2024

COMMUNITY FOOD SYSTEM ASSESSMENT






FLAGSTAFF FOODLINK

Flagstaff Sustainability Office

CITY OF FLAGSTAFF ARIZONA ESTABLISHED 1881

NEW VENTURE ADVISORS LLC®

CITY OF FLAGSTAFF & NORTHERN ARIZONA

COMMUNITY
FOOD SYSTEM
ASSESSMENT

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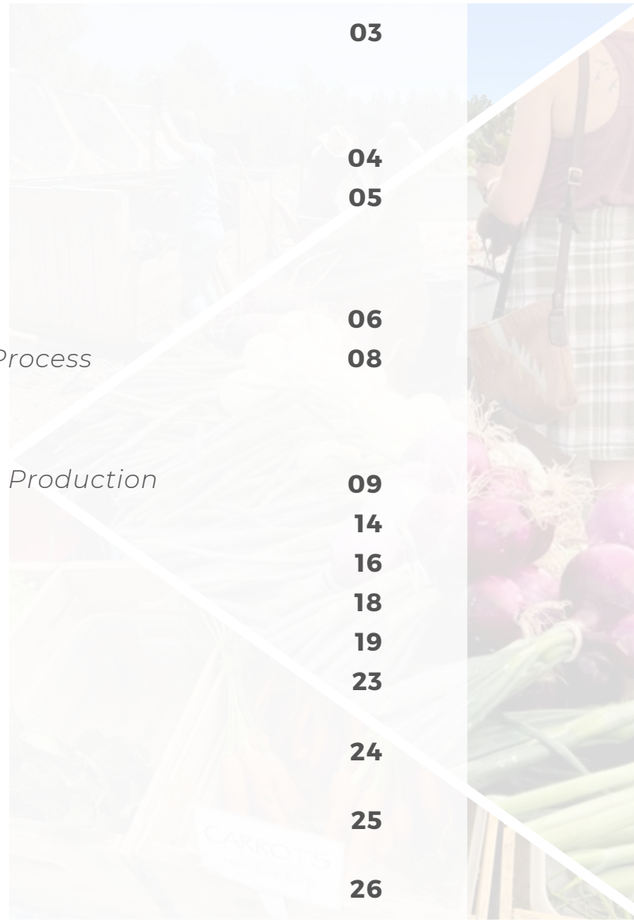
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All photos in this document were provided by the City of Flagstaff Sustainability Office, Flagstaff Foodlink, and our food system partners.





“This report will serve as a tool to enact strategic policy and investment strategies to address key barriers and leverage existing strengths to improve public health, foster community building, and increase capacity of the local food system to better serve the needs of residents.”

Foreword

From the City of Flagstaff, Mayor’s Office

The City of Flagstaff Community Food System Assessment represents a collaborative effort, reflecting the dedication and advocacy of those committed to establishing a sustainable and equitable food system. We recognize and thank them for their efforts.

This report is the culmination of the initial phase of the city’s 3-year “Assessing & Growing a Sustainable Community Food System” project to deepen our understanding of the challenges and opportunities related to food access and distribution throughout Northern Arizona. While the primary focus of this assessment is on the City of Flagstaff, we want to honor Flagstaff’s interwovenness with neighboring communities and counties. As such, the assessment also includes findings from Coconino, Mohave, Apache, Navajo, and Yavapai counties. Without them, a sustainable, local, and accessible food system could not exist.

This assessment has three overarching goals. The first is to establish a comprehensive understanding of the northern Arizona and Flagstaff Food System, identifying both assets to strengthen and obstacles to overcome to achieve a sustainable food system. The second is to create a baseline of crucial food system metrics that can be monitored over time, enabling the community to measure progress in building a resilient and just food system. Finally, the assessment sets the stage for actionable policy, recommendations, and the development of a forthcoming Community Food Action Plan, laying the groundwork for meaningful change and improvements in our food system.

The City is committed to enhancing urban agriculture as a means of creating a sustainable, resilient, equitable, and thriving food system. This report will serve as a tool to enact strategic policy and investment strategies to address key barriers and leverage existing strengths to improve public health, foster community building, and increase capacity of the local food system to better serve the needs of residents. These findings will also support the incorporation of sustainable food systems strategies into policy guiding plans such as the Flagstaff Carbon Neutrality Plan and 2045 Regional Plan.

Community engagement is vital to this process, as it fosters creative partnerships, brings a diversity of voices into decision-making processes, promotes equity, and advances community-driven goals. We invite all community members to engage with this project to cultivate a sustainable, resilient, and equitable food system in Northern Arizona for the benefit of all. To learn more and contribute to this project, you can visit our website at www.flagstaff.az.gov/NAZFSA.

Becky Daggett

Becky Daggett, Mayor



Acknowledging the Land

The City of Flagstaff humbly acknowledges the ancestral homelands of this area's Indigenous nations and original stewards. These lands, still inhabited by Native descendants, border mountains sacred to Indigenous peoples. We honor them, their legacies, their traditions, and their continued contributions. We celebrate their past, present, and future generations, who will forever know this place as home.

The project team for this Community Food System Assessment recognizes that this acknowledgment does not replace action. We commit to building meaningful relationships with stewards of this land and deepening our understanding of how this history impacts our food system today.

Acknowledging People

This assessment was supported by the energy and input of residents and community partners alike.

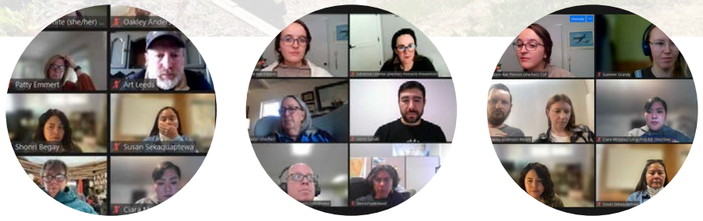
Particular thanks are extended to:

1,000+ RESIDENTS who took the time to complete the community-wide survey, **THIRTY-FOUR** focus group participants who shared their time and wisdom with us, and **THIRTY-THREE** community organizations who participated in the social network analysis.

A very special thanks to:

THE PROJECT STEERING COMMITTEE

who met multiple times throughout the project to dig deep into the data, ask great questions, and shape the assessment that follows.



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What is a Food System?

The "food system" is the process food follows as it moves from the farm to your table

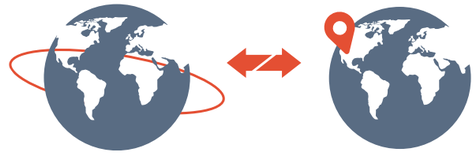
A Food System is a cycle that encompasses a range of activities:

- **Growing, foraging, and ranching;**
- **Processing; transporting and distributing;**
- **Retailing and marketing;**
- **Preparation and cooking;**
- **Eating;**
- **Waste management;**
- **Safety;**
- **Land and water stewardship;**
- **Environmental preservation.**



The journey our food takes through the food system is influenced by our northern Arizona ecosystem, research, education, funding, policies, and our community's rich cultural traditions.

In the past, our food system was mostly self-sufficient: food was grown, processed, sold, consumed, and disposed of in one place, and food choices were restricted to what could be grown and gathered in our region.



Today, our food system is global, and we have unprecedented access to foods grown around the globe. This global food system impacts the health of our people and our planet.

Producing food is a major economic activity in our region, but certain industrial farming practices and food waste have negative impacts on our environment and change our climate. Food is not distributed equitably around our communities, causing health challenges like hunger and obesity. The energy and resources consumed to grow, harvest, process and transport food in this global system are also significant.







In response, communities like ours have looked to food systems as an opportunity to tackle these challenges.

OUR FOOD SYSTEM VALUES

EQUITY
HEALTH
SUSTAINABILITY
FOOD JUSTICE
RESPECT
HUMAN RIGHTS

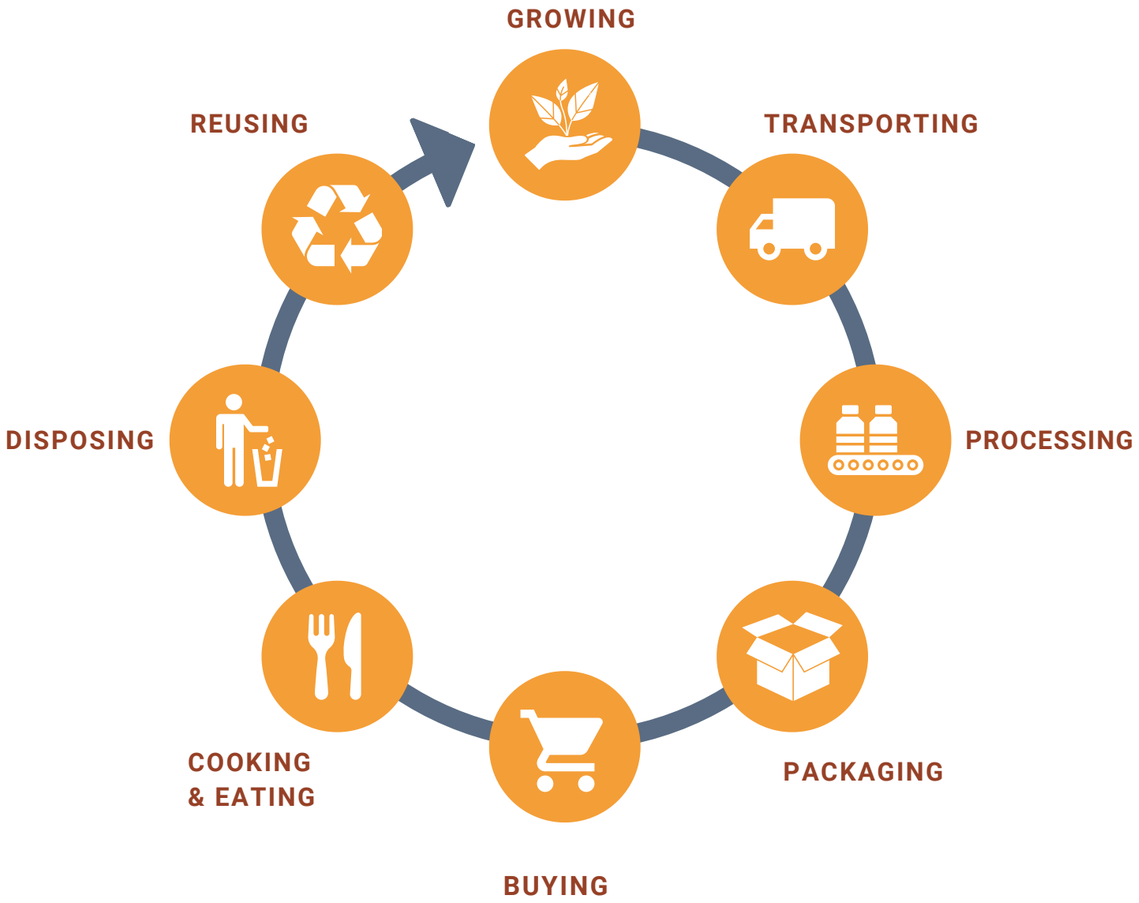
When food system activities are localized, there are more opportunities to support the economy, reduce transportation emissions, and promote a healthier community.

