

Understanding the Local Food System and Its Relation to Food Security

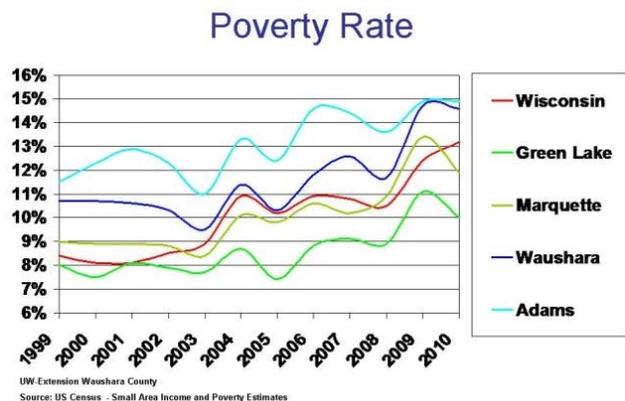
Abstract

University of Wisconsin-Extension faculty worked with a local committee to create a process to accurately study the local food system, to understand how it was used by low income households, to determine ways to address food insecurity issues, and to maintain the local grocery stores. The study process involved the surveys, focus groups, interviews, and fact finding. The study reviewed the local food system from food producer to distribution to consumer, provided options for improving the food system and addressed the issues of food security, which are stable accessibility, availability, and utilization.

Introduction

Waushara County, Wisconsin received a USDA Community Food Projects Planning Grant to study the local food system in order to meet food needs of county residents, especially those of low-income, to increase the self-reliance of communities in providing for their own food needs, and to promote long-term, comprehensive responses to food, farm, and nutrition issues. Waushara Food Connections Committee was formed to direct the study. The steering committee was composed of local organization representatives, county staff, interested residents, and the author from the University of Wisconsin-Extension in Waushara County.

The initial proposal from an outside consultant was to conduct a survey through the schools to find out if poverty and food security were an issue in Waushara County. Statistics from the US Census Bureau and Wisconsin Department of Workforce Development consistently showed that poverty was higher in Waushara County and incomes were lower than the Wisconsin average. According to the Wisconsin Department of Public Instruction and Department of Health Services, participation in public assistance programs was consistently higher than the Wisconsin average. There was existing research that connects poverty and food insecurity. Mark Gibson (2012) in an article in Foods and Christopher Barrett (2010) in an article in Science made the connection that the lower ones income, the more one is food insecure. The cost of food in relation to income affects the accessibility of food. The components of food security identified by Gibson and Barrett are stable access and availability and the ability to utilize the food that is obtained. To further illustrate that food insecurity exists in Waushara County, a focus group study had been conducted in the county just prior to this study and food



insecurity was identified as an issue facing people in poverty in Waushara County. Instead of researching the existence of food insecurity in Waushara County, UW-Extension provided direction, instruction, and guidance to the Waushara Food Connections Committee in the creation of a study more in-line with the intentions of the grant to learn about the local food system and how people are accessing it. The study would address the components of food security: stable access and availability and utilization of the food that is obtained.

Objectives

The goals of the study were to assess the local food system, to identify the food needs of Waushara County residents and assess the strengths, barriers, and opportunities of the local food system in meeting those needs, to identify ways to ensure long-term food security for a growing low-income population, to identify ways to increase the economic viability of hometown grocery stores and farm stands, to assess transportation needs, and to explore connecting locally grown produce to consumers. The study would address the limited local understanding of the role of community grocery stores, the interest in local produce by grocery stores, reasons why vegetables are left in the field, and how low-income individuals help themselves.

Research Process

The study included a focus group study of the low-income and the general populations, a survey of the low-income population, an analysis of travel time to savings on groceries, interviews with the local full service grocery stores, local farmers, and food pantry managers, an analysis of proximity to full service grocery stores, economic and demographic statistics, and lifestyle data.

