

## A report that frames the Garden State's challenges and opportunities

Prepared by Rutgers Cooperative Extension,  
Office of Urban Extension and Engagement

**RUTGERS**  
New Jersey Agricultural  
Experiment Station

## Executive Summary

*“Urban Agriculture Strategies for the State of New Jersey”* is a report that frames the Garden State’s challenges and opportunities in considering how to define, engage, educate, and fund farming in the more densely populated areas on New Jersey’s rural to urban farming continuum. The report was made possible through funding by the State of New Jersey, Department of Agriculture and was prepared by Rutgers Cooperative Extension, Office of Urban Extension and Engagement.

Urban agriculture is emerging as a significant source of affordable fresh food in underserved communities without access to grocery stores, and numerous grassroots organizations utilize urban agriculture as a strategy for addressing a variety of social and economic challenges in disadvantaged communities. However, New Jersey—the nation’s most urbanized and densely-populated state—faces significant challenges in developing a comprehensive strategy to address residents’ demand for more space to ‘green’ their urban environments and grow some of their food closer to home.

This report builds on recommendations from the NJDEP’s 2017 Urban Agriculture Symposium and the NJDEP EJAC white paper that summarized the symposium, as well as from discussions by the New Jersey Urban Agriculture stakeholder group convened for this report. The report provides the following set of recommendations and action items—a roadmap to frame the challenges and opportunities to develop urban agriculture strategies for the State of New Jersey.

### ***Envision a ‘Right to Urban Farm’—Advocacy to Define Urban Agriculture***

This report offers a flexible operational definition of urban agriculture that focuses on agricultural practices irrespective of scale or intent for consideration by local municipalities and state agencies, with the following recommendations:

- Use the operational definition of urban agriculture presented in the report to resolve the challenges posed by the Five Acre Rule.
- Provide urban growers, community-based organizations, and entrepreneurs access to state programs and grants, micro-loans, and program related investments.
- Develop comprehensive NJDA/NJDEP approved guidelines for best urban agricultural practices for local municipalities to utilize in determining how to adapt local land use ordinances for urban agriculture.

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## ***Map Urban Agriculture to Help Support Its Preservation***

This report identifies common resource needs and opportunities to create or adjust policies in support of expanding networks of urban farmers, gardeners, and entrepreneurs, who grow, distribute, process, and feed their communities, with the following recommendations:

- Map urban agriculture properties with the help of growers via the Urban Ag Portal.
- Establish an advisory group (working with an established land trust) to examine feasibility of developing a statewide urban land trust for urban agriculture.
- Fund a Phase II project to collect production/market data from selected urban farms and market gardens.

## ***Support Urban Agriculture with Resources & Policies***

The new urban agricultural web portal provides urban growers with resources, a platform for farmers to exchange knowledge with each other, and a new interactive mapping tool, with the following recommendations:

- Expand the map beyond the eight initial focus cities.
- Extend funding to support the continuation of the web portal with focus group participation.

## ***Train and Certify Urban Growers***

Training and certification are of significant interest for urban growers. It provides greater access to opportunities across the entire state, leverages the resources of SEBS/NJAES and Rutgers University most effectively and allows faculty with expertise and experience to participate in a developed program more easily, with the following recommendations:

- Establish an advisory group to develop a learning plan and curriculum content for a Rutgers Urban Grower Program.
- Identify resources and personnel to conduct and evaluate a pilot workshop.



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*\*All maps prepared by NJAES Office of Research Analytics*

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## Chapter 1: Introduction and Goals of the Report

Urban agriculture is trending nationally and here in New Jersey as an important land use.<sup>1, 2, 3</sup> Historically, the introduction of urban planning and advancement of public health and hygiene laws in cities resulted in regimes of zoning regulations and ordinances separating agriculture and many of its related commercial activities from urban centers.<sup>4</sup> Concerns that there may be too much separation between our farms and tables has revived interest in supporting local food production and strengthening community-based food systems. Urban agriculture is emerging as an important source of fresh food in underserved communities without access to grocery stores.<sup>5, 6</sup> Equally important is its strategic use as a tool for community building through personal empowerment, mutual aid, self-sufficiency, economic and sustainable development, and entrepreneurship.<sup>7, 8</sup>

New Jersey's urban and peri-urban communities share similar challenges with cities nationwide in an effort to make room for agriculture within the city. What are the best ways to accommodate growing interest in strengthening local food systems through urban agriculture? How can these new opportunities be extended to ensure there is equity and inclusion for all communities? Where can local and state agencies leverage their support to catalyze entrepreneurship and economic growth for the benefit of communities that have experienced historical disadvantage and underinvestment?

According to US Census data, New Jersey is the nation's most urbanized<sup>9</sup> and densely-populated state.<sup>10</sup> New Jersey is the 'Garden State' yet faces significant challenges in developing a comprehensive strategy to address the residents' demand for more space to 'green' their urban environments and grow some of their food closer to home (Figure 1).

New Jersey is a small powerhouse in the food and farming sector. Agriculture represents the state's third largest industry,<sup>11</sup> and New Jersey ranks among the top ten producers nationwide in a variety of fruit and vegetable crops, including: blueberries, peaches, cranberries, tomatoes, eggplant, spinach, asparagus, bell peppers, squash, cucumbers, and sweet corn.<sup>12</sup> Jersey farmers take pride in knowing that the crops they labor to produce become food for people (Figure 2). The cost of land and taxes in New Jersey are high, but residents value the extraordinary contributions family farms make to the state's economy, foodshed, and their good stewardship of shared soil and water resources. Since 1998, residents have overwhelmingly voted in support of funding for farmland preservation. Over \$1.8B of public funding has been leveraged to protect the state's most productive agricultural land,<sup>13</sup> and overall more than 237,000 acres of farmland across New Jersey — nearly one-third of all farmland in the state — have been preserved.<sup>14</sup>





*Figure 1: The CFET farm provides fresh produce and green space in Camden (Courtesy of CFET).*



*Figure 2: Fresh produce at a CFET farmers market stand in Camden (Courtesy of CEFT).*

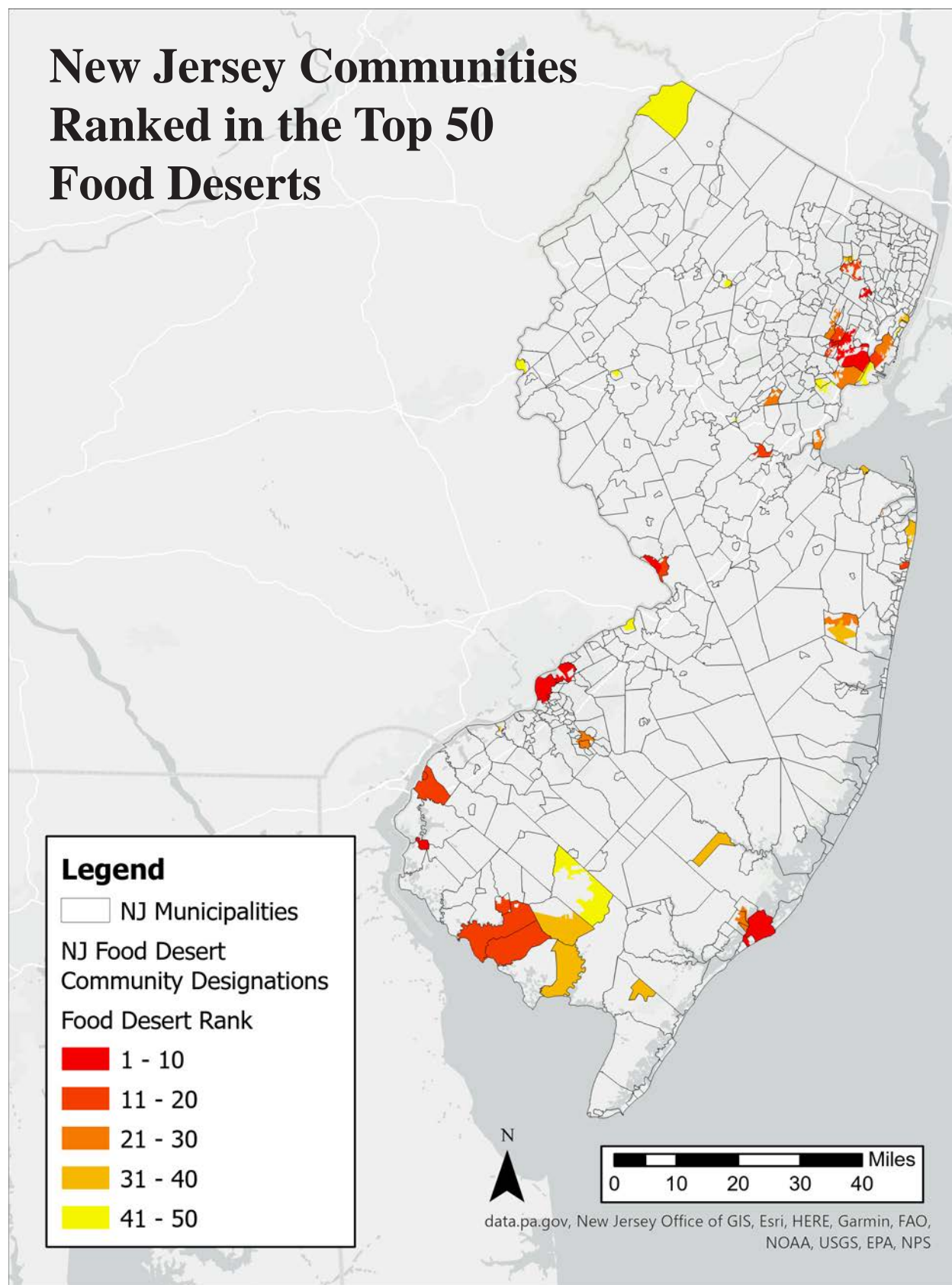


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Despite this success, some farmers still struggle to maintain profitability and certain communities experience difficulties accessing fresh healthy food that is affordable. Analysis of the NJ State Economic Development Authority (NJEDA)’s recently published map of ‘food desert’ communities illustrates these challenges (Map 1).<sup>15</sup> New Jersey’s top five most populated cities (combined population of over one million people) meet the NJEDA’s criteria to be classified as food desert communities. Among the top twenty highest populated cities, half are designated food desert communities. Even small cities in close proximity to the state’s largest farming communities are not immune to poverty and food insecurity. Six designated food desert communities in Salem and Cumberland counties have a combined population of under 55,000 people, and the City of Bridgeton alone accounts for half of those people. New Jersey’s struggle to connect farmers, food, and communities is a problem in urban centers and less populated areas of the state.

Numerous grassroots organizations have seized on urban agriculture as a strategy for addressing a variety of social and economic challenges in disadvantaged communities. Some of these projects have been extraordinarily successful while others have had difficulty achieving scale or stable funding and other resources needed for programming. This report builds on work begun in 2017 at an Urban Agriculture Symposium hosted by the New Jersey Department of Environmental Protection (NJDEP). This was the first time a New Jersey state agency convened key stakeholders inside and outside of government for a meeting focused on urban agriculture. Keynote presentations from Douglas H. Fisher, NJ Secretary of Agriculture and Dr. Laura J. Lawson, then Assistant Dean of Academic Programs at the Rutgers School of Environmental and Biological Sciences, centered on the trends in New Jersey agriculture and the unique opportunities and challenges of working to expand farming across a landscape that is close to fully developed.

Leaders from within state agencies and Rutgers, the land grant university in New Jersey, in dialogue with community-based organizations and urban agriculture practitioners discussed a range of issues and needs for urban farmers and gardeners. The participants of the Symposium represented a range of groups practicing different forms of food production at different scales, but many also shared a variety of common problems revealed in focused group discussions. The notes and data from the Symposium were used as source material for an urban agriculture white paper produced in 2019 by NJDEP’s Environmental Justice Advisory Committee (EJAC).<sup>16</sup> The white paper highlights key discussions and recommendations across the focused group discussions.



Map 1: NJ State Economic Development Authority food deserts.

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## Goals and Objectives

This report builds on recommendations from the NJDEP's 2017 Urban Agriculture Symposium and subsequent NJDEP EJAC white paper. New Jersey's urban agriculture stakeholders have a wide range of shared interests, many of which align with those of traditional agricultural producers. There are also unique, mission-driven activities requiring a targeted examination of the challenges faced developing, funding, and operating urban agriculture projects across the state.

Understanding urban agriculture's place within the larger framework of an industry that contributes over \$1 billion to the state's economy is complicated. Stakeholders working in this space need a clearer picture of how their work connects to other efforts across the state. Collectively, urban growers may need or want similar resources, or benefit from changes to specific policies. This report identifies common resource needs and opportunities to create or adjust policies in support of expanding networks of urban farmers, gardeners, and entrepreneurs, who grow, distribute, process, and feed their communities. The report also addresses recurring challenges (such as land access/land tenure, need for resources, training and technical assistance, and supportive administrative and legislative policies) raised in previous events and papers as being essential to meet current urban agriculture needs and lay the groundwork for future opportunities.

### *Goal #1: Establish contextual and operational definitions for urban agriculture in New Jersey*

*1a) Objective: Characterize key goals and objectives within the broad spectrum of local urban agricultural activities.*

*1b) Objective: Develop an operational definition for New Jersey urban agriculture comprising what is included and excluded from current consideration.*

Movement towards a wider acceptance and inclusion of urban gardens and farms as one of many viable strategies for increasing healthy food access has been slow. While there are generally few objections to urban pleasure gardens of ornamental flowers and trees, intensive food production in community or allotment gardens is allowed primarily as a temporary land use. Underlying social conditions creating the 'temporary' availability of urban land for gardening and farming continued for decades, giving these gardens and farms a sense of permanence. Communities have come to rely upon access to these spaces to grow fresh, nutritious foods for their families (Figure 3), create outdoor learning sites for schools (Figure 4), daycare and afterschool programs, and some have reimagined city gardens and farms as 'hubs' for urban economic development. Local entrepreneurs want to increase capacity to grow, aggregate and





Figure 3: Planting crops in raised beds (Courtesy of CFET).



Figure 4: Students tending to vegetables (Courtesy of Nick Romanenko / Rutgers University).



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distribute, and offer access to space for food processing and sales. Consequently, what was considered temporary has now become contested space.

Community stakeholders who have been stewards of urban gardens and farms are seeking permanent status for their sites and legal protection for their agricultural activities. Working with local and state agencies to accomplish shared goals requires common language, understanding, and use of terminology. The report's first goal was to lay a foundation for a shared understanding of urban agriculture terminology and practices.

### ***Goal #2: Build a comprehensive data set to inventory assets, needs, and practices***

*2a) Objective: Create urban agriculture asset maps of select cities to identify locations of significant urban food production.*

*2b) Objective: Distribute a survey (statewide) to collect information about the agricultural production, practices, and other needs for urban gardens and farms.*

Creating a process to permanently protect urban gardens and farms was identified as the highest priority action in urban agriculture related conferences and meetings Rutgers hosted between 2011 and 2022. New Jersey is a national leader in the conservation and protection of farmland and open space, but very little of that land is in or adjacent to low-wealth communities. Environmental commissions, green teams, land trusts, watershed associations, arboretums, public gardens, and associations comprise a well-networked web of public, private, and non-profit organizations working to preserve the state's farmlands, open space, and natural resources. Yet, New Jersey has no urban land trust organization. Most community gardens and urban farms have no legal designation or protection. They were established and operate within a framework of antiquated vacant lot stabilization programs.

Municipalities offer low-cost annual leases for neighborhood groups and organizations to 'adopt-a-lot'. The purpose of these programs was to aid cities in decline by shifting the economic burden and responsibility for maintenance and security of vacant lots from the government to private citizens and organizations. Decades later, the economic value of many of these lots has increased and cities are reclaiming them for development. Beginning a strategic dialogue with public officials and the philanthropic community about creating an urban land trust to protect spaces for urban gardening and farms requires a more complete picture of urban agriculture across the state. The report's second goal was to collect data from key urban agriculture stakeholders establishing a baseline of information about the location of urban gardens, farms, and the ways these sites are used in the community.

***Goal #3: A summary analysis and recommendations for further programs, research, and policies***

*3a) Objective: Conduct SWOT analysis of select urban agriculture enterprises to identify possibilities for commercial viability.*

*3b) Objective: Advise on next steps to engage institutional and community stakeholders to develop educational, research, and policy work in urban agriculture.*

For over a decade, urban agriculture stakeholders have advocated for a comprehensive policy framework that acknowledges the ways urban gardens and farms have been integrated into the community and the value these spaces add to the social and economic development goals expressed by community residents. Urban agriculture has been creatively woven into program and educational activities, and public services within many institutions. There are others launching small commercial urban agriculture enterprises and testing the economic viability of urban agriculture. The report's final goal was to synthesize findings into a set of recommendations that address programmatic and support needs of urban agriculture practitioners, ongoing research that documents the social and economic value of urban food production and associated activities.

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## Report Outline

**Chapter 2** provides a definition of urban agriculture in New Jersey (as suggested by a stakeholder focus group) as a framework for discussions in this report. This section also identifies the critical importance of having state and local legislation that define urban agriculture to overcome specific policy barriers that inhibit the growth of urban agriculture in the Garden State.

**Chapter 3** discusses an inventory of urban agriculture assets, needs, and practices in eight focus cities in New Jersey to create a comprehensive statewide data set that informs policy, training, and other efforts to strengthen urban agriculture activity. Analysis of the data includes information on demographics, location of preserved open space or preserved farmland, location of food desert communities, and rates of participation in food assistance benefits.

**Chapter 4** identifies key findings from a survey and focus group event on New Jersey urban growers' farming activities, motivations, barriers to growth, and need for material support, information and training.

**Chapter 5** analyzes select urban agriculture enterprises for commercial viability and provides relevant case studies.

**Chapter 6** provides recommendations and next steps for engaging with institutional and community stakeholders.

**Chapter 7** offers conclusions to strengthen urban agriculture across New Jersey. Additional supporting documentation and graphics are available in the *Appendix*.

## **Research Process and Advisory Committee**

This report uses qualitative methods that build on findings from previous statewide urban agriculture convenings in 2017 and 2019, and the 2019 NJDEP EJAC white paper.<sup>17</sup> The report's goals and objectives were guided by a participatory process, engaging stakeholders who were part of the research process from the beginning. Conversations on current and future opportunities in urban agriculture in New Jersey have evolved over more than a decade and involved a large group of multisectoral stakeholders.

Members of the report's Advisory Committee represent state and federal agencies, institutions, non-profit, community-based organizations, entrepreneurial urban farming businesses, and the report team and administrators at Rutgers University. Core members of this group are recognized leaders throughout the state and were identified at the beginning phase of the report process. The report team's intent was to cast a wide net in recruiting participants.

As the land grant institution for New Jersey, Rutgers, through Cooperative Extension and other units, supports a wide range of activities to engage with urban agriculture practitioners. Over many years of serving diverse communities across the state, these programs have included training courses, workshops, conferences, scientific research, technical resources, and business incubation support.

The New Jersey Department of Agriculture has been the key stakeholder in advancing collective conversations about developing new opportunities, diversifying farming in New Jersey, and creating better synergies between the state's agriculture and food policies to connect urban growers and consumers, particularly in communities identified as food insecure.

Grassroots and community-based organizations have been most responsible for the outreach, development and delivery of urban agriculture programs and related services. They are on the front lines of changing trends in the scale, goals and objectives of urban agriculture. Urban farming supporters are leading the charge in reimagining community-food systems that support health and nutrition, create economic opportunity, are environmentally regenerative, and just. Organizational perspectives, approaches, and agendas are different, but previous work and this report reflect an intention to include as many stakeholder voices as possible.

Advisory committee members were encouraged to identify and invite others within their networks who should (and were willing to) participate. Throughout the year the report team welcomed several new participants into the Advisory Committee group (see Acknowledgements for full list of Committee members).

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## End Notes

- <sup>1</sup> Daftary-Steel, Sarita, Hank Herrera, and Christine Porter. 2015. “The Unattainable Trifecta of Urban Agriculture.” *Journal of Agriculture, Food Systems, and Community Development* 6 (1): 19–32. <https://doi.org/10.5304/jafscd.2015.061.014>.
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- <sup>9</sup> United States Census Bureau. “Growth in Urban Population Outpaces Rest of Nation, Census Bureau Reports.” United States Census Bureau, May 19, 2016. [https://www.census.gov/newsroom/releases/archives/2010\\_census/cb12-50.html](https://www.census.gov/newsroom/releases/archives/2010_census/cb12-50.html).
- <sup>10</sup> United States Census Bureau. “Historical Population Density Data (1910-2020).” United States Census Bureau, August 6, 2022. <https://www.census.gov/data/tables/time-series/dec/density-data-text.html>.



<sup>11</sup> New Jersey Department of Agriculture. “About NJDA.” New Jersey Department of Agriculture, Accessed November 15, 2022. <https://www.nj.gov/agriculture/about/overview.html>.

<sup>12</sup> Ibid.

<sup>13</sup> New Jersey State Agriculture Development Committee. “New Jersey State Agriculture Development Committee Annual Report 2020/2021.” New Jersey Department of Agriculture, 2021. [https://www.nj.gov/agriculture/sadc/documents/publications/SADC%20fy20\\_21Annual%20Report.pdf](https://www.nj.gov/agriculture/sadc/documents/publications/SADC%20fy20_21Annual%20Report.pdf).

<sup>14</sup> New Jersey State Agriculture Development Committee. “New Jersey Ranks #1 in the Nation for Addressing the Loss of Farmland.” New Jersey Department of Agriculture, May 29, 2020. <https://www.nj.gov/agriculture/sadc/documents/news/press/2020/2020.05.29ReleaseAFTFarmsUnderThreatReportNewJerseyFINAL.pdf>.

<sup>15</sup> New Jersey Economic Development Authority. “Food Desert Relief Program.” New Jersey Economic Development Authority, Accessed November 15, 2022. <https://www.njeda.com/food-desert-relief-program%e2%80%8b/>.

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## Chapter 2: Defining Urban Agriculture in New Jersey

The 2019 NJDEP urban agriculture white paper provided recommendations for material and policy advancements to formally recognize and define urban agriculture in the state. This report utilizes the definition below, which is a synthesis of language proposed by members of the 2022 Urban Ag Forum, a focus group of urban agriculture practitioners convened to draft a definition of urban agriculture for New Jersey. This definition serves as a starting point for a policy discussion on the importance of creating a legal definition and protections for urban agriculture activity.

### Focus Group Definition

*Urban agriculture is the practice of cultivating, processing, and distributing food in or around urban areas and a strategy to preserve and use land or buildings in urban areas for agricultural purposes. These production sites may be permanently dedicated to this use or available for these purposes as an interim beneficial shared use (school grounds, parks, houses of worship, etc.).*

*Importantly, these practices and strategies offer exposure to products grown on these sites and sourced from other growers in the region to build demand for healthier food options. They provide entry into the food systems industry, particularly in New Jersey's communities of color throughout the state, and develop entrepreneurial opportunities.*

*New Jersey's Urban Agriculture provides food access and equity. It enhances the emotional and psychological values of community by reclaiming and adaptively reusing lands. It creates beauty, wildlife habitat, clean air, and offers communities safe spaces to engage with agriculture, agricultural practices, and the environment.*

### The Need for a Definition of Urban Agriculture in New Jersey

Other states and localities across the country have legislation and land use ordinances that define, legitimize, and regulate urban agriculture. Currently, none of New Jersey's 564 municipalities has zoning or ordinances for commercial urban agriculture. Urban growers must contend with a patchwork of local regulations, largely written for community gardens. The USDA recognizes there is no statutory federal definition of urban agriculture and suggests that practices and policies should be guided by local policy.

In New Jersey, defining urban agriculture is complicated because of an administrative policy that establishes farms must meet a minimum 5-acre threshold to receive farmland assessment. The Five Acre Rule has been instrumental in the success of New Jersey's farmland preservation program,

but the rule creates barriers to the expansion of urban agriculture, which is spatially and economically distinct from more traditional farming. Without a framework supporting broader statewide recognition, the growth of urban agriculture will be constrained by New Jersey's Home Rule Act of 1917 and the broad powers possessed by our 564 municipalities to enact local ordinances and regulations.

The draft definition, created by participants in the Urban Ag Forum focus group, includes common practices, and varied purposes or policies associated with urban food production. This all-encompassing definition may be useful for educational or informational purposes but was critiqued by NJDA as overly broad to function as an operational definition of urban agriculture. In reviewing policy, planning and design work within New York City's urban ag community. The Five Borough Farm project offers a paired down definition of urban agriculture that may have greater utility for use by local municipalities and state agencies:

***Definition (Refined):***

*Urban agriculture can be defined as growing fruits, herbs, and vegetables, and raising animals in cities, a process that is accompanied by many other complementary activities such as processing and distributing food, collecting and reusing food waste and rainwater, and educating, organizing and employing local residents.<sup>1</sup>*

The benefit of the paired down definition is its focus on agricultural practices irrespective of scale or intent. There is consensus among NJDA, Rutgers, and other key stakeholders for an operational definition recognizing urban agriculture as a multiscalar strategy including food production in home gardens, larger non-profit programs, and small commercial operations. Along this continuum, there may be alignment around certain basic needs and other circumstances where the scale of production and market-driven activities of urban producers requires different levels of support and regulatory oversight by NJDA.



Figure 5: March Urban Ag Forum (Courtesy of OUEE).



Figure 6: March Urban Ag Forum (Courtesy of OUEE).

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## Urban Farms and the Five Acre Rule

New Jersey has one of the nation's most successful farmland preservation programs. According to the State Agricultural Development Committee (SADC) almost one-third of New Jersey's farmland has been preserved.<sup>2</sup> Protection of commercial farming is achieved through the 1983 Right to Farm Act (RTFA), and the 1964 Farmland Assessment Act. Together these pieces of legislation provide protection for farmers to conduct their normal business operations free from threats of nuisance lawsuits or changes to local zoning ordinances that impact commercial farm operations and provide a structural framework to reduce property tax burdens for farming businesses.<sup>3,4</sup> These policies were created for rural farming and never anticipated the emergence of an urban agriculture movement. Consequently, urban farms face significant obstacles meeting requirements to be legally considered a farm in New Jersey.

The rules of New Jersey's Farmland Preservation Program set forth several criteria defining what a farm is, and whether agricultural property is eligible to be considered for tax reassessment. Minimum eligibility requirements for farmland assessment require "land must consist of at least 5 contiguous (adjoining) acres being farmed and/or under a woodland management plan. Land under and adjoining the farmhouse is not counted in the five-acre minimum area needed to qualify." The only allowance for farms smaller than five acres is if they produce "agricultural or horticultural products worth \$50,000 or more annually." The RTFA and farmland preservation program are powerful policy tools that protect commercial farming but were not designed and are not easily adapted for the urban farming context.

New Jersey has only three urban farms larger than one acre, and none larger than 2.5 acres. Significant numbers of urban gardens and farms are supported by community-based nonprofit organizations, and their activities are often contextualized as helping to advance mission-related social and environmental projects. Within these narrowly defined parameters, urban farms are too small spatially and economically to receive any legal designation or protection. The Five Acre Rule also creates barriers to market for urban growers trying to provide fresh food to lower-income residents living in communities without full-service grocery stores or healthy food retail.

New Jersey tethers farmer farmland assessment criteria to participation in programs promoting healthy food access for senior citizens, women, and children. The Senior Farmers Market Nutrition Program (FMNP) and the Supplemental Nutrition Program for Women, Infants, and Children (WIC) provide a federally funded food aid benefit for the purchase of fresh fruits and vegetables from farmers markets. Many urban growers meet federal guidelines of these programs to participate as farm vendors, but New Jersey adds the Five Acre Rule as an additional requirement. The unintended consequence of applying five acres as a minimum threshold for a food aid program is urban farmers are blocked from participating as vendors in WIC and Senior FMNP, and residents cannot use these benefits to purchase fresh produce grown in their own communities.

By contrast, the Supplemental Nutrition Assistance Program (SNAP), has far fewer restrictions. SNAP is a federal entitlement providing support to all people who meet income-eligibility and other program requirements. SNAP benefits may be used to purchase food at any farmers market or farm stand vendor who is approved by the federal government. New Jersey does not require farmers who accept SNAP benefits to meet a minimum acreage requirement. In neighborhoods without grocery stores, urban farm stands or farmers markets are places easily accessible for residents. If urban farmers are ineligible to accept WIC and Senior FMNP benefits as forms of payment, then the consumer and farmer are negatively impacted.

More than a decade of advocacy on this issue has yielded a commitment from NJDA to create a pathway, allowing urban farmers and non-profit organizations fully participate in New Jersey's agricultural sector as growers and vendors. Urban growers and other stakeholders point out that most of their farming activities are coordinated through non-profit organizations, which are exempt from property taxes. Seeking farmland assessment is not a goal of any urban farm. Connecting the Five Acre Rule, which defines a farm for tax purposes, with WIC and Senior FMNP, programs created to improve nutrition and reduce food insecurity, is illogical. Urban growers, stakeholders, and advocates have urged state agencies to provide realistic pathways for participation as vendors in these programs. Allowing urban farms to accept WIC and Senior FMNP as forms of payment creates more opportunities for residents to access healthy foods using their benefits, provides sales revenue that helps offset some of the programmatic expenses of operating the farm, and may increase New Jersey's rates of participation and redemption of benefits in both programs.

Beyond the immediate challenges presented by the Five Acre Rule, stakeholders emphasize the need for broader policy conversations between state agencies, conservation groups, and philanthropic organizations to achieve an operational definition and greater protections for urban agriculture.



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## Chapter Summary

Lack of zoning or ordinances for urban agriculture has created a legitimacy issue for urban practitioners. Creating a legal definition of urban agriculture in New Jersey would provide a starting point for policy discussions to protect urban agriculture activity.

Urban agriculture is about more than food production. Instead of struggling to adapt agricultural definitions and policies intended for large scale commercial farms, urban agriculture and urban farming could be defined by the food security, social, economic and environmental justice outcomes they seek to achieve (Figure 7).

There are significant policy barriers facing small commercial and non-profit urban agriculture businesses under five acres. Defining urban agriculture and developing a policy framework would:

- 1) Better connect consumers and urban growers, affording both more capacity to spend and receive as payment WIC and SNAP benefits.
- 2) Facilitate easier access to urban land preserved for food production.
- 3) Create market-driven opportunities for urban agriculture entrepreneurs through local food hubs.



*Figure 7: Jones Valley Teaching Farm, Woodlawn Highschool – Birmingham, AL (Courtesy of Meredith Taylor).*

## **End Notes**

<sup>1</sup> Cohen, Nevin, Kristin Reynolds, and Rupal Sanghvi. 2012 “Five Borough Farm: Seeding the Future of Urban Agriculture in New York City.” New York, New York: Design Trust for Public Space, 2012.

<sup>2</sup> New Jersey State Agriculture Development Committee. “New Jersey Ranks #1 in the Nation for Addressing the Loss of Farmland.” New Jersey Department of Agriculture, May 29, 2020. <https://www.nj.gov/agriculture/sadc/documents/news/press/2020/2020.05.29ReleaseAFTFarmsUnderThreatReportNewJerseyFINAL.pdf>.

<sup>3</sup> State Agriculture Development Committee, “Right to Farm Act” (N.J.S.A. 4:1C-1 et seq., Trenton, NJ, 2019), <https://www.nj.gov/agriculture/sadc/documents/rtfprogram/rtfact/rtfa.pdf>.

<sup>4</sup> New Jersey Department of Agriculture. “Farmland Assessment Overview.” New Jersey Department of Agriculture, July, 2015. <https://www.state.nj.us/agriculture/divisions/anr/pdf/farmlandassessmentoverview.pdf>.

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## Chapter 3: Mapping Urban Agriculture Assets in Select New Jersey Cities

Urban agriculture sites are under increased threat of displacement by other forms of development. Mapping provides information on locations of gardens and farms, the types of food production activities, and other ways communities use these sites to build a comprehensive data set that inventories assets, needs, and practices.

The cities selected — Jersey City, Newark, Elizabeth, Paterson, Trenton, Camden, Bridgeton, and Atlantic City — are geographically dispersed across the state and represent different population size, land area, and levels of urban density (Figure 8). All these cities, except Jersey City, have at least one local non-profit organization that provides direct support to urban gardens and farms. Most of these organizations are in the report’s Advisory Committee and were the main source of site-specific farm/garden data, such as location, site characteristics, farming activities, land ownership or preservation status, soil testing, and more.

New Jersey recently enacted the Food Desert Relief Act to incentivize businesses to establish supermarkets and grocery stores in food desert communities. Using tax incentives in this manner to reduce community food insecurity has become increasingly popular. For that reason, designated Opportunity Zones across each city were also mapped, as were select publicly available indicators of food insecurity, including each city’s ranking on New Jersey Economic Development Authority’s list of food desert communities,<sup>1</sup> and rates of participation in the Supplemental Nutrition Assistance Program (SNAP), formerly known as food stamps. The team also examined recent census data on income levels, poverty rates, and population density for each focus city (Figures 9 and 10), and distribution of preserved open space and preserved farmland in each focus city’s county. Collectively, these pieces of data were analyzed to help the team understand how urban gardens and farms are situated within the community as sites with multiple purposes. See Appendix 2 for full mapping methods, individual analyses of each focus city, and all county and focus city maps.



## County/City Population, Area, & Population Density

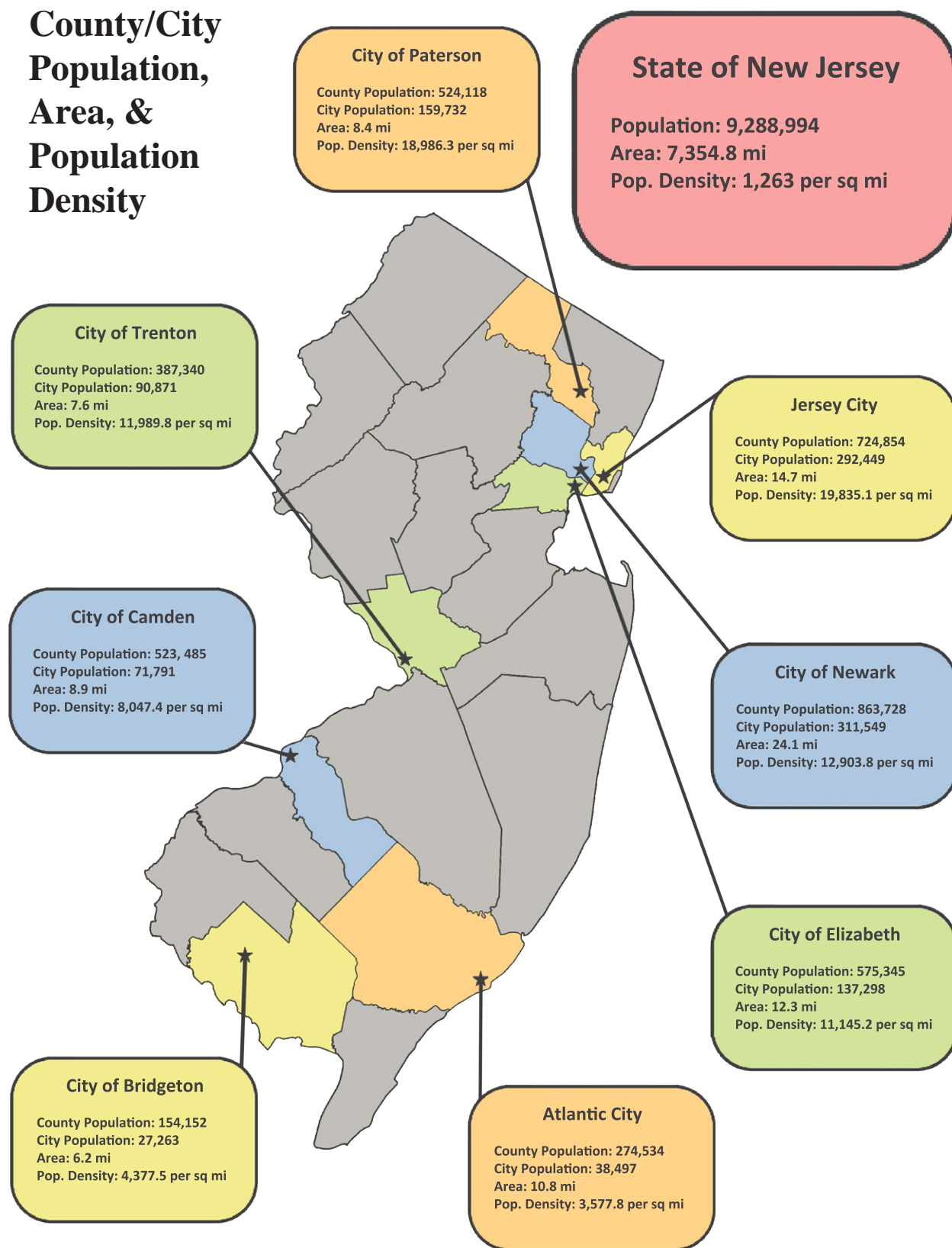


Figure 8: Population, area, and population density of focus cities compared to New Jersey.

