massachusetts.⁴³ The Western Massachusetts Mobile Poultry Processing Unit (MPPU) is based out of Belchertown and is operated by the New England Small Farms Institute, while the [Eastern Massachusetts MPPU](#) is based out of Beverly and operated by the New Entry Sustainable Farming Program. Off-site poultry processing can be found at [Reed Farm](#) in Sunderland, MA and [Stillman Quality Meats](#) in Hardwick, MA.

⁴² MA Department of Agricultural Resources [Shared Use Kitchen Space](#) locator

⁴³ [MPPU Farm and Food Safety Management Guide](#) by Sustainable Agriculture Research and Education (SARE)

Distribution and Transportation

In broad strokes, once food that has been grown, harvested, or processed on-site, products are typically brought directly to their final destination or picked-up or delivered to an intermediary like a retailer, wholesale distributor, or food hub. In the event that the point of sale for a grower is their own farmstand, the final destination for a product can be close to where it was originally grown, while destinations further away include schools, hospitals, other institutions and restaurants. Intermediaries like retailers often consist of supermarkets, grocery stores and specialty shops and help growers to outsource activities like merchandising, inventory management, and marketing. Wholesale distributors help to aggregate, store, warehouse, label, package, transport, and manage the logistics for bulk quantities of food so that they can be sold to retailers, foodservice businesses, and food manufacturers. Similarly, food hubs act as centralized locations that aggregate, store, process, and market goods and often have the capacity to serve a variety of buyers ranging from wholesale distributors and retailers, institutions, and individuals. A key differentiating quality to food hubs, however, is their focus on strengthening regional food systems by building connections between regional growers and consumers. By filling a role as a small to medium scale intermediary, food hubs are able to prioritize relationships and services that empower producers, foster community engagement and increase access to healthy food.

Distributors

Distributors can typically be broken down into three main groups: broadline distributors who move thousands of products, specialty distributors who focus on a category like produce or meat, and cash and carry distributors who act as warehouse wholesalers that cater to food service operators (Fowler & Marion Institute, 2021). Within the region, national broadline distributors include United Natural Foods International (Providence, RI), Cargill, a national meat wholesaler (Wareham, MA), Sysco Boston (Plympton, MA), PFG/Reinhart (Taunton, MA), and US Foods (North Kingston, RI). Special distributors servicing Cape Cod include Sid Wainer & Son Specialty Produce & Foods (New Bedford, MA), now owned by Chefs Warehouse, What Cheer Fruit & Produce (Cambridge, MA). Ring Bros. Wholesale located in South Dennis, J&E Produce located in Provincetown, and The Clam Man located in Falmouth. Given their position as smaller-scale, regional distributors, only three of these companies ([Sid Wainer](#), [Ring Bros.](#), and [J&E Produce](#)) provide information on their websites regarding locally sourced products.

Food Hubs

When asked to prioritize items from a list of ideas created by fellow growers and producers, 38% of respondents to the Grower and Producer Survey suggested that they would like to see a Falmouth food hub where resources and services, like aggregation and distribution, could be shared. However, currently no food hubs exist on Cape Cod. The nearest example, which delivers as close to the Cape as Wareham, is the [Coastal Foodshed](#) located in New Bedford, MA. Its programs include a weekly mobile farm stand that brings food from over 40 local producers to customers who may otherwise not have access, indoor and outdoor farmer's markets, an online virtual market through which products can be picked-up or delivered, and culinary education programs. Other food hubs in the region include the [Boston Food Hub](#) (Acton, MA), [New Entry Food Hub](#) (Beverly, MA), [Our Neighbors' Table](#) (Amesbury, MA), [Red Tomato](#) (Providence, RI), Western MA Food Processing Center (Greenfield, MA), [Local Food Works](#) (Leominster, MA) and the [Worcester Regional Food Hub](#) (Worcester, MA).

Figure 74. Coastal Foodshed Mobile Farmstand



Note: From [Coastal Food Shed Mobile Farmstand] by the Coastal Food Shed, (<https://www.facebook.com/Coastalfoodshed/photos>).

Marketing

The primary marketing campaign in support of the food supply chain in Falmouth and within Barnstable County is the Buy Fresh Buy Local Cape Cod Program. Buy Fresh Buy Local (BFBL) is a national initiative designed to strengthen local food communities through marketing tools and shared branding. Operating through the Cape Cod Cooperative Extension, the mission of this BFBL chapter is to connect people on the Cape with locally-grown land and sea products by providing outreach, advertising and point of purchase materials. As part of this outreach, BFBL Cape Cod offers a variety of resources created to assist in the purchasing, cooking, and storing of fresh foods. BFBL also publishes a yearly [Guide to Local Foods](#), which includes a list of food festivals, farmers markets, farms and farm stands, local seafood vendors, eateries, caterers, and artisan food retailers.

Figure 75. Buy Fresh Buy Local Cape Cod Logo



Note: From [Cape Cod Buy Fresh Buy Local Logo] by Cape Cod Cooperative Extension (<https://www.capecod.gov/departments/cooperative-extension/programs/nutrition-education-food-safety/buy-fresh-buy-local/>).

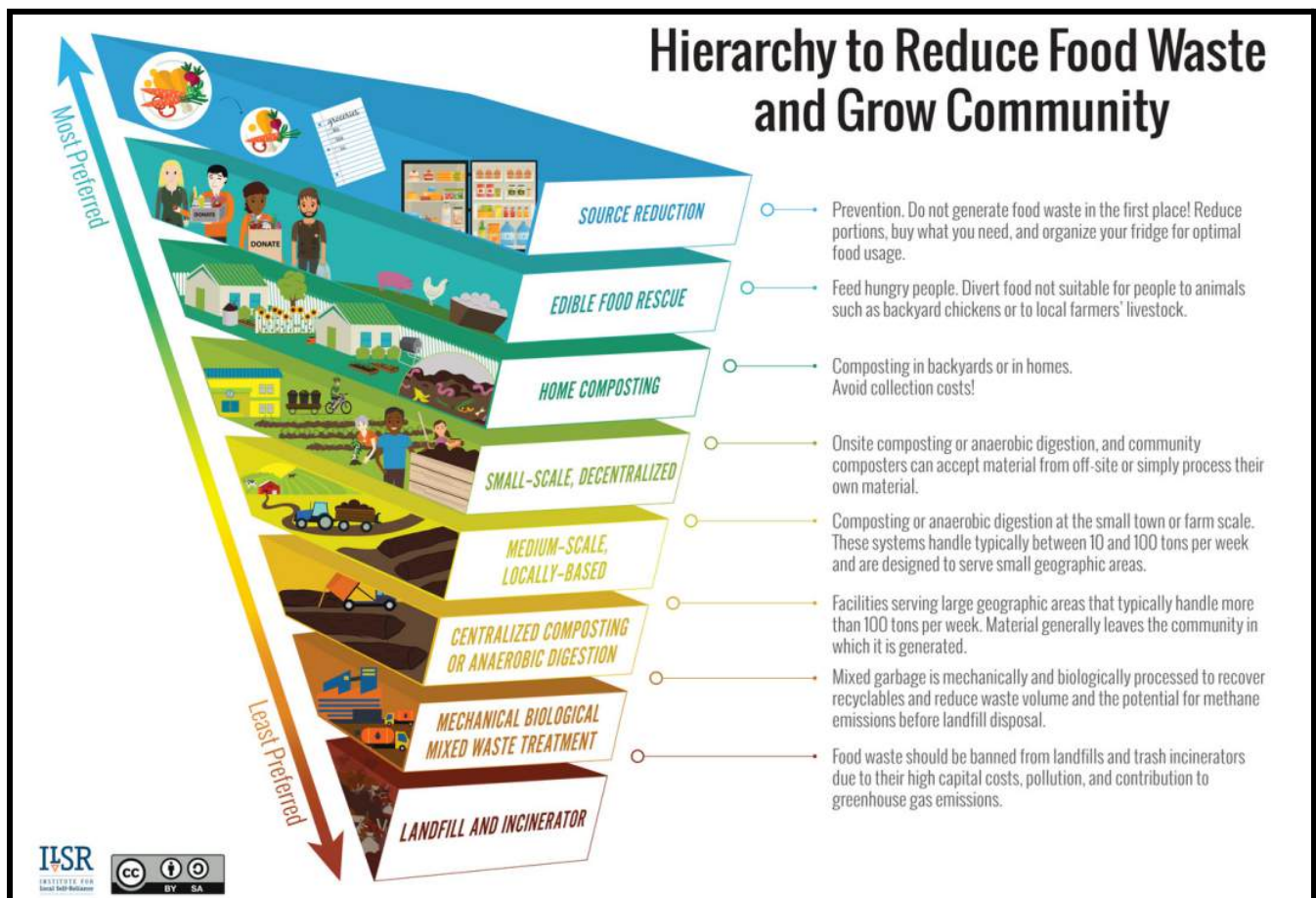
Food Waste

Each year the United States wastes 80 millions tons of food. That equals 38% of the total food supply or the equivalent of 149 billion meals. This amounts to \$444 billion worth of food annually (Feeding America, n.d.). The effects of this astronomical quantity of food waste takes an environmental toll, in addition to social and economic ones. Food waste accounts for roughly one quarter (25%) of all material sent to landfills where, through the process of anaerobic digestion, it amounts to the greenhouse gas emissions of 37 million cars or 42 coal-fired power plants (Igini, 2022). Food enters the waste stream at many points through the food supply chain, including at farms, distributors, retailers, food service providers and in homes, and corresponding

recovery or waste reduction efforts look different at each location. At all points throughout the food supply chain, food waste can be reduced through a process known as gleaning. For over 2,000 years, gleaning has been a practice of gathering surplus crops after a harvest. This is historically relevant and particularly effective on farms, where a one-third of edible produce remains unharvested due to factors like growing conditions, labor availability, and buyer specifications (Wozniacka et al., 2019); however it can also apply to surplus food gathered from farmers markets, grocers, distributors, and restaurants. Gleaning and food donation are protected by the Good Samaritan Food Donation Act of 1996 (Buzby, 2020) and, short of not having any food waste to begin with, are preferable forms of reducing food waste. In situations where gleaning is difficult to achieve due to lack of infrastructure and labor, food waste can become food for above ground livestock, such as pigs, cattle and chicken, or transform into compost through the help of underground livestock⁴⁴ such as fungi, bacteria and earthworms.

In efforts to curb the impacts of food waste, in 2014 Massachusetts enacted a commercial food material disposal ban that, as of November 2022, bans the disposal of organic waste by businesses and institutions that generate more than one ton per week.⁴⁵ A recent study aimed at evaluating the impact of state-level food bans indicated that Massachusetts had a 13.2% decrease in food waste. These results are thought to be attributed to a simplicity of regulation in Massachusetts, sufficient infrastructure, low cost of compliance and/or strong enforcement, and ultimately highlight the need to continue implementing these practices in order to build on the Commonwealth's success (Anglou et al., 2024).

Figure 76. Hierarchy to Reduce Food Waste and Grow Community



Note. From "Hierarchy to Reduce Food Waste and Grow Community" by Institute for Local Self-Reliance, (<https://cdn.ilsr.org/wp-content/uploads/2017/02/HierarchyIG-FINAL-24x18.pdf>). CC BY-SA.

⁴⁴ A term used by Nicole Masters, agroecologist and director of [Integrity Soils](#)

⁴⁵ For more information check out the [food waste and recovery resources section](#)

Gleaning & Food Recovery

100% of respondents to the grower and producer survey indicated that their goods or products are never gleaned, and 62.5% indicated that their goods are never or infrequently donated (Q23). As part of their efforts to salvage produce that might otherwise go to waste, between 2020 to 2024 Farming Falmouth gleaners successfully harvested over 12,000 lbs of food that was donated to local food pantries,

In addition to these efforts, Farming Falmouth created [Share Your Bounty](#) – an initiative born out of the Covid-19 pandemic as a way to collect the surplus from home gardens and donate this as well. Participation in the Share Your Bounty program is as simple as dropping your food off at the Farmers Market each week so that volunteers can bring this produce to the Falmouth Service Center.

Composting

For Falmouth businesses and institutions a single option exists to begin their composting journey and in doing so facilitate compliance with Falmouth's mandatory recycling regulations, a regulation which now reflects the state food material disposal ban. That option is [Black Earth Compost](#) (BEC), a commercial composting collection business that services eastern Massachusetts, Rhode Island and New Hampshire. Black Earth Compost currently collects food waste from 5 local businesses, including the Marine Biological Laboratory,⁴⁶ as well as six schools – Mullen Hall, Morse Pond, North Falmouth Elementary, East Falmouth Elementary, Teaticket Elementary and Lawrence School.⁴⁷ Without any compost processing facilities on the Cape, food waste collected from BEC is trucked to its nearest composting facility in Framingham, MA.

In their quest to compost, Falmouth residents are limited to two food scrap collection sites, also managed by Black Earth Compost, located at the Falmouth Waste Management Facility at 458 Thomas B Landers Road and Falmouth Public Schools Administration Building located at 340 Teaticket Highway. For those unable to make the trip, Black Earth Compost offers a weekly subscription to curbside residential collection. As of 2023, 221 residents were utilizing this service.

In order to tap into the potential of compost to sequester carbon, reduce soil erosion and the need for fertilizers, and promote healthy soil and plant growth, many towns and cities—including nearby ones like



SHARE YOUR BOUNTY!

Growing a vegetable garden this year?
Have more beans or zucchini or tomatoes than you can eat?

Share Your Bounty with a neighbor!

Here's how it works:

1. Put your bounty in a bag with your name and contact info. (email+phone)
2. Bring it to the Falmouth Farmers' Market on Thursdays between noon and 5pm.

The farmers market is at Marine Park, next to Falmouth Harbor.

Volunteers will place your bag in a cooler for the Falmouth Service Center.

The Service Center will distribute fresh donations to its clients the next day.

As a thank-you, you'll receive a small voucher to spend at the market.

Non-perishable foods are also welcome!

Share Your Bounty is organized by Farming Falmouth in collaboration with Falmouth Farmers Market and the Falmouth Service Center and made possible by a grant from Martha's Vineyard Bank.

Figure 77. Thomas B. Landers Food Scrap Collection Site



Note: From [Thomas B. Landers Food Scrap Collection Site] by Town of Falmouth, DPW, Waste Management. (<https://www.falmouthma.gov/1274/Food-Scrap-Composting>).

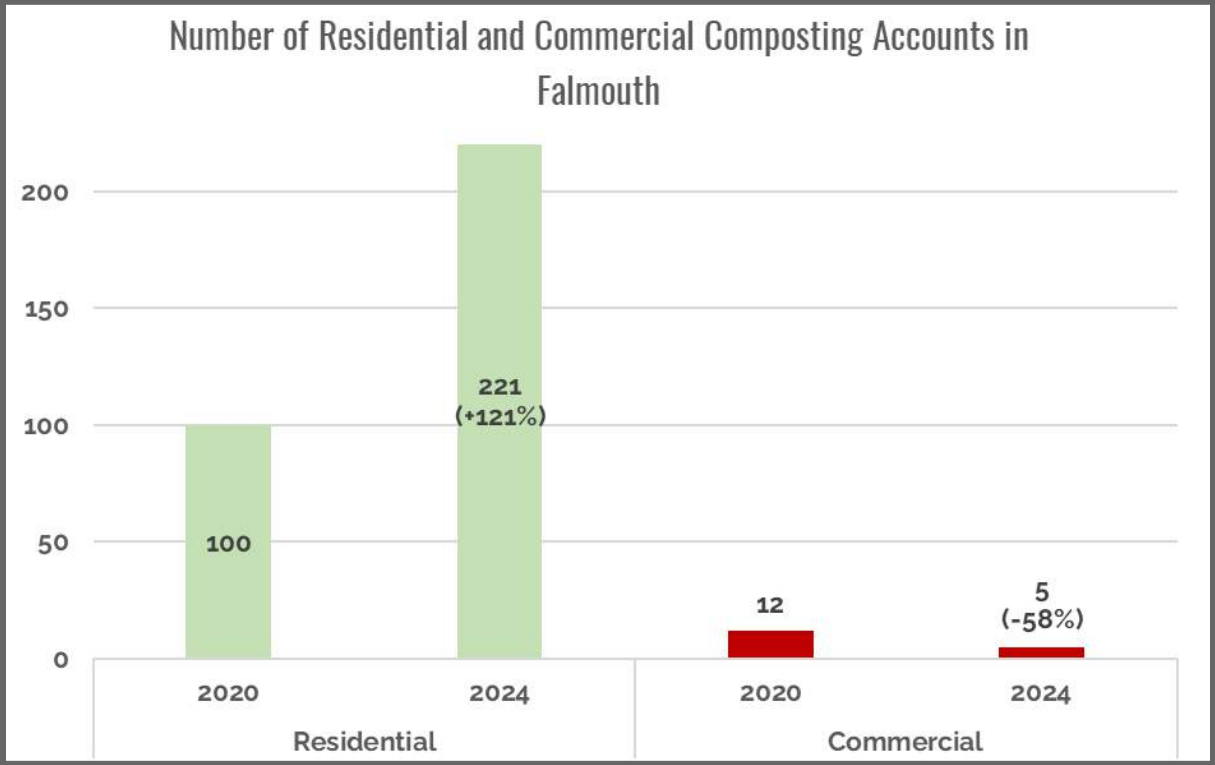
⁴⁶ <https://www.mbl.edu/about/campus-facilities-resources/dining/sodexo-sustainability-mbl>

⁴⁷ [Falmouth Schools To Expand Composting Program After Successful Trial | Falmouth News | capenews.net](#)

Mashpee and Bourne–have made use of MassDEP grants to sell subsidized composting bins to residents. These easy-to-assemble, rodent-resistant bins typically sell for \$25 and hold 10 cu ft of compost.⁴⁸ Other municipalities, such as Watertown,⁴⁹ now offer free curbside collection to residents.

Per the results of the 2022 Grower and Producer Survey, 5 out of 8 respondents, or 62.5%, indicated that they regularly compost their products, while 3 out of 8 growers and producers never compost.

Figure 78. Number of Residential and Commercial Composting Accounts in Falmouth



Note. Data from "Number of Residential and Commercial Composting Accounts in Falmouth" by Black Earth Compost and Compost with Me, personal communication, 2024.

Data collected from Compost With Me and Black Earth Compost from 2020 to 2024 indicate that residential composting has undergone a 121% increase from 100 to 221 participants. During this same time commercial efforts have decreased by 58%, which is likely attributed to difficulties related to the Covid-19 pandemic. Given that roughly 85% of food waste in restaurants in the United States is thrown away, and that restaurants can produce up to 25,000 - 75,000 pounds of food waste a year (Mettler, 2023), or typically half a pound per meal (Move For Hunger, n.d.), the food service industry is an obvious target for composting. While it may be hard to determine exactly how much of the food waste stream can be attributed to local restaurants and institutions, this number undoubtedly increases during the summer months when the population of Falmouth nearly triples. With over 230 food establishments in Falmouth, the current proportion of commercial composting is a meager 2.2%. In order to bolster local composting efforts, Falmouth could invest in awareness and advocacy programs, encouraging partnerships, and securing more public funding. A free curbside collection pilot program could help increase residential numbers while restaurants and businesses could benefit from easier composting access and subsidies to support seasonal commercial pick-up and to account for increased food waste during summer months. Setting goals for the number of businesses and residents enrolled would help to ensure steady progress is made.

⁴⁸ Have you asked your municipality yet? <https://www.mass.gov/info-details/ask-your-municipality-about-a-low-cost-compost-bin>

⁴⁹ This program has been supported by MassDEP funding and is a partnership with Black Earth Compost. For more information, please follow this link: <https://www.watertown-ma.gov/885/Free-Curbside-Collection-Program>

Chapter 5.

Food Environments & Consumer Behavior



Chapter 5. Food Environments & Consumer Behavior

An overview of food environments and consumer behaviors

**“[I]n this country...
We don’t think about food and healthy eating as a human right.
We think about it first as a privilege, but then we also think about it
as something that each person individually is responsible for securing for themselves
even when there are major and systemic barriers to doing so.”⁵⁰
– Priya Fielding-Singh**

While not everyone may have a role in the food supply chain, all of us, in some way or another, interact with food environments and display our own forms of consumer behavior based on a kaleidoscope of factors. As such, we are constantly involved in the unfolding of the food system, regardless of what that system looks like, or what impacts it has. Looking at the intricacies of our food environments along with the drivers of consumer preferences gives us the opportunity to begin to understand how we interact with food, and can inform the work of building food systems that yield healthy, sustainable, and resilient outcomes for people and the planet. It can also help us to get a better sense of who we are, how we relate to each other and our environments, as well as what barriers are standing in the way of change. However, digging into the details of food environments and consumer behavior is both intimate and complex. As will be discussed, these post-supply chain elements of the food system are interconnected, highly dynamic, and dependent on a range of social, cultural, and economic factors. Ideally, coming to terms with these complexities, which often reveal the need for collective responsibility and socially-oriented interventions, can inspire productive conversations and informed decisions that ultimately promote health and well-being.

The notion of what is considered to be “healthy” is often seen as the sum of one’s personal choices, and dependent upon metrics such as physical activity and nutrition. While these factors may indeed speak to the status of one’s health, they fail to acknowledge the systematic disparities that individuals and groups face⁵¹ when accessing the conditions and resources that are needed to live healthier lives. In contrast to an approach that privileges individual responsibility, however, the Robert Wood Johnson Foundation defines health as:

[M]ore than a measure of vital signs or absence of disease. Health requires access to clean drinking water and affordable healthcare. Health requires communities with well-funded schools and parks instead of polluted air and toxic waste dumps. Health also comes from access to safe and affordable homes in neighborhoods where people have opportunities to move up economically. Health reflects the ways policies shape neighborhoods and support families. (Robert Wood Johnson Foundation, n.d.)

Health disparities manifest most evidently within the food system through varied access to nutritious food and healthy food environments, yet as described above these disparities are often compounded by determinants of health such as income, education, housing, healthcare and neighborhood characteristics (see section on [Social Determinants of Health](#)). The work of addressing and ultimately eliminating the unjust, unfair, and preventable differences in health outcomes that results from these disparities is understood as *health equity*. Put differently, “health equity means that everyone has a fair and just opportunity to be as healthy as possible” (Robert Wood Johnson Foundation, 2017).

These opportunities “to be as healthy as possible” are mediated and reinforced by our *food environments*, which are defined as “the physical, economic, political and socio-cultural context in which

⁵⁰ Nierenburg, D (Host). (2019, November). Priya Fielding-Singh on Inequality and the Meaning of Food in Her New Book [Audio podcast episode]. In *Food talks with Dani Nierenburg*. Food Tank.

<https://www.listennotes.com/podcasts/food-talk-with/290-priya-fielding-singh-on-T1zUD-gnocl/>

⁵¹ These disparities are typically the result of past and on-going social exclusion, marginalization, and discrimination

consumers engage with the food system to acquire, prepare and consume food" (HLPE, 2017, pg. 28). Food environments often consist of a combination of spaces, such as neighborhoods, restaurants, grocery stores, schools, workplaces, households, etc., where food decisions are made, along with the food that is made available, affordable, and desirable in these environments. All too often, these environments, particularly those that are predominantly low-income, not only lack access to fresh food but also "promote unhealthy dietary choices for consumers through misleading marketing and advertising, unhealthy food product placements, pricing policies, and packaging" (HLPE, 2017, pg. 31). In the United States these conditions, often called "toxic food environments," are ubiquitous and have a substantial impact on consumer behavior. Healthy food environments, on the other hand, are typically thought to be ones that enable consumers to choose nutritious foods, and through the lens of health equity, can be seen as environments that not only reduce disparities in health outcomes, but also promote empowering, culturally connected and ecologically sound food systems (see section on [Food Sovereignty](#)). *Consumer behavior*, regarded as the "all the choices and decisions made by consumers, at the household or individual level, on what food to acquire, store, prepare, cook and eat, and on the allocation of food within the household" (HLPE, 2017, pg. 32), is intimately linked to food environment and further impacted by interpersonal and personal factors such as taste, convenience, values, traditions, beliefs, and culture.

Within the context of the household, research has shown that family norms influence children's ability to form good diet and exercise behavior that can last into adulthood (Gruber & Haldeman, 2009). Studies indicate that not only does eating meals as a family positively influence dietary quality and meal patterns among young adults (Larson et al., 2007), but also that parental intake of fruits and vegetables may encourage adolescent consumption of these foods (Hanson et al., 2005). Other parenting behavior, such as withholding sweets or pressuring children to consume healthy foods, has been shown to backfire (Savage et al., 2007), whereas setting clear guidelines and allowing children to choose from a range of healthy options tends to support healthier eating behaviors (Patrick et al., 2004). In addition to everyday challenges of promoting healthy household food choice, lower income families—who may already lack access to the conditions and resources needed to make healthy choices—encounter difficulties around affording healthy foods which are typically more expensive. As would be expected, in order to manage finances and food budgets, evidence suggests that individuals are more likely to make cost-determined purchases as opposed to health-determined ones. Through these "cost-determined purchases," unhealthy foods tend to be selected "due to objective and relative characteristics of the product (e.g. price, longevity, palatability, brand-allegiance, potential for satiety), limited disposable income that prohibits long-term planning (e.g. bulk-buying, promotions, store-cupboard ingredients, cooking from scratch), as well as factors like cooking skills and avoidance of food waste (Sawyer et al., 2020). Consequently, a cycle can ensue whereby the prioritization of unhealthy food through cost-determined purchasing reinforces the acceptability and affordability of these foods over time, inevitably furthering intake.

