

**Increasing food security in highly populated, low-income neighborhoods with development of more
Madison Community Gardens**
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Abstract

Community gardens in Madison have contributed to food security for low-income neighborhoods. There are many community gardens with waiting lists, which suggest a need for increased community garden space. Our project is aimed at identifying potential sites for additional community garden space in Madison. Using information from the report of the Dane County Local Food Policy Advisory Subcommittee, interviews with members of that Subcommittee and the Registrar for the Community Action Coalition for Community Gardens, and U.S. Census Bureau maps, we developed a checklist of criteria for potential garden areas and identified two specific possible sites. We took soil samples from these two sites and analyzed soil type using a *Key to Soil Texture By Feel* test. The results from the two potential garden areas showed that Vilas Park had the best soil and met the criteria to establish a community garden. We make recommendations for possible next steps in expanding community garden sites in Madison.

Introduction

Food security is an issue for many low-income households, and because of this, community gardens are an asset to the Madison community. Families with incomes that fall below the federal poverty guidelines are at risk of not being able to provide enough food for their families. To supplement purchasing food for their families many people turn to food pantries or other sources of food donations. By having this food security, they do not have to worry about not having enough to eat each month. Currently, twenty-five percent of the gardens in the Madison Community have waiting lists (Adams 6). There is an apparent need for more development. Our goal is to help increase food security in low-income areas by developing new community gardens.

According to the Department of Urban and Regional Planning at the University of Wisconsin-Madison, the fourteen community gardens supported by the Community Action Coalition within the City of Madison generate 250,000 pounds of produce each year. The gardens enable people to supplement their food supply by growing it themselves in an area reserved for that specific purpose. A significant amount of community members find this beneficial, because it encourages community interaction and promotes good nutrition. These gardens also offer the opportunity to strengthen community spirit, as well as, friendships among neighbors. Unfortunately, within all of the community gardens, 1,000 families must share 735 garden plots to grow their produce, and almost fifty percent of these families have household incomes of less than \$18,775 a year (Adams 6).

By looking at the research that has been done on community gardens by the Dane County Local Food Policy Advisory Subcommittee and Community Action Coalition for Community Gardens in Madison, we put together criteria that would help establish new successful gardens. Previous research has found that families use community gardens that are located in a safe and accessible area (Mathers, 2006). Our goal is for lower-income neighborhoods to benefit from the development of more Madison community gardens. In order for neighborhoods to benefit, there needs to be an increase in the amount of community gardens available and accessible to these neighborhoods.

Materials and Methods

To begin our research, we began collecting information from the Dane County Local Food Policy Advisory Subcommittee website, <http://www.co.dane.wi.us/committees/foodpolicy/default.asp>. Information was taken from "Recipe for Success: Recommendations of the Dane County Local Food Policy Advisory Subcommittee" report of July 29, 2005 and "Is the Time Ripe? Ideas for Strengthening Madison's Food System" final report of February 2005. From these reports, it was found that little research has been done on the impact of community gardens in Madison. However, this previous research has shown that renters and low-income households utilize community gardens. It was also found that the amount of community gardens available are not enough to supply the need of people interested in owning a plot.

In order to locate the low-income households and renters in the Madison area, we utilized maps from the US Census Bureau website, <http://factfinder.gov/home/en/datanotes/expsflu.htm>. These maps included areas that show the percentage of families below the poverty level in 1999, total housing units, persons per square mile, percentage of occupied housing units that are renter-occupied, and per capita income in 1999. A map locating all of the existing Madison community gardens was also retrieved from the Madison Community Gardens website, <http://www.cacscw.org/gardens/>.

The Madison community gardens map was then used as a reference to locate and draw the location of the gardens onto the “per capita income” map and the “percent of families below the poverty level” map that were taken from the Census Bureau. The maps were compared to find where potential gardens were needed, including neighborhoods that had higher populations and were also lower-income. The maps were placed on transparencies, which were then overlapped, to easily see the comparisons between low-income and high-populated areas.

Two personal contacts were used to gather information and data on community gardens in the Madison area. An e-mail was also sent to Ruth Simpson, a member of the Dane County Local Food Policy Advisory Subcommittee, asking questions regarding any previous research done on Madison community gardens. A phone interview was also conducted with Joe Mathers, a registrar for the Community Action Coalition for Community Gardens in Madison. The questions in the interview were focused on the criteria needed to start a community garden, as well as, the benefits of preexisting gardens.

The information gathered was used to create a checklist of criteria for potential garden areas as seen in *Figure 1*. Neighborhoods with high populations of low-income households that also lacked community gardens were surveyed for areas that could be potentially used for future gardens. Suitable areas for potential gardens included those that fulfilled all requirements on the checklist. If all requirements were fulfilled, soil samples from the site were taken and placed into small Ziploc bags and labeled with the date, location, and depth from which the soil was taken. The soil samples taken from the potential sites were brought into the lab, and the soil type was determined using the *Key to Soil Texture by feel Test*.

Results

Two locations were determined to be suitable for potential gardens using the *Criteria for Potential Garden Areas* checklist (Figure 1). This included an area in Vilas Park on the corner of Edgewood Drive and Edgewood Avenue (Figure 2), and an area in Brittingham Park near West Main Street and South Brittingham Place (Figure 3). These areas fulfilled all the requirements set forth on the checklist (Table 1).

Soil samples were taken and tested from each potential site using a soil probe. Using the *Key to Soil Texture By Feel* test, it was determined that the texture of the soil from Vilas Park was loam or silt loam, the texture of the soil from Brittingham Park was silty clay loam, and the soil texture from Wingra Creek Road was silt loam (Table 2).

Figure 1:

Criteria for Potential Gardens:

Plot size:

-approximately 20' x20' (or 400 sq. ft)

Accessibility:

-Is it close to the neighborhood?

Safety:

-Is it safe? Are the streets/area well lit?

-Is there a safe walking path?

-What kind of neighborhood is it?

Environment:

-Is there adequate sunlight? (approximately 8 hours a day during growing season)

-Is there a water source nearby?

-What kind of soil is there?

-What is the prior history of the land/soil? Construction?

Location:

-Can it be seen?

-Is it located near train tracks? Sidewalks?

Table 1: Criteria for Potential Garden Areas (Data collected between 02/07/06 – 02/09/06)

	~20-30 plots (~ 20'x20')	Accessibility:	Safety:	Location:	Water Source:
Vilas Park:	-park -lots of open space available	-near the Vilas neighborhood -near Edgewood College -parking available, roads, sidewalks	-well lit -slightly wooded	-Edgewood Dr. & Edgewood Ave.	Lake Wingra
Brittingham Park:	-park -lots of open space available	-directly across the street from neighborhoods -on the Brittingham Bike Path -street parking, sidewalks, roads	-could use more lighting	-W. Main St. & S. Brittingham Pl.	Lake Monona

Table 2: Soil Sample Testing Results

Location:	Date of Sample:	Depth of Soil Sample:	Soil Texture:
Vilas Park:	02/07/06	~2 inches	loam or silt loam
Brittingham Park:	02/07/06	~2 inches	silty clay loam

Discussion

The most populated low-income neighborhoods in Madison were examined to find out if they would benefit from the development of more community gardens. After researching areas that did not have accessible community gardens, it was found that there were some areas that fit the *criteria for potential community gardens*. This could lead to the development of these areas and could serve the needs of more people.

From the two sites that were surveyed and tested, it was found that the Vilas Park area had a soil type, loam or silt loam, that is beneficial for plant growth. The site is accessible with sidewalks, roads, parking space, and bike paths to the Vilas neighborhood, as well as, Edgewood College students. It is well lit in the evenings with street lights and a suitable water source, Lake Wingra, is located adjacent to the park. There is possibility for a community garden with a perimeter of 540 feet and an area of 15,767 square feet to be constructed in the Vilas Park area (Figure 2).

The soil tested at the Brittingham Park location was found to be a silty clay loam. Soils that are most favorable for growth include those that are proportionately balanced in sand and clay, including a silt-loam or loam. Potential areas whose soil contains too much sand or clay will have to be treated with a layer of compost before gardening can begin. While the silty clay loam is less ideal for plant growth, it is possible to augment the soil with layers of compost in order to make conditions more favorable for growth. Like the Vilas Park site, Brittingham Park is also accessible by roads, sidewalks, and bike paths to those living in the Brittingham neighborhood, as well as, the apartment complexes located across the directly across the street and around the West Washington area. Because only a few street lights are present, extra lighting may be necessary to provide a safe environment for gardeners in evening hours. Lake Monona Bay is located adjacent to Brittingham Park and would serve as a suitable water source. There is possibility for a community garden with a perimeter of 540 feet and an area of 15,767 square feet to be constructed in the Brittingham Park area (Figure 3).

Because both potential garden sites are city park areas that are normally used for recreation, a conflict of usage is possible. However, this may be remedied by placing the location of a potential garden away from the main park area and keeping the size of the garden to a minimum. The garden locations and sizes shown on Figures 2, 3 and 4 were chosen to maximize the benefit for both recreational park patrons and potential gardeners.

We made speculations about the benefits that would be provided from the community gardens to the neighborhoods located near and around them. We assumed that most people in these areas would utilize the gardens if they were located at the two potential sites. These assumptions were based on the income of the population in the potential areas compared to the income of the population located near currently existing gardens, as well as, the usage of these existing gardens.

Possible sources of error in this research include a misinterpretation of the definition of households that was not taken into consideration. In areas where low-income households existed, as indicated on the U.S. Census Bureau maps, the student population versus a traditional family unit was not taken into account.

These areas have high student populations, which would account for the 'low-income neighborhood' label given by the Census Bureau. This would affect the criteria used to locate potential gardens in the research and the results for possible locations of future gardens. It is possible that there is a difference in the use of community gardens by a family household compared to a student household.

Recommendations for future studies include an interest survey for the population in the neighborhoods containing potential community gardens. Potential questions on the survey would include inquiries about interest in the creation of a garden in the specific location and interest in owning a garden plot. It would be beneficial to find out if and how many people would be interested and utilize the gardens that may be created there. If interest and need are adequate, the City Parks Commission would be contacted to discuss usage of city park land. The soils at each location would have to undergo further soil testing, and the Brittingham Park area would have to be treated with a layer of compost before gardening could begin. The sites could then be measured and divided into equal plots, depending on the number of people who show interest in starting a garden.

Because food security is an issue for many low-income households, neighborhoods located around community gardens benefit greatly. Our results show that the two potential sites would be suitable for community gardens which would benefit the surrounding neighborhoods and increase food security to those households in the area by supplementing their food sources.

Bibliography

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Figure 2: Aerial view of Vilas Park, showing possible site for a community garden



Figure 3: Aerial view of Brittingham Park, showing a possible site for a community garden



Figure 4: Aerial view, a portion of Madison, highlighting potential community garden sites at Vilas Park and Brittingham Park

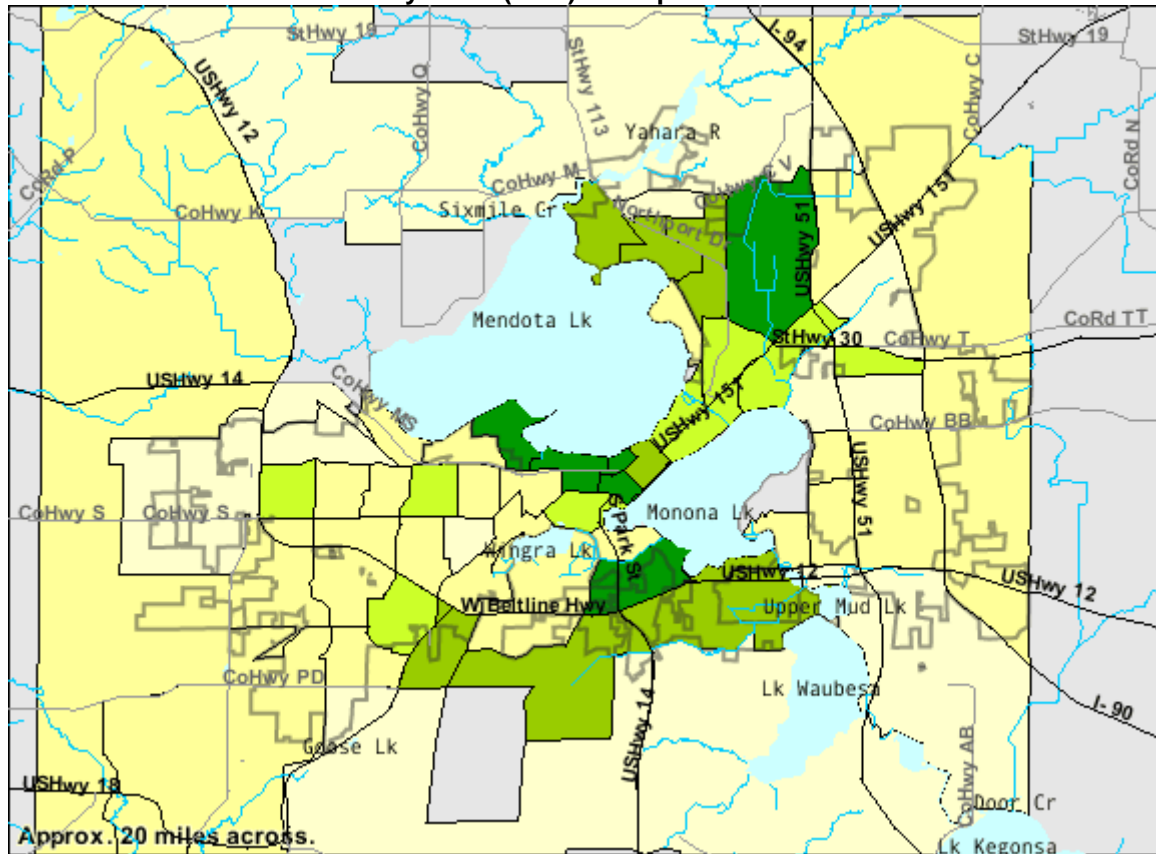
Appendix A

Madison city, Wisconsin by Census Tract

TM-P069. Percent of Families Below the Poverty Level in 1999: 2000

Universe: Families

Data Set: Census 2000 Summary File 3 (SF 3) - Sample Data



Data Classes

Percent

0.0 - 1.4
1.7 - 3.8
4.7 - 10.0
11.0 - 18.1
24.1 - 43.9

Features

- Major Road
- Street
- Stream/Waterbody
- Stream/Waterbody

Appendix B

Questions presented to Joe Mathers - CAC Community Gardens during a phone interview on February 1, 2006

What are the purposes of community gardens?

Why are they important?

How do they serve the community?

What makes a community garden successful?

Who uses the community gardens?

How do gardens benefit them?

Who makes all the decisions regarding a particular community garden?

What are the requirements for creating a community garden?

What are the dimensions for a typical garden?

What is the typical layout of a garden?

What are the basic needs a garden requires?

What criteria are looked for when viewing a site for a potential garden?

What types of locations are optimal?

What environmental factors are important?

Are there are gardens currently at risk of being eliminated?

Are there any common factors that cause a garden to be at risk of elimination?

How is the community helping to keep their community gardens?

Appendix C

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.