The Census of Agriculture was reviewed. Interviews with local farmers were conducted in an effort to learn more about their farming operations, in particular how people in the county accessed their produce, what happened to access production, and what would help them remain a strong, viable business. The investigative approach of interviewing select farmers was used to gain an understanding of interests and constraints of local agricultural producers, Patton (1993). Two lists were used to identify local farmers, one from UW-Extension and the other from the Farm Service Agency. Other sources used to identify participants included the listings in the Farm Fresh Atlases for Eastern Wisconsin and Central Wisconsin, focus group participants, the Berlin farmers' market coordinator and farmers that were interviewed. Interviews were conducted with Waushara County farmers that currently market their food products in the directly to local consumers or were interested in marketing directly to local consumers. Once a farmer met the previous criteria, an introduction packet was sent out. This packet included: a cover letter, a list of the interview questions, a form to fill out to be included in a free listing of local food producers, information sheets about community supported agriculture, the Institutional Food Market Coalition, and farmers' markets, and a copy of a press release sent out in August of 2009 introducing Waushara Food Connections to the community. Community supported agriculture was a business model where consumers pre-purchase a share of a farm's production,

Lang (2010). The Institutional Food Market Coalition was a newly formed nonprofit organization in Wisconsin to assist development of direct sales arrangements between farmers and institutions, such as schools and prisons. Farmers' markets were organized markets where multiple farmers come together to sell their produce. The additional information on these three business models was provided, because a member of the steering committee was interested in grants available to establish these business models. Twenty-five interviews were conducted over a six-week period.

Ten focus group sessions were conducted with residents of Waushara County over a seven-month period in an effort to gather qualitative data on household and community food security, Morgan (1996). More specifically, the purpose of the group discussions was to assess how people obtain food and barriers people encountered to obtaining food. This was done to understand how the accessibility and availability of food resources can be improved. Half of the focus group sessions were comprised solely of low-income residents, while the other five groups had residents of mixed-income ranges. Low-income focus group participants were invited by food pantry managers, Senior Meal Site coordinators, church ministers, and Head Start teachers. General population focus group participants were invited to locations through posters at local grocery stores, churches, and banks. The general population focus groups were conducted at generic gathering places, including a senior meal site and church gathering. Focus group sessions were conducted in communities spread throughout the county. One of the focus group sessions was conducted in English and Spanish. Sixty-seven residents of Waushara County participated in the 10 focus group discussions, 10% identified themselves as Hispanic, Latino, or Mexican. Fifty-one (76%) of the focus group participants were women and sixteen (24%) were men. Age ranges spanned from the late 20's to the early eighties. Represented within these groups were participants with young children and older children, single adults, individuals with disabilities, and non-English speaking residents.

The focus group discussions were facilitated by the Waushara Food Connections members. UW-Extension trained the facilitators and developed the questions and format. Each focus group session followed a similar format. Participants were assured of confidentiality and signed consent forms for audio-recording the sessions. Participants responded to a series of questions related to their experiences, needs, and observations accessing food. Notes were taken by the facilitators during the sessions and used in conjunction with the audio-recordings to analyze the data to produce the findings that follow. The results of the focus group study were summarized based on a logical grouping of the responses received.

Interviews were conducted with the owners or managers of the seven full service grocery stores in Waushara County. For this study, a full service grocery store was defined as a retail store that consistently carries a variety of canned and boxed vegetables, fruits, beverages, pasta, meat, frozen foods, fresh meat, fresh produce, bakery products, dairy products, paper products, cleaning products, personal hygiene and healthcare products as well as other products. The local grocery store owners/managers were contacted by telephone and sent a letter which summarized Waushara Food Connections' food assessment project with a request for time to answer a short

questionnaire. A majority of interviews were conducted in-person. One questionnaire was returned through the mail.