THE FOOD SYSTEM









KEY AREAS OF THE FOOD SYSTEM

AGRICULTURAL LANDSCAPE & FOOD PRODUCTION
Where our food comes from. This includes everything from farming to ranching to backyard gardening.



FOOD SYSTEM INFRASTRUCTURE
How food is moved from the farm and then processed and distributed to places where people consume it.



FOOD RETAIL ENVIRONMENT
How and where food is purchased by consumers at stores, restaurants, or cafeterias.



FOOD CONSUMPTION & HEALTH
How the food we eat impacts the health of individuals and our communities.



FOOD ACCESS
How community members have (or don't have) access to adequate, affordable, and culturally relevant foods.



FOOD WASTE & RECOVERY
How food that doesn't get eaten is recovered and shared, composted, or landfilled.



Our Food System Assessment Process

JANUARY 2023 The City of Flagstaff Sustainability Office was awarded a USDA Urban Agriculture and Innovative Production grant to support the development of a northern Arizona food systems assessment. The community food system assessment was designed to improve the community's understanding of gaps and opportunities in the regional food system and to lay the groundwork for the creation of recommendations in a community food action plan for Flagstaff and the surrounding region.

MAY 2023 The City of Flagstaff contracted with New Venture Advisors (NVA), a strategy consulting firm specializing in food system planning and food enterprise development to complete this community food system assessment. The City of Flagstaff partnered with Flagstaff Foodlink, and a steering committee of key stakeholders in the regional food system to inform the project.

Together, the City of Flagstaff, Flagstaff Foodlink, the steering committee, and the team at NVA facilitated a twelve month-long assessment process.

Components of the Assessment

Extensive secondary data collection: Information was pulled from the key county, state, and national datasets that help us understand our food system. Sources include the U.S. Census, the USDA Census of Agriculture, CDC, County Health Rankings, Feeding America, and local community health assessments and reports.

Community-wide survey: Community members from across the five-county region were invited to share their experiences and perceptions of the regional food system. We received 1,041 total responses from a variety of food system participants—consumers, growers, and food businesses.

Focus groups: Thirty-four key food system stakeholders participated in focus groups to share their on-the-ground insights and experiences. Focus groups covered six food system audiences:

1. **Food Retail Outlets**
2. **Farmers/Ranchers**
3. **Funders in the Food System**
4. **Institutional Food Purchasers**
5. **Emergency Food Access**
6. **Food Waste/Recovery**

Social Network Analysis

A social network analysis (SNA) was conducted with representatives from thirty-three key regional food system organizations to understand the connections and relationships between stakeholders within the food system. The purpose of this SNA was to identify central players in the local food system, understand community structures, and pinpoint bridge organizations within these networks.

Together, these data provide a picture of the northern Arizona and City of Flagstaff food system, providing actionable insights for enhancing collaboration, identifying potential areas for intervention, and supporting decision-making processes among stakeholders in the food system.
The SNA is included in its own report document, accessible at: *www.flagstaff.az.gov/NAZFSA*

How to Read this Assessment

Each of the six food system sectors—**Agricultural Landscape and Food Production, Food System Infrastructure, Food Retail Environment, Food Consumption and Health, Access to Food, and Food Waste and Recovery**—contains information about both the five-county northern Arizona food system (comprising Coconino, Yavapai, Mohave, Apache, and Navajo Counties) and the City of Flagstaff in these four sub-sections:

1. **Sector Facts:** These are the key secondary data points for both northern Arizona and the City of Flagstaff (where city-level data was available). These mostly quantitative data are generated by government and nonprofit organizations (i.e. the Census of Agriculture, conducted by USDA).
2. **Survey & Focus Group Findings:** These are the qualitative data from the community-wide survey and sector-specific focus groups.
3. **Trends & Challenges:** These are the key findings and themes that emerged across the secondary data, survey, and focus groups.
4. **Remaining Questions:** These are the remaining questions that will require additional research and community engagement.

Data specific to the city of Flagstaff is called out in the "Flagstaff in Focus" boxes throughout this document.

Agricultural Landscape & Food Production

Where our food comes from, including everything from farming to ranching to backyard gardening.

Sector Facts

Northern Arizona is home to 11,670 farms/ranches, with 17.1 million acres in production.

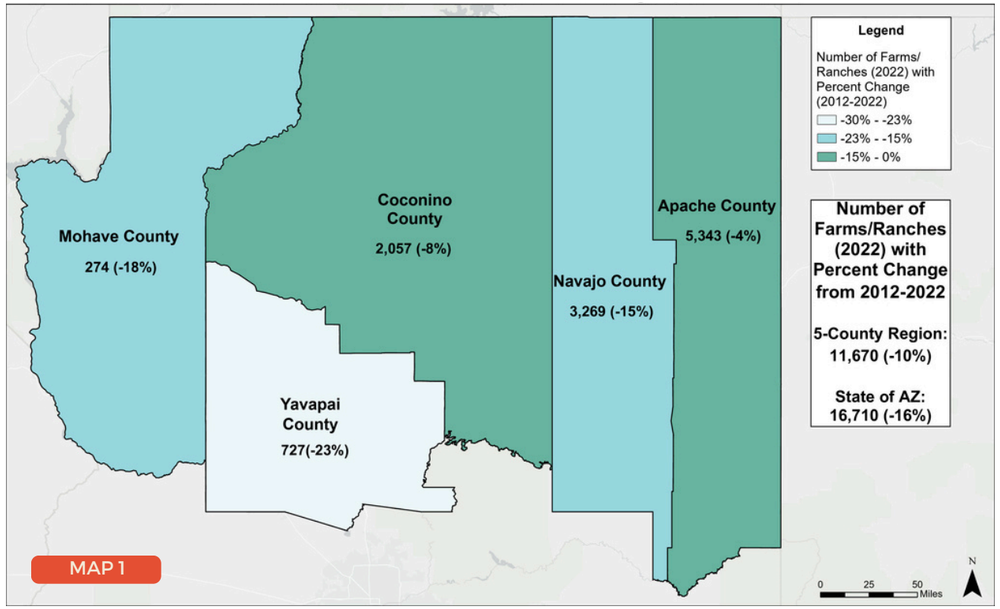
This region represents 70% of all Arizona farms/ranches and 67% of the state's agricultural acreage.[1]

In the last decade (2012–22), northern Arizona has seen:

- *10% loss in the number of farms/ranches. The state lost 16% over that same period.*
- *4% loss of agricultural acreage.*
- *Variation in average farm/ranch size change, ranging from -26% in Mohave County to +3.8% in Yavapai County.[2]*

(See Map 1)

Number of Farms / Ranches (2022) with % Change (2012-2022)

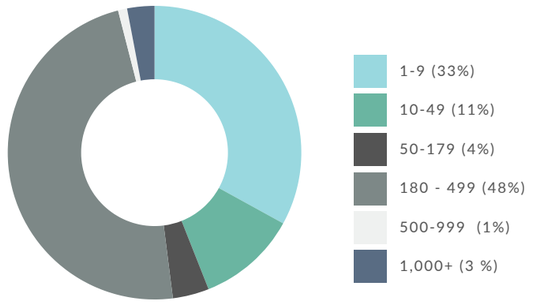


MAP 1



FARM / RANCH SIZE BY ACREAGE (2022)

FIGURE 1



48% of farms/ranches fall within the size category of 180–499 acres.

33% fall in the smallest category of 1–9 acre farms.[3] (See Figure 1)

Northern Arizona farms/ranches account for just 3.4% of the state's agricultural sales despite being home to 67% of Arizona's agricultural acreage.



Total agricultural sales in northern Arizona in 2022 accounted for 3.4% of state agricultural sales ($178,142,000).

