

Feasibility Study for a Commercial Kitchen in Boscawen, NH

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Abstract

The Boscawen Agricultural Commission wants to preserve small farms in New Hampshire, and they believe that without help these types of farms will continue to disappear until they do not exist within the state. This study explores the possibilities of implementing a commercial kitchen in Boscawen, NH in of farmer attitude and geographical characteristics within the central New Hampshire area. A commercial kitchen will give more opportunity to small farmers in terms of creating new or more products, allowing them to sell goods through out the year, and increasing the amount of outsource locations where farmers goods are able to be bought or sold. The information in this study was gathered through a 16-question interview and Geographical Information System analysis (GIS) of central New Hampshire population and food sheds. This information has the opportunity to benefit the Commission in obtaining a significant grant from the Food and Drug Administration to create a more in depth feasibility study within the state, so a commercial kitchen can be built and used in Boscawen, New Hampshire in the future.

Context

New Hampshire is currently ranked third in the U.S. in terms of accessibility to local food (Best 2014). Local food is produced by local farmers, however being a small farmer in this state is becoming extremely difficult due to competition with

commercial farms, government and health department regulations, and a decrease in outsource locations where farmers have the ability to sell their goods. Currently in our society, few people can walk outside their house and hear hens clucking or harvest fresh succulent lettuce from the garden (Toews 2014). Small farmers were once prevalent but they are rapidly disappearing in New Hampshire. The condition of New Hampshire farming can be improved by allowing farmers to produce value added goods. These are products that have been altered after harvest in order to increase its value. For example, farmer's tomatoes can be crushed, turned into pasta sauce, and then canned therefore it can be sold. These value added goods can be created in a commercial kitchen, a facility where food preparation occurs with the intention of selling it to the general public. With the implementation of a commercial kitchen we can improve the quality of New Hampshire's food system, and increase farmer production, therefore increasing farmer income.

This project began through communication with Leon Malan and the Boscawen Agricultural Commission at the Farm and Forest Expo in Manchester, NH on February 6th, 2014. The commission had previously read Colby-Sawyer's 2012 Community Based Research Project, focused on the food system in the Kearsarge area, defined as a 12-mile radius from Mount Kearsarge, incorporating 15 different towns. These students made recommendations to improve the local food system, and one major recommendation was to seek the creation of a commercial kitchen. The Boscawen Agricultural Commission is an advocate for agriculture in central New Hampshire, and their current goal is to implement a commercial kitchen within Boscawen, NH.

Literature Review

New Hampshire has always been a state where small family owned farms have been present. In the late 1800's the state of New Hampshire emerged as a major manufacturer for many different products, and the state's farms were being ousted due to farms in the Midwest (Wallace 2014). However, in recent years we are seeing a resurgence of small farmers not only within the state of New Hampshire, but also throughout the United States. This is important not only to preserve the vast history of farms in this country, but also because they provide the U.S. people with access to healthy foods.

For more than a century mainstream economists from both socialists and capitalists parties have confidently and enthusiastically predicted the demise of the small, family farms, stating that they are backwards and unproductive. However, in recent studies, information has shown that in comparison to size, small farms are actually more productive, efficient, and contribute more to economic development compared to large farms (Rosset 1999).

Government regulations often benefit the larger farmer rather than the small family owned farm. Farms receive money from the government when they put land aside, however most small farms have to use all their viable land. Also, small farms are typically more environmentally friendly compared to industrial farms. Other challenging factors for small farms include uncontrollable weather patterns, access to land, affordable health care, competition with larger farms, financial issues,

distribution, and disease to crops (Martinez 20120). These problems are prevalent, and without significant backing from the government, efforts must be made by the public to help these farmers.

The public needs to help these farmers not only because they depend on us, but they truly help our society, they are a multi-purpose industry. Many rural towns depend on the business of small farmers. To rural areas these farms bring greater economic efficiency, produce more employment opportunities, and improve food security. Through different studies the relationship between size and productivity has certainly leaned towards small farms rather than large farms, therefore associating small farms with efficiency advantages. These people need our help; there are over 500 million people who farm on less than two hectares of land. Within the United States, there has been a 4% increase in the amount of farms within the past 5 years (Hazell 2011).

This is not an impossible task: the United States Department of Agriculture has compiled success stories of small farmers, and with hard work and help from others we can improve the longevity of small family farms within this country, and more specifically New Hampshire. There are stories of people who have lost everything due to government policy and diseases, and weather events but people have rebuilt and with the support of communities have been able to recover and prosper. There are many examples, but the possibilities are there, and in order to improve our entire food system, we need to preserve small farms (Office of Small Farms Coordination).

During the 2011-2012 academic school year, the Community Based Research Project at Colby-Sawyer College did outreach and analysis to understand the local food system within the Kearsarge Area, located in central New Hampshire. Their goal was to identify the strategies and problems that have been implemented, and also to make suggestions that may be useful to small farmers within the area. Regarding the information that they collected, they noticed many farmers in the area mentioned that a food hub, or commercial kitchen would be a huge improvement to the food system. This is a place where farmers could process, store, and even package their products within an area properly sanctioned by the USDA, FDA, and state regulations. It would bring the possibility of creating more variety within each farm, and also allow farmers to sell more of their goods throughout the year if an acceptable storage unit was available (KVLFS 2012).

For small farms this is something that can really improve revenue for a farmer, and benefit them in numerous aspects of their farming operation. The closest commercial kitchen to central New Hampshire is located in Keene, about an hour commute each way depending where you are located (Risley 2011).

The goal of my project is to partner with the Boscawen Agricultural Commission to help them gather data for a grant that may let the creation of a commercial kitchen within this area be possible. From my interviewing process I will develop a general understanding of the need and desire for such a facility. Geographical Information System analysis (GIS) will also be used to examine the surrounding geographic area of New Hampshire to understand if the population and market warrant a kitchen. Implementing a commercial kitchen would revive the

area and create opportunities for each individual small farm. This will not be an easy task-commercial kitchens have failed due to leadership and financial difficulties in New Hampshire in the past, but this group may learn from the past mistakes and successfully implement a commercial kitchen in this area to increase the success and prosperity of our small farmers.

Methodology

Members of the Boscawen Agricultural Commission, Leon Malan (Past board member of NOFA-NH), and myself gathered and created a list of 12 farmers within the area who we thought as a collective group may benefit from a commercial kitchen in the future. The same group of people also compiled a set of 16 interview questions, which we believed would yield important information in terms of support, finances, and actual use of the proposed goal of creating a commercial kitchen. After these basic steps were completed I created a protocol to use to contact these 12 farmers. First, I called each individually, and if I was unable to contact them my phone I then emailed them. This was a tough process because I had just under a three-week time frame where the commission wanted my first set of compiled interviews. I was initially able to make contact with 9 willing participants. Through these interviews I learned of two other farmers who were also willing to participate in interviews, totaling in 11 individual interviews with farmers around the central New Hampshire area. These interviews were conducted

on February 25th- March 10th 2014 ranging from 30-90 minutes long. (The protocol and interview questions can be seen in the appendix)

Geographical Information System analysis was used to understand whether this would be a sufficient location to have a commercial kitchen in terms of the population. The two GIS maps displayed in the next section used a tool called network analyst. This is a tool within ArcMap that represents distance to locations in driving time rather than distance. In order to do this analysis we needed a layer that has the speed limits of roads within New Hampshire, however this layer does not exist, therefore assumptions had to be made. Classification of different types of roads therefore had to be created. For example interstate highways were classified as 65mph, major state routes were classified as 55 and 50 mph, town roads were labeled as 30 mph, and private roads were classified as 20 mph. We assigned a 45-minute drive is the maximum distance any farmer would travel to a commercial kitchen or a person would drive to a farmers market. The network analyst tool solved the drive time question based on the road classification and the start/end parameters specified. These maps will be discussed in further detail below.

Results & Analysis

This section will analyze the responses of each question within my 11 interviews and will be followed by GIS maps that were created in ArcMap.

1. *Would you be in favor of a commercial kitchen in Boscawen?*

(Fig. 1)

Farmers in favor of a commercial kitchen # Farmers who believed they would use it

11 of 11

10 of 11

Each farmer that I interviewed was in favor of a commercial kitchen in Boscawen, NH. 10 out of 11 farmers stated they would use it in the future. One farmer was in his early stages of being a farmer, and he believed it would take him years in order to be ready to incorporate value added goods within his production. Beginning farmers may not have the resources or interest in adding factors into their farming processes, this still may be an option for when young farms mature.