Moving outside of the home, food environments such as worksites, restaurants, and institutions also play an important role in shaping healthy consumer behavior and outcomes. This notion is reinforced by the fact that in 2022 food-away-from-home spending accounted for 56% of total food expenditures (USDA ERS, n.d.), as well as studies that suggest people tend to mimic the eating behaviors of those around them including friends, families and co-workers (Larson & Story, 2009). With Americans dedicating so much of their time to work,⁵² the workplace environment is a valuable setting to reach a large portion of the adult population. Workplace health promotion strategies and interventions⁵³ have been shown to increase the consumption of fruits and vegetables as well as support balanced nutrition habits. Conversely, failure to address working conditions such as job stress, work-related fatigue, inadequate or unpredictable meal breaks, and poor meal facilities have all been shown to contribute to obesity (Nobrega et al., 2016). For those that consume food outside of home and work, restaurants are often the next most convenient option, yet they may not be the healthiest. Studies suggest that both fast-food and full-service restaurants are

⁵² Americans work more hours than the average OECD country, 470 more hours than Germany which has the lowest number of hours worked. For more information, check out this link: <https://data.oecd.org/emp/hours-worked.htm>

⁵³ This includes health education, supportive social environments, lifestyle modification programs, and organizational goal-setting

associated with an increase in food consumption and a higher intake of saturated fat and sodium (Nguyen & Powell, 2014). Fast food in particular has been associated with poor diet quality, high blood pressure, Type 2 diabetes, heart disease and increased risk of obesity and between 2013 - 2016 was consumed daily by 36.5% of American adults (Fryar et al., 2018).

Institutional food environments feed millions of people each day in settings such as hospitals and healthcare facilities, correctional facilities as well as colleges, universities, and schools. Many institutions have self-operated dining service or grab-and-go options, yet a large proportion typically contract with multinational food service providers like Compass Group, Aramark, and Sodexo. Together these three companies manage services in over half of U.S. cafeterias (Honold, 2021), and often perform poorly in their ability to provide healthy food options (Center for Science in the Public Interest, 2021). The importance of healthy options within institutional food environments is most poignant in hospital and healthcare facilities as their mission is to heal, yet a 2019 study found that 30-50% of patients are at risk for malnutrition (Sauer et al., 2019) while a 2021 study indicated that patients hospitalized for chronic heart failure may have a doubled risk of mortality when given regular hospital food as opposed to a personal nutrition plan (Hersberger et al., 2021).

For children and adolescents, schools are a vital food environment as it is where they spend most of their time. Each day the Department of Agriculture's school meal programs, including the National School Lunch Program, School Breakfast Program, and Child and Adult Care Food Program, feed about 28.5 million children (School Nutrition Association, n.d.), over half of whom come from low-income families. These programs safeguard against hunger, and research has shown that receiving free and reduced-price lunches can reduce obesity rates and poor health for students (Food Research & Action Center, n.d.). Some of these gains, however, are lost to "competitive foods," or food sold to students outside of the school meal programs. These foods, which have historically been energy dense items sold through vending machines or snack-bars, are often highly available but since 2014 have been subject to new nutrition standards through the "Smart Snacks in School" rules.

Broadening our perspective beyond the household, workplace, or institutional food environment invites us to consider the role of the neighborhood or community food environment. Frequent consideration is given to effects of the presence, or lack, of supermarkets, convenience stores and fast-food chains on healthy nutrition—particularly in low-income areas—yet the association between these factors is unclear. Although a "lower density of supermarkets and healthy food outlets and higher density of fast food outlets are reported in low-income neighborhoods" (Sawyer et al., 2020), it seems as though attempts to influence consumer behavior by altering isolated elements of the neighborhood food environments may yield few results. One such example of a common isolated intervention that has failed to meaningfully influence dietary intake of healthy foods is the efforts to address food deserts. Characterized by a lack of availability of healthy food often in low-income neighborhoods, food deserts have received lots of attention, driving policy makers to address the supply-side of food environments by incentivizing the development of new supermarkets and grocery stores with the intended outcome of improving diets. Despite these best intentions, growing evidence suggests that "exposing low-income households to the same products and prices available to high income households reduces nutritional inequality by only about ten percent" (Allcott et al., 2019, pg. 1). In other words, geographic access inequalities within a given food environment are a poor indicator of dietary inequalities.⁵⁴ A 2016 USDA ERS article even goes as far to say that "some studies find supermarket density has no effect on consumption of fruits and vegetables, while other studies find low density and long distances to supermarkets have small negative effects on purchases of fruits and vegetables" (Ploeg & Rahkovsky, 2016). This evidence is supported by the fact that the average American travels 5.2 miles to shop, mainly by car, and even those who live in areas with no supermarkets (i.e. food deserts) still buy 85% of their groceries from supermarkets (Devitt, 2019).

Importantly, this exploration of food deserts and neighborhood food environments reaffirms the complexity of food environments and consumer behavior, and in doing so draws our attention to the potential for change within the nuanced economic, political, and socio-cultural context of these environments. As

⁵⁴ The same study by Allcott et al. (2019) indicates that food knowledge and education can help to explain what people buy in grocery stores and that these factors may help to play a role in reducing nutritional inequality

demonstrated, food environments can certainly be addressed on a behavioral level, using behavioral health promotion strategies to focus on lifestyle change on an individual or household level. These strategies can include disseminating information about health, workplace health promotion or in this case of addressing food deserts, aiming to shift consumer behavior by increasing the number of nearby grocery stores. Behavioral theories suggest that from an individual perspective food choice is informed by attitudes, perceptions of social pressure to perform a behavior, and the perceived control over this behavior (European Food Information Council, 2006). These theories are particularly enticing when considering studies showing that not only do people mimic the eating behaviors of those around them but also that children adopt healthier eating behaviors when given the freedom to choose among a range of healthy options. However, in the quest to create and maintain healthy food environments, or to transform “toxic” and unhealthy ones, enabling consumers to choose nutritious foods cannot simply be reduced to individual responsibility. As in the case of food deserts, we cannot assume dietary shifts will occur by simply increasing the supply of fruits and vegetables in a given neighborhood. While nutritious, and hopefully local, food must indeed be available if it is to be consumed, ensuring food access in order to facilitate healthy outcomes extends beyond the responsibility of individual choice within food environments.

Redirecting our focus to the economic, political, and socio-cultural context of food environments (i.e. moving from the behavioral to the systemic), while oftentimes uncomfortable, allows us to apply a wider range of tools in order to fundamentally influence healthy choices and beget healthy food environments. These tools are ones that prioritize social determinants of health, rather than an individualized model of health behavior that reduces the need for public responsibility and which maintains “a form of social silence around alternative views of health that challenge the normality of everyday social, economic and cultural inequalities” (Baum & Fisher, 2014). Evidence supporting the need for this type of thinking can be found in a 2021 study that explored the lived experience of food insecurity. This study indicated that people living on a low income had good knowledge about healthy diets, yet they were unable to make the “healthy choice” in light of the higher cost associated with these healthy options (Power et al., 2021). The results of this study are reinforced by a large body of epidemiologic data showing that people of lower socioeconomic status (SES) tend to consume lower quality diets, while those of higher SES enjoy higher quality diets consisting of more whole grains, fish, lean meats, fresh vegetables and fruits (Darmon & Drewnowski, 2008). When seeking to address the mechanisms driving the interconnected system of determinants of unhealthy food environments,⁵⁵ Sawyer et al (2020) propose the use of structural actions that “do not call on personal agency,” and instead recommend that interventions should seek to “circumvent social, cultural and individual dynamics underlying dietary intake (such as encouraging reformulation of food composition through taxation or bans) or modify the dynamics steering cost-determined purchases towards unhealthy foods.” Municipalities, for example, can work to create and implement broad-based measures that increase the overall health of the population, such as “a ‘health in all policies’ framework, where the health impact of each sector is considered and measures [are] taken to minimize adverse effects and promote positive health benefits” (Baum & Fisher, 2014). Other approaches that municipalities can take to influence food environments include “the use of universal regulatory, taxation or planning... [such as] price incentives, controls on advertising or sales or regulation of food standards” (Baum & Fisher, 2014). These systemic changes, policies, and strategies are effective in that they help disrupt the “entrenched economic, social and cultural practices around food” (Sawyer et al, 2022) and shift the current social paradigm from one that promotes economic prosperity to one that promotes health, and healthy dietary intake. Vitaly, however, these approaches must be supported by efforts that address the root causes of inequities:

[F]irstly, broad-based strategies to reduce socioeconomic disadvantage and introduce redistributive mechanisms in education, housing, employment and income and wealth; secondly, targeted interventions to address proximal structural factors disproportionately affecting disadvantaged groups... and thirdly, sustained community development strategies in disadvantaged areas to alleviate

⁵⁵ An example of these factors include “commercial determinants of health,” which are the private sector activities that affect peoples’ health. For more information, check out this link: <https://www.who.int/news-room/fact-sheets/detail/commercial-determinants-of-health>

the effects of exposure to SDH [social determinants of health] and build local capabilities for wellbeing” (Baum & Fisher, 2014).

Though on the surface strategies and interventions like living wages, progressive taxation, job training, employment opportunities, affordable housing, and social safety nets may have nothing to do with food environments and food choice, they ultimately create the conditions in which food gains its meaning. Important as it may be to understand the factors involved in household, workplace or institutional food environments, it is equally important to be addressing the housing, living-wage, employment, education and equity deserts that surround and inform these environments. It can be easy to focus on *food environments* and *food choices* as the problem, or to focus on personal determinants and personal preferences as the source of poor nutrition, “yet the accumulating evidence on SDH [social determinants of health] is very clear that achieving health equity will require policies that change the conditions in which people make their unhealthy choices” (Baum & Fisher, 2014).

The information provided aims to build a case for exploring the interconnected and multi-dimensional nature of our food choices, thereby encouraging us to continually question the true drivers of change within the food system. Moreover, with the hope of inspiring productive conversations and informed decisions that promote health and well-being, this discussion seeks to acknowledge and address the complexities inherent in the range of food environments and consumer behaviors. As highlighted in Cape Cod Healthcare’s 2023-2025 Community Health Needs Assessment, “access to affordable and healthy food” is the third most common social concern as identified by 51.5% of survey respondents, while the “cost of healthy food options” was identified as a “high concern” by 47.8% of respondents (Cape Cod Healthcare, 2023, pg. 28). These food-related concerns are set against the backdrop of broader issues of health equity in Barnstable County. Results from the 2023-2025 Community Health Needs Assessment indicated that one-third of non-White survey respondents “identified discrimination based on race, ethnicity, or languages as a top social issue for the community” while “nearly one-quarter of LGBTQ survey respondents identified discrimination based on other characteristics as a top social issue for the community” (Cape Cod Healthcare, 2023, pg. 67). This draws attention to the fact that while many regard the close and tight knit community to be a strength of the region, the same quality produces challenges and isolation to those who move to the area or who don’t belong to the majority population:

On top of the direct impact on an individual’s emotional and physical health, such experiences of bias, discrimination, and racism are known to be major upstream factors that lead to receipt of less frequent or less appropriate healthcare services. This then compounds the impacts on health and ultimately manifests as poorer health outcomes and more prevalent health disparities. Some differences in healthcare utilization were observed in stratified analyses of survey respondents - compared to the overall sample, non-white survey respondents were much less likely to report having received cancer screenings, vision services, and outpatient services such as blood work or radiology. Furthermore, survey respondents who were non-white were more likely to rate their own/family’s health as ‘fair’ or ‘poor’ compared to the overall sample (pg. 68).

The ways in which our food system shapes and is shaped by the issues of health equity, along with the social determinants of health, that characterize Barnstable County and Falmouth, underscores the need for action as well as strategies that confront the economic, political, and socio-cultural context of our food environments.

Below we revisit some of the findings of the 2023-25 Cape Cod Healthcare Community Needs Assessment (first noted in the [Health Indicators](#) section) and provide suggestions for how we can use social determinants of health to create equitable solutions within the food system that would allow Falmouth residents to “be as healthy as possible”:

- ❖ Barnstable County’s population is older than the state overall⁵⁶ and over 32% of Falmouth’s population is over age 65 (Cape Cod Healthcare, 2023, pg. 10-11). An aging population requires additional support in terms of healthcare as these individuals face common conditions of aging (hearing loss, cataracts)

⁵⁶ The median age in Barnstable County is 53.7 years and in MA is 39.6 years (Cape Cod Healthcare, 2023, pg. 10).

as well as more complicated health concerns (memory conditions, loss of mobility) (World Health Organization, 2022). In efforts to promote healthier food environments, interventions to better support an aging population could include food delivery services, access to nutritious prepared meals, availability of fresh foods in smaller portions for households of 1-2, and convenient food access points at locations like senior centers and healthcare facilities.

- ❖ Less than 20% of Barnstable County's residents identify as non-White or people of color. However, this population is growing, and in the Upper Cape, the population of those identifying as a racial or ethnic minority grew at a rate of nearly 5% between 2015-2020 (pg. 13). "In interviews with stakeholders, immigrants were identified as a particularly vulnerable population in that they do not receive the same attention or resources as their native-born counterparts" (pg. 13). As food environments continue to expand in Falmouth, attention to language accessibility at food access points as well as when educating about food and food benefits, and availability of culturally connected foods are both important things to provide to continue to serve this growing population equitably.
- ❖ Housing and homelessness is the top social concern, as indicated by 75.5% of respondents to the Community Health Needs Assessment. Residents of Barnstable County are cost burdened (meaning they devote 35% or more of household income to housing costs) at a rate higher than the state overall. Over 56% of renters and 37% of owners with a mortgage are cost burdened (pg. 19). Access to affordable and stable housing and food security often go hand in hand. As residents suffer from higher housing costs, food budgets will often be the first thing families cut to make ends meet. Creating networks that glean fresh food and can deliver them to those who are cost burdened could help to alleviate food insecurity due to housing costs.
- ❖ Local healthcare services are overburdened with the top barrier experienced to accessing healthcare in 2022 being local waits for appointments, experienced by over 50% of those surveyed (pg. 35). This is seen as a confluence of other community health issues, including lack of housing, a majority elderly population, and a seasonal economy, which can't support a robust regional healthcare system. While continued advocacy is needed to expand healthcare access in the region, increasing food education that focuses on prevention of diet-related disease for those most vulnerable (youth, elders) could help reshape food environments in positive ways.
- ❖ The most recent data shows hypertension (high blood pressure) and hyperlipidemia (high cholesterol) are the most prevalent cardiovascular conditions among medicare users in Barnstable County, and in both cases are higher than the state average (pg. 43). Both are considered diet related diseases and can be prevented or controlled through lifestyle changes including diet and exercise. Increasing access to affordable fresh produce for low-income residents and elders through targeted programs could help to improve rates of these and other diet related diseases.

Key Findings:

❖ Food Retail:

- According to USDA Economic Research Service, households in the lowest income quintile spent an average of \$5,090, or 31.2% of their income, on food while households in the highest income quintile spent 8% of their income on food.
- Between 2021 - 2022, the average food-at-home price increased by 11.4%. This increase is part of a 25% escalation in overall food prices from 2019 - 2023.

❖ Institutional Food Service:

- In the 2023-24 school year, Falmouth's seven public schools enrolled 2,892 students. Of those students, 39.5% were low-income and 53.3% were high-needs.
- Between 2016 and 2023, the total number of free and reduced-price meals in the public school system increased by 13.9% while the total enrollment in the school system dropped by 17.6%.
- As of the 2022-23 school year, the Falmouth public school system had yet to conduct an impact evaluation, host student field trips to farms, invite farmers to schools, promote local foods at school in general, work with local food producers to develop specific food products using local foods, or forecast budgetary needs for local purchases.

❖ Supplemental and Emergency Food Assistance:

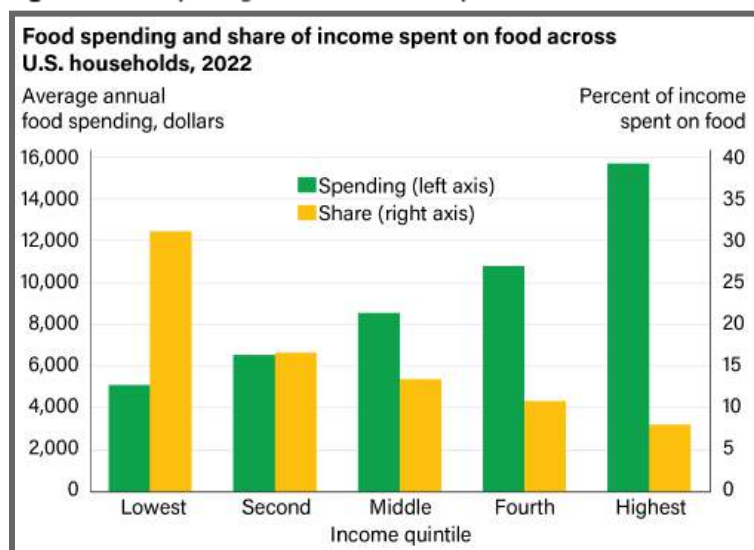
- According to a 2023 Great Boston Food Bank study, 1 in 3 Massachusetts adults struggled with food insecurity while 36% of households experienced child-level food insecurity, such that a child was hungry, skipped a meal, or did not eat for an entire day because there wasn't enough money for food.
- In Massachusetts, SNAP served 1 out of every 6 state residents in 2023.
- Between 2022 to 2023, the Falmouth Service Center doubled its food distribution from 597,269 pounds to 1.1 million pounds of food. In 2023, this accounted for just over 9,400 individuals, 83% of whom were from Falmouth and most of whom came on a weekly or bi-weekly basis (K. Delaney, personal communication, May 13, 2024).
- During the six year period between 2018 - 2023, SNAP revenue at the Falmouth Farmers' Market increased by nearly a factor of 17, going from \$583 in 2018 to \$9,780 in 2023. This represents significant growth in SNAP usage and is an indication that more SNAP recipients in Falmouth are accessing fresh produce.
- Publicly available data from the state of Massachusetts indicate that the statewide average SNAP Gap in 2023 was 53.8%, while in Falmouth the average annual gap was 59.2%⁵⁷. While this gap has gradually decreased by 8.6% from 2017 to 2023, it still indicates that 4,869 residents of Falmouth, or roughly 15% of the total population, could be receiving SNAP benefits. As of 2023, 10% of Falmouth's population was enrolled in SNAP while 25% of the population⁵⁸ was enrolled in MassHealth.
- As of November 2024, Falmouth is home to 31 SNAP retail locations, 19 (61%) of which are convenience stores.

⁵⁷ Both SNAP and MassHealth monthly totals were averaged in order to determine an average annual value

⁵⁸ These percentages use 2022 U.S. Census Falmouth population of 33,104

Section 1. Food Retail

Figure 79. Food spending and share of income spent on food across U.S. households, 2022



Note: From "Food spending and share of income spent on food across U.S. households, 2022" by U.S. Department of Agriculture, Economic Research Service, (<https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/food-prices-and-spending/>).

or 31.2% of their income on food, whereas households in the highest income quintile spent over three times as much on food. This equates to an average annual expenditure of \$15,717, or 8% of household income for the highest income quintile (USDA ERS, 2024).

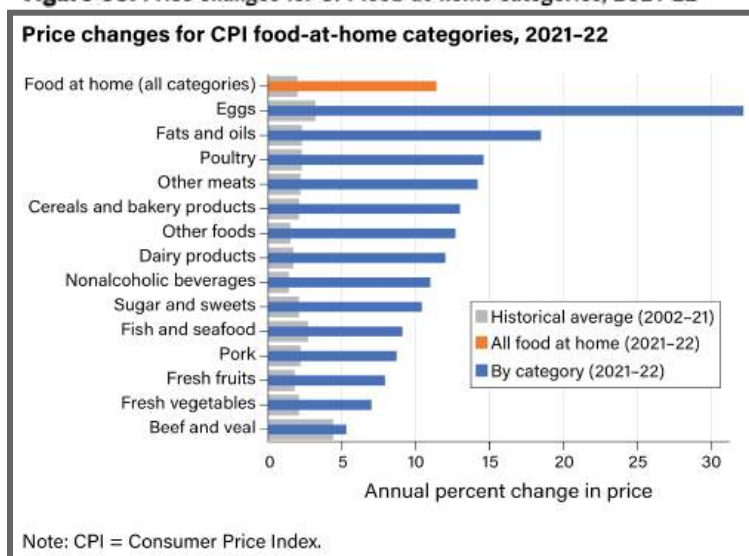
Figure 80 (right) depicts the annual percent change in price for food-at-home categories between 2021 - 2022. During this time, the average food-at-home price increased by 11.4%, which is the largest year-to-year increase in over 40 years (U.S. Government Accountability Office, 2023). This increase is part of a 25% escalation in overall food prices from 2019 - 2023.

Table 13 provides information on the key retail outlets within the food environment of Barnstable County from 2011 - 2017. While this information is dated, it helps to indicate a general trend of food availability. During this time period, the number of grocery stores increased by 23%, equating to an additional 14 stores. Likewise, convenience stores grew in number from 112 to 135. The change in supercenters and clubs stores remained static during this time while specialized food stores fell from 59 to 51. The number of SNAP-authorized stores increased by 10%, going from 164 to 180 or 0.84 stores per 1,000 residents. WIC-authorized stores saw a minor increase from 33 to 34.

In the intricate web of the food system, food retail is a nexus point, bridging the connection between consumers and producers. Food retail not only serves as a marketplace for buying and selling food but also influences dietary choices, nutritional intake, and health outcomes. Food retail encompasses a wide spectrum of outlets, from traditional grocery stores and supermarkets to specialty food shops, farmers' markets, farm stands, and online platforms.

As a baseline for consumer spending, regardless of the retail outlet, Figure 79 (left) shows the annual average food spending and percent of income spent on food in 2022. According to USDA Economic Research Service, households in the lowest income quintile spent an average of \$5,090 on food,

Figure 80. Price changes for CPI food-at-home categories, 2021-22



Note: CPI = Consumer Price Index.

Note: From "Food spending and share of income spent on food across U.S. households, 2022" by U.S. Department of Agriculture, Economic Research Service, (<https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/food-prices-and-spending/>).

Table 13. Barnstable County Food Environment Atlas Data, 2011-17

Grocery stores, 2011	62
Grocery stores, 2016	76
Grocery stores (% change), 2011-16	23%
Grocery stores/1,000 pop, 2011	0.29
Grocery stores/1,000 pop, 2016	0.36
Grocery stores/1,000 pop (% change), 2011-16	24%
Supercenters & club stores, 2011	1
Supercenters & club stores, 2016	1
Supercenters & club stores (% change), 2011-16	0
Supercenters & club stores/1,000 pop, 2011	0.005
Supercenters & club stores/1,000 pop, 2016	0.005
Supercenters & club stores/1,000 pop (% change), 2011-16	1%
Convenience stores, 2011	112
Convenience stores, 2016	135
Convenience stores (% change), 2011-16	21%
Convenience stores/1,000 pop, 2011	0.52
Convenience stores/1,000 pop, 2016	0.63
Convenience stores/1,000 pop (% change), 2011-16	22%
Specialized food stores, 2011	59
Specialized food stores, 2016	51
Specialized food stores (% change), 2011-16	-14%
Specialized food stores/1,000 pop, 2011	0.27
Specialized food stores/1,000 pop, 2016	0.24
Specialized food stores/1,000 pop (% change), 2011-16	-13%
SNAP-authorized stores, 2012	164
SNAP-authorized stores, 2017	180
SNAP-authorized stores (% change), 2012-17	10%
SNAP-authorized stores/1,000 pop, 2012	0.76
SNAP-authorized stores/1,000 pop, 2017	0.84
SNAP-authorized stores/1,000 pop (% change), 2012-17	11%
WIC-authorized stores, 2011	33
WIC-authorized stores, 2016	34
WIC-authorized stores (% change), 2011-16	3%
WIC-authorized stores/1,000 pop, 2011	0.15
WIC-authorized stores/1,000 pop, 2016	0.16
WIC-authorized stores/1,000 pop (% change), 2011-16	4%

Note. Adapted from "Food Environment Atlas" by the U.S. Department of Agriculture, Economic Research Services, (<https://www.ers.usda.gov/data-products/food-environment-atlas/go-to-the-atlas/>).

Local-Food Outlets

Grocery stores provide a majority of food to the residents of Falmouth yet they seldom offer regionally sourced produce. However, stores like Windfall Market, Jack in the Beanstalk, Bootstrap Farm Club and Local Roots of Cape Cod serve as four potential locations where regionally-sourced items can be purchased. Windfall Market and Jack in the Beanstalk typically supply greens from Coonamessett Farm while Bootstrap Farm Club and [Local Roots of Cape Cod](#) offer a range of foods including eggs, meat, dairy, produce and frozen goods from regional vendors. [Bootstrap Farm Club](#), located at 1 Scraggy Next Extension in Cataumet, also offers local delivery, a membership service, and a mobile farmstand.

A primary outlet for regional food in Falmouth is the [Falmouth Farmers' Market](#). From the end of May to the beginning of October, the market operates every Thursday from 12 - 5 pm at Marine Park on Scranton Avenue, Falmouth. The Winter Market has been relocated to St. Barnabas Church at 92 Main Street, Falmouth and operates Sunday from 12 - 3 pm mid-January through mid-April. Included below is an example of farms and food vendors for both the summer and winter market; however, this list is not exhaustive and vendors and farms can change on a weekly basis.