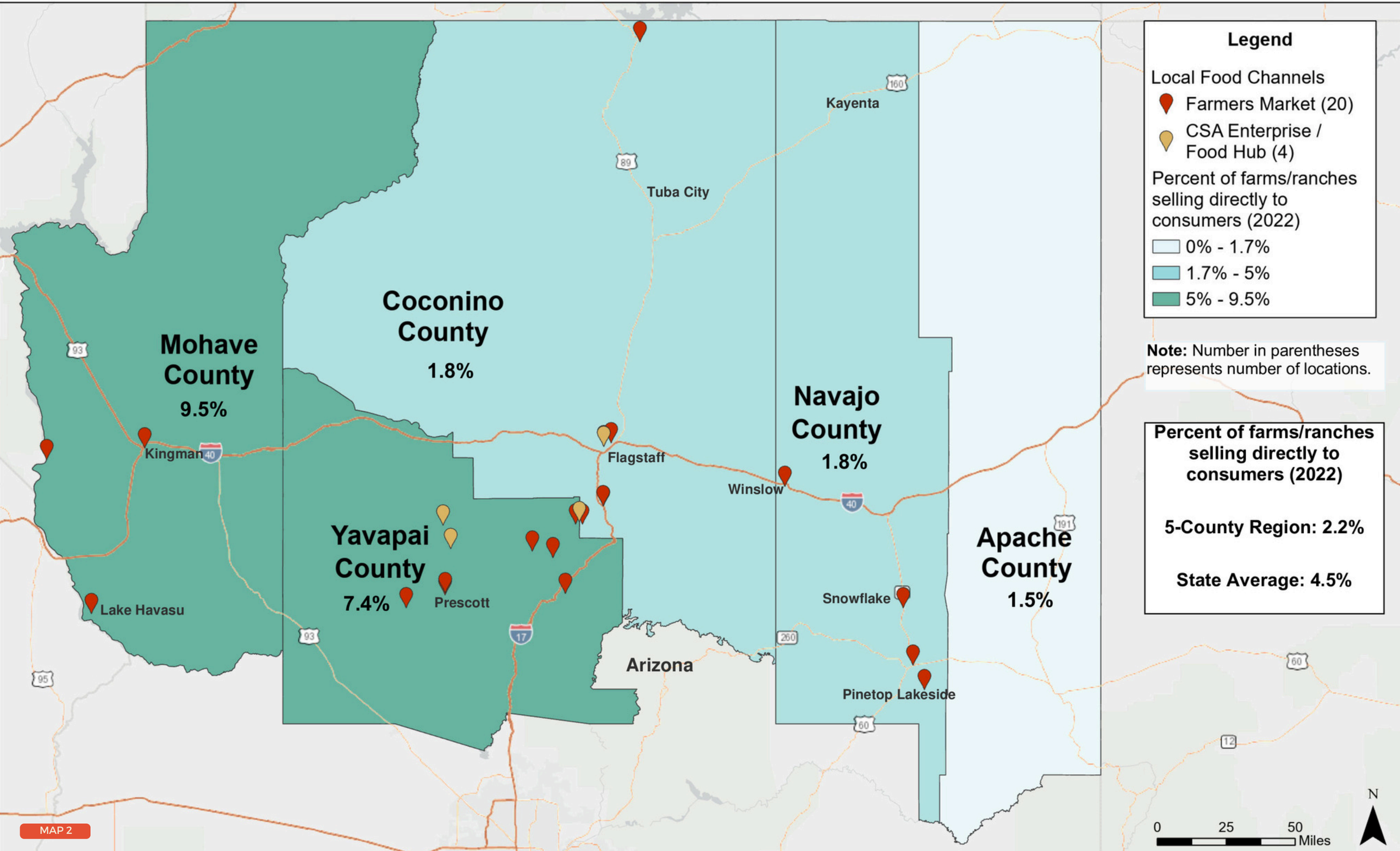
Of these sales $6,584,000 are local direct–to-consumer sales. Between 2017 and 2022, these direct-to-consumer sales grew by 60.8%.

Mohave and Yavapai Counties have the greatest percentage of farms/ranches selling direct-to-consumer and through local channels, 9.5% and 7.4% respectively.[4]

Apache, Coconino, and Navajo Counties have the most farms/ranches yet the least local market connectivity (1.5%, 1.8%, and 1.8%, respectively).

(See Map 2)

Local Food Channels of Northern Arizona



MAP 2

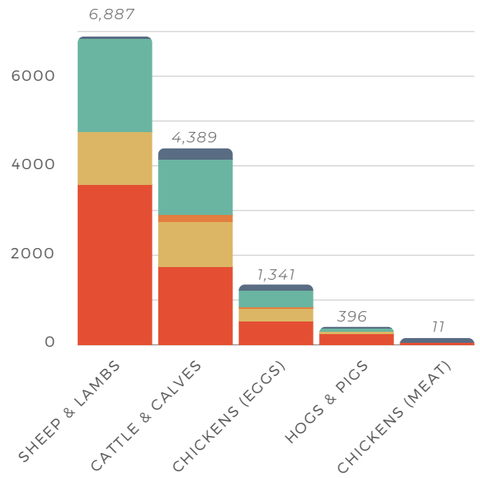
Agricultural Landscape & Food Production Sector Facts, Continued

COUNTY COLOR KEY

APACHE · MOHAVE · YAVAPAI · COCONINO · NAVAJO

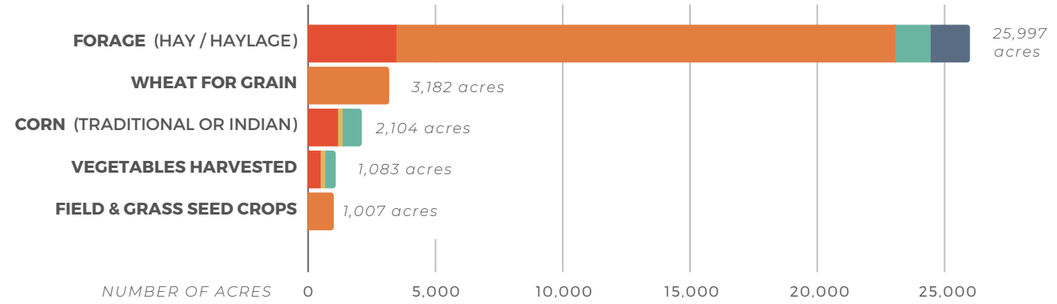
LIVESTOCK & POULTRY FARMS BY TYPE & COUNTY (2022)

FIGURE 2



TOP FIVE CROPS BY TYPE & COUNTY (2022)

FIGURE 3



PRODUCTION FAST FACTS:

TOP FIVE CROPS ACROSS THE REGION BY ACREAGE[5]:

1. Forage (Hay/Haylage) ..... 25,997 acres
2. Wheat for Grain ..... 3,182 acres
3. Corn, Traditional or Indian ..... 2,104 acres
4. Vegetables Harvested ..... 1,083 acres
5. Field and Grass Seed Crops ..... 1,007 acres

NUMBER OF LIVESTOCK AND POULTRY FARMS ACROSS NORTHERN ARIZONA[6]:

- Sheep and Lambs ..... 6,887 farms (98% of AZ)
- Cattle and Calves ..... 4,389 farms (75% of AZ)
- Chickens (Eggs) ..... 1,341 farms (63% of AZ)
- Hogs and Pigs ..... 396 farms (73% of AZ)
- Chickens (Meat) ..... 11 farms (26% of AZ)



Northern Arizona producers rely more on farming as their primary occupation (63%) than the state average (57%).[7]

Most producers in northern Arizona are American Indian / Native American.

The average producer is 60 years-old.

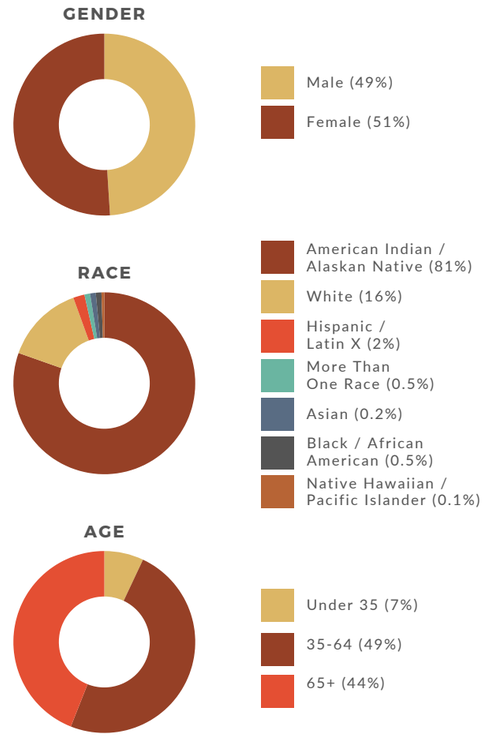
19% of the region's farmers are considered “new and beginner farmers”, or producing less than ten years.[8]

Regionally, 10,916 people are employed in farm labor.

62% of farm labor unpaid, which is defined as not being on payroll.[9]

NORTHERN ARIZONA FARM/RANCH LABOR DEMOGRAPHICS

FIGURE 4



Access to Community Gardens in Flagstaff, Arizona

Michael Moore
Colton
Jaime Major Golightly
Hebets
N Fort Valley Rd
Izabel
Bonito
Piñon
Flagstaff
E Route 66
S Milton Rd
Historic South Side
SSLUG
NORTHERN ARIZONA UNIVERSITY
FLAGSTAFF MALL
ASPEN VALLEY GOLF CLUB
CONTINENTAL COUNTRY CLUB

Legend

- Community Gardens
- NAIPTA Mountain Line Stops
- Walking Trails
- 0.5 Mile Walking Radius From Community Gardens

Percentage of Households With Income of Less than 185% of Poverty

- 0% - 1%
- 1% - 4%
- 4% - 7%

Note: In 2024 an 185% poverty rate equates to annual income: $27,861 for Individual and $57,720 for Family of 4.