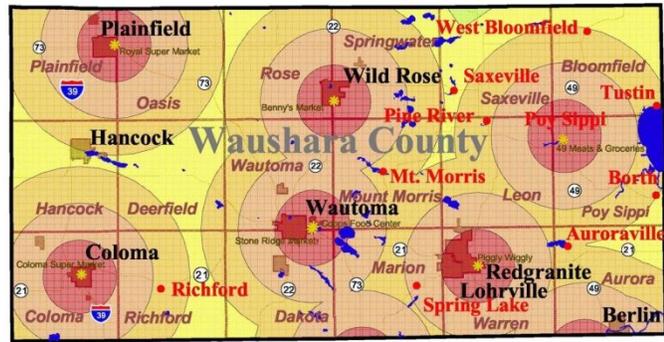
A list of ten food items typically given out by the food pantries each week to families was created from interviews with food pantry managers. The lowest price of these food items, regardless of brand, was collected from thirteen full service grocery stores in Waushara County and the surrounding area. For national and regional chain stores, the assumption was made that prices were the same at every store. This was a snapshot of prices over a two month period and some of the items may have been on sale during that time period. Prices were obtained by visiting the store and writing down the price and product size. In comparing the prices between stores, prices were adjusted for price by ounce to calculate the standard package size. The distance of the shortest round-trip route from each community with a grocery store was determined using Mapquest (www.mapquest.com). The distance used was from the post office to the local grocery store and neighboring grocery stores. The travel cost was calculated using the IRS mileage rate for business miles. This mileage rate was chosen because it includes the following costs: depreciation of the vehicle, vehicle repairs, general maintenance, insurance, license fees, and fuel. This analysis was conducted to see if it is more cost effective to shop at the local grocery store or a grocery store in a neighboring community. In addition, any price gouging would be noticeable.

The low-income residents of Waushara County were surveyed to obtain quantitative data about the accessibility, availability, and utilization of food by county residents, Patton (1993). For this study, low-income residents were identified as those that used food pantries, sought financial assistance from the Waushara County Department of Human Services, enrolled in Fresh Start, Head Start, and other programs provided by CAP Services, and identified by UW-Extension faculty or local clergy through their participation in local programs. With 451 surveys returned, the margin of error was 4.6%. To check if respondents could be classified as low-income, they were asked their household income and the number of people in their household. Only 6% of respondents had incomes over 200% of the Federal Poverty Level.

Interviews were conducted with seven food pantry managers. Additionally, a group discussion took place with four of the food pantry managers. The purpose of these discussions were to identify the current use and needs of the county food pantries, and to determine what assistance they may need to make nutritious food available and accessible to all county residents.

Community Tapestry data about Waushara County was purchased from ESRI Business Information Solutions. ESRI created 65 neighborhoods classifications based on the socioeconomic and demographic characteristics of Census block groups in the United States. These neighborhoods represent distinct markets. Surveys conducted by Mediamark Research Incorporated were combined with the Tapestry lifestyle data to determine the market potential by neighborhood. The market potential is measured using a Market Potential Index. The Index illustrated the potential demand or interest a lifestyle segment has for a product or activity compared to the average household in the United States.

Geographic analysis was conducted as part of the study using Tiger base maps from the US Census and adding local data and locations related to full service grocery stores, food pantries, and farmer's stands. Buffers (concentric circles) were created around the full service grocery stores in the county and neighboring counties to analyze how farm people in Waushara County were from a full service grocery store. There were no farmers' markets in the county.



Distance to a Full Service Grocery Store

University of Wisconsin-Extension Waushara County 2012



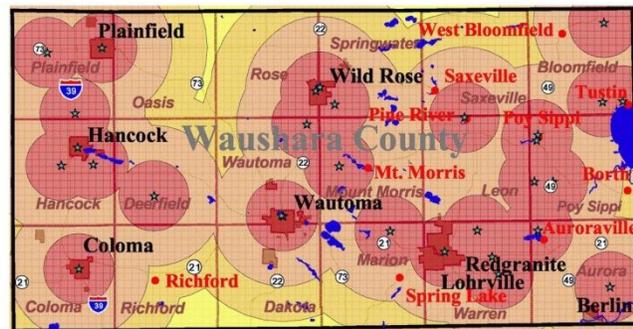
Farmers' markets are locations where multiple farmers gather to sell fresh produce. However, there were dozens of farmer's stands throughout the county. Farmer's stands were separate locations where individual farmers sell fresh produce from a covered table or out the back of a truck. A similar process to the one used to analyze the distance to a full service grocery store was used to analyze how far people in the county are from a farmer's stand. The location of food pantries was mapped along with the territory they serve.