Table 14. Summer and Winter Falmouth Farmers' Market Food Vendors (2024)	
Summer Market Vendors	Winter Market Vendors
- Allen Farms - Cape Cod Flower Truck - Chatham Harvesters - Far Out Farms - Foster Farms - Fields of Flora - Freshfield Farm - Fresh Roll - Hatchville Baking Company - In the Mix - Lara's Cuisine - Lilac Hedge Farm - Monopati - Moonlight Rose Farm - Pain D'avignon - Pariah Dog Farm - Peachtree Circle Farm - Shine Mobile Coffee - Silverbrook Farm - The Scallop Truck - Wally's Dog Cart - Wooden Island Wild: The Fisherman's Pantry	- 1780 Farmhouse Toffee - Allen Farms - Barnstable Bisque - Bog Lily Kitchen - Cape Cod Flower Truck - The Cape Coop Farm - Donde Thiago - Hale Bone Broth - In the Mix - Lara's Cuisine - Little Blue Penguin - Moonlight Rose Farm - Pariah Dog Farm - Peachtree Circle Farm - Pleasant Lake Farm - Salty Ocean Acres - Say Cheese
<i>Note.</i> From "Farmers and Vendors Lists" by the Falmouth Farmers' Market, (https://falmouthfarmersmarket.com/farmers-and-vendors/).	

For those unable to attend the Falmouth Farmers' Market, the Buzzards Bay Farmers' Market operates April through September, every Wednesday from 1 - 7 pm at Buzzards Bay Park and the Sandwich/Bourne Farmers' Market operates June through October, every Tuesday from 9 am - 12 pm at 1131 Sandwich Road, Bourne.

Buy Fresh Buy Local Cape Cod also offers a yearly "[Guide to Local Farms & Food](#)." This guide includes information on SNAP and HIP as well as a list of food festivities, farmer's markets, farms and farm stands, local seafood, eateries and caterers, and artisan foods and retailers.

Section 2. Institutional Food Service

According to the 2019 Massachusetts state profile by the organization Farm to Institution New England (FINE), the average percent of food budget spent on local food for K-12 schools is 21%, for colleges is 18%, and health care facilities is 12% (Farm to Institution New England, n.d.). As these statistics suggest, institutional food environments in Massachusetts are often an untapped resource to facilitate local and regional food procurement. Due to their size, relationships, influence, and purchasing capacity, organizations like FINE as well as the Center for Good Food Purchasing believe that institutions are key in bending the arc of the food system towards justice. FINE provides a [Metrics Dashboard](#) for increasing local procurement, with insightful information on supply chain indicators, a [Food Service Toolkit](#) for institutional staff, along with a range of resources geared towards schools, correctional facilities, health care facilities, food hubs, food policy, and food processing. Similarly, by working to increase coordination, enhance capacity, activate policy, empower governments and leverage buying power, the Center for Good Food Purchasing aims to create a regenerative and equitable food system. Institutions working with the Center follow a set of standards, integrate these standards into new RFPs and contracts, verify compliance and establish supply chain transparency to the farm of origin. A 2021 report by the Center for Good Food Purchasing titled, "[The Good Food Purchasing Program: A Roadmap for the Post-Pandemic Food System We Need](#)", outlines key pillars for food system transformation, examples of leadership, and recommended action to facilitate meaningful change.

Local Institutions

Many of Falmouth's largest employers, including the Woods Hole Oceanographic Institution (WHOI), Cape Cod Healthcare (Falmouth Hospital, VNA of Cape Cod and JML Care Center), the Marine Biological Laboratory (MBL), the Steamship Authority and the Sea Crest Beach Hotel make use of institutional food service providers to feed staff and clients. WHOI's dining commons, known as The Buttery, is independently operated and sources ingredients from US Foods, Jack in the Beanstalk and The Clam Man. Cape Cod Healthcare and MBL make use of Sodexo, and the Steamship Authority uses Centerplate, which in 2017 was acquired by Sodexo. The Sea Crest Beach Hotel is owned and operated by the multinational hospitality and food service management company, Delaware North. Out of these five businesses, MBL is the only to readily provide information about their procurement. According to the [Sodexo Sustainability @ MBL](#) website, MBL's Dining Hall offers a "Harvest of the Month Program," seafood from The Clam Man, and regionally sourced dairy through Sodexo's Northeast Organic Family Farm Partnership.

K-12 Public Schools

As far as institutional food purchasing is concerned, schools and school meals play a vital role. In order to meet demand in these food environments, the Massachusetts Department of Elementary and Secondary Education, in conjunction with the USDA, administers a variety of child nutrition programs including After School Meals, Child and Adult Care Food Program (CACFP), National School Lunch Program (NSLP), School Breakfast Program (SBP), Special Milk Program (SMP), and the Summer Food Service Program (SFSP).⁵⁹ According to the 2019 USDA study, "School Nutrition and Meal Cost," however, reimbursements for school meals don't necessarily match what it takes to produce them. In the 2014 – 2015 school year, the average cost to produce a reimbursable lunch was \$3.81 and for a breakfast meal was \$2.72, yet the average lunch subsidy was \$3.32 and average breakfast subsidy was \$1.88 (USDA, 2019). While the costs to produce

⁵⁹ For more information on these program, visit the DESE website: <https://www.doe.mass.edu/cnp/nprograms/default.html>

meals and value of subsidies have certainly changed over the past decade, schools are left to make up the difference with non-reimbursable meals and competitive foods.⁶⁰

Table 15. 2023 - 2024 Falmouth School Profiles

	% Low-Income	% High Needs	Enrollment
East Falmouth Elementary	53	74.5	298
Teaticket Elementary	53.7	65.1	255
Mullen Hall	39.9	53.2	376
North Falmouth Elementary	22.9	35	297
Morse Pond	36.9	48.8	480
Lawrence	41.8	54.9	459
Falmouth High	35.6	47.3	727

Note: Adapted from "School and District Profiles" by the Massachusetts Department of Education, 2023. (<https://profiles.doe.mass.edu/general/general.aspx?topNavID=1&leftNavID=100&orgcode=00960000&orgtypecode=5>).

Falmouth Public Schools:

The Falmouth public school system currently participates in two child nutrition assistance programs, NSLP and SBP, as well as a system known as Fresh Fruits and Vegetables Order Receipt System (FFAVORS) used to track entitlement fund balances and total order costs. Between the seven schools, the school system has a potential 2,892 mouths to feed based on 2023 – 2024 enrollment numbers. Of these nearly 3,000 students, an average of 39.5% are low-income and 53.3% are high-needs⁶¹

(Massachusetts Department of Education, n.d.). In order to feed students who don't receive meals from home, the public school system

sources produce from nearby [Jack in the Beanstalk](#), as well as broadline distributors like [International Golden Foods](#) based out of Illinois and [Thurston Foods](#), which was recently acquired by [Gold Star Foods](#), based out of Connecticut. Dairy is procured from [Cape Dairy](#), which is based out of Hyannis and part of the Hood Dairy distribution network, and bread comes from [Calise & Sons Bakery](#) located in Rhode Island (C. Mayeski, personal communication, February 21, 2024).

Outside of the realm of procurement, the Falmouth public schools offer an array of food and farming related initiatives. New to the Falmouth High School as of 2021, the [Food Justice Initiative](#) (FJI) is a program dedicated to addressing the intersections of agriculture, racial injustice, and climate change. Through FJI's garden and greenhouse, students have the opportunity to develop hands-on gardening skills, growing produce that is then fed to students through the school kitchens. Food is also shared with the high school's culinary arts program, which offers classes like "Food For Healthy Living," "The Global Gourmet," "Baking and Pastry Arts," and "Restaurant Management," where students get the opportunity to manage and operate the [Clipper Cafe](#). Another recent initiative is the ["Serving Up Smiles" Guest Chef Program](#), which aims to introduce students to new recipes and culinary professionals from the community. This program will be hosted on a rotational basis through Falmouth's seven public schools a few times each year.

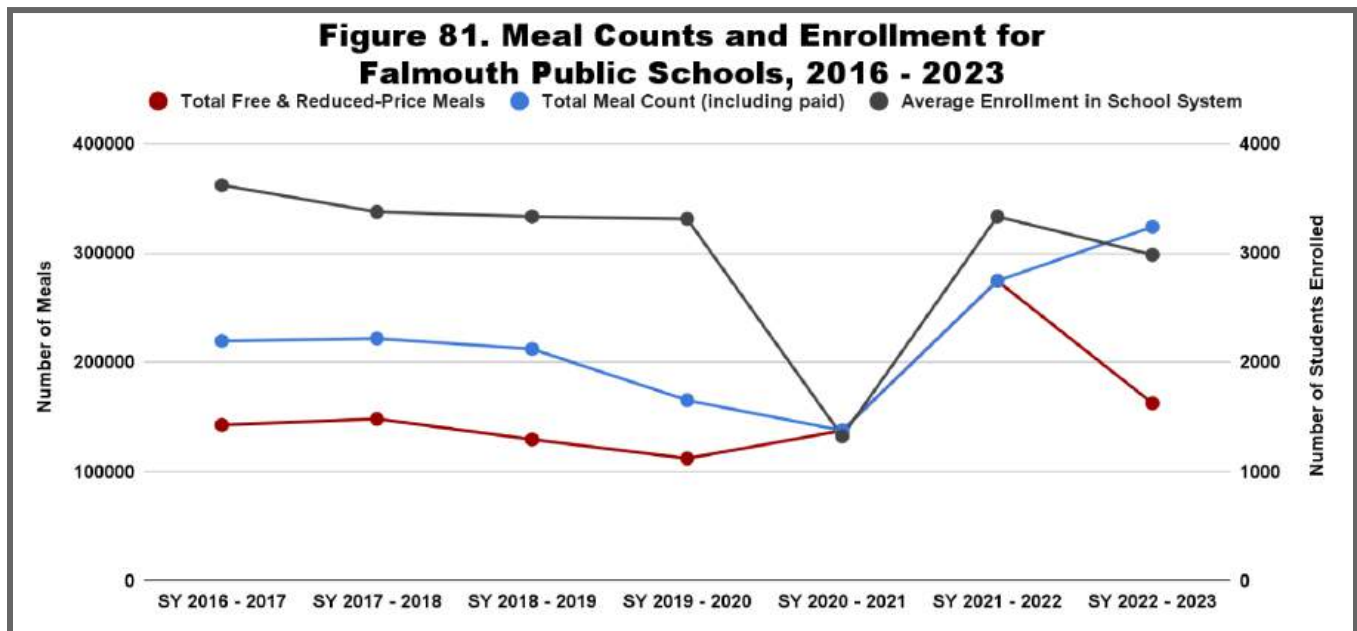


⁶⁰ For more on competitive foods: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10818474/> ; <https://johnstalkerinstitute.org/resources/school-snacks/alist/massnets/>

⁶¹ High needs is defined as students who are a part of one or more of the three categories: 1) low-income/economically disadvantaged, 2) an English- learned or former English learner, 3) a student with disabilities. Students counted in the "low-income" category are also counted in "high-needs" category

School Meals:

As of SY 2023-24, the Massachusetts legislature approved funding for a universal free school meal program⁶² making all breakfasts and lunches free for schools participating in the National School Lunch Program and the School Breakfast Program. For the purposes of tracking student meals to account for reimbursements from the federal government, schools still maintain information on the number of students who qualify for free or reduced-price meals. Prior to the adoption of this state program, in order to qualify for free meals, students had to belong to families whose income is less than 130% of the federal poverty level (FPL), which in 2024 equates to an annual income of less than \$39,000 for a family of four. Students of families earning between 130% to 185% of the FPL, or between \$39,000 to \$55,500 in 2024 for a family of four, were eligible for reduced-priced meals, meaning students could be charged no more than \$0.40 per meal. Shown in Table 16 (*next page*), between SY 2016 - 2017 and SY 2022 - 2023, the total number of meals served between these two programs in Falmouth increased by 47.6%, from 219,403 meals to 323,764 meals. The greatest overall increase in meals was seen with paid breakfast at 387.5%, followed by reduced-price breakfast at 154.1%, and paid lunches which increased by 82.8%. Figure 81 (*below*) offers a visual representation of the shifting trends in enrollment, total free and reduced-price meals and total meals. This figure also helps to show the impacts of the Covid-19 pandemic during SY 2020 - 2021, during which time all school meals were provided to students for free. A key trend revealed by these data indicates that between 2016 and 2023, the total number of free and reduced-price meals increased by 13.9% while the total enrollment in the school system dropped by 17.6%.⁶³ This begs an obvious question and one that deserves further investigation: are diverging rates of enrollment and meal subsidization the result of increasing rates of poverty in Falmouth, reduced stigma around federal meal programs, shifting needs of families, or a combination of these and potentially other factors?



Note. Adapted from "Child Nutrition Programs" from the MA Department of Elementary and Secondary Education, 2016-2023, unpublished data obtained from public records request.

⁶² <https://www.doe.mass.edu/news/news.aspx?id=27263>

⁶³ Corroborating evidence indicates that between 2014-2022, Barnstable County lost 15% of the youth population in grades 1-8 (Cape Cod Healthcare, 2023, pg. 10).

Table 16. Meal Counts and Enrollment for Falmouth Public Schools, 2016 - 2023

School Meals	SY 2016 - 2017	SY 2017 - 2018	SY 2018 - 2019	SY 2019 - 2020	SY 2020 - 2021	SY 2021 - 2022	SY 2022 - 2023	% Change 2016 - 2023
Free Lunch	105478	97254	88104	69573	88893	212662	108324	2.7%
Reduced-Price Lunch	6336	15943	14844	10749	0	0	10418	64.4%
Paid Lunch	70040	66361	74820	47913	0	0	128043	82.8%
Free Breakfast	29320	32153	24171	30108	48614	61651	40117	36.8%
Reduced-Price Breakfast	1395	2726	2261	1507	0	0	3544	154.1%
Paid Breakfast	6834	7218	7859	5341	0	0	33318	387.5%
Total Free/Reduced-Price Meals	142529	148076	129380	111937	137507	274313	162403	13.9%
Total Paid Meals	76874	73579	82679	53254	0	0	161361	109.9%
Total Meal Count	219403	221655	212059	165191	137507	274313	323764	47.6%
Average Enrollment	3619	3374	3332	3311	1323	3332	2982	-17.6%

Note. Adapted from "Child Nutrition Programs" from the MA Department of Elementary and Secondary Education, 2016-2023, unpublished data obtained from public records request.

Farm to School:

Starting in the late 1990s, the Farm to School movement began in response to the increased levels of processed foods in schools, and has since grown into a nationwide effort that touches an estimated 65% of schools and is supported by a federal grant program. Farm to School implementation differs in each community and at each school, but typically includes initiatives that focus on food procurement, school gardens, and education. These initiatives help to support local growers and producers, provide children with access to nutritious, high quality food and provide a host of hands-on educational opportunities.

In the hopes of supporting students, strengthening local farms and fisheries, promoting healthy communities, and increasing local food purchasing and education, a Boston-based organization known as [Massachusetts Farm to School](#) provides training, technical assistance and consulting. These offerings, along with a range of others including school garden resources, classroom lessons, advocate materials, recipes and how-to guides, are available to Massachusetts communities looking to bolster their food system.⁶⁴

Administered by the USDA Food and Nutrition Services, the Farm to School Census⁶⁵ is periodically conducted to assess the state of Farm to School activities throughout the country. Information is gathered from school food authorities (SFA), which are the administering units for school feeding programs and which receive federal reimbursements for school meals. Table 17, which includes two years of census results, indicates that from 2022 - 2023 three of the seven public schools in town—serving children in grades K to 12—are participating in farm to school activities. As of the 2022 - 2023 school year, the Falmouth public school system had yet to conduct an impact evaluation, host student field trips to farms, invite farmers to schools, promote local foods at school in general, work with local food producers to develop specific food products using local foods, or forecast budgetary needs for local purchases. While census results indicate that historically local food such as apples, salad mix, bell peppers, tomatoes, and poultry were served a few times a week, it is unclear where Falmouth's SFA procured these foods, and what approaches were used to make procurement choices.

⁶⁴ [Nation Farm to School Network Resource Database](#)

⁶⁵ [Falmouth Public Schools, MA 02536 | USDA-FNS Farm to School Census](#)

Table 17. Falmouth Public Schools School Food Authority (SFA) 2019 - 2020 Farm to School Census

Farm to School Participation Level	2019-2020	2022-2023
Duration of Farm to School Activities	Less than 3 years	Less than 3 years
Participating Grades	K-5th, 9th-12th	k-5th, 6th-8th, 9th-12th
Number of Schools Participating	3	2
Impact Evaluation of Farm to School Activities	Plan to do this activity in the future	Have never done this activity
Which outcomes have results from your SFA's participation in farm to school activities?	N/A	Increased student knowledge about local and/or healthful foods; increased student knowledge about how to grow food; access to better quality foods; increased positive perception of school fund program among teachers and/or administrators
Farm to School Education Activities		
How is food, nutrition and agricultural education provided to students?	Taste tests of local foods	N/A
How are you tracking the food, nutrition, and agricultural education activities?	We don't formally track	N/A
Have any type of edible school garden	N/A	Did this in school year 2023-2023 and 2023-2024; plan to do this in the future
Conduct educational edible school garden as part of a school, summer, or afterschool curriculum	Currently doing this in the 2019-2020 school year	N/A
Schools providing food, nutrition, or agricultural education in school year	N/A	2
How many schools in the SFA had edible school gardens during the school year?	2	1
How did schools use the harvest from the school gardens?	Served it in the classrooms or gardens as part of classroom or garden-based educational activities	Used an edible school garden as part of a school, summer, or after school curriculum
Hold taste tests/cooking demonstrations of local or garden-grown foods in a school-related setting	Did this in 2018-2019 school year	Have never done this activity
Use cafeteria food coaches to promote the consumption of local foods	Currently doing this in the 2019-2020 school year	Did this in school year 2023-2024; plan to do this in the future
Implement strategies to encourage student selection and consumption of local foods	Plan to do this activity in the future	Did this in school year 2023-2024; plan to do this in the future
Conduct student field trips to farms, farmers' markets, producers, processors	Have never done this activity	Have never done this activity
Have farmer(s) visit the cafeteria, classroom or other school-related setting	Plan to do this activity in the future	Have never done this activity
Integrate farm to school activities into Pre-Kindergarten curriculum	Currently doing this in the 2019-2020 school year	N/A
Serve local foods or providing farm to school activities as part of afterschool programs	Plan to do this activity in the future	N/A
Use USDA Team Nutrition materials as part of taste testing or educational activities	Plan to do this activity in the future	Have never done this activity

Farm to School Promotional Activities		
Promote local foods at school in general	Plan to do this activity in the future	Have never done this activity
Promote local foods through themed or branded promotions	Plan to do this activity in the future	Have never done this activity
Celebrate National Farm to School Month (October)	Plan to do this activity in the future	Have never done this activity
Host Farm to School related family and community events	Did this in 2018-2019 school year	Have never done this activity
Generate media coverage of local foods being used in schools	Plan to do this activity in the future	Have never done this activity
Host special local foods events in CACFP (Child and Adult Care Food Program) and/or SFSP (Summer Food Service Program)	Have never done this activity	N/A
Local Food Served		
Fruit	A few times per week	N/A
Vegetables	A few times per week	N/A
Grains, including baked goods (Flour, grits, pasta, rice, etc.)	A few times per week	N/A
How many of these salad bars served local foods during the 2018-2019 school year?	4	N/A
Serve local foods as a snack	Currently doing this in the 2019-2020 school year	N/A
Serve products from school-based or district-based gardens/farms in any school meal	Have never done this activity	N/A
How many of the schools in your SFA served local food of any kind in the school year?	3	N/A
Use local foods in any form in the National School Lunch Program (NSLP)	Currently doing this in the 2019-2020 school year	Did this in school year 2022-2023 and 2023-2024; Plan to do this in the future
Use local foods in any form in the School Breakfast Program (SBP)	Have never done this activity	Have never done this activity
Use local foods in the Fresh Fruit and Vegetable Program (FFVP)	Currently doing this in the 2019-2020 school year	Did this before school year 2022-2023
Use local foods in any form in CACFP (Child and Adult Care Food Program) meals	Have never done this activity	N/A
Use local foods in any form in CACFP (Child and Adult Care Food Program) At-Risk Afterschool	Have never done this activity	N/A
Use local foods in any form in Summer meals	Have never done this activity	N/A
Local Food Procurement Practices		
How does your SFA define 'local' for the majority of its school food procurement?	No set definition for local	Produce within the county
Which sources did you SFA procure local food from in the school year?	Don't know	School or community garden/farm; produce distributor; USDA DoD Fresh Program
Which of the following approaches did your SFA use to procure local foods during the school year?	Don't know	Informal procurement
Utilize the geographic preference option to purchase local foods	Have never done this activity	Have never done this activity
Work with local food producers to develop specific food products using local foods	Have never done this activity	Have never done this activity

Forecast budgetary needs for local purchases	Have never done this activity	Have never done this activity
Which reports do you ask your vendors/distributors for regarding the items you are considering ordering or have ordered?	Have not asked for any of these	N/A
Local Food Purchases		
Fruit	Yes, purchases as local products in 2018-2019	No, but would like to purchase locally in the future
Vegetables	Yes, purchases as local products in 2018-2020	No, but would like to purchase locally in the future
Fluid Milk	No, but would like to purchase as local product in the future	No, but would like to purchase locally in the future
Other dairy (Cheese, cottage cheese, sour cream, yogurt, etc)	No, but would like to purchase as local product in the future	No, but would like to purchase locally in the future
Grains, including baked goods (Flour, grits, pasta, rice, etc.)	Yes, purchases as local products in 2018-2019	No, but would like to purchase locally in the future
Protein	N/A	No, but would like to purchase locally in the future
Other product type	No, and have no plans to purchase these as local products	N/A
Top Local Item	Apples	Poultry
Second local item	Salad mix	N/A
Third local item	Bell peppers	N/A
Fourth local item	Tomatoes	N/A
Local Food Spending		
Total spending in the school year	N/A	\$367,000
What source did you use for your answer to the previous question?	Estimated costs	N/A
What source did you use for your answer to the previous question?	Estimated costs	N/A
For the school year, about how much did your SFA spend on local fluid milk?	\$49,277	\$71,000
What source did you use for your answer to the previous question?	Financial records/receipts	N/A
For the school year, what were your SFA's approximate food costs for USDA DoD Fresh ONLY?	\$3,800	\$23,000
What source did you use for your answer to the previous question?	Estimated costs	N/A
For the school year, what were your SFA's approximate local food costs for USDA DoD Fresh ONLY?	\$1,125	\$0
What source did you use for your answer to the previous question?	Estimated costs	N/A
Farm to School Policies, Staffing and Operations		
Which of the following policies are currently in place at your SFA to support Farm to School?	Don't know	None of the above
School year FNS (Food and Nutrition Service) program participation	Participates in Fresh Fruit and Vegetable Program (FFVP)	School breakfast program; FFVP
Number of full time staff dedicated to farm to school activities	2	2

Number of part time staff who use some portion of their time for farm to school activities	2	0
How are the above positions and farm to school activities funded?	Don't know	N/A
Provide training to school food service staff on Farm to School activities or school gardens	Plan to do this activity in the future	Have never done this activity
How does your SFA handle food service?	Self-operated	Self-operated
How does your SFA handle food preparation?	School-based kitchens (i.e. for a single school)	School-based kitchens
Does your SFA participate in any of the following farm to school activities (Farm to School network, task force, etc.)?	Don't know	N/A
To the best of your knowledge, approximately how many schools in your SFA had salad bars during the school year?	4	N/A
During the school year, what percent of your SFA's recipes were made from "scratch"?	0-25% recipes made from scratch	0-25%
Source: School Food Authority Profile for Falmouth Public Schools, MA, 02536. https://farmtoschoolcensus.fns.usda.gov/census-results/states/ma/falmouth-public-schools-02536		

Section 3. Supplemental and Emergency Food Assistance

For those who aren't able to meet their nutritional needs in the conditions of their present food environments, supplementary and emergency food service options can help to fill the gap. These options include food banks, food pantries, shelters, government programs, soup kitchens, churches, senior centers, etc. where non-perishable goods, fresh produce, or warm meals are provided. Food assistance organizations help to ease the stress and burden for community members who may not otherwise have access to enough food, particularly those who aren't eligible for federal assistance programs. Filling this gap is essential for ensuring that "all people, at all times, have physical and economic access to safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (The World Bank, n.d.), a condition otherwise known as *food security*. Conversely, food insecurity is the condition in which people don't have enough to eat and don't know where their next meal will come from, and is experienced by 12.8% (1 in 8) American households in 2022 (Rabbitt et al., n.d.). Information from Feeding America, a nationwide non-profit network of over 200 food banks, and their annual *Map the Meal Gap* food insecurity study suggests that 8.1% of Massachusetts residents and 6.9% of Barnstable County residents lived through food insecure conditions in 2022.