# Income Level and Poverty Rates Compared to New Jersey

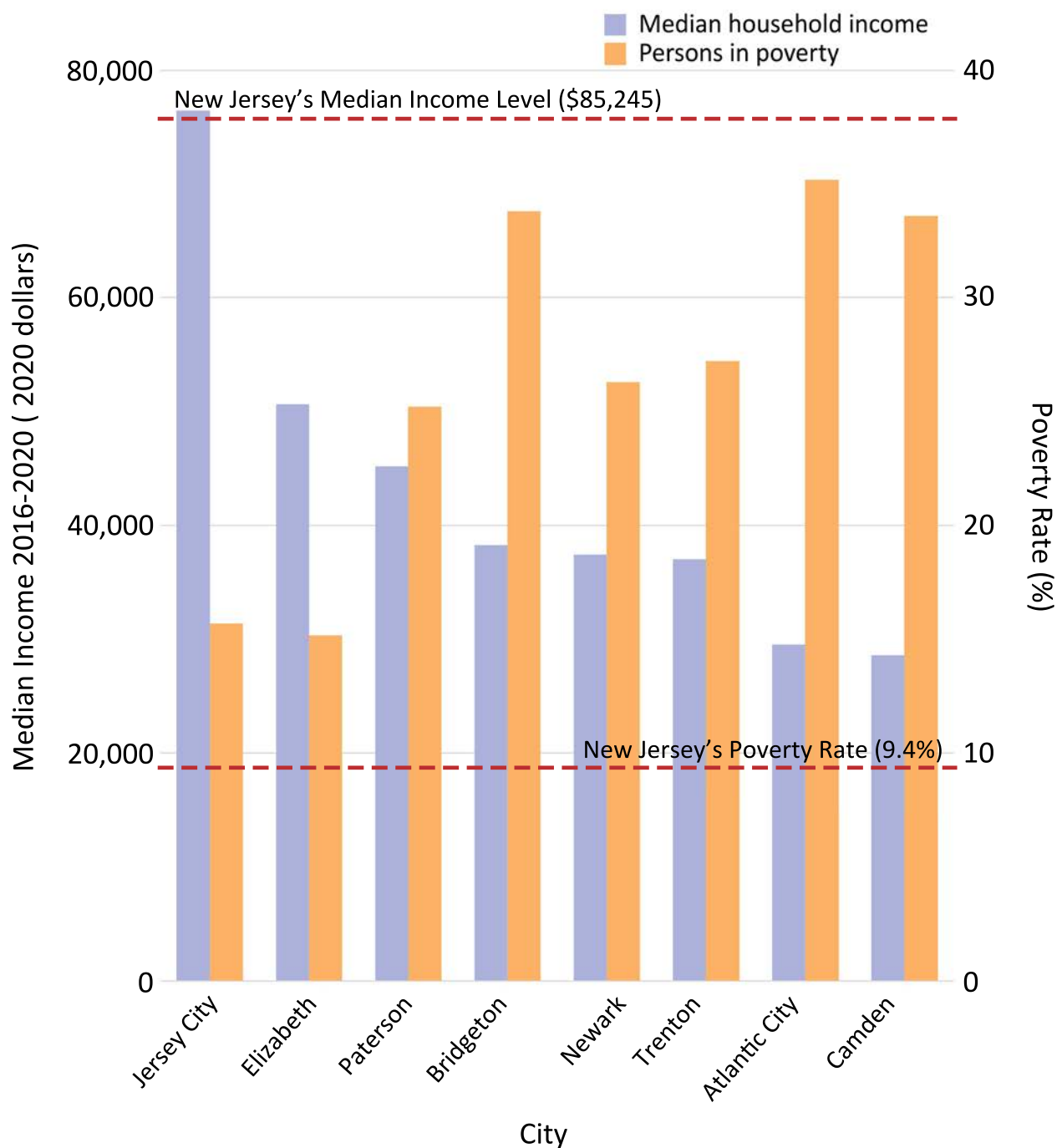


Figure 9: Focus cities (except Jersey City) have lower median household income and higher poverty rate than NJ.<sup>2</sup>

# Population Density Compared to New Jersey

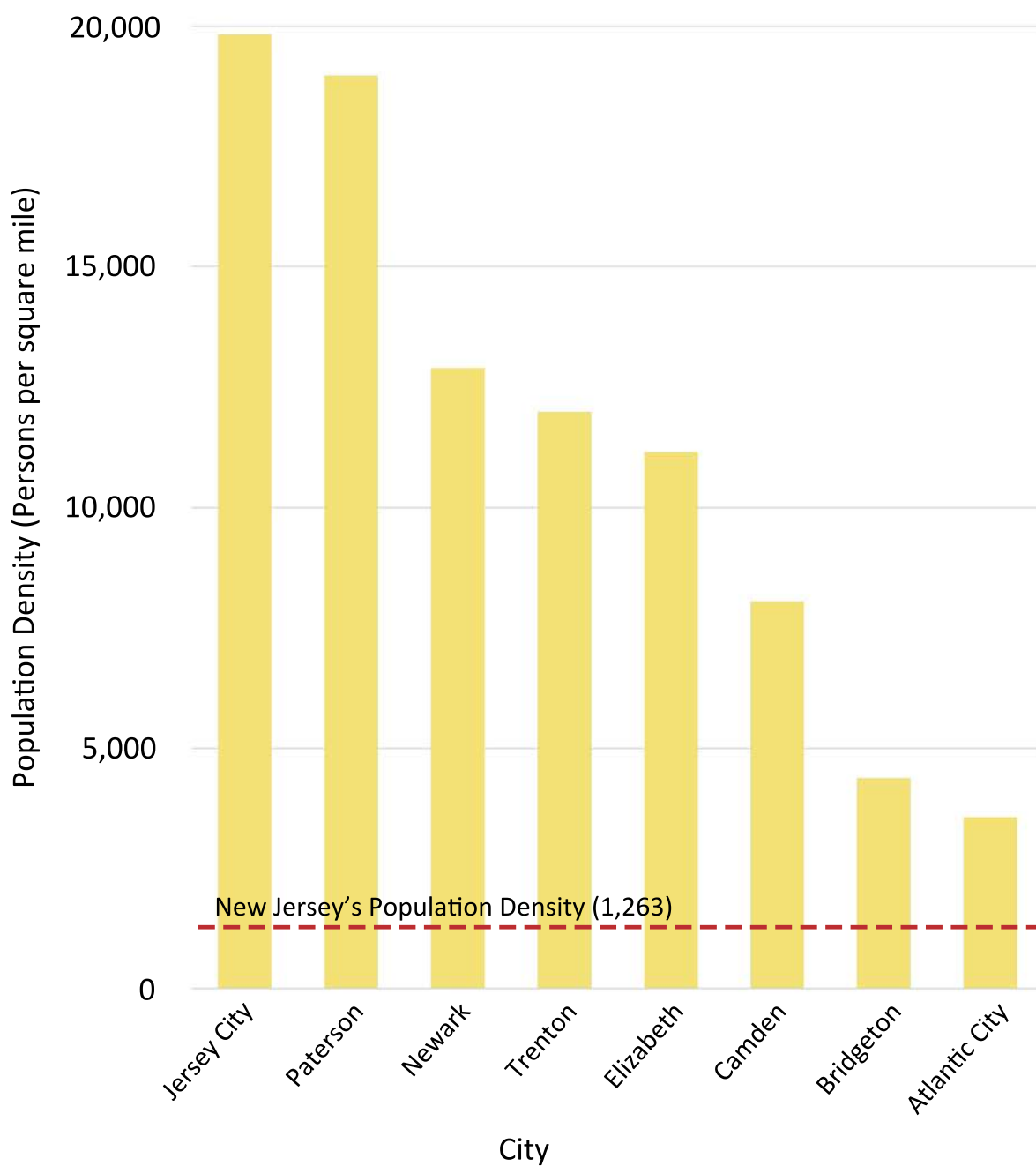


Figure 10: Focus cities have higher population density than New Jersey, the most densely-populated state in the US.<sup>3</sup>

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## Key Mapping Outcomes

All eight of the focus cities have a very high population density compared to New Jersey (Figure 10). Rates in the five northern and central cities (Jersey City, Newark, Elizabeth, Paterson, and Trenton) range between 175-275 percent greater than the statewide average. In three of those cities—Trenton, Paterson, and Newark—poverty rates are over 25 percent. In South Jersey, where population density is lower on average, the range was still between 50-150 percent greater than the statewide average, with poverty rates over 30 percent in Atlantic City, Bridgeton, and Camden.

High rates of poverty are likely indicators of communities that utilize social benefit programs at high rates. Maps of the focus cities (Appendix 2) highlight rates of household participation in the SNAP program and reveal that urban gardens and farms tend to be clustered in areas of cities with higher rates of SNAP participation and in proximity to designated New Jersey Opportunity Zones. This mapping data is consistent with survey responses expressing why growers are producing food and how it is being used (see Chapter 4). Urban gardens and farms provide affordable access to fresh nutritious food in areas of the city with higher rates of poverty and participation in the SNAP program. This finding suggests that more should be done to preserve productive urban agriculture sites as they are the closest points of access to people with greatest need.

Each county map illustrates areas where funding was used to preserve open space and farmland. Urban centers with higher population densities and rates of poverty have significantly less preserved open space. The obvious disparities in public investments in open space existing between suburban and urban communities highlights important issues of equity and environmental justice. In view of the intense pressures that exist to develop urban land, an environmental justice lens is needed and equity should be centered in developing a framework to preserve land for urban gardens and farms.

Elizabeth, in Union County, serves as a clear example of these findings. A sizable portion of Elizabeth's land base is captured by the infrastructure (roads, rail lines, shipping container yards) needed to operate the airport. The gardens and farms mapped in Elizabeth (Map 2) appear to be evenly distributed across most residential areas of the city and are absent in the largest part of the opportunity zone representing the airport and the port. Almost 25 percent of the county's population resides in the city, but the map (Map 3) shows very little open space available for city residents. Suburban Union County has large tracts of preserved open space connecting and encircling several communities. Elizabeth has the least amount of open space of the eight focus communities.

Although these county and city maps illuminate disparities in how open space resources are allocated across high and low-wealth communities, they also reveal potential synergies between urban farms and gardens and opportunity zones. All twenty-one of New Jersey's counties have open space trust funds to facilitate the purchase of land for parks, recreation, preservation of farmland or historic sites, often with matching funds through the state's Green Acres Program.<sup>4</sup> The focus communities in this study experience high rates of poverty, food insecurity, and unemployment but also have valuable food production assets that could stimulate economic development and materially improve conditions. A new framework for exploring this potential could involve using targeted investments of funds for food desert relief and opportunity zones to help small non-profit community enterprises scale their businesses. The 'food hub' model is one example of a local business that would benefit from more creativity and connection between these siloed government programs.

### **The Importance of Mapping Urban Agriculture**

Identifying sites of significant urban food production is a first step in advancing dialogue and potential solutions to address concerns about land access and land tenure. Anecdotal evidence collected in the years prior to this study indicates that urban growers have had tremendous difficulty obtaining long leases or ownership of garden and farm sites. Between 2011 and 2019, Rutgers convened four statewide 'Ag in the City' conferences at which there was close to universal concern expressed about land tenure. Some cities had stopped renewing garden leases, granting water access, and slated desirable garden sites for public auction and redevelopment. In more than one instance, urban growers and stakeholder groups claimed they had little to no advance warning about the impending sale of their agricultural sites.

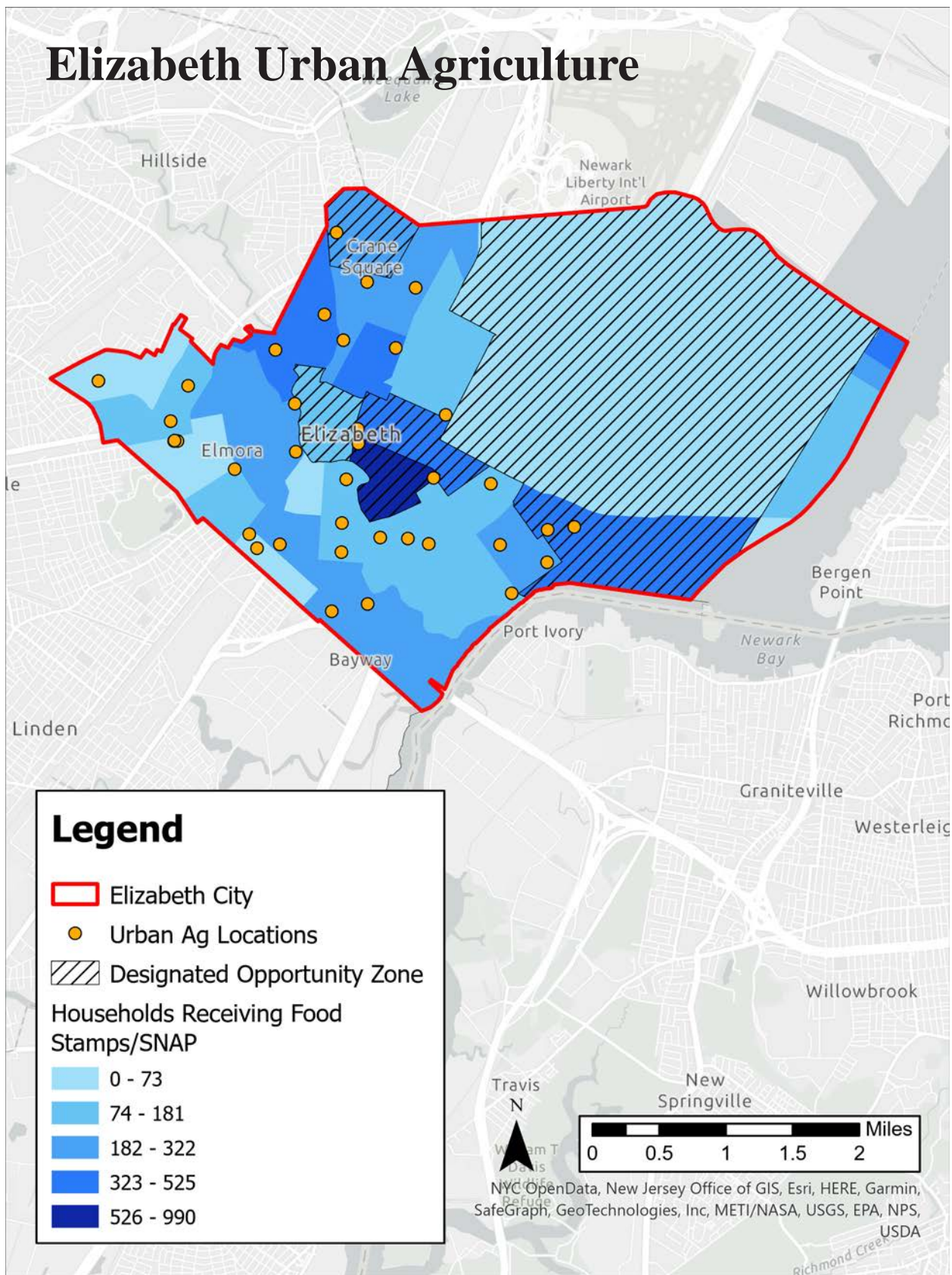
### **Using and Expanding the Data Set**

The data collected on the eight focus cities represents baseline information that is housed in an interactive format<sup>5</sup> on an urban agriculture web portal<sup>6</sup> developed by Rutgers with widely accessible data that urban growers can use to support their funding proposals and expand their professional networks. Researchers, advocates, and policy makers can also utilize it to inform their studies, programs, and policy decisions.

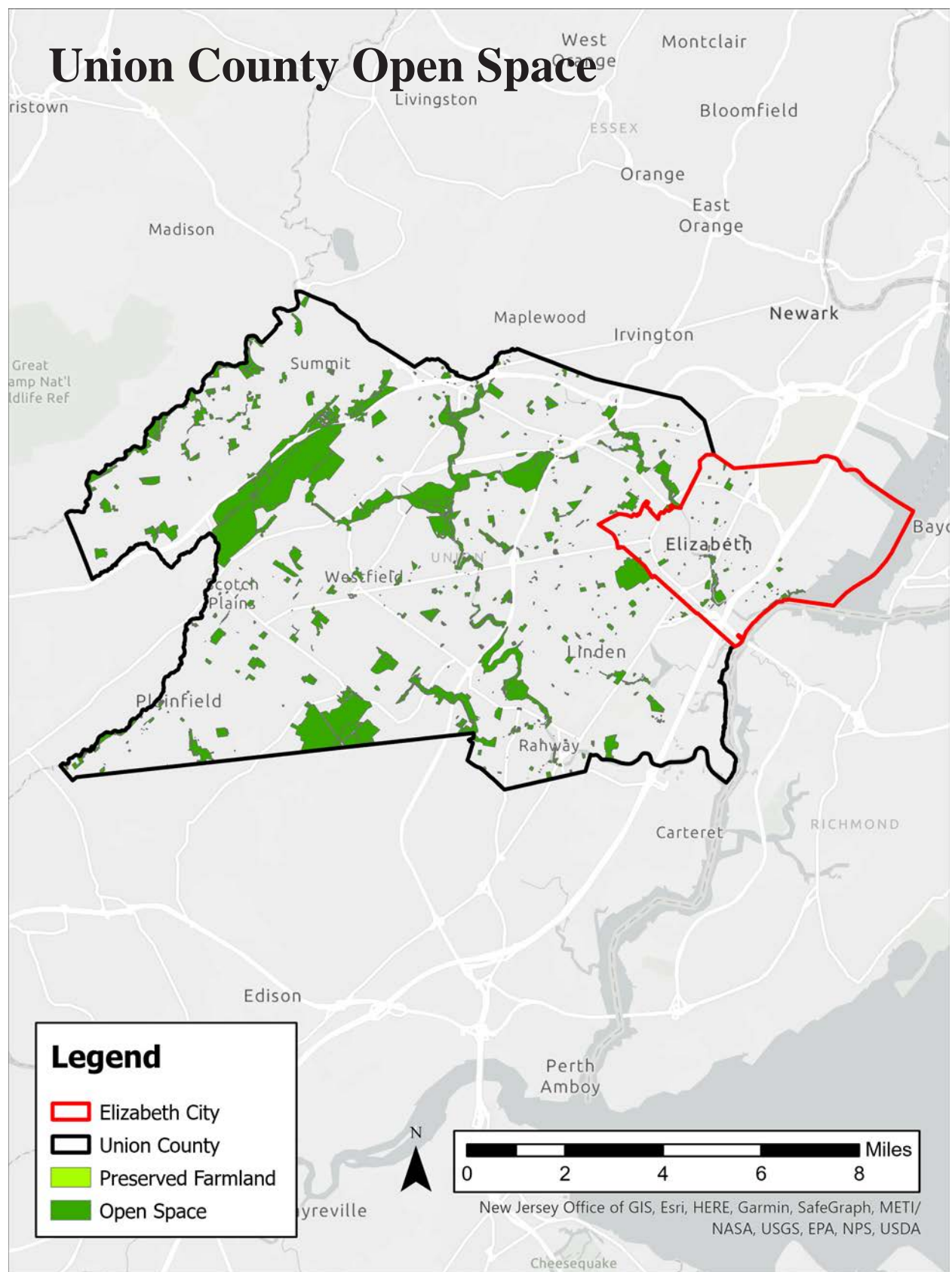
To keep the maps up-to-date, registered users of the site may submit additional urban agriculture site locations and information via a linked Qualtrics form. New information will be added to the project database and the maps updated biannually. The data set can also be expanded to include additional cities beyond the eight covered in this report.



# Elizabeth Urban Agriculture



Map 2: Ag locations in Elizabeth in relation to Designated Opportunity Zones and households receiving SNAP.



Map 3: Open Space and Preserved Farmland in Union County, New Jersey, in relation to the City of Elizabeth.

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## Chapter Summary

The data supports the case for the preservation of urban gardens and farms. The maps and charts illustrate the relationship between population density and poverty in eight focus cities, and offer a spatial analysis of urban food production sites compared to preserved open space and farmland in eight counties. Among the communities of focus, Newark, Paterson, and Trenton have high rates of population density and poverty. Each city contains between one-quarter and one-third of the population of the entire county. Rates of SNAP participation vary across each community but urban gardens and farms tend to be clustered in areas with the highest rates of participation. Many of these areas are also designated opportunity zones. The maps clearly reveal the disparities in public investments in open space between suburban and urban communities. This highlights issues of equity and environmental justice in the allocation of public funds to preserve land.



## **End Notes**

<sup>1</sup> New Jersey Economic Development Authority. “Food Desert Relief Program.” New Jersey Economic Development Authority, Accessed November 15, 2022.  
<https://www.njeda.com/food-desert-relief-program%e2%80%8b/>.

<sup>2</sup> United States Census Bureau. “Quick Facts.” United States Census Bureau, 2020.  
<https://www.census.gov/quickfacts/NJ>.

<sup>3</sup> Ibid.

<sup>4</sup> Gilbert, Tom, Alison Mitchell, John S. Watson, Jr., and Michele S. Byers. “Open Space Trust Funds Keep New Jersey Green.” New Jersey Conservation Foundation, October 31, 2019.  
<https://www.njconservation.org/open-space-trust-funds-keep-new-jersey-green/>.

<sup>5</sup> New Jersey Agricultural Experiment Station. “NJ Urban Agriculture Web Map.” New Jersey Agricultural Experiment Station, 2022.  
<https://www.arcgis.com/home/item.html?id=13fba34b84c947c5bb7d3eae6faffe64#>.

<sup>6</sup> <https://urbanag.rutgers.edu>.

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## Chapter 4: Composition of Urban Farmers in New Jersey and Their Needs

Rutgers developed an Urban Agriculture Survey (Appendix 3) to collect information from urban growers in New Jersey on their reasons for growing food, what they produce and how the food is used. The survey also helped identify specific barriers or challenges practitioners face, their assessment of short-and long-term needs, and their interests in pursuing entrepreneurial opportunities. The survey was circulated widely in English and Spanish by members of the Advisory Committee group to networks of urban community gardeners and through Rutgers Cooperative Extension networks and social media. Evaluated collectively with information from the GIS maps of urban gardens, the data provide a clearer picture of how urban agriculture is spatially distributed across the state along with the scope of production activities and current needs. A total of 115 respondents (N=115) submitted surveys.

Initial survey distribution relied on the Advisory Committee organizations to circulate the survey within their community networks. Unfortunately, the rate of responses was low. To increase the response rate, the survey tool was shared with colleagues in Rutgers Cooperative Extension county offices. Extension professionals sent the survey out to community partners, which increased the quantity of responses increased, but a major drawback with this approach was the resulting data are very suburbanized. Only one-third (N=38) of the total responses (N=115) came from growers in the report's eight focus cities (Atlantic City, Bridgeton, Camden, Elizabeth, Jersey City, Newark, Paterson, and Trenton). Consequently, responses from locations outside of the focus cities were filtered out and a separate analysis of the data using only the responses from the focus cities was prepared. For several survey questions, distinguishing between responses from the two groups of growers was not imperative. However, there were key questions related to the location of urban agriculture sites, land access, and land tenure where the experiences and responses of growers inside and outside the focus cities may be very different. When necessary, distinctions are made between data collected from growers in both groups.

## **Key Findings**

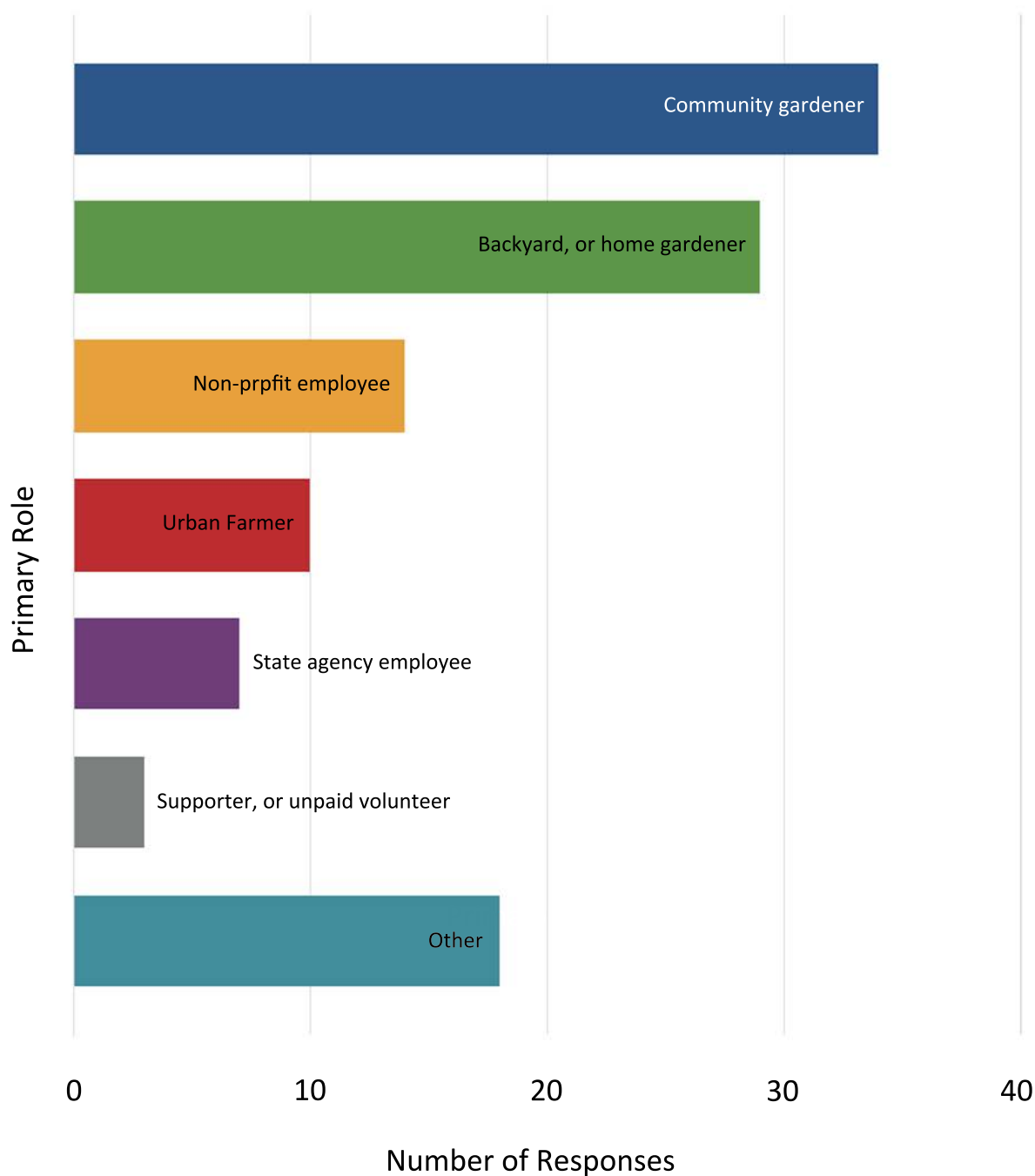
### ***Who are the Respondents?***

Fifty-two percent of respondents identified as backyard, home, or community gardeners, and over 8 percent identified themselves as urban farmers (Figure 11). The remaining 40 percent, ‘Other’, identified as hobby farmers, homesteaders, small certified organic growers, non-profit farmers, teachers, and students. Almost 23 percent report having been engaged in urban gardening for five to ten years, and approximately 43 percent reported more than ten years.

### ***Why do They Grow?***

More than half of the respondents ranked providing food for themselves and family, increasing food access and food security, and contributing to environmental sustainability among their top three reasons for participating in urban agriculture (Figure 12). These findings are consistent with other literature identifying urban agriculture as an effective intervention to improve fresh food access and household food security in underserved communities.<sup>1, 2</sup> Although smaller percentages of respondents ranked education programs, food justice advocacy, creating safe spaces and reducing blight as primary reasons for urban agriculture activity, non-profit organizational leadership often links these factors to mission-driven work with significant impact across the state. New Jersey Farm to School Programs, FoodCorps, Food Democracy Collaborative, and Isles, Inc. use urban agriculture as a strategy for youth development, policy, and environmental programs.

# Respondents' Primary Role in Urban Agriculture



N = 115

*Figure 11: The majority of survey respondents identified as community gardeners, or backyard/home gardeners.*

# Respondents' Top Three Reasons for Participating in Urban Agriculture

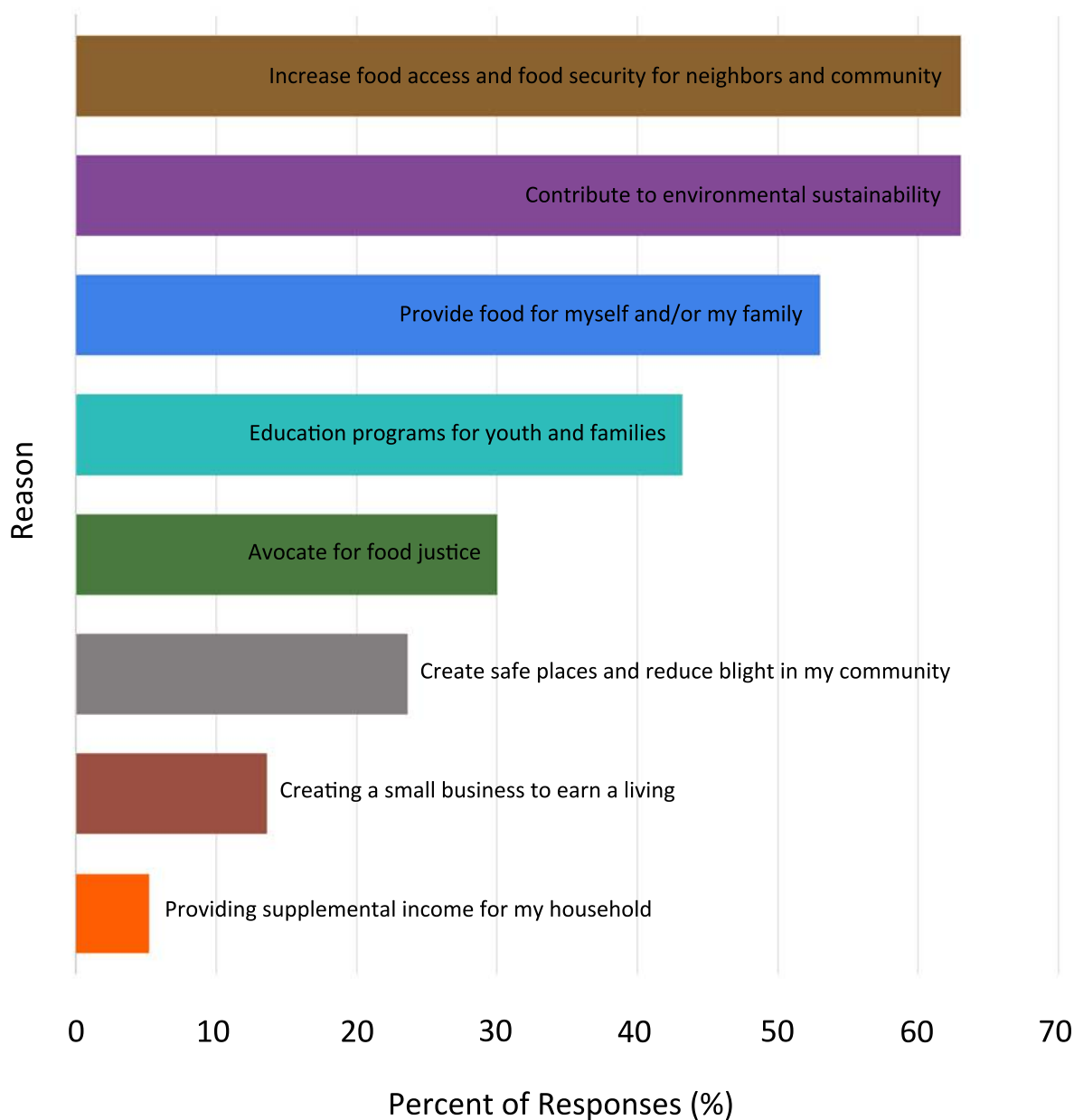


Figure 12: The majority of respondents indicated that providing food for themselves/their family or increasing food access/security for their community were their #1 reason for participating in urban agriculture.



### *Where and How are They Growing?*

Neighborhood or community gardens were most frequently reported as sites where growers from both groups produce their food (Figure 13). While 70 percent of growers in the focus cities use neighborhood and community spaces, only 30 percent of growers from other locations reported the same. This is a large difference, but not unexpected because, as the mapping data show, community gardens are frequently the only large open spaces available for city residents to grow food. Data from Figure 13 indicates demand for space is high among urban growers. Higher percentages of growers in the focus cities are choosing to grow food wherever space is available (schools and buildings/rooftops). Predictably, when enough land is available, 21 percent of respondents in focus cities reported growing food on an urban farm, this is comparable to the 17 percent of growers from other locations who also reported growing food on farmland. School gardens or after school centers were identified as sites of production by 14 percent, and almost 11 percent identified their sites as urban farms. School garden sites are included in this analysis because New Jersey's School Development Authority is the agency controlling the land where some of the larger urban ag projects are sited, including Hawthorne Avenue Farm, a two-acre urban farm in Newark adjacent to Hawthorne Elementary School.

## Where Respondents Grow Food Comparing Urban and Suburban Growers

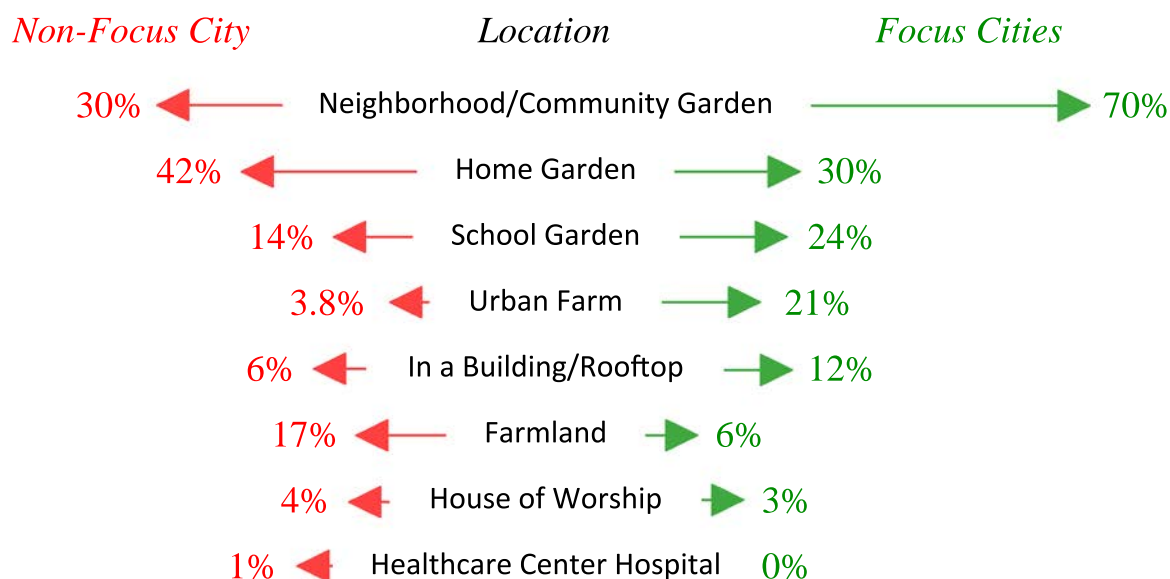


Figure 13: Comparison of where respondents from focus cities grow food vs. where other respondents grow food.

# Location of Respondents' Urban Agriculture Site(s)

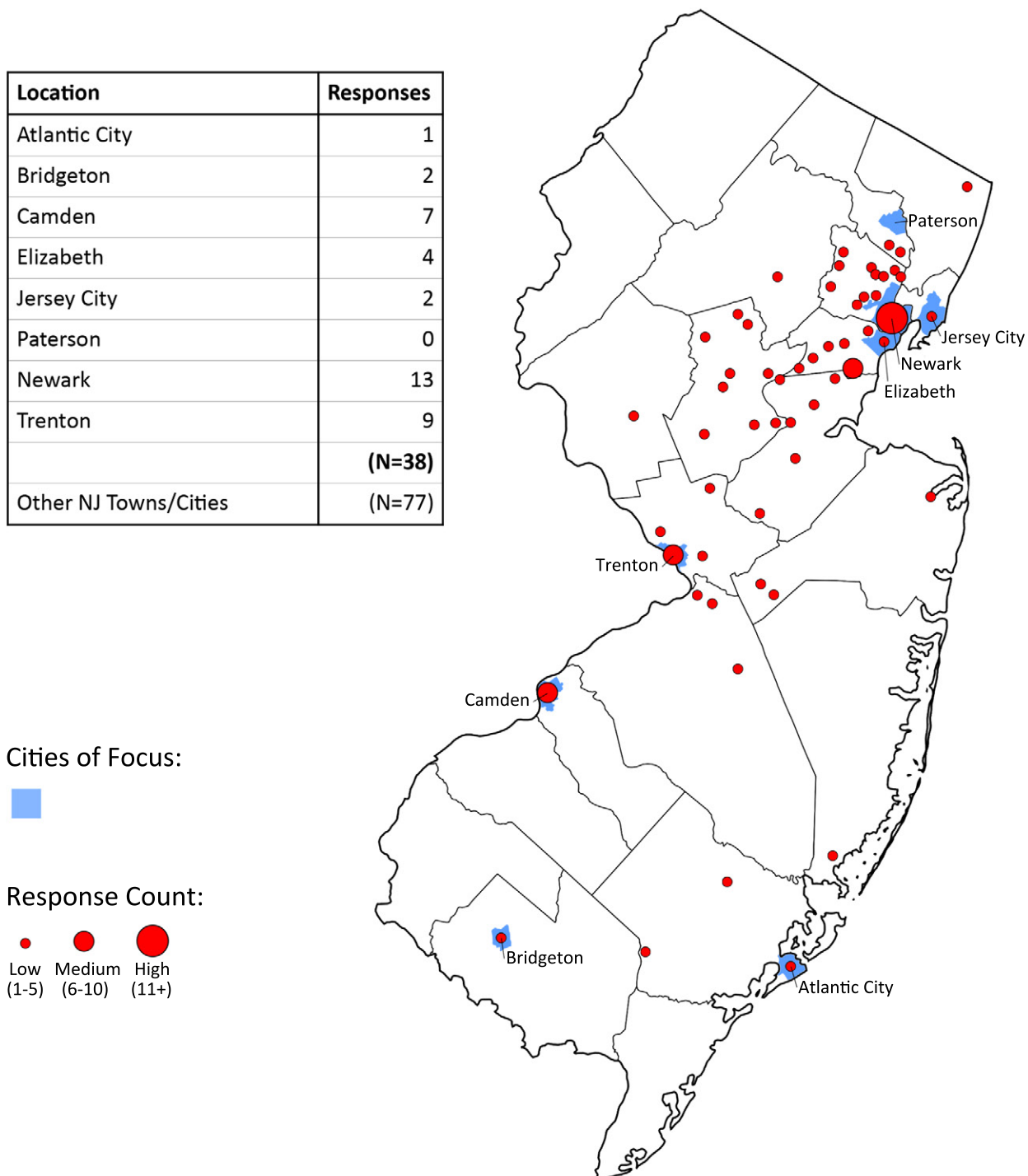


Figure 14: Where respondents grow.

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Soil-based agriculture was reported as the type of production practiced by 100 percent of respondents in focus cities and 98 percent of growers from other locations. The remaining 2 percent were hydroponic growers. There were no growers who reported using aquaculture or aeroponics to produce food. 100 percent of respondents in focus cities. There were no growers who reported using aquaculture or aeroponics to produce food.

### ***Food Production and Use***

Seventy percent of respondents reported that they grow a variety of edible crops (Figures 15 and 16). When asked how the food is used, most respondents indicated personal use/home consumption, sharing with friends and family, and donation to emergency food providers. These responses are all consistent with the top two reasons growers are engaged in urban agriculture (personal use and increasing food access and food security).

Responses also bring to light smaller but emerging opportunities for commercial urban agriculture. As urban growers scale up production, more food is moving into wholesale markets, value-added processing, and urban farm stands and farmers markets. Collectively, 16 percent of growers reported moving products through these channels.



*Figure 15: The majority of crops grown by the respondents are edible.*



# Items Produced on Respondents' Urban Agriculture Site(s)



Figure 16: Items the respondents produce.