2. How could a commercial kitchen help you? What processing needs do you have for your farming operation?

(Fig. 2)

Ways a commercial kitchen can help farmers	# Farmers
Sell more during winter months	4
Add valued products to farm system	3

Increase amount of value added good production	3
Gain more space/create more product	1

There are various ways that a commercial kitchen can help local farmers. This type of equipment will allow for the creation of value added products (jams, jellies, marmalades, etc.). This would increase the amount of products farmers are able to sell at markets throughout the year. 4 of the 11 farmers stated that this would increase their income in the winter months because they will be able to produce more and have the potential to freeze and store it during the winter. Food will be available to the public during the winter months that is typically not available. One farmer product is hindered by the amount of space she has in her home kitchen, therefore she desires more space. Farmers typically grow an assortment of goods, this will allow them to combine these products and therefore create something costing more. 3 of the farmers I talked to are currently not involved in value added products, however they are interested in adding this avenue to their organization because of a commercial kitchen. 3 of the farmers who already create value added products also believe that their production will exponentially grow because of this facility.

3. *Could you give some indications of the volumes and types of produce for processing?*

Volumes were hard to come by when interviewing most of the farmers. Many of these people would be adding to their production volume, or did not have those figures with them at the time. 5 of 11 farmers gave me some indication of how much they produce. One other farmer did not know the exact number but stated his total profit from last year was over 100,000 dollars. This information was not available for every farmer and is not relevant to the study. Further research has to be done in order to quantify the amount of goods that farmers will make at the kitchen.

4. *What times in the season would you require a commercial kitchen?*
5. *How many hours per day do you think you may need the facility?*
6. *Are there any preferred times of the day that would be more suitable? (morning, afternoon, evenings)*

(Fig. 3)

	# Farmers
Time of year facility would be used most	
May-November	6
Year round	5

(Fig. 4)

Time of day	# Farmers
Evenings	5
All Hours	3
Times vary	3

(Fig. 5)

Hours/week facility would be used	# Farmers
Not available	4
25+ hrs.	3
16 hrs.	2
24 hrs.	2
10 hrs.	1

7 of the 11 farmers were able to tell me how many hours a week they believed they would be interested in using the kitchen for. 4 farmers were unable to give what they believed would be an accurate prediction. Times at which farmers believed

they would use the kitchen varied, if this pattern continues, then scheduling conflicts would not arise. Evenings seemed to be the most available time for farmers that I interviewed because of all the farm duties they have to tend to during the day. 3 of the farmers said they would use the kitchen late at night into the early morning hours if available. Some farmers were unable to give estimates for these questions because they have no frame of reference; there is no facility in the area like this.

7. *Would you require any specific equipment? (for example: flash freezer, steam kettles, oven, stove top, bottle fillers etc.)*

(Fig. 6)

Kitchen Equipment Desired	# Farmers
Flash Freezer	11
3 Bay Sink	10
Food Processor	7
Canning Equipment	7
Stove Tops	7
Jar Processor	4
Convection Ovens	2
Pressure Cookers	2
Double Stack Oven	1

Blenders	1
Steam Kettles	1

This chart describes the most common pieces of equipment that are desired from the participants. A flash freezer was the most common desire piece of equipment and this would allow farmers to save foods produced in the warmer months and sell them during the colder times of the year.

8. Would you require storage facility at the commercial kitchen?

(Fig. 7)

Storage Facility Desired	# Of Farmers
Yes	7
No	4

Storage facilities are something that is prevalent in most commercial kitchens. However I got such a strong sense of desire from many of these farmers for the kitchen, that many of them said it would really benefit them, but this would not be something they would need in order for the kitchen to be operational. 4 of the 11 farmers stated they would not need storage space because they have no trouble transporting their goods to and from the kitchen. 2 of the 4 farmers stated they could possibly use it during the winter months.

9. *What (if any) processing facilities do you have on your farm at the moment?*

(Fig. 8)

Types of Processing Equipment on Property	# Of Farmers
Household Kitchen	11
3 bay sink	4
Wash and prep area	4
Stainless steel countertops	1
Commercial freezer	1

Each farmer that I interviewed had access to a household kitchen on their property, however not all used it for their farming operations. Other farmers had some equipment such as commercial freezers, 3 bay sinks, stainless steel counter tops, and a wash and prep area located on their property.

10. *Do you have any prior experience with a community commercial kitchen?*

(Fig. 9)

Experience With Commercial Kitchen	# Of Farmers
Yes	7

No

4

Some of these farmers had past work experience that put them in this type of location. Also some farmers have used commercial kitchens such as Keene and Chester. However, the problems with these locations were transportation distance and cost. This may be beneficial in the future however to have farmers already familiar with some of the equipment they need to use.

11. Are you prepared to pay for the time that you use the commercial kitchen?

- How much per hour would you be prepared to pay? (as a reference point, the Keene facility charges per hour according to the product produced, production costs, and space requirements, and goes up to \$38/hour.)

(Fig. 10)

How much farmers willing to pay	# Farmers
\$30-40	4
Not sure	3
\$10-20	2
\$0-10	2

The reoccurring figure for how much farmers are willing to pay is \$30-240 an hour, which may or may not be feasible for this facility. Factors that farmers talked about

are transportation costs, and time away from the farm. Keene can charge up to \$38 an hour but usually hovers around \$28 an hour. Vermont Food Venture Center rates are also between \$28-35 an hour. Mad River Food Hub charges per day at \$150 for an 8-hour shift where a maximum of three people are allowed to be present. I believe another study with more farmers must be done for more accurate information on this study.

12. Would the use of a commercial kitchen to process your produce be an important part of increasing your farming revenue?

Ten out of eleven farmers that were interviewed stated that a commercial kitchen has the potential to increase their farming revenue. This is because they will have the ability to create more products, bypass licensing issues, and have a broader selection of consumers to sell to. One farm produces about 800 canned goods each year; they stated that if this kitchen was available, they believe that 800 could change into 8000. Others have expressed interest in this kitchen because customers have expressed the desire for certain products. One farmer I interviewed makes pestos and chutneys, and sells them extremely quickly in markets, but does not have the resources to increase the production of these products. This outlet will allow people to increase output exponentially.

13. Will it create more jobs?

Most farmers were not sure if this facility would create more jobs. Some said they would need extra help when they are away from the farm, and some also believed this might encourage younger generations to get into the farming industry.

14. How do you market your produce at the moment?

(explore farmers markets, wholesale, CSA, farmstand etc.)

Farmers sold their goods through CSA's, farmers markets, direct sales, and farm stands during the warmer months.

15. Do you have suggestions for improving the marketing and distribution of your product?

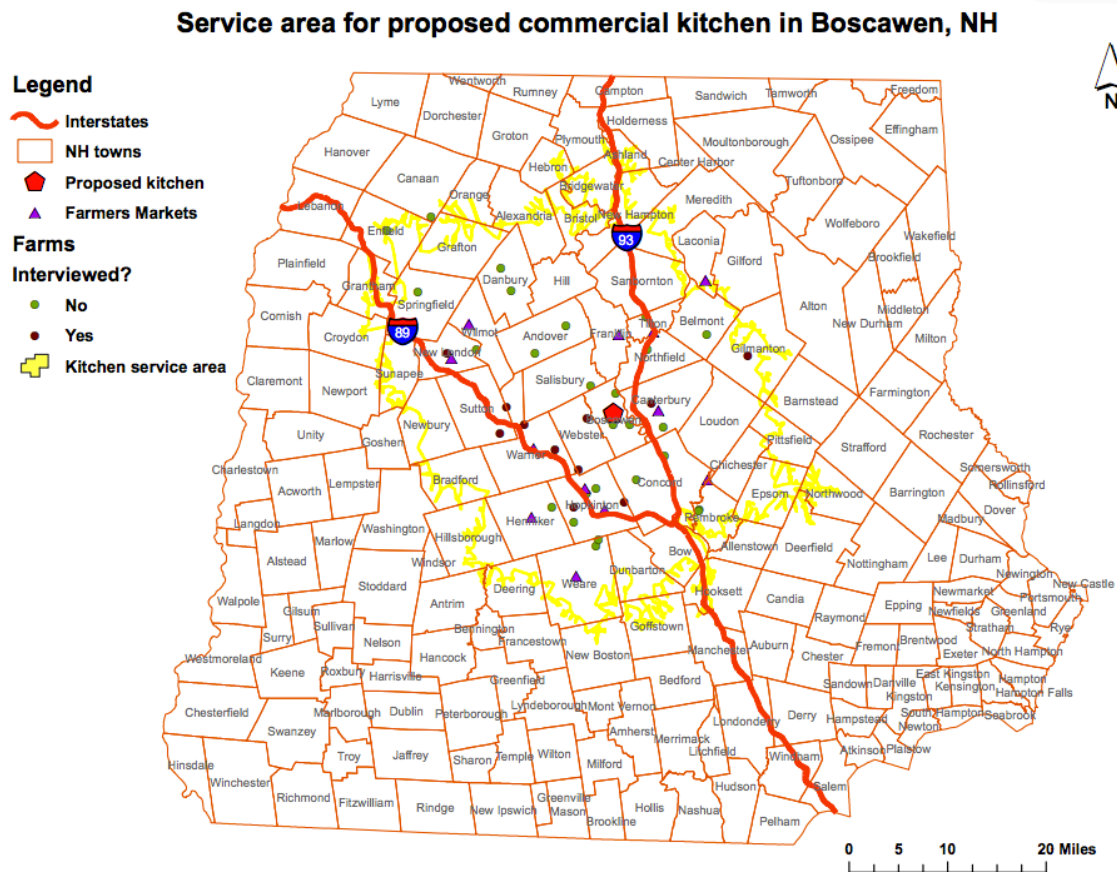
Many farmers believed this would give them great opportunities to expand their production, and therefore increase their yearly income. An interesting topic that many farmers stated might arise because of this facility, was group sharing and buying. Group buying may be possible in terms of farm equipment and value added good supplies such as bottles, cans, or labels. This will be a place that has the potential to connect farmers with others, in a non-pressure environment, compared to a market where you are in a competitive environment trying to sell their goods.