FLAGSTAFF IN FOCUS

Flagstaff is home to a variety of community urban agriculture spaces, including more than nine community gardens, two urban farm incubator sites, and several school gardens. While this map represents the well-established gardens in Flagstaff, there are likely other communal growing spaces in the city. [10]



0 0.5 1 Miles

N

MAP 3

Agricultural Landscape & Food Production, Continued



Survey & Focus Group Findings

- Accessing land to farm near Flagstaff is challenging. The cost of land is the biggest barrier to farming near Flagstaff. Other reported barriers to farming were: extreme weather, variable growing conditions, and the cost and access to water.
- There is interest among residents in urban agriculture and programs that support food production closer to Flagstaff.
- Businesses growing and producing food items are eager for collaboration and support from other businesses. While resources exist to support developing businesses, there is a lack of awareness about these resources and how to utilize them.
- The cultural relationship between food production and food sales on Native American reservation lands leads to an underreporting of what is actually being produced and what is reported in the USDA's Census of Agriculture. Farmer's markets on reservation land do not have many vendors, though there is significant food being produced for sharing and bartering.

FLAGSTAFF IN FOCUS

81% of survey respondents that grow food in Flagstaff grow on less than one acre of land, and 66% report that they own the land they grow on. This indicates that many growers in Flagstaff are gardeners and subsistence farmers versus individuals producing food for business.



Trends and Challenges

- Local direct-to-consumer food sales in the region are growing, which is a strong indicator of regional demand for local foods. However, the small size of farms, lack of business development resources, and sales outlets makes it difficult for the agricultural economy in the region to grow.
- Food and farm business owners in northern Arizona noted that the Flagstaff economy is very separated from southern Arizona, which limits the reach of the businesses.
- In addition to food production for business, there is significant subsistence and hobby farming in the region. Hunting, fishing, and other self-provisioning activities also occur.
- Producing food is challenging in this region. Farmers, ranchers, and gardeners noted climate variability, water access, cost of land, and distance to market as key challenges.
- Most producers in northern Arizona are Native American, and cultural differences around agricultural activities can undercount food sales and economic impact.
- Food producers growing for business have a strong desire for increased opportunities to collaborate with other businesses such as food processors, manufacturers, distributors, retailers, buyers, and so on.
- In Northern Arizona, raising of livestock such as cattle and sheep is a common land use on vast acreages. Some livestock raised on Native American lands are used for local consumption, but most cattle raised on public lands are not consumed in-state as processing facilities are lacking.
- Ranching and hay production (for animal feed) are the predominant agricultural activities in the region. However, the growth in direct to consumer sales in recent years suggest that regional buyers are also interested in locally-grown fruits and vegetables as well.

Remaining Questions

- *How can the City of Flagstaff facilitate better collaboration between food producers and the resources they need to increase production and profit?*
- *What business development tools can be provided to support farmers and gardeners in increasing the profitability of their production?*
- *Are there ways to further support urban agriculture in Flagstaff?*
- *What opportunities exist to support producers adapting to prolonged drought and climate change?*



Food System Infrastructure

How food is moved from the farm or ranch, then processed and distributed to places where people consume it.

Sector Facts

Northern Arizona is home to food processing facilities (predominantly bakeries), but commercial kitchen, slaughter, and storage facilities are limited. The majority of these resources are clustered around city centers, with very few in the northern half of the study region.

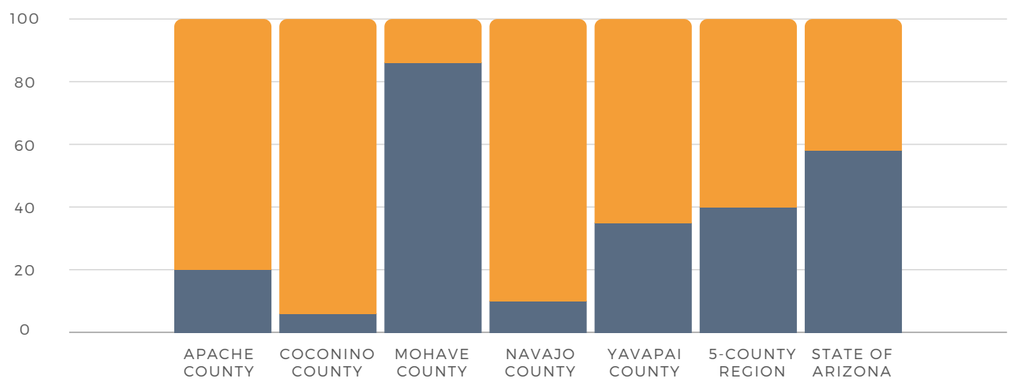
(See Map 4)



While four of the five counties in this study region produce significantly more livestock than crops, there are limited numbers of livestock processing facilities, especially in the rural areas. (Figure 4)

SHARE OF AGRICULTURAL SALES (%) BY TYPE & COUNTY (2022)

FIGURE 4



Survey & Focus Group Findings

- There is interest among survey respondents and focus group participants in services that support business development and build collaboration (such as a food hub).
- Most survey respondents (83%) that manufacture a food item do so at home versus in a commercial/certified kitchen.
- Surveyed residents of Flagstaff are processing (canning, freezing, preserving) food for personal use rather than commercial sales and are satisfied with the resources they have access to.
- Among individuals processing food for retail sale, there is some interest in resource sharing via a food hub (storage, sales, etc.) or an incubator kitchen to support new business development.
- The lack of regional meat processing facilities is a barrier to ranchers looking to raise, process, and sell meat products.
- Farms within range to sell produce to Flagstaff struggle to get product to Flagstaff because of the distance, variable climate, and lack of staffing. There are some farm-run initiatives to support distribution in the region, but there are not enough options.
- When asked about familiarity with Flagstaff business development services, the majority of respondents answered “unfamiliar” to all nine mentioned. Of the organizations listed, Flagstaff Foodlink was the most utilized with 16% of businesses having interacted with them.
- When asked about zoning regulations that impact their food or farm business, 24% of respondents expressed dissatisfaction.

Trends and Challenges

- The lack of processing (meat processing and commercial kitchen space) outside of the city centers limits food producers' abilities to expand production and sales.
- The current lack of distribution infrastructure (e.g., food hubs) has led businesses to collaborate, sharing deliveries, building on-farm processing, and contracting directly with farmers. However, the lack of distribution infrastructure also limits their ability to sell beyond their immediate communities.
- The distance between food producers and resources (kitchens, processing, storage, customers, etc.) is a significant barrier to starting and growing businesses in the region.
- Businesses in this sector expressed interest in increasing collaboration with farmers and other food system stakeholders.
- There is a need for increased funding opportunities to support business development.

Remaining Questions

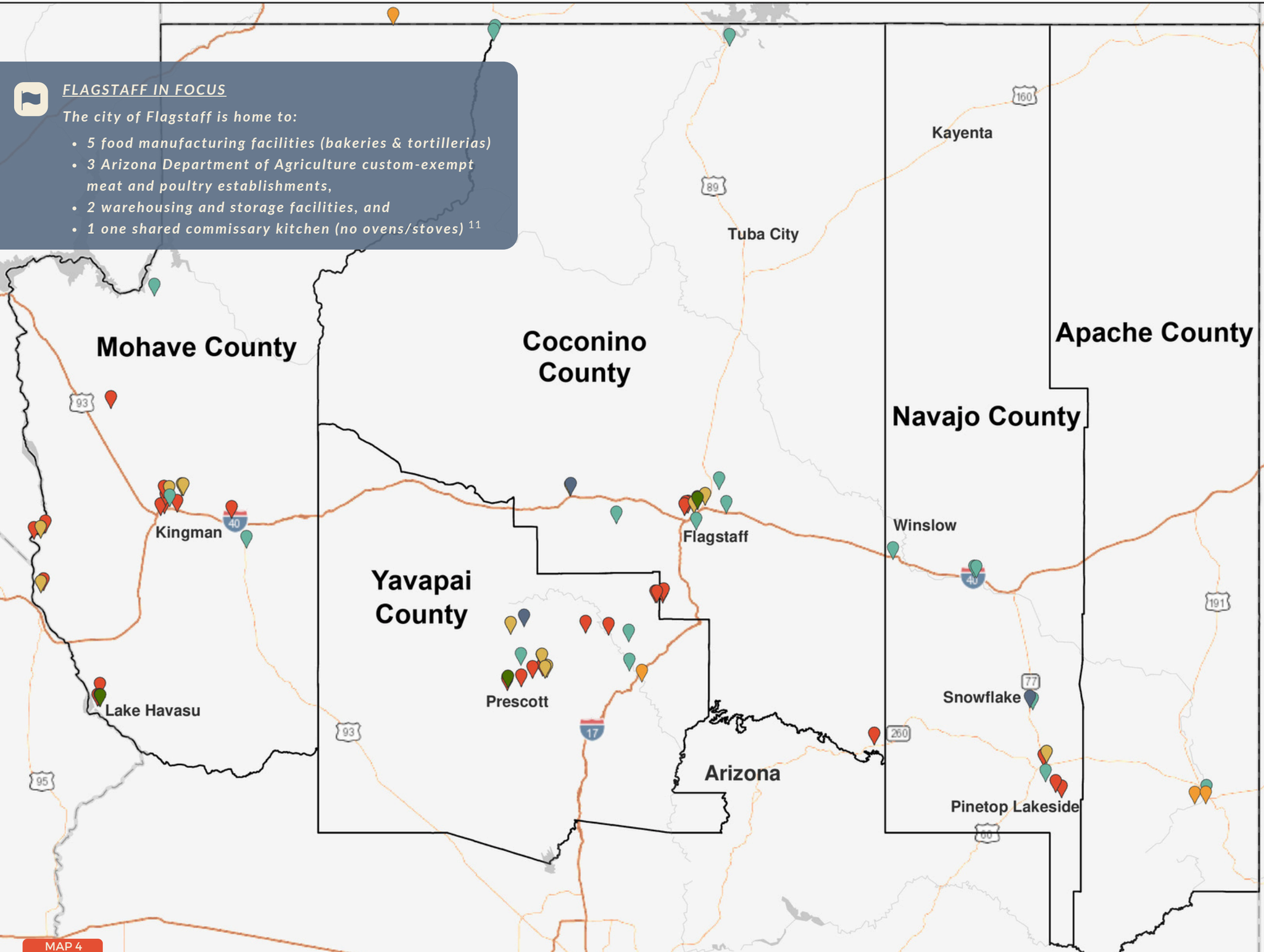
- *How can Flagstaff build infrastructure that supports the region as a whole in producing more local foods?*
- *What opportunities exist to scale current small-scale infrastructure to serve a larger market?*