Research conducted from November 2022 to January 2023 by the Greater Boston Food Bank (2023) tells a different story. According to their study, 1 in 3 Massachusetts adults struggled with food insecurity while 36% of households experienced child-level food insecurity, such that a child was hungry, skipped a meal, or did not eat for an entire day because there wasn't enough money for food. These discrepancies between national and regional studies reveal that food insecurity may be much more prevalent than we are aware. However, for the sake of comparing apples to apples, and due to the relative ease of gathering the data, the following tables present information from Feeding America from 2010 - 2021. This information includes the percentage of food insecurity by demographic when available, along with overall child food insecurity rates, and child food insecurity rates in households (HH) above and below 18% of the federal poverty level (FPL).

"Food Security is when all people, at all times, have physical and economic access to safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (The World Bank, n.d.).

Table 18. Massachusetts Food Insecurity

Year	Food Insecurity by Demographic			% of Persons Food Insecure	# of Food Insecure Persons	Child Food Insecurity Rate (1 Year)	# of Food Insecure Children (1 Year)	% Food Insecure Children in HH w/ Income Below 185% FPL	% Food Insecure Children in HH w/ Income Above 185% FPL
	Black (all ethnicities)	Hispanic (any race)	White (non hispanic)						
2021	20%	16%	5%	8.10%	564,030	8.40%	113,960	78%	22%
2020	20%	19%	5%	7.20%	497,250	8.80%	119,330	84%	16%
2015	N/A	N/A	N/A	10.30%	701,630	13.50%	187,290	68%	32%
2010	N/A	N/A	N/A	12.30%	806,480	16.80%	235,480	60%	40%

Note. Adapted from "Map the Meal Gap" from Feeding America, 2010-2021, (<https://map.feedingamerica.org/>).

Table 19. Barnstable County Food Insecurity

Year	Food Insecurity by Demographic			% of Persons Food Insecure	# of Food Insecure Persons	Child Food Insecurity Rate (1 Year)	# of Food Insecure Children (1 Year)	% Food Insecure Children in HH w/ Income Below 185% FPL	% Food Insecure Children in HH w/ Income Above 185% FPL
	Black (all ethnicities)	Hispanic (any race)	White (non hispanic)						
2021	16%	12%	5%	6.9%	15,800	8.0%	2,730	77%	23%
2020	17%	14%	4%	8.6%	18,410	12.4%	3,990	66%	34%
2015	N/A	N/A	N/A	9.4%	20,080	14.9%	5,170	63%	38%
2010	N/A	N/A	N/A	10.4%	22,720	15.1%	5,750	51%	49%

Note. Adapted from "Map the Meal Gap" from Feeding America, 2010–2021, (<https://map.feedingamerica.org/>).

SNAP & HIP

The Supplemental Nutrition Assistance Program (SNAP) is a federal food benefits program to supplement the food budgets of low-income families and has been associated with improved current and long-term health as well as a reduction in health care costs for participants (Carlson & Llobrera, 2022). Within the United States, SNAP served an average of 41.2 million people per month in 2022, with benefits averaging \$230.88 per recipient (USDA ERS, Retrieved February 25, 2024). Given the nature of SNAP as a federal entitlement program tied to income (a program that provides benefits to anyone who is eligible), it serves as a powerful anti-poverty tool, particularly "for low-income communities of color, who bear the brunt of poverty in the United States" (Ayazi et al., 2021, pg. 5). SNAP is considered the second-largest anti-poverty program for children in the United States, and in 2016, the program "kept about 7.3 million people out of poverty, including 3.3 million children" (pg. 4). Research conducted by Allcott et al. (2019) suggests "that policymakers focused on reducing nutritional inequality might redirect efforts from supply-side policies toward means-tested subsidies" (pg. 33), like SNAP. Modifying SNAP on a national level to include a healthy food subsidy, such as the Massachusetts Healthy Incentives Program, "could increase low-income households' healthy eating to the level of high-income households at about 15 percent of the cost of the SNAP program" (pg. 42).

In Massachusetts, SNAP is operated by the Department of Transitional Assistance, and in 2023 served 1 out of every 6 state residents. 68% of households receiving SNAP had a gross income of less than 100% of the FPL, or less than \$19,720 for two people (MA DTA, 2023). Eligibility is based on one's income and expenses, including housing, utility, dependent care, and medical costs. Applications can be submitted online, over the phone or in-person, with the nearest DTA location in Hyannis. Once enrolled, SNAP recipients receive an electronic benefits transfer (EBT) card that can be used at SNAP retail locations, including certain online retailers through the [SNAP Online Purchasing Program](#). Beyond improving just access to food itself, SNAP recipients have access to free nutrition and food budgeting resources through [SNAP-ED](#), employment support through [SNAP Path to Work](#), utility discounts, and discounts to museums and other cultural institutions through the [EBT Card to Culture Program](#).

SNAP users are automatically enrolled in the [Healthy Incentives Programs](#) (HIP), which aims to increase consumption of local, healthy foods by providing immediate reimbursement for produce at participating farmers market, farmstand and CSA programs. HIP was a pilot program introduced in Massachusetts in 2011 in Hampden County. After winning federal funding from the USDA, Massachusetts introduced this program statewide in 2017 (MA Executive Office of Health and Human Services, 2018). As part of this program, Massachusetts SNAP recipients can access \$20 per month of fresh local produce above and beyond their monthly SNAP benefits, provided they purchase from a certified HIP vendor. The goal of the

program is to provide an incentive for families to eat more fresh produce, while also providing an incentive to local farmers to sell produce in low-income neighborhoods. In the first two years of the program, it proved so popular that funds were quickly depleted and the program was suspended through parts of the year. In 2019, funds were secured in the MA State budget to adequately fund the program year round. Successful advocacy has helped to increase funding for this program year over year, with \$20 million allocated to this program in the 2025 budget (Massachusetts Food System Collaborative, n.d.).

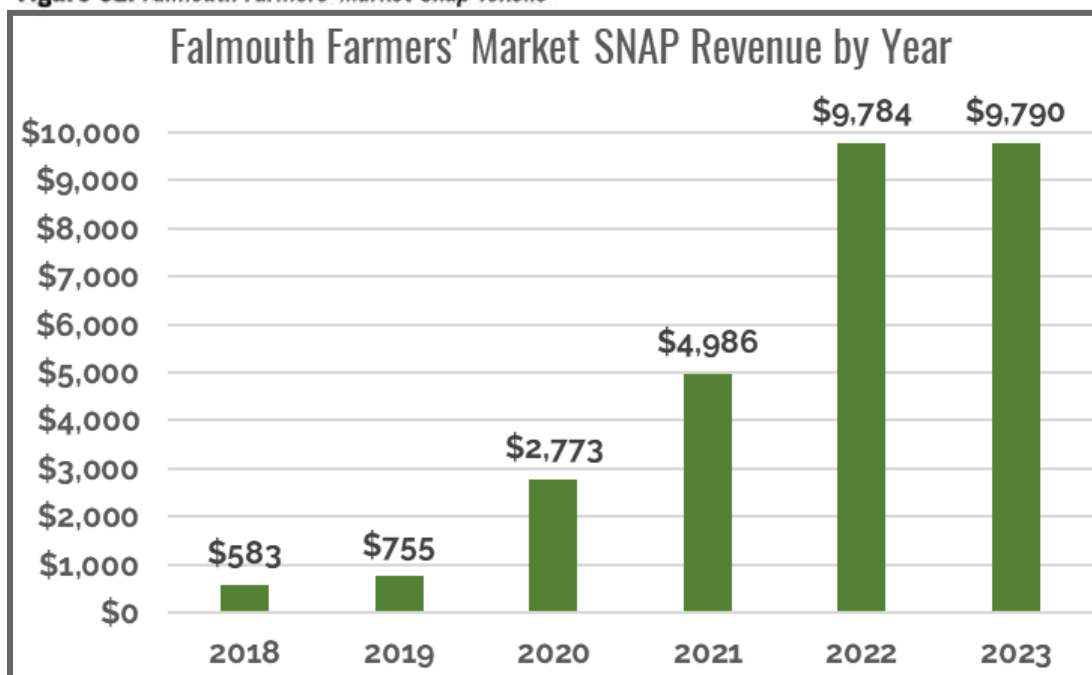
The Falmouth Farmers' Market⁶⁶ is the only HIP location in Falmouth. Through the Farmers' Market, SNAP users can purchase produce from one of two vendors—[Moonlight Rose Farm](#) and [Silverbrook Farm](#). Unlike the SNAP program, which involves the use of wooden tokens that can be redeemed at the information tent at the Farmers' Market, HIP purchases are made directly with vendors and require that SNAP users have benefits left on their cards. The amount of the purchase is immediately reimbursed to the customer's card, while the vendor receives it the day of payment.

Figure 82. Falmouth Farmers' Market Snap Tokens



Note: From "Falmouth Farmers' Market SNAP Token" by the Falmouth Farmers' Market, (<https://falmouthfarmersmarket.com/how-to-get-the-most-from-your-snap-benefits-at-the-falmouth-farmers-market/>). Reprinted with permission.

Figure 82. Falmouth Farmers' Market Snap Tokens



Note. Adapted from "Falmouth Farmers' Market SNAP Revenue by Year" by the Falmouth Farmers' Market, 2018-2023, personal communications.

Figure 82 (above) demonstrates the trend of SNAP revenue at the Falmouth Farmers' Market from 2018 - 2023. During this six year period, SNAP revenue increased by 1578%, going from \$583 in 2018 to \$9,780 in 2023. This represents significant growth in SNAP usage and is an indication that more SNAP recipients in Falmouth are accessing fresh produce.

⁶⁶<https://falmouthfarmersmarket.com/how-to-get-the-most-from-your-snap-benefits-at-the-falmouth-farmers-market/>

Table 20. SNAP Retail Locations, November 2024

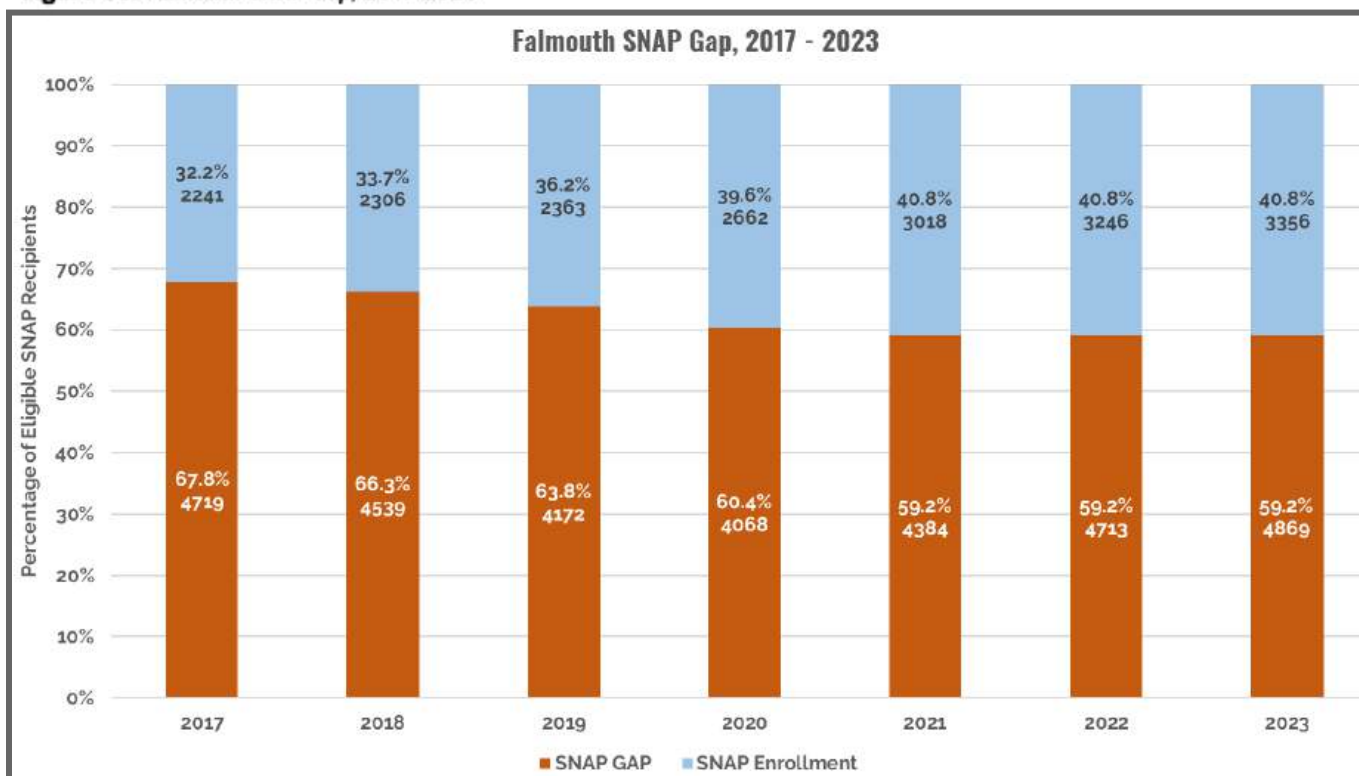
Store Name	Address	City	Store Type
Cumberland Farms	212 Teaticket Hwy	East Falmouth	Convenience Store
Cumberland Farms	400 E Falmouth Hwy	East Falmouth	Convenience Store
Cumberland Farms	485 Waquoit Hwy	East Falmouth	Convenience Store
CVS	415 E Falmouth Hwy	East Falmouth	Convenience Store
Speedway	1196 Sandwich Rd	East Falmouth	Convenience Store
Richdale Food Shops	439 E Falmouth Hwy	East Falmouth	Convenience Store
Falmouth Food Mart	336 E Falmouth Hwy	East Falmouth	Convenience Store
Coonamessett Farm	277 Hatchville Rd	East Falmouth	Farmers and Markets
Tony Andrews Farm	394 Old Meeting House Rd	East Falmouth	Farmers and Markets
Family Foods	350 E Falmouth Hwy	East Falmouth	Grocery Store
Ocean State Job Lot	50B Teaticket Hwy	East Falmouth	Other
Shaw's Supermarket	137 Teaticket Hwy	East Falmouth	Supermarket
Walgreens	520 Main St	Falmouth	Convenience Store
CVS Pharmacy	105 Davis Straits	Falmouth	Convenience Store
Rapid Refill	302 Palmer Ave	Falmouth	Convenience Store
Falmouth Convenience Store	886 Main St	Falmouth	Convenience Store
7 Eleven	59 Locust St	Falmouth	Convenience Store
7 Eleven	743 Main St	Falmouth	Convenience Store
Intermart	607 Main St	Falmouth	Convenience Store
Garrett's Family Market	435 Palmer Ave	Falmouth	Convenience Store
Windfall Market	77 Scranton Ave	Falmouth	Grocery Store
ALDI	39 David Straits	Falmouth	Supermarket
Stop & Shop	20 Teaticket Hwy	Falmouth	Supermarket
Dollar Tree	7 Davis Straits	Falmouth	Other
Falmouth Farmers' Market	180 Scranton Ave	Falmouth	Farmers and Markets
West Falmouth Market	623 W Falmouth Hwy	West Falmouth	Grocery Store
Wild Harbor General Store	200 Old Main Rd	North Falmouth	Convenience Store
Village Pantry	372 North Falmouth Hwy	North Falmouth	Convenience Store
North Falmouth Superette	279 Old Main Rd	North Falmouth	Convenience Store
Walmart	137 Teaticket Hwy	Teaticket	Super Store
Express Mart	41 Alphonse St	Teaticket	Convenience Store
Hallett Farm	4803 Falmouth Rd	Cotuit	Farmers and Markets
Bootstrap Farm Club	1 Scraggy Neck Extension	Cataumet	Grocery Store
Mashpee Farmers Market	4 Jobs Fishing Rd	Mashpee	Farmers and Markets
Roche Bros Supermarkets	11 Commercial St	Mashpee	Supermarket
Stop & Shop	39 Nathan Ellis Highway	Mashpee	Supermarket

Note. Adapted from "SNAP Retailer Locator" by the USDA Food and Nutrition Service, 2024.
(<https://www.fns.usda.gov/snap/retailer-locator>).

The SNAP Gap

A common metric to understand potential of SNAP enrollment within a given area is known as the SNAP gap. This “gap” is determined by finding the difference between the number of residents who are enrolled in MassHealth, and therefore likely eligible for SNAP benefits, and the actual number of residents enrolled in SNAP.⁶⁷ **Publicly available data from the State of Massachusetts indicate that the statewide average SNAP Gap in 2023 was 53.8%, while in Falmouth the average annual gap was 59.2%.⁶⁸** While this gap has gradually decreased by 8.6% from 2017 to 2023, it still indicates that 4,869 residents of Falmouth, or roughly 15% of the population, could be receiving SNAP benefits. As of 2023, 10% of Falmouth’s population was enrolled in SNAP while 25% of the population⁶⁹ was enrolled in MassHealth.

Figure 83. Falmouth SNAP Gap, 2017-2023



Note. Adapted from “Caseload by Zip Code Reports” by the MA Department of Transitional Assistance, 2017-2023, (<https://www.mass.gov/lists/departments-of-transitional-assistance-caseload-by-zip-code-reports>); and from “MassHealth Enrollment” by the MA Executive Office of Health and Human Services, 2017-2023, unpublished data obtained from public records request.

⁶⁷ For more information on the SNAP Gap: <https://mapublichealth.org/priorities/access-to-healthy-affordable-food/snap/>

⁶⁸ Both SNAP and MassHealth monthly totals were averaged in order to determine an average annual value

⁶⁹ These percentages use 2022 U.S. Census Falmouth population of 33,104

Table 21. SNAP Gap by Falmouth Zip Code, 2017 - 2023

	02536		02540/02541/02574		02543		02556		All Zip Codes	
	SNAP Gap	%	SNAP Gap	%	SNAP Gap	%	SNAP Gap	%	SNAP Gap	%
2023	3,305	58.1%	1,141	60.7%	73	73.4%	350	63.2%	4,869	59.2%
2022	3,141	57.3%	1,137	61.4%	74	79.9%	361	67.9%	4,713	59.2%
2021	2,988	58.6%	997	58.2%	62	72.2%	336	67.1%	4,384	59.2%
2020	2,765	59.9%	930	59.3%	61	78.8%	312	66.5%	4,068	60.4%
2019	2,817	63.1%	972	63.9%	74	84.1%	308	66.5%	4,172	63.8%
2018	3,031	65.3%	1,068	66.0%	101	98.0%	340	70.6%	4,539	66.3%
2017	3,101	65.3%	1,171	68.5%	95	89.0%	352	70.2%	4,719	67.8%

Note. Adapted from "Caseload by Zip Code Reports" by the MA Department of Transitional Assistance, 2017-2023, (<https://www.mass.gov/lists/departement-of-transitional-assistance-caseload-by-zip-code-reports>); and from "MassHealth Enrollment" by the MA Executive Office of Health and Human Services, 2017-2023, unpublished data obtained from public records request.

Local Food Pantries & Food Assistance Initiatives

On a regional level, the Cape Cod Hunger Network (CCHN) serves as a hub for food pantries as well as state and local agencies in their efforts to coordinate food security programs, and offers a "[Food Pantry Guide](#)," with a list of food pantries by town. Similarly, the Cape Cod Cooperative Extension (CCCE) provides a "[Food Resource Guide](#)," with a list of pantries, soup kitchens, elder services, and meals sites in Barnstable County. Information in these guides provides details regarding one meal site and two food pantries located in Falmouth. St. Barnabas Episcopal Church, located at 91 Main Street in Falmouth, hosts "[A Place at the Table](#)," a hot lunch program that serves lunches out of the Parish House every Tuesday and Thursday from 11:30 AM to 1:00 PM. For those who have proof of veteran status and meet the criteria for assistance as defined by the Emergency Food Assistance Program, the Veterans Outreach Center offers a food pantry program at 336 Palmer Avenue on the 1st and 3rd Tuesday of each month from 10:00 AM to 1:00 PM. The largest and most well-known food assistance programs listed in the CCHN and CCCE guides is the [Falmouth Service Center](#) (FSC), which hosts a food pantry that is open to any household from any zip code. Between 2022 to 2023, the FSC doubled its annual food distribution from 597,269 pounds to 1.1 million pounds of food. In 2023, this accounted for just over 9,400 individuals, 83% of whom were from Falmouth and most of whom came on a weekly or bi-weekly basis (K. Delaney, personal communication, May 13, 2024). Each week the FSC posts a "Grocery List" on its website which includes all of the food that is available. While food is available for pick-up, FSC also offers home food delivery for senior citizens and individuals who are disabled. Additionally, FSC works in coordination with the Falmouth Public Schools to run [Fresh Market](#), a monthly program hosted at different schools in efforts to provide meal ingredients and fresh food to more households. All parents and guardians are notified on a monthly basis through an automated call.

A handful of programs not listed in the aforementioned guides include Cape Kid Meal, Meals on Wheels and Belonging to Each Other. [Cape Kid Meals](#) is a cape-wide program that sends children in grades K-4 home with food over weekends and holidays and can be arranged by talking to your schools adjustment counselor. [Belonging to Each Other](#) is a non-profit organization dedicated to serving unhoused individuals in Falmouth over the age of 18 and as part of their services provide ready-to-eat meals. Lastly, [Meals on Wheels](#), run by the Elder Services of the Cape Cod and the Islands, delivers meals to elderly residents who are older than 60 years, homebound, and unable to prepare their own meals. Meals are delivered between 9:00 AM to 12:00 PM Monday through Friday excluding holidays.

Chapter 6.

Food System Transformation



Chapter 6. Food System Transformation

Pathways to change for Falmouth's food system

**“The illiterate of the twenty-first century will not be those who cannot read and write,
but those who cannot learn, unlearn, and relearn.”**

– Alvin Toffler, *Powershift: Knowledge, Wealth, and Power at the Edge of the 21st Century*⁷⁰

**“We abuse land because we see it as a commodity belonging to us. When we see land as a community to which
we belong, we may begin to use it with love and respect.”**

– Aldo Leopold, *A Sand County Almanac*⁷¹

**“Everytime we make a long term investment, start a new training program, or plant a tree,
it is another manifestation of hope. One day your sapling will shade people – probably not me –
but it will be here, it will grow, and it will be a towering tree some day.”**

– Paul Farmer, *In the Company of the Poor*⁷²

Within the realm of food system transformation, we are fortunate to live at a time of great abundance. There exists a cornucopia of [guides, assessments, reports](#), scientific studies, websites, books, organizations and events to help nourish our imagination, to move beyond misperceptions, and to reorient within the limits of our circumstances. Fortunate as we may be, these resources are often met by a conventional understanding that land and water are simply commodities to be used, rather than communities to which we belong, and have always belonged. We appraise these communities according to their highest and best use and in doing so turn them into commodities, such that their potential can be optimized with an eye towards economic gain rather than the health and well-being of current and future generations. Returning the land and ocean back to their proper place as community, rather than commodity, like most changes, will be incremental, slow, and at times challenging. This necessary transition will require a shift—from valuing wealth to valuing health—and a reframing of issues, such as the housing crisis and loss of farmland, into opportunities for reflection, growth, and intentional change. It will demand that we learn, unlearn and relearn how to engage with our community, the land, the water, and ourselves in ways that foster longevity and well-being, and in ways that recognize that ecological health is synonymous with human health. Most vitally, it will require a collective and inspiring vision of where we want to be going, a plan for what paths we can take to get there, and above all, action.

These visions, plans, and strategic actions are valuable in that they lead to tangible changes for members of the food system, yet they are also manifestations of intangible forms of change like inspiration and optimism. They are the reasons for hope; hope in a future that honors our relationship to food, and that grounds this relationship in love, respect, and belonging. With the aim not only of creating new reasons for hope, but also fostering conditions in Falmouth that support a sustainable, resilient local and regional food system, a range of resources to help instigate action through appropriate visioning and planning are included below. While these resources, including this assessment, may help to inform, guide, and facilitate positive, lasting change within Falmouth and Barnstable County, we mustn't forget that they can't bear fruit—or ultimately nourish us—without being sown and nurtured through political will, cultural care, and personal curiosity, as well as a willingness to try something new.

⁷⁰ Toffler, A. (1970). *Future shock*. Random House

⁷¹ Leopold, A. (2020). *A sand county almanac*. Oxford University Press.

⁷² Farmer, P. & Gutierrez, G. (2013). *In the company of the poor*. Orbis Books.

