

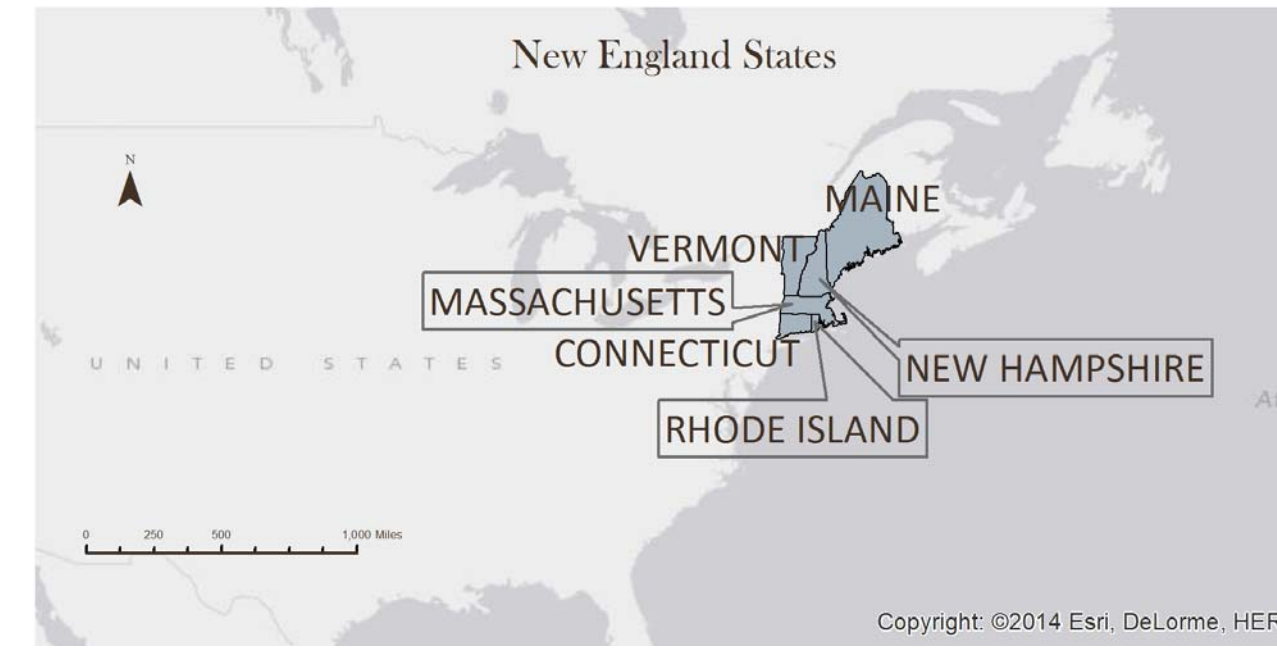
Barriers to Regional Food Systems: New England's Beef Slaughter Capacity and Proximity to Farms

Introduction

Nation-wide, limited small-scale slaughter and processing capacity has been identified as a barrier to marketing meat and poultry locally. Two major inspection processes are utilized by plants producing locally marketed products. The USDA manages a federal inspection program which allows for meat products to be marketed without geographic limitation. Twenty-seven states have their own inspection program which must be equivalent to federal standards. Products from these state inspected facilities are limited to intra-state commerce.

The six New England states (shown right) have a number of meat slaughter inspected both by the USDA and by states. However, like many other regions, slaughter capacity is a barrier to locally produced meat.

This poster explores the role facility location plays in local meat availability in New England by analyzing both farm and facility spatial distributions.



Limitations

• Farm Level Data

The 2007 Census of Agriculture is a comprehensive set of farm and agricultural data. These data are disaggregated down to the county level and farm-level data are unavailable. The analysis could have better identified underserved areas by incorporating individual farm locations and density within counties.

• Dairy Industry

The analysis only accounts for beef cattle, but New England also has a large dairy industry. Many steers and cows from dairies are slaughtered and become part of the ground beef supply. Due to lack of data, this analysis does not account for contributions from the dairy industry to beef supply. A comprehensive analysis

would need to include the dairy farms that contribute to the beef supply.

• Out of Region Facilities

Many beef farmers may not utilize New England facilities, although these product may be marketed within the region. Due to the scope of the analysis, plants outside the region could not be included in the analysis.

• Other Barriers

Research suggests that New England faces many barriers to meat production other than spatial distribution. Labor and seasonality are major factors in estimating slaughter capacity. The scope of the research was not able to account for these factors.

Discussion

Average drive time for beef cattle farmers in New England is 52 miles. The service network analysis shows that most counties have good coverage of slaughter facilities within 50 miles. Western Massachusetts and Northern New Hampshire have portions that are not served by slaughter facilities. Maine has the largest area outside a 50 mile drive from a slaughter plant.

Although 52 miles is the average, many farmers travel farther. Expanding the drive distance to 100 miles, indicates that nearly all areas have adequate access to slaughter facilities. Northern Maine has the most area that is not within 100 mile drive of a slaughter facility. However, only four counties have significant areas outside 100 mile drive distance.