16. Do you have any other comments or suggestions regarding the establishment of a commercial kitchen?

Farmers talked about two potential improvements to the food system: a food distribution center and an equipment rental facility. One farmer stated that he would be driving to a location to deliver his goods, and see four other farmers going to the same place. A company that picks up products from farms, or a potential kitchen and brings them around the state would save small farmers valuable time that they could spend working on their farms. Also, an equipment rental would greatly benefit some farmers in NH, especially beginning farmers. Many farmers are not in a financial situation where they can purchase a piece of equipment that they need for two weeks out of the year.

(GIS analysis below)

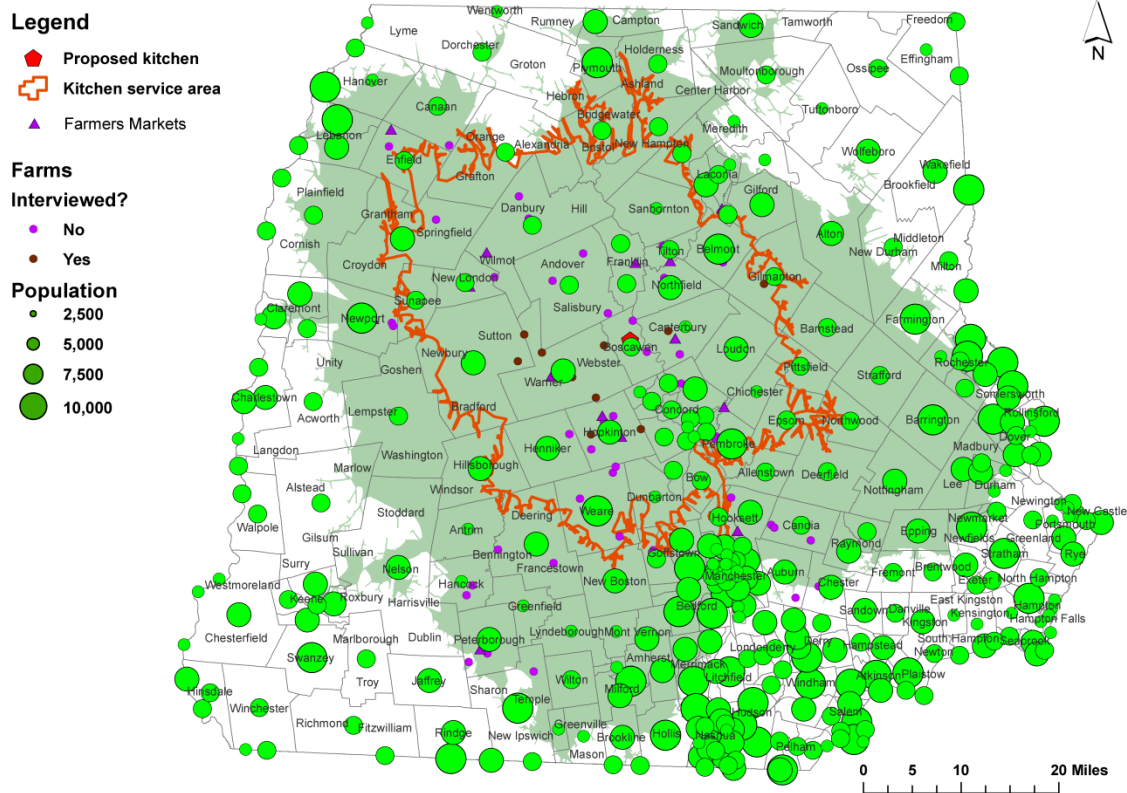
GIS Analysis



(Fig. 11)

GIS analysis illustrates the impact of the proposed commercial kitchen. In this map 37 of the farmers indentified by the Boscawen Agricultural Commission are located within a forty-five minute drive from the kitchen site, as well as eleven farmers markets.

Population served by farmers markets within the kitchen service area



(Fig. 12)

This map shows the number of people who live within a forty-five minute drive of the farmer's markets that are located within the kitchen service area. The green area represents an excess of 33% of New Hampshire's population that will have access to these farmers markets.

Conclusions and Recommendations

Among the farmers I interviewed it appears as if there is a strong desire for a commercial kitchen in Boscawen, New Hampshire. Conducting focus groups with farmers within the service area might generate excitement for the project and provide clarity about potential use patterns and the economic viability of the kitchen. Also, I believe research should be done in order to see if there are other alternatives to strengthen the local food system, such as a food distributor or an equipment rental project. As seen in the previous maps there is an abundance of farmers located within a reasonable driving distance to the proposed location for a future commercial kitchen as well as a large population who can access the markets within the food service area. It appears this area can sustain an increase in farmer product output.

I hope the information I gathered will help the Boscawen Agricultural Commission receive a grant, to enable a more in depth feasibility study to be completed, allowing the creation of a commercial kitchen in the town of Boscawen, New Hampshire.

Acknowledgments

I would first like to thank Leon Malan for introducing me to the aspirations of the Boscawen Agricultural Commission and all of the help he has given within my work.

Also, each member of the Commission for allowing me to help them in hopes to receive a grant. I would also like to thank each of the eleven farmers for participating in the interview and welcoming me into their homes, and last but not least, Laura Alexander for helping me every step of the way, I could not have done it without you. I truly appreciate your help each step of the way.

Thank you all.

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Appendix

In this appendix, the script used to contact farmers and each additional map of food sheds for farmers markets in the area will be present, in alphabetical order.

Script for getting in contact with farmers through telephone

Hello is this?

My name is Drew Pehoviak I am a senior environmental science student at Colby-Sawyer College. I am working on my senior capstone project in partnership with the Boscawen Agricultural Commission and was wondering if I could have a brief moment of your time?

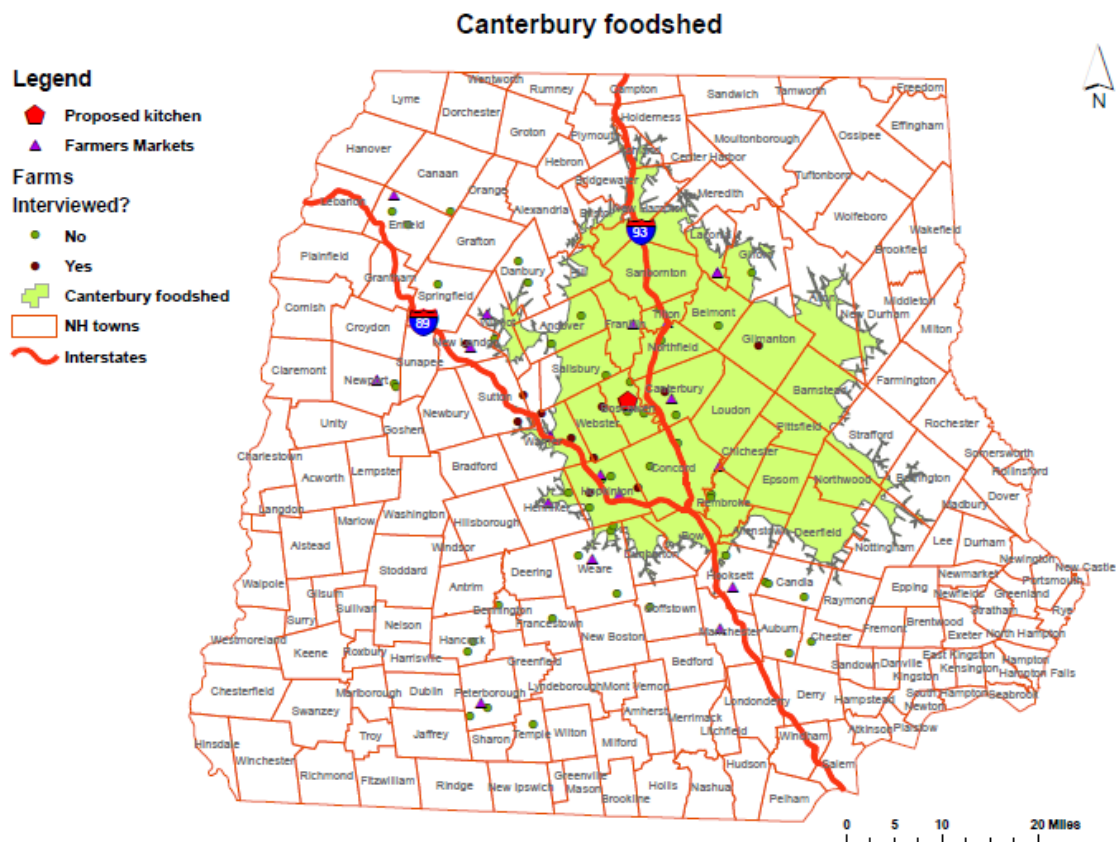
If the answer is NO- Is there a better time I may call you? This is concerning a possible implementation of a commercial kitchen to help local farmers produce and distribute whatever product they may have.