Food System Infrastructure of Northern Arizona

FLAGSTAFF IN FOCUS

The city of Flagstaff is home to:

- *5 food manufacturing facilities (bakeries & tortillerias)*
- *3 Arizona Department of Agriculture custom-exempt meat and poultry establishments,*
- *2 warehousing and storage facilities, and*
- *1 one shared commissary kitchen (no ovens/stoves)* [11]



Legend

Food System Infastructrure

- Arizona Dept of Agriculture Meat and Poultry Inspected Custom Exempt Facility (19)
- Arizona Dept of Agriculture Meat and Poultry State Inspected Facility (3)
- USDA FSIS Meat, Poultry, and Egg Inspected Establishment (5)
- Bakeries and Tortilla Manufacturing (38)
- Warehouse and Storage Facility (14)
- Shared Commissary Kitchen (3)

Note: Number in parentheses represents number of locations.

Meat Processing Definitions:

- **Federal Inspection (USDA):** The U.S. Department of Agriculture's Food Safety and Inspection Service (USDA FSIS) provides this type of inspection. Federally-inspected products can be shipped over state lines and internationally.
- **State Inspection:** State inspection programs must be "at least equal to" federal inspection in terms of regulatory rigor. The federal Cooperative Interstate Shipment Program allows state-inspected meats from qualifying plants to be shipped across state lines.
- **Custom-Exempt:** A custom-exempt plant can only slaughter and process livestock for the exclusive use of the livestock owner(s). These products cannot be sold.

N

MAP 4

Food Retail Environment

How and where food is purchased by consumers at stores, markets, restaurants, cafeterias, etc.

Sector Facts

Northern Arizona is home to many food sales outlets [12]:

- 20 Farmers Markets
- 4 Community Supported Agriculture (CSA)/Food Hub Enterprises
- 139 Grocery Stores
- 135 Convenience Stores
- 9 Specialty Food Stores

(See Map 5)

Food retail channels that offer local food sales in the study region are small in numbers, but help generate $6.6 million in direct-to-consumer sales.[14]

Local food can be found in school meal programs. There are thirty-five schools in northern Arizona serving local food, and seven have edible gardens.[15]

The majority of Navajo and Apache counties qualify as "low income and low access," which means that residents of urban areas don't have a grocery store within a half mile of their home and rural residents have to travel more than ten miles to access a grocery store.





FLAGSTAFF IN FOCUS

The city of Flagstaff is home to[13]:

- ***3 Farmers Markets,***
- ***1 CSA,***
- ***18 grocery stores,***
- ***14 convenience stores,***
- ***0 specialty food stores, and***
- ***276 restaurants and eating places.***

Survey and Focus Group Findings

- Local Flagstaff shoppers mostly get food from grocery stores. Farmers markets are among their top four shopping outlets, preceded by traditional grocery stores, restaurants, and food warehouses (like Costco or Sam's Club); 14% of respondents grow, hunt, or fish for their food.
- In Flagstaff, 58% of respondents drive less than 5 miles to access a grocery store.
- The high cost of food was mentioned by 46% of Flagstaff respondents; 26% would buy more local food if it were affordable.
- Only 20% of shoppers stated that they are satisfied with their grocery options.
- The Flagstaff CSA serves an important role in providing consistent access to local food to residents and a consistent sales outlet for local farmers.
- Rural areas of northern Arizona have very few retail food options. Individuals rely on gardening, raising animals, and purchasing directly from food growers.



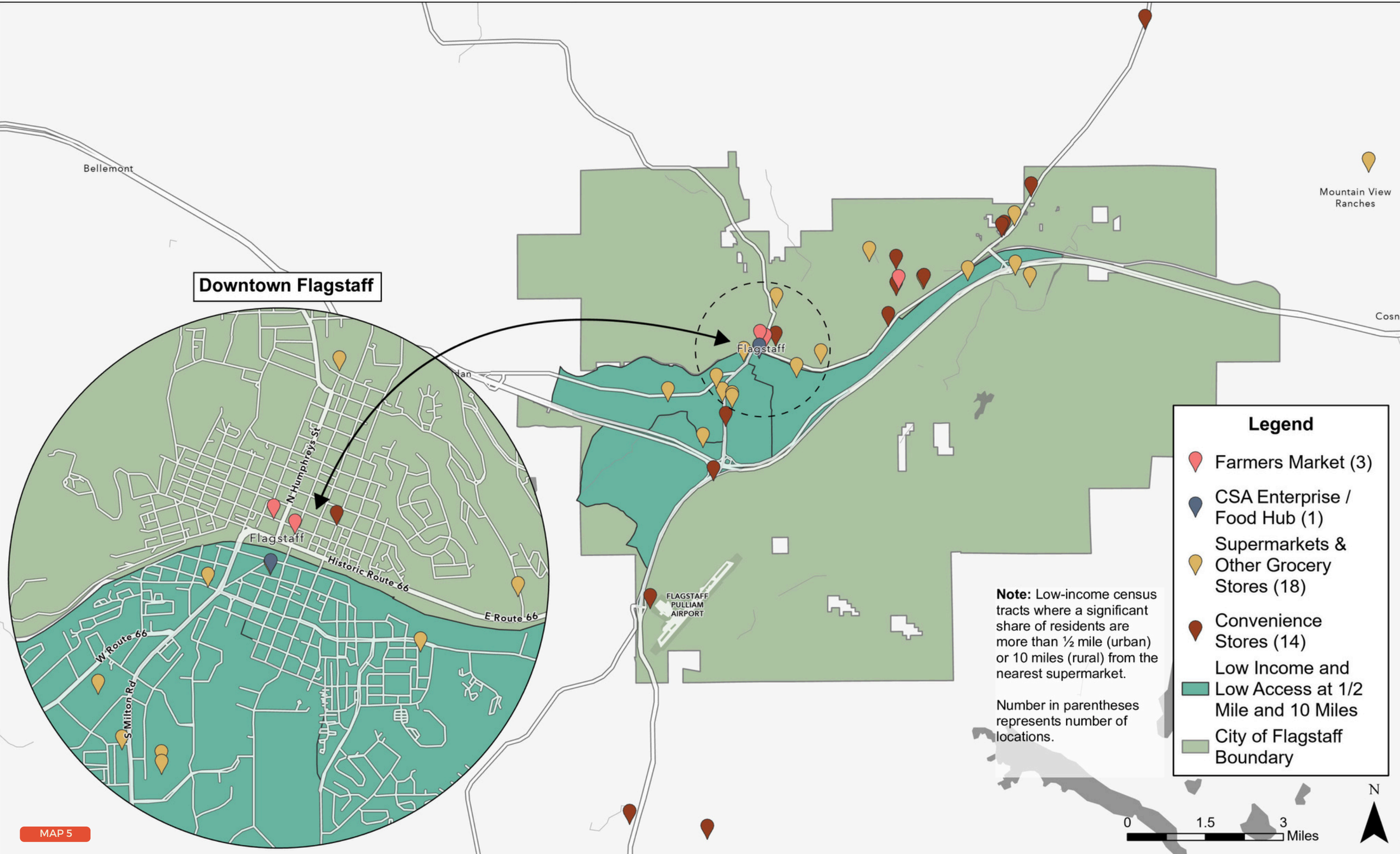
Trends and Challenges

- Food stores are concentrated near urban and suburban centers, with few options in rural areas of the region.
- Communities living on Native American reservation land have very few stores to buy from, and the stores they do have offer only limited food options.
- The lack of local food outlets and food distribution for local food has led to direct purchasing from farms by restaurants and businesses who want to source and sell local foods.
- The high cost of food is a challenge for many in the region, and locally grown food is perceived as being especially expensive and hard to access.

