

Kansas State University Libraries

New Prairie Press

Urban Food Systems Symposium

NEW Food Access Map

Patrick Nehring

University of Wisconsin-Madison, patrick.nehring@wisc.edu

Follow this and additional works at: <https://newprairiepress.org/ufss>



Part of the [Food Security Commons](#)

Recommended Citation

Nehring, Patrick (2024). "NEW Food Access Map," *Urban Food Systems Symposium*.
<https://newprairiepress.org/ufss/2024/proceedings/9>



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 4.0 License](#). This Event is brought to you for free and open access by New Prairie Press. It has been accepted for inclusion in Urban Food Systems Symposium by an authorized administrator of New Prairie Press. For more information, please contact cads@ksu.edu.

Abstract

Where can you find food locally? Do all areas of the community have adequate access to food? These questions were answered by the University of Wisconsin-Madison Division of Extension in Brown, Kewaunee, Manitowoc and Door Counties for the Green Bay area through a research project and the resulting NEW Food Access Map. Brown County and neighboring counties provide food and nutrition assistance to local residents. Part of the assistance provided is directing people to local resources where they may obtain food. An important aspect of ensuring people are able to obtain food is to know where there may be gaps in individual consumer access to the local food system.

The map contains the locations where food is distributed to the consumer in Northeast Wisconsin (NEW). It provides current locations and operational details for grocery stores, ethnic grocery stores, farmers markets, community gardens, food pantries, meal sites, and stores that accept Electronic Benefits Transfer (EBT) card payments. EBT cards are the means used by those with limited income to purchase food through the Supplemental Nutrition Assistance Program (SNAP) program. EBT is accepted at a variety of stores, including convenience stores, dollar stores, grocery stores, specialty food stores, and other stores that sell food to make at home. The NEW Food Access Map was developed to enable consumers to get directions, hours of operation, website, and other information.

The map is maintained by UW-Madison Extension with partners and volunteers from the communities ensuring that the information that is provided is current and accurate. This has enabled Extension to accurately show where there is limited access to food. Some of the data contained on the NEW Food Access Map is available through state and national sources. However, the data from these sources is less accurate than local knowledge, released months or years after it is collected, or is provided in a format that is not user friendly for the local food consumer. The NEW Food Access Map addresses these issues by providing all of the consumer distribution points, is continually updated by local observers, and by illustrating the consumer food distribution system in a format that can provide travel directions on a computer or smartphone.

Keywords

local food, mapping tool, food security map, Extension program

Disciplines

Food Security

NEW Food Access Map

Patrick Nehring, University of Wisconsin-Madison Brown and Kewaunee Counties

Abstract

Where can you find food locally? Do all areas of the community have adequate access to food? These questions were answered by the University of Wisconsin-Madison Division of Extension in Brown, Kewaunee, Manitowoc and Door Counties for the Green Bay area through a research project and the resulting NEW Food Access Map. Brown County and neighboring counties provide food and nutrition assistance to local residents. Part of the assistance provided is directing people to local resources where they may obtain food. An important aspect of ensuring people are able to obtain food is to know where there may be gaps in individual consumer access to the local food system.

The map contains the locations where food is distributed to the consumer in Northeast Wisconsin (NEW). It provides current locations and operational details for grocery stores, ethnic grocery stores, farmers markets, community gardens, food pantries, meal sites, and stores that accept Electronic Benefits Transfer (EBT) card payments. EBT cards are the means used by those with limited income to purchase food through the Supplemental Nutrition Assistance Program (SNAP) program. EBT is accepted at a variety of stores, including convenience stores, dollar stores, grocery stores, specialty food stores, and other stores that sell food to make at home. The NEW Food Access Map was developed to enable consumers to get directions, hours of operation, website, and other information.