If the answer is YES- Thank you very much. I am working directly with the Boscawen Agricultural Commission and through our combined efforts we will be able to demonstrate what the feasibility is of creating a commercial kitchen in Boscawen, NH. This will be done through a series of interview questions that should take no longer than one hour if you are interested and are willing to spare your time with myself. I will be conducting interviews with what I am hoping is yourself and 12 other farmers in the area.

Would you be willing to participate in this study, which will hopefully benefit many local farmers in the future? Of course I do not want to pressure you, however the Boscawen Agricultural Society and myself would greatly appreciate your participation.

If they do agree...Do you have any available time within the upcoming days?

Thanks



Concord foodshed

Legend

Proposed kitchen

Farmers Markets

Farms

Interviewed?

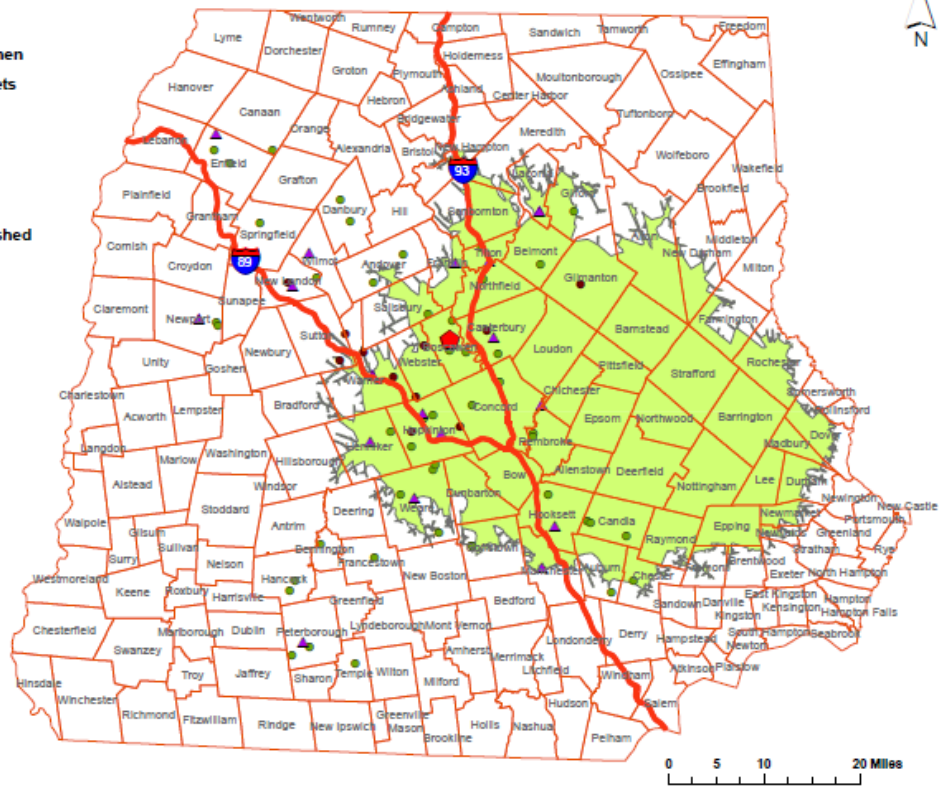
No

Yes

Concord foodshed

NH towns

Interstates



Contoocook foodshed

Legend

Proposed kitchen

Farmers Markets

Farms

Interviewed?

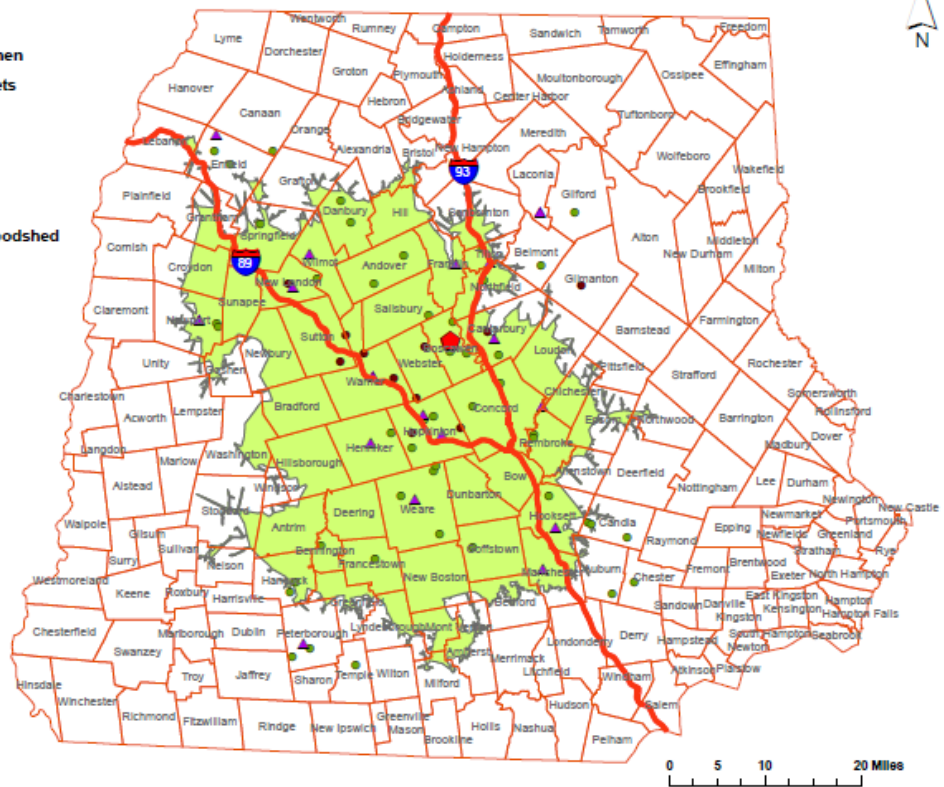
No

Yes

Contoocook foodshed

NH towns

Interstates



Enfield foodshed

Legend

Proposed kitchen

Farmers Markets

Farms

Interviewed?