# Respondents' Reported Use of their Agricultural Products (*Focus Cities & Other Locations*)

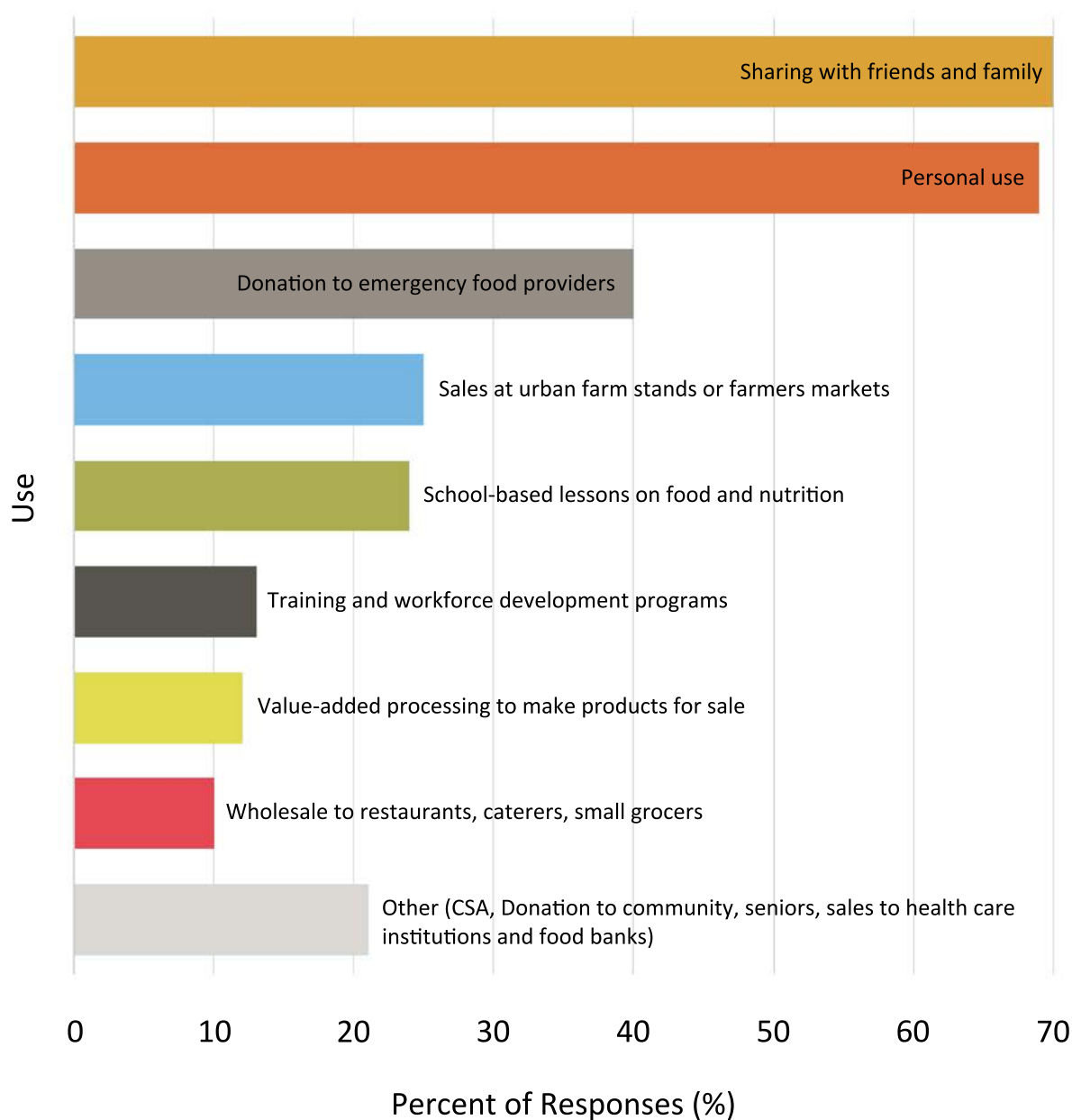


Figure 17: How respondents use products from their urban agriculture sites.



### ***Land Access and Land Tenure***

Responses to the land access and land tenure questions in this survey yielded unexpected responses. Among growers in the focus cities almost 50 percent reported feeling ‘very secure’ about long-term access to the site where they farm or garden, when you add those reporting ‘a little secure’ the number increases to 92 percent. This is considerably higher than anticipated and inconsistent with anecdotal evidence gathered in our discussions at the Urban Ag Forum and other urban agriculture conferences and meetings. Gaining access to land and securing long-term or permanent rights have been consistently identified by urban growers in New Jersey as a significant concern. Higher levels of confidence about long-term access would be expected among growers who reported owning their sites, or if the sites were protected open space.

The land tenure question asked growers to indicate the type of property access agreement they have and to ‘check all that apply’. Approximately 21 percent of respondents in focus cities indicated they own their urban agriculture sites and only 12 percent indicated their sites were protected through Green Acres/Open Space Programs. These two categories are the most secure, so land tenure for the majority in this group is precarious. Urban gardeners and farmers report difficulties in obtaining long-term leases for city-owned lots and this is also reflected in our data.

Eighteen percent of respondents in the group of focus cities indicated they had one-year leases. Only one respondent (3 percent) in the group reported having a written lease between two and five years. None (0 percent) reported having a lease for more than five years. Verbal agreements and written permission from the property owner were reported at 12 and 15 percent, respectively.

The largest number of responses (42 percent) was in the ‘Other’ category and these answers included ‘unknown or not sure’, ‘school property’, guerilla gardening’, ‘public land’, and ‘owned by non-profit’.

Without ownership, designation as protected open space, or a long-term lease agreement, it is unclear what factors are contributing to the respondents’ sense of security about having long-term access to their sites. As this project moves into an implementation phase, the incongruence between previous statements of concern about land access and survey data expressing security about access needs further exploration.

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### ***Barriers and Limitations***

Seventy four percent of respondents from the group of focus cities reported experiencing limitations and barriers to their urban agriculture activities. Among the most significant barriers identified, threats to long-term land access were ranked highest by 32 percent of respondents, followed by water access, and understanding how to navigate local bureaucracy, both selected by 26 percent of respondents. Many respondents from the focus cities have received little if any training. Only 22 percent are certified master gardeners, compared to 41 percent of respondents from outside the focus cities. More than 70 percent of respondents in the group of focus cities indicated they have no training in beekeeping, composting, integrated pest management, or good agricultural practices (GAP).

This same group of respondents expressed a desire to receive additional training with the largest percentage selecting farm and garden design (38 percent), urban soil management (38 percent), and design/install of irrigation systems (31 percent) as most helpful. Composting, integrated pest management, GAP certification, and specialty crop production were also selected as topics growers considered helpful.

### ***Training and Technical Skills***

Urban growers must be very resourceful in building their skills and knowledge. Without a single source or institution to receive all the training needed, individuals seek out different sources or organizations for the information. Seventy-one percent of respondents reported receiving some training or certification, most common being Rutgers Cooperative Extension Master Gardener certification and ServSafe or other food safety certification. Growers also indicated that they would like to receive additional training in integrated pest management, farm and garden design, and the design/installation of irrigation systems (topics of highest interest). Composting, post-harvest handling, and urban soil management were selected as areas of expertise growers considered most useful.

### ***Support Networks for New and Underrepresented Growers***

The survey data indicate that New Jersey urban growers see value in building support and mentorship networks, and a majority expressed willingness to consider or participate in such a network if it were created. The survey data indicate that New Jersey growers in both data sets (focus cities and other locations) see value in building support and mentorship networks, 89 percent of respondents in focus cities and 83 percent from other locations support the idea of a network, and 97 & 92 percent, respectively, answered yes or maybe to their willingness to participate as a network member.

## **Farming Continuum**

The farming continuum in New Jersey illustrates the challenges facing growers and communities (Figure 18). As agriculture evolves it is expanding into new spaces practiced by new farmers. Yet this growth and expansion are also constrained by the realities of New Jersey's urbanized landscape. This image captures spatial patterns, organizational and production practices, and the structural economics that separate traditional and urban farming in New Jersey. The development patterns of our suburbanized state allow for these different types of farming to exist in close proximity to each other, but each has different needs that must be addressed for both to thrive.

The growth of urban agriculture across New Jersey requires new thinking and integrated policy approaches that provide secure access to land and space for production, essential training and technical support for beginning farmers, and programs to assist with farm planning and the capital requirements to support new farmers.

## **Chapter Summary**

The majority of survey respondents (in focus cities and other locations) identified as home and community gardeners, or urban farmers. Their primary reasons for participating in urban agriculture are to provide food for home use, or to increase food access and food security for the community. However, there are increasing numbers of non-profit organizations leading agriculture activities in cities. These projects are usually connected to wider mission-driven work and support a range of social, educational and environmental goals.

Growers indicated a desire for additional training and networking opportunities, particularly for new and underrepresented growers, to support long-term success. Data reveal wide disparities in levels of training and certification between growers in focus cities and other locations. Access to land and water, land tenure, and navigating bureaucracy were identified as significant barriers for growers in focus cities. While a significant number of survey respondents reported feeling some level of security about long-term access to their agriculture sites, data reveal this level of confidence may be unfounded. The majority of growers in focus cities have only short-term leases, verbal agreements, or the land ownership is unknown and they are operating without any permission.

# Farming Continuum in New Jersey

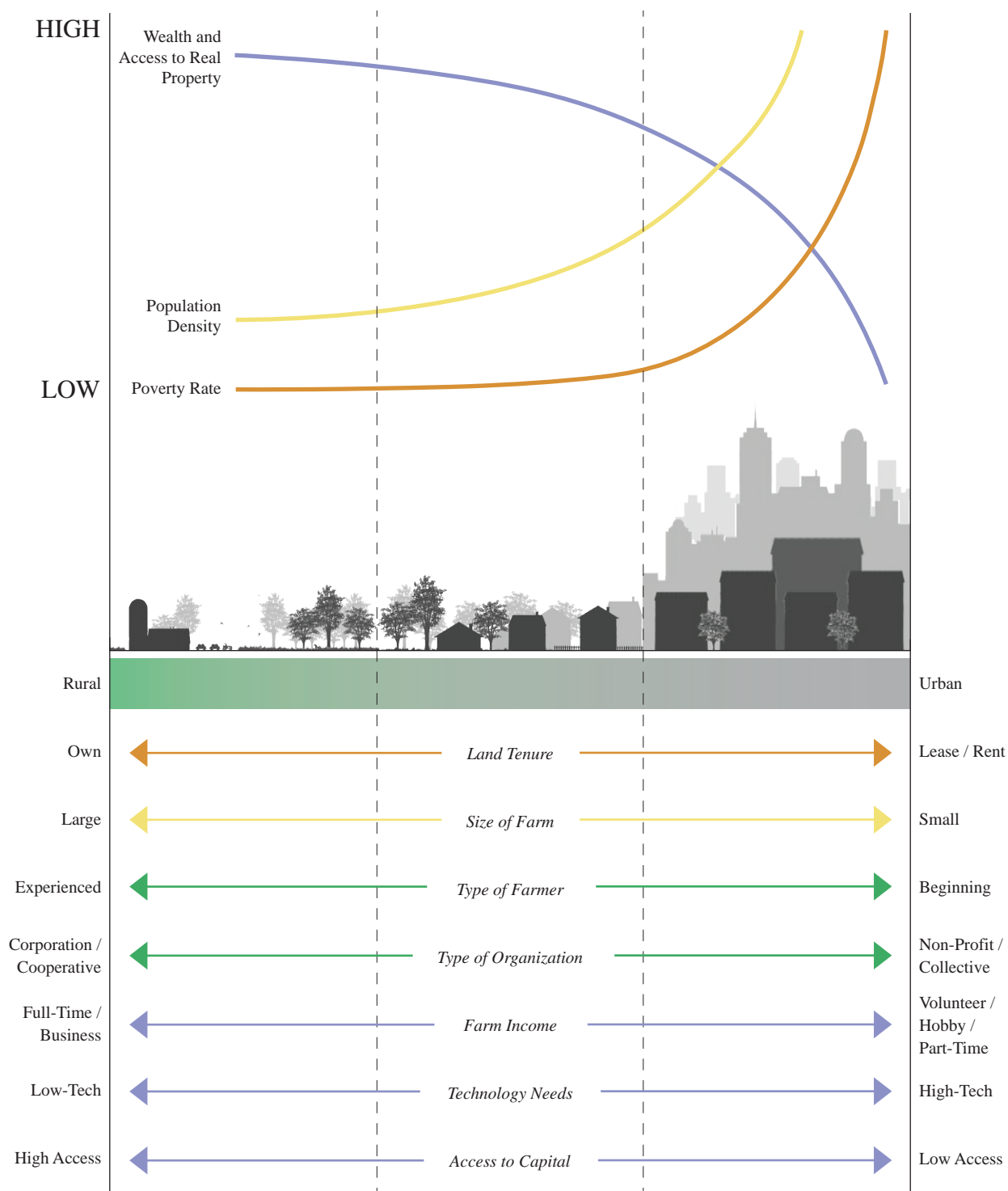


Figure 18: Typical characteristics, needs, and barriers that differ between rural and urban farming.

## End Notes

<sup>1</sup> Santo, Raychel, Anne Palmer, and Brent Kim. “Vacant Lots to Vibrant Plots: A Review of the Benefits and Limitations of Urban Agriculture.” John Hopkins Center for a Livable Future, May 2016. <https://clf.jhsph.edu/sites/default/files/2019-01/vacant-lots-to-vibrant-plots.pdf>.

<sup>2</sup> Delshad, Ashlie B. “Community Gardens: An Investment in Social Cohesion, Public Health, Economic Sustainability, and the Urban Environment,” *Urban Forestry & Urban Greening*, Volume 70, 2022, 127549, ISSN 1618-8667 (April 2020): Accessed November 15, 2022, <https://doi.org/10.1016/j.ufug.2022.127549>.

<sup>3</sup> United States Census Bureau. “Quick Facts.” United States Census Bureau, 2020. <https://www.census.gov/quickfacts/NJ>.



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## Chapter 5: Analysis and Case Studies

### Analysis of Select Urban Ag Enterprises for Potential Commercial Viability

This report originally envisioned a comprehensive analysis of the potential commercial viability of select urban agricultural projects. However, findings from the different data sources suggest that some forms of urban agriculture will not be commercially viable, and there is no desire to make them so. For urban growers with entrepreneurial aims, the leap from where they are into small-scale commercial enterprises requires a number of intermediate steps creating conditions for new companies to be successful. Since there is little commercial urban agriculture in New Jersey cities, decisions about which projects to feature were guided by survey data that revealed information about where and why urban growers are producing food and how the produce is used. Outside of personal home use, sharing and donations, respondents identified different types of food sales, school-based lessons, workforce development, and value-added processing as ways they use urban farm produce. The case studies explore current and future potential of commercial growers, and examples of urban agriculture in educational and healthcare settings. Only one of the case studies is a commercial grower, and all but one are New Jersey-based enterprises.

Controlled environment urban agriculture has seen exponential growth as recreational cannabis use was legalized in many states, and the regulatory framework for the cannabis industry emerged. This report does not address the cannabis industry and there were no survey questions about cannabis production as part of commercial urban agriculture. The one commercial urban grower in this study produces greens and herbs hydroponically in Hamilton. Controlled environment agriculture (hydroponics, aquaponics, and aero ponies) has steep infrastructure and energy costs which remain a significant barrier to entry for many new growers. However, unlike soil-based urban agriculture, the ability to produce food indoors year-round eliminates the land use and land tenure issues associated with outdoor urban farms. The GeoGreens case study represents a ‘best case’ example of how a self-taught urban grower utilized existing small business and economic development resources to launch a successful small business.

Urban farm ‘hubs’ and cooperatives present other examples of market-driven urban agriculture projects. Skilled urban growers with interest in commercial farming have formed a cooperative in Newark. The rationale for forming urban and rural cooperatives are similar. Coming together under one ‘brand’ or identity allows growers (large and small) to share expenses and lower costs associated with infrastructure and services, and provides a wider array of products in larger supply so the cooperative can participate in bigger supply chains and reach more consumers.

The urban hub also generates wider economic development opportunities for the community. Hub infrastructure can service larger commercial growers, further increasing the amount of fresh food available in the community. A hub can be designed to support wholesale and retail purchasing, as well as certified commercial kitchen space to create value-added products, another area of commercial interest expressed in the survey. Newark Science and Sustainability and Urban Agriculture Cooperative are case studies highlighting both the opportunity to use urban agriculture as a tool of community economic development and the barriers for small grassroots organizations to receive capital and program related investments, ‘slow money,’ to create profitable small businesses.

Educational sites are also important locations for urban agriculture in New Jersey. The New Jersey Department of Agriculture supports a popular statewide Farm to School program, and FoodCorps, a national non-profit organization, has six service members in school districts across the state. Jones Valley Teaching Farm (JVTF) is the only case study from outside New Jersey. This project was selected because of its tremendously successful education programs, outreach and engagement with youth of color and their families. JVTF’s infrastructure and programming investments across seven school sites of a Title One district are an outstanding example of a public-private partnership between a school district and community-based non-profit organization. Also exemplary is JVTF’s workforce development with older teens. They support young people preparing for full-time employment after high school, and have even created several full-time staff positions for those who want to continue farming and working for JVTF.

Health and wellness are important goals connected to most urban agriculture activity. Urban agriculture is a means of providing fresh foods and nutrition education to youth and families in historically underserved communities with insufficient access to healthy food and high rates of chronic diet-related diseases. The Beth Greenhouse case study highlights New Jersey’s only, and possibly the nation’s first hospital-owned urban farm. Newark Beth Israel Hospital’s financial and program support for this community resource exemplifies the creativity and innovation present within urban agriculture spaces. Through the farm and community health clinic, clients receive nutritional counseling and supportive health services. Although Beth Greenhouse was not envisioned as commercially self-sustaining, it is possible future iterations of a ‘farm-to-hospital’ project could involve partnership between a commercial grower and a hospital where the farm is independently owned and the hospital is a client.

The following case studies are outstanding examples of urban agriculture practiced in different community settings.

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## Urban Agriculture and Entrepreneurship Case Study — GeoGreens

*Hamilton, New Jersey*

Innovation and technological advancements in controlled-environment agriculture are providing opportunities for a new and diverse generation of farmers. Desmond Hayes, CEO of GeoGreens, a new hydroponic farm start up based in Hamilton, New Jersey, has found a way to combine his passion for health, science, and sustainability through his urban farming business (Figure 19). Commercial opportunities in urban agriculture are proliferating in specialized areas of production like hydroponics, aquaponics, and aeroponics. Desmond's degrees in architecture, civil engineering, and environmental science inspired him to seek a career path working for environmental sustainability, but the idea of building an urban farm evolved over time.

His journey in hydroponic farming began as a hobbyist, working to build out and perfect his system late nights, early mornings, and weekends when not at his main job in construction. Soon microgreens became an obsession and the focus turned to developing a business plan. GeoGreens began as a home based business while Desmond completed mountains of research and experimented bringing creative products to market like microgreen 'shot' drinks, and juice-blend popsicles. These products helped introduce microgreens to a new audience of customers. The move to farming full-time was accelerated by the COVID-19 lockdown. Without the construction job in NYC, Desmond had more time and energy to invest in building GeoGreens.

Like many upstart companies, GeoGreens' launch was funded using personal savings, but Desmond was confident the business would work. He credits relationships built with officials in Mercer County, the Small Business Administration (SBA), and especially New Jersey Economic Development Authority (NJEDA) in helping him begin on solid ground. Less than a year after the official launch, GeoGreens is already preparing for its first major expansion in 2022. With increased demand, more production space allows GeoGreens to move its product to more communities where fresh nutritious food is desperately needed. The company's success and emergent growth is due in large part to Desmond's commitment to building strong partnerships with markets, distributors, and institutions that carry his products, and to broaden the customer base by growing unique specialty crops as part of his offering. In addition to more common hydroponic crops like lettuces, arugula, spring mix, and a wide range of herbs, the company has an expanding niche market for hydroponic collard greens. Smaller and cleaner than what is harvested from a field grown crop, these greens allow for faster preparation and cooking time. GeoGreens has a whole new customer base who enjoy eating collards and now have access to a fast, fresh nutrient dense option instead of having to buy canned collards.

There is a strong social justice emphasis and intentionality in Desmond's vision for the company. His family helps out and works alongside him building the business. In turn, his first major opportunities came from family-owned and operated grocery stores in New Egypt, West Windsor, and Pennington. Discussions about the company's growth are never decoupled from core values of sustainability that set him on this path. Concerns about food insecurity, hunger, climate change, deforestation, and water scarcity energized the conversation about hydroponics and the possibilities. Hydroponics will not solve all of these challenges, but Desmond's goal is for GeoGreens to 'make a difference.' Holding fast to core social values and identifying niche opportunities is how the company will continue to distinguish itself from competitors.

Putting those values into action created opportunities for GeoGreens to supply fresh produce to care homes for seniors, community food banks, and public schools in Bridgeton and Camden. The company's commitment to working with institutional purchasers, particularly those serving food insecure or food desert communities, introduced specific challenges that need to be addressed early. Desmond has perfected the unit economics of the business to keep costs at a level so the produce is competitively priced for institutional purchasers. Hydroponics is an expensive way to grow food, so this is a major accomplishment, particularly in the first year of operations. With firm



*Figure 19: Desmond Hayes inside the GeoGreens Hydroponic Farm (Courtesy of GeoGreens).*

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command of the numbers, GeoGreens has been able to gradually add staff, allowing Desmond to bring in and train youth from the community, introducing a new generation to entrepreneurship and agriculture.

Desmond's energy and passion for food, health, and sustainability are unwavering. He maintains connections with the people and different local and state agencies who helped him launch. His outreach for new business is perpetual, and for those unfamiliar with hydroponics, he loves to bring prospective customers to the farm. The GeoGreens pitch is focusing buyers on the freshness and quality of the product, from harvest to the market next morning. As a smaller producer, the company cannot compete directly with massive hydroponic operations, so Desmond looks for the right opportunity to get produce in select markets and then can scale up to meet demand.

In addition to cultivating good business relationships, Desmond attributes much of his success to perseverance and patience. He says on the path to where he is now he faced a lot of rejection. Sometimes buyers do not understand or cannot deal directly with a local farmer. GeoGreens was able to get into public schools, hospitals and other large institutional markets through The Common Market, a non-profit wholesale distributor of products from sustainable family farms. His advice to others with a desire to start a small business is:

- 1) There is no substitute for good planning and understanding financials. He spent seven years working, saving, learning, and planning as a home-based business before he was ready to sign a lease and quit his day job.
- 2) Do not be afraid to innovate. He was inspired by hydroponics' possibilities and wanted to do more than just lettuce. GeoGreens' herbs, specialty greens, and value-added products have established a unique market and customer base for the company (Figures 20 and 21).
- 3) Establish and maintain good contacts with people and agencies that can help your business. Even after you are up and running, regular contact with economic development agencies, business councils, chambers of commerce, etc. means you will be notified when new opportunities emerge.





*Figure 20: Seedlings emerging in GeoGreens' hydroponic farm (Courtesy of GeoGreens).*



*Figure 21: Fresh produce ready to harvest from GeoGreens' hydroponic farm (Courtesy of GeoGreens).*

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## Urban Farm Hubs and Co-ops Case Study — Newark Science and Sustainability (NSS) & Urban Agriculture Cooperative (UAC)

*Newark, NJ*

Newark's urban agriculture organizations often work collaboratively developing transformative projects to serve residents with the greatest need of fresh healthy food in their neighborhoods. NSS and UAC sit at unique inflection points as non-profit organizations centering much of their work around market-driven activities. They cultivate land and support community gardening activities at garden and farm sites in the city, but they are also building their own markets and urban agriculture supply chains in partnership with urban and rural growers and other local food advocacy organizations. Although the work is in early stages of development, the shift from a solely charity driven model to building a customer base and markets for urban farm produce is the best example of demonstrating small-scale urban agriculture as an economic development tool.

In less than a decade NSS has expanded from developing evidence-based health and wellness community workshops and educational programs for Newarkers to cultivating international partnerships with organizations in Latin American and the Caribbean. The director calls this 'Glocal' work — blending the words global and local — as a reminder that the work of building a sustainable and just food system, reducing ecological damage and the negative impacts of climate change, and building more resilient communities is a collective effort. NSS's work with communities of color in the global south is ideologically linked to its work in the city of Newark. The organization leads a network of Newark-based urban farmers and partners with rural producers to supply food for a community Farm-to-Table Co-op program that feeds more than two dozen families in the community.

NSS is widely recognized for several signature events it hosts. Pre-pandemic, its Sustainable Living Empowerment Conference, Citywide Garden Tour, and Farm to Table Community Meal were attended by hundreds of people from Newark and surrounding suburban communities. The growth of the organization coincided with a period of rapid redevelopment and gentrification of Newark. NNS took an active stance about the need to protect productive urban gardens and farms and it moved quickly to acquire ownership of one of its sites. The Garden of Hope is the centerpiece of a planned expansion and development of a food hub at the garden site. The food hub is envisioned as a shared-use space where fresh produce is delivered by growers (urban and rural), aggregated and then marketed to local consumers. A building on site will have classroom and kitchen space for year-round community workshops. NSS has approved plans for the site and begun the permitting process with the city, and their capital campaign fundraising is ongoing. When complete, the food hub will dramatically increase the amount of fresh locally grown produce available.

Food insecurity is a significant challenge in areas where poverty and unemployment are high. NSS works with many urban agriculture and community stakeholders to advance local food systems development. The UAC is a frequent collaborator in these efforts. UAC's mission is to connect local growers and consumers to build a local food economy that is viable for both. This means that the food must be affordable for consumers at all levels of income and generate enough revenue to farmers to keep them profitable. UAC operates its own urban farm sites, farmers markets, and provides programs and services for the growers in their network. UAC's market development work intersects well with NSS and through partnering on certain projects, they combine the purchasing power of consumers in both networks. This is attractive to farmers and has resulted in opportunities to partner with several rural growers with capacity to supply much larger amounts of fresh organic produce.

UAC's efforts concentrate on perfecting an urban model for aggregation, distribution and marketing produce in urban communities. This is a unique niche for non-profit organizations because very few are actively engaged in creating an economically viable business model with the food from urban farms and gardens. The survey responses indicated that the vast majority of food produced is consumed at home, shared with others, and donated to emergency food providers. UAC occupies an important and emerging space in efforts to transition some urban agriculture from a charity model to small business. A significant challenge to work of both organizations is food cost. Our conventional food system hides existing subsidies in transportation, fuel, and commodity crops that help to stabilize the price of processed foods. Specialty crops (fruits and vegetables) do not receive these generous subsidies. As a result, the healthiest foods we need to consume cost the most money.

The UAC and NSS support efforts that allow urban farmers to fully participate as vendors in markets that bring more fresh food to cities. This includes seasonal farmers markets and opportunities to create new businesses. The food hub concept is promising as a foundational element in building community food systems because of its potential to build stronger rural-urban partnerships and to create new local businesses and jobs. The community-led economic development efforts of both organizations can be successful when combined with supportive policies and the allocation of necessary resources.





*Figure 22: Garden of Hope (Courtesy of Meredith Taylor)*



*Figure 23: GNC Urban Orchard (Courtesy of Meredith Taylor)*



## Urban Agriculture and Education Case Study — Jones Valley Teaching Farm (JVTF)

### *Birmingham, AL*

There are numerous models across the country demonstrating different approaches for integrating urban agriculture into public school settings. The JVTF in Birmingham, Alabama delivers outstanding school-based outdoor environmental education and community programs to a Title I school district serving a student body that is 90 percent African-American<sup>1</sup> with more than one-third of students living below the poverty level.<sup>2</sup> JVTF is an independent non-profit organization operating seven teaching farms at school campuses across the city of Birmingham. The Center for Food Education, a three-acre downtown site serving as both a farm site and learning laboratory, has a recently constructed mixed-use building. The complex has indoor-outdoor flex space for events, a commercial kitchen and classroom, conference room, and staff offices. The outside farm center supports a fruit orchard, apiary space, a community garden and farm stand.



Figure 24: Amanda and Jerone of JVTF, Putnam Middle School (Courtesy of Meredith Taylor).



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Leadership at JVTF is visionary, dynamic, and multiracial. Farm-based lessons delivered by the organization are influenced by educational leaders in the district with formal and informal advisory roles. School farm sites are supported by JVTF's team of instructors who work collaboratively to deliver lessons connected with core curriculum across all subject areas, and a separate farm team responsible for agricultural work and care of each site (Figure 25). This is a major difference from many organizations that frequently combine these roles. JVTF learned from previous experience that the time and physical demands of these different jobs require separate staff, this is particularly true because the teaching farm sites on each school campus are quite large.

The organization's extraordinary investment in site design and construction of the teaching farms is unlike what is commonly seen in urban schools. Although the sites range in size, each contains a covered pavilion with tables and seating for lessons, a koi pond, raised beds (Figure 29), areas for composting, tool sheds (or a greenhouse if space allows) (Figure 30), pollinator gardens, and covered arbors or pergolas. Combinations of these professionally designed features give JVTF spaces a branded look that is beautifully maintained by the farm team. The JVTF model works because the organization's leadership is deeply committed to supporting and partnering with the school district. The schools provide the land and JVTF raises funds, builds out the farms, hires and supervises the farm instructors and farm production teams. Under JVTF's direction, the district is confident students at all seven sites receive the same high quality lessons.

In the best of circumstances, public schools face budgetary constraints, staffing challenges, and significant pressures related to standardized testing scores and academic achievement. These difficulties are amplified in poor districts with high minority enrollment. JVTF's role as a well resourced and staffed community partner ensures maintenance and care of the site is also performed at the highest levels, and not dependent upon school staffing or district budgets.

There is no specific lease agreement between the district and JVTF, despite the millions of dollars of infrastructure built on school property. Surprisingly, the partnership functions quite well without official contracts or MOU's. In its early days, JVTF began operating 'below the radar' and despite its expansion and much higher profile, the relationship with the district is very positive, but informal. Many urban agriculture community partnerships follow a similar pattern. Passionate, like-minded people begin working together, engaging with members of the community, and delivering needed services and programs without legal contracts or formal written agreements.

Teen programming within the organization is focused on developing confident and thoughtful young leaders. Youth in JVTF's fifteen-month apprenticeship program receive a great deal of attention and mentorship. They are paid to work on the farm 35 hours per week and receive 5 hours of enrichment programming. These enrichment hours are principally focused on workforce development activities and may involve working towards special training or certifications. The goal is to make sure they are employable, but enrichment programs may also include guest speakers and field trips. Great effort is expended to make sure the enrichment time includes new experiences, and apprentices have time to explore what interests them. Recently, one left for college to major in finance and returned for a summer job. She wanted to work at JVTF because it felt comfortable and familiar...like home. Instead of farmwork, the organization adjusted and created a summer internship in the development office for her. Other youth have cycled through and aged out of school-based programs and the organization has brought several onboard as full-time staff. This demonstrates an uncommon level of commitment to youth development, setting JVTF apart from other urban agriculture organizations that use youth workers. A strong feature of the JVTF model is the continuity students experience as they move through K-12 schooling. Some may end up assigned to JVTF schools at every level deepening the connection between these students and the organization.

JVTF community programs provide neighborhood community garden space, training and support at the Center for Food Education's downtown campus. Strengthening community food systems and working to achieve food justice are explicit goals of the organization. Large sections of Birmingham have limited access to healthy fresh food. JVTF operates a distribution network that moves thousands of pounds of produce from its multiple farm sites into the community via market stands, emergency food providers, and a harvest share program for seniors. A point of great pride for staff, interns and apprentices was how hard everyone worked through the pandemic to feed the community. The entire JVTF team pulled together during the shutdown and accomplished the following:

- 1) Community Food: Distributed 8,000 pounds of free produce
- 2) Community Gardens: Distributed 14,000 seedling plants to gardeners (Figure 26)
- 3) Good School Food: Launched a mobile app that reached 22,000 students





*Figure 25: Raised beds and pollinator gardens at JVTF, Avondale Elementary School (Courtesy of Meredith Taylor).*



*Figure 26: Seedlings to distribute to gardeners at Woodlawn High School's greenhouse (Courtesy of Meredith Taylor).*



## **Urban Agriculture & Healthcare Case Study — Newark Beth Israel Medical Center (NBIMC)**

*Newark, New Jersey*

The Beth Greenhouse is a hydroponic urban farm and farmers market in the South Ward of Newark. The farm and market operate as part of NBIMC's nutrition education, health and wellness programs for community residents. Increasing rates of diet-related disease, particularly among young children, and the lack of access to fresh produce or healthy food options were driving factors that led NBIMC to partner with an urban farmer over a decade ago. The hospital's popular youth and community nutrition programs KidsFit© and The Beth Challenge were enriched by increasing access to fresh food from the farm. A NBIMC staff member notes, "you cannot teach nutrition education when the community has no way to access healthy foods in the first place."

Newark is New Jersey's largest city, and the South Ward ranks number three on the NJEDA's list of food desert communities. Although the goal of connecting people with healthy food was an imperative, in 2011, the hospital's commitment to supporting both an urban farm on its land and a weekly farmers market was groundbreaking. NBIMC is believed to be the first medical center in the nation to have both an urban farm and farmers market linked to its nutrition and wellness program initiatives. The key to success was beginning small and building over time. In the earliest stages of the project, the 'farm' consisted of over 1,000 Earth Boxes® on an unused parking lot across from the hospital. Planting in boxes made the farm portable, and if necessary, could be easily moved to another location. The award winning pilot phase of this project lasted two years, allowing farmers to demonstrate their proof of concept, administrators and staff to become more comfortable with the enhanced programming, and community residents to make changes in their diets and lifestyles.

Guided by findings from their Community Health Needs Assessment, NBIMC recognized food security as a necessary precondition for achieving health and wellness. Feedback from the community and staff was overwhelmingly positive and factored significantly in the decision to continue the project and scale up. In addition to opening the Rev. Dr. Ronald B. Christian Community Health and Wellness Center, which provides space for nutrition education workshops, classes, and support groups, hospital administration committed to fighting food insecurity in the South Ward by developing a permanent home for the farm. The decision to build a hydroponic greenhouse solved multiple challenges of soil and water quality in post-industrial urban environments, and lack of outdoor production in winter months. Hydroponic production in a controlled-environment facility allows farmers to grow food year round with quality control over inputs and resources for the farm operations.

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Staff at NBIMC have achieved impressive results expanding the reach of their nutrition education and wellness programs. They credit this success to strong community and institutional partnerships. Working closely with Newark’s Public Schools has increased the reach of KidsFit© curriculum and programming across the district. The Beth Challenge, a program originally instituted to help NBIMC employees achieve individual wellness goals, has branched out from the center. Versions of the program operate through city agencies and are available to public employees at Newark’s City Hall. The challenge was also adopted by several faith-based institutions where residents across the city participate in the program. Partnerships with the Community Food Bank of New Jersey (CFBNJ) to launch a Women’s Wellness Food Pantry, and the Essex County Division of Senior Services support NBIMC’s goals of improving maternal health outcomes and reducing food insecurity for nutritionally at-risk Newarkers.

The Beth Greenhouse (Figure 27) was envisioned as a project that would provide greater access to healthy foods in the community. It has met this goal and much more. The greenhouse is part of a built environment actively reorganizing around different sets of priorities. Preventing chronic diseases, supporting health and wellness, encouraging local agriculture, and providing



*Figure 27: Front exterior view of the Beth Greenhouse*



opportunities for education, and job training in urban farming and hydroponics are all positive outcomes and possibilities resulting from NBIMC's investment in urban agriculture. As a site of both production and commerce, the Beth Greenhouse also participates in SNAP, WIC, SFMNP, and Good Food Bucks – a statewide double bucks initiative – to ensure residents use and maximize their food benefits to purchase fresh produce.

Recognizing that many community-based organizations have adopted urban agriculture as an explicit strategy to increase healthy food access, NBIMC's early investments in partnerships and approaches to provide essential nutrition education and health support services through an urban farm have yielded many positive dividends. The medical center supports a successful farmers market (Figures 28 and 29) where urban and rural growers participate as vendors. The hospital's wellness center hosts workshops, classes, and wrap-around services that are easily accessible to members of the community. Dietary choices and eating behaviors are deeply ingrained and often resistant to change. The success of the Beth Greenhouse model is largely attributed to the positive response of local residents, and that the programs and services are valuable resources in supporting healthy food and lifestyle choices.



Figure 28: Farmers market at Beth Israel on 8/11/2022 (Courtesy of NBIMC).



Figure 29: Beth Greenhouse informational flyer (Courtesy of NBIMC).

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The Beth Greenhouse is a replicable model of urban agriculture integrated into a healthcare setting. Health organizations considering similar programmatic investments in expanding fresh food access must understand and be willing to address access as a multidimensional challenge. It is more than just the physical proximity of food. Leaders of the Beth Greenhouse offer the following recommendations to other health providers:

- 1) Centering Equity** - Services offered must be financially accessible to all. Plans or designs incorporating farmers markets, or other food retail must accept SNAP, WIC, and SFMNP preferably combined with additional fresh food purchasing incentives (market bucks, or double buck programs).
- 2) Community Driven** - Conduct community health needs assessments and seek input from key stakeholders to guide development of the project and decision-making process.
- 3) Support Local Farmers** - Resist the temptation to use large food service providers and group purchasing benefits to source fresh produce for a farmers market or food pantry. Supporting local farmers strengthens local economies and builds relationships between farmers and communities that will benefit the project long term.
- 4) Pair with Education Efforts** - Nutrition education and cooking are essential elements for any intervention of this kind. Providing communities with knowledge about the foods, what makes them healthy choices, recipes and instructions on how to prepare them leads to more confident and empowered choices.

## **End Notes**

<sup>1</sup> Alabama Department of Education. “Birmingham City.” Alabama Department of Education, 2021. <https://reportcard.alsde.edu/OverallScorePage.aspx?ReportYear=2021&SystemCode=114&SchoolCode=0000>.

<sup>2</sup> National Center for Education Statistics. “Eductaion Demographic and Geographic Estimates: Birmingham City School District, Alabama, AL.” National Center for Education Statistics, 2020. <https://nces.ed.gov/Programs/Edge/ACSDashboard/0100390>.

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## Chapter 6: Recommendations and Next Steps to Engage Institutional and Community Stakeholders

### Envisioning a ‘Right to Urban Farm’—Advocacy to Define Urban Agriculture

The survey identified a number of areas where urban growers experience barriers to their work. Aside from the perpetual challenges of securing long-term access to land, water access, credit and financing, and navigating local bureaucracy were highlighted as areas of significant concern, and track directly back to earlier discussion about the lack of legal recognition and protections for urban agriculture. Legal protections allow for proper siting, permitting, and metering of utilities and water. Recognizing urban agriculture as a strategy for reducing food insecurity may create funding opportunities for organizations to expand, scale up and engage in more market-driven activity.

Although the United States Department of Agriculture (USDA) acknowledges no ‘statutory or single formal definition’ of urban agriculture,<sup>1</sup> it does recognize a wide range of practices and purposes that generate ‘environmental, economic, and social benefits’ for communities.<sup>2</sup> New Jersey urban growers and stakeholders consistently report concerns about the difficulties accessing land and securing land tenure. Vacant land stabilization or Adopt-a-Lot programs provide no long-term protections for growers who ultimately may envision the creation of a ‘right’ to garden or farm on urban land. Unlike traditional rural agriculture where a farm’s value is likely to be expressed as a measure of their size and profitability, urban agriculture is used as a strategy for achieving better health and wellness through community food sovereignty, activating entrepreneurship, and advancing goals of environmental education, justice, and sustainability.

Policy discussions defining urban farming and securing land tenure should frame these strategies as part of an expansive effort to:

- 1) Strengthen urban food systems.
- 2) Create economic opportunities by building community wealth.
- 3) Achieve greater equity in protecting open space in urban communities.