The map is maintained by UW-Madison Extension with partners and volunteers from the communities ensuring that the information that is provided is current and accurate. This has enabled Extension to accurately show where there is limited access to food. Some of the data contained on the NEW Food Access Map is available through state and national sources. However, the data from these sources is less accurate than local knowledge, released months or years after it is collected, or is provided in a format that is not user friendly for the local food consumer. The NEW Food Access Map addresses these issues by providing all of the consumer distribution points, is continually updated by local observers, and by illustrating the consumer food distribution system in a format that can provide travel directions on a computer or smartphone.

Keywords: local food, mapping tool, food security map, Extension program

INTRODUCTION

The University of Wisconsin-Madison Division of Extension Brown County was identified in the Brown County Community Health Improvement Plan (CHIP) as the lead for the strategy: "Increase availability and visibility of healthy food options." In addition, the NEW Food Forum, a local food council, developed an action plan that included updating a food resources map that could be used to encourage people to obtain food from local sources. Extension Brown County was involved in both of these projects because Extension provides food, nutrition, agriculture, business, and community development education and because Extension has connections with many of the organizations involved in the local food system.

To increase the availability and visibility of food choices, it is necessary to know where people find food locally. Once it is known where food can be obtained it can be determined where there are areas in the county that do not have access to food. When there is the ability to increase food resources in the county, these areas will be considered first. Often, resources are developed to address the limited ability to purchase or obtain food in areas with demographic data indicating particular vulnerabilities, suggesting inadequate resources to purchase needed food. This has led to a concentration of services in specific areas of the county and a lack of resources in other areas in the county where there is a need, but the demographics of the population do not show as obvious a

need. A map and analysis of the locations to obtain food would show where there are adequate resources and areas that lack locations to obtain food.

The second part of the CHIP strategy to be addressed is the visibility of food choices. This corresponds with NEW Food Forum's interest in having a food resource map to encourage people to obtain food from local sources. The gathering of data on locations where people can obtain food in the county could be used to inform people of the locations where local food can be obtained.

State and federal data sources that list the food-related business in the area were reviewed but were found to be dated and to have some inaccuracies. The United States Department of Agriculture (USDA) does have a list of businesses and other entities that have applied to accept the Supplemental Nutrition Assistance Program-Electronic Benefits Transfer (SNAP-EBT) card for payment. SNAP in Wisconsin is known as Foodshare, and the SNAP-EBT card is the Wisconsin Quest card. Working with partners in the county, Extension has created a Community Resource Handbook for many years. The Community Resource Handbook provides descriptions and contact information for agencies and organizations that serve Brown County, including a list of food pantries, community gardens, and farmers' markets in the county.

These lists provide some information about the local food system, but not the whole picture of where people find food locally. Also, as lists, they provide a limited total number of locations that accept SNAP-EBT, food pantries, community gardens, and farmers' markets, but they do not show areas of the county where there may be an abundance of food sources or where food sources may be limited. To show this, it is necessary to map out the location of the food sources.

The Farm Fresh Atlas of Wisconsin is a paid marketing directory orientated to the individual consumer who is interested in Wisconsin food that is produced using sustainable production and business practices (Farm Fresh Atlas of Wisconsin, 2025). The LocalHarvest website is focused on businesses that grow or have products made primarily from produce and animals grown on family farms that use select farming techniques and are smaller than a certain size as determined by Local Harvest, particularly those that operate using the Community Supported Agriculture (CSA) business model (LocalHarvest, 2025). Wisconsin Local Food Directory is focused on Wisconsin grown and produced products many of their listed food sources sell primarily wholesale (Wisconsin Local Food Directory, 2025). Similarly, the USDA Local Food Directories focuses on food sales directly between the producer and the consumer (U.S. Department of Agriculture and U.S. Department of Health and Human Services, 2025). The Wisconsin Local Foods Database was created to facilitate connections for farm-to-school purchasing and is valuable for other institutions interested in purchasing directly from the farmer, but not necessarily the individual consumer with a location to obtain food (Wisconsin Local Food Database, 2025). The directory on the Friends of Family Farmers website provides an illustration of the variety of directories available in Oregon promoting food products that meet a certain criteria or product produced in a particular location (Friends of Family Farmers Find Local Food, 2025). None of these websites provide a complete picture of where people can access food near them.