Conclusion

The study dispelled some local myths about the local food system and food security. It confirmed some of the local assumptions. A number of projects have been initiated to enhance the local food system and its accessibility. The information contained in the study has proven useful in applying for grants.

The results of this study were different from many other studies, because the purpose was to discover how the food system within Waushara County operates. This study looked at where consumers in the county obtain their food, the sources of food for those connection points with the consumer, and how agriculture producers in the county get their products into the local and worldwide food system. Other studies, like those reviewed in the United States Department of Agriculture (USDA) in an Economic Research Report, Martinez (2010), looked only at the direct distribution from the producer to consumer rather than understanding the entire system in a location. The study of the food system in Waushara County found the local consumer connected to the local food system in many different ways including at grocery stores, farmer's stands, food pantries, gathering along roadsides, bartering with friends, and at local festivals. Producers connected to the food system through direct sales to grocery stores and at farmer's stands and indirectly when their produce is processed, packaged, and trucked back to the county by way of wholesale distribution to grocery stores. Canned or processed locally grown products near their expiration date at the local grocery stores or over runs at the processing and packaging plants were sent to area food banks and redistributed in the county through local food pantries.

Farmer's stands were found to be more affective at providing residents of Waushara County the opportunity to purchase fresh produce. Most residents of Waushara County are within two miles of a farmer's stand and all are within four miles of a farmer's stand. Every community in the county has a farmer's stand. Only about half of farmers that currently or were interested selling direct to consumers were would consider participating in a farmers' market. Concerns about farmers markets included competition from other farmers, price cutting, lack of profit, lack of time, logistics of keeping the meat frozen, government regulations and the potential locations of farmers' market. The preference in the county for farmer's stands was consistent with the findings within a publication from the USDA, Lohr (2011), which found customers were not willing to travel far to farmers markets, and farmers prefer a location with a large number of customers, even if it means more competition. With the current system of farmer's stands in Waushara County, customers were closer to a farmer's stand than they would be to a farmer's market, and farmers would find more competition at a farmer's market, but not significantly larger number of customers.



Distance to a Waushara County Farmer's Stand

University of Wisconsin-Extension Waushara County 2011



Food pantries were important to low-income households. Forty-four percent (44%) of low-income households received food from food pantries or churches. Fifty-two percent (52%) of senior low-income households received food from food pantries or churches. The food that was given out by the food pantry will be utilized more, if people knew how to prepare and eat the food they received.

As was found in an Iowa study, Morton (2008), rural low-income residents, like those in Waushara County, give and receive food from friends and neighbors. Waushara County residents were more likely to grow vegetables than the average American. Half of low-income households said they would grow vegetables in a community garden.

Waushara County's very limited public transportation was limited to elderly and disabled individuals in the county. The local concern was that transportation was a barrier to obtaining food. However, only 2% of households in poverty indicated that they were often unable to obtain the food they needed because of a lack of transportation. Transportation could be a barrier to employment, but not for accessing food. Public transportation to sources of food would not be used by a majority of low-income households. The primary barrier to obtaining food was not enough finances, 67% of low-income households.

Local grocery stores were proven to be an important to the local food system. Most residents of Waushara County lived within four miles of a full service grocery store. All

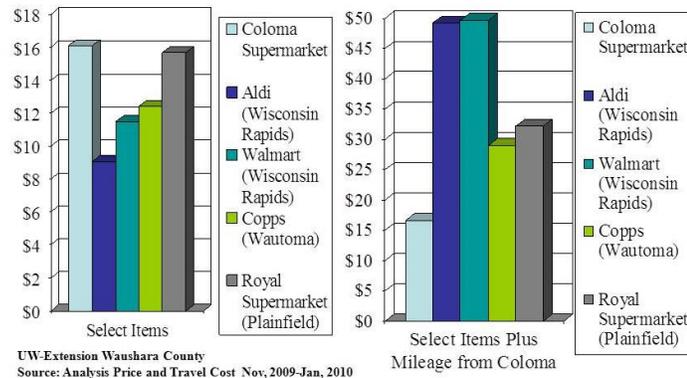
residents of the Waushara County lived within 8 miles of a grocery store. Close proximity to grocery stores would decrease transportation issues for low income households. If one store would be lost, portions of the county would become a food desert. Some residents would need to travel over fifteen miles for groceries.