Envisioning a ‘right’ to urban farm should include the examination of urban agriculture’s value as a restorative practice with remediative value for urban soils, a sustainable practice that enhances urban ecosystems and mitigates negative impacts from climate change.

Addressing social and economic disparities, improving health and wellness, and creating sustainable and resilient communities are main drivers of New Jersey urban agriculture. Even as opportunities for commercial urban agriculture trend upward, the motivation of entrepreneurs may be deeply rooted by desires to create positive social change and improve living conditions in

underserved communities. There are still significant policy barriers facing commercial and non-profit urban agriculture businesses. Attempts to overcome obstacles like New Jersey's Five Acre Rule have mainly focused on trying to adapt existing agriculture policy to a new urban farming paradigm. This approach has been largely unsuccessful and data in this report suggest different possibilities to create pathways for urban agriculture using an entirely new framework of analysis.

Stakeholders defined urban agriculture as a collection of transformative practices centering equity and justice. Urban agriculture is about more than just food. Viewing it through this wider lens suggests a need for coordinated policy approaches that attend to the different reasons communities engage in urban agriculture and the diverse settings where urban farming occurs. Instead of adapting agricultural definitions and policies intended for large scale commercial farms, urban agriculture and urban farming should be defined by the food security, social, economic and environmental justice outcomes they seek to achieve. Social and entrepreneurial urban agriculture are mission-driven and linked to food justice and food security goals. New Jersey leaders must develop a new framework and lens defining urban agriculture in the context in which it is practiced.

***Recommendations:***

- 1) NJDA, NJDEP, and NJEDA should accept this operational definition of urban agriculture that could be applied to urban gardens and farms in food desert or economic opportunity zones. This resolves the challenges posed by the Five Acre Rule.
- 2) Use this definition for urban growers, community-based organizations, and entrepreneurs to access state programs and grants, micro-loans, and opportunities to receive program related investments.
- 3) Develop comprehensive NJDA/NJDEP approved guidelines for best urban agricultural practices and encourage local municipalities to utilize the guidelines in determining how to adapt local land use ordinances for urban agriculture.

**Continue Mapping Urban Agriculture to Help Support Its Preservation**

Urban gardens and farms have quantifiable and incalculable value to communities. The protection of urban open space is equally imperative. Urban gardens and farms create wildlife habitat for pollinators, reduce heat-island effects in urban centers, improve air quality, soften hardscapes, and the sustainable agricultural practices of urban gardens and farms are regenerative and healing for soils that have been degraded and environmentally damaged. Although not every urban farm or garden will be preserved, similar to traditional farmland preservation practices, a set of criteria and evaluative processes must be established for urban agriculture sites.



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Practitioners, stakeholders, and allies should establish an urban land trust to protect decades of community investment and stewardship in active gardens and farms. Urban land preservation must be done with an equity lens that evaluates current and future potential investments in space for food production (and related activities) in urban centers with high rates of food insecurity.

***Recommendations:***

- 1) Continue mapping of urban agriculture properties working with growers via the Urban Ag Portal.
- 2) Convene an advisory group (working with an established land trust) to examine feasibility of developing a statewide urban land trust for urban agriculture. Advisory group will explore best practices and urban land trust models from other cities and states to evaluate organizing structures, fundraising models, stewardship practices. The advisory group should work with NJDEP to set environmental criteria and standards for preservation.
- 3) Funding a Phase II project to collect production/market data from selected urban farms and market gardens. This will advance work done by University of Pennsylvania in 2010-2011 to quantify the economic value of urban produce. Data collected in a Phase II project can guide NJEDA's economic development funding for community-owned and operated food businesses (ie., Food Hubs, Cooperatives, and Community Kitchens).

**Supporting Urban Agriculture with Resources & Policies**

***Expand the Rutgers Urban Ag Web Portal***

Following one of the recommendations of the 2019 NJDEP urban agriculture white paper, Rutgers created an urban ag web portal (Figure 30) to facilitate information sharing among New Jersey's urban agriculture networks.<sup>3</sup> Rutgers, as New Jersey's land grant university, will host the page, providing a centralized location for urban agriculture practitioners and advocates across the state to access resources, grow the database, and share their experiences and ideas with each other. Based on desired features urban agriculture practitioners prioritized at the Urban Ag Forum on a Jamboard (Appendix 2), the portal's content is divided into three categories:

- 1) Urban Ag Maps
- 2) Resources
- 3) Farmers Sharing Knowledge

Universitywide
New Brunswick
New Jersey Agricultural Experiment Station

Search Rutgers
Search This Site



RUTGERS
New Jersey Agricultural Experiment Station
NJ Urban Agriculture Portal

Home
Resources
Farmers Sharing Knowledge
NJ Urban Ag Maps
Contact Us



## About the Portal

New Jersey has a long and rich agricultural history. In the nation's most densely populated state, New Jersey farming happens in and around large cities and suburban communities, and our agricultural practices take many forms. The Rutgers Office of Urban Extension and Engagement is working with community partners to identify significant urban agricultural sites across the state, share information, resources, and aid urban growers across New Jersey. Be sure to check out helpful Resources links, learn from other Farmers Sharing Knowledge, and try out the interactive Urban Ag Maps.

## Information


Resources


Farmers Sharing Knowledge


Urban Ag Maps

## Upcoming Events



### Youth Community Garden Club Planting Day

Website Administrator · September 22, 2022

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus vel dui risus. Duis iaculis facilisis dictum. Phasellus ornare mattis nibh, vitae gravida augue. Vivamus sed tortor nec arcu vestibulum dignissim. Suspendisse potenti. Morbi eget finibus leo, nec egestas lacus. Vivamus nisl lectus, lacinia id libero et, dictum venenatis eros. Curabitur libero dolor, imperdiet sit amet...

[Continue Reading >](#)



### Rutgers Day 2023

Website Administrator · September 22, 2022

Rutgers Day is your chance to experience all the exciting things happening at New Jersey's State University. There's something for everyone, with performances, exhibits, plenty of kids' activities, demonstrations, and much more to see and do... and it's all free.

[Continue Reading >](#)



### Youth Community Garden Club Planting Day

Website Administrator · September 22, 2022

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus vel dui risus. Duis iaculis facilisis dictum. Phasellus ornare mattis nibh, vitae gravida augue. Vivamus sed tortor nec arcu vestibulum dignissim. Suspendisse potenti. Morbi eget finibus leo, nec egestas lacus. Vivamus nisl lectus, lacinia id libero et, dictum venenatis eros. Curabitur libero dolor, imperdiet sit amet...

[Continue Reading >](#)

Figure 30: Web portal home page

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## *Urban Ag Maps*

Urban Ag Maps incorporate data outlined in Chapter 3 in an interactive format to facilitate easy use by urban growers, advocates, researchers, and policy makers.

## *Resources*

The Resources page includes links to practical information for urban farmers arranged by topics (e.g. Pest & Disease Management). Topics are arranged under six categories:

- 1) For Beginner Farmers
- 2) Business Practices
- 3) Education Practices
- 4) Technical Aspects and Support
- 5) Policy and Planning
- 6) Professional Resources

Resources were selected for their relevance to urban farming in the New Jersey context and sourced from reliable professional, academic, or government organizations.

## *Farmers Sharing Knowledge*

Farmers Sharing Knowledge serves as a curated central location where urban farmers can share information with fellow farmers about their experiences in trending urban ag topics, raise awareness of event and funding opportunities, and discuss implementation challenges, success tips and best practices. It encourages communication between farmers across different networks and allows new farmers to connect with more experienced colleagues around the state who can encourage, share expertise and potentially serve as mentors. More details about the web portal are available in Appendix.

## ***Recommendations:***

- 1) Expand the map beyond the eight initial focus cities.
- 2) Extend funding to support the continuation of the web portal with focus group participation.

### ***Provide Training and Certification for Urban Growers***

Training and certification are other areas of significant interest for urban growers. Although many respondents are certified master gardeners, most were not and the current curriculum for certification does not cover many of the needs identified. Urban and rural growers require similar training. Rutgers has experts and specialists in each of the technical areas urban growers want assistance: integrated pest management, design/install of irrigation systems, urban soil management, composting, and post-harvest handling. A significant challenge for the university is identifying the best way to deliver content to urban growers statewide. Other states have models of urban extension that provide ‘boots on the ground’ technical support, but typically in only one location. New Jersey urban agriculture practitioners are spread across the entire state from Hudson to Atlantic counties.

The urban agriculture web portal developed as part of this report is a significant step forward in allowing us to test various methods for convening and delivering different types of content to urban growers. Investments made in online learning platforms during the pandemic created flexibility in how to engage and train people statewide. Survey respondents indicated online classes, webinars/videos, and in-person workshops as easy ways for them to access training. Using the web portal to deliver urban agriculture training and workshops would:

- 1) Provide greater access to opportunities for urban gardeners and farmers across the entire state.
- 2) Leverage the resources of SEBS/NJAES and Rutgers University most effectively.
- 3) Allow faculty with expertise and experience (from other schools and units) to more easily participate in the program.

### ***Recommendations:***

- 1) Convene a small advisory group to focus on developing a learning plan and curriculum content for a Rutgers Urban Grower Program (this could be a hybrid for urban master gardeners and farmers).
- 2) Identify resources and personnel to conduct a series of pilot workshops over one year with evaluation.

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## End Notes

<sup>1</sup> National Agriculture Library. “Urban Agriculture.” United States Department of Agriculture, 2022. <https://www.nal.usda.gov/farms-and-agricultural-production-systems/urban-agriculture>.

<sup>2</sup> Ibid.

<sup>3</sup> <https://urbanag.rutgers.edu>.



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## Chapter 7: Conclusion

We must occupy the food system to create food democracy.

- Vandana Shiva

This report demonstrates that urban farming is a social, environmental, and economic practice. Urban land under cultivation in cities was created over decades of social and economic disinvestment, to address the needs of communities without the most basic amenities including the ability to access fresh and nutritious food. These neglected plots of land in urban neighborhoods were reclaimed and reimagined as spaces for residents to grow their own foods and exercise greater control over the food system in the community. Through this lens, urban agriculture is an act of collective solidarity and resistance. Urban gardens and farms are community development projects creating a resilient new built environment centered around values of equity and justice.

The common language of traditional farming is maximizing production, accessing markets, and achieving profitability. These are the important economic indicators of agriculture as an industry. Conversely, urban farmers and gardeners consciously link their food production activities to values of sharing, reciprocity, environmental justice, and economic opportunity. New Jersey is a difficult environment for farming at any scale. Having spent nearly \$2B on farmland preservation, New Jersey has addressed, with great success, the critical need to protect land as a vital resource that contributes to the state's food and natural ecosystems, cultural landscapes, and local economies.

Urban agriculture sits along a different, but parallel set of value propositions. As the mapping research illustrates, comparatively little funding and attention is spent on open space preservation in densely populated urban communities. Yet, the urban farms and gardens represent vital assets to residents who need easy access to affordable, nutritious, culturally-appropriate foods. They supplement food offered to the community through emergency sources (food banks, pantries, and soup kitchens). Urban farms and gardens provide valuable ecosystem services in communities with too much impervious surface area and old degraded infrastructure. Urban farming practices are restorative and seek to transition compacted urban fill to healthy clean soils. Urban agriculture in school garden settings stimulates learning about the environment, health, and nutrition. Finally, urban agriculture improves the aesthetics and environmental conditions in neighborhoods without much green space. These public goods are accomplished through agricultural activities that have no legal protections and little public financing.

Despite these challenges, there are significant opportunities to use New Jersey's existing environmental justice and food security policy frameworks to strengthen and scale mission-driven urban agriculture projects and entrepreneurial ventures. Establishing a trust to preserve space for agriculture that is open or inside buildings ensures local community residents maintain control over land use decisions and underrepresented groups have opportunities to participate as food system leaders. Landmark environmental justice work occurring within the New Jersey Department of Environmental Protection (NJDEP) buttresses calls for urban agriculture to be legally defined so it may be legitimately recognized as a land use in cities. Findings in the report indicate urban agriculture is increasingly viewed as an economic development strategy. There are small-scale growers fully engaged in growing for markets, there are community-based organizations seeking to develop neighborhood food 'hubs' where farmers, consumers, and value-added processing can create markets and circulate dollars that remain in the community. Educational institutions are also using urban agriculture as a pathway for STEAM curriculum and workforce development. Appropriate funding sources can and should be identified to support this work in response to calls for greater equity and inclusion of underrepresented populations in agricultural professions.

Rutgers University, New Jersey's land grant institution, also has a critical role to play in providing greater access to education, training, and technical support for urban agriculture. The survey responses indicate a number of key areas where growers want more training and assistance. Beyond this basic level of community support, Rutgers also has an opportunity to consider the potential impact of broadening the appeal of its undergraduate agricultural education degree to reach more urban youth. Many of the stakeholder organizations participating in this research actively promote youth of color as leaders in food systems work. Rutgers' three urban campuses are in cities where public school district enrollments are overwhelmingly youth of color, but it is rare to see students from these communities pursuing agricultural education or working as paid professionals in agricultural or environmental professions. The Jones Valley Teaching Farm case study offers outstanding examples of empowering pedagogy with youth of color and solid public-private partnerships, but higher education is missing from that example also. The absence or underrepresentation of certain groups in these professions is a pipeline issue. As an urban land grant institution, Rutgers is well positioned to explore barriers preventing youth from pursuing professional degrees in agriculture-related fields.

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The New Jersey Department of Agriculture can also be very impactful in advancing urban agriculture, even non-commercial activities. A grassroots push to create local zoning ordinances for urban agriculture may only be achievable with the imprimatur of the NJDA. Leadership from NJDA to co-create an urban agriculture guidance document with the NJDEP may ease anxieties in municipal planning offices and encourage wider adoption of a uniform set of standards and practices when siting an urban farm. Creating better alignment between different departmental policies is another area where NJDA's leadership is essential. Denying urban farmers vending access to the WIC and Senior Farmers Market Nutrition programs hurts both farmers and consumers and undercuts larger goals of increasing healthy food access for residents with greatest need. Urban farms and farm markets need the ability to conduct their business freely and accept all approved forms of payment. Creating a separate framework for urban farming that is connected to food access goals and measures, instead of acreage is an imperative. Finally, New Jersey needs to exercise greater leverage for representation and resources within the USDA's newly created Office of Urban Agriculture and Innovative Production. Within the Farm Service Agency (FSA), the federal government has established 17 county office committees focused explicitly on urban agriculture. None of these offices is in New Jersey, which is both surprising and disappointing given our relative population size, the fact that New Jersey is the most urbanized state, and the prevalence of urban agriculture across our entire state. There is room for improvement here and perhaps with better coordination between state agencies, Rutgers, and community stakeholders, New Jersey can be part of a future expansion of FSA County Office Committees for Urban Agriculture.

This report and future research studies will continue to document the challenges facing urban growers, successes of community projects and partnerships, and opportunities for advancement and growth.

<b><u>Defining Urban Agriculture</u></b>	<b>Challenges</b>	<b>Opportunities</b>
<i><u>Social practices</u></i> - The majority of urban agriculture in New Jersey is practiced in backyard and community settings for social purposes (backyards, community gardens, schools, houses of worship, etc.).	No approved or recommended set of practices to help growers and authorities navigate planning and implementation of projects. Current practices are piecemeal and may vary dramatically between different cities and towns. Policies designed for traditional agriculture are not a good fit for urban agriculture.	New Jersey leaders must develop a new framework and lens that defines urban agriculture in the context in which it is practiced. Social and entrepreneurial urban agriculture activities are <i>mission-driven</i> and linked to food justice and food security goals.
<i><u>Entrepreneurial</u></i> - Market driven urban agriculture projects are slowly emerging. These small businesses have for- and non-profit models, and engage in all aspects of agriculture: food production, processing, aggregation, marketing, and distribution.	Entrepreneurs (particularly new farmers, and those from underrepresented groups) need more support finding space – land or buildings, purchasing or leasing equipment, and accessing consumer markets as fully integrated farm vendors (able to fill orders and accept payments online, and able to accept federal food aid benefits as payment).	New Jersey leaders should explore multiple avenues to support entrepreneurs, including: grassroots outreach, mentoring, planning grants, micro-loans, and program-related investments. Emphasize models of entrepreneurship and economic development that create community-owned businesses and living-wage jobs.
<b><u>Protecting Open Space &amp; Land for Urban Agriculture</u></b>		
<i><u>Community Settings</u></i> - Permanently protected spaces should be available in every community for residents to produce food for social purposes.	Current Adopt-A-Lot structures for urban gardening are insufficient for securing ownership and long-term land tenure for urban growers.	Establish an urban land trust to protect community investments and stewardship in active gardens and farms. Urban land preservation must evaluate current and future potential investments in space for food production in urban centers with high rates of food insecurity.
<i><u>Small-scale Commercial</u></i> - New Jersey cities have no commercial ordinances or zoning for urban agriculture. This is a significant barrier for soil-based urban farming	There is no ‘right’ to engage in urban farming. Local municipalities have no guidance documents to assist in determining where and how to cite small-scale commercial urban agriculture. The time and cost of the variance process is often prohibitive.	Funding Phase II research may yield data to support increased economic development funds for community owned and operated food and agriculture businesses.
<b><u>Supporting Urban Agriculture with Resources &amp; Policies</u></b>		
Social and Entrepreneurial urban agriculture projects need better alignment and integration with new and existing policies addressing food deserts, economic development, and environmental justice.	Accommodating new frameworks for urban agriculture will require communication and coordination between multiple state agencies, local municipalities, and community-based organizations	<b><u>Resources</u></b> - Expand mapping to include more cities and sites of urban ag and provide info/training through the web portal. <b><u>Policies</u></b> - Under <a href="#">NJ Executive Order 23</a> greater collaboration can occur in all state agencies to solve complex environmental justice issues.

Table 1: Challenges and opportunities chart.



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## Appendix 1: Urban Agriculture Forum

Recommendations of the 2019 NJ DEP urban agriculture white paper included the need to ‘define’ urban agriculture and develop an online tool for sharing resources, information, and events. In March 2022, the Rutgers Office of Urban Extension and Engagement convened the Urban Ag Forum, a face-to-face facilitated focus group with the goal of building consensus around two key issues:

- 1) Developing a definition of Urban Agriculture in the state of New Jersey.
- 2) Providing suggestions for content for an online information portal.

### Methods

Members of the Advisory Committee and urban agriculture practitioners were asked to register in advance to balance small group work and discussions, and large group reporting and synthesizing. Pre-event materials (Figures 31-37) were sent to each registrant with instructions for how to prepare for the focus group. In the ‘Defining Urban Ag’ session, participants worked in three smaller groups. Several legal definitions of urban agriculture from other states along with discussion prompts were used to initiate the discussion. The second session focused on suggestions for a web portal where urban gardeners and farmers may seek technical expertise and share personal experiences. New Jersey urban agriculture practitioners struggle with many of the same challenges but do not have a digital resource where they can easily find or share information within their networks. Participants’ comments were collected through a ‘Jamboard’ exercise allowing the group to envision, share, and prioritize a wide range of ideas about content for the online portal.

### Outcomes

Definitions of urban agriculture were developed by each group (Figures 38-45). Identifying forms and practices as part of urban agriculture’s definition was one of several overlapping themes highlighted in the focus group. This included specific practices like urban beekeeping and aquaculture, or terms like cultivating, processing, and distribution to cover a wider range of activities integrally connected to agriculture. Defining ‘urban’ as an area with specific population density was another outcome in the discussion group. Participants also highlighted the adaptive reuse of urban buildings as sites where urban food production occurs. Themes of food access and equity were included in definitions of New Jersey urban agriculture.

Figure 46 shows the completed Jamboard with participants' ideas for web portal content categorized by priority. Items participants identified as "Must Have" consisted of resources related to technical topics (e.g. hydroponic growing) and funding, guidance related to land access/tenure and policies/ordinances, information about events/programming, and contact information for connecting with professional networks. Most items in the "Want" category indicate a desire to create a broader, centralized urban agriculture communication network, including educational professionals and thought leaders from whom urban farmer could learn. Funding dedicated to preserving urban agriculture land, technical support services, and lists of professionals that specialize in urban site remediation made up the "Dare to Dream" priorities.

## **2022 Urban Agriculture Forum: Creating Access & Equity for Productive Urban Landscapes**

March 15, 2022 – 8:30am-3:00pm

Location: New Jersey Institute for Food, Nutrition and Health, 61 Dudley Road,  
New Brunswick, NJ, 08901

### **Agenda**

8:30-9:40am	Check In, Light Breakfast, Survey & Networking (70 minutes) - <i>Atrium</i>
9:40-9:50am	Welcome (10 minutes) – <i>Room 205</i>
9:50-10:00am	Introduction to Urban Ag Project (10 minutes) – <i>Room 205</i>
10:00-10:15am	Overview of Breakouts Process and Introduction of Session #1 questions (15 minutes) – <i>Room 205</i>
10:15-11:00am	Breakout Session #1 – Defining Urban Agriculture (45 minutes) – <i>Rooms 205, 101, Atrium and Lounge</i>
11:00-11:45am	Session #1 Reporting and Large Group Discussion (45 minutes) – <i>Room 205</i>
11:45am-12:30pm	Lunch (45 minutes) - <i>Atrium</i>
12:30-1:00pm	Session #2 - Urban Ag Web Portal (30 minutes) – <i>Room 205</i>
1:00-1:10pm	Introduction of Session #3 questions (10 minutes) – <i>Room 205</i>
1:10-1:40pm	Breakout Session #3 – Knowledge Building (30 minutes) – <i>Rooms 205, 101, Atrium and Lounge</i>
1:40-2:25pm	Session #3 Reporting and Large Group Discussion (45 minutes) – <i>Room 205</i>
2:25-2:30pm	Break (5 minutes)
2:30-3:00pm	Recap & Wrap Up (30 minutes) – <i>Room 205</i>
3:00pm	Forum Adjourns

*Figure 31: Pre Event Materials, page 1/7.*

2022 Urban Agriculture Forum: Creating Access & Equity for Productive Urban Landscapes

## 2022 Urban Agriculture Forum Overview

Barriers & Recommendations →		Session Deliverables
Urban Ag Policy Barriers	Recommendations	Defining Urban Ag - Session #1
Urban agriculture has no official legal definition at the state level, and urban farming is not recognized by either the New Jersey Department of Agriculture or any local municipality as a designated land use or legally recognized commercial activity.	Establish an urban agriculture task force: <ul style="list-style-type: none"> <li>Develop a definition of urban agriculture for New Jersey</li> </ul>	In small working groups, we will begin crafting a definition of urban agriculture for New Jersey. Examples of definitions from other places are included as points of reference to guide your group discussions. When the session concludes, the larger group will reconvene to synthesize group work into one working definition.
Land Access/Land Tenure Barriers	Recommendations	Placemaking (Land and People) - Session #2
The high cost of land, limited open space, intense development pressure and the economic and environmental challenges of remediation combine to make land access extremely difficult in urban communities	New Jersey's urban communities should set aside land explicitly for the purpose of food production. Some national models protect urban land using non-profit land trusts, while other examples develop and manage 'ag parks' through municipal parks and recreation departments.	Session #2 is a lunch workshop. There will be a presentation and brief analysis of the urban ag maps and time for Q&A. The mapping work is a key component of the website portal. During the workshop, we will discuss and have guided activities outlining ideas for building an online resource for urban ag practitioners across the state. The deliverable from this workshop will be a ranked 'punch-list' of items to guide construction of the website.
Information Barriers	Recommendations	
New Jersey lacks a centralized hub or online information resources and technical support for urban agriculture	Coordinated and comprehensive online resources should be available for urban agriculturalists across the state.	

Figure 32: Pre Event Materials, page 2/7.



Training/Technical Assistance Barriers	Recommendations	Knowledge Building - Session #3
	Establish an urban farm school to help new growers learn and master the skills needed to develop sustainable, productive and diverse urban farms	In small working groups, we will assess critical training and technical assistance needs of urban growers. The deliverable from this workshop will be a list of priority skills and knowledge items that can be developed into workshops and training for urban growers.

Figure 33: Pre Event Materials, page 3/7.

2022 Urban Agriculture Forum: Creating Access & Equity for Productive Urban Landscapes

## Session #1: Defining Urban Agriculture

Time: 10:15-11:00am (45 minutes)

**Instructions:** The goal of this session is to begin crafting a definition of urban agriculture for New Jersey. Although the definition will not have legal significance, our collective work begins a process of developing a shared understanding and vocabulary of agriculture terms and practices upon which future local zoning and planning ordinances can be created. The attached sheet includes examples of how other state, county, or local communities have chosen to define urban agriculture and its various practices. This table is included as a frame of reference that informs your group discussion. You may borrow from all, some, or none of these examples when building out your NJ urban agriculture definition. You may add terms and practices if you believe something is missing that should be included.

Each group will receive a link to a GoogleDoc. The group can work together inside the document including notes from your discussion along with your final draft definition of urban agriculture.

11:00-11:45am (45 minutes)

At the end of 45 minutes, the groups will reconvene with each reporting back main ‘takeaways’ from the discussion and sharing their respective definitions. We will compare the work from each group and synthesize into one definition

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### **Discussion Prompts:**

1. What does urban agriculture look like in New Jersey? (including forms and practices)
2. Which agricultural activities are most widespread, easiest to adapt/adopt without much difficulty or controversy?
3. Are there certain kinds of non-production, but important related activities that should be included in the definition? (ie. packing/distribution, marketing/sales).

## URBAN AGRICULTURE DEFINITIONS - Examples:

<p><b><u>Sacramento County, CA:</u></b></p> <p>Urban agriculture is the raising of crops and animals in the urban environment to increase access to healthy foods in areas where access to fresh food is limited, to support healthy living, to foster community connectivity, to provide economic opportunities on vacant and underutilized land, and to increase educational opportunities related to growing food.</p> <p>The benefits of urban agriculture are widely recognized, and jurisdictions across the nation have implemented ordinances to allow for a broad array of agricultural activities to occur within the urban environment, including crop cultivation, animal and bee keeping, and sales of goods grown or produced.</p>	<p><b><u>UC Agriculture &amp; Natural Resources: SARE</u></b></p> <p>The UC Division of Agriculture and Natural Resources defines urban agriculture as practices that include production, distribution, and marketing of food and other products within the cores of metropolitan areas and at their edges (Adapted from the American Planning Association, 2011). This can be comprised of community and school gardens, backyard and rooftop horticulture, and innovative production methods that maximize output within a constrained physical area. Also included in this definition are those farms supplying to urban farmers markets, community supported agriculture (CSA), or farms located within metropolitan green belts.</p>	<p><b><u>United States Department of Agriculture:</u></b></p> <p>The USDA website describes urban agriculture as, “City and suburban agriculture [that] takes the form of backyard, roof-top and balcony gardening, community gardening in vacant lots and parks, roadside urban fringe agriculture and livestock grazing in open space.” Among the types of foods grown are vegetables, mushrooms, medicinal and ornamental plants, and fruit trees. Animal and livestock options in urban agriculture include chickens, fish, goats, and honey bees. Currently, the USDA does not collect data on the number of urban farms in the U.S.</p>
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Figure 35: Pre Event Materials, page 5/7.

2022 Urban Agriculture Forum: Creating Access & Equity for Productive Urban Landscapes

### Session #3: Knowledge Building

Time: 1:10-1:40pm (30 minutes)

**Instructions:** The goal of this session is to identify critical training and technical assistance needs for urban growers. Please use the discussion prompts below to guide your conversation.

Each group will receive a link to a GoogleDoc. The group can work together inside the document including notes from your discussion along with your final draft definition of urban agriculture.

You will synthesize your individual notes within the group and for:

- Q1. Report back the (3) challenges with most overlap in the group.
- Q2 (a,b,c). Report back the 2 or 3 with most overlap in the group.

1:40-2:25am (45 minutes)

At the end of 45 minutes, the groups will reconvene with each reporting back main 'takeaways' from the discussion and sharing their respective definitions. We will compare the work from each group and synthesize the information.

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#### **Discussion Prompts:**

1. Identify your top (3) production challenges at your farm/garden site(s)?
2. In terms of farming and gardening skills/knowledge that will improve productivity or conditions at your urban farm/garden site(s): Identify 2 or 3 for each
  - a. What skills/knowledge do you have that need improvement?
  - b. What skills/knowledge do you need and would like to learn?
  - c. Which of your skills/knowledge do you believe are strong enough to teach or lead others?

## **Urban Agriculture Strategies for New Jersey Framing Challenges & Opportunities in the Garden State**

Urban agriculture is trending nationally and here in New Jersey, yet has not been fully realized in the state. New Jersey's agricultural industry is highly adaptable, intensively practiced, and easily connected to consumer markets and could establish New Jersey as a leader in urban agriculture.

Realization of this potential requires understanding urban agriculture's commercial viability, strategizing best practices to support entrepreneurial efforts, and connecting its economic viability to its capacity to improving healthy food access. This study develops a plan for New Jersey urban agriculture that frames the commercial, social, entrepreneurial, and food access aspects of urban agriculture as one of many types of food production and marketing practices that address current and future needs of producers and consumers in New Jersey.

### **Project Goals**

1. Establish contextual and operational definitions for urban agriculture in New Jersey.
2. Build a comprehensive data set that inventories asset, needs and best practices across the state.
3. Delivering a summary analysis and recommendations for further research, programs, or policy.



## Group1\_Session #1: Defining Urban Agriculture

Time: 10:15 - 11:00am (45 minutes)

### **Instructions:**

The goal of this session is to begin crafting a definition of urban agriculture for New Jersey. Although the definition will not have legal significance, our collective work begins a process of developing a shared understanding and vocabulary of agriculture terms and practices upon which future local zoning and planning ordinances can be created. The attached sheet includes examples of how other state, county, or local communities have chosen to define urban agriculture and its various practices. This table is included as a frame of reference that informs your group discussion. You may borrow from all, some, or none of these examples when building out your NJ urban agriculture definition. You may add terms and practices if you believe something is missing that should be included.

Please use this GoogleDoc and work together in the document including notes from your discussion along with your draft definition of urban agriculture.

### **Discussion Prompts:**

1. What does urban agriculture look like in New Jersey? (including forms and practices)
<p>Group Notes:</p> <p>Lense of addressing urban agriculture: it tends not to be described as urban agriculture unless the growing occurs in low-income areas. Suburban gardens are seldom considered as "urban agriculture" but should be considered as such - any form of alternative farming could and should be considered urban agriculture. Urban agriculture often takes the shape of communal gardening efforts in smaller gardens or small scale backyard gardening. The usages of urban gardens for the food forest structure. Gardens vary case by case, are residents gardening for leisure or mass food production?</p> <p>Not a "one size fits all" answer. There are different barriers and access issues surrounding urban gardens and those in suburban spaces in New Jersey.</p>
2. Which agricultural activities are most widespread, easiest to adapt/adopt without much difficulty or controversy?

Figure 38: Definition of Urban Agriculture as described by Group 1, page 1/3.

Group Notes:

Greenhouses and hoophouses, soilless gardening (hydroponics and aquaponics), raised garden beds, growing mushrooms, raising poultry, beekeeping, herbalism. Animal care laws vary from one municipality to the next. Education and programming play a huge role in urban agriculture settings.

Spectrum: profit/commercial ——— community driven

3. Are there non-production, but important related activities that should be included in the definition? (ie., packing/distribution, marketing/sales)

Group Notes:

Education, programming, and training community members/anyone interested. Lack of specialization of roles, the urban gardener is expected to handle all outward management processes for the urban gardens. Value added products, processing, and financing productions. Seedkeeping, access to communal gardening needs (hand tools, gloves), bulk orders of garden needs. Composting occurs in most locations, either on site or having it ordered.

Opportunities for collaboration for processes that individual orgs might not have the capacity to do.

Figure 39: Definition of Urban Agriculture as described by Group 1, page 2/3.

**Urban agriculture, also known as urban farming or urban gardening,** is the practice of cultivating, processing, and distributing food in or around urban areas. Urban agriculture is also the term used for animal husbandry, aquaculture, urban beekeeping, and horticulture. These activities occur in peri-urban areas as well. Peri-urban agriculture may have different characteristics.

**Note:** the word urban is usually associated with low income, which could be a false notion that this is where these agricultural practices only exist.

*Figure 40: Definition of Urban Agriculture as described by Group 1, page 3/3.*

## Group2\_Session #1: Defining Urban Agriculture

Time: 10:15 - 11:00am (45 minutes)

### Instructions:

The goal of this session is to begin crafting a definition of urban agriculture for New Jersey. Although the definition will not have legal significance, our collective work begins a process of developing a shared understanding and vocabulary of agriculture terms and practices upon which future local zoning and planning ordinances can be created. The attached sheet includes examples of how other state, county, or local communities have chosen to define urban agriculture and its various practices. This table is included as a frame of reference that informs your group discussion. You may borrow from all, some, or none of these examples when building out your NJ urban agriculture definition. You may add terms and practices if you believe something is missing that should be included.

Please use this GoogleDoc and work together in the document including notes from your discussion along with your draft definition of urban agriculture.

### Discussion Prompts:

1. What does urban agriculture look like in New Jersey? (including forms and practices)
<p>Group Notes:</p> <p>Highly developed communities. Under 5 acres typically. Typically under 5 acre, largely residential vacant lots. Schools, Community Gardens. Critical density. &gt;50k per square mile.</p> <p>Production, commercial, garden / community space</p> <p>Controlled environment growing.</p> <p>Bees, livestock?</p> <p>&lt;acre &gt;</p> <p>Location is determining factor &gt;5k &gt;50k</p> <p>Map credit ers.usda.gov</p>

Figure 41: Definition of Urban Agriculture as described by Group 2, page 1/3.

<p>2. Which agricultural activities are most widespread, easiest to adapt/adopt without much difficulty or controversy?</p>
<p>Group Notes: Community gardens, educational programming, ornamentals, pollinators, cut flower production.</p> <p>Then lesser, Food production generally. Bee production. Composting. IPM?.</p> <p>Livestock- noise, odor, ordinances, predators etc.</p>

<p>3. Are there non-production, but important related activities that should be included in the definition? (ie., packing/distribution, marketing/sales)</p>
<p>Group Notes:</p> <p>Outdoor growing: Food safety, storage, maker space, packer, distribution system, solar / renewables</p>

Figure 42: Definition of Urban Agriculture as described by Group 2, page 2/3.





### Urban Agriculture Definition-

New Jersey Urban agriculture occurs in municipalities with 5000 people square miles or greater than 50,000 total population total. It is a strategy to preserve and use land for agricultural purposes and to produce locally grown foods on lands and buildings that are permanently dedicated to this use or lands that are available for these purposes as an interim beneficial / shared use (school grounds, parks, houses of worship...)

New Jersey's Urban Agriculture provides food access and equity and offers communities with space to engage with agriculture, agricultural practices and environment. Additionally, urban ag provides the exposure to products grown on the sites and products sourced by other growers in the region, building demand for other healthy food options. Importantly, these spaces shall develop new entrepreneurial opportunities, exposure and entry into the food systems industry, particularly in Black and Brown communities throughout the State. Including maker space, distribution and other ancillary services.

### Local food

These spaces enhance emotional, psychological values of community by reclaiming and adaptively reusing lands and creating beauty and habitat to sustain pollinator species, provide clean air and safe spaces.

*Figure 43: Definition of Urban Agriculture as described by Group 2, page 3/3.*

## Group3\_Session #1: Defining Urban Agriculture

Time: 10:15 - 11:00am (45 minutes)

### Instructions:

The goal of this session is to begin crafting a definition of urban agriculture for New Jersey. Although the definition will not have legal significance, our collective work begins a process of developing a shared understanding and vocabulary of agriculture terms and practices upon which future local zoning and planning ordinances can be created. The attached sheet includes examples of how other state, county, or local communities have chosen to define urban agriculture and its various practices. This table is included as a frame of reference that informs your group discussion. You may borrow from all, some, or none of these examples when building out your NJ urban agriculture definition. You may add terms and practices if you believe something is missing that should be included.

Please use this GoogleDoc and work together in the document including notes from your discussion along with your draft definition of urban agriculture.

### Discussion Prompts:

1. What does urban agriculture look like in New Jersey? (including forms and practices)
<b>Group Notes:</b> Indoor Hydroponics, Nursery Services, Bee Farming Forms: Backyard, Rooftop, Community, Vacant Lots, Parks, Schools, Faith-based Coops for Distribution and Research Preservations Composting / Soil Testing Adopt-A-Lot   Everyone Gets A Garden programs Partnership with Counties (Union County & Passaic)  <b>(Would Like to See Updated)</b> *Not having access year-round, seasonal disparities, lack of access to farmers markets *Not getting support from the city level/ district level *No centralized hub for information and resource sharing, funding *More opportunity for subsidy connection *Traditional growers who can support the inner cities *Preservation of land ownership for urban farmers *Need County Boards of Agriculture *Connecting the "Big funds" to the local communities
2. Which agricultural activities are most widespread, easiest to adapt/adopt without much difficulty or controversy?
<b>Group Notes:</b>

Figure 44: Definition of Urban Agriculture as described by Group 3, page 1/2.