Local food is a term that has many definitions. The tools created to understand and engage the local food system are different depending on the definition of local food being used. For example, the MarketMaker, a national e-commerce platform, focuses foremost on developing a market for the local food businesses that choose to be listed on their site (MarketMaker, 2025). Consumers are encouraged to use the site to find locally produced products or products that meet a criterion they may have about a food product. When options were explored to create NEW Food Access Map, the definition of a local food source was a food source at a location close to the consumer. The foremost focus was on the consumer having access to food. The Community Plate website from Australia is the closest internet resource found that focused on consumer access to food, the primary objective of the NEW Food Access Map project (The Community Plate, 2025). This project had two primary objectives. Firstly, Wisconsin Extension and its partners wanted to map food availability to make educated decisions about future resource allocation. The second

objective was to create a mapping tool that the public could use to source local food that meets their needs.

METHODS

ArcGIS has the capability to create a map to analyze different aspects of food accessibility, the resulting analysis can be shared with Extension partners. Google My Maps is user-friendly for the general public and has the capability to provide directions from the user's location to the food source. The data tables created for the Google My Map public version will be used for the analysis map.

The food pantry, community garden, and farmers' market information and location continued to be collected and verified by Extension and its partners. Information about free or reduced meal sites was collected from Extension partners. The USDA's list of those approved to accept SNAP-EBT payments were verified through direct contact and through their website. Grocery stores and ethnic grocery stores were selected from the USDA's list. Those that do not accept SNAP-EBT were located through observation by Extension and its partners. They were contacted to find out information about their operation or the information was collected from their website/social media site.

The lists of food sources were mapped using the address. For those without a matchable address, the latitude and longitude were obtained from locating the site on Google Maps. The tables used for the public maps were used to map the resources for analysis in ArcGIS.

To identify areas of the county without food resources, a drive time buffer of 10 minutes was made around the food resources to see where there were resource gaps. Demographic information from the US Census Bureau was used for further analysis of the areas without food resources. When distance from all SNAP-EBT locations was mapped, it appeared that the entire county had access to food sources. However, living in the county, it was known that this is not the case. The reason that this happened is a retail establishment was listed if they only had a gallon of milk that could be paid with SNAP-EBT. A new category of "healthy food outlets" was created to better reflect whether a household could prepare healthy meals from the food items that are available. To be considered a healthy food outlet the store needs to have a variety of fresh, canned, and frozen fruits and vegetables, low-fat dairy options, whole grains, and lean protein options (U.S. Department of Agriculture and U.S. Department of Health and Human Services, 2020).

RESULTS AND DISCUSSION

Shannon (2013) makes an argument that methods used to identify food deserts fall short because they do not take into consideration the various sources for healthy food, the sharp homogenized boundaries of Census data, and the mobility of people. The method involves identifying and mapping various local sources, creating a category of food outlets that include more than just grocery stores as sources of local healthy food. The use of a buffer of 10-minute drive time around the healthy food outlet rather than distance accounts for how people move around and the actual distribution of food access points (Figure 1).