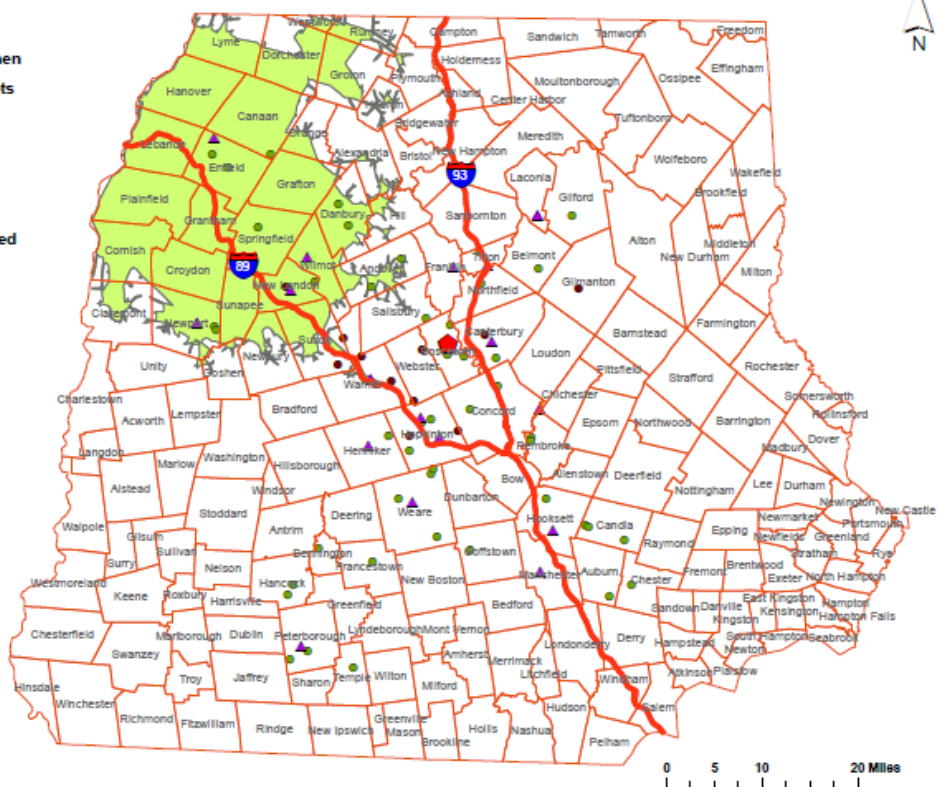
No

Yes

Enfield foodshed

NH towns

Interstates



Franklin foodshed

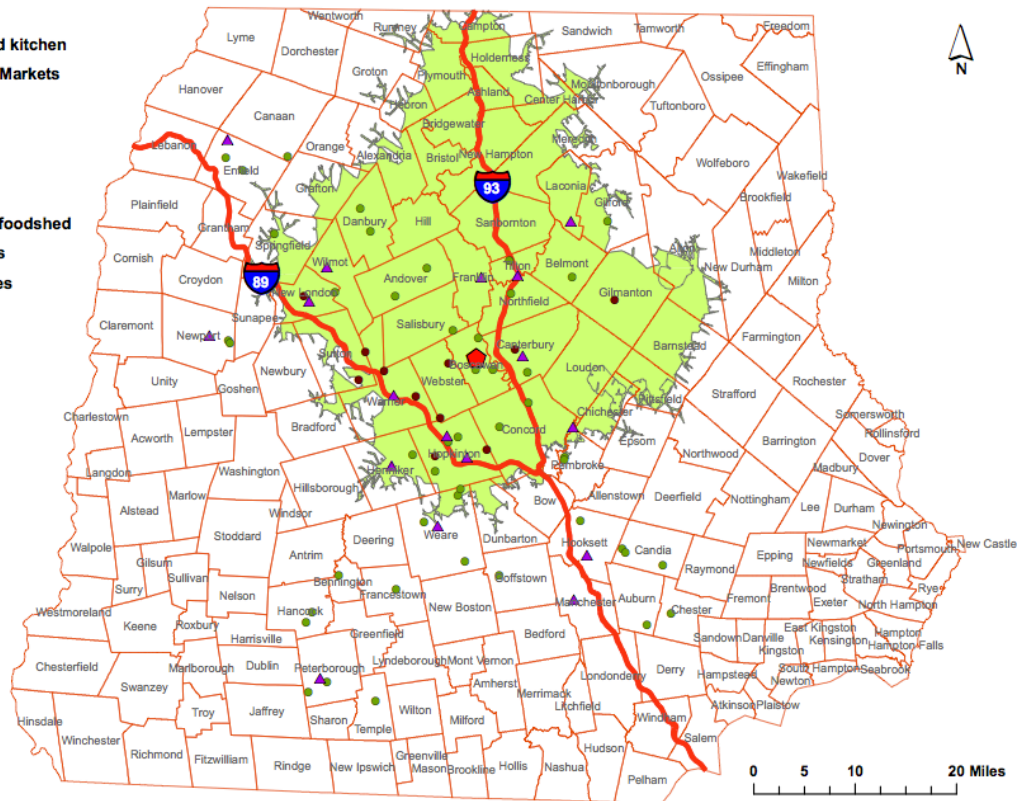
Legend

- ◆ Proposed kitchen
- ▲ Farmers Markets

Farms

Interviewed?

- No
- Yes
- Franklin foodshed
- NH towns
- ~ Interstates



Henniker foodshed

Legend

Proposed kitchen

Farmers Markets

Farms

Interviewed?

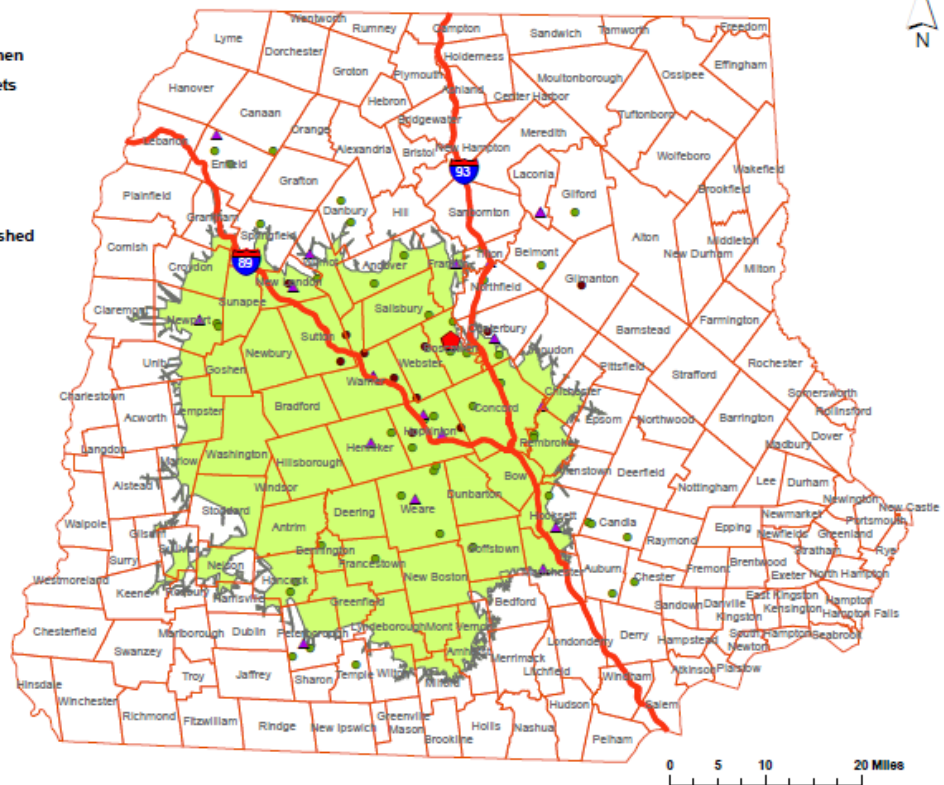
No

Yes

Henniker foodshed

NH towns

Interstates



Hooksett foodshed

Legend

Proposed kitchen

Farmers Markets

Farms

Interviewed?

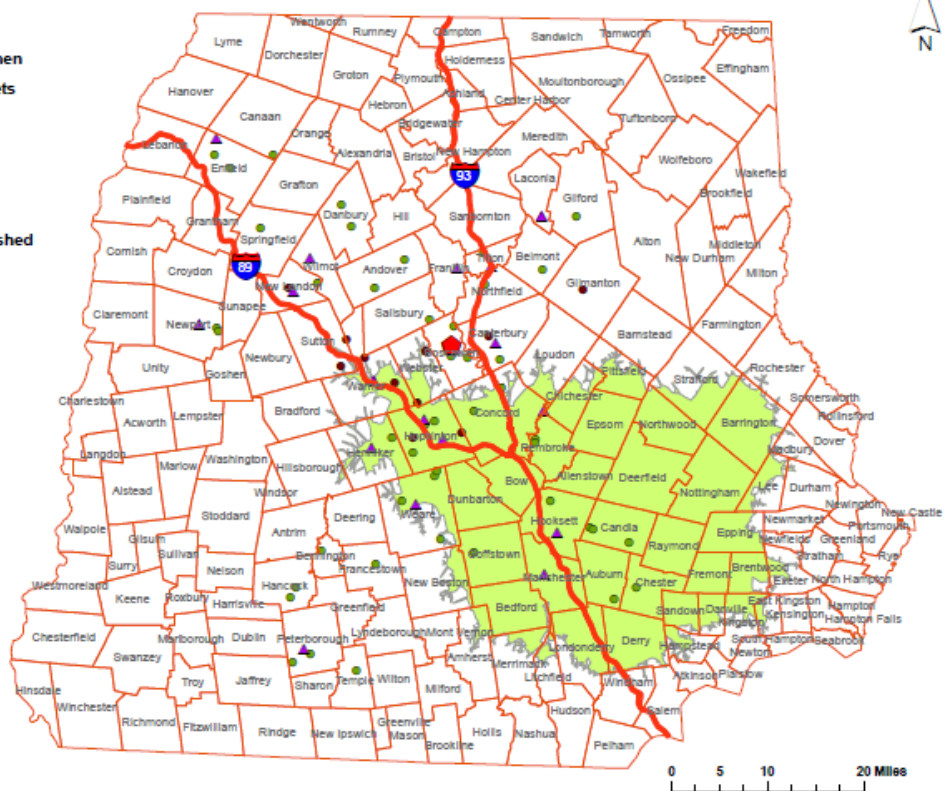
No

Yes

Hooksett foodshed

NH towns

Interstates



Hopkinton foodshed

Legend

Proposed kitchen

Farmers Markets

Farms

Interviewed?