<p>Raised Bed or Container Gardens  Green Houses  Indoor Agriculture / Home Growing  Community Gardening / School gardening  NRCS High Tunnels  Fruit and vegetable growing</p>

<p>3. Are there non-production, but important related activities that should be included in the definition? (ie., packing/distribution, marketing/sales)</p>
--

**Group Notes:**

<p>Incorporate Urban agriculture into Education and Programming  Food Hubs / Transportation for Distribution  Community calendars  Aligned marketing and city-wide distribution  Aligned community resources needed to feed and re-design  Products and Food from Natural Resources (Medicinal &amp; Fruit Trees)  Consistent programming and development for education, recreation, etc in green spaces  Distribution process for over production from restaurants and supermarkets  Community fridges  Workers and Farmers rights</p>
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*Figure 45: Definition of Urban Agriculture as described by Group 3, page 2/2.*

web portal goals = provide more information, sharing/exchange of ideas, resources, etc., content co-created

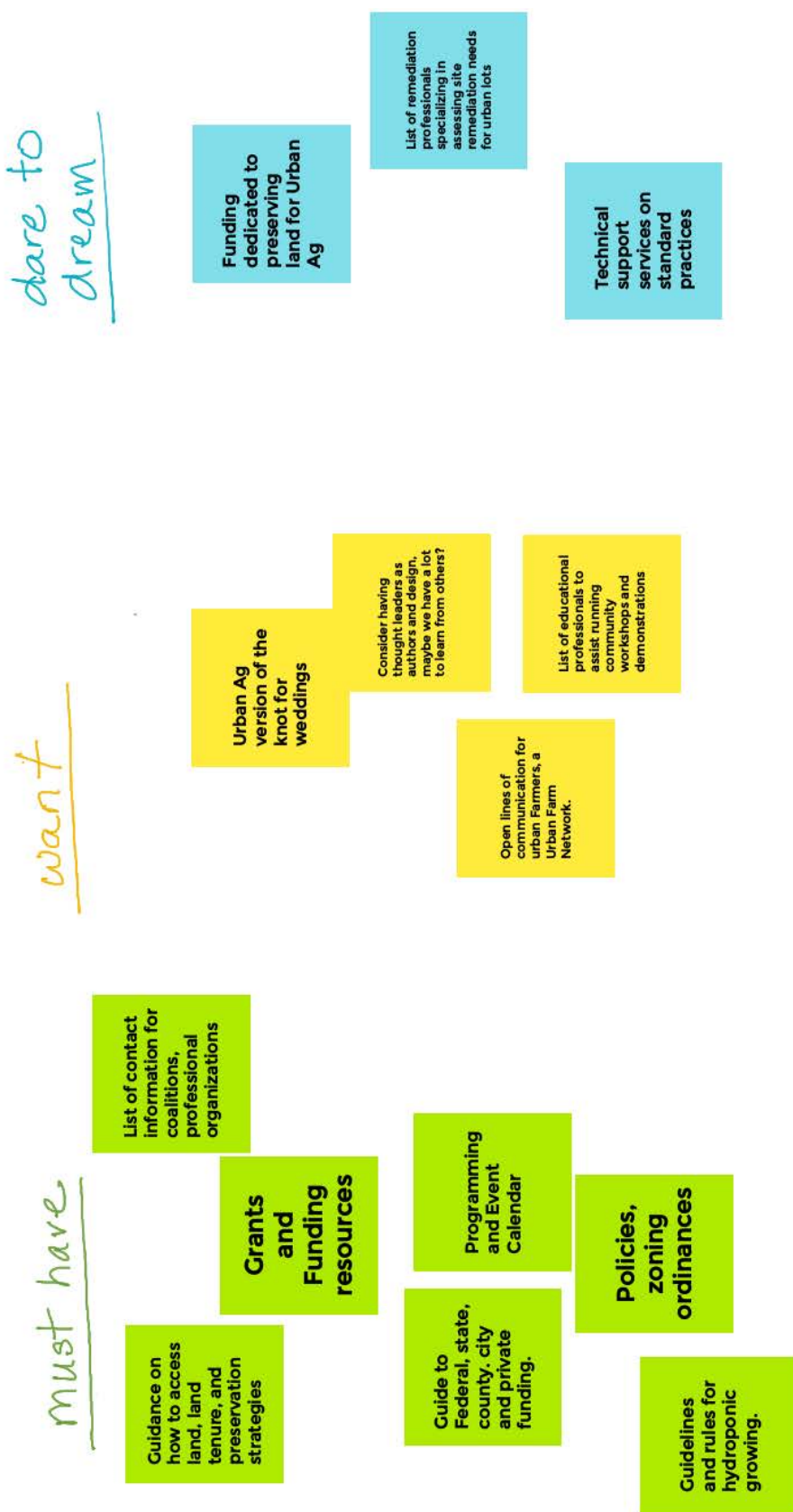


Figure 46: Jam Board.

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## Appendix 2: Mapping Methods & Results

The report team collected data on eight focus cities in New Jersey — Atlantic City, Bridgeton, Camden, Elizabeth, Jersey City, Newark, Paterson, and Trenton — that are geographically dispersed across the state, demographically diverse, and represent different levels of urban density. In many of New Jersey's larger cities, urban agriculture activities are coordinated through local non-profit organizations that provide training, support, and resources to residents. All of the selected focus cities, except Jersey City, have at least one local organization that provides direct support to urban gardens and farms in each city. Most of these organizations are represented within the report's Advisory Committee. In choosing this initial cohort of cities, the intent was to work closely with members of the Advisory Committee to collect data from them about the gardens and farms they support in their respective cities. Engaging grassroots organizations as partners in the report research was the most efficient way to collect and present data about urban agriculture at the community level.

The data collected on these eight cities represents baseline information that will be housed on an urban agriculture portal developed by Rutgers and updated at regular intervals. To keep the interactive maps up-to-date, registered users of the site may submit additional urban agriculture site locations and information via a linked Qualtrics form. New information will be added to the project database and the maps updated biannually.

### *Methods – Data Collection on Cities and Sites*

The project team developed a spreadsheet (Tables 3-7) to collect information for each site that included: site name and physical address. Stakeholders were asked to identify if sites were active or defunct and to make the following determinations:

**1) Site Classification:** Sites were classified as *school-based* (for urban gardens or farms on school property, or built for the primary purpose of serving K-12 institutions), *community gardens* (traditional allotment gardens where people from different households grow on their own small plots), *institutions* (includes hospitals, clinics, churches, adult day care facilities, housing authorities, libraries, and other locations where urban food production occurs), or *urban farm* (indicating a more intensive scale of production approximating a small-scale commercial farm operation). These classifications were self-assessed, but sites classified as urban farms typically had features like high tunnels, heated greenhouses, chickens, or apiaries as part of the site's operation.



**2) Site Characteristics** included whether production was outdoors (edible crops primarily soil-based either in the field or high tunnel), indoors (edible crops or animals in controlled-environment agriculture, or aquaculture), ornamental (production for aesthetic purposes, or improvements to landscape), or sustainability oriented (production for purposes of climate mitigation or enhancement and protection of wildlife and pollinator habitats). Stakeholders could make multiple selections if their sites had multiple characteristics.

**3) Site Activities** was an assessment of how the gardens or farms are most frequently used. These included physical activity (individual or group exercise), garden or farm training (workshops or classes providing information and skills to improve garden or farm production practices), education (primarily class or school visits in the garden where activities are linked to a curriculum or other learning goals), entrepreneurship/commercial (includes growing, packing, processing, distribution, or other market-oriented activities), personal/home-use (food production from the site harvested and used by individual growers and their families), and therapeutic (individual or group led activities or workshops focused on mental/physical health and wellness). Under site activities, stakeholders were limited to choosing a maximum of three categories as the primary site activities.

**4) Ownership Status** asked stakeholders to indicate if they knew the ownership status of their garden or farm site. They were instructed to enter public if the land is owned by the city, county, or state (including various authorities: school, housing, utilities), or private if the land is owned by private persons, businesses, organizations, or institutions.

**5) Preservation Status** asked stakeholders to indicate yes or no if their sites have been designated as protected open space. This information contributes to our understanding about current disparities in accessibility to green spaces between urban and suburban areas, and is also another point of analysis of the mapping project.

**6) Soil-Testing** is a critical step because of higher risks of contamination in urban soils. Many cities require organizations to test soils before granting permission to plant a garden. Some anecdotal evidence suggests there may be many residents gardening at sites where the gardeners have no knowledge about the history or condition of the soil. Stakeholders were asked to indicate yes or no if soil on their sites has been tested.

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Spreadsheets for each city were shared with stakeholders representing the following organizations: C.R.O.P.S (Atlantic City), Mill Creek Urban Farm (Bridgeton), Parkside Business & Community in Partnership, Center for Environmental Transformation (Camden), Groundwork Elizabeth (Elizabeth), Newark Science & Sustainability, Inc., Newark Community Food System, Urban Agriculture Cooperative, Greater Newark Conservancy (Newark), City Green (Paterson), and Isles, Inc. (Trenton). In Jersey City, a list of city gardens with contact information was available through the city's main website. Jersey City gardeners were sent a group email requesting their assistance collecting information about their gardens with background information about the report.

Once stakeholders completed the address information on the spreadsheets, the report team used Address Helper, an internal Rutgers application, to convert the addresses into specific latitude and longitude coordinates so each garden could be mapped in ArcGIS. Data analytics specialists shared the data using two types of maps. One type of map illustrates all of the preserved open space and preserved farmland in each county where one of the cities is located. A second map shows each city's garden data together with select publicly available indicators of food insecurity, including each city's ranking on New Jersey Economic Development Authority's list of food desert communities (Table 8), and rates of participation in the Supplemental Nutrition Assistance Program (SNAP). New Jersey recently enacted the Food Desert Relief Act to incentivize businesses to establish supermarkets and grocery stores in food desert communities. Using tax incentives in this manner to reduce community food insecurity has become increasingly popular. For that reason, designated Opportunity Zones across each city were also mapped. The team also examined recent census data on population density, income levels, poverty rates, education levels (Figure 47), age (Figure 48), and ethnicity (Figure 49) for each city. Collectively, these data were analyzed to help the team understand how urban gardens and farms are situated within the community as sites with multiple purposes.

## Methods

Results are detailed in Chapter 3. County & city maps for all focus cities can be found on Maps 4-19.

***Atlantic City (Atlantic County)*** has a unique demographic profile for a community often defined by its oceanfront and boardwalk amenities. At 37 percent, it has the highest rate of poverty among our focus cities, but unlike Jersey City where the waterfront has been fully redeveloped, the waterfront and areas adjacent represent the largest concentrations of poverty and SNAP participation. Similar to the other focus cities, Atlantic City has limited preserved open space. However, population density is the lowest of our focus cities, so there may be less unmet demand for land to produce food. The two urban agriculture sites mapped are operated by NJ C.R.O.P.S, a non-profit food justice and urban agriculture organization. The entire oceanfront is designated as an opportunity zone, but efforts to acquire land for farms, gardens, or farm markets, face the additional hurdle of navigating the Casino Redevelopment Authority (CRDA). This state agency facilitates community and economic planning and development in the city so expanding urban agriculture efforts must be done in coordination with this agency.

***Bridgeton (Cumberland County)*** has the smallest population and second highest poverty rate (34 percent) of the focus cities. Cumberland county is among the more rural counties in New Jersey and the map illustrates the robust investments in farmland and open space preservation. Although there is some preserved open space in the city, it is away from the areas with highest concentrated SNAP use. Only one urban farm site is identified and it is operated by Gateway Community Action Partnership, a non-profit community action agency established to provide social support and fight poverty through community programs. The urban farm is located in an area of the city with highest SNAP use and designated as an opportunity zone.

***Camden (Camden County)*** has the lowest median household income and matches Bridgeton's poverty rate of 34 percent. Despite these statistics it is a city in transition. The opportunity zone in Camden is large and includes all of the riverfront and downtown areas. SNAP participation is high across most of the city and sites of urban agriculture are present across the opportunity zones and areas of highest SNAP participation.

***Elizabeth (Union County)*** has a sizable portion of its land base captured by the infrastructure (roads, rail lines, shipping container yards) needed to operate the airport. The gardens and farms mapped in Elizabeth (Map 10) appear to be evenly distributed across most residential areas of the city and are absent in the largest part of the opportunity zone representing the airport and the port. Almost 25 percent of the county's population resides in the city, but the county map (Map 11) shows very little open space available for city residents. Suburban Union County has large tracts of preserved open space connecting and encircling several communities. Elizabeth has the least amount of open space of the eight focus communities.

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***Jersey City (Hudson County)*** has the second largest population and highest population density in New Jersey. It is an outlier in our analysis because median household income is close to the statewide average and the poverty rate is much lower than most of the other cities (Jersey City and Elizabeth have similar poverty rates). Downtown redevelopment along the Hudson Riverfront and proximity to New York City have attracted new residents with much higher wealth. The city map (Map 12) illustrates the concentration of SNAP households and gardens largely outside of the downtown and riverfront areas. Close to 44 percent of the county population resides in Jersey City. Although there are three large parcels of land designated as open space (Map 13), Liberty State Park distant from any neighborhood with high SNAP participation. The second largest parcel is a cemetery, and the third, Lincoln Park is the only large preserved open space in an area identified as high SNAP and opportunity zone.

***Newark (Essex County)*** has the largest population and second highest population density in New Jersey. Newark's poverty rate is over 25 percent and the gardens and farms are concentrated in neighborhoods with higher rates of SNAP participation (Map 14). The city is a significant international transport hub with Newark's international airport and the Port of NJ/NY which spans Newark and Elizabeth, consuming a sizable portion of land. More than one-third of the county population lives in Newark, yet the amount of open space is limited to two parks located at opposite ends of the city. The county map (Map 15) clearly illustrates the difference between resources provided to preserve open space in suburban versus urban areas.

***Paterson (Passaic County)*** has the third highest population density of our eight communities and rates of poverty in the city are above 25 percent. The majority of gardens mapped in Paterson are located in neighborhoods with higher SNAP participation and are also designated as opportunity zones (Map 16). Almost one-third of Passaic County's population lives in Paterson, and the lack of urban open space is consistent with findings in other focus communities (Map 17). Most of Passaic's open space is preserved in the northern section of the county.

***Trenton (Mercer County)*** has a map profile similar to other focus cities. The population density is higher than the state average, but less extreme than Newark and Jersey City. Trenton's poverty rate is over 25 percent and nearly one-quarter of Mercer County's population resides in the city. Trenton has one large preserved park in the far west, while the urban gardens and farms are more centrally located where SNAP participation is higher and neighborhoods have been designated as opportunity zones (Map 18). Of the eight focus cities, Trenton has the largest number of urban gardens. Several community gardens and Capital City Farm are preserved. At 2.5 acres, Capital City Farm is New Jersey's largest preserved urban farm. Nevertheless, these resources are incomparable to those available in suburban areas of Mercer County (Map 19), which have large amounts of preserved open space and farmland. These parcels stretch across communities connecting opposite ends of Mercer County by a 'band' of green surrounding Trenton.

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INSTRUCTIONS: Please fill out the spreadsheet with information about the gardens and urban farms in your community.												
(1) Enter the name of your site.												
(2) For classification, please choose either: School, Community Garden, Institution, or Urban Farm												
(3) Enter the physical address and (4) the city												
(5) Enter Y or N to indicate if the site was active in the past growing season												
(6) LEAVE BLANK. Please do not enter the Latitude /Longitude, we will use a program to calculate that precisely using the physical address.												
(7) Enter X in the column to indicate the main characteristics of the site. Outdoor Production = Edible plants (Veg/Fruit/Flower/Herb) grown outdoors, Indoor Production = Edible plants and/or animals grown inside (Hydroponics, Aquaponics, Aeroaponics), Ornamental = Aesthetic improvements to landscape, or Sustainability = Climate												
(8) Enter X in the columns to indicate main activities at the site - CHOOSE 3												
(9) Identify ownership of the land. Enter PUBLIC if the land is owned by the City, County, or State (including various authorities: school, housing, utilities), or PRIVATE if the land is owned by private persons, businesses, organizations, or institutions.												
(10) Enter Y or N if the site is preserved and protected as open space												
(11) Enter Y or N if the site has been soil tested												
(12) Enter additional information you want to communicate about agricultural production at the site. For example, do you have a high tunnel, or greenhouse, chickens, bees, composting, etc.												

Table 3: Instructions for inputting information onto the Urban AG Site location excel.

[illegible]

[illegible]

[illegible]

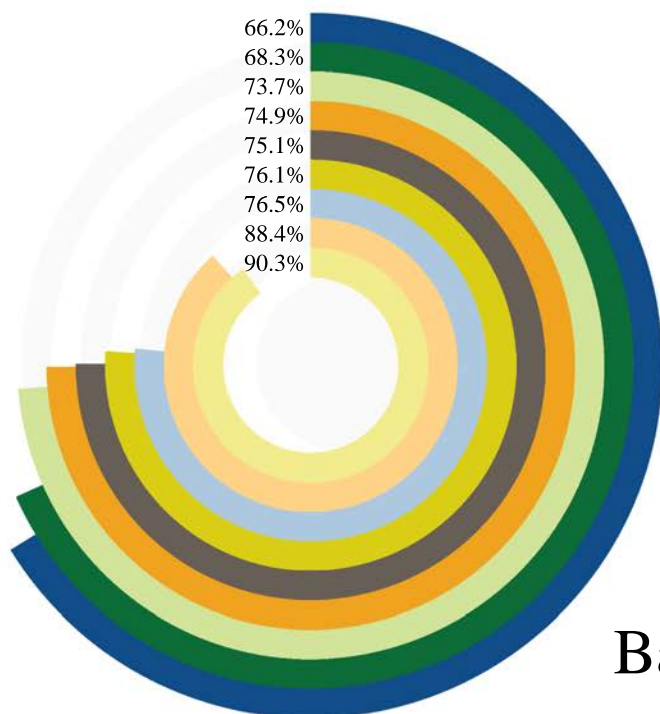
[illegible]

Table 7: Extra information section on the Urban AG Site location excel.



# Education Level by City

## Highschool Degree



## Bachelors Degree

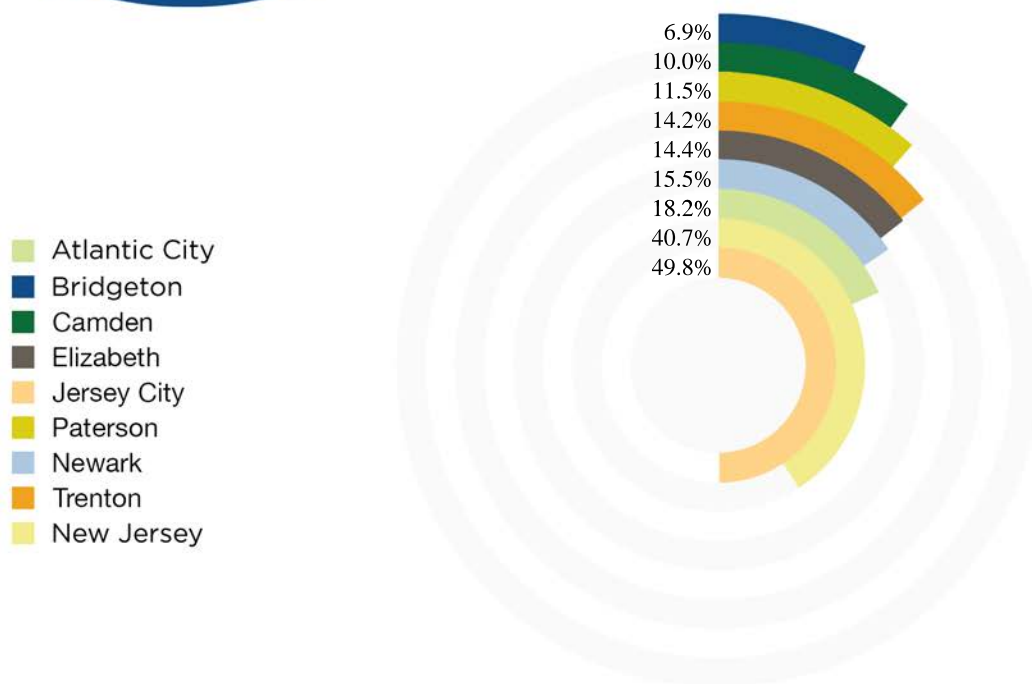


Figure 47: Educational level of focus cities compared to New Jersey 2020 census data.

# Age of Persons Compared to New Jersey

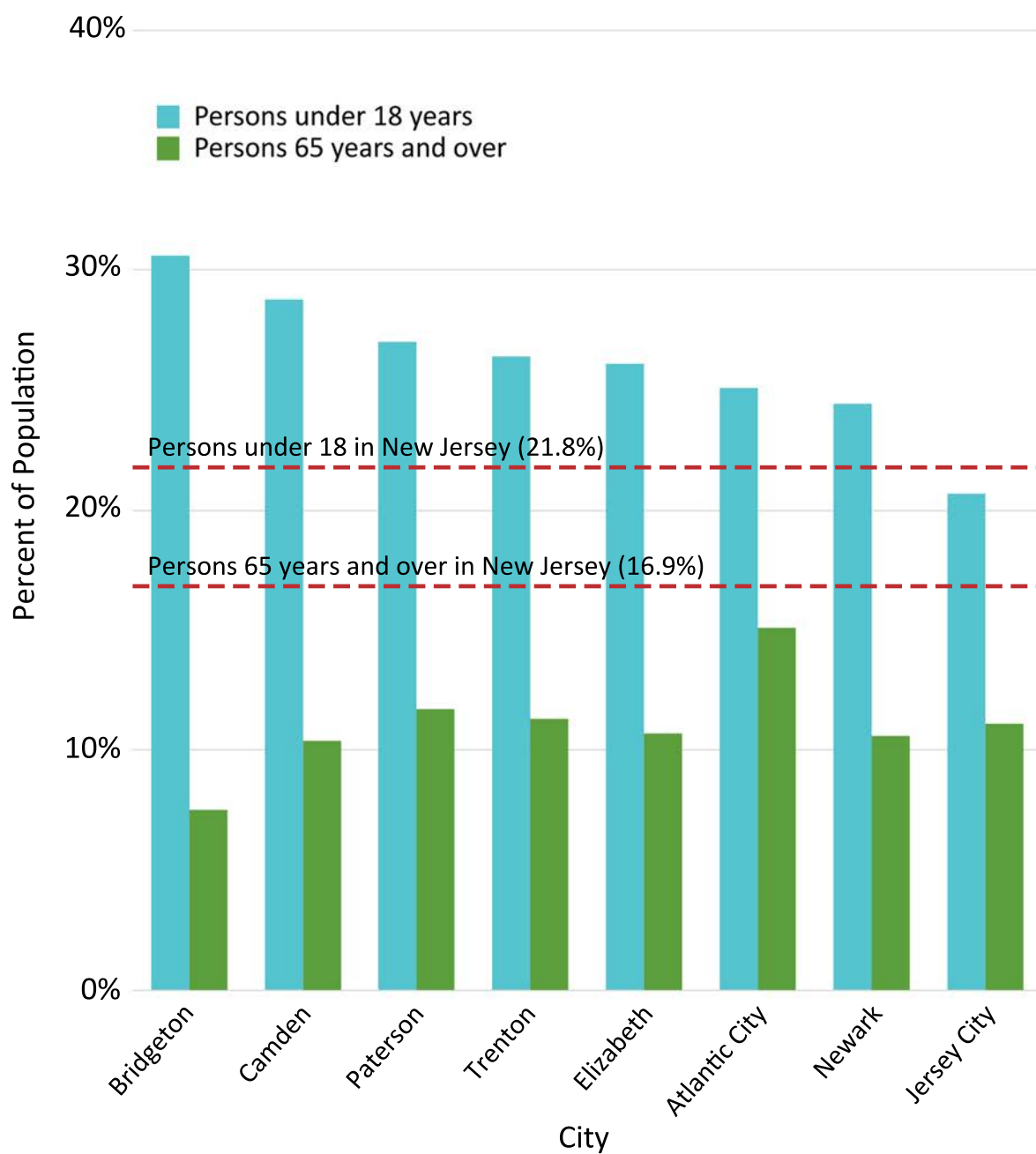


Figure 48: Age comparison between the cities of focus and New Jersey

# Ethnicity of Persons Compared to New Jersey

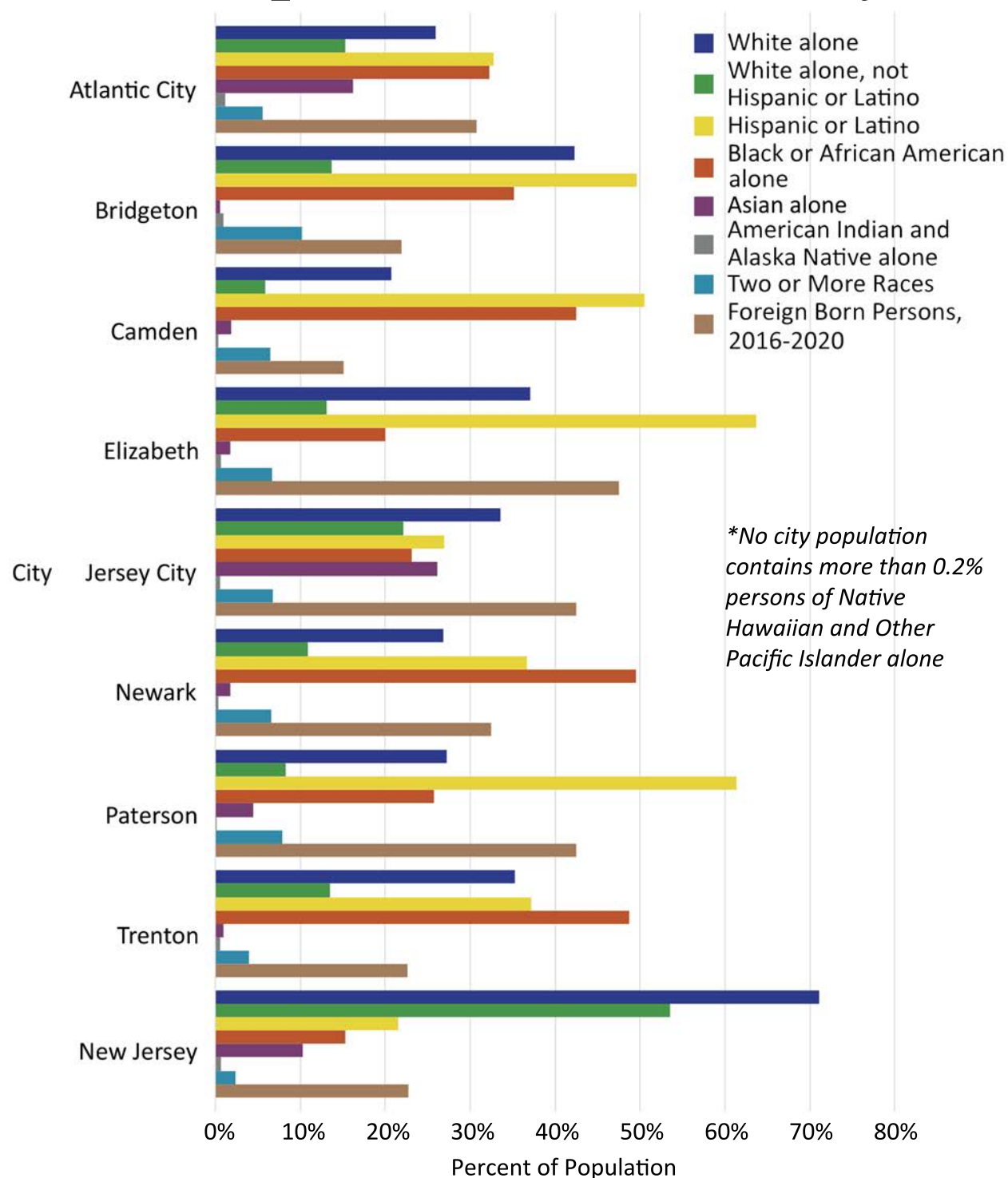
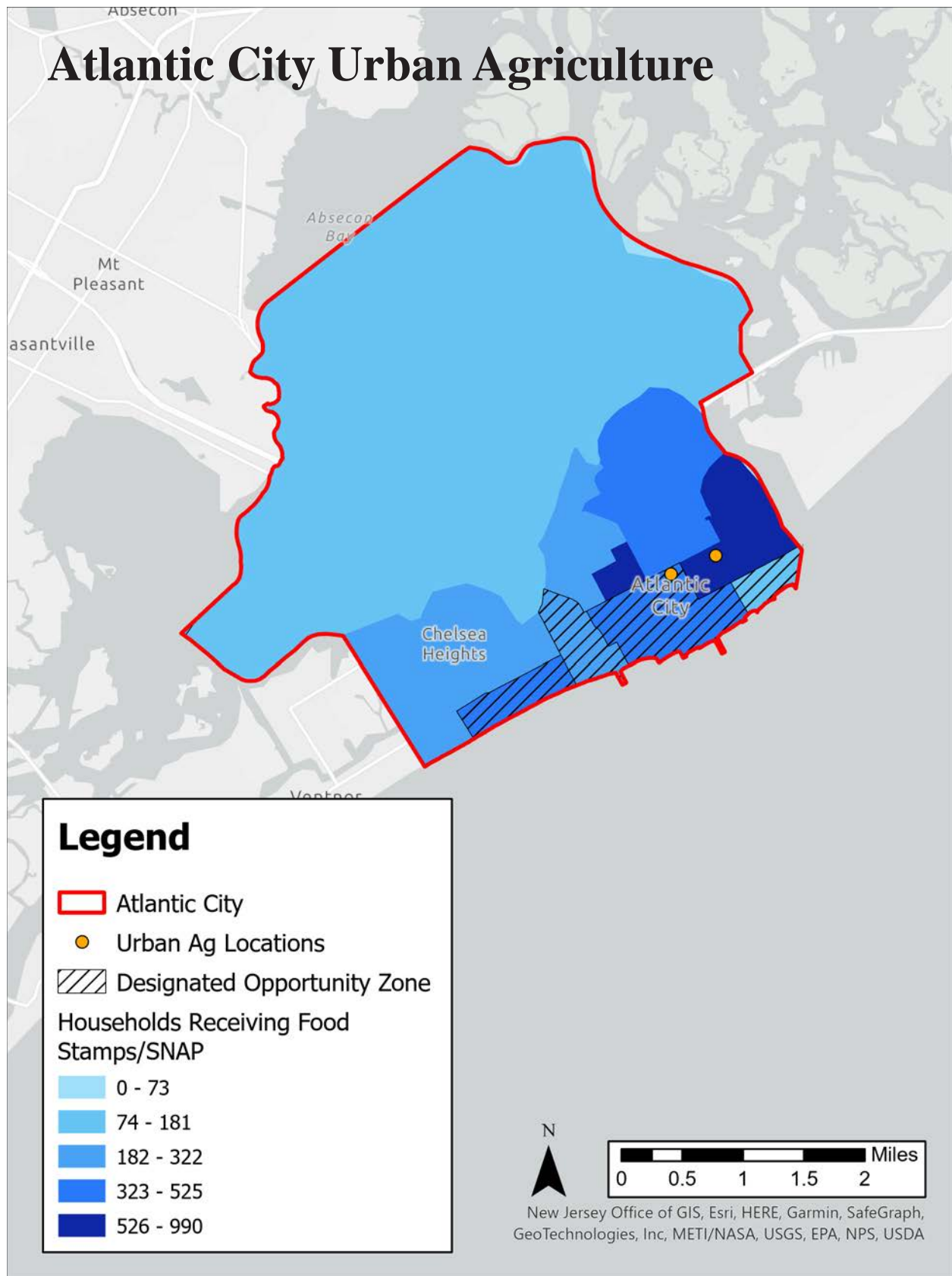
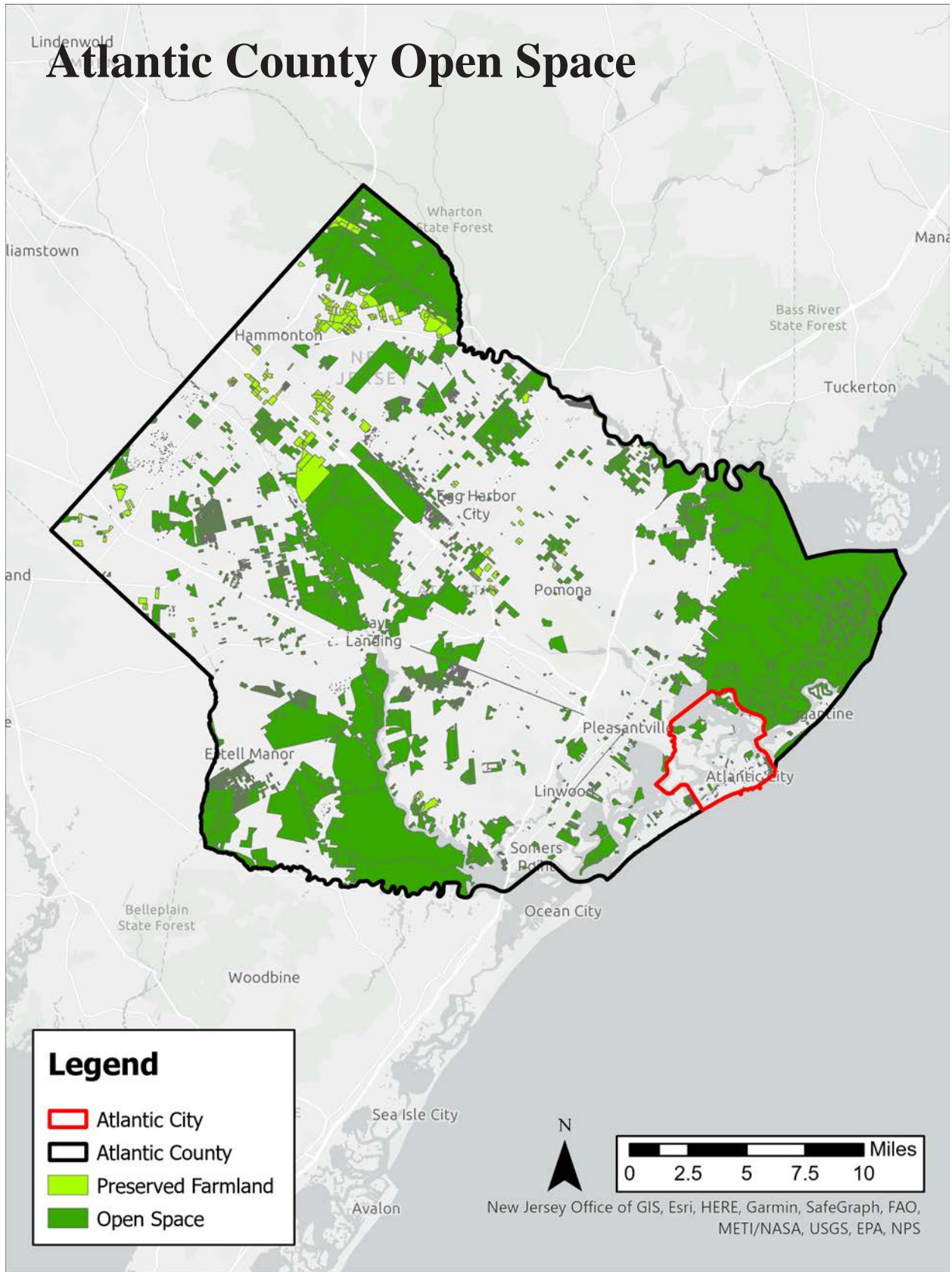


Figure 49: Ethnicity comparison between cities of focus and New Jersey

# Atlantic City Urban Agriculture



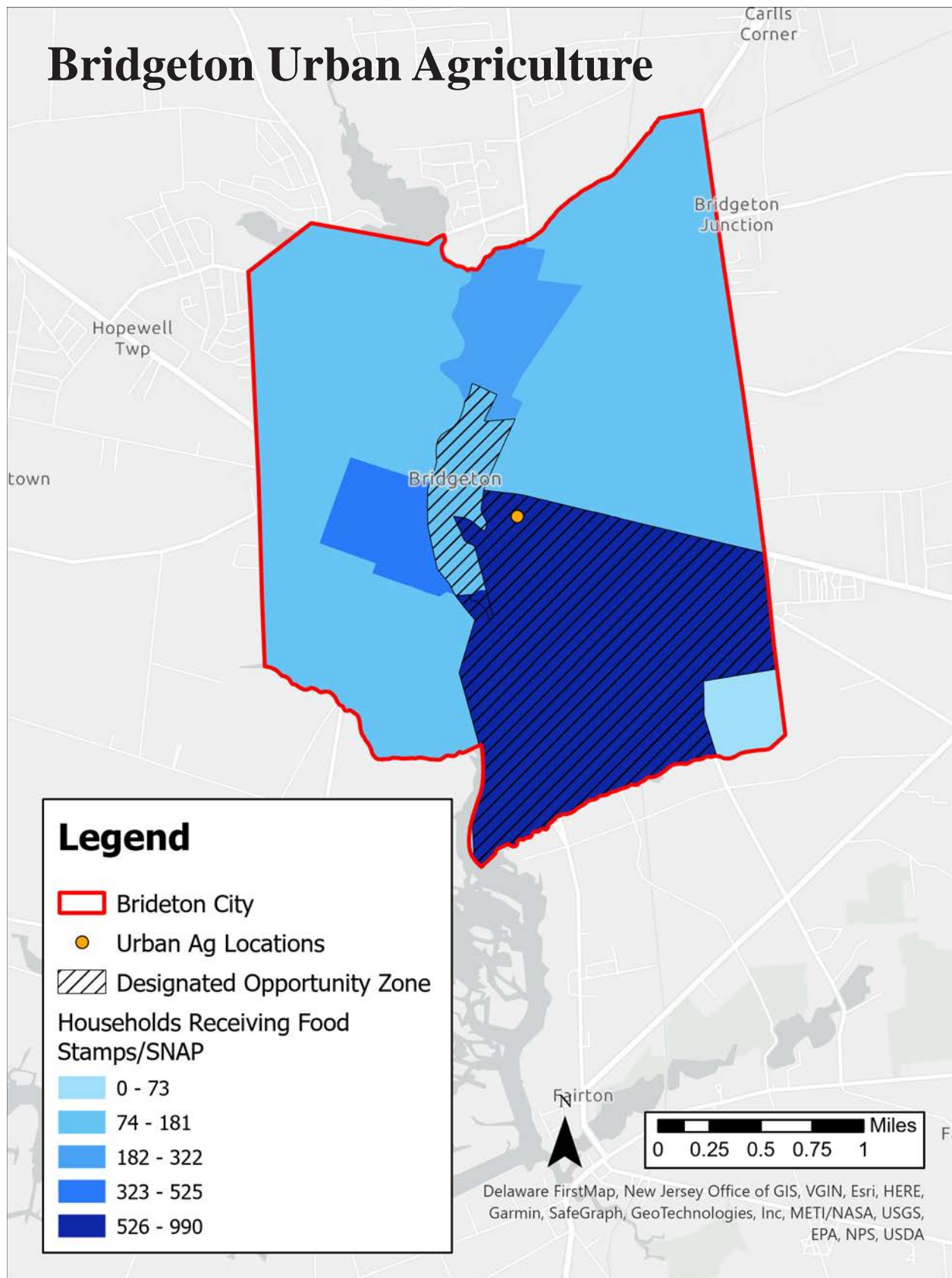
Map 4: Ag locations in Atlantic City in relation to Designated Opportunity Zones and households receiving SNAP.