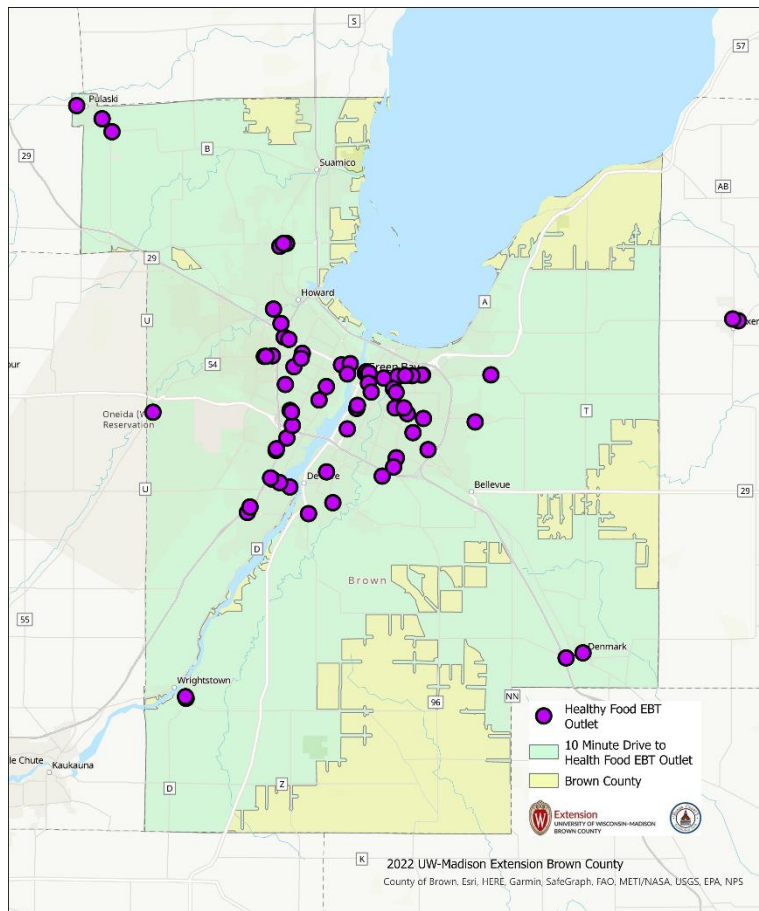


Figure 1: Analytical map illustrating areas without a healthy food outlet.

Initially, the project was to look at only Brown County. However, those involved from Extension provide services in the neighboring counties of Door, Kewaunee, and Manitowoc. For this reason, the name of the map project became NEW Food Access Map, Northeastern Wisconsin (NEW), with the expectation that other neighboring counties would want to participate. Extension staff and partners from these additional counties were willing to review and keep the location and information about the food sources current. A key component is to keep the information on the locations of sources to access food current and accurate. To do this, there needs to be someone willing to verify the accuracy of identified changes that are needed. Changes to the food source location information are collected through a form on the map's landing page and verification by partners.

For the public map of the NEW Food Access Map, a [landing page was created](https://www.browncountywi.gov/departments/extension-brown-county/general-information/new-food-access-map/), <https://www.browncountywi.gov/departments/extension-brown-county/general-information/new-food-access-map/>. This page provides tips and directions on how to use the NEW Food Access Map. It provides a list of other food resources in the area that do not have a geographic location, description of those resources, contact information, and if applicable how to apply to receive the resource. This list includes state assistance programs, federal and tribal nation support services, summer meal programs, and the Brown County Extension Community Resource Handbook. It shows the icons used on the map and provides a definition of the food access resource it represents (Figures 2).

- **Community Gardens:** Community gardens provide garden space and support to area residents to help them grow affordable, nutritious and culturally appropriate food.
- **EBT Stores:** EBT stores accept SNAP-EBT benefits. This includes a variety of stores, including convenience stores, dollar stores, grocery stores, specialty food stores, and other stores that sell food to make at home.
- **Farmers' Markets:** A farmers' market is a public and recurring group of farmers or their representatives selling the food they produce directly to consumers.
- **Food Pantries:** A food pantry is a place where those in need can receive food. Some pantries have criteria or screening processes individuals must meet prior to receiving food from the pantry.
- **Grocery stores:** Stores that sell a full variety of food products, including fresh fruit and vegetables, meat, dairy, grains, canned and boxed foods.
- **Cultural Grocery Stores:** Cultural or ethnic specialty grocery stores selling ingredients, food, and other goods that relate to traditions, culture, and heritage of a community.
- **Meal Programs:** Sites that offer meals at a free or reduced cost to individuals meeting their requirements.