Falmouth and Cape Cod Plans & Assessments:

- [Cape Cod Blue Economy Project Implementation Plan](#)
 - Commissioned by the Massachusetts Seaport Economic Council, the Cape Cod Blue Economy Project Implementation Plan provides a range of data and recommendations for the coastal economy and is based on a vision that includes: 1) a vibrant maritime and technology economy, 2) healthy water, healthy communities, and 3) a prepared and educated workforce for the future. Listed below are action items from the Implementation Plan that pertain to the food system:
 - a. Provide funding, subsidies and access to capital that help encourage economic growth and innovation within the blue economy, from *Action 2: Financial Support*
 - Provide low interest loans for entrepreneurs and business start-ups
 - Entice businesses to move to the region to support the job market
 - Create and manage a regional innovation fund and establish a venture fund
 - b. Establish blue tourism education program to ensure the connections between a healthy environment and a healthy economy are understood and maintained, from *Action 3: Environmental Education*
 - Educate residents and guests on how life is supported by water, and they can protect it
 - Develop certification programs for businesses that help inform visitors about the importance of maintaining our environment and water quality
 - c. Provide training, jobs and education specific to blue economy targets, from *Action 4: Workforce Development*
 - Identify any skills gaps that inhibit workforce development
 - Work with educational community and workforce development organizations to help them devise a curriculum
 - Introduce entrepreneurship in schools by providing various local case studies in the curriculum
 - Generally adopt more marine based education for grades K - 12
 - Work with younger populations to improve the ocean literacy and blue economy workforce interests by building and assessing interest, engagement, and awareness of opportunities that could build careers
 - d. Create a network for blue business that provides counseling and convening as well as resource compilation and dissemination, from *Action 5: Peer networks*
 - Develop blue business counseling practices targeted to specific industries within the blue economy
 - Identify key entrepreneurs within the region and hold a blue business entrepreneur's weekend each year
 - Analyze the potential of and implement a collaborative incubator space (likely in the Bourse/Falmouth area)
 - e. Establish blue enterprise zones where permitting can be expedited and related organizations can thrive on peer-to-peer relationships, from *Action 6: Regulations and Permitting*
 - Implement zoning to support blue businesses and map shoreline access within the region

- Implement zoning to amplify development around working harbors (incentivize pier development if rezoned)
- f. Improve access to water and shoreline, and support growing infrastructure needs, from *Action 7: Access to water and infrastructure*
 - Provide more consistent and dependable water access areas that can be utilized by working, conservation and recreation communities
 - Incentivize private commercial waterfront owners to grant working water access
 - Create a municipal or regional fund that could be used to purchase waterfront property for working use
- g. Promote blue businesses and organizations, from *Action 8: Marketing and Awareness*
 - Create a decision-making tool for business and government based on community consensus
 - Develop or reinforce a definition of blue that creates balance and interconnectivity of the economy and environment
 - Build and implement a standards-based approach to promoting the blue economy (McGee et al., n.d., pg. 41-44)
- Cape Cod Commission, [2018 Cape Cod Regional Policy Plan](#)
 - Aimed at addressing the challenges facing Cape Cod and providing a framework for how and where the region will grow, the 2018 Regional Policy Plan offers a range of goals and recommendations for Cape Cod's natural, built, and community systems. Included in the figure below are objectives and corresponding goals relevant to the food system.

Table 22. Relevant Objectives from 2018 Cape Cod Regional Policy Plan

Relevant Objectives	Corresponding Goals
Category: Natural Systems	
To protect, preserve, or restore the quality and natural values and functions of ocean resources	- Locate development away from sensitive resource areas and habitats - Preserve and protect ocean habitat and the species it supports
To conserve, preserve, or enhance a network of open space that contributes to the region's natural and community resources and systems	- Protect and preserve natural, cultural, and recreational resources
Category: Built Systems	
To guide the development of capital facilities and infrastructure necessary to meet the region's needs while protecting regional resources	- Ensure capital facilities and infrastructure promote long-term sustainability and resiliency - Coordinate the siting of capital facilities and infrastructure to enhance the efficient provision of services and facilities that respond to the needs of the region
To promote a sustainable solid waste management system for the region that protects public health, safety, and the environment and supports the economy	- Reduce waste and waste disposal by promoting waste diversion and other Zero Waste initiatives
To support, advance and contribute as a region to the Commonwealth's interim and long-term greenhouse gas reduction goals and initiatives, including a statewide net zero carbon target by 2050	- Promote carbon sequestration and other emissions removal practices and technologies as appropriate to context

Category: Community Systems	
To protect and preserve the significant cultural, historic, and archaeological values and resources of Cape Cod	- Protect and preserve traditional agricultural and maritime development and uses
To promote a sustainable regional economy comprised of a broad range of businesses providing employment opportunities to a diverse workforce	- Expand economic activity and regional wealth through exports, value added, import substitution, and local ownership
To promote the production of an adequate supply of ownership and rental housing that is safe, healthy, and attainable for people with different income levels and diverse needs	- Promote an increase in housing diversity and choice - Promote an increase in year-round housing supply - Protect and improve existing housing stock

- Cape Cod Commission, [2021 Climate Action Plan](#)
- Cape Cod Healthcare, [2023 - 2025 Community Health Needs Assessment](#)
 - The purpose of Cape Cod Healthcare's Community Health Needs Assessment (CHNA) is to identify and ultimately prioritize the health needs of residents in Barnstable County. Since 2017, CHNAs have provided a snapshot of social and economic environments and community health issues. The most recent 2023 - 2025 CHNA indicates that "access to affordable and healthy food" was the third most commonly identified social issue, impacting 51.5% of residents while "cost of healthy food options" was rated as a high concern by 47.8% of residents (Cape Cod Healthcare, 2023, pg. 27-28). The assessment's findings regarding food access are summarized as follows:

In the context of any economic instability, food access is often acute and has an early effect that is felt by individuals and families. However, residents struggle with food access for multiple reasons and can be made more challenging due to geographical barriers, transportation challenges, and individual mobility or disability constraints. Community survey respondents identified access to healthy foods and the cost of healthy food options as major concerns for their community as well as their own families. Stakeholders also consistently noted concern for food insecurity for many families and individuals in Barnstable County. Additionally, due to having incomes over SNAP eligibility requirements, a large segment of the population in need of food assistance do not qualify and may be unaware of services that are locally available to them (Cape Cod Healthcare, 2023, pg. 65).
- Town of Falmouth, [2016 Local Comprehensive Plan](#)
 - The following table includes a range of recommendations and actions from Falmouth's 2016 Local Comprehensive Plan that are relevant, or could be considered relevant, to the food system. Many of these actions items would be helpful in creating a more robust food system, including creating a farmland preservation trust; acquiring contiguous areas of Town that have some potential compatible uses such as recreation, agriculture, and flood control; developing a "marketing and public relations" plan that clarifies and distills the community's vision for future economic growth and sustainability; and developing a "quality of life" satisfaction survey to identify amenities that sustain and create economic growth. Useful as these recommendations are, it is difficult to determine which, if any, actions have been taken. A public report card, updated on an annual basis, would help to ensure that residents are made aware of ongoing changes.

Table 23. Relevant Recommendations & Actions Items from 2016 Local Comprehensive Plan

Recommendations and Actions Items	Term	Responsible Parties
Category: Land Use		
Create a farmland preservation trust.	Begin now and continue indefinitely	300 Committee, Conservation Commission
Initiate land planning to control flooding.	Begin now and continue indefinitely	Planning Board, Conservation Commission, Town Meeting
Create a multi-family district zoning bylaw.	1 to 2 years	Planning Board, Town Meeting
Establish a General Plan, including mapping, that guides Town growth.	1 to 3 years	Planning Board, Conservation Commission, Zoning Board of Appeals, Board of Selectmen
Change and update the Transfer of Rights bylaw, and create a TDR bank.	2 years	Board of Selectmen, Planning Board, Town Meeting, (Consultant?)
Hire a consultant to review areas of Falmouth where Form-Based Zoning would be applicable, and to report on what benefits would accrue.	3 years	Board of Selectmen, Planning Board
Create a conservancy bylaw in regard to Town-owned property, reviewing examples such as Chatham.	3 years	Planning Board, Conservation Commission
Acquire contiguous areas of Town as resource areas, which also have some potential compatible uses such as recreation, agriculture, and flood control.	Begin now and continue indefinitely	Board of Selectmen, Planning Board, Conservation Commission, GIS, Town Meeting
Category: Transportation		
Comprehensively evaluate Falmouth's existing public transportation infrastructure, including: age, quality, and maintenance needs. Identify future needs and gaps in service to develop a long-term plan for maintenance and strategic expansion. Pay particular attention to intermodal connections, accessibility, and safety improvements. Compile a baseline data inventory of resources.	Begin within the next year	DPW, Board of Selectmen
Category: Coastal Resilience		
Maintain a list of municipal construction projects, bylaw/code revisions, and properties to acquire, ranked by highest priority, in order to increase Falmouth's long-term resiliency.	Begin immediately	Dept. of Public Works (DPW), Conservation Commission, Planning Department, Town Manager, Town Meeting, Board of Selectmen
Encourage strong neighborhood, civic, and business networks.	Begin immediately and ongoing	Planning Board, Human Services Department, Chamber of Commerce
Category: Water and Wastewater		
Develop a robust capital improvement planning process and corresponding capital budget to assess the entire infrastructure, facilities and equipment needs of the town and appropriately schedule water and sewer system replacement and expansion projects.	Complete within the next two years	DPW director, Town Manager, Finance Director, Finance Committee, Board of Selectmen, Town Meeting, Electorate

Category: Housing		
Strengthen public private partnerships to create more housing for vulnerable residents.	Begin immediately	Human Services Department, private non-profit developers
Explore the creation of innovative zoning tools that will increase housing choices, including: a by-right accessory apartment overlay district; new districts that allow for multifamily housing, cottage courts, and other types of housing; revision to the "conversion" bylaw found at §§240- 23.B, 240-28.B, 240-33.B, and 240-51.A (2).	Begin within the next 6-months	Planning Board, Planning Department, Town Meeting
Create a strategy based on redevelopment and adaptive reuse of existing structures leading to new, innovative housing types.	Complete within the next 5-years	Economic Development Industrial Corporations (EDIC), Redevelopment Authority, Planning Board, private development partners
Category: Economic Sustainability		
Contract with an independent economic development expert to evaluate the Town of Falmouth's municipal structure for identifying and achieving future economic development goals.	Provide recommendation within 2-years	Board of Selectmen, Town Manager
Develop a "marketing and public relations" plan that clarifies and distills the community's vision for future economic growth and sustainability.	Within the next 2-years	Board of Selectmen, Chamber of Commerce, EDIC, and the community at-large
Develop land-use vision plans for defined areas of town in order to create jobs, increase tourism, and maintain diverse economic opportunities through responsible development and redevelopment.	Within the next 5 years	Planning Board
Develop educational partnerships between Falmouth Public Schools, The Cape Cod Community College, Massachusetts Maritime Academy, Open Cape, the scientific community, and the private sector.	Immediately and ongoing	Falmouth Schools Superintendent, The Cape Cod Community College President, Admiral of the MA Maritime Academy, and representatives from the Open Cape initiative, local institutions, The Chamber of Commerce, and interested businesses
Develop a "quality of life" satisfaction survey to identify amenities that sustain and create economic growth.	Within the next 2-years	Chamber of Commerce
Determine if a Redevelopment Authority should be created.	1 to 2 years	Board of Selectmen, Town Manager, EDIC
Category: Energy		
Establish and maintain a resource center to serve the general public with additional information about programs to increase the use of renewable energy, efficiency and conservation, including: best practices, grants, rebates, loans, and utility lease agreements.	Begin within the next 2-years	Energy Coordinator
Source: Town of Falmouth Planning Board, 2016, pg. 2-32		

- Town of Falmouth, [2014 Open Space and Recreation Plan](#)
 - Updates to this 2014 document were designed to strengthen Falmouth's green infrastructure to sequester carbon, provide recreation, protect the water, support the local food supply, provide wildlife habitat and define how the community will grow. This document offers a range of policy priorities and acknowledges that:

[E]fforts should be taken to protect important agricultural land from development and provide incentives to maintain the land as working farms. In addition to providing visual relief from the man-made world, agriculture may allow more residents to obtain locally grown food and provide farming jobs. By promoting working farms and farmers markets, additional attention will be drawn to the important issues surrounding the food supply that feeds Falmouth families and increasing the public awareness of the important role of agriculture (Town of Falmouth, 2014, pg. 75).

Despite the clarity of language around the importance of agricultural land, much like the Local Comprehensive Plan, it is unclear if any efforts have been taken to protect Falmouth's agricultural land from development.
- Town of Falmouth, [2005 Climate Protection Action Plan](#)
 - This planning document for the Town of Falmouth was created with the goal of improving the quality of life and operational efficiency of local systems, and states that Falmouth is committed to reducing emissions of gasses and air pollutants that contribute to global climate change and local air quality degradation. Although this report is nearly 20 years old, it includes no initiatives aimed at addressing one of the leading causes of greenhouse gas emissions – industrial agriculture.
- Town of Falmouth & RKG Associated, Inc, [2014 Housing Demand Study & Needs Analysis](#)
 - While not specifically related to the food system, this housing demand study provides insight into how Falmouth is relating to a key issue (housing) impacting residents - a key issue that also interferes with people's ability to afford and prioritize food. Much like many of the recommendations and action items above, it is unclear if any meaningful efforts have been made to execute the solutions provided by this Housing Demand Study. Given the interconnectedness of social issues, addressing food system transformation must be navigated in conjunction with the housing crisis; inaction on any one issue demonstrates a general unwillingness to create solutions that may potentially inform and alleviate other issues. Included below are block quotes from the Housing Demand Study that highlight the barriers to social change in Falmouth as well as the trust and collaboration required to create this change.

The concerns that led Falmouth to prepare this housing study are shared, at least to some extent, by its neighbors and the Cape as a whole. The interdependence of education, housing, jobs, and living wages is not lost on policymakers anywhere on the Cape, though the region's imbalances occur in different degrees from town to town. Falmouth's attractiveness to retirees, small employment base, comparatively low wages, and limited housing options have made it increasingly difficult to lure and keep young people. On these points, most observers seem to agree. Most observers seem to agree about the need for decent rental housing, too. Nevertheless, there are noticeable disagreements about the roles and responsibilities of local government, other public agencies, and private organizations; what "housing affordability" actually means in Falmouth; and the best ways to reduce housing barriers. Unless the groups with an interest in housing policy settle their disputes and work together as a team, Falmouth will find it difficult to move forward with a coherent, effective plan for fair and affordable housing (RGK Associates, 2014, pg 1).

There is considerable tension in Falmouth, especially tension about housing. None of the ideas contained in this report can be carried out without a significant improvement in relationships between citizen activists, developers, staff, and town officials. Everyone has a role to play and everyone can help, but the Town and private organizations need to work on trust-building (RGK Associates, 2014, pg. 5).

Echoing plans and studies prepared by the Cape Cod Commission, the Town of Falmouth, and others, interviewees described the shortage of affordably priced housing as a key contributor to the out-migration of young people from Cape Cod to other areas in Massachusetts and beyond. The near-absence of decent, affordable housing in Falmouth is not lost on anyone in human services, the town's major employers, the clergy, or the schools. The Town has commissioned housing needs studies in the past, and all point to similar conclusions. (RGK Associates, 2014, pg. 57)

To an outsider, Falmouth seems to be a well-run community with thoughtful local officials, residents who care about the quality of their town, and competent organizations that believe in housing choices as a matter of basic social fairness. However, virtually every person interviewed for this study confirmed that there is tension – some described it as deep hostility – between community organizations and Town boards and staff... There are not many solutions for these kinds of problems. Ultimately, people with an interest in providing housing for people who need it must work cooperatively toward the same goals or the Town will not accomplish much. (RGK Associates, 2014, pg. 72)

Falmouth needs to focus on building better relationships between town government and groups that want to provide affordable housing. Town boards and committees should follow the lead of the Board of Selectmen and Planning Board, for they have started to work on improving their own communications, find common ground, build a stronger relationship, and collaborate to meet the Town's needs. (RGK Associates, 2014, pg. 73)

Food System Resources

Aquaculture:

- Woods Hole Oceanographic Institution Sea Grant [2024-2027 Strategic Plan: Enabling Healthy Massachusetts Coastal Communities and Economies Through Marine Science Research and Outreach](#)
- Cape Cod Blue Economy Foundation, [Blue Economy Project Implementation Plan: A Call to Action](#)
- Massachusetts Shellfish Initiative, [2021 - 25 Strategic Plan](#)
 - The mission of the Massachusetts Shellfish Initiative is to enhance the economic, environmental, and social benefits of shellfish resources in the state. In order to accomplish this, the 2021 - 2025 Strategic Plan contains six objective categories:
 1. Foster communication and coordination among various stakeholders and governmental managers.
 2. Build public and stakeholder capacity to support shellfishing resources as well as shellfish fisheries themselves.
 3. Develop resources around management, research and industry.
 4. Support and promote sustainable economic opportunities .
 5. Support and promote cultural and historic uses of shellfish.
 6. Ensure management of shellfish resources and coastal ecosystems is ecologically sound.

Case Studies:

- City of Boston, [2021 - 2023 Mayor's Food Access Agenda](#)
- City of Somerville, [Food System Assessment](#)
- Ecumenical Ministries of Oregon, [Everyone Eats! A Community Food Assessment for Areas of North and Northeast Portland](#)
- The Institute for Sustainable Food Systems, [The Future of B.C.'s Food System Response to Findings & Recommendations of the B.C. Food Security Task Force](#)
- Marion Institute Southcoast Food Policy Council, [2021 Southeastern Massachusetts Food System Assessment](#)
 - The Marion Institute food system assessment is the closest assessment to Falmouth that has been conducted, and served as the basis for the Falmouth Food System Assessment. It contains a range of information and resources that are relevant to Falmouth and the southeastern Massachusetts region.
- Massachusetts Food System Collaborative, [Local Food Action Plan](#)
 - The Massachusetts Local Food Action Plan is a comprehensive document based on a state-wide planning process to address the opportunities and challenges within the Massachusetts food system. This document contains a range of metrics, recommendations and goals based on key investment areas. Included below are the four overarching goals for this plan established by the Massachusetts Food Policy Council.
 1. Increase production, consumption and sales of foods grown in Massachusetts through stronger marketing programs, farmer resources, and effective distribution and processing infrastructure.
 2. Create jobs and economic opportunity in food and farming and improve wages and skills of food system workers by providing education and technical assistance, ensuring regulations support food production and food businesses, funding infrastructure development, and identifying regulations that inhibit the viability of the food system.
 3. Protect the land and water needed to produce food, ensure food safety and maximize the environmental benefits from agriculture and fishing.
 4. Reduce hunger and food insecurity, reduce food waste, and increase the availability of healthy food to all residents.
- Mill City Grows, [2022 Lowell Community Food Assessment](#)
- Oakland Mayor's Office of Sustainability, [A Food Systems Assessment for Oakland, CA: Towards a Sustainable Food Plan](#)
- Vermont Farm to Plate, [2021 - 2030 Agriculture & Food System Strategic Plan](#)

Data Sources and Diagnostic Tools:

- Cape Cod Commission, [Cape Cod Housing Market Analysis](#)
- Cape Cod Commission, [Data Cape Cod](#)
- Building Healthy Places Network, [Tools and Resources](#)
- Feeding America, [Research and Interactive Data](#)
- Health Opportunity and Equity (HOPE) Initiative, [Health Opportunity and Equity Indicators](#)
- Iowa State University Extension, [Data Resources for Food System Assessments](#)
- Metropolitan Area Planning Council, [Food System Map and Datasets](#)
- [Our World in Data](#)
- The Opportunity Atlas, [Social Mobility Indicators](#)

- UMass Donahue Institute, [Massachusetts State Data Center](#)
- USDA [Census of Agriculture](#)
- USDA Economic Research Service, [Farm Economy](#)
- USDA Economic Research Service, [Food Access Research Atlas](#)

Farmland Protection and Conservation:

- American Farmland Trust, [2040 Future Scenarios - Massachusetts](#)
- American Farmland Trust, [Benefits of Farmland Protection Resource List](#)
- American Farmland Trust, [Farms for the Future: Massachusetts' Investments in Farmland Conservation](#)
- American Farmland Trust, [Farms Under Threat 2024: Choosing an Abundant Future](#)
- American Farmland Trust, [Massachusetts Agricultural Land Protection Scorecard](#)
- American Farmland Trust, [The Case for Farmland Protection](#)
- Association to Preserve Cape Cod, [Agricultural Land Use on Cape Cod: Looking to the Future](#)
- [Massachusetts Farmland Action Plan, 2023 - 2050](#)
 - The purpose of the Farmland Action Plan is to inform and guide needed investments, policies and programmatic actions to ensure that farming and farmland remain viable for current and future generations. Listed below are the three primary goals of the Farmland Action Plan as well as a handful of relevant action items.
 1. Increase efforts to permanently protect farmland.
 - Protect farmland through agricultural restrictions.
 - Develop and implement tools to avoid further farmland loss such as zoning reform, smart-growth policies and enrolling more agricultural land in Chapter 61A.
 - Prioritize the protection of whole farms.
 2. Increase access to farmland.
 - Increase the amount of land available for agriculture by assessing all existing, publicly held land that is suitable for agriculture, support farm incubators, and create preferential zoning for agriculture.
 - Support farm transfer and succession.
 - Prioritize increased access for BIPOC and underserved farmers.
 3. Support and enhance the viability of farms and farmland.
 - Ensure that laws, regulations, programs and investments support the viability of farms by including farmers in planning and policy decisions and facilitating financing for farmers.
 - Employ sustainable growing practices on farms.
 - Increase the use of services, programs, and other resources by growers and producers.
 - Provide education for farmers and aspiring farmers.
- Massachusetts Land Trust Coalition, [How Conserving Open Space Provides Economic Benefits to Massachusetts Communities](#)

Food Access & Security:

- Health Leads & MA Law Reform Institute, [Massachusetts SNAP Gap and Social Vulnerability Index: Who's Losing Out on Federal Nutrition Benefits and How Do We Close the SNAP Gap?](#)
- Pioneer Valley Planning Commission, [Municipal Strategies to Increase Food Access](#)
- The Greater Boston Food Bank, [Gaps in Food Access During the Covid-19 Pandemic in Massachusetts](#)

- United Nations Food and Agriculture Organization, [An Introduction to the Basic Concepts of Food Security](#)
- Vermont Farm to Plate, [Food Access Self Assessment Tool and Resource Guide](#)

Food Economics:

- American Farmland Trust, [Farms for the Future: Massachusetts' Investment in Farmland Conservation](#)
- American Farmland Trust, [Cost of Community Services Studies](#)
- Federal Reserve Bank of St. Louis, [Harvesting Opportunity: The Power of Regional Food System Investments to Transform Communities](#)
- Johns Hopkins Center for a Livable Future, [True Cost of Food](#)
- Farm to Institution New England, [Leveraging Contracts for Local Food Procurement: A Guide for Institutions That Work With Food Service Management Companies](#)
- [Food Economics](#) by William A. Masters and Amelia B. Finaret
- National Farmers Union, [The Farmers' Share](#)
- The Rockefeller Foundation, [True Cost of Food: Measuring What Matters to Transform the U.S. Food System](#)
- Union of Concerned Scientists, [Market Forces: Creating Jobs through Public Investment in Local and Regional Food Systems](#)
 - This report highlights the importance and potential of investment in local and regional food systems. It points to the expansion of local and regional food systems and the role that consumers' purchasing decisions play in the economic, environmental, and health impacts of these systems. Furthermore, it highlights the positive effects that local and regional food systems can have on regional economies and the challenges of scaling these systems. As indicated by this report, essential to addressing these and other challenges is the adoption of public policy solutions as well as partnerships between local governments and community organizations that can implement local and regional food system plans.
- USDA Agricultural Marketing Service, [The Economics of Local Food Systems: A Toolkit to Guide Community Discussions, Assessments and Choices](#)

Food Entrepreneurs, Farmers, Grocers and Food Business Owners:

- Michigan State University Center for Regional Food Systems, [Funding for Food-Related Businesses](#)
- Michigan State University Center for Regional Food Systems, [Time Management Workbook for Food and Farm Entrepreneurs](#)
- New Entry Sustainable Farming Project, [Farmer Resource Library](#)
- Southeastern Massachusetts Agricultural Partnership, [Resources for Farmers](#)

Food Environments:

- CDC, Resources for [Healthy Food Environments](#)
- CDC, [Healthier Food Retail: An Action Guide for Public Health Practitioners](#)
- Harvard School of Public Health, [Improving Food in the Neighborhood](#)
- Gehl, Cities Changing Diabetes & Novo Nordisk, [Foodscape Assessment Tool](#)

Food Equity and Justice:

- Aspen Institute Community Strategies Group, [Using Networks to Build Collaborative and Equitable Food Systems](#)
- CDC, [Health Equity Resources](#)
- Farmers Market Coalition, [The Anti-Racist Farmers Market Toolkit](#)
- Michigan State University Center for Regional Food System, [An Annotated Bibliography on Structural Racism Present in the U.S. Food System, Tenth Edition \(2023\)](#)
 - This resource provides 588 publications and 66 videos that explore structural racism across the U.S. food system as well as specific food sectors and geographies.
- National Young Farmers Coalition [Library of Reports, Case Studies, and Guidebooks](#)
- Office of Boston City Councilor Michelle Wu, [Food Justice Agenda for a Resilient Boston](#)
- Public Health Association of BC, [Food Justice Community Planning Tool](#)
- Public Health Association of BC, [Just Food Systems Evaluation Framework](#)
- The Institute of Othering and Belonging, [Fighting Poverty With SNAP](#)
- The Institute of Othering and Belonging, [Food Systems](#)

Food, Farm and Food Hub Directories:

- [All the Farms](#)
- [Local Harvest](#)
- Massachusetts Farm to School, [Local Producer List](#)
- Southeastern Massachusetts Agricultural Partnership, [Resources for Consumers](#)

Food Policy and Planning:

- American Planning Association [Policy Guide on Community and Regional Food Planning](#)
 - This document addresses food system transformation through the process of planning and shares why planners have disregarded the food system until recently. These reasons include the outdated views that the food system only indirectly touches the built environment, that the food system isn't broken, and that the food system isn't considered a public good nor is it a service or facility-like transit, sewers, and highways—in which the private sector is unwilling to invest. Among many reasons, APA's increased attention to the role of food systems has been informed by the recognition that food takes a great deal of fossil fuel energy to make its way through the supply chain, that farmland is being lost at an alarming rate food, that conventional agriculture leads to the pollution of ground and surface water systems, that food system activities take up a significant amount of space, and that these activities have a major impact on community and regional economies.
- ChangeLab Solutions, [Seeding the City: Land Use Policies to Promote Urban Agriculture](#)
- Food Policy Networks, [Food Policy Resources](#)
- Food Solutions New England, [Integrated Regional Policy](#)
- Food System Dashboard, [42 Policies and Actions to Orient Food Systems Towards Healthier Diets for All](#)
- Global Alliance for the Future of Food, [Systemic Solutions for Healthy Food Systems, A Guide to Government Action](#)
 - In efforts to address the human, ecological, and animal health crises, this guide emphasizes the crucial role that governments play and their need to demonstrate leadership by: 1) supporting action and dialogue, 2) coordinating across multiple sectors, and 3) developing a

strategic focus on systemic solutions and holistic policy opportunities. Underpinned by an effective vision, strong leadership, fiscal incentives/disincentives, increased knowledge and education, research, innovation and collaboration, this guide to government action proposes a variety of recommendations including setting health-based goals, ensuring policies deliver on multiple health outcomes, reorienting public subsidies to food systems, and classifying food as a public good such that it can receive necessary support.