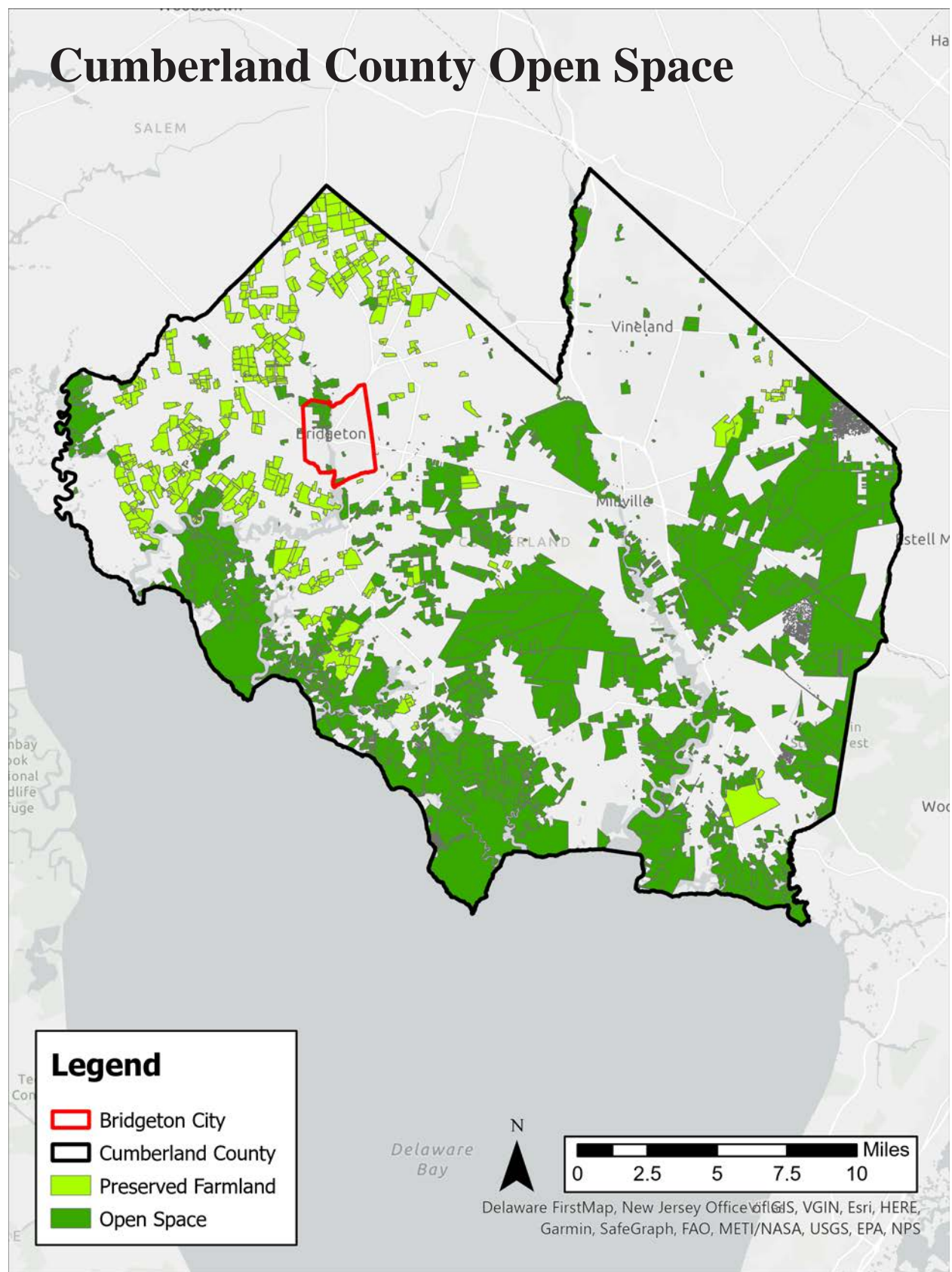
Map 5: Open Space and Preserved Farmland in Atlantic County, New Jersey, in relation to Atlantic City.



# Bridgeton Urban Agriculture



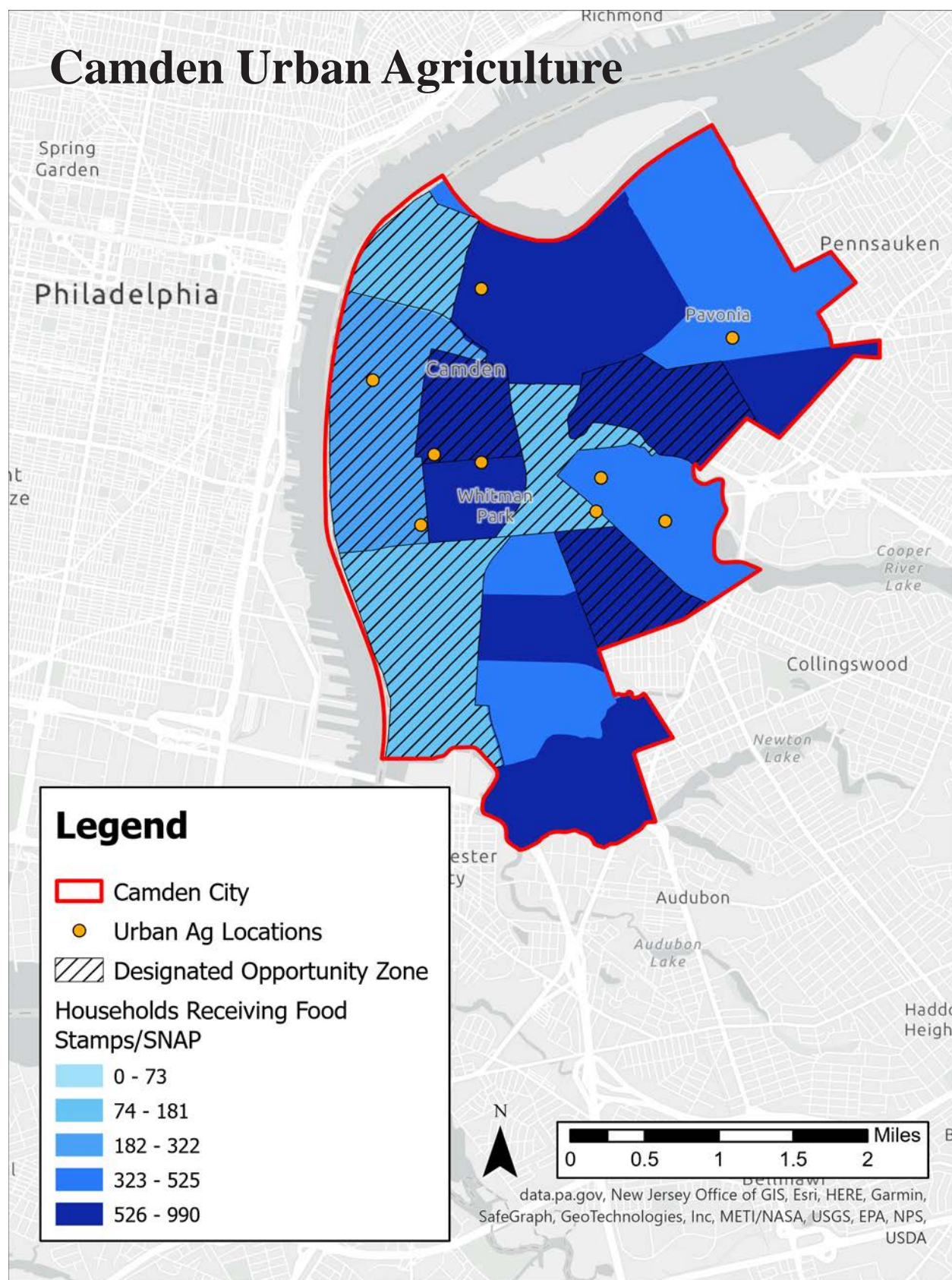
Map 6: Ag locations in Bridgeton in relation to Designated Opportunity Zones and households receiving SNAP.



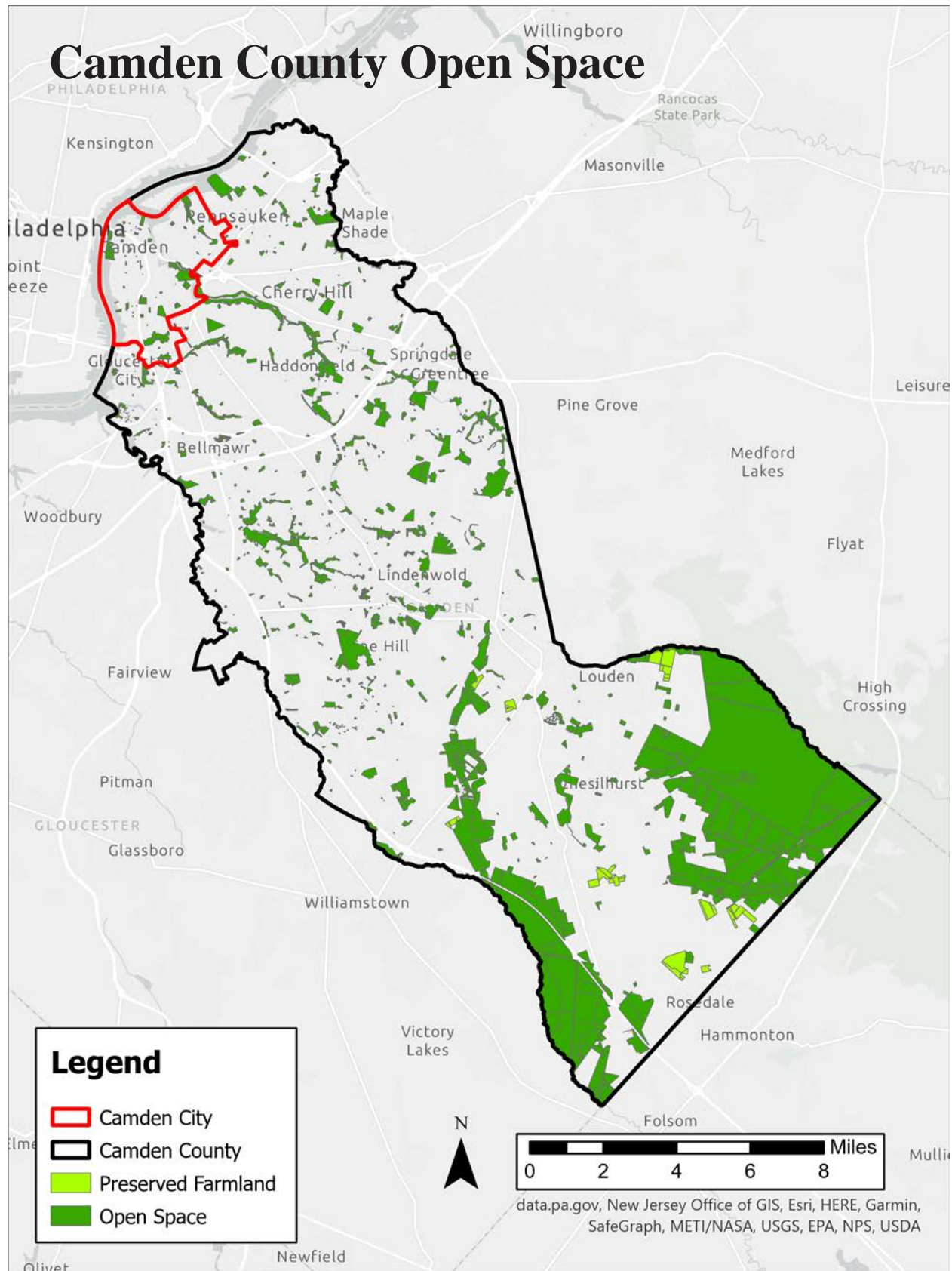
Map 7: Open Space and Preserved Farmland in Cumberland County, New Jersey, in relation to the City of Bridgeton.



# Camden Urban Agriculture



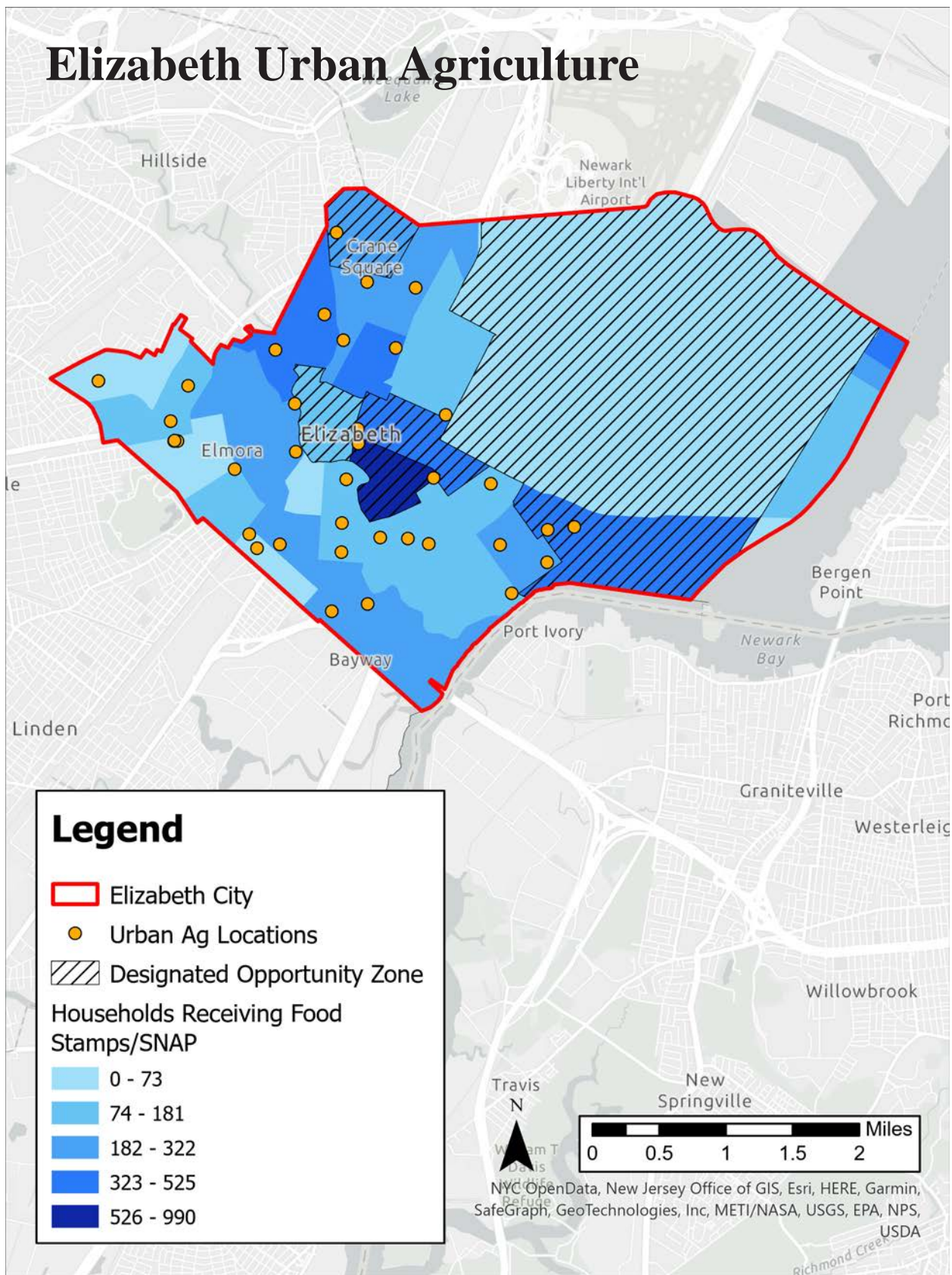
Map 8: Ag locations in Camden in relation to Designated Opportunity Zones and households receiving SNAP.



Map 9: Open Space and Preserved Farmland in Camden County, New Jersey, in relation to the City of Camden.

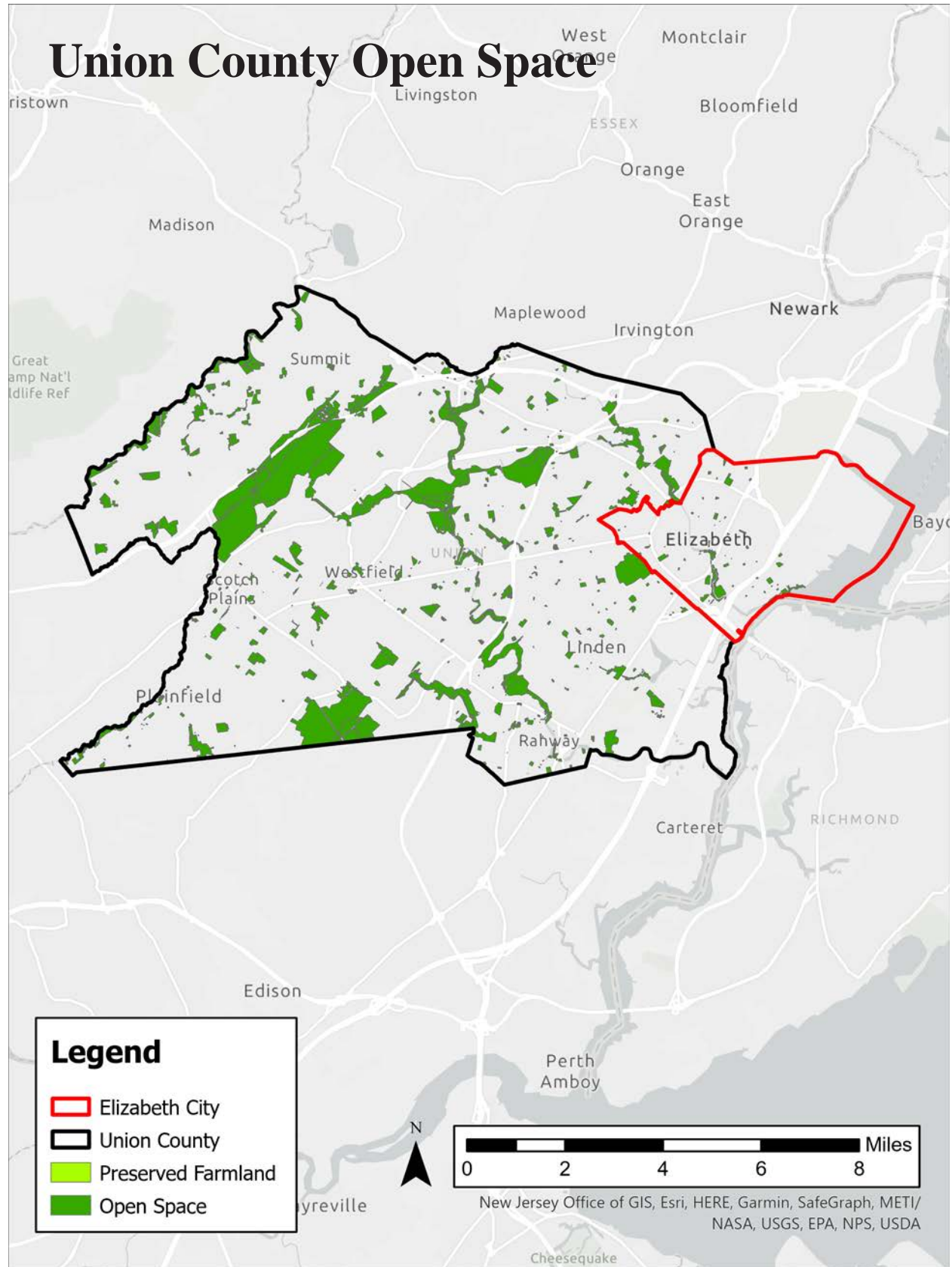


# Elizabeth Urban Agriculture



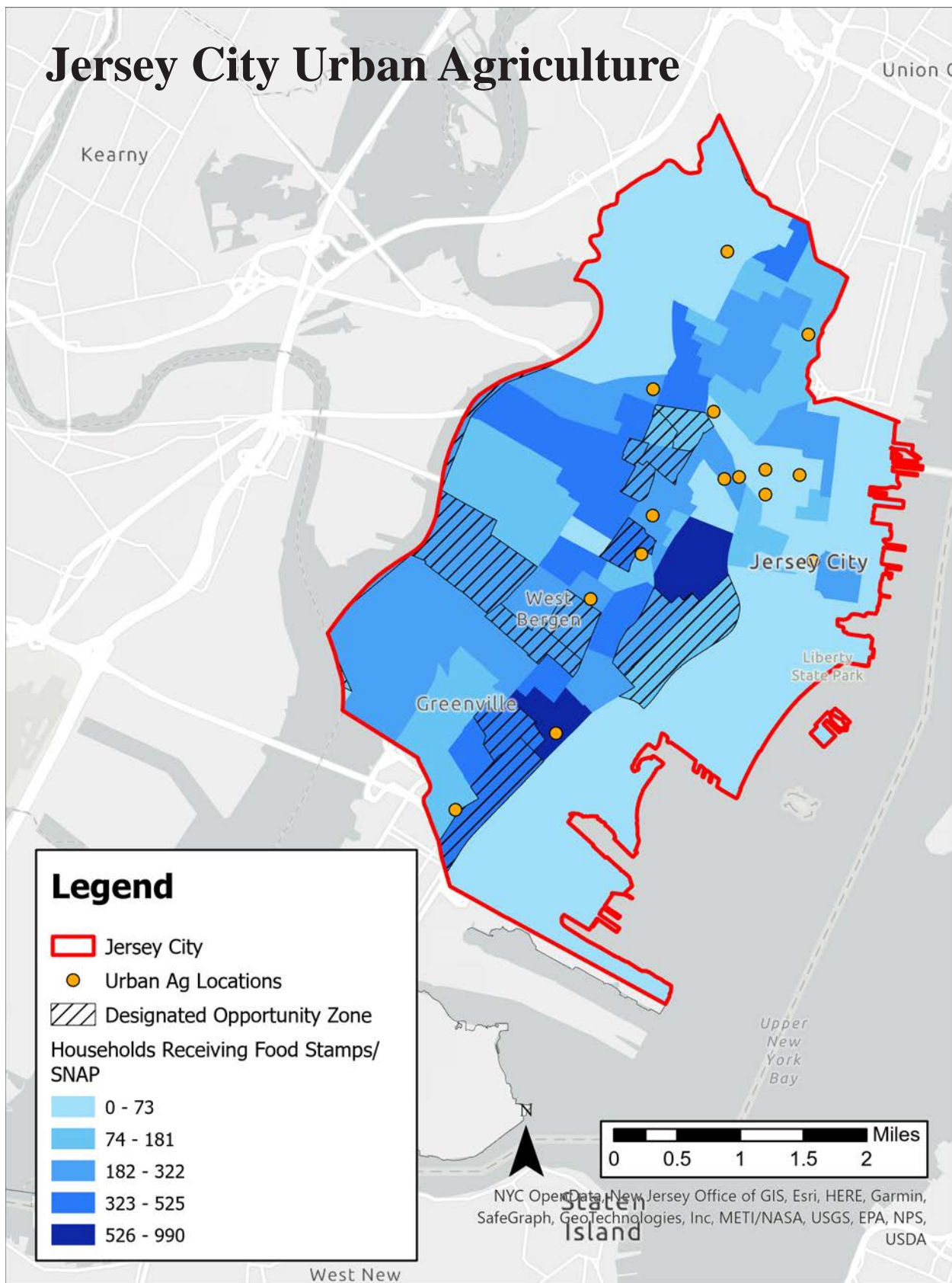
Map 10: Ag locations in Elizabeth in relation to Designated Opportunity Zones and households receiving SNAP.





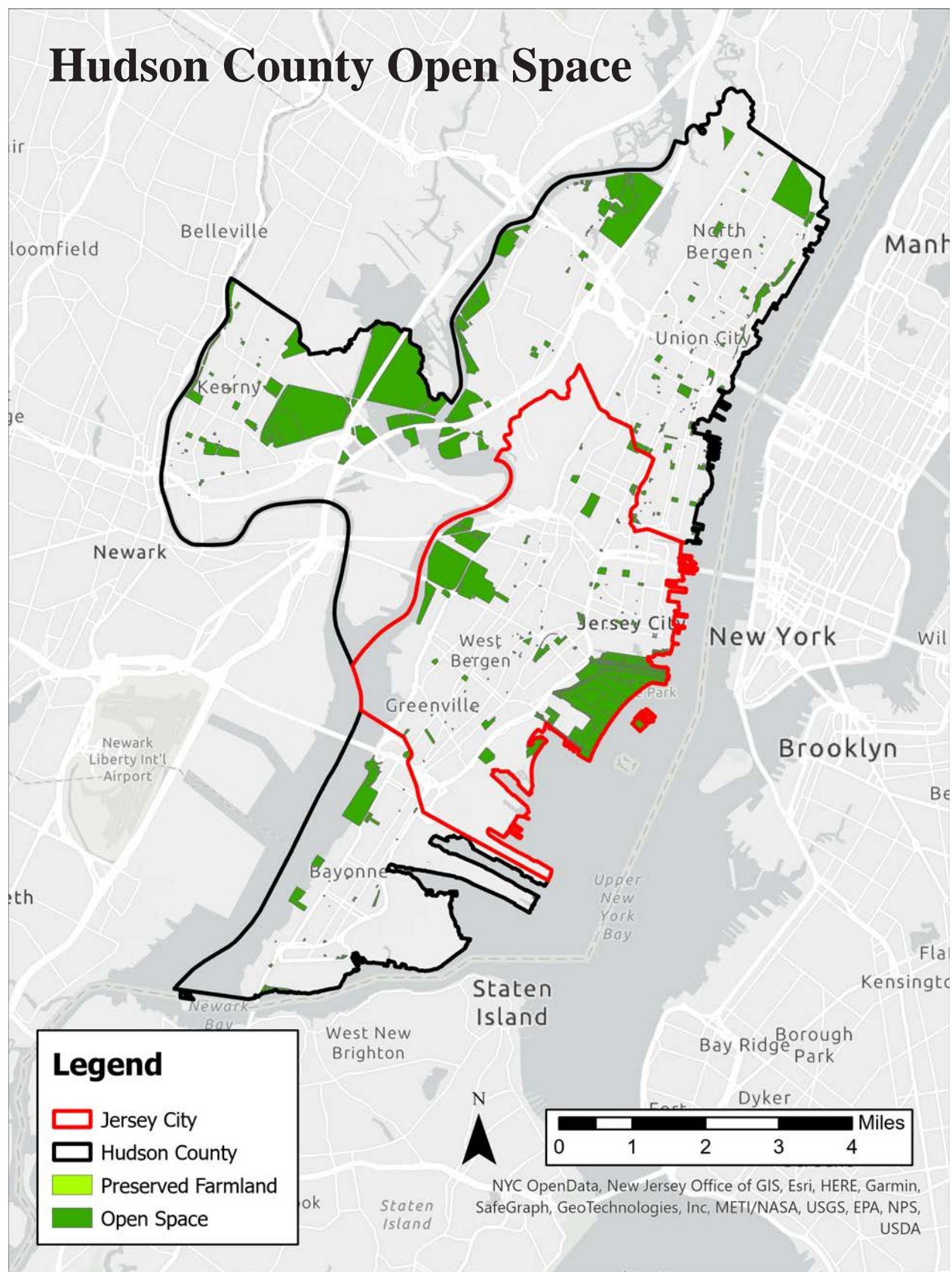
Map 11: Open Space and Preserved Farmland in Union County, New Jersey, in relation to the City of Elizabeth.

# Jersey City Urban Agriculture

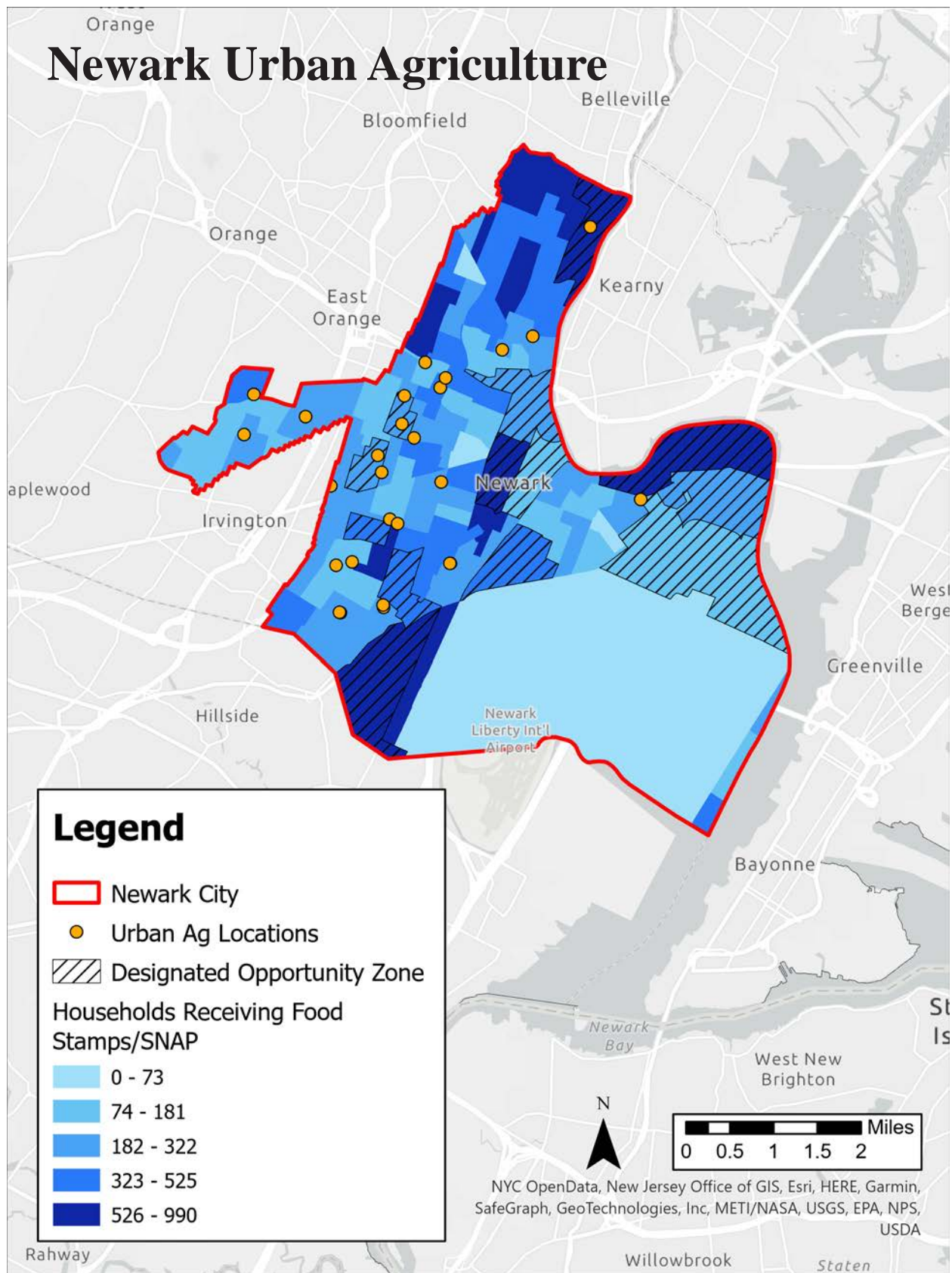


Map 12: Ag locations in Jersey City in relation to Designated Opportunity Zones and households receiving SNAP.



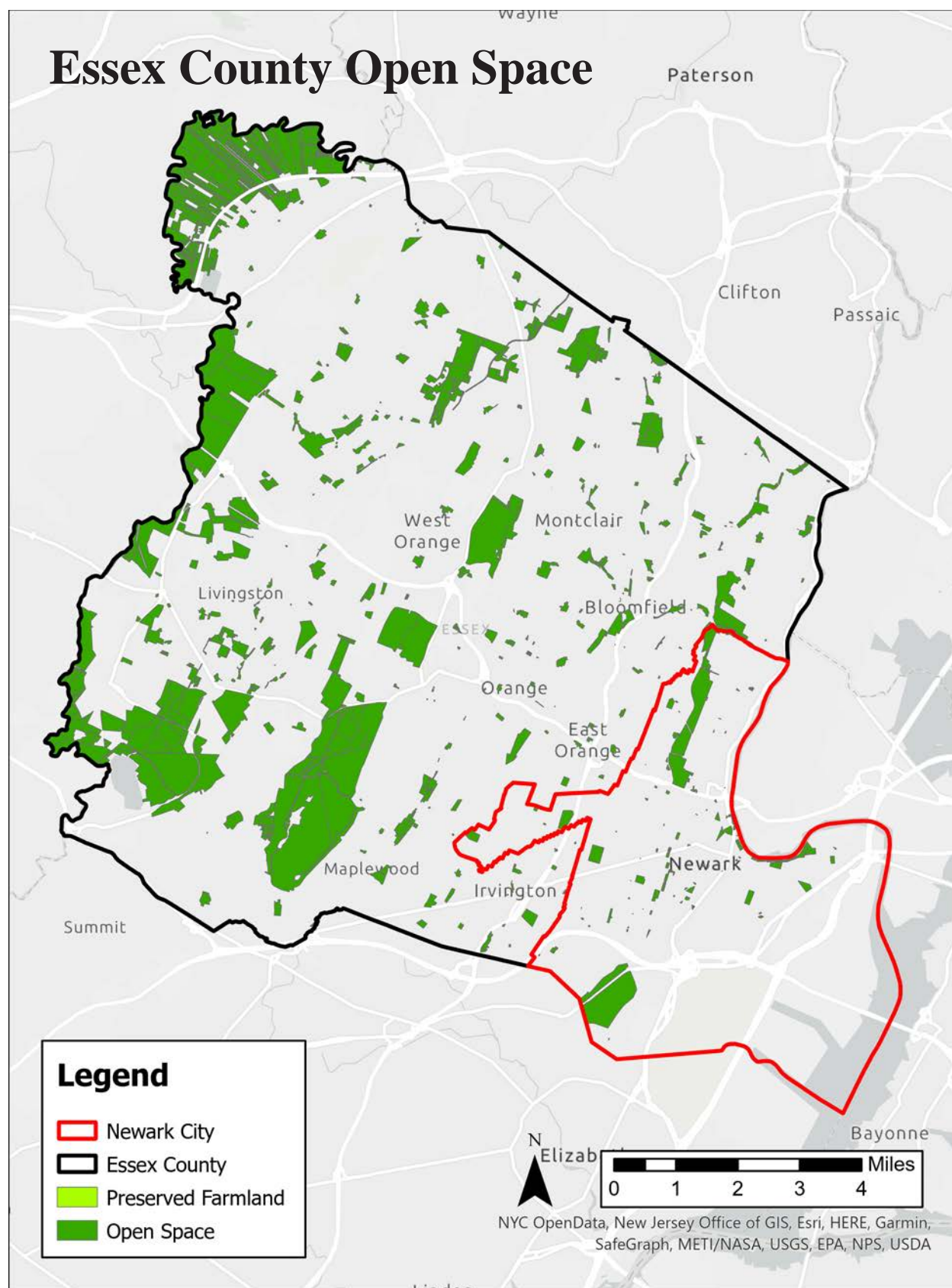


Map 13: Open Space and Preserved Farmland in Hudson County, New Jersey, in relation to Jersey City.



Map 14: Ag locations in Newark in relation to Designated Opportunity Zones and households receiving SNAP.

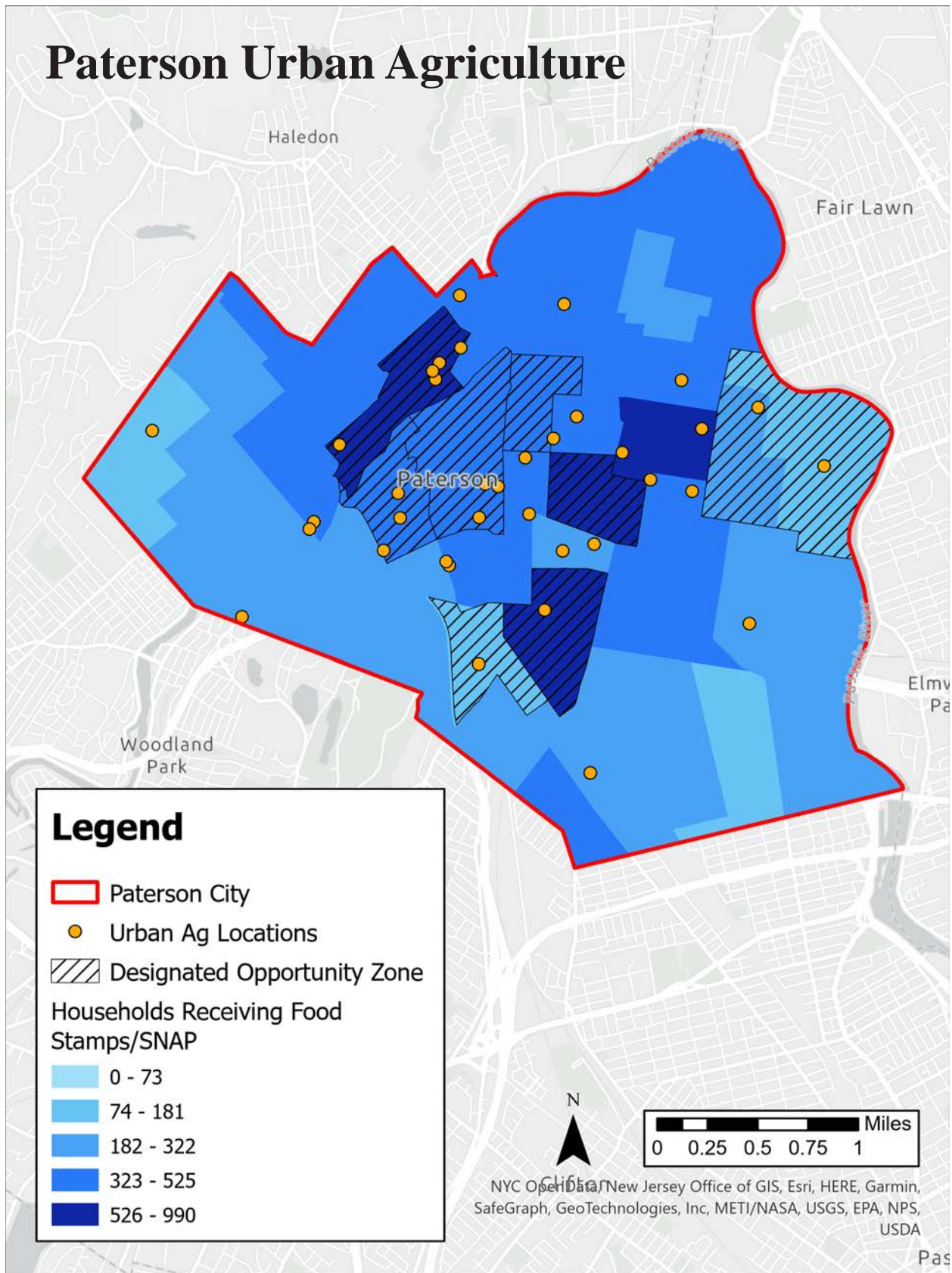




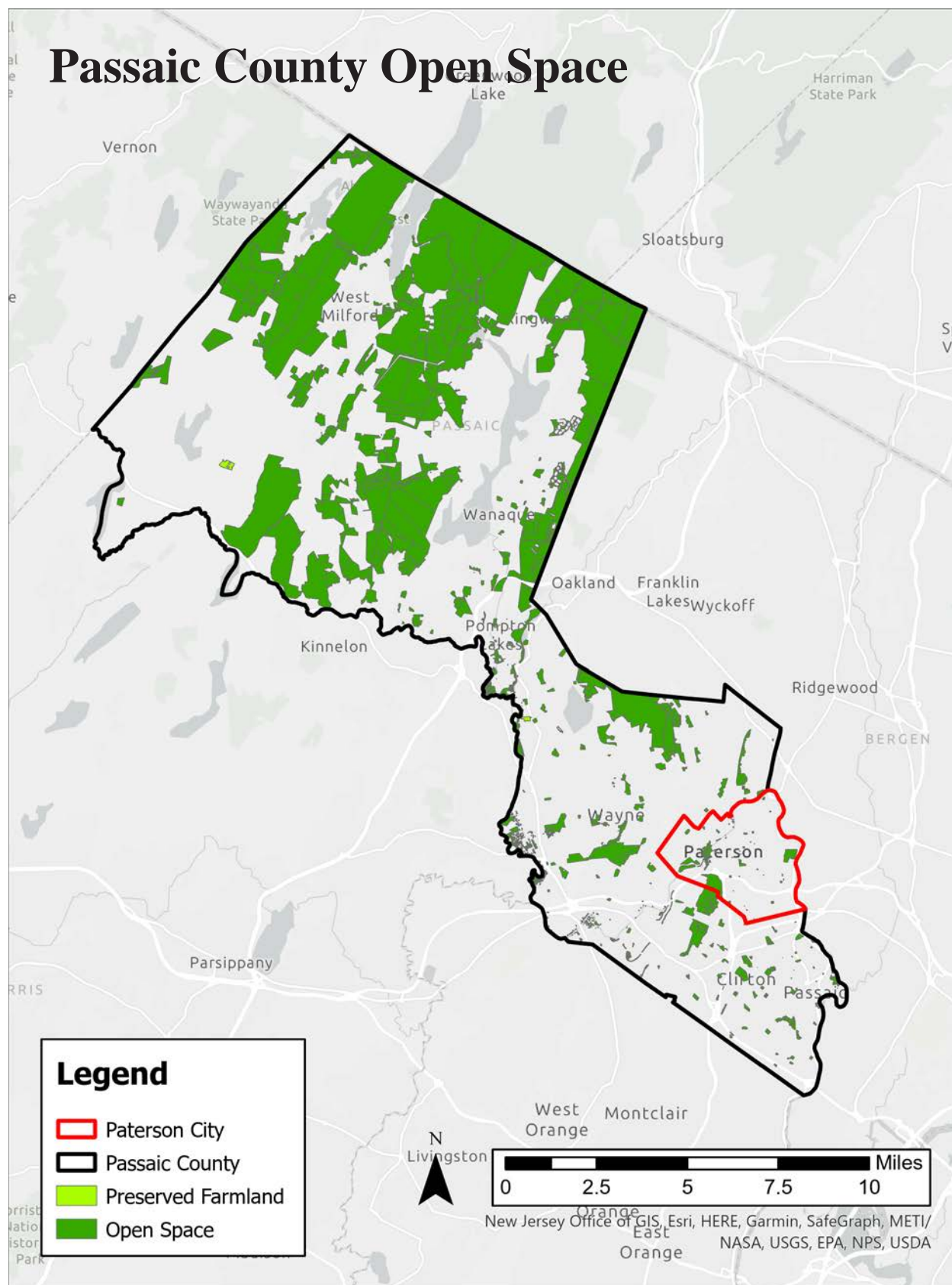
Map 15: Open Space and Preserved Farmland in Essex County, New Jersey, in relation to the City of Newark.