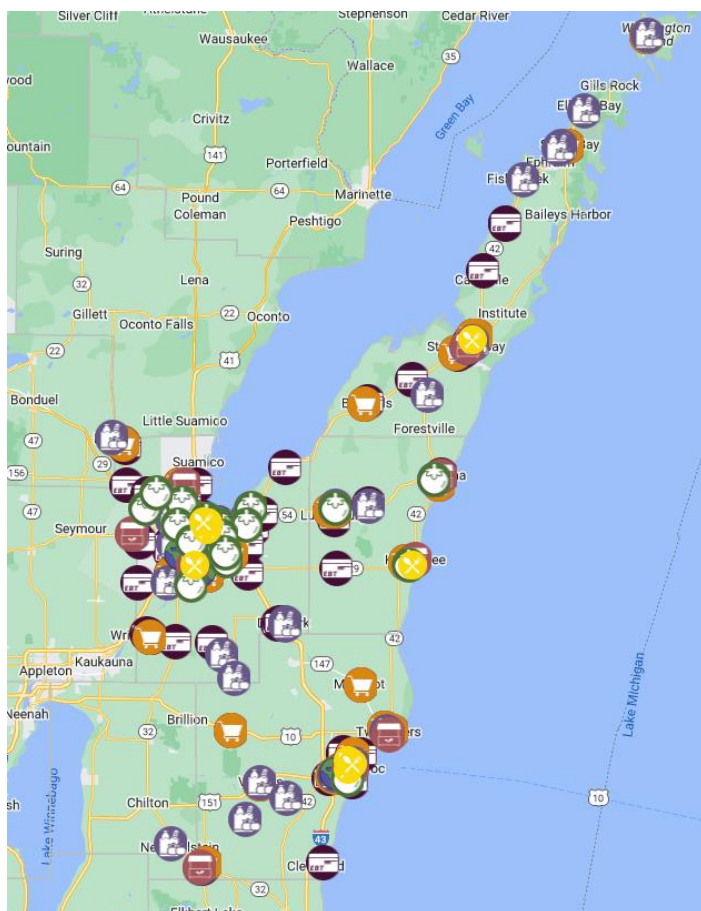


Figure 2: Public map showing all locations to access food.

The public map of the NEW Food Access Map can be opened in Google Maps. The categories for different food access resources can be turned on or off. When a particular food resource is selected, the user can see details about that food access resource. For most food access resources this includes their address, hours of operation, and website. For food pantries and meal programs,

there is eligibility and additional information. For community gardens, it includes garden plot size and rental cost. For farmers' markets, it includes the types of payments that are accepted.

To inform people in Northeast Wisconsin about the NEW Food Access Map, a press conference was held that was attended by local television stations and newspapers. Press releases were sent. Flyers were created and posted at locations in the area where people would likely be looking for food assistance. Presentations were provided to local partners, who posted the information and informed their staff, volunteers, and clients about the NEW Food Access Map.

The public facing map's landing page had 500 visits in its first two weeks, and 1,000 users in the first six months. It continues to be the second most visited site for Extension Brown County with 41,000 views in the first year. The analysis map has been used in Brown and Manitowoc Counties to illustrate areas of the county where there is not easily accessible food sources.

There are a few obstacles that were not possible to overcome due to the nature of how the maps were constructed. Because the map shows the precise location of the food resource, when viewing it as a small-scale of the map the icons overlap. The user must zoom in on an area creating a large-scale map to see all the locations that are close together. This also makes it difficult to print a map that shows all the locations in a municipality or county. However, the map does not need to be used on a large device. It can be viewed on a smart phone and once a destination is selected Google Maps can provide turn by turn directions.