The density raster indicates that New Hampshire and Vermont have the most access to slaughter facilities. As one would expect, many of the counties within the high density regions have a high number of beef farms.

Northern Maine has the least density of slaughter facilities. Several counties located in these areas have high numbers of beef farms and may not be adequately served by slaughter facilities. However, these are the largest counties so the number of farms does not indicate that these counties are densely population by cattle farms. Therefore, the results may be misleading and are not conclusive to warrant additional slaughter facilities.

Eastern Massachusetts also has a low density of facilities but correspondingly has a low number of cattle farms. It is most likely adequately served by existing facilities.

In conclusion, New England is likely well served by its slaughter facilities and may not need additional facilities. To adequately analyze the capacity for slaughter, additional research should be conducted to demand for local beef and additional barriers to production and marketing. Other barriers such as labor and seasonality of beef slaughter should be analyzed in conjunction with spatial distributions of farms.

Methodology

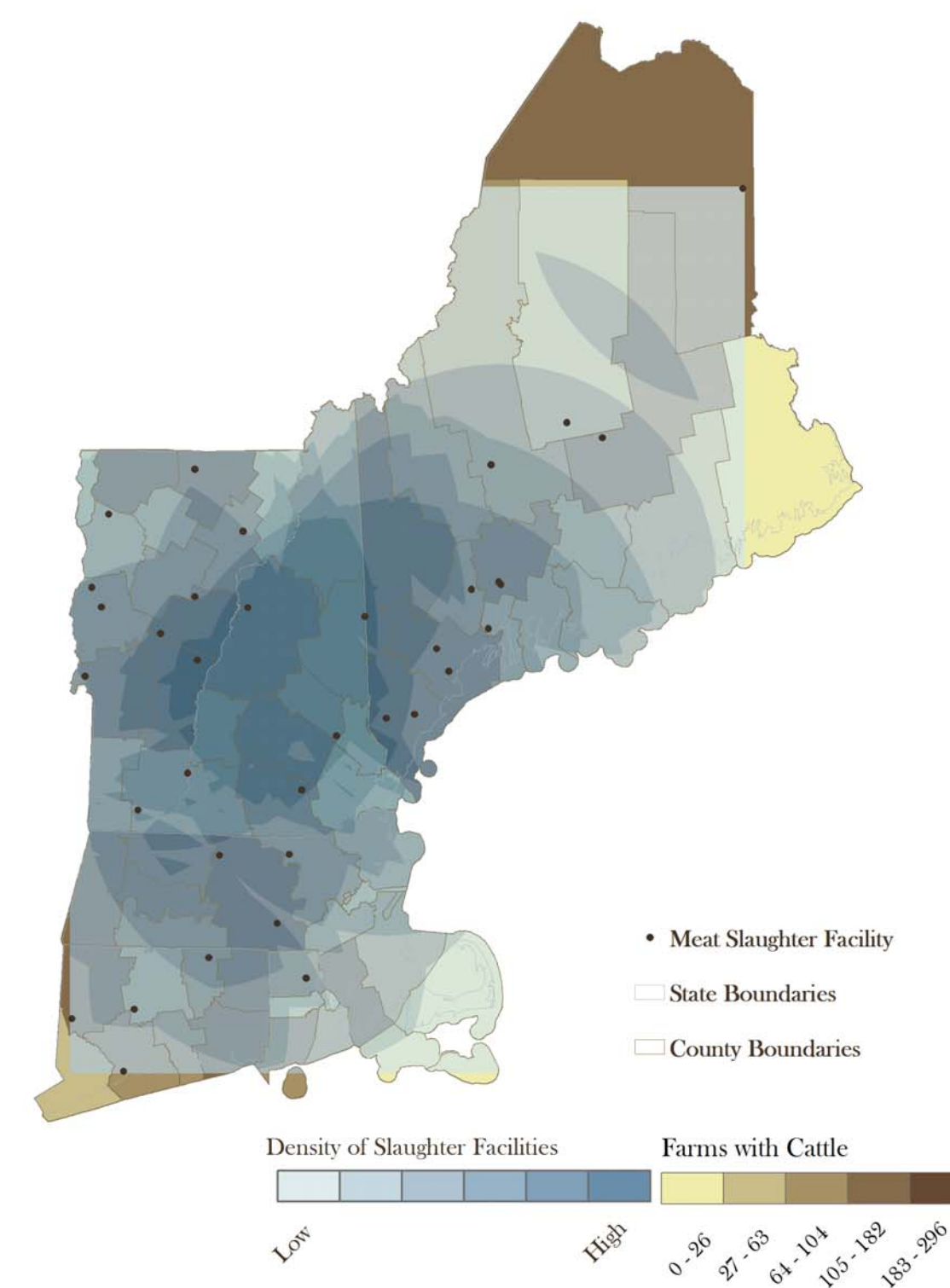
To assess the ability of cattle farmers to access meat slaughter facilities a network analysis was conducted using point data for geocoded slaughter facilities and line data from US major roads. Fifty and one hundred mile drive networks were created to identify areas where farms may be located that are within the specified proximity to slaughter facilities.

Some farms have greater access to slaughter facilities depending on proximity and density of slaughter facilities. To identify those areas that