Remaining Questions

- *What is needed to make local food more accessible in grocery or restaurant settings?*
- *What strategies exist to ensure that all food outlets in the region are stocked with a full and diverse selection of foods?*
- *What strategies exist to make food more affordable?*
- *How can the elected leaders in the region support a stronger food retail environment?*

Food Retail Locations in Flagstaff, Arizona



MAP 5

Food Consumption & Health

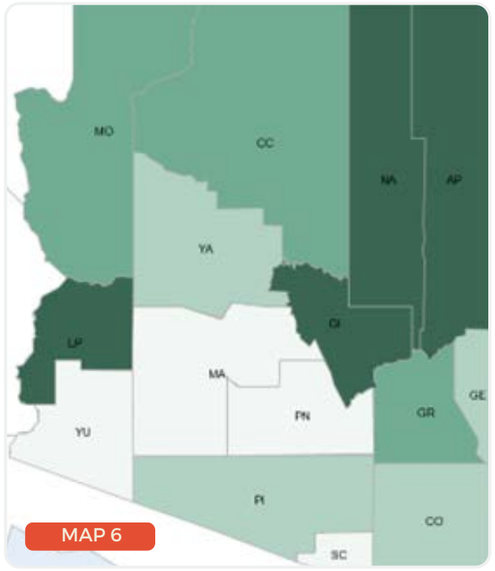
How the food we eat impacts the health of individuals and our community.

Sector Facts

On average, northern Arizona residents spent $7,845 / household on food in 2021, which is approximately 11% of their total consumer spending and is considerably less than the state average spending on food per household ($10,245).

- Of total food spending, 66% is on food consumed at home, 19% of which is spent on fruits and vegetables.
- Three of the five northern Arizona counties (Apache, Mohave, and Navajo) consistently hold bottom rankings (out of fifteen total Arizona counties) for all county health ranking categories.[16]
- Zero of five counties meet daily fruit intake recommendations and only three of five counties (Apache, Coconino, and Yavapai) meet the lower limits of adequate vegetable intake.[17]
- Navajo and Apache Counties both have large populations of Native Americans. Native Americans or Alaskan Native adults are 50% more likely to be obese than non-Hispanic Whites.[20]

Arizona Health Outcomes Map



Health Outcomes tell us how long people live on average within a community, and how much physical and mental health people experience in a community while they are alive.

- Apache, Mohave, and Navajo Counties exceed state averages for the following health metrics that are impacted by food and nutrition:
  - Poor / Fair Health (Apache, Mohave, Navajo)
  - Adult Obesity (Apache, Mohave, Navajo)
  - Diabetes Prevalence (Apache, Navajo)[18]
- All five northern counties have:
  - Lower life expectancies than the Arizona state average;
  - Higher age-adjusted death rates, as well as higher child and infant mortality rates compared to the state averages;
  - Limited access to healthy foods compared to the state average.[19]

Survey and Focus Group Findings

- 21% of survey respondents in the region reported that they can't afford to buy the healthy food they want.
- 7% of survey respondents said that universal free school meals would help them access food more readily.
- Healthy foods are scarce on reservation land, and the grocery stores there don't offer much variety.
- The high cost of housing in northern Arizona is a barrier to eating healthy food, as high housing costs compete with food costs in family budgets.
- 10% of Flagstaff survey respondents said they would like to see Flagstaff focus its efforts on healthy food education and programming.

Trends and Challenges

- Parts of northern AZ lack access to healthy food; residents struggle to meet recommended intakes of fruits/vegetables.
- This lack of access to healthy foods is particularly acute in rural areas and on reservation lands.
- Lack of access to healthy food contributes to negative health impacts in the region (obesity /diabetes / lower life expectancy). In fact, three of the five counties in northern Arizona rank among the least healthy in the state.
- Affordability of healthy food is a key barrier, and the rising cost of housing in the region makes it even more difficult for families to afford healthy food.

County-Level Community Health Survey Results

Assessments in each county revealed residents' needs and priorities related to food and nutrition:

Apache County

93% prioritized access to affordable, healthy foods (2022)[21]

Coconino County

56% had concerns/ challenges* accessing nutritious foods (2023)[22]

Mohave County

43% cited obesity** as top personal health challenge (2021)[23]

Navajo County

48% report being obese, the highest chronic illness concern in Navajo (2023)[24]

Yavapai County

63% report eating < 5 servings of fruit & vegetables daily (2023)[25]

** In Coconino County, access to food and nutritional security was one of the top four identified needs (along with housing, behavioral health, & transportation).*

*** In Mohave County, 23% of survey respondents reported that it was "somewhat difficult" or "very difficult" to access fresh fruits and vegetables*

Remaining Questions

- How can the City of Flagstaff and regional leaders attract new or support existing healthy food outlets, especially in rural parts of the region?
- How can the City of Flagstaff help remove barriers to residents achieving healthier diets?
- What programs and policies can be implemented to provide more education around accessing healthy foods?

Access To Food

How community members have (or don't have) access to adequate, affordable, and culturally relevant foods.

Sector Facts

Food insecurity rates in this region are higher than the state average. Navajo and Apache Counties have the highest rates of food insecurity in the region.



- In northern Arizona, 13.3% of the population is food insecure, compared to the statewide rate of 10.3%. This means that 103,210 people in this region don't have enough food to eat and do not know where their next meal will come from. [26]
- Food insecurity rates are even higher among children (18.6%).
- Racial minorities experience food insecurity at a higher rate than non-Hispanic White populations: Native American (22%), Black (13.32%), and Hispanic (13–19%). [27]

(See Maps 7a & 7b)

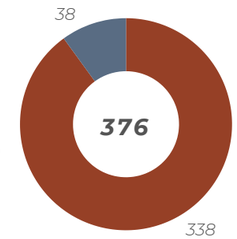
SNAP PROGRAM

Participation in SNAP is significant, and the regional need is still not being met.

- Northern Arizona residents are participating at a higher rate (12.7%) than the rest of the state (10.1%)
- Individuals on reservation lands participate at 3-4 times the AZ average.
- There are more residents that are income eligible for this program but do not actively utilize the program. [28]

(See Map 8)

Regional Food Access Locations*



N.AZ Northern Arizona (90%)

Flagstaff (10%)

FOOD ACCESS LOCATIONS	N.AZ	
FOOD PANTRIES, BACKPACK POGRAMS, SENIOR MEAL SITES, ETC. [29]	145	16
RETAILERS ACCEPTING SNAP [30]	123	12
RETAILERS ACCEPTING WIC [31]	64	7
DOUBLE UP FOOD BUCKS PROGRAMS [32]	6	3

**Regional Food Access locations include charitable food locations such as food pantries or communal meal sites, retailers accepting SNAP benefits, retailers accepting WIC coupons, and Double Up Food Bucks program locations.*

(See Map 9)

Survey & Focus Group Findings

Eliminating hunger was the highest ranked food system goal for survey respondents.

- Survey responses show that residents of Navajo and Mohave County travel the greatest distance to reach food at distribution sites, sometimes up to 150 miles one way; surveyed residents from the Flagstaff region travel 5-15 miles.
- 32% of respondents rely on food distribution sites weekly; 18% utilize these services 1-2 times per month.
- Residents are often not able to find fresh, local food to purchase with SNAP benefits.
- Flagstaff residents are interested in finding ways to feed themselves outside the food retail system; 52% would like information about how to grow/hunt/fish for their own food. 14% surveyed support themselves now by growing, hunting, or fishing for their own food.
- Flagstaff residents are coping with food insecurity by supporting their neighbors, with over 50% sharing food in the last twelve months.
- Flagstaff resident participation in SNAP (7.7%) is nearly half that of the region average (12.7%) [33]
- When asked what community services would help them access food more easily, the top three responses were local food–related:
  - *19% want more farmers markets;*
  - *14% wish to gain knowledge on how to grow food;*
  - *12% would like access to community gardens to grow food in the city.*

Trends and Challenges

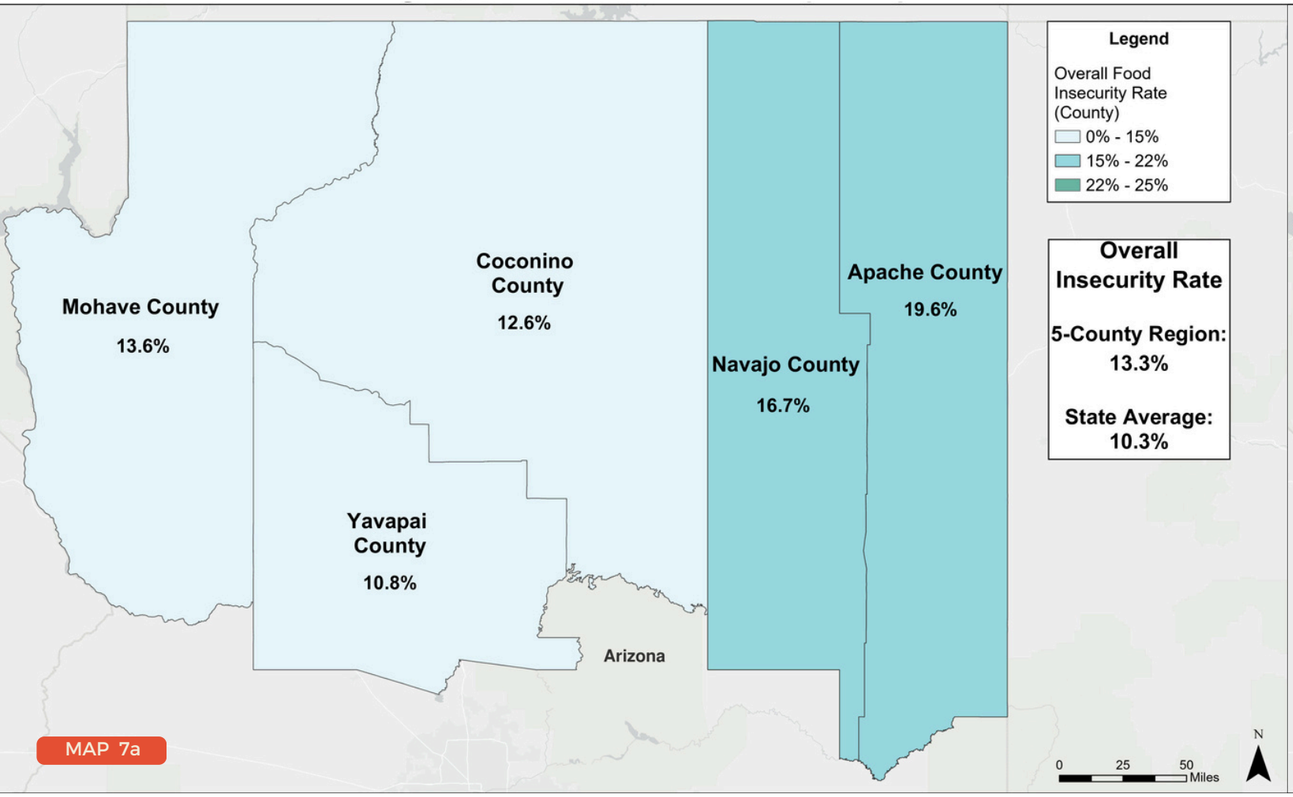
Regional food insecurity > State Average