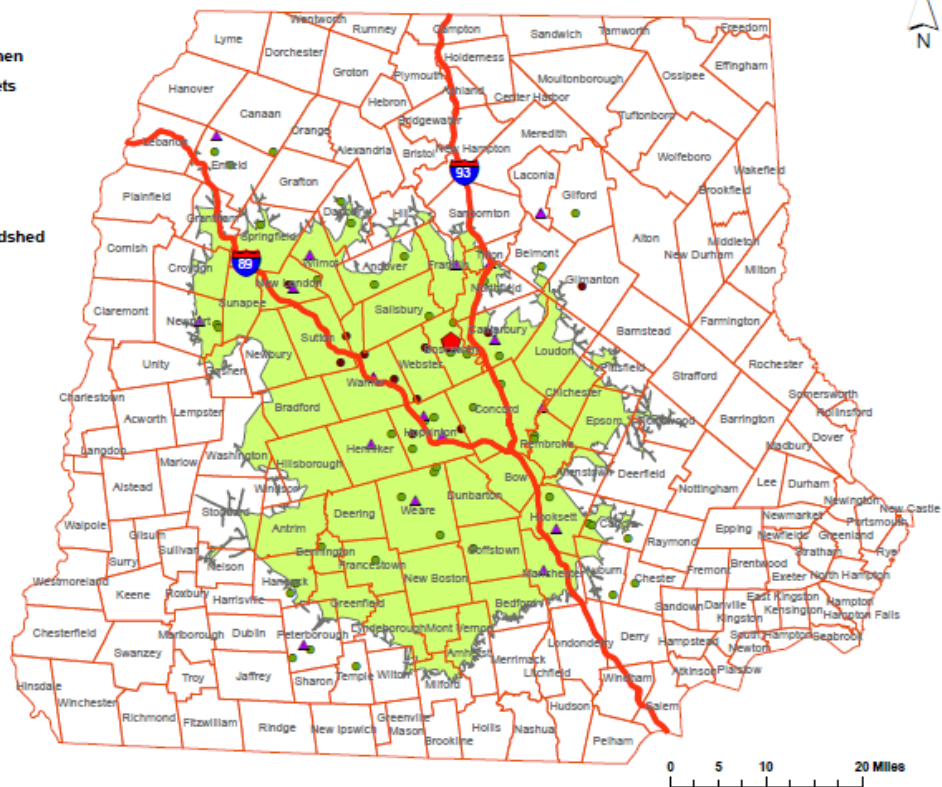
No

Yes

Hopkinton foodshed

NH towns

Interstates



Laconia foodshed

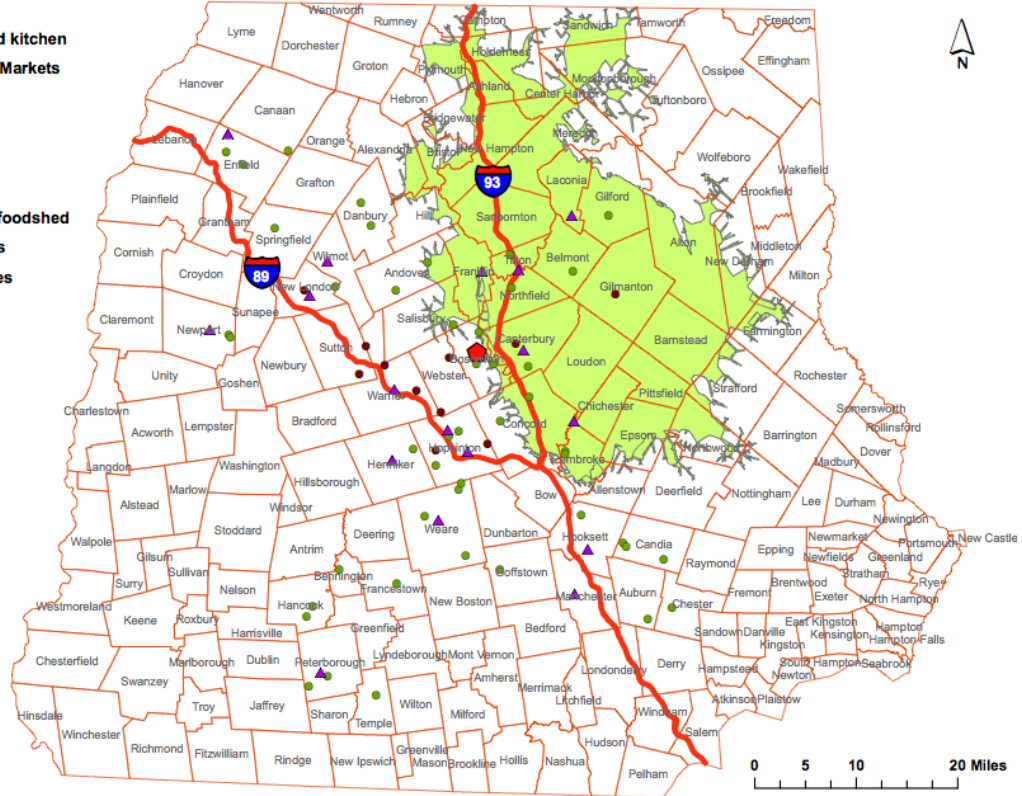
Legend

- ◆ Proposed kitchen
- ▲ Farmers Markets

Farms

Interviewed?

- No
- Yes
- Laconia foodshed
- NH towns
- Interstates



Manchester foodshed

Legend

Proposed kitchen

Farmers Markets

Farms

Interviewed?

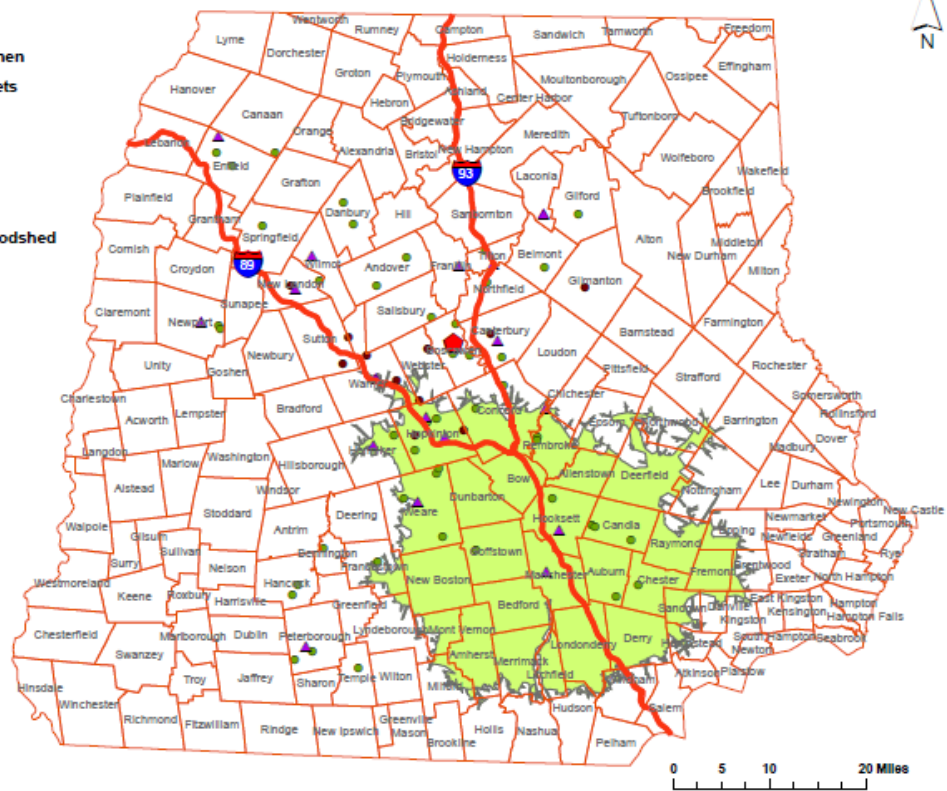
No

Yes

Manchester foodshed

NH towns

Interstates



New London foodshed

Legend

 Proposed kitchen

 Farmers Markets


Farms


Interviewed?