Shopping locally was found to not cost more than shopping out of the area. Unless someone were to drive out of town for another purpose, or to buy a large amount of groceries at one time, it would be more cost effective to shop locally than it would be to shop out of town for sales and lower prices.

Sixty-eight percent (68%) of low-income households shopped for food at least once a week. They would not be purchasing enough groceries at lower prices to offset the cost of traveling.

A local myth was that local grocery stores are not interested in selling local produce. However, all the full service grocery stores in Waushara County bought some locally produced products and would buy more. The main reservation in buying more local products was concern that local producers may not have the volume and/or quality of products available on a consistent basis to meet the needs of their grocery store. According to the Census of Agriculture, Waushara County was the second largest of Wisconsin counties in the harvesting of vegetables in 2007 and was one of the largest vegetable producing areas within the United States. Many of the farms on the western side of Waushara County grew potatoes and vegetables for large food processing and packaging companies. On the eastern side of the county most of the farms were dairy farms with contracts to sell their milk to area cheese producers. The processed and packaged vegetables and cheese was return to the county through the wholesale distributors used by the grocery stores in the county. The vegetables and cheese from Waushara County was packaged and processed under hundreds of different labels, so it would not always be possible to identify local products at the grocery stores.

The study explained why produce was left in the field. On occasion produce would be left in the field and plowed under to be fertilizer for the next crop. One of the reasons this took place was because the seed is owned by the company that will process or package the vegetable and there is too much produce to process. Under the terms of the contract to grow the vegetable, the farmer would not be able distribute the produce to anyone but the processing or packaging company. Another reason was limited amount of manpower and time to bring in the ripe produce at its prime harvest time. The produce left in the field could be spoiled or damaged. Farmers were concerned about liability and reputation associated with harvesting an inferior product or allowing others to access to their property to glean produce that may have been missed.



A local myth was that part of the reason finances were a barrier to low-income individuals obtaining food was because they do not know how to stretch their food dollars. However, 99% of low-income households used at least one common method to stretch their food dollars. An article from the USDA Economic Research Service, Leibtag (2003), found the low-income households use various methods to stretch their food dollars.

<i>In the last 12 months, what are some of the ways that your household “stretched” food dollars?</i>	
Used coupons	65%
Looked for sales and bought items on sale	84%
Went to several different stores to purchase food at better prices	43%
Made a big shopping trip rather than several small ones	46%
Bought food in bulk	31%
Bought food and prepared it at home rather than buying ready-made foods	63%
Grow vegetables or fruits in a garden	46%
Hunt of fish for food	36%
Not applicable: Did not stretch food dollars	1%

Source: Survey of low-income households in Waushara County

Results

Projects have been initiated to enhance the local food system and address food insecurity as a result of this study. The projects impacted the availability of local produce, expanded the capacity of the food pantries, and provided assistance to the local grocery stores. The study prevented costly projects to address food accessibility that would have been ineffective. In particular, a publicly subsidized van or bus system was not created to take residents to grocery stores outside of the county. As a result of the study, community gardens were created and others are planned. The capacity of food pantries was expanded. Grants were received to increase storage capacity at some food pantries and to stock the food pantries. A list of food pantries was been created and widely distributed. Meetings between food pantry managers were initiated to encourage discussion of best practices in operating a food pantry. Food collection drives increased. The results of the study were provided to the local grocery stores. Additional market information will be provided to the grocery store owners and managers along with market

and operation training provided by UW-Extension's Small Business Development Center staff.

Understanding the local food system and its relation to food security was an important step to understanding and addressing the issue of food security. This study provided an accurate picture of the food system in Waushara County from food producer to distribution to consumer. As a result, local myths were dispelled, assumptions were confirmed and options were developed to improve the food system and making food sources more accessible, available, and able to be utilized.

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