- Harvard Law School Food Law and Policy Clinic, [Good Laws Good Food: Putting Local Food Policy to Work for Our Communities](#)
- Healthy Food Policy Project, [Policy Database](#)
- Johns Hopkins Center for a Livable Future, [Food System Resilience: A Planning Guide for Local Governments](#)
- MA Food System Collaborative, [Food policy council network](#)
- MA Food System Collaborative, [Local Food Systems: The role of municipal governments](#)
 - This tool, geared specifically towards municipal governments in Massachusetts, offers a helpful array of questions for local governments in their efforts to promote sustainable food systems. Some of these questions include:
 - Does your municipality have a local food plan, or a community food assessment?
 - Is food integrated into your municipality's comprehensive plan?
 - Has your town or city set food system goals?
 - Have you conducted a land inventory? A food asset map?
 - Is local food production and purchasing prioritized within municipal agencies?
 - Does your town or city have policies that protect farmland, thereby minimizing its conversion to development or other uses?
 - Does your municipality incentivize healthy food sales or limit unhealthy food sales?
 - Does your town or city provide education and technical assistance to homeowners and landscapers for proper use of herbicides and pesticides?
 - Do the schools in your municipality have a nutrition policy used to guide foods purchased and distributed to students?
 - Does your town or city offer a composting program for residents, businesses and institutions?
- Metropolitan Area Planning Council, [Municipal Food Systems Planning Toolkit for MAPC Communities](#)
- New England State Food System Planners Partnership, [New England Feeding New England Executive Summary](#)
- State of Massachusetts, [Healthy Soils Action Plan](#)
- State of Massachusetts, [Resilient Lands Initiative - Expanding Nature's Benefits Across the Commonwealth: A Vision and Strategy](#)
- Sustainable Development Code, [Local Ordinances for Food Security and Sovereignty](#)
- Tufts University, [Collaborative Planning for Local Food Systems: Municipal Priorities in Action](#)
- Vermont Law School, [Food System Resilience: Concepts & Policy Approaches](#)

Food Systems:

- Agroecology Europe, [The 13 Principles of Agroecology](#)
- Committee on World Food Security, High Level Panel of Experts on Food Security and Nutrition, [Nutrition and Food Systems Summary and Recommendations](#)
- Enthoven & Van den Broeck, [Local food systems: Reviewing two decades of research](#)
- Équiterre & The Centre for Trade Policy and Law, Carleton University, [Local Food Systems and Public Policy: A Review of the Literature](#)
- Food Solutions New England, [A New England Food Vision: Health Food for All, Sustainable Farming and Fishing, Thriving Communities](#)

- [Food Systems Dashboard](#)
- Frontiers Sustainable Food System, [More Than Food: The Social Benefits of Localized Urban Food Systems](#)
- Funders for Regenerative Agriculture, [Resources](#)
- Global Alliance for the Future of Food, [Food Systems Transformation, Promoting Human, Ecological, & Animal Health & Well-being: A Shared Vision and Narrative](#)
- Growing Food Connections, [Essential Food Systems Reader](#)
 - A collection of resources that address the challenges of community food production, food security and food connections on a variety of scales.
- International Panel of Experts on Sustainable Food Systems, [A unifying framework for food system transformation: A call for governments, private companies and civil society to adopt 13 key principles](#)
- Iowa State University Community Design Lab, [Agricultural Urbanism Toolkit](#)
- Johns Hopkins Center for a Livable Future, [Publications](#)
- Lyson Center, [A Regional Imperative: The Case for Regional Food Systems](#)
- Massachusetts Food System Collaborative, [Publications and Resources](#)
- North Carolina State Extension, [Local Food Program](#)
- PolicyLink, [Equitable Food System Resource Guide](#)
- Transforming Food Systems, [Position Papers, Case Studies, Initiatives and Planning Documents on Food Systems Change: National and International](#)
- Food and Agricultural Organization of the United Nations, [Sustainable food systems: Concept and framework](#)
- United Nations, [Food Systems Summit Dialogue Gateway](#)
- USDA [Local and Regional Food System Resource Guide](#)
 - This guide provides an overview of various USDA programs available for land conservation, production, processing, distribution, markets, food waste, research, and technical assistance.

Food System Assessments:

- American Planning Association, [Community Food System Assessments](#)
- Community Food Security Coalition, [What's Cooking in Your Food System? A Guide to Community Food Assessment](#)
- Community Food Strategies, [Baseline Food System Assessments & Actions Plans](#)
- First Nations Development Institute, [Food Sovereignty Assessment Tool, 2nd Edition](#)
- Iowa State University Extension, [Community Food System Tactic Checklist](#)
- Iowa State University Extension, [Community Food Systems Program](#)
- Journal of Agriculture, Food Systems, and Community Development, [Emerging Assessment Tools to Inform Food System Planning](#)
- UMass Amherst Scholarworks, [Designing a Foodshed Assessment Model: Guidance for Local and Regional Planners in Understanding Local Farm Capacity in Comparison to Local Food Needs](#)

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- Cape Cod Commission [Solid Waste and Hazardous Waste](#)
- Institute for Local Self-Reliance, [Community Composting and Priority Climate Action Plans Guide Model Measures and Template Language](#)
- MA Department of Environmental Protection [Organics Action Plan, November 2023](#)
- RecyclingWorks, [Food Waste Elimination Guide](#)

Growing and Gardening:

- New Jersey Agricultural Experiment Station, [Learning Through the Garden Fact Sheet](#)
- Massachusetts Farm to School, [School Garden Resources](#)

Health and Nutrition:

- CDC Healthy Schools, [Healthy Eating Learning Opportunities and Nutrition Education](#)
- Cape Cod Cooperative Extension, [Nutrition Education and Food Safety](#)
- Johns Hopkins Center for a Livable Future, [Meatless Monday Resources](#)
 - In efforts to address the health and environmental ramifications of U.S. meat consumption and production, Meatless Monday campaigns offer a simple strategy to make a difference. This resource from the Johns Hopkins Center for a Livable Future provides a range of articles, reports and research on the effects of meat consumption and production, and the value of Meatless Mondays.
- John C. Stalker Institute for Food and Nutrition, [Massachusetts Nutrition Evaluation Tool for Schools](#)
- Robert Wood Johnson Foundation, [Building a Culture of Health](#)
- Robert Wood Johnson Foundation, [Built Environment and Health Library](#)
- U.S. Department of Disease Prevention and Health Promotion, [Food is Medicine: A Project to Unify and Advance Collective Action](#)⁷³

Hunting, Fishing and Shellfishing:

- [300 Committee 2023 Falmouth Hunting List](#)
- [Falmouth Recreational Shellfishing Guide](#)
- [Falmouth Shellfish Permit Information](#)
- [MA Division of Fisheries and Wildlife Hunting Regulations](#)
- [Massachusetts Hunting Season and Bag Limits, 2024](#)
- [MassWildlife's Hunters Share the Harvest Program](#)
- [MA Division of Fisheries and Wildlife Freshwater Fishing License](#)
- [MA Division of Fisheries and Wildlife Saltwater Fishing Permits](#)

Institutional Food Service:

- Center for Good Food Purchasing, [The Good Food Purchasing Program: A Roadmap for the Post-Pandemic Food System We Need](#)
- Center for Good Food Purchasing, [Good Food Purchasing Program: Purchasing Standards for Food Service Institutions](#)
- Farm to Institution New England, [Food Service Toolkit](#)
- Farm to Institution New England, [Resource Database](#)

⁷³ While food as medicine initiatives are promising, they also have their drawbacks as discussed here: <https://www.healthaffairs.org/content/forefront/five-food-problems-why-current-food-medicine-solutions-falling-short>

A View from Falmouth's Food Future

Looking back from the year 2075

I can faintly remember the time when Falmouth was down to just a handful of working farms, when people came here solely for the beaches rather than the abundance of local food, and when you could somehow make it through high school without learning how to grow your own food. So much has changed for the better that it's hard to fathom where we once were and that we no longer have to worry about the Cape's ability to sustain itself. During the peak growing months, I can seldom find a yard that isn't erupting with tall stalks of corn, crawling with squash vines or spangled with eggplants, peppers and tomatoes. Being surrounded by this kaleidoscope of fruits and vegetables is what now draws people in, and even keeps them here. Certain neighborhoods have begun to specialize in growing certain crops and cultivars in such a way that if I allow myself to forget that there are homes, it feels as though I'm walking, biking, and driving down a farm field. The few lawns that remain have been kept as a form of historic preservation, as an opportunity for people to peer into the past and remember a time when we had forgotten our connection to the land. It is hard to compare the beauty of the once prevalent hydrangea or hosta with the taste and nourishment of a peach or a pear, and the feeling of comfort and peace that comes with knowing that sustenance is all around me. Along with the sense of connectedness—of having a common experience with each of my neighbors through the act of growing food—I often take these feelings for granted, and have to remind myself of the dedication of those who worked tirelessly to make this reality possible.

Many years ago, the Town took a leap of faith and began purchasing farmland, establishing development restrictions, and offering more opportunities for aquaculturists which allowed others to take their own leaps of faith by deepening their investment in the community, starting food businesses and more generously sharing their piece of the pie with others. Things seemed to change rather quickly after that. Schools, institutions, and even nearby towns felt

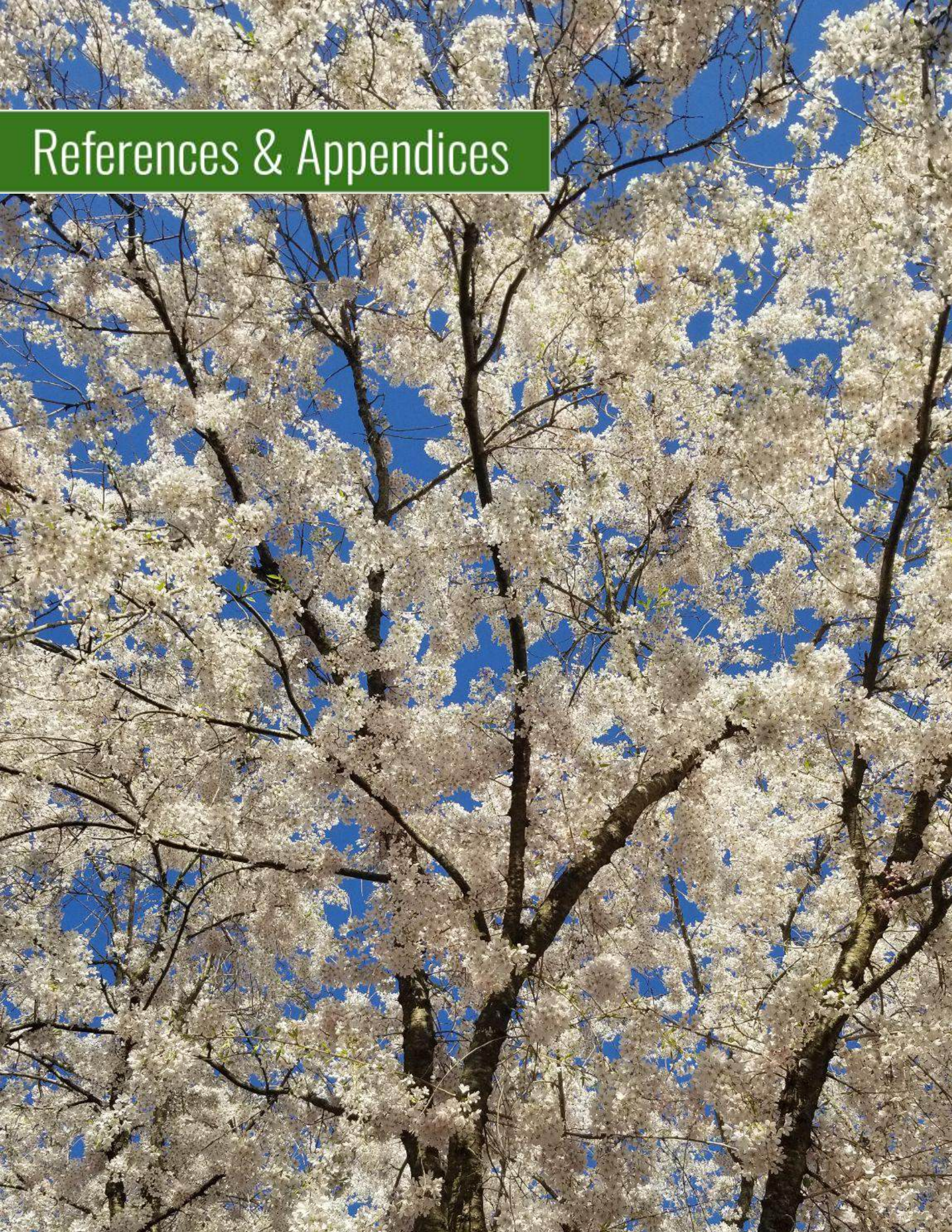
the momentum shifting and started to adopt and implement their own creative strategies for a resilient and sustainable food system.

With all of the changes afoot, I started to notice more children playing in the streets, more joyous laughter and more families inviting life into the world. Much like when the monarchs started to return after we planted milkweed, kids and families seemed to return when we started to grow food. The land and water became more fertile, vibrant, and full of life, and so did the community. As good food became more abundant and affordable, people reported feeling healthier, happier and even closer to one another. These changes were gradual and almost imperceptible, but ultimately palpable and inspiring. Most importantly—like a seed that had been asleep—they awakened something in all of us: a deep appreciation and acknowledgment of our interconnectedness.

While things are still far from perfect, much of what plagued us from our dependence on the global supply chains has been meaningfully addressed. Crucially, a sense of hope, trust and belonging that has fruited from these efforts. Coming together to meet our basic need for food has helped our community to see eye to eye on many other issues. Much like the growth of a tree that breaks through the pavement, our love of food has helped to push through layers of distrust, resistance, and individualism towards a more collective, ecological, human, and health oriented approach. When I look back, I'm astonished by how much has changed but not that the change itself occurred. As difficult, confusing and uncertain as it was, our reconnection with the land and water felt necessary and, at times, inevitable. I've learned to accept that these changes, along with many others, were simply gifts waiting to be received and praise waiting to be bestowed. I feel grateful for the work that was done and for the food future that this present now holds. So much more is possible than we ever could have imagined.

... What is your vision of Falmouth's food future?

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Appendix A. Our World in Data

Figure A1. Distribution of mammals on Earth (Ritchie, 2022).

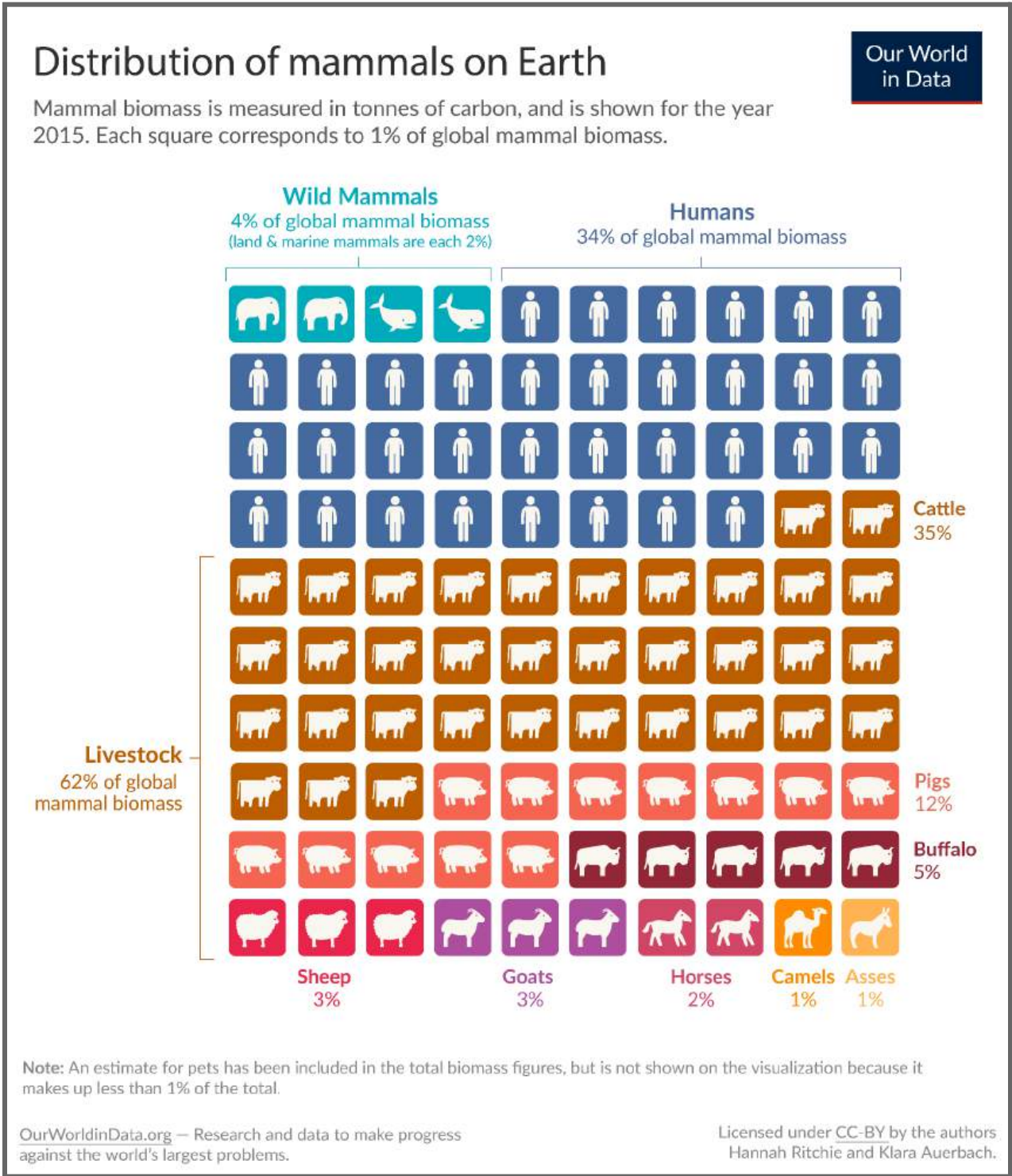


Figure A2. The environmental impacts of food and agriculture (Ritchie et al., 2022)

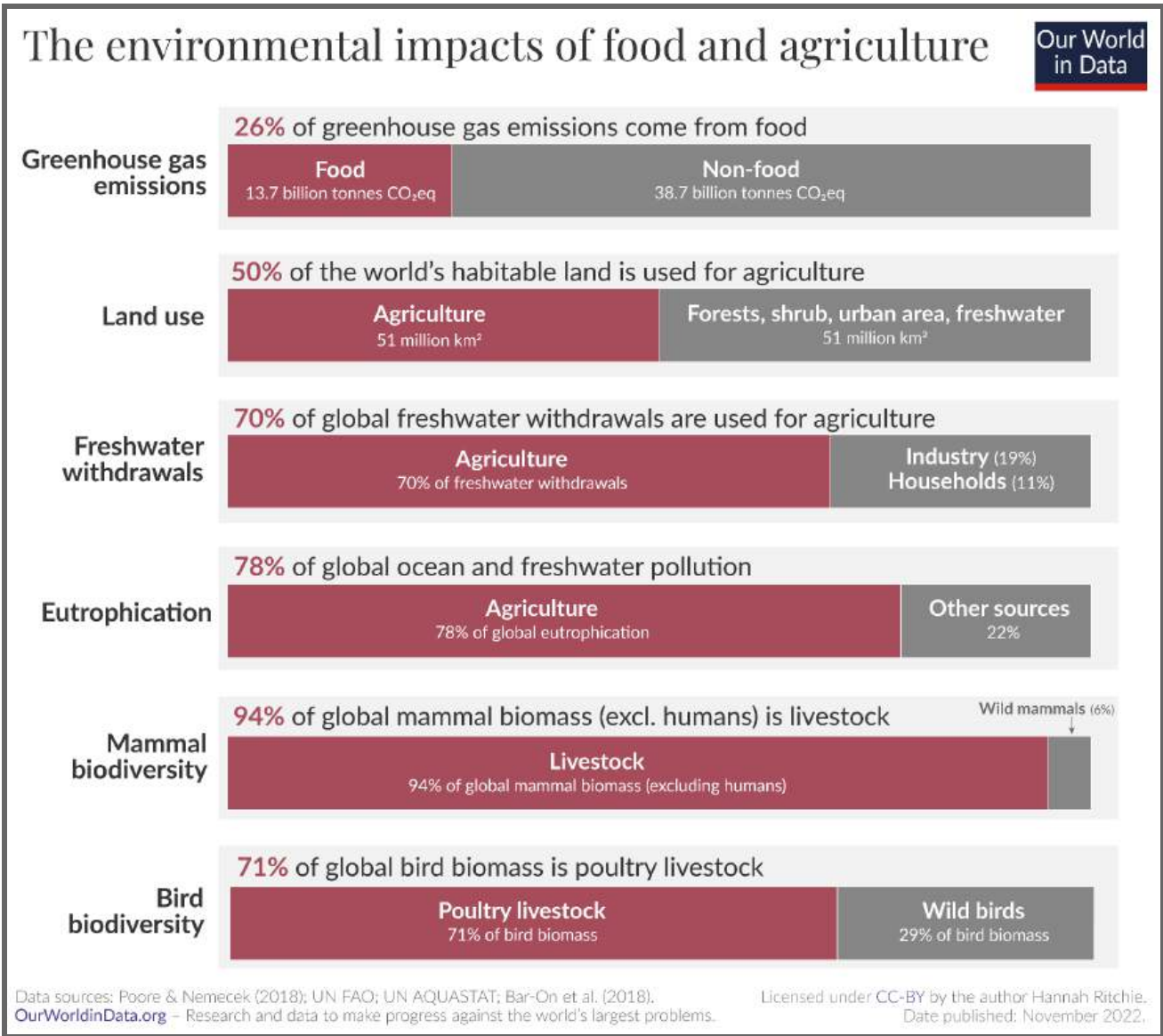
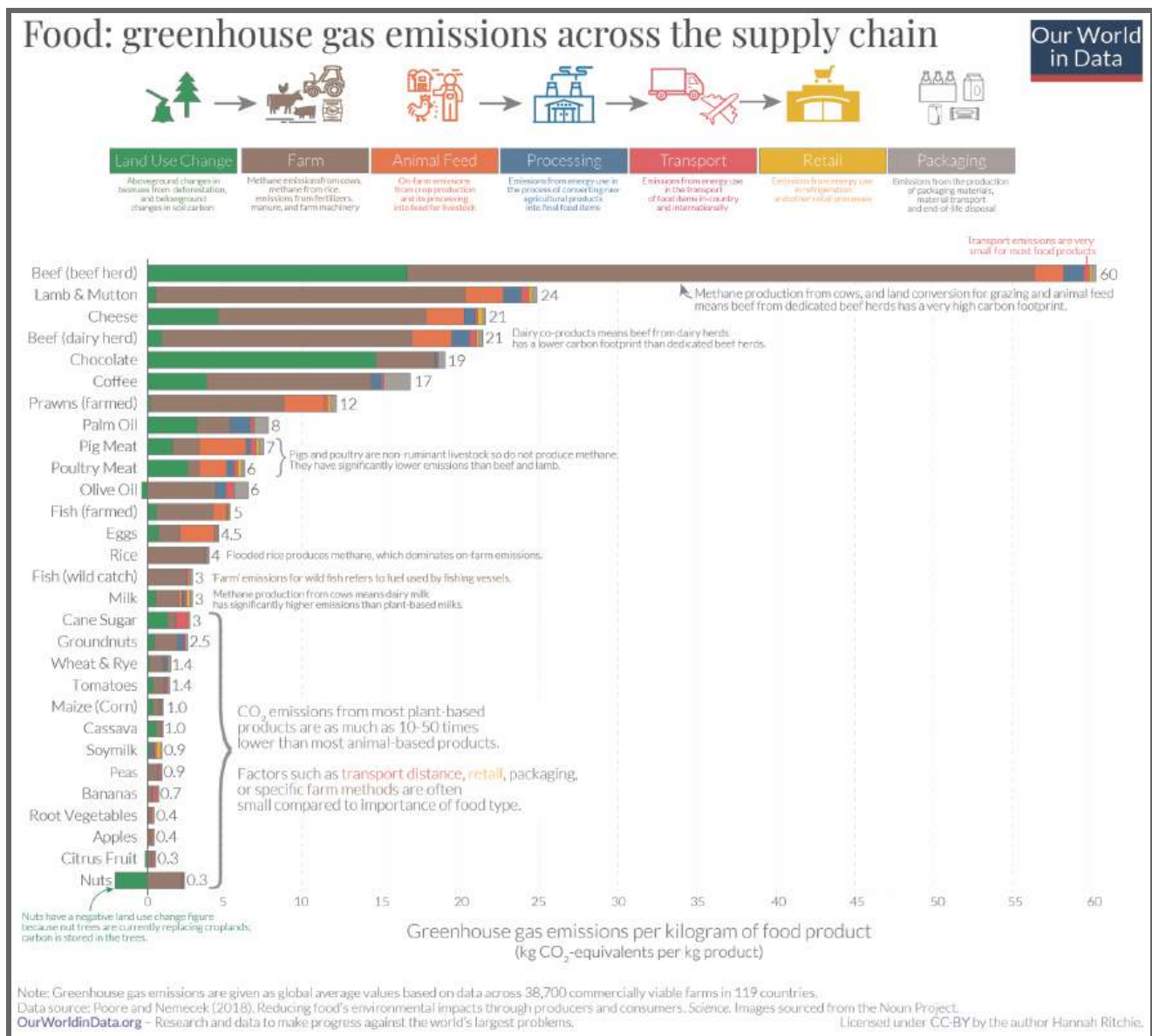


Figure A3. You want to reduce the carbon footprint of your food? Focus on what you eat, not whether your food is local (Ritchie, 2020).