# Paterson Urban Agriculture

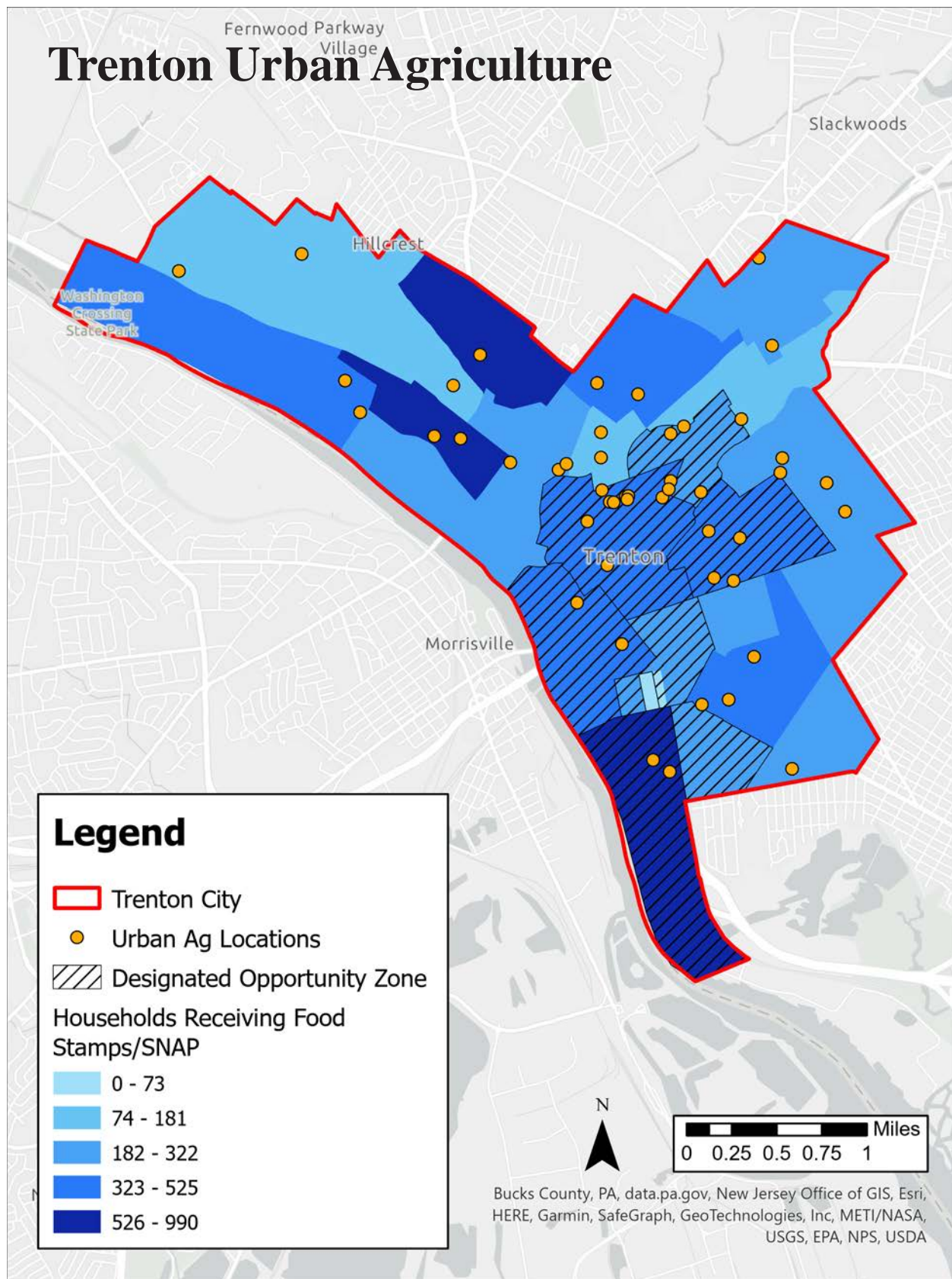


Map 16: Ag locations in Paterson in relation to Designated Opportunity Zones and households receiving SNAP.

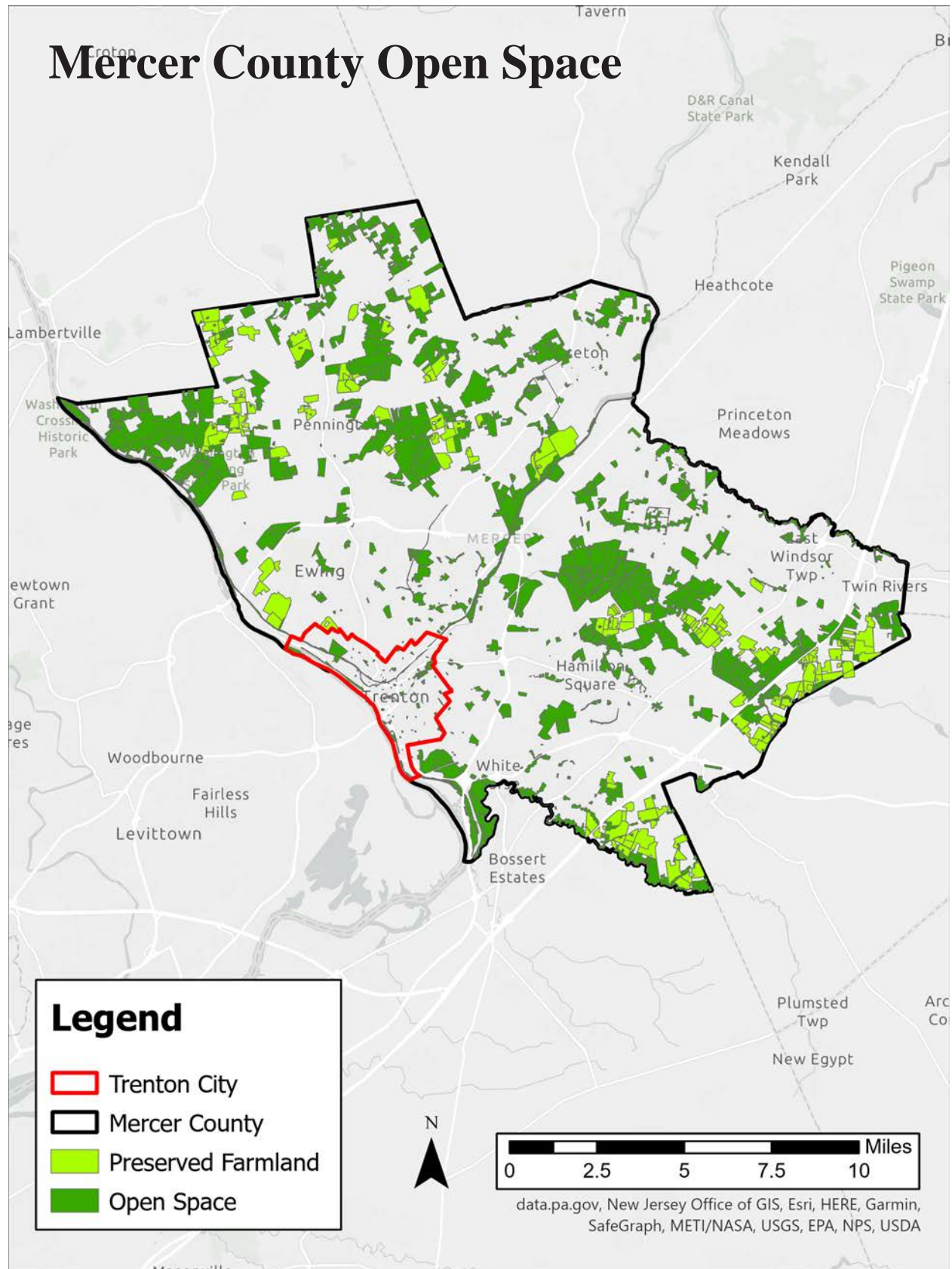


Map 17: Open Space and Preserved Farmland in Passaic County, New Jersey, in relation to the City of Paterson.





Map 18: Ag locations in Trenton in relation to Designated Opportunity Zones and households receiving SNAP.



Map 19: Open Space and Preserved Farmland in Mercer County, New Jersey, in relation to the City of Trenton.

Rank	Township/Area	County
1	North, Central and South Camden/Woodlynne	Camden County
2	Atlantic City	Atlantic County
3	Newark South	Essex County
4	Newark West	Essex County
5	Camden East/Pennsauken	Camden County
6	Trenton West	Mercer County
7	Newark North and Central	Essex County
8	Newark East	Essex County
9	Salem	Salem County
10	Passaic	Passaic County
11	Trenton East	Mercer County
12	Bridgeton/Fairfield/Lawrence	Cumberland County
13	Paterson South	Passaic County
14	New Brunswick	Middlesex County
15	Paterson North	Passaic County
16	Irvington	Essex County
17	Asbury Park	Monmouth County
18	Jersey City South	Hudson County
19	East Orange	Essex County
20	Penns Grove/Carneys Point	Salem County
21	Elizabeth	Union County
22	Orange/West Orange/Montclair	Essex County
23	Jersey City Central	Hudson County
24	Perth Amboy	Middlesex County
25	Lindenwold/Clementon	Camden County
26	Plainfield	Union County
27	Pleasantville/Absecon	Atlantic County
28	Red Bank	Monmouth County
29	Lakewood North	Ocean County
30	Jersey City North	Hudson County
31	Woodbine	Cape May County
32	Long Branch	Monmouth County
33	Millville	Cumberland County
34	Prospect Park/Haledon/Hawthorne	Passaic County
35	Keansburg	Monmouth County
36	Paulsboro	Gloucester
37	Lakewood South	Ocean County
38	North Bergen/West New York/Guttenberg	Hudson County
39	Fairview	Bergen County
40	Egg Harbor City	Atlantic County
41	Burlington City	Burlington County
42	Linden/Roselle	Union County
43	Vineland	Cumberland County
44	Phillipsburg	Warren County
45	Bayonne	Hudson County
46	Dover	Morris County
47	Bound Brook	Somerset County
48	Union City	Hudson County
49	High Bridge	Hunterdon County
50	Montague	Sussex County

Table 8: NJEDA Food Desert Communities ranked from most severe to less severe (Focus Cities in Yellow).



## **Appendix 3: Urban Agriculture Survey Methods & Results**

### **Methods**

The Rutgers Urban Agriculture Survey was developed to collect basic information about urban growers, their activities and motivations for engaging in urban agriculture, physical locations of urban gardens and farms, the type of agricultural production, variety of crops produced and how the food is used. The survey also asked respondents to identify, and rank in terms of importance, barriers to their urban agriculture activities (including specific questions about access to land and land tenure), their need for different kinds of material support, more information and training.

The Rutgers Urban Agriculture Survey was adapted from a much longer survey instrument originally developed by researchers at University of Maryland Extension (Baltimore City) to collect data from urban agricultural practitioners across the Northeast Region. The Rutgers survey was circulated widely in English (Figures 50-61) and Spanish (Figures 62-73) by members of the Advisory Committee to networks of urban community gardeners, urban farmers, and new farmer trainees. The Rutgers Office of Urban Extension and Engagement also circulated links to the survey to 44 Urban Cooperative Extension professionals and on social media.

The goal was to evaluate survey responses together with information collected from the GIS maps of urban gardens. Collectively, the data provides a clearer picture of how urban agriculture is spatially distributed across the state along with the scope of production activities and current needs. A total of 115 respondents (N=115) who engage in urban agriculture across the state submitted surveys.

### **Results**

The majority of survey results are discussed and illustrated in Chapter 4. Additional charts of results are included in this Appendix:

- 1) The number of year(s) respondents have engaged in urban agriculture (Figure 74).
- 2) The respondents' type of urban agriculture site (Figure 75).
- 3) The respondents' method of urban food production (Figure 76).

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English ▼

### Default Question Block

Q1. New Jersey Urban Gardeners / Farmers:

Rutgers University is conducting this survey for a research project on urban agriculture across the state. The survey takes about 8 minutes. Please take a few minutes to answer the survey questions.

The information you provide will help us identify the resources and support needs for your urban gardens and farms. Our research findings and full report will be sent to Secretary Douglas Fisher at New Jersey Department of Agriculture and publicly available in early 2023.

Thank you very much for your help.

Q1. Enter your email address

Q2. Enter the zip code and neighborhood where you live. (ie., 08618, West Trenton 'The Island')

Figure 50: Urban Agriculture Survey Questions in English, page 1/12.

Q3. What best describes your primary role in urban agriculture?

- ☐ Backyard, or home gardener
- ☐ Community gardener
- ☐ Urban farmer
- ☐ Non-profit employee
- ☐ State agency employee
- ☐ Supporter, or unpaid volunteer
- ☐ Other

Q4. How many years have you engaged in urban gardening/farming/growing?

- ☐ 0 to 3 years
- ☐ 3 to 5 years
- ☐ 5 to 10 years
- ☐ More than 10 years

Q5. What are your reasons for engaging in urban agriculture? Rank your TOP THREE.

(Note: You may reorder the choices by dragging / dropping into 1st, 2nd, 3rd position)

- Increase food access and food security for my neighbors and community
- Provide food for myself and/or my family
- Creating a small business to earn a living
- Providing supplemental income for my household
- Create safe places and reduce blight in my community
- Contribute to environmental sustainability
- Advocate for food justice

Figure 51: Urban Agriculture Survey Questions in English, page 2/12.

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Education programs for youth and families

Other

**Q6. How are you using the food you grow? (Check all that apply)**

- ☐ Personal use (cooking, preserving, canning)
- ☐ Sharing with friends and family
- ☐ Training and workforce development programs (ie., culinary arts)
- ☐ School-based (K-12) lessons on food and nutrition (ie., FoodCorps)
- ☐ Donation to emergency food providers (soup kitchens, food pantries, food banks)
- ☐ Wholesale to restaurants, caterers, small grocers
- ☐ Value-added processing to make products for sale (ie., tomatoes and peppers for hot sauce or salsa)
- ☐ Sales at urban farm stands or farmers markets
- ☐ Other

### **Block 1**

**Q7. Enter the city and neighborhood where your garden or farm site is located?**  
(ie., Newark, Forest Hill)

**Q8. Do you (or your organization) engage in urban agriculture activities at more than one site?**

- ☐ Yes
- ☐ Unsure
- ☐ No

*Figure 52: Urban Agriculture Survey Questions in English, page 3/12.*

Q9. If yes, how many site(s) do you have under production?

- ☐ 2 - 4
- ☐ 5 - 10
- ☐ 10+

Q10. The site(s) where you grow food would best be described as: (Check all that apply)

- ☐ Home garden
- ☐ Neighborhood, or community garden
- ☐ School garden, or after-school program site
- ☐ Urban farm
- ☐ House of worship
- ☐ Healthcare center or hospital
- ☐ On farmland
- ☐ Inside a building or on a rooftop
- ☐ Other

Q11. Is your urban agriculture site organized primarily as:

- ☐ For-profit
- ☐ Non-profit
- ☐ Cooperative
- ☐ Other

Q12. Is your urban food production:

- ☐ Soil-based
- ☐ Hydroponic

Figure 53: Urban Agriculture Survey Questions in English, page 4/12.



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☐ Aquaponic

☐ Aeroponic

Q13. To the best of your knowledge, how has soil safety been addressed at your agricultural site(s)? (You may select more than one answer)

☐ We produce our edible crops in raised beds

☐ Clean compost and soil were brought in for the garden

☐ There is a cap on the site to protect clean soil from mixing with soil that may be contaminated

☐ I am not sure about soil safety at my site or the level of testing

☐ My production is soilless

Q14. To the best of your knowledge, has the geographic location of your site(s) been mapped?

☐ Yes

☐ No

☐ I do not know

Q15. What items are produced at your urban agriculture site(s)? (Check all that apply)

☐ Fruit

☐ Vegetables

☐ Herbs

☐ Honey

☐ Cut flowers

☐ Eggs

☐ Mushrooms

☐ Grains

Figure 54: Urban Agriculture Survey Questions in English, page 5/12.

☐ Legumes

☐ Nuts

**Q16.** How secure do you feel about your long-term access to the site(s) on which you farm or garden?

☐ Very secure

☐ A little secure

☐ A litte concerned

☐ Very concerned

**Q17.** What type of property access agreement do you have? If you have multiple sites, check all that apply.

☐ Verbal agreement with property owner

☐ Written use permit with property owner

☐ Written one-year lease

☐ Written two to five year lease

☐ Written lease for more than five years

☐ You are the property owner

☐ Land is protected through Green Acres/Open Space Programs

☐ Other

**Q18.** Which of the following do you see as the most significant barriers to your urban agriculture activities? 1 = least significant and 10= most significant

	0	1	2	3	4	5	6	7	8	9	10
Available land to start soil-based farming/gardening											

Figure 55: Urban Agriculture Survey Questions in English, page 6/12.



Q19. Are there limitations to expanding your food production activities?

☐ Yes

☐ No

Q20. If yes, what stops you from growing more food than you do? (select TOP 2)

☐ Not enough land / space

☐ Not enough time

☐ Not enough resources

Figure 56: Urban Agriculture Survey Questions in English, page 7/12.

- ☐ Need more technical assistance / support
- ☐ Difficulties with local municipalities (zoning or other rules)
- ☐ Other

## Block 2

Q21. Have you received any training or certification that broadens your agricultural knowledge and skills?

- ☐ Yes
- ☐ No

Q22. Have you received training or certification in any of the following?

	No Training	Basic Training /Workshop	Certification
Rutgers Cooperative Extension Master Gardener	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rutgers Cooperative Extension Beekeeping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Master Composter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Integrated Pest Management (IPM)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hydroponic / Aquaponic Agriculture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Good Agricultural Practices (GAP) Certification	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ServSafe or other food safety certification	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NJ Pesticide Applicator (Licensed)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure 57: Urban Agriculture Survey Questions in English, page 8/12.

Q23. What kinds of information, training, and/or workshops would be most helpful for you as a farmer/gardener/grower? 1=least helpful and 10=most helpful



Q24. Do you see value in building networks of support, mentorship, apprenticeship for urban farmers and farmers of color?

Figure 58: Urban Agriculture Survey Questions in English, page 9/12.



- ☐ No
- ☐ Maybe
- ☐ Yes

Q25. If yes, would you be willing to participate as a network member?

- ☐ Yes
- ☐ Maybe
- ☐ No

Q26. What type of workshop or training is easiest for you to access? (Rank ALL SIX by dragging/dropping options into place. 1st, 2nd, 3rd, etc.)

In-person class or workshop

Online class

Online video or webinar

Online article or newsletter

Audio / Podcast

One-on-one consulting

Q27. What style of workshop or training helps you learn best? (Rank ALL SIX by dragging/dropping options into place. 1st, 2nd, 3rd, etc.)

In-person class or workshop

Online class

Online video or webinar

Online article or newsletter

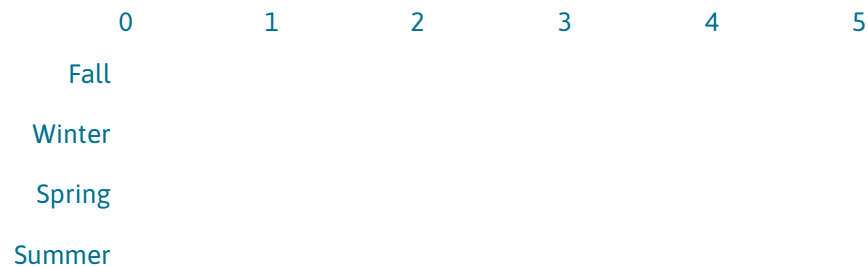
Figure 59: Urban Agriculture Survey Questions in English, page 10/12.

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Audio / Podcast

One-on-one consulting

Q28. When is the best time for you to attend or participate in training sessions and workshops? 1= Best time and 5 = Worst time



Q29. Which types of internet connections do you consistently have access to? (You may want to select more than one answer if, for example, you have access to a smartphone, but may have insufficient internet speed)

- ☐ Sufficient internet speed to watch videos
- ☐ Slow or unreliable internet connection
- ☐ Smartphone
- ☐ I don't have regular internet access

Q30. Which types of social media do you use regularly AND would be best to share information about urban agriculture activities, policies, projects, funding, etc.?

- ☐ Facebook
- ☐ Twitter
- ☐ Instagram
- ☐ Tik Tok
- ☐ Pinterest

Figure 60: Urban Agriculture Survey Questions in English, page 11/12.

- ☐ YouTube
- ☐ LinkedIn
- ☐ I do not use social media
- ☐ Other

Powered by Qualtrics

### Default Question Block

Q1.

Jardineros/agricultores urbanos de Nueva Jersey:

La Universidad de Rutgers está realizando esta encuesta para un proyecto de investigación sobre agricultura urbana en todo el estado. La encuesta dura unos 8 minutos. Tómese unos minutos para responder la pregunta de la encuesta.

La información que nos proporcione nos ayudará a identificar que tipos de recursos y formas de apoyo son importantes para resolver las necesidades de sus huertas y granjas urbanas. Los resultados de nuestra investigación y el informe completo se enviarán al secretario Douglas Fisher del Departamento de Agricultura de Nueva Jersey y estarán disponibles públicamente a principios de 2023.

Muchas gracias por su ayuda.

Q1. Añade su dirección de correo electrónico

Q2. Añada su código postal y el vecindario donde vive. (es decir, 08618, West Trenton 'La isla')

Figure 62: Urban Agriculture Survey Questions in Spanish, page 1/12.

Q3. ¿Cuál mejor su función principal en agricultura urbana?

- ☐ Jardín casero o jardinero doméstico
- ☐ jardinero comunitario
- ☐ Agricultor urbano
- ☐ empleado sin fines de lucro
- ☐ empleado de una agencia estatal
- ☐ Partidario o voluntario no remunerado
- ☐ Otro

Q4. ¿Cuántos años lleva dedicado a la jardinería/agricultura/cultivo urbano?

- ☐ 0 a 3 años
- ☐ 3 a 5 años
- ☐ 5 a 10 años
- ☐ Más de 10 años

Q5. ¿Cuáles son las razones para dedicarse a la agricultura urbana? Clasifique tus TRES PRINCIPALES razones. (Nota: puede reordenar las opciones arrastrando/soltando en la 1.ª, 2.ª y 3.ª posición)

Aumentar el acceso a alimentos y la seguridad alimentaria para mis vecinos y la comunidad

Proveer alimentos para mí y/o mi familia.

Crear de una pequeña empresa para ganarse la vida

Proveer ingresos adicionales para mi hogar

Figure 63: Urban Agriculture Survey Questions in Spanish, page 2/12.



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Crear sitios seguros y reducir el deterioro en mi comunidad

Contribuir a la sostenibilidad ambiental

Defensor de la justicia alimentaria

Programas de educación para jóvenes y familias.

Otro

Q6. ¿Cómo estás usando los alimentos que cultivas? (Marque todo lo que corresponda)

☐ Uso personal (cocinar, preservar, enlatar)

☐ Compartir con amigos y familiares

☐ Programas de apoderamiento y desarrollo de la fuerza laboral (es decir, artes culinarias)

☐ Lecciones escolares (K-12) sobre alimentación y nutrición (es decir, FoodCorps)

☐ Donación a proveedores de alimentos de emergencia (comedores populares, despensas de alimentos, bancos de alimentos)

☐ Venta al por mayor a restaurantes, empresas de catering, pequeñas tiendas de comestibles

☐ Procesamiento de valor agregado para hacer productos para la venta (es decir, tomates y pimientos para salsa picante o salsa)

☐ Ventas en puestos urbanos o mercados de agricultores.

☐ Otro

## Block 1

Q7. Añade la ciudad y el vecindario donde se encuentra su jardín o finca. (es decir, Newark, Forest Hill)

Figure 64: Urban Agriculture Survey Questions in Spanish, page 3/12.

Q8. ¿Usted (o su organización) participa en actividades de agricultura urbana en más de un lugar?

- ☐ Sí
- ☐ Inseguro
- ☐ No

Q9. En caso afirmativo, ¿cuántos sitios tiene en producción?

- ☐ 2 - 4
- ☐ 5 - 10
- ☐ 10+

Q10. Los lugares donde cultiva alimentos los describiría como: (Marque todo lo que corresponda)

- ☐ Hogar & Jardín
- ☐ Barrio, o jardín comunitario
- ☐ Huerto escolar o sitio del programa extracurricular
- ☐ Granja urbana
- ☐ Iglesia o casa de adoración
- ☐ centro de salud u hospital
- ☐ en tierras de cultivo
- ☐ Dentro de un edificio o en una azotea
- ☐ Otro

Q11. ¿Su Lugar de agricultura urbana está organizada principalmente como:

- ☐ con fines de lucro
- ☐ Sin fines de lucro
- ☐ Cooperativa

Figure 65: Urban Agriculture Survey Questions in Spanish, page 4/12.

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☐ Otro

Q12. Es su producción urbana de alimentos:

- ☐ Sobre la tierra
- ☐ Hidropónico
- ☐ acuaponia
- ☐ aeropónico

Q13. A su entender, ¿cómo aseguras cultivar en suelo Limpio en su(s) sitio(s) agrícola(s)? (Puede seleccionar más de una respuesta)

- ☐ Producimos nuestros cultivos comestibles en camas elevadas
- ☐ Se trajo abono y suelo limpio para al jardín.
- ☐ Hay una tapa en el sitio para evitar que la tierra limpia se mezcle con tierra que pueda estar contaminada
- ☐ No estoy seguro acerca de la seguridad del suelo en mi sitio o el nivel de prueba
- ☐ Mi producción es sin suelo

Q14. Según entender, ¿se ha localizado geográficamente de su(s) sitio(s)?

- ☐ Sí
- ☐ No
- ☐ Yo no sé

Q15. ¿Qué se produce en su(s) sitio(s) de agricultura urbana? (Marque todo lo que corresponda)

- ☐ Fruta
- ☐ Verduras
- ☐ Hierbas

Figure 66: Urban Agriculture Survey Questions in Spanish, page 5/12.

- ☐ Miel
- ☐ Cortadas flores
- ☐ Huevos
- ☐ Hongos
- ☐ Granos
- ☐ legumbres
- ☐ Nueces

Q16. ¿Qué seguridad tiene para el acceso a largo plazo a los sitios en los que cultiva o cultiva un huerto?

- ☐ Muy seguro
- ☐ un poco seguro
- ☐ un poco preocupado
- ☐ Muy preocupado

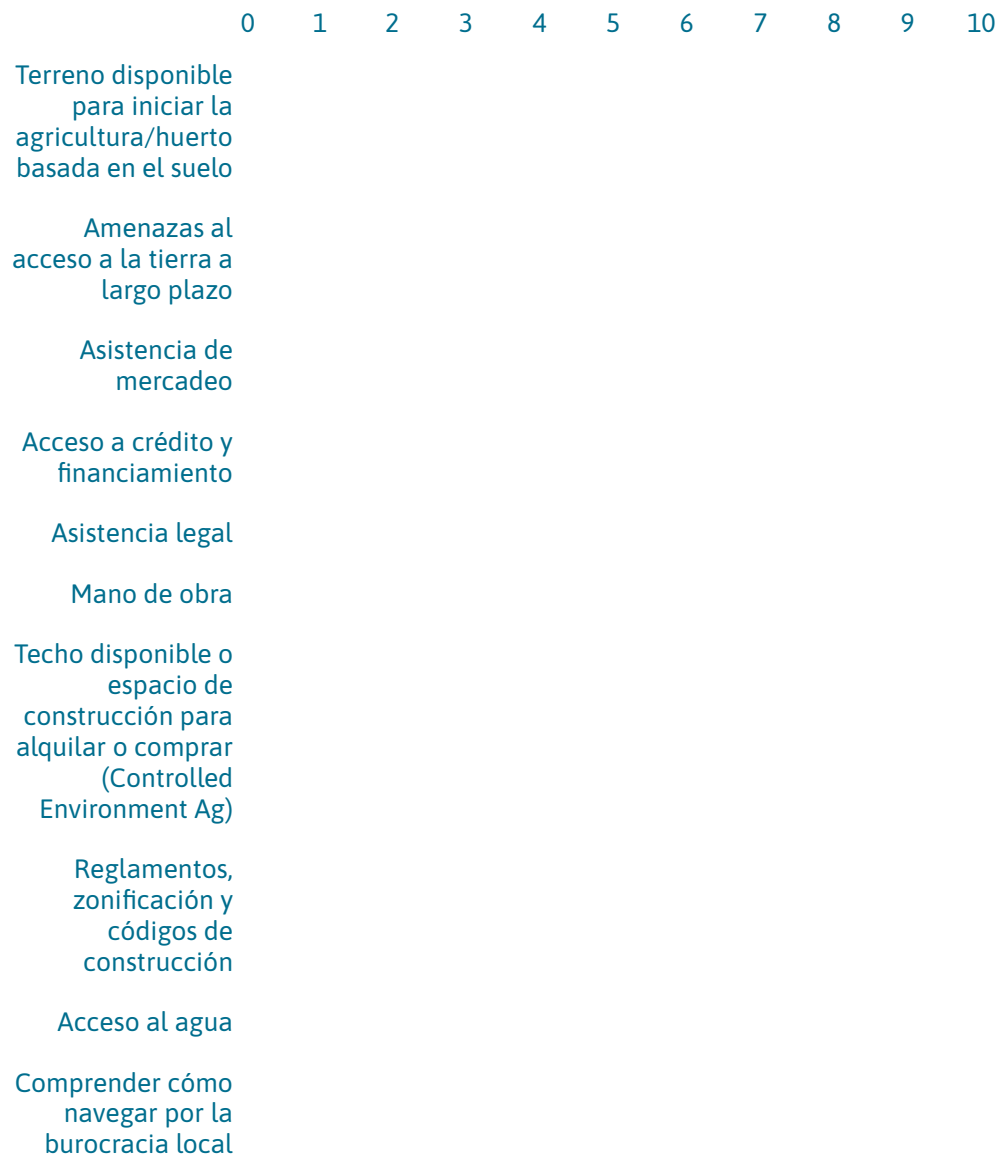
Q17. ¿Qué tipo de acuerdo de tien a la propiedad que cultivas? Si tiene varios sitios, marque todos que corresponden.

- ☐ Acuerdo verbal con el dueño de la propiedad
- ☐ Permiso de uso por escrito con el dueño de la propiedad
- ☐ Arrendamiento por escrito de un año
- ☐ Arrendamiento por escrito de dos a cinco años
- ☐ Arrendamiento por escrito por más de cinco años
- ☐ eres el dueño de la propiedad
- ☐ La tierra está protegida a través de Green Acres/Open Space Programs
- ☐ Otro

Q18. ¿Cuáles de las siguientes considera que son las barreras más significativas para sus actividades de agricultura urbana? 1 = menos significativo y 10= más

Figure 67: Urban Agriculture Survey Questions in Spanish, page 6/12.

significativo



Q19. ¿Existen limitaciones para expandir sus actividades de producción de alimentos?

☐ Sí

Figure 68: Urban Agriculture Survey Questions in Spanish, page 7/12.



☐ No

Q20. En caso afirmativo, ¿qué le impide cultivar más alimentos de los que produce?  
(seleccione TOP 2)

- ☐ No hay suficiente tierra / espacio
- ☐ No hay tiempo suficiente
- ☐ No hay suficientes recursos
- ☐ Necesita más asistencia/soporte técnico
- ☐ Dificultades con los municipios locales (zonificación u otras normas)
- ☐ Otro

## Block 2

Q21. ¿Ha recibido alguna educación o certificación que amplíe sus conocimientos y habilidades agrícolas?

- ☐ Sí
- ☐ No

Q22. ¿Ha recibido capacitación o certificación en alguno de los siguientes?

	No está lloviendo	Formación Básica/Taller	Certificación
Master Gardener de extensión cooperativa de Rutgers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Apicultura de extensión cooperativa de Rutgers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Master Composter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manejo Integrado de Plagas (MIP)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

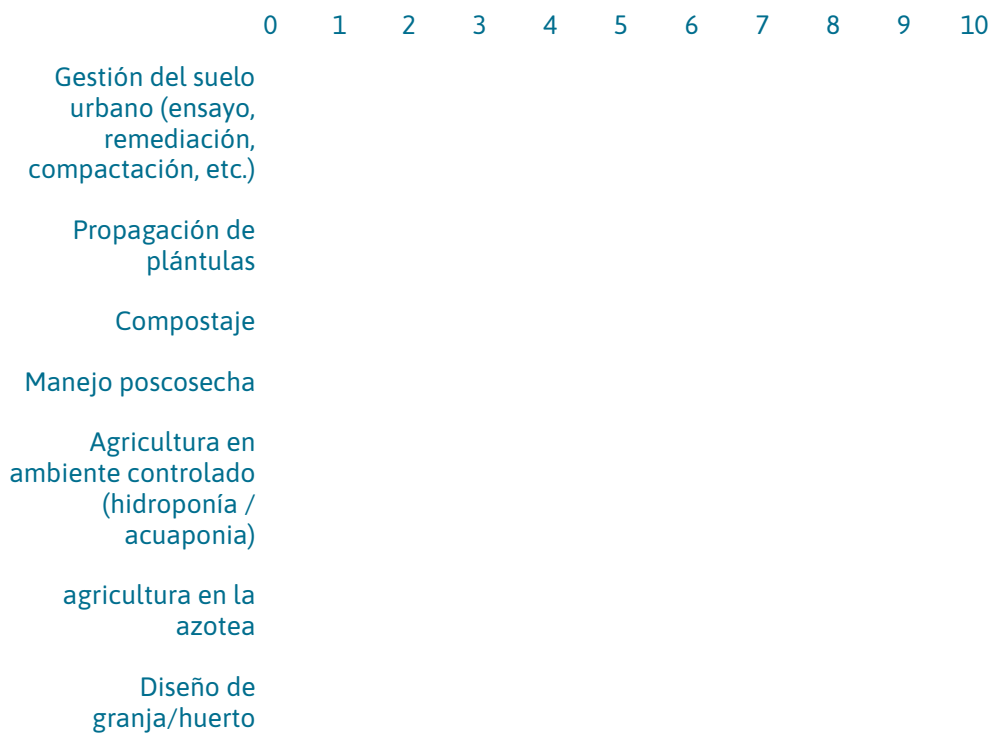
Figure 69: Urban Agriculture Survey Questions in Spanish, page 8/12.

	No está lloviendo	Formación Básica/Taller	Certificación
Agricultura hidropónica / acuapónica	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Certificación de Buenas Prácticas Agrícolas (BPA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ServSafe u otra certificación de seguridad alimentaria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aplicador de pesticidas de NJ (con licencia)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Otro <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q23. ¿Qué tipo de información, capacitación y/o talleres serían más útiles para usted como agricultor/jardinero/agricultor? 1=menos útil y 10=más útil

	0	1	2	3	4	5	6	7	8	9	10
Manejo Integrado de Plagas (MIP)											
Diseño/Instalación de sistemas de riego											
Certificación de Buenas Prácticas Agrícolas (BPA)											
Producción de cultivos de especialidad											
Construcción/gestión de túneles altos											
Operación, seguridad y mantenimiento de equipos agrícolas											

Figure 70: Urban Agriculture Survey Questions in Spanish, page 9/12.



Q24. ¿Ve valor en la construcción de redes de apoyo, tutoría, aprendizaje para agricultores urbanos y agricultores de color?

- ☐ No
- ☐ Quizás
- ☐ Sí

Q25. En caso afirmativo, ¿estaría dispuesto a participar como miembro de la red?

- ☐ Sí
- ☐ Quizás
- ☐ No

Figure 71: Urban Agriculture Survey Questions in Spanish, page 10/12.

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Q26. ¿Qué tipo de taller o forma de educación le resulta más fácil atender?  
(Clasifique TODOS LOS SEIS arrastrando/soltando las opciones en su lugar. 1°, 2°, 3°, etc.)

- Clase o taller en vivo
- Clase en línea
- Video en línea o seminario web
- Artículo o boletín en línea
- Audio/Podcast
- Consultoría uno a uno

Q27. ¿Qué tipo de taller le ayuda a aprender mejor? (Clasifique TODOS LOS SEIS arrastrando/soltando las opciones en su lugar. 1°, 2°, 3°, etc.)

- Clase o taller en vivo
- Clase en línea
- Video en línea o seminario web
- Artículo o boletín en línea
- Audio/Podcast
- Consultoría uno a uno

Q28. ¿Cuál es el mejor tiempo para asistir o participar en sesiones educativas talleres? 1= Mejor tiempo y 5= Peor tiempo

0                      1                      2                      3                      4                      5

Otoño

Figure 72: Urban Agriculture Survey Questions in Spanish, page 11/12.

	0	1	2	3	4	5
Invierno						
Primavera						
Verano						

Q29. ¿Qué tipos de conexional a Internet tiene acceso? (Es posible que desee seleccionar más de una respuesta si, por ejemplo, tiene acceso a un smartphone, pero puede tener una velocidad de Internet insuficiente)

☐ Velocidad de Internet suficiente para ver videos

☐ Conexión a Internet lenta o poco confiable

☐ teléfono inteligente

☐ No tengo acceso regular a internet

Q30. ¿Qué tipos de redes sociales usa regularmente Y serían mejores para compartir información sobre actividades, políticas, proyectos, financiamiento, etc. de agricultura urbana?