- Children, Hispanic, Black, and Native American populations suffer from higher food insecurity rates across the region.
- SNAP benefits are not as widely used as they could be based on income eligibility.
- Housing and utility costs compete with money for food available in family budgets.
- Flagstaff residents have greater access to charitable food distribution programs than residents living in rural northern Arizona.
- Residents actively share food with neighbors to combat food insecurity.
- There is strong interest in services that would teach residents where and how to grow/harvest their own food.

Remaining Questions

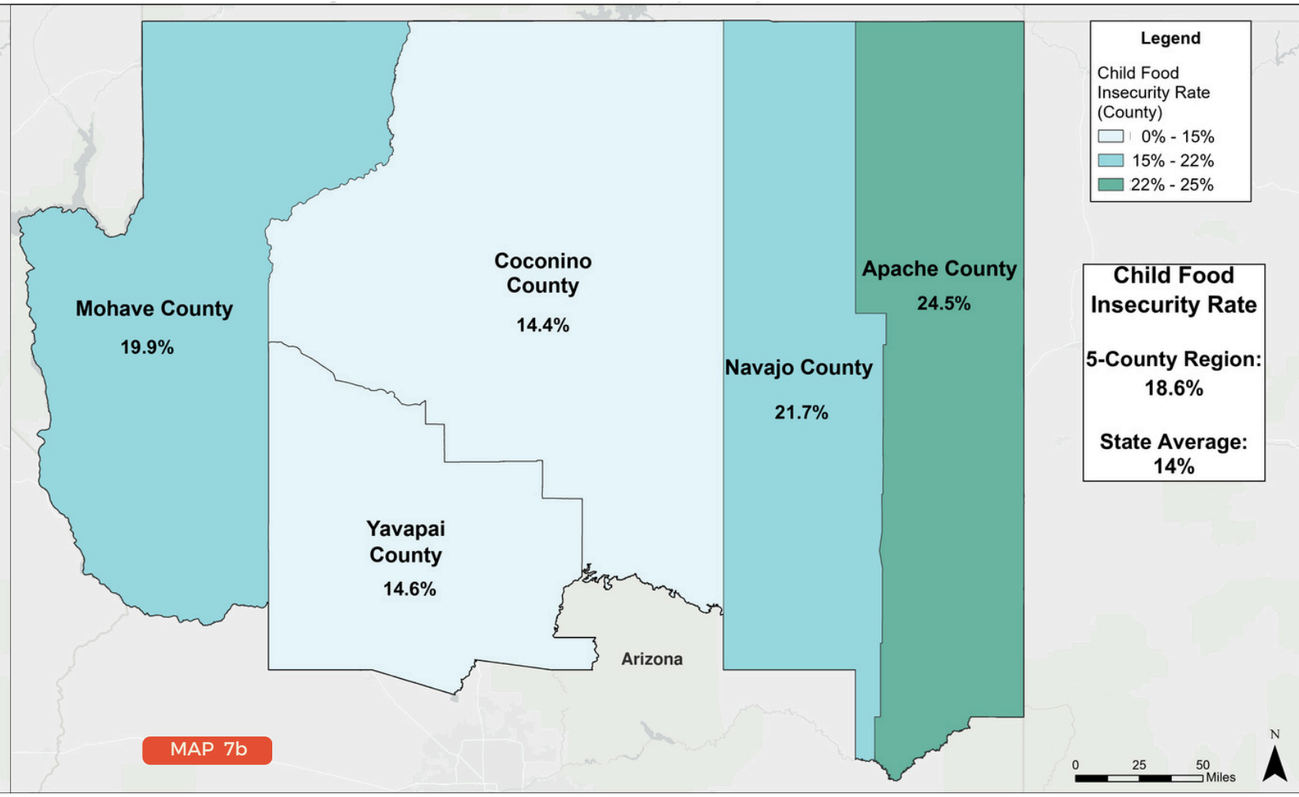
- *How can the City of Flagstaff and local organizations increase enrollment in SNAP for income-eligible individuals and families? What practical barriers stand in the way?*
- *How can institutions in Flagstaff (government entities, schools, hospitals) increase access to healthy food?*
- *How can the City and local organizations meet residents' needs for education and resources related to self-provisioning?*
- *Why are so many more children food insecure than adults? What can local leaders do to address this?*

Overall Food Insecurity in Northern Arizona (2021)



MAP 7a

Child Food Insecurity in Northern Arizona (2021)



MAP 7b











% of Eligible Individuals Not Receiving SNAP Benefits (Northern AZ)

Mohave County

30.9 %

Coconino County

30.7 %

Navajo County

20.9 %

Apache County

24.3 %

Yavapai County

49.1 %

ARIZONA

PERCENTAGE OF ELIGIBLE INDIVIDUALS NOT RECEIVING SNAP IN AZ IS 34.2%

FLAGSTAFF IN FOCUS

56% of Flagstaff survey respondents do not know how to sign up for SNAP, WIC, Senior Farmers Market Nutrition Program coupons, and other government food programs.

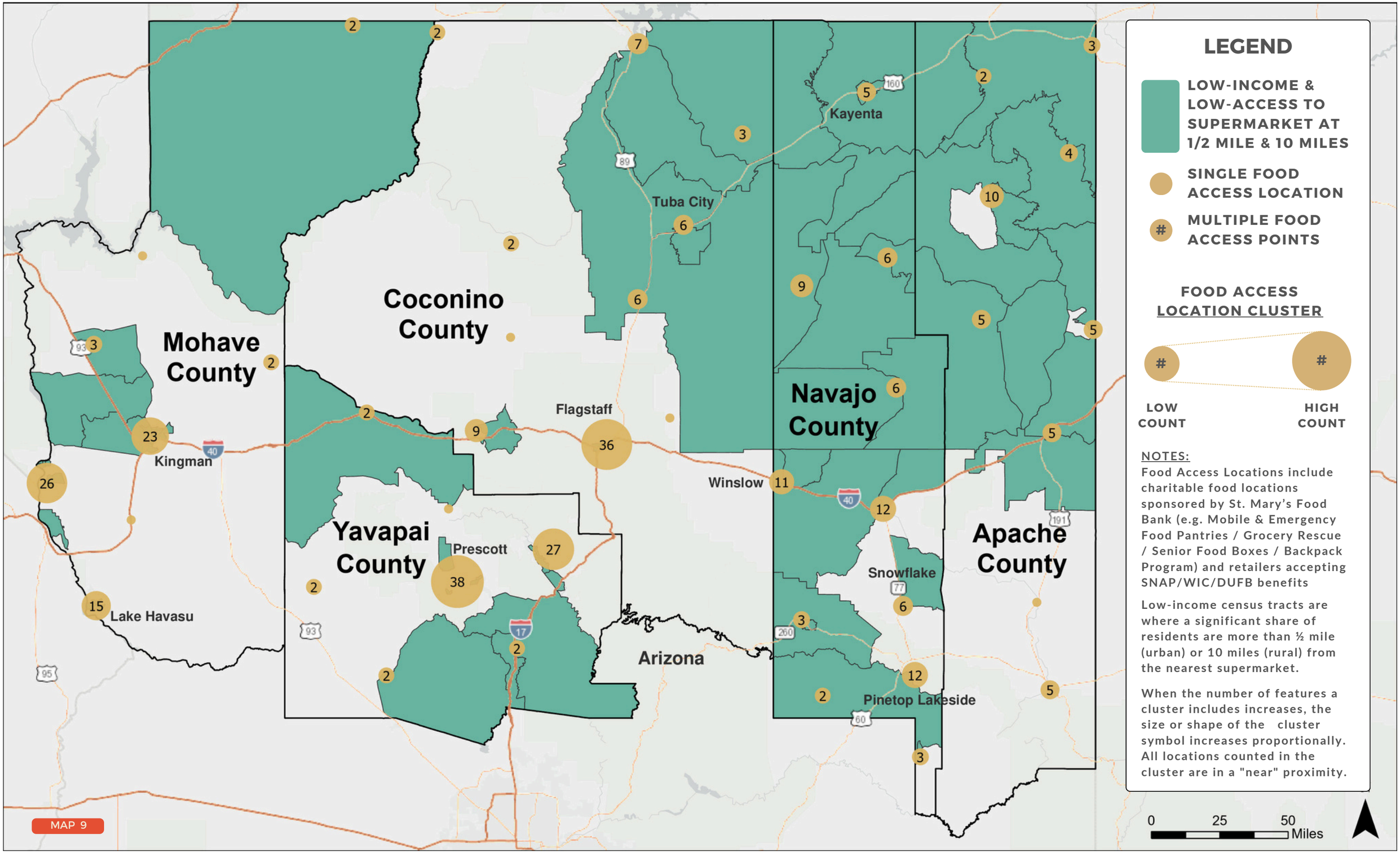


0 25 50 Miles

N

MAP 8

Food Access Locations in Northern Arizona
Compared to Low Income / Foodstore Access Areas



Food Waste & Recovery

How food that doesn't get eaten is recovered and shared, composted, or landfilled.