Appendix B. Barnstable County Health Indicators

Figure B1. Physical Environment Health Indicators of Barnstable County

Category	Score (Percentage or Quantity)	Rank: Excellent, Good, Average, Poor, Very Poor	Year Info Was Measured
Air Pollution	6.7 (average daily density of fine particulate matter in micrograms per cubic meter)	Good	2014
Low-income and limited access to Healthy Foods	10%	Very poor	2015
Commutes to work by walking or riding a bike	2.9% population	Very poor	2011-2015
Fast-food restaurant density	1 FF restaurant per 1000 people	Average	2016
Average monthly # of stores that accept SNAP, per 1000 residents	0.8	Excellent	2017
Grocery store density	0.3 grocery stores per 1000 people	Poor	2016
% of households with at least 1 of 4 housing problems: overcrowding, high housing costs, lack of kitchen, lack of plumbing	40.5% of households	Average	2009-2013
Workers who commute to work via public transit	1.2% of working population	Very poor	2018
Population with low access to grocery store	48.30%	Very poor	2015
SNAP households with low access to grocery store	3.10%	Very poor	2015
Children with low access to grocery store	8.7% of children (age < 18)	Very poor	2015
Seniors with low access to grocery store	11.4% of seniors (age > 64)	Very poor	2015
Farms with direct sales	24.3% of farms (includes farmers market, farm stands, pick-your-own, etc)	Very poor	2012
Vegetable acres harvested	0.3 acres per 1000 residents	Very poor	2012
Orchard Acres	0.1 acres per 1000 residents	Very poor	2012
Berry Acres	4.8 acres per 1000 residents	Poor	2012
Greenhouse vegetable and fresh herb farm	287.4 sq ft land per 1000 residents	Very poor	2012

Figure B2. Health Behaviors Indicators in Barnstable County

Category	Score (percentage or quantity)	Rank: Excellent, Good, Average, Poor, Very Poor	Year Info Was Measured
Food Security	7.6% of population	Good	2018
MA BRFSS ⁷⁴ : Consumed fruit and vegetable five or more times a day	20.8% of adults 18 yrs and older	Very poor	2011-2015
MA BRFSS: Any exercise in past 30 days	84% of adults 18 yrs and older	Good	2012-2014

⁷⁴ BRFSS (Behavioral Risk Factor Surveillance System) is an annual telephone survey that collects data on emerging public health issues, health conditions, risk factors and behaviors.

MA BRFSS: Met aerobic physical activity recommendation	61.5% of adults who report at least 75-150 minutes of physical per week in past month	Average	2011-2015
Access to exercise opportunities	92% of population	Good	2019
Frequent mental distress	13.3% of population report mental distress in past 14 days	Average	2018
Frequent physical distress	10.1% of population report physical distress in past 14 days	Good	2018
Poor or fair health	12.6% of population	Excellent	2018
Recreation and Fitness Facilities Density	.1 (# fitness centers/# county residents)	Poor	2016

Figure B3. Health Care in Barnstable County

Category	Score (percentage or quantity)	Rank: Excellent, Good, Average, Poor, Very Poor	Year Info Was Measured
Mental Health Providers (MHP)	530 county residents: 1 MHP	Good	2020
Primary Care Physicians (PCP)	93.7 county residents: 1 PCP	Average	2018
Other PCPS	973 county residents: 1 other PCP (nurse practitioners, Pas, clinical nurse specialists)	Poor	2020
Adults without Health Insurance	6.8% of adults 18-64	Poor	2018
Children without Health Insurance	0.9% children under 18	Good	2018
Health care costs	\$9404 Medicare reimbursements per enrollee	Poor	2015
Adults with current asthma	13.4% of population	Excellent	2013
ER Visit rate due to all causes	47072.3 visits in total	Average	2015

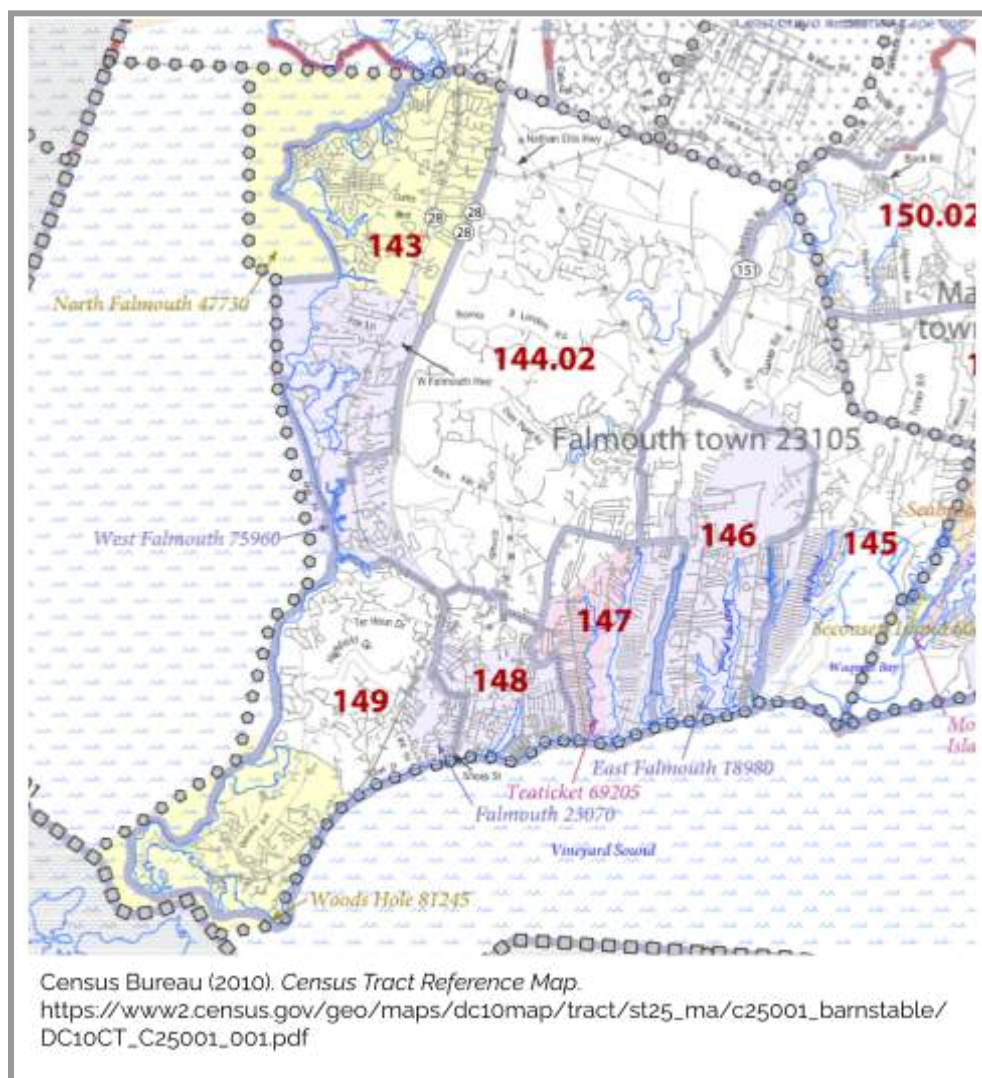
Figure B4. Health Outcomes and Health Risk Factors in Barnstable County

Category	Score (percentage or quantity)	Rank: Excellent, Good, Average, Poor, Very Poor	Year Info Was Measured
MA BRFSS: Heart Attack	5.5% of adults	Very poor	2012-2014
MA BRFSS: Heart Disease	7.4% adults	Very poor	2011-2015
MA BRFSS: Diabetes	8.5% adults	Average	2012-2014
Alcohol impaired driving deaths	37.30%	Poor	2015-2019
Cancer incidence rates	483 residents per 100,000 people	Poor	2013-2017
Drug overdose deaths	38.1 deaths per 100,000 people	Poor	2017-2019
Age-adjusted death rate due to alcohol and substance use	46.6 deaths per 100,000 people	Very poor	2014
Life expectancy	79.7	Poor	2017-2019
MA BRFSS: Overweight or obese adults*	58.9% of adults aged 18+	Poor	2012-2014

Figure B5. Social Determinants of Health in Barnstable County

Category	Score (Percentage or Quantity)	Rank: Excellent, Good, Average, Poor, Very Poor	Year Info Was Measured
Children in poverty	10.10%	Good	2019
Households without a car and greater than 1 mile to grocery store	2.30%	Average	2015
Median household income	\$82,686	Average	2019
Income inequality	4.3 - ratio of income at 80th percentile to 20th	Very poor	2015-2019
Low-income and greater than 1 mile from grocery store	9.70%	Very poor	2015
Renters spending more than 30% of income on rent	52.30%	Poor	2016
Unemployment	3.80%	Very poor	2019

Appendix C. Falmouth Census Tracts



Appendix D. Input Session Notes

Strengths, Challenges and Opportunities from 2022 Input Sessions			
	Input Session #1: Growers & Producers	Input Session #2: Food Service, Distribution, Wholesale, Processing and Aggregation	Input Session #3: Food System Service Providers
	14 Participants	16 Participants	24 Participants
Strengths	Farmers market- in person; connections/ economic forum; Tourist influx - predictable \$ flow; interest in local food at all; "Local is better" perspective; Our prime agricultural soils"; Historic appreciation for agriculture; CSA Farms (pariah dog, CF, peach tree); Windfall Market's willingness to sell local food; The scale of production in falmouth matches our business capacities; School gardens and school tours; Food Justice initiative; Community gardens GIS mapping program; Agricultural Commission and Right-to-farm; Farming falmouth; Bogs; Coastline and ocean access; 300 committee; Existence of farms; Community gardens; Abundance of coastline for oyster, seaweed; Farm stands, Local farms at a local market; Tourist influx during growing months; Advertising all around town; Existence of farm equipment; Eco drum at coonamessett as model for composting/waste reuse	charity and generosity in community; school programs; woods hole science; fisheries/ coastline; regional support, regional food; cape cod culinary incubators; bootstrap; demand from educated consumer; -jack in the beanstalk - support for food service; benefits of private membership or private audience (golf club and yacht club); warehouse space at bootstrap; efficiency and effectiveness of global and regional food distribution; dozens of distributions vendors selling and delivering food; grocery stores; Island Grown Initiative; regional strength and interest in the food system in Ma; philanthropic oriented community; falmouth school culinary program; cape cod state delegation support for food security; farming falmouth -gleaning; -farmers market; donations; cape cod fishermen's alliance; cape cod dairy, jack in the beanstalk; greater boston food bank; MV food pantry; diversity of fish products in falmouth; Falmouth Service Center ; MEAP (MA Emergency Food Assistance Program); sense of community; senior transportation from Falmouth Senior Center	CC Extension and Master Gardener Program; School gardens"; Interconnected food system; Community paper and information distribution ; Lots of organizations: veterans organization, T3C, island grown model; Farming Falmouth; Institutional support for shellfishing Shellfish; Coonamessett farm education programs; Alternative food retailers; Year round production; Community gardens; Awareness; Community generosity; Food Access coordinator; Falmouth service center meals on wheels; Ag commission; Synergy between environmental protection and aquaculture production; Growing food education programs; State legislative support; Environment: waste and production; Buy fresh buy local; Multiple small farms; Organization that fund food initiatives; Regional identification as Cape Cod; Farmers market; Capacity to work with other towns; Community gardens; Falmouth farmers market; Tony andrews - municipal ownership; Many small farms; Community composting + budding project for 3 cape composting sites
Common Themes:	Falmouth Farmers Market; Falmouth's coastline, fisheries and aquaculture; Falmouth Service Center; Farming Falmouth; Agricultural Commission; community gardens; regional support and identity		

Challenges	Theft of Wampanoag territory not being address; No active/serious reparations or considerations for what this might mean for farmers; Cost of land and limited supply of land; We are divorced from the cost of food production; Limited knowledge and awareness among populace of food production; Availability of labor; Low wages/incomes paired with high costs; Food is too cheap and too expensive; Lack of culinary skills being taught; Supply chain problems; Seasonality, dependence on bigger system; Loss of local supplies/suppliers; Lousy soils/lack of knowledge of soils; Insufficient supply of food (emergency resiliency); Lack of awareness by general consumers about the costs of farming; lack of economic implications of farming- need to conduct Enterprise Analysis; Pandemic crisis and awareness wearing off; Cost of food externalized; Global supply chain is hard to compete with; Seed availability; Loss of infrastructure; Having to start at square one; Our dependence upon the rest of the system; No educations around soil health; Inability to scale productions; Permitting can be difficult/ takes a long time - Help with process needed; We can't produce enough food; Ensuring proper marketing and advertising; How to promote certain foods; excess food waste; lack of experience of selling goods; Not enough land (fixed supply and high costs); Investing too much in something that people might not want or something that might not sell - market uncertainty; knowing what customer base would like to consumer; Work to have conversation, and work getting to know the food system or community; Difficulty of money-saving experiments turning into other setbacks; Consumer education; Weather/	Cape cod can exist as an island - difficult to reach; Reliability of distribution*; Costs associated with lack of reliability; Difficult to find substitutes; People going to grocery stores rather than farms; Lack of freshness and cost of freshness; Fear or change from buyers (not wanting to shift or alter what they know or what they've been doing); Familiarity and cost prevent these changes; Availability and timing of food deliveries; Defining local; Actually achieving sustainability; Social justice; Cost of goods** - especially when trying to help those in need; Staff availability; Housing; Increase in demand can be difficult to manage; Unrealistic expectations of tourists/consumers; Everyone wanting fresh or local; Reliance on tourism dollars; Difficulties faced by fishermen; The image of Cape Cod - farming and fisheries - not matching up with the reality; Needing to go farther to get what is needed; Food insecurity in community; Access to food donations; transportation; Getting food to people - delivery systems; Reaching out to snap recipients; food waste; Recycling (food and stuff can be difficult); No flash freezing on cape cod; Transportation - consumer getting to product and deliveries - getting to rt. 28 to reach public transit;; Difficulty to balance tourism and local dollars; housing; Income inequality and change of community; difficulty hiring staff due to housing; staff retention; Lack of affordable composting options; Efficiency of rental systems, lack of limits on these system; lack of local delivery options - price of gas; lack of support local farms and inspire new farmers; Loss of farmland; trouble figuring out which services to use; Loss of nutrients by hauling food waste away; Costs associated with hauling and carbon footprint; Adjusting consumer perceptions - educating about costs; Networking around food waste; Higher wages required to	Challenges of 4-h to educate youth; Language barriers; culturally appropriate foods; Multiculturalism on cape cod; Educational barriers to entry to get a foothold in farming; Lack of opportunity for low-income individuals and families; Awareness is not wide; Cost of accessibility and affordability; Diversity; Farmers market; Lack of culturally appropriate foods; Scarcity of opportunities for "food experiences"; Lots of people without this experience and context; Regionalization - communicating between towns; Isolation - limited connections to learn to farm; Supply chain → housing, fuel, labor, wages; Connecting farms with restaurants; Planning around food and actual food needs; Lack of coordination/communication between entities; Farm cooperative doesn't exist; Farmer communication needed; Farms can meet demand due to size; Restrictions for community gardens on state funded property; Lack of \$ for farming and farm incentives; Current policy does not support smaller farms; Must buy food from federal gov't; Cheapest food desired; Lack of farm infrastructure; Need for land that's properly zoned; Affordable housing for farm staff; Lack of support for people trying to get farms started; High barriers to entry (education/farmland); Cost of getting land into preservation for farming; development pressure on land owned by farmers ; Lack of available land, cost of land, quality; lack of heated greenhouses for year round production ; Lack of financed incentives and subsidies for small/medium farms; Climate change; Barriers to industry entry; Limited land restrictions
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	droughts, Cost and availability of supplies (Pots, soil, fertilizers, seeds); Farming = gambling; Flexibility with growing different products (responding to what worked well and what didn't work); High risk nature of farming (seasonality, interest, etc); Pairing products with the right market; Finding open minded customers who are willing to support farmers/local food (giving people recipes and new foods)	absorb housing crisis, cost passed onto consumer; Lack of municipal composting - space and systems; Breaking consumer patterns that are accustomed to more diverse food	
Common Themes:	Cost of land, transportation, cost of materials/supplies, consumer education, food waste, affordable housing, barriers to entry for farmers - education, incentives, subsidies		
Opportunities	Stopping development on agricultural soils Agrihood; Development around agricultural infrastructure; more education and consumer awareness; Farm to school - scratch cooking, internships; Cultivating local farmers; State legislative support for food; Fewer grocery stores; Each Falmouth precinct having a food co-op; 10% local food production; Food waste reduction Community farm and kitchen; Tractors, Greenhouses; Csa aggregator; Directory for consumers; Restaurant support from farmers; Connecting local farms to restaurants; A local food distribution systems; Connecting farms to people in town; Delivery and a site to support this; Mutual aid/collective supports; Pooling resources/resource sharing; Getting rid of new englander mentality of not asking for helping or connecting to others; Oysters at the farmers market; Events that are about food or that can incorporate food (Coast Fest); Town of Falmouth support; Main street market; 'Falmouth fresh' marketing; Locally grown designation and enforcement; A farmer specific contact list; Farmer specific meetings each year; More support! An attitude of	Housing crisis; More pigs; Incentives to reduce food waste; Longer growing season; Local food calendar to show what is available and when; More reliable local food production and availability; cheaper land; More money for farmers; Community calendar or more; community organizing efforts from radio stations or other outreach entities; Wholesale farmers market; More transportation - no more food deserts; Delivery for distribution; More farms; Community commercial kitchen - cold storage and space; Assistance with value added products; More sliding scales; Food runners to eliminate food waste; Fisherman's coop; More consumer education; More and cheaper biocontainers; Networking opportunities to meet community; Municipal composting systems; More multi-family homes/ ADUs; housing bank; More robust transit system; Connections to more towns on the cape - transit; Curbing AirBnb; Improving affordability - more town support/ education; Changing town by-laws	Stem curriculum tied to gardening and farming; More school farms and gardens; Unified vision; Use open spaces for food production; Community collectively advocating for school food programs; Food hub; ARPA \$ to promote food system enhancement; Food system leadership; Volunteers to support school farms through summer; Agricultural preservation committee; Coordination of resources; Go back in time and never have acre zoning; Different land use patterns; Return conservation land into "farm+conservation"; Change regulations related to conservation land to allow for ag production; Know how much chemical fertilizer is purchased/used on Cape per year; Collective lobbying; Subsidizing small farms; Affordable housing - easier to get housing on farms; Starting and sustaining support for farms and fisheries; Focus on youth; Aggregating demand → coop → pooling; W/WOOF on Cape Cod; Instill in youth that food is part of their future - make food production part of the school curriculum; Winter greenhouses in mild climate; \$\$\$ for farm preservation

	support...rising tide lifts all boats; Making Falmouth's name or reputation a food producing town; Seeing Falmouth put its farmers first; Farmer specific events and support; Getting together again; List serv; Inspiration for homesteading through convos, videos, opportunity to touch soil; Farmers market building; Keep existing farms running (no attrition); Addition of new farms; Community support for (new) farmers; Community preservation grants; No development on prime ag soils; Agri-hoods; Preserve Coonamessett; Make farming economically attractive; Transforming economics from 'sticker price' with externalized costs to 'true cost' system		
Common Themes:	Food waste reduction/ municipal compost system; improving connectivity, networking and support systems amongst and between farmers, consumers, restaurants; affordable housing, financial and social support or farmers; implement more food and farm friendly policies and by-laws; improving transportation - delivery and distribution; coordinating resources; development of food infrastructure; more money for farms; new efforts and initiatives to cultivate new farmers and fishers (more farms); more education for consumers and kids about food; more housing;		

Appendix E. Falmouth Food Survey Questions and Responses

#	Question	# of Responses
1	Which factors are most important to you when choosing which food to get? (Please select up to three choices)	n=473
	Nutrition	282
	Freshness	282
	Price	270
	Organic/ Sustainable	195
	Taste	168
	Time	66
	Appearance	41
	Stores well	39
	Other	22
2	Which factors are most important to you when choosing where to get food? (Please select up to three choices)	n=473
	Convenience	371
	Ability to get local or regional food	313
	Selection	281
	Other	64
	Social Experience	53
	Don't like where I shop	28
	SNAP/HIP/ WIC	23
	Multilingual	1
	None	1
3	What form of transportation do you use most of the time to get food? (Please select as many as apply)	n = 473
	Car (your own)	461
	Walk	52
	Food is delivered to me (Peapod, DoorDash, Blue Apron, HelloFresh, UberEats, Meals on Wheels, etc)	49
	Bicycle	48
	Friend, family or neighbor's vehicle	12
	Other	6
	Taxi, Uber, Lyft or other ride service	5
	Bus	4

			Boat	0
			Wheelchair	0
4	How often do you rely on the following options to get food?			n=473
			Most Frequently	Often Rarely/N ever
	Grocery stores	419	52	2
	Home gardening (when in season)	93	183	180
	Retail Bakeries, Meat/Seafood Markets, Specialty food stores	49	251	151
	Falmouth Farmers Market (when in season)	41	197	215
	Local farms/farm stands (when in season)	40	275	148
	Community Supported Agriculture Programs (CSA) (when in season)	30	75	340
	Food Delivery or Meal-kit Services	17	56	371
	Community gardens (when in season)	17	44	384
	Restaurants	15	216	225
	Falmouth Service Center	10	15	419
	Hunting/fishing/foraging	9	54	383
	School/place of work	8	28	406
	Friends, Family or Neighbors	5	74	363
	Convenience Stores	2	34	411
	Fast-food restaurants	2	27	419
	Other local food pantries or community meals	2	9	435
	Place of Worship	2	5	435
5	How do you learn about food resources available in Falmouth? (Check all that apply) Examples: price breaks, locally grown options, community meals, etc.			n=473
			Word of mouth	388
			Social media	195
			Newspaper	188
			Public Spaces	148
			Store signage	139
			Community Organizations	75
			Workplace	74
			Radio	42
			Other	29
			School	17
			Government Institution	10
			Place of worship	8
			Health institution	6
6	How has getting or consuming food changed for you in the past few years:			n=473