Because the NEW Food Access Map focuses on the consumer preparing food at home, restaurants and the location of the urban, small-scale, and rural farms are not identified unless they sold food to individual consumers at the farm and accepted EBT. Most Consumer Supported Agriculture (CSA) farms sell at the farmers markets in addition to offering their CSA baskets that are distributed through home delivery or at locations already on the map, so CSA farm operations are not specifically identified. In Northeast Wisconsin, there are already internet resources identifying CSA farm operations, including New Leaf Foods Local CSA Programs website and the LocalHarvest website (New Leaf Foods Local CSA Programs, 2025 / LocalHarvest, 2025).

CONCLUSION AND FUTURE OUTLOOK

The NEW Food Access Map was created to show the current location of food access points in the Wisconsin counties of Brown, Door, Kewaunee, and Manitowoc. It is being used by local residents to identify places to obtain food. There is interest in expanding the map to include the counties of Oconto, Marinette, and additional counties, if someone local is willing to verify the accuracy of identified changes.

Other food access resource categories may be added, such as specialty food stores. Currently, specialty food stores, such as bakeries or cheese shops are included in the Cultural Grocery Stores or EBT Stores. The map will be expanded to include the location of the food forests in the county. Food forests are fruit trees and other perennial plants that are planted with the intention that the public can forage for food at those locations.

Information from NEW Food Access Map has assisted in identifying the developing support for the location of new community gardens. Information from the NEW Food Access Map is being used to develop a model to consider the impact of the loss or addition of a local food source. This will help disaster management planning and identifying areas for new local food sources.

To fully understand the local food system, separate projects will be to look at bars and restaurants, local producers, processors and manufacturers, and wholesale warehousing and distribution. Combined with the NEW Food Access Map, this will create a clear understanding of the local food system for Extension, its partners, and others to develop strategies on how to enhance the local food system.

ACKNOWLEDGEMENTS

The NEW Food Access Map was created through the efforts of Brown and Kewaunee Counties Community Development Professor Patrick Nehring, Brown County FoodWise Coordinator Liliana

Ramirez Gonzalez, Brown County FoodWise Healthy Community Coordinator Clarice Martell, Brown County Wisconsin Idea Internship Program Food Access Map Intern Chinna Subbaraya Siddharth Ramavajjala (Sid), and Manitowoc, Kewaunee, and Door Counties FoodWise Nutrition Coordinator Laura Apfelbeck.

Literature cited

The Community Plate (2025) <https://communityplate.org.au/>

Farm Fresh Atlas of Wisconsin (2025) <https://farmfreshatlas.org/>

Friends of Family Farmers Find Local Food (2025) <https://friendsoffamilyfarmers.org/find-local-food/>

Local Harvest (2025) <https://www.localharvest.org/>

MarketMaker (2025) <https://foodmarketmaker.com/>

New Leaf Foods Local CSA Programs (2025) <https://www.newleaffoods.org/csas>

Shannon, J. (2013) Should We Fix Food Deserts?: The Politics and Practice of Mapping Food Access. in *Doing Nutrition Differently: Critical Approaches to Diet and Dietary Intervention*, A. Hayes-Conroy and T. Hayes-Conroy, eds. (Burlington, VT, USA: Ashgate Publishing Limited), p.265-288. Available through *ProQuest Ebook Central*, <https://ebookcentral.proquest.com/lib/wisc/detail.action?docID=1566083>

U.S. Department of Agriculture and U.S. Department of Health and Human Services. Dietary Guidelines for Americans, 2020-2025. 9th Edition. December 2020. Available at <https://www.dietaryguidelines.gov/>

U.S. Department of Agriculture Local Food Directories (2025) <https://www.usdalocalfoodportal.com/>

Wisconsin Local Foods Database (2025) <https://sites.google.com/dpi.wi.gov/wilfd/home>

Wisconsin Local Food Directory (2025) <https://business.wilocalfood.org/directory>