☐ Facebook

☐ Gorjeo

☐ Instagram

☐ Tik Tok

☐ Pinterest

☐ Youtube

☐ LinkedIn

☐ no uso redes sociales

☐ Otro

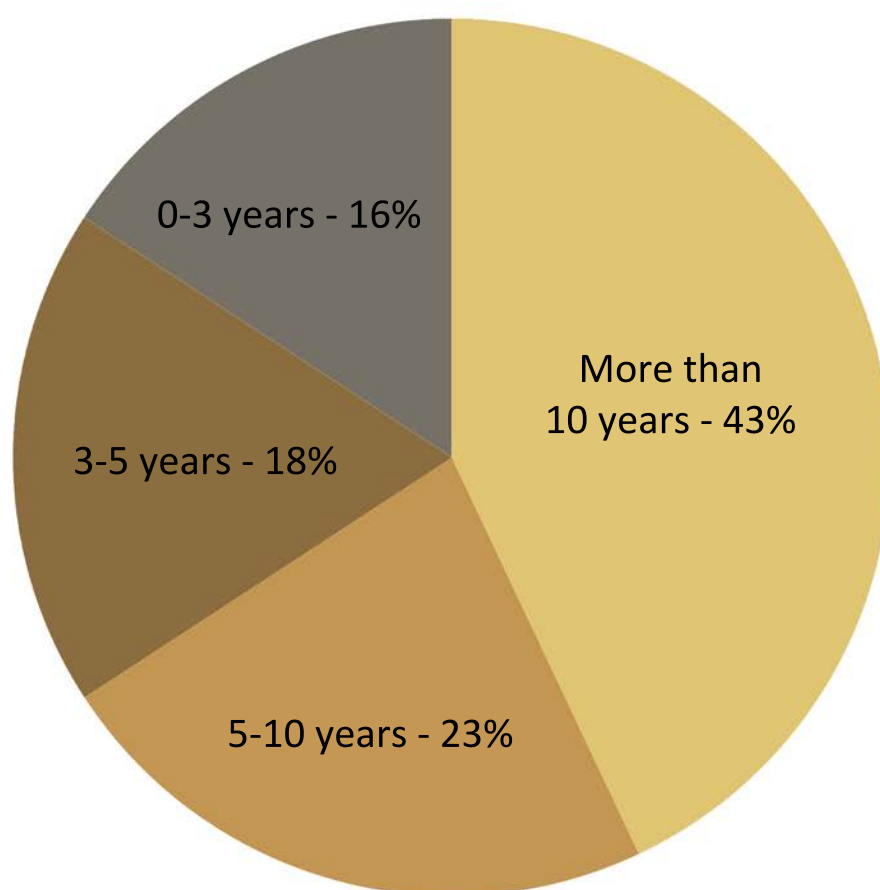
Con tecnología de Qualtrics

Figure 73: Urban Agriculture Survey Questions in Spanish, page 12/12.



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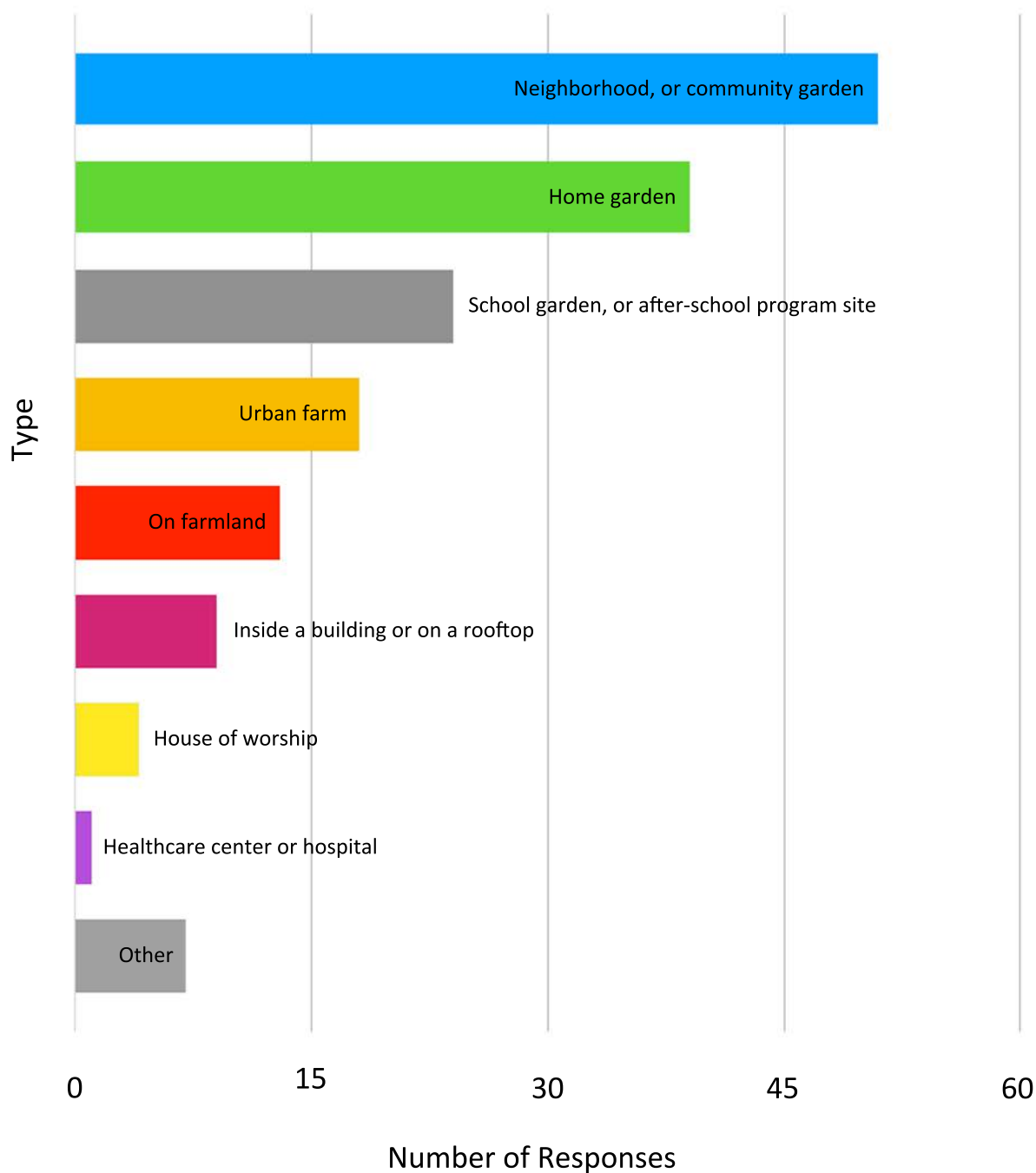
# Respondents' Years Engaged in Urban Gardening/Farming



N = 114

*Figure 74: Respondents years engaged in agriculture.*

# Respondents' Type of Urban Agriculture Site(s)

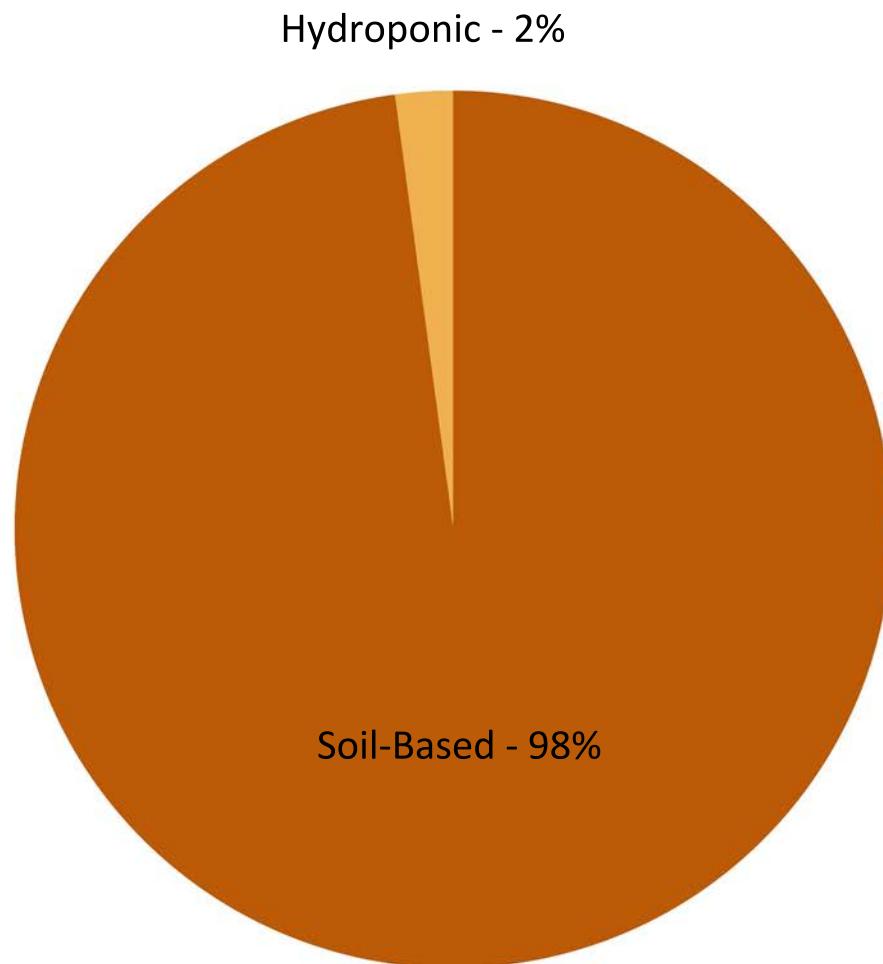


N = 95

Figure 75: Respondents type of urban agriculture site.

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# Respondents' Urban Food Production Method



N = 95

\*No respondent's method was aquaponic or aeroponic based

*Figure 76: How respondents grow food.*

## Appendix 4: Urban Agriculture Web Portal

Following one of the recommendations of the 2019 NJDEP urban agriculture white paper, Rutgers created an urban ag web portal to facilitate information sharing among New Jersey's urban agriculture networks. Based on desired features urban agriculture practitioners prioritized at the Urban Ag Forum, the portal's content is divided into three categories:

- 1) Urban Ag Maps
- 2) Resources
- 3) Farmers Sharing Knowledge

### Urban Ag Maps

Urban Ag Maps (Figure 77) incorporates data outlined in Chapter 3 in an interactive format to facilitate easy use by urban growers, advocates, researchers, and policy makers.

### Resources

The Resources page (Figure 78) includes links to practical information for urban farmers arranged by topics suggested by the Urban Ag Forum participants and the report's Advisory Committee. Topics are arranged under six categories: For Beginner Farmers, Business Practices, Education Practices, Technical Aspects and Support, Policy and Planning, and Professional Resources. Resources were selected for their relevance to urban farming in the New Jersey context and sourced from reliable professional, academic, or government organizations.

#### *For Beginner Farmers*

Becoming a farmer requires a great deal of planning, knowledge and organization. Embarking on urban farming in New Jersey presents additional challenges, such as space constraints and rules that vary from municipality to municipality. To help beginner farmers get off to a strong start, resources included in this section address issues that new urban farmers need to consider, such as how to create a business plan, find land and funding, test soil, develop a production management plan, and ensure food safety. Links to training programs/resources and USDA urban agriculture funding and information are also included. While beginner farmers will need to consult their local municipalities for certain types of location-specific information (e.g. current local ordinances), resources in this section can help point them in the right direction.

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### ***Business Practices***

These resources provide relevant information on business best practices to support both new and experienced urban farmers. Topics include entrepreneurship, business planning and management, markets and marketing, community programming, and workforce development.

### ***Education Practices***

Successful farmers constantly add to their existing knowledge. Resources in this section support the continuing education of urban growers on important topics such as: crop selection, management and harvesting; livestock and poultry; raised beds, hoop houses, aquaponics and hydroponics; tools and materials; and sustainable agriculture, organic and regenerative growing practice. Critical issues related to urban agriculture such as biodiversity/conservation and promoting diversity, equity, inclusion, and justice (DEIJ) are also included.

### ***Technical Aspects and Support***

This section provides resources that address technical issues and support related to air pollution, pest and disease management, soils and soil remediation, stormwater and runoff management, and water access and irrigation. Where possible, professional contacts with expertise in these aspects of urban agriculture (e.g. Rutgers Cooperative Extension specialists) are included.

### ***Policy and Planning***

These resources help urban agriculture practitioners and advocates understand urban agriculture planning and policy within the New Jersey context, addressing topics such as land access, acquisition, tenure, and legal or regulatory issues. Resources from other states that could help refine New Jersey's urban agriculture planning and policy may also be included.

### ***Professional Resources***

This section provides links to relevant professional resources for urban farmers such as the New Jersey Department of Agriculture, New Jersey Agricultural Experiment Station and the Northeast Organic Farming Association.



## **Farmers Sharing Knowledge**

The Farmers Sharing Knowledge portion of the web portal (Figure 79) serves as a dynamic, curated central location at which urban farmers can share information with fellow farmers about their experiences in trending urban ag topics, raise awareness of event and funding opportunities, and discuss implementation challenges, success tips and best practices.

A group of experienced urban agriculture practitioners will be invited to contribute posts on topics within their expertise for inclusion in this section. Other members of New Jersey's urban farming networks can suggest new topics of interest or request to contribute content to the site as well via a Qualtrics form. This will ensure that content is reliable, relevant to the urban agriculture community, and that the pool of contributors can continuously expand to include a diversity of voices sharing their personal experiences and technical expertise.

For ease of use, posts are listed chronologically by most recent date of posting. Each post also has tags associated with it so users can view all posts related to a particular keyword or topic, such as upcoming funding opportunities or all posts related to hydroponics.

This page encourages communication between farmers across different networks and allows new farmers to connect with more experienced colleagues around the state who can encourage, share expertise and potentially serve as mentors.

At present, the web portal will be hosted by Rutgers, the State University of New Jersey, with the Office of Urban Extension and Engagement managing content updates.

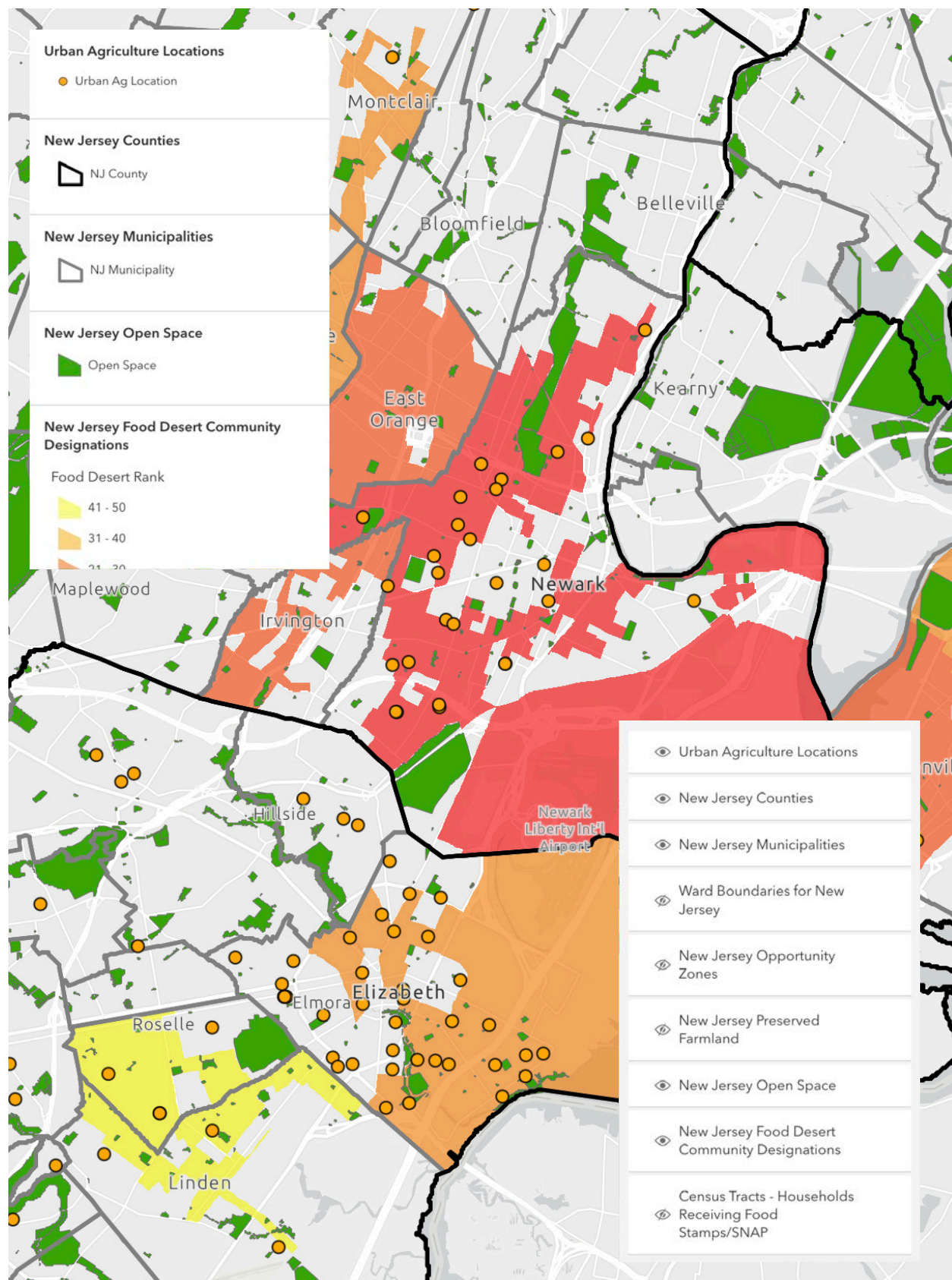


Figure 77: Screenshot of the Interactive Urban Ag maps.

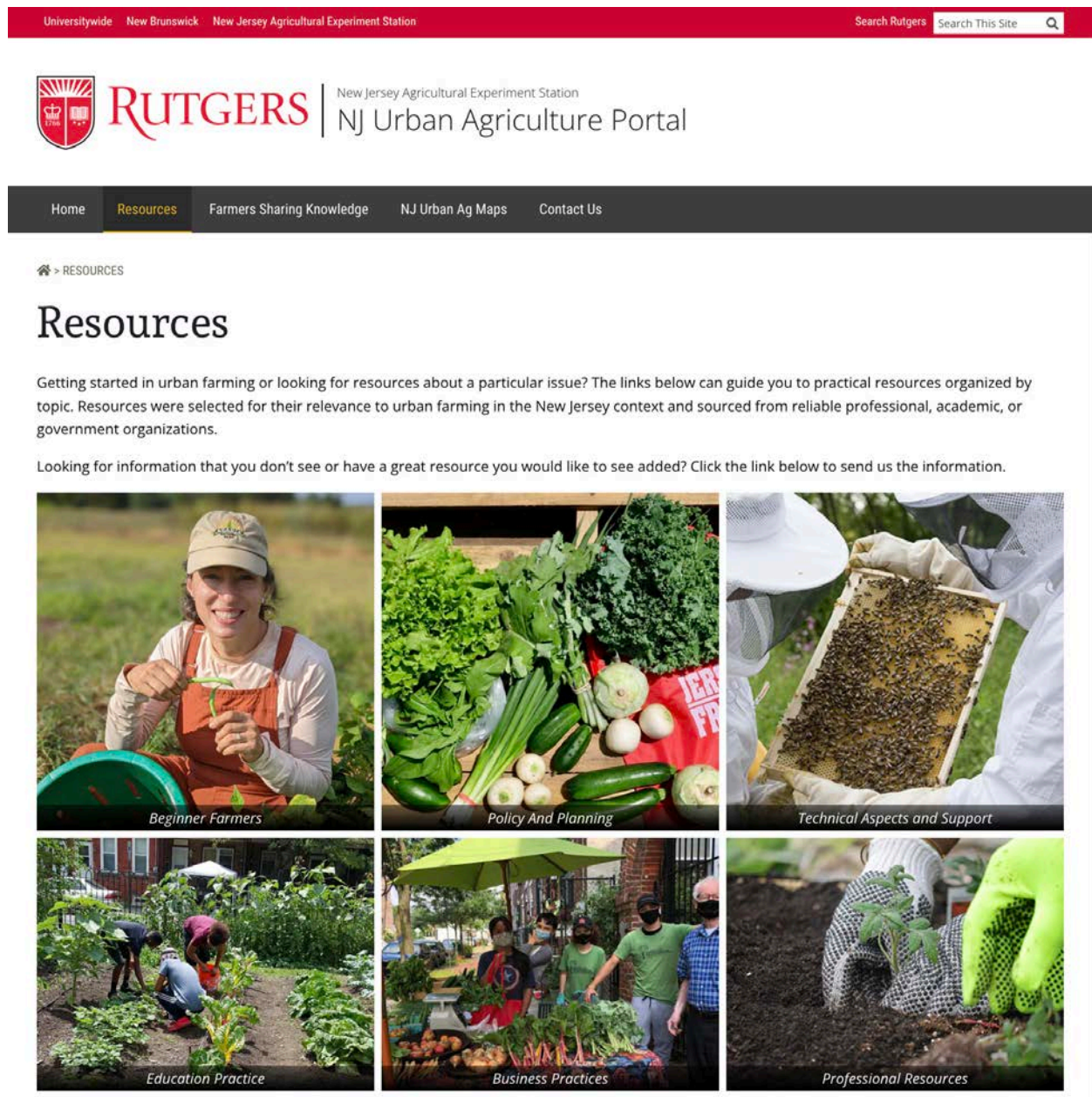


Figure 78: Screenshot of Resources page on Web Portal.



**RUTGERS**

New Jersey Agricultural Experiment Station

NJ Urban Agriculture Portal

[Home](#)[Resources](#)[Farmers Sharing Knowledge](#)[NJ Urban Ag Maps](#)[Contact Us](#) > FARMERS SHARING KNOWLEDGE

## Farmers Sharing Knowledge

Welcome!

Urban farming can be tough and rewarding. This page is a place for urban farmers to connect with each other, share information with fellow growers about your experiences in urban ag in New Jersey, raise awareness of event and funding opportunities, and to discuss success tips and best practices.

If you would like to contribute a post or event/funding opportunity post, please click the link below to submit your information. We are always looking to expand the pool of contributors to ensure a diversity of voices sharing their personal experiences and technical expertise.

### Recent Posts

#### Registration for 2023 Rutgers New Farmer Training Program is open!

SEPTEMBER 20, 2022 BY [WEBSITE ADMINISTRATOR](#)

To be ready to farm, you need to be able to do more than just grow food and fiber. You will need to learn to be a businessperson, a marketer, and a planner. You will need to develop the skills to repair your own equipment, to fix an engine, or to build a hen house. [...]



#### New 2023 USDA Urban Agriculture and Innovative Production (UAIP) Grants

SEPTEMBER 20, 2022 BY [WEBSITE ADMINISTRATOR](#)

USDA has announced new Urban Agriculture and Innovative Production (UAIP) grant opportunities for the year 2023. UAIP competitive grants initiate or expand efforts of farmers, gardeners, citizens, government officials, schools, and other stakeholders in urban areas and suburbs. Projects may target areas of food access; education; business and start-up costs for new farmers; and development [...]



#### GeoGreens: Lessons Learned in Starting a Hydroponic Urban Farm

SEPTEMBER 20, 2022 BY [WEBSITE ADMINISTRATOR](#)

Innovation and technological advancements in controlled-environment agriculture are providing opportunities for a new and diverse generation of farmers. Desmond Hayes, CEO of GeoGreens, a new hydroponic farm start up based in Hamilton, New Jersey, has found a way to combine his passion for health, science, and sustainability through his urban farming business. Commercial opportunities in [...]



Figure 79: Screenshot of Farmers Sharing Knowledge page on Web Portal.

## **Appendix 5: Implementation Suggestions from Advisory Committee and Stakeholders**

On October 27, 2022, the report team hosted a virtual meeting to receive feedback from the Advisory Committee on the draft report. Some Committee members invited community stakeholders to also provide comments. Participants received copies of the draft report in advance of the meeting so they could review it in detail. At the meeting, attendees were distributed into breakout groups to discuss prepared questions about specific portions of the draft report:

- 1) The definition of urban agriculture
- 2) Recommendations about protecting open space and land for urban agriculture
- 3) Recommendations to support urban agriculture with resources and policies

Participants were asked questions about the following points and their responses have been compiled in Figures 80-85:

- 1) Satisfaction with the recommendations as outlined and what changes are needed
- 2) Moving forward with the implementation of these recommendations, which agencies or organizations need to be engaged in dialogue with this group of stakeholders
- 3) Which agencies or organizations should play significant roles of responsibility in implementing the different recommendations



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## Review / Comment on Report Recommendations (Small Groups) - 45 minutes

### Defining Urban Agriculture Recommendations - 15 minutes

- **Accept operational definition** of urban agriculture and apply it to urban farms and gardens in food desert or economic opportunity zones.
- **Use this definition** for growers to access grant programs and receive other forms of assistance and support
- **Develop approved guidelines** for best urban agriculture practices and encouraging municipalities to use these guidelines for local urban agriculture

**Question #1:** Are you satisfied with the recommendations as they have been outlined?

What, if any, changes do you think are necessary?

- Need to include advocating schools to have urban farming; when developing schools, add a green space to it
- Develop approved guidelines - this is going in the right direction. Anything that can make it easier to codify these terms in zoning would be helpful
- If the municipality doesn't know how to allow people to use the land (less than 5 acres)
- More clarity in this recommendation - providing necessary language to be utilized in zoning and/or land use ordinances; local municipal land regulation
- A land trust should be established - those systematically disadvantaged get first dibs of the land provided by the city
  - Get a 3 year opportunity to learn, to build
  - For black and brown communities specifically to pull from that land
- Definition doesn't say anything about creative expression, arts and culture. We need to make this a part of the city's cultural plans
  - City of Newark has a cultural map where they are funding cultural art projects
  - If we put garden green space with public art, it would go in t
- Definition - clarity and detail are key for right to farm protection. Maybe include scale, production/income parameters. How many people are they providing to or impacting programming? E.g. to protect in case of neighbor complaints, tax breaks, etc. Would help to measure effectiveness.
- Many urban ag practitioners are community focused, food production + community programming (not as much in the commercial production vein). Important that the definition reflect this.
- Will definition(s) recognize more community-oriented diverse programs as well as more commercial, intensive production?
- Make sure that the diversity of types of urban agriculture are represented in the final definition(s)
- It would be helpful if definition was reiterated near recommendations so we don't have to turn back to earlier in report
- Comfort with definitions. A bit lengthy.
- Leave it to the group to wordsmith.
- Parts are extension and explanations of space types need not be there
- Different types of farming are distinguished from each other (Comm garden v Urban Agriculture). Makes it difficult to identify and provide assistance to individual groups.
- In Jersey City, how a community garden is defined varied (by land type/ownership). Would be a definition specifically for comm garden.
- Comm= NTF, Urban Ag for sale.
- Report should be inclusive of all ag types.
- These production sites.... maybe not here.
- Numbers on page 90 to the definition. If we're using numbers, verify and use throughout. Data points limit those who may want to develop urban ag.
- Entrepreneurial! POC! Well-being!
- What happens to people (farms, both non-profit and for profit) outside of food deserts and opportunity zones? Do they have their own guidelines or rules? Are they under a new spectrum of rules?
- Why not just define things as under 5 acre farms if that's where the state is and that rule will stay in effect. Why not create an "under 5 acre" or "micro-farm" rule? Should be put in effect for all areas.
- We may need a rule that catches all farms then looks at the broader picture to see the different types of farms to cater to.
- Will gardens (for profit or non profit) be included? What is a community garden? Which types of gardens are specified under the definition?

*Figure 80: Screenshot of the compiled responses from the Advisory Committee and Stakeholders, page 1/6.*

**Question #2:** Moving forward with the implementation of these recommendations, which agencies or organizations need to be engaged in dialogue with this group of stakeholders?

- The league of municipalities - they have a good sounding board; might be a good agency to get buy in from local municipalities.
- Neighborhood associations
  - There's not enough bodies to run the space outside of the one farmer
  - The neighborhood associations could get a small budget (partner with local nonprofits) to pay students to work there throughout the year
    - In terms of sustainability it takes a lot of work
- School boards; decision makers for funding in schools
- Housing Authorities - Roots to prevention has worked with Camden Housing Authority
- Local affordable housing developers - developers that work with community developers
- We need a source that is funded to educate people e.g. a farm school (a farm school should be developed)
  - Taking all the people working in urban agriculture and putting together a group to coordinate with schools and programs to make sure that there is equity in access in getting to these types of programs
  - Is this decision makers at schools? Education funds?
- Local affordable housing developers - developers that work with community developers
- Health Human Services
- Local Library
- Veterans programs
- Parks/Rec
- Chambers
- Influencers and Bloggers
- Special Needs community-based orgs
- YMCA
- Workforce/Trades Unions
- Colleges
- Church/Clergy

**Question #3:** Which agencies or organizations do you see as having significant roles of responsibility in implementing the different recommendations?

- Institutions - health care, education, higher learning
- Local municipal government
- NJTPA
- NAACP or similar groups
- State EDA - to help with financing and funding
- Health Human Services
- Housing Authority
- Local Library
- Veterans programs
- Parks/Rec
- Chambers
- Influencers and Bloggers
- Special Needs community-based orgs
- YMCA
- Workforce/Trades Unions
- Colleges
- Church/Clergy

Figure 81: Screenshot of the compiled responses from the Advisory Committee and Stakeholders, page 2/6.

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### Protecting Open Space and Land for Urban Agriculture - 15 minutes

- Convene advisory group to **explore feasibility of urban land trust**
- **Continue mapping** urban agriculture properties and updating information in web portal
- **Collect production/market data** from urban and local farms and market gardens (Phase II project)

**Question #1:** Are you satisfied with the recommendations as they have been outlined?

What, if any, changes do you think are necessary?

- Likes getting market data - will give us more qualifying metrics for funding
- Would be interesting to have urban land map
- Convene advisory group needs more explanation - what would this consist of?
  - Is this a land bank?
- We need to stop making it separate, there is a stigma about what a farm or garden is
  - If we also create these as community spaces for programming, gathering and its a garden/farm, we will be able to have it reach more people and be understood as a valid asset
  - Working with what's happening in the cities; we don't want to make something so different
- Data (and integrating into a mapping system)
  - Looking at site conditions for contaminants
  - Clean water access
  - Look at data on the ground to see if these things can be urban ag plot; people familiar with the area
  - There are not as many technical people on the ground to do this research to put it on the map
- Have some clarity or distinction with easements (in general)
  - Some of the programs are restrictive with things like gardening
  - Amendments to be made to our current preservation funds; easements to hold on to the land for food production
  - Getting all the programs to communicate
- Encourage collaboration with EDA
- Will there be map layer on free & reduced lunches? Mark Dinglasan can try to get & share with RU team
- Accessing land is sometimes not the main barrier - remediation cost & cost getting property ready for growing is prohibitive for many urban ag practitioners – still figuring out how to get through this barrier
- Map childhood obesity, 4 regional health hubs in NJ, etc.
- Remove the 5 acre rule to facilitate inclusion of these farms. Link up plots if needed.
- Land lease needs to be extended minimum 5 years/ renewals (15 years total)
- Safeguard as green space if projects don't work out
- SADC parallel program (Protected land).
- Rural/Urban green preservation for food security and health benefits (and crime). Add facets to strengthen the case.
- Highlight places of need on mapping overlays (food desert)
- Map on page 6, may be confusing to non food desert folks
- They are fantastic ideas.
- Who is convening the advisory group? Land Trust and Urban Mayor Association, Newark land trust are all groups that would have the correct people to sufficiently run the group.

*Figure 82: Screenshot of the compiled responses from the Advisory Committee and Stakeholders, page 3/6.*

**Question #2:** Moving forward with the implementation of these recommendations, which agencies or organizations need to be engaged in dialogue with this group of stakeholders?

- The arts councils; urban agriculture is STEAM, it can be used as an educational tool
  - Being intentional about what you put in a space
  - Making things viable and important to the community
  - Urban areas also need access to green spaces to convene in and to learn in, not just food
- Dept of Public Works
- Local realtors
- Centralized community development entity that represents CDCs
- Work training for at risk youth programs
- Institutional entities that are associated with museums, facilities that have grounds that involve open space,
  - schools (athletic fields, etc)
- Main preservation entities
- Framework for open space doesn't take in to account urban ag setting
- City
- Front line community group are currently overwhelmed, but should be invited when they are able
- Department of Ag (non vetted)
- Planning Boards
- Bloustein Planning Policy
- Government Affairs
- "Farm Bill" Groups
- Marketing/Communications teams in different agencies
- Organizations vested in the project (network).
- On the ground opportunities (produce or outcomes/programs)
- To **explore feasibility of urban land trust and access:**
  - *\*Collaborative effort is most important\* (foodshed planning should be similar in approach to watershed planning/management)*
  - NJ Urban Mayors Association (Kean University)
  - New Jersey League of Municipalities
  - New Jersey Food Democracy Collaborative
  - NJDEP Green Acres
  - NJEDA, Food Desert Relief Program
  - Regional planning associations/groups
  - Existing NJ land trusts
  - Environmental Branches
- To **Collect production/market data:**
  - Cooperative Extension
  - Rutgers Extension
  - Department of Ag
  - One central location for the public to access information, but several collaborators to make it as comprehensive as possible. For these two recommendations, transparency is so critical. The public needs to be able to easily access up-to-date information if it is being collected.

**Question #3:** Which agencies or organizations do you see as having significant roles of responsibility in implementing the different recommendations?

- Foundations - since they are the lead purveyor of resources for this type of work
- Anyone who is retaining the ownership of the land (housing authority, school, health system, etc.)
- Local governments because NJ is so diverse and region specific
- Green acres
- Pinelands preservation alliance
  - Even though not urban, they may have ideas that could cross pollinate (and resources!)
- Since funds are public dollars; level some of the aforementioned funds; being able to finance the easements because it takes a long time to preserve the land
- Philanthropic groups - should check out NJPRF Hunger & Critical Needs Assessment report - investments in infrastructure for these types of purposes included as priority
- For land trust advisory group: Foundations that demonstrate a desire and effort to understand urban farming issues (not all do), Urban food policy councils (the local food policy councils of the city where land preservation is occurring), Urban food hubs, farmers (commercial and non-commercial).

Figure 83: Screenshot of the compiled responses from the Advisory Committee and Stakeholders, page 4/6.

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### Supporting Urban Agriculture with Resources and Policies - 15 minutes

- Provide **training and resources** to urban growers statewide **via Rutgers' urban agriculture web portal**. Portal also includes spaces for information exchange between growers.
- Conduct **research to quantify the amount and estimated value** of produce from urban/peri-urban farm suppliers (exploring potential capacity for local food hub)
- Key NJ state agencies should establish a **stakeholder advisory committee to address barriers** to urban farms, market gardens, or potential customers.

**Question #1:** Are you satisfied with the recommendations as they have been outlined?

What, if any, changes do you think are necessary?

- Loves the first recommendation re: training and resources
  - More needs to go in here regarding sites and facilities
  - Traveling to the sites for training and master gardener programs is a burden for Newark and Camden
  - Think about actual infrastructure in capital and facilities that would be easier to access in an urban setting, perhaps through the state?-
- Valuable to have some sort of training program
  - You get more out of physically doing than watching a webinar or reading a book
  - The webinars can be overwhelming because its not being applied to your local region
  - The best way to pilot something would be through Rutgers Cooperative Extension
    - Having 1-3 extension people per each county or targeting the counties more of an urbanized setting
- If the plan could identify the purchasing side of things
  - Collect information on the procurement side of large institution - you can negotiate a flat fee up front for produce
  - If we know what institutional buyers want to come to the table, they should be involved.
  - Audit of large institutions that are able to buy produce grown in cities - engage them in dialogue
- Recommendations are good
  - Is there protections for herbal medicine? Some farms need to grow the herbs and have the same support if they are not growing produce
  - Make sure that there are equitable stakeholders at the table - the RU web portal will continue to engage people
- Community green development initiatives needs to be acknowledged (want to take it past raised beds)
- What is being done to help educate the people we're serving so they understand what's going on (outreach) – how are you letting people know how they can take advantage of these urban ag programs?
- Food increase access
- Information being accessible (reading/language/website access).
- What is the big ask, what is the "Thing"?
- A lot more funding for urban ag.
- Technical Assistance.
- What does research mean? Whose capability.
- Who's in the area of cultural crops.
- Marketing aspects/sales. How much to charge (finances)
- Success stories to create the needed pieces (Templates) As a resource. Justifies the long term commitment to Uag
- Education led by Rutgers (SNAP ED + Farms) (Combine education + Access) RU WIC @ farmers markets to educate.
- Connect the pieces to Education Access applications. Simplify the process. There has to be an easier way.
- All looks good but the last bullet point about the advisory group is vague. Who will address the barriers? Who is responsible for facilitating them and the resolution of these barriers? Who responds to any new research and findings? How is the work carried forward? Framers and the people doing the work? We need a larger voice from the local people rather than a big agency. What is the alignment between the local organizations and the farmers? How does EDA role out to help these outlined communities?
- Should be brought into the communities that most need it.

*Figure 84: Screenshot of the compiled responses from the Advisory Committee and Stakeholders, page 5/6.*



**Question #2:** Moving forward with the implementation of these recommendations, which agencies or organizations need to be engaged in dialogue with this group of stakeholders?

- People who have the funds - there's a lot of moving parts so whoever holds the money is an important
- DPW County
- Rutgers Master Gardeners
- If they can establish making a return on investment, the market dictates where things go
- All the farmers and local growers should be at the table
- NJEDA
- More collaboration and communication between state agencies
- Raising awareness of the issues in the report among other state agencies (not just an NJDA issue) – maybe they can help (e.g. NJ Dept Community Affairs)
- WIC and SNAP
- Whichever agencies that have the resources to get agents out in the field to help people head on. They need to get to the urban farmer sites to improve practices and site use according to the specific farm's needs.
- Groups/agencies/orgs that go out to provide training, outreach, and support need special training themselves so that they present to the farmers as informed and supportive of what they are trying to do. Those providing T.A. have to be specially trained on small-scale, micro-farming. *The group/person going to help each urban farm/site needs to be properly trained and understand the principles of urban agriculture in order to swiftly, and effectively address the needs and problems of the specific urban farm site.*

**Question #3:** Which agencies or organizations do you see as having significant roles of responsibility in implementing the different recommendations?

- This will be difficult but - the information on what the wholesale, major corporate chains and their procurement.
  - What are they getting as far as pricing? Pricing vs the cost to grow the produce.
- Managed medicaid organizations - health insurance that have federal subsidies
  - Local programs may be eligible for these funds/subsidy
- Need to build capacity of current agencies for understanding specific needs of urban farming/mico-farming
- NRCS
- People/groups who are properly trained for this

Figure 85: Screenshot of the compiled responses from the Advisory Committee and Stakeholders, page 6/6.