Sector Facts

$9.5 billion worth of food is wasted each year in Arizona, the most in the nation,[34] with the average household producing 4.17 lbs of food waste every week. [35]

5.87 million pounds of food are wasted each year in the city of Flagstaff, resulting in 4,002,061 pounds of annual CO_2 emissions (1,815 metric tons). That's the equivalent of using 204,265 gallons of gasoline.[36]



- There are eight local food waste, composting, and recovery programs operating in the city of Flagstaff.
- There are robust programs for recovering whole foods (i.e., food recovery from gardens, grocery stores), but there are very limited options for hot food recovery (i.e., food from restaurants and caterers).
- Through the Flagstaff Sustainability Office Residential Food Scraps Program, approximately 29,457 pounds of food was diverted from the landfill between November 2022 and November 2023.[37]
- Northern Arizona University is making significant efforts to institutionalize their food waste management program with a strong focus on waste diversion. Since July 2022, 48.24 tons of organic waste has been diverted from landfill and turned to usable compost.[38]

Survey & Focus Group Findings

- Residents and business owners alike reported misunderstandings of zoning barriers and health department regulations as barriers to composting.
- Flagstaff survey respondents are more likely to participate in a free drop-off compost program than a paid curbside pickup program.
- 44% of Flagstaff survey respondents already compost at home.
- 11% of respondents listed eliminating food waste as a top personal food system goal.
- 19% of Flagstaff businesses identified that a composting program would support their business development.
- Flagstaff is home to many formal and informal composting programs and relationships between business owners and farmers.
- Organizations like the Arizona Food Bank Network are leveraging their proximity to the large growing regions of Mexico to repurpose industrial scale food waste.

Trends and Challenges

- While Arizona was ranked #1 in the country for food waste, Flagstaff has many initiatives to support the reduction of food waste.
- At the household, corporate, university, and municipal levels, there are significant efforts being taken in Flagstaff to decrease food waste.
- Confusion about the health codes, inspection, and zoning processes around compost are restrictive to residents and businesses looking to manage their food waste.
- Flagstaff is a leader in food recovery efforts, but the recovery of hot food from restaurants and caterers still poses a logistical challenge.





Remaining Questions

- *What efforts can the City of Flagstaff lead to scale up current food waste reduction programs?*
- *What can residents do to decrease food waste?*
- *How can food waste reduction efforts also increase access to food for Flagstaff and the surrounding areas?*

Food Recovery Heirarchy

from most to least preferred.

SOURCE REDUCTION

Reduce the volume of surplus food generated: Produce, buy and serve only what is needed.

FEED HUNGRY PEOPLE

Donate and redistribute extra food to neighbors, shelters and foodbanks, or repurpose for your own use.

FEED ANIMALS

Turn wasted food into animal feed, or leave field crops unharvested to be used for grazing or plowed in.

INDUSTRIAL USES

Provide waste oils for creating biofuels and soil amendments.

COMPOST

Process wasted food into nutrient-rich soil amendment and/or break down with a biodigestor to create energy.

WASTE

LANDFILL = LAST RESORT



Next Steps

The findings from this community food system assessment will help tell the story of the current state of the northern Arizona regional food system.

NEXT:

The City of Flagstaff, Pinnacle Prevention, Flagstaff Foodlink, NVA, and other partners will facilitate a robust public engagement process to take this information to the community.

The City will host a series of community conversations with residents of Flagstaff to share the findings of the assessment and to hear their ideas for potential businesses, policies, needed funding, and program solutions that the City should consider.

LEARN MORE AND GET INVOLVED:

- Visit the City of Flagstaff project website.
- Join our email list to stay updated with project activities and additional ways to participate.
- Contact the City of Flagstaff Sustainability Office sustainability@flagstaffaz.gov

FLAGSTAFF IN FOCUS

The work above will result in a City of Flagstaff food action plan that establishes tangible goals and strategies for building a more robust, sustainable, and equitable food system for the future.

GLOSSARY OF TERMS

COMMERCIAL/ INCUBATOR KITCHEN
A fully equipped commercial food processing facility designed to allow multiple entrepreneurs or food processing operators to grow their businesses by providing a licensed or certified kitchen space with food and packaging equipment.

COMMUNITY GARDEN
Community gardens are collaborative projects on shared open spaces where participants share in the maintenance and products of the garden, including healthful and affordable fresh fruits and vegetables.

COMMUNITY SUPPORTED AGRICULTURE (CSA)
A CSA involves consumers who support a farmer financially by paying for a share of the farm's production prior to each growing season. The arrangement allows farmers to buy the seeds, transplants, and other inputs they need for the growing season and pay their farm labor without waiting until harvest to generate revenue. The customers will share in the successes or failures of the farmer.

COUNTY HEALTH RANKINGS
Annual County Health Rankings measure vital health factors, such as high school graduation rates, obesity, smoking, unemployment, access to healthy foods, the quality of air and water, income inequality, and teen births in nearly every county in America. The annual Rankings reveal how the built environment and socioeconomic factors influence health.

DIRECT-TO-CONSUMER MARKETING
Where local producers engage with consumers face-to-face at roadside stands, farmers' markets, pick-your-own farms, on farm stores, and community-supported agricultural arrangements (CSAs).

DOUBLE UP FOOD BUCKS
A program that doubles the value of federal SNAP benefits spent at participating markets and food retail stores, helping people bring home more healthy fruits and vegetables while supporting local farmers.

EQUITY
Equity is the fair and just distribution of resources, access, and opportunity. It is the process of developing, strengthening, and supporting policies and procedures that prioritize the distribution of resources to those who have been historically and are currently marginalized.

GLOSSARY OF TERMS, CONTINUED

FOOD HUB
A business or organization that actively manages the aggregation, distribution and marketing of source-identified food products, primarily from local and regional producers, to strengthen their ability to satisfy wholesale, retail, and institutional demand.

FOOD INSECURITY
Food insecurity is the limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways. Food-insecure households lack enough food for an active, healthy life.

FOOD JUSTICE
Food justice ensures that the benefits and risks of where, what, and how food is grown, produced, transported, distributed, accessed and eaten are shared fairly. Food Justice is seen in communities exercising their right to grow, sell, and eat healthy food. Healthy food is fresh, nutritious, affordable, culturally-appropriate, and grown locally with care for the well-being of the land, workers, and animals. People practicing food justice leads to a strong local food system, self-reliant communities, and a healthy environment.

FOOD SYSTEM
This is the process food follows as it moves from the farm to your table. It encompasses a range of activities, including growing, foraging, and ranching; processing; transporting and distributing; retailing and marketing; preparation and cooking; eating; waste management; safety; land and water stewardship; and environmental preservation. The journey our food takes through the food system is influenced by our northern Arizona ecosystem, research, education, funding, policies, and our community's rich cultural traditions.

ORGANIC
USDA-certified organic foods are grown and processed according to federal guidelines addressing, among many factors, soil quality, animal raising practices, pest and weed control, and use of additives. Organic producers rely on natural substances and physical, mechanical, or biologically based farming methods to the fullest extent possible. Produce can be called organic if it's certified to have grown on soil with no prohibited substances applied for three years before harvest. However, many crops are organically grown but do not carry the USDA certified organic label because the certification process can be expensive for small farms.

SOCIAL NETWORK ANALYSIS
SNA is a methodological approach for examining the relationships and interactions among individuals or groups within a specific network, in this case, a food system. The process entails collecting data on the connections among entities, representing these connections graphically, and analyzing the graph through mathematical and statistical techniques.

SPECIAL SUPPLEMENTAL NUTRITION PROGRAM FOR WOMEN, INFANTS, AND CHILDREN (WIC)
The WIC program provides federal grants to states for supplemental foods, health care referrals, and nutrition education for low-income pregnant, breastfeeding, and non-breastfeeding postpartum women, and to infants and children up to age five who are found to be at nutritional risk.

SUSTAINABILITY
Sustainability is often defined as "meeting the needs of the present without compromising the ability of future generations to meet their own needs." It includes environmental, social, and economic sustainability.

SUPPLEMENTAL NUTRITION ASSISTANCE PROGRAM (SNAP)
The largest federal nutrition assistance program, SNAP provides benefits to eligible low-income individuals and families via an electronic benefits transfer (EBT) card. This card is used like a debit card to purchase eligible food in authorized retail food stores.

USDA LOW INCOME, LOW ACCESS
The United States Department of Agriculture (USDA) identifies areas of low food access based on certain low-income and low-access criteria. Low-income (LI) is defined as a census tract with a poverty rate of 20% or greater, or median family income at or below 80% of the statewide or metropolitan area median family income. Low-access (LA) is defined as a low-income census tract with at least 500 people or 33% of the tract's population living more than one mile (urban areas) or more than ten miles (rural areas) from the nearest supermarket or grocery store.

VALUE-ADDED PROCESSING
Value-added processing is a means to utilize produce not used for fresh market sales and the surplus of product during the growing season. Adding value can be something as simple as sorting fruits and vegetables by size and selling through unique packaging to the complexity of processing salsa, jams, jellies, chutney, and meat animals.

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