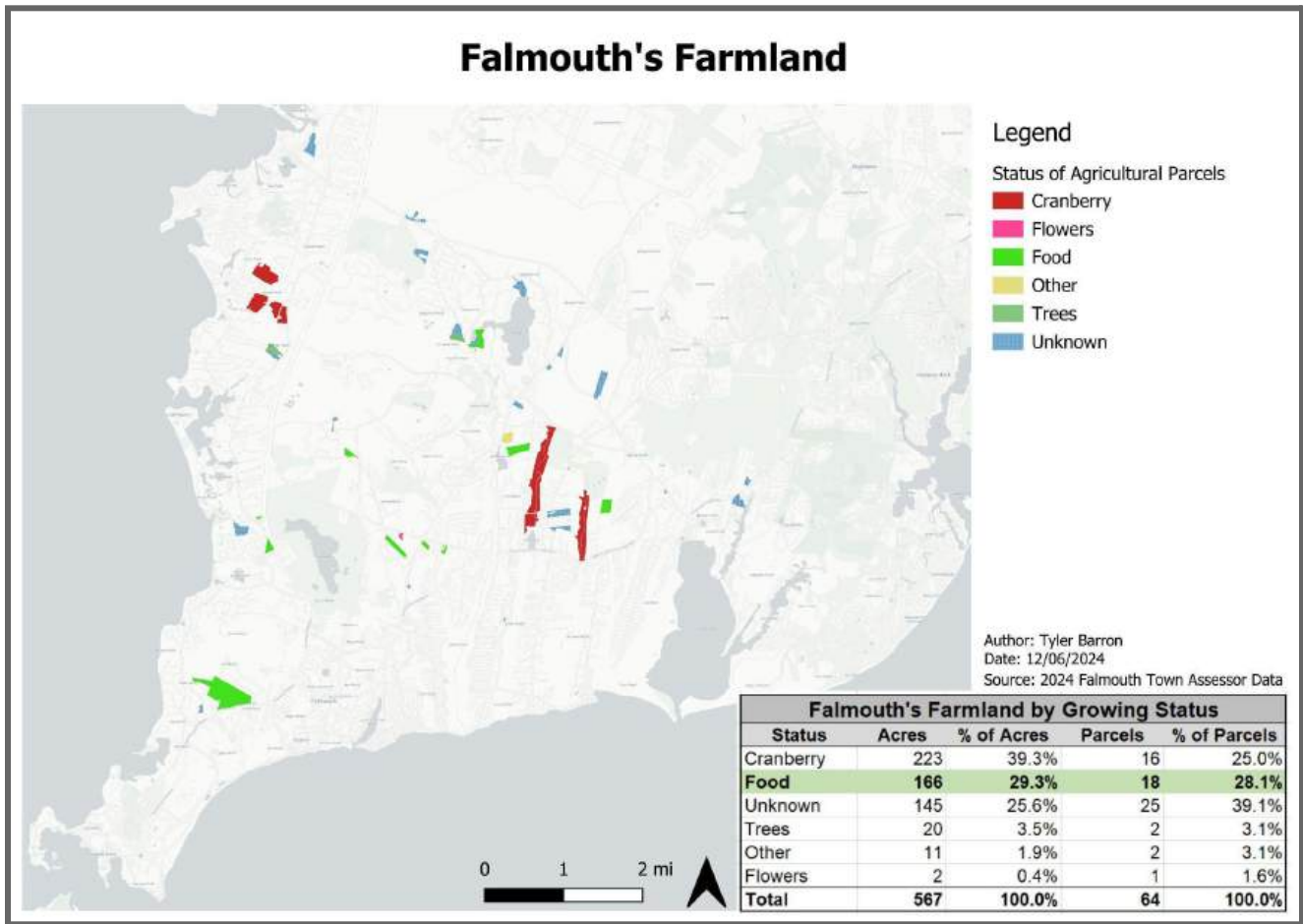
	I ate out less frequently	203
	I am shopping for groceries less frequently	115
	I have less money to buy the food I want and need	114
	I couldn't always buy the food I wanted	89
	No change	87
	I am shopping for groceries more often	71
	Other	69
	I ate out more frequently	57
	I have more money to buy the food I want and need	36
7	Which food items are the hardest for you to get? (Please select up to three choices)	n = 473
	Locally harvested or produced	197
	Bulk buying options (example: co-op, packaging with less plastic)	170
	Culturally specific foods	110
	Fresh fruit, vegetables and greens	100
	Organic, natural or non-GMO	87
	None	87
	Fish/Seafood	53
	Diet specific (example: allergen free, vegan, reduced sugar, etc)	49
	Meat, Poultry	41
	Other	25
	Dairy	14
	Grains	10
	Eggs	8
8	Which barriers, if any, affect your ability to get or consume food? (Please select up to five choices)	n=473
	Rising cost of food	185
	None	172
	I have limited time to shop	100
	I do not have enough time to prepare meals	89
	Monthly bills and expenses are too high making it difficult to afford food	80
	Other	35
	I do not have the experience to cook/prepare some ingredients	25
	The store is far from where I live	25
	My schedule doesn't match store hours	17
	Lack of childcare	16
	Portion sizes of available food are not appropriate for me	16
	Transportation is inconvenient or too expensive	13
	I have unstable housing	11

	Stores do not carry familiar products/ingredients	11
	I have physical/mobility limitations	10
	I lack appropriate kitchen or kitchen equipment to prepare meals	5
	Language barriers (signage and communicating with staff)	0
9	Which of the following could be useful in improving your access to food and food resources? (Check as many as apply)	n=473
	None	157
	Tips on getting the most for my money at the grocery store	148
	Information on how to grow food	147
	Information on nutrition, and healthy eating and cooking	125
	Information about government programs for which I might qualify	44
	Other	34
	Help with budgeting my finances	33
	Better access to childcare (availability or affordability)	16
	Better access to transportation (availability or affordability)	14
	Help with reading or understanding information about food programs (example: SNAP, WIC, etc)	11
	All of the above	8
10	Which of these foods, if any, would you prefer to be locally produced? (Please select up to three choices)	n = 473
	Vegetables and Greens	245
	All of the above	200
	Eggs	174
	Fish/Seafood	153
	Fruits and Nuts	72
	Meat (Pork, Beef, Poultry, etc)	68
	Dairy	42
	Grains/Legumes	15
	Other	7
	None of the above	4
11	Within the past 12 months, I worried whether food for me or my family would run out before I got money to buy more.	n=449
	Often true	17
	Sometimes true	52
	Never True	380
12	Within the past 12 months, the food I bought for me or my family didn't last and I didn't have money to get more.	n=449
	Often true	12
	Sometimes true	36

		Never True	401
13	Please indicate your relationship to SNAP:	n=449	
	I am not eligible		350
	I don't know if I'm eligible and am interested to find out if I am eligible		44
	I am a SNAP recipient		16
	I prefer not to answer		15
	Don't need it/Not interested		10
	I am a SNAP recipient but my level of participation is fragile (could lose benefits with change of income)		5
	I am eligible but I choose not to participate		4
	Previous Recipient		4
	Other (please specify)		1
14	Do you, or anyone from your household, make use of any of these following programs:	n=449	
	None		392
	Supplemental Nutrition Assistance Program (SNAP)		30
	National School Lunch/School Breakfast Program		23
	Other		8
	Women, Infants and Children Program (WIC)		5
	Summer Meals Program		4
	Health Incentives Program (HIP)		3
	Meals on Wheels		2
	The Emergency Food Assistance Program (TEFAP)		1
Refer to Section 2 for Question 15 - 20			
21	Is this definition of the food system clear?	n=424	
	The food system describes the journey of food from its point of origin, like farms and fisheries, to your dinner plate -- and all the steps along the way. The food system includes the activities, resources and people that contribute to where and how food is produced, how it's processed and distributed, how we choose, buy and cook food, and what impacts these interactions have on the economy, our community and the environment.	Yes	414
		No	10
22	Are you a member or employee of any organization or entity that considers itself a participant in the food system? (Examples: conservation, healthcare, education, policy, religious group, science, nutrition/wellness, etc)	n=424	
		Yes	111
		No	282
		Not sure	31
23	If yes, or not sure, can you share the name of this organization or entity and your understanding of its role, or its interest, in the food system?	n=424	
24	Do you believe it's a priority for Falmouth to strengthen its food system, thereby enhancing food security?	n=424	
		Yes	326
		No Opinion	81

		No	17
25	If yes, what factors do you consider a threat to our local food system? (Examples: local development, supply disruption, etc)	n=424	
26	Are you interested in the reintroduction of pre-colonial crops to the area?	n=424	
		Yes	219
		Not sure	178
		No	27
27	Would you be interested in attending a free workshop or discussion about any of the following topics? (Please select all that apply)	n=424	
	Gardening/ raising livestock/ food production		177
	Compost and food waste		173
	Food processing, store and fermentation		148
	Urban farming		132
	None		102
	Food justice/food equity		91
	Recipes, health and wellness		82
	All of the above		40
	Food budgeting		31
	Understanding food labels		20
	Other		19
28	Are you interested in having access to a community garden plot?	n=424	
		Yes	134
		No	290
29	What would make it easier for you, or people in your community, to gain access to locally grown or harvested food? (Please select up to three choices)	n=424	
	More local food at grocery stores and restaurants		286
	Longer farmer's market hours		204
	Info on where to find local food		162
	More pick-up options for CSAs		100
	Local food boxes		100
	Locally-run food sources open to public		88
	Local food in schools		82
	More educational opportunities about growing food		46
	Community-run facility for food processing		46
	Other		28
30	Do you have any questions, comments or concerns you'd like to share? (These comments will remain anonymous)	n=424	

Appendix F. Falmouth's Farmland



Appendix G. Grower and Producer Survey Questions and Responses

#	Question	# of Responses
1	Years in business:	n=11
	5 years or less	3
	6-10 years	2
	11-20 years	4
	20-50 years	2
2	Roughly how many more years do you expect to be the principal operator of your business?	n=11
	1-5 years	1
	5-10 years	5
	10-25 years	2
	More than 25 years	2
	Other (please specify)	1
3	Do you own or lease your farm/means of production?	n=11
	Own	5
	Lease ends within 5 years of today	1
	Lease ends greater than 5 years from today	1
	Other (please specify)	4
4	Is the tenure/ownership of your land, fishery or operation something you're concerned about?	n=11
	Yes, I'm concerned about the tenure of my land, fishery or operation	4
	No, I'm not concerned	6
	I haven't thought about it	1
5	Is it likely that you may need to or want to sell your land, boats, operation, or part of your operation, when you retire?	n = 11
	Yes	5
	No	4
	Haven't thought about this	2
6	How has getting or consuming food changed for you in the past few years:	n=11
	Yes	1
	No	9
	Haven't considered	1
7	Total acres owned/leased (please enter N/A if not applicable):	n = 11
	5 acres or less	3
	5+ to 10 acres	3
	10+ to 20 acres	3
	N/A	2

8	If applicable, please indicate the total acreage that isn't in production:	n=11
	5 acres or less	3
	5+ to 10 acres	3
	10+ to 15 acres	1
	N/A	1
	No answer	3
9	Estimated net farm/food production income:	n=11
	\$1-20,000	6
	\$20,000-\$40,000	2
	\$40,000-\$80,000	1
	\$120,000-\$250,000	1
	\$250,000-\$500,000	1
10	Roughly how many workers or volunteers are needed for your operation? (Please include yourself as a worker)	n=11
	# of Volunteers:	7
	# of Seasonal, Full-time:	12
	# of Seasonal, Part-time:	5
	# of Year-round, Full-time:	16
	# of Year-round, Part-time:	5
	Meat (Pork, Beef, Poultry, etc)	68
11	Please indicate the crops, animals or goods you help produce: (check all that apply)	n=11
	Vegetables	7
	Fruits/berries	5
	Flower - ornamental	5
	Eggs (duck or chicken)	4
	Greens/microgreens	3
	Herbs	3
	eVegetable seedlings/starts	3
	Poultry (chicken, quail, ducks, turkey)	3
	Honey	3
	Shellfish/seafood	2
	Meat (beef, pork, sheep/lamb, goat)	2
	Flower - edible	2
	Mushrooms	2
	Maple Syrup	1
	Sea Salt	1
12	Please indicate which foods you harvest/catch: (check all that apply)	n=11

	None	7
	Oysters	2
	Littlenecks	1
	Cherrystones	1
	Chowders	1
	Soft shell clams	1
	Bay scallops	1
	Butter clams	1
13	Is farming or producing food your primary or secondary source of income?	n=10
	Primary	4
	Secondary	6
14	Which of the following, if any, are challenges to operating or expanding your business? (Check all that apply)	n=10
	Access to infrastructure (greenhouses, cold storage, commercial kitchens, etc)	6
	Equipment (access to new or used equipment)	5
	Truck and transport expenses	4
	More land (at an affordable cost)	4
	Access/Availability of resources (fuel, fertilizers, seeds, pots, etc)	4
	None of the above	3
	Difficulty finding appropriate markets to sell goods	3
	Access/availability of labor	3
	Access to capital (for any expenses)	3
	Access/availability of housing for staff	2
	Costs of permits/licenses	1
	Access/availability of housing for you	1
15	Which of the following would help your business grow or be more profitable (Check all that apply)?	n=10
	New or stable market demand (having more or reliable events/markets to sell goods)	5
	Professional development programs	5
	Access to and awareness of grants/ grant programs	4
	Support with marketing for the business	3
	Support finding, housing and paying for workers	3
	Access/Availability of more technical assistance	3
	More volunteers	2
	None of the above	2
	All of the above	1
16	What is your operation's interest in participating as a SNAP/HIP retailer?	n=10
	I am currently a SNAP retailer	1

	I am currently a HIP retailer	1
	We aren't currently SNAP/HIP retailers but we're interested in having assistance to become one	3
	No, I'm not interested.	4
	Other (please specify)	1
17	Please indicate your growing methods: (Check all that apply)	n=10
	Organic	6
	Conventional	3
	Greenhouse	3
	Pesticide/chemical free	3
	Integrated pest management	3
	N/A	2
	Tunnels	2
	Sustainable/rotational grazing	2
	Hydroponic/Aquaponic	1
	Grass-fed	1
	Aquaculture	1
	Other (please specify)	1
18	Please indicate which, if any, value-added production occurs through your business:	n=10
	None	6
	Canned or jarred foods	3
	Prepared foods	1
	Baked goods/bread	1
	Chicken stock	1
	Frozen goods	1
	Pet food	1
19	How are your products sold? (Check all that apply)	n=10
	Farmers Market	5
	Farmstand or farm store	4
	Small independent grocers or co-ops (e.g. Windfall)	4
	Local restaurants	3
	Community Supported Agriculture (CSA) Shares	3
	Other farm stands (owned by another farmer or organization)	1
	Regional local food distributor (e.g. Sid Wainer and Son, Ring Bros)	1
	Large grocery chains (Stop and Shop, Shaws)	1
	Regional food hub or processor	1
	National food distributor (Sysco, UNFI)	1
	Hospitals/healthcare facilities	1

20	Please indicate any post-harvest activities that occur on-site: (Check all that apply)	n=8		
		Cooling		6
		Packing		6
		Washing		6
		Sorting		6
		Labeling		6
		Grading		3
		Value-added processing (trimming, freezing, canning, etc)		2
		N/A		1
		Fermentation		1
		Slaughter		1
21	Please indicate any services used to support your operation: (Check all that apply)	n=8		
		None		3
		Commercial kitchen		3
		Buyer-pick up		2
		Slaughtering		1
		Distributor		1
		None of the above		1
22	Of the following shared services or infrastructure, which would you be interested in?	n=8		
	Yes, interested in delivery (a truck pick-ups product at your farm and delivers it to your end client)			1
	Yes, interested in shared products (you provide ingredients to food hub staff to produce a value-added product that they and you sell)			2
	Yes, interested in aggregation (your product is bought and combined with other product for wholesale)			1
	Yes, interested in a commercial kitchen (you rent kitchen space to produce a value-added product).			4
	Yes, interested in shared infrastructure (cold storage, wash stations, equipment, etc)			2
	No, not interested.			3
23	Please indicate how often your goods or products are gleaned or donated:	n=8		
		Regularly	Infrequently	Never
	Gleaned	0	0	8
	Donated	3	4	1
24	Please indicate how often your goods or products are composted:	n=8		
		Regularly	Infrequently	Never
	On-site	5	0	3
	Off-site	0	0	5
25	Please select any of the certifications or labels used by your business:	n=8		
		None		7
		Antibiotic free		1

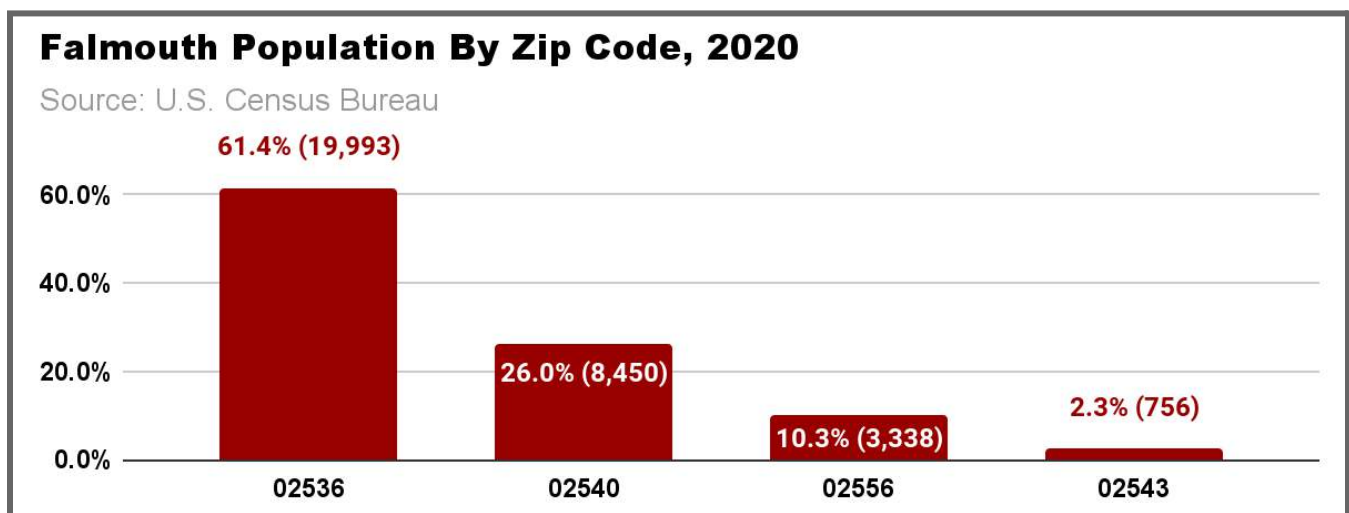
	Hormone free/rGBH free	1
	Best Aquaculture Practices	1
	Sustainable	1
	GMO-Free	1
26	If at all, in what ways do you use the internet for your business?	n=8
	Email communication	7
	Conducting research/finding information for business	6
	Purchasing goods and services used in operating the business	6
	Marketing the business's goods and or services	3
	The business has its own website	3
	Communicating with customers	4
	The internet doesn't aid my business	1
27	Where do you most commonly obtain production inputs (seeds, tractors, implements, fertilizers, compost, etc.)?	n=8
	Ordering online	3
	In town or surrounding counties	2
	Farther than town or surrounding counties	1
	Other (please specify)	2
28	Are there specific inputs you'd like to be able to access locally?	n=8
	None	3
	Equipment and implements	1
	Fertilizer/compost	1
	Animal Feed	1
	All of the above	1
	Other	1
29	The list below includes ideas proposed by growers and producers in Falmouth that would help address the strengths and challenges they face. Please select up to five options you wish to be prioritized:	n=8
	Town prioritization of local food production (inclusion in Local Comprehensive Plan, supportive ordinances, zoning changes)	4
	Support to keep Falmouth's prime agricultural soils in production (purchasing new land or maintaining current production)	4
	A Falmouth food hub (a place for collectivized resources, greenhouses, commercial kitchen, aggregation, distribution, processing, group procurement)	3
	More events that can feature local food (festivals, street fairs, etc)	3
	Locally produced goods featured in local grocery stores	3
	Locally produced or harvested products featured in more restaurants	3
	Local producer's listserv/mailling list	2
	A yearly/bi-yearly local producers meeting	2
	More consumer education about costs of production and the value of local agriculture	2

30	Are you interested in sharing basic information about your business (location, product availability, website) that will be used to create a local food directory?	n=8
	Yes	3
	Not sure, I'd like more information	5
	Animal feed	1
	None	3
	All of the above	1
31	Do you have any additional questions, comments or concerns?	n=8

Appendix H. Land Use Classifications and Acreage, 1951-2016

Land Use Classifications and Acreage, 1951-2016				
Land Use Classification	1951	1999	2016	
Cropland	2261.6	151.9	Cropland	223.5
Pasture	869.4	384.6	Pasture/Hay	247.2
Woody Perennials (Orchard; nursery; cranberry)	367.5	357.6		
Sum of Acres	3498.6	894.1		470.7
Source: MassGIS				

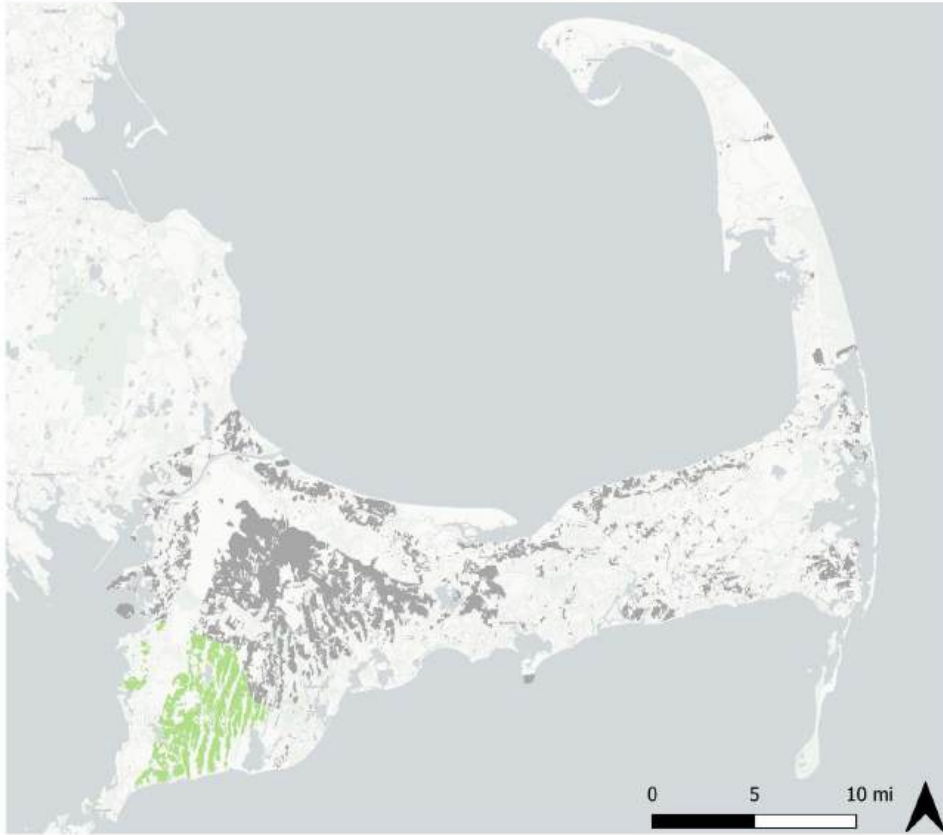
Appendix I. Falmouth Population by Zip Code, 2020



Appendix J. Cape Cod's Agricultural Soils

Prime Farmland, Farmland of Statewide Importance, and Farmland of Unique Importance

A View of Cape Cod's Agricultural Soils



Cape Cod Agricultural Soils by Town		
Town	Acres	Percent
Sandwich	13301.7	25.6%
Falmouth	10309.0	19.8%
Barnstable	8908.5	17.1%
Bourne	6159.5	11.9%
Mashpee	4801.1	9.2%
Dennis	2436.4	4.7%
Chatham	1297.8	2.5%
Brewster	1225.4	2.4%
Harwich	1099.7	2.1%
Yarmouth	1035.6	2.0%
Orleans	703.7	1.4%
Eastham	422.7	0.8%
Truro	141.5	0.3%
Provincetown	83.8	0.2%
Wellfleet	39.7	0.1%
Total	51966.1	100.0%

Author: Tyler Barron
Date: 12/06/2024
Source: MassGIS Data: Soils
SSURGO-Certified NRCS, November 2021

Appendix K. Blessings “For the Farmer” and “For One Who Holds Power” by John O’Donohue

For the Farmer

Before the human mind could warm itself,
The hands of the farmer had first to work,
Creating clearances in the earth’s thicket:
Cut into the thorn-screens of wild briar,
Uproot the clusters of scrub-bush,
Dig out loose rock until a field emerged
Whose clary could be loosened and softened
To take seed and bring forth crops.

The earth was able to trust
The intention of the farmer’s hands,
Opening it, softening it, molding it
Into a domain of shelter and nourishment.
It waits through its secluded winter
For his imagination of springtime
To feed into its darkened heart
New seeds for it to work its mind on
Until the harvest gathers and thickens
With golden corn, honey-scented hay,
Ripe red and dark purple fruit.

In his mind, his fields become presences;
The feel of their colors, the brace of their walls
Have greened his thought and tempered his heart.

His eyes can read the animal atmosphere;
And see through their silence to sense their minds.
His skilled hands guide calves and lambs to
birth.

Out among his animals, in rain, cold, and snow,
Talking to them in affectionate callings,
Something in him tuned to their rhythms.

In these times when geography becomes virtual
And developers urbanize the earth,
May the farmer continue to hold true ground,
Keeping the intimate knowing of the clay alive,
Nourishing us with the fruits of the earth,
Serving as custodian of that precious threshold
where

The rhythm of nature with its serene pulse
And sublime patience restores our minds.

For One Who Holds Power

May the gift of leadership awaken you as a
vocation,
Keep you mindful of the providence that calls you to
serve.

As high over the mountains the eagle spreads its
wings,
May your perspective be larger than the view from
the foothills.

When the way is flat and dull in times of gray
endurance,
May your imagination continue to evoke horizons.

When thirst burns in times of drought,
May you be blessed to find the wells.

May you have the wisdom to read time clearly
And know when the seed of change will flourish.

In your heart may there be a sanctuary
For the stillness where clarity is born.

May your work be infused with passion and creativity
And have the wisdom to balance compassion and
challenge.

May your soul find the graciousness
To rise above the fester of small mediocrities.
May your power never become a shell
Wherein your heart would silently atrophy.
May you welcome your own vulnerability
As the ground where healing and truth join.

May integrity of soul be your first ideal,
The source that will guide and bless your work.

"For the Farmer" and "For One Who Holds Power" are by John O'Donohue *from the book, To Bless the Space Between Us*. Reprinted with permission.



The 2024 Falmouth Food System Assessment was written by Tyler Barron on behalf of Farming Falmouth.