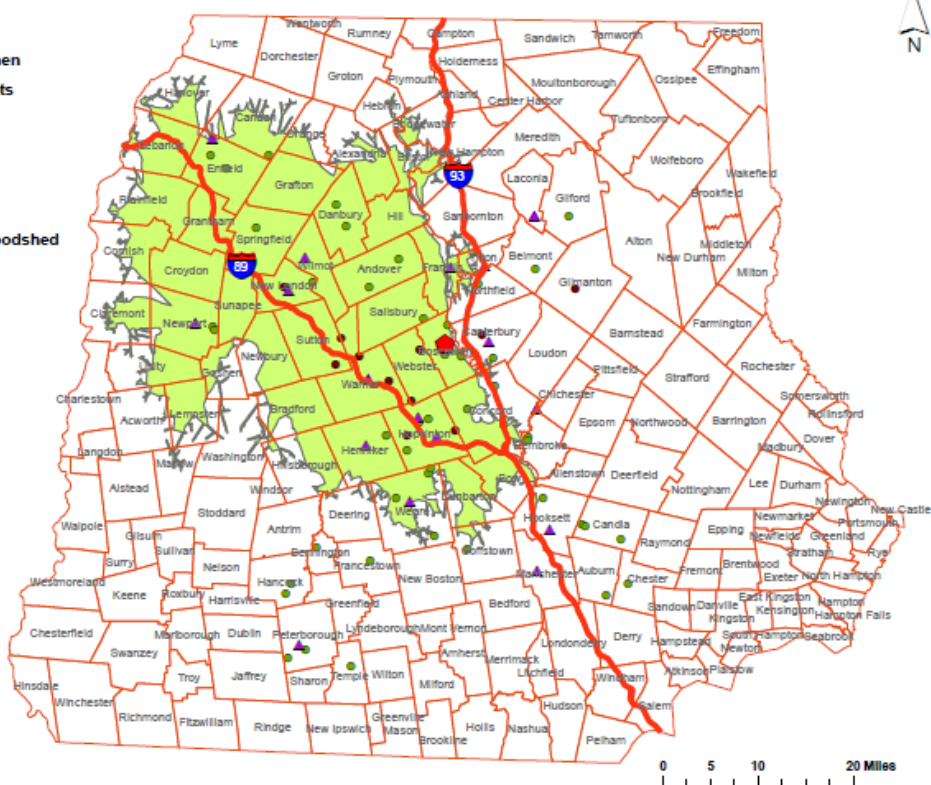
 No

 Yes

 New London foodshed

 NH towns

 Interstates



Newport foodshed

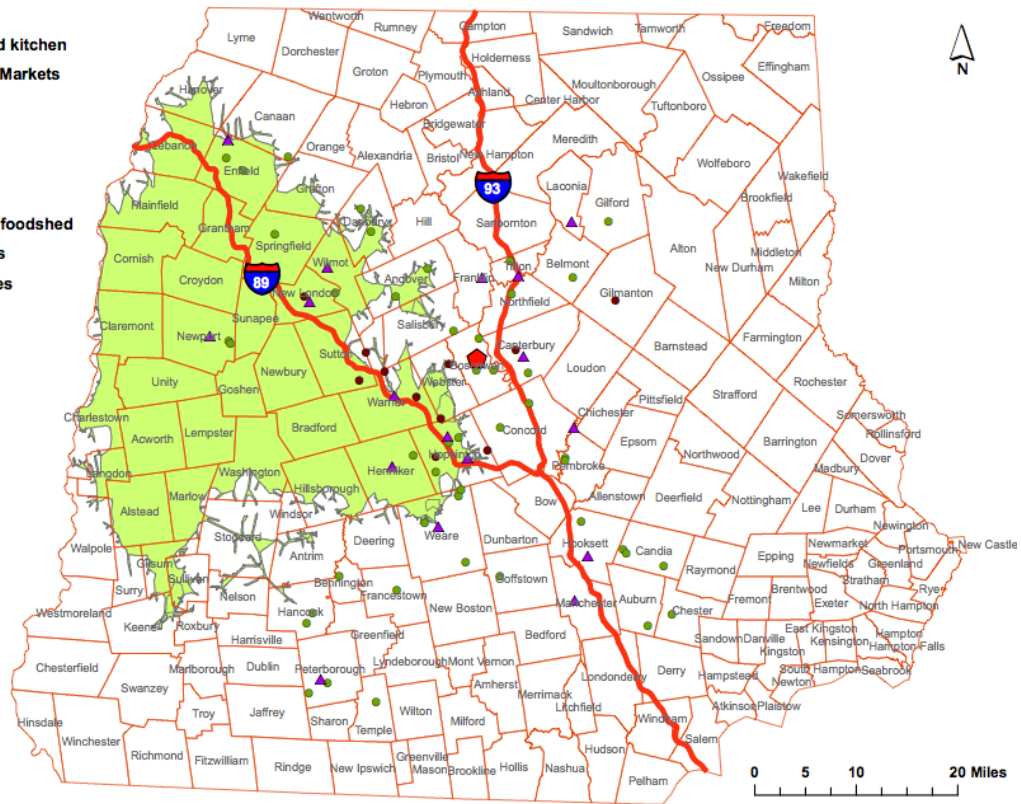
Legend

- ◆ Proposed kitchen
- ▲ Farmers Markets

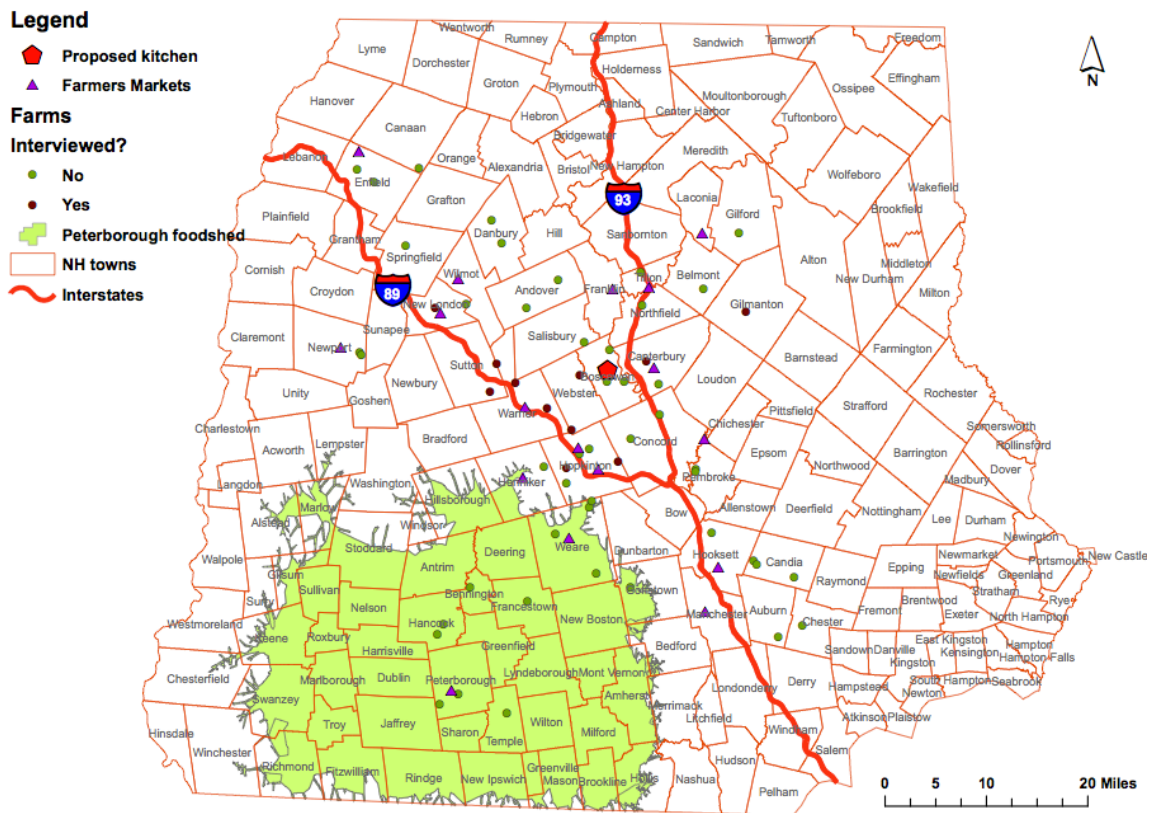
Farms

Interviewed?

- No
- Yes
- Newport foodshed
- NH towns
- Interstates



Peterborough foodshed



Tilton foodshed

Legend

Proposed kitchen

Farmers Markets

Farms

Interviewed?

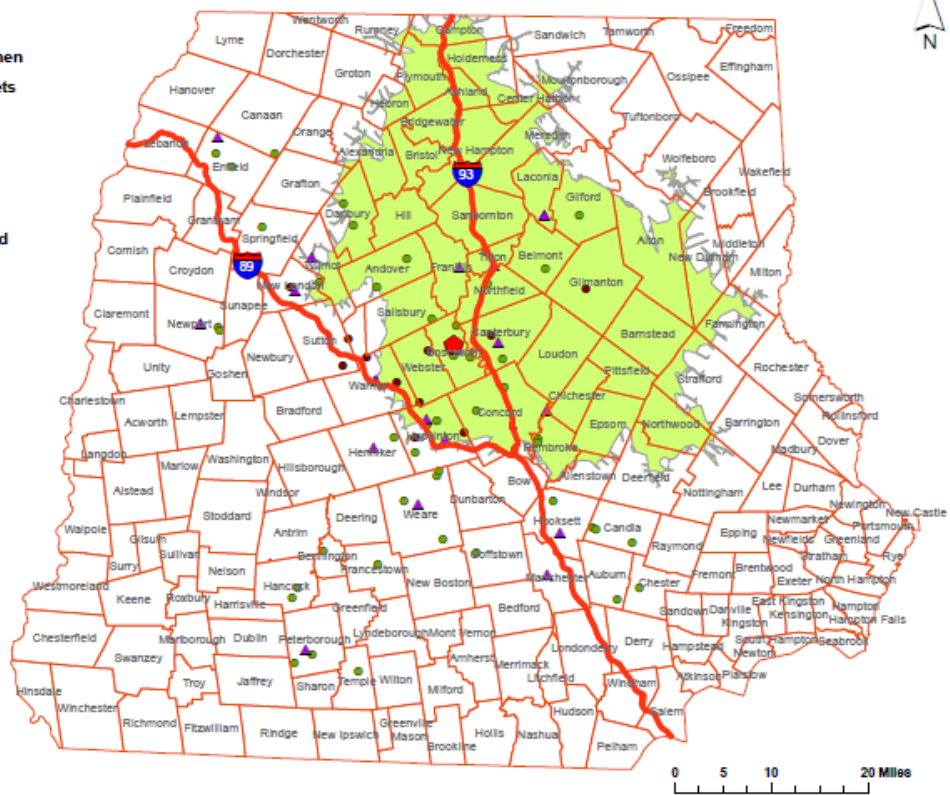
No

Yes

Tilton foodshed

NH towns

Interstates



Warner foodshed

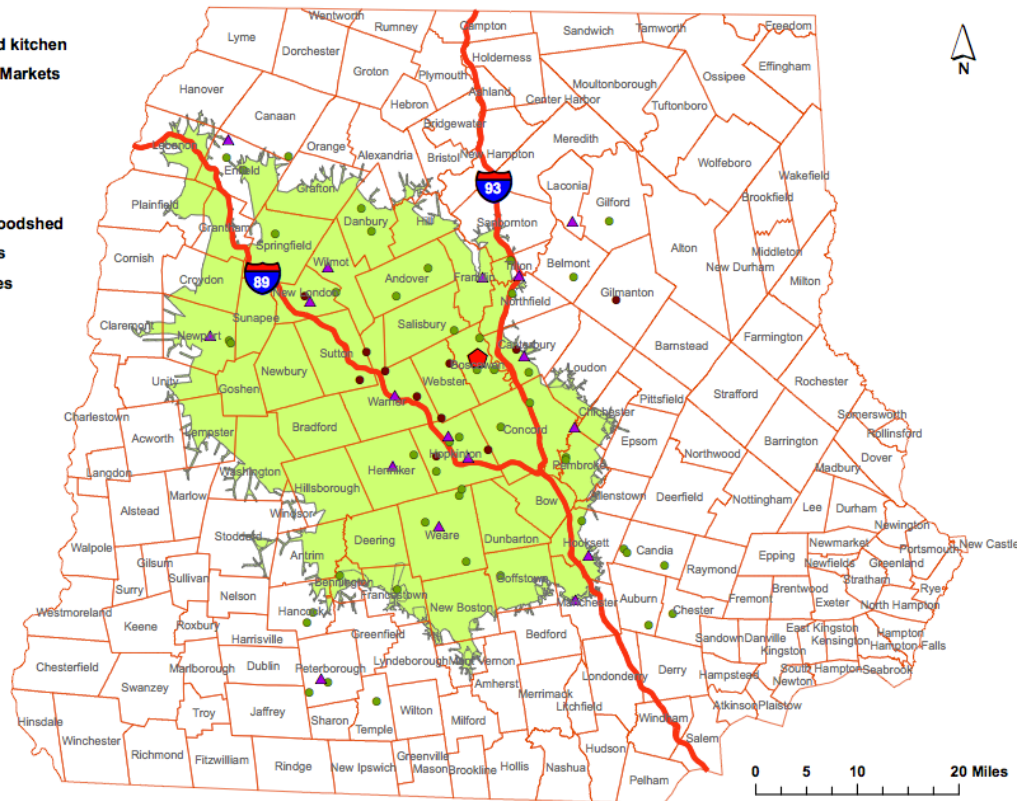
Legend

- ◆ Proposed kitchen
- ▲ Farmers Markets

Farms

Interviewed?

- No
- Yes
- Warner foodshed
- NH towns
- Interstates



Weare foodshed

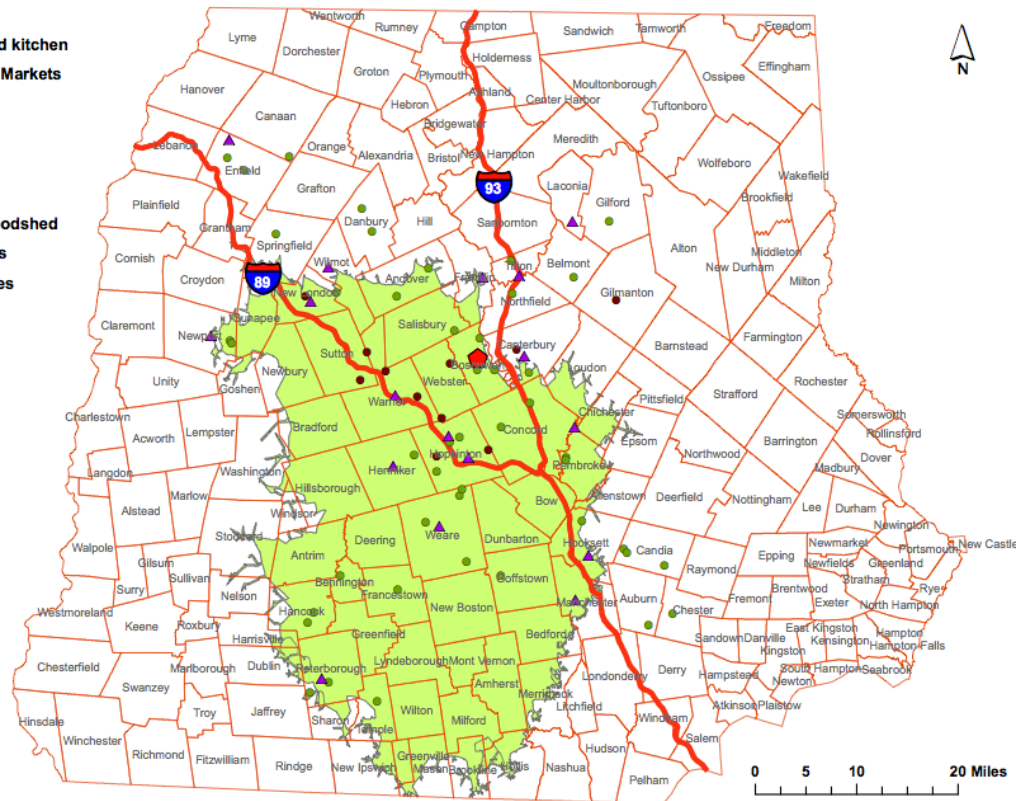
Legend

- ◆ Proposed kitchen
- ▲ Farmers Markets

Farms

Interviewed?

- No
- Yes
- Weare foodshed
- NH towns
- Interstates



Wilmot foodshed

Legend

- ◆ Proposed kitchen
- ▲ Farmers Markets

Farms

Interviewed?

- No
- Yes
- Wilmot foodshed
- NH towns
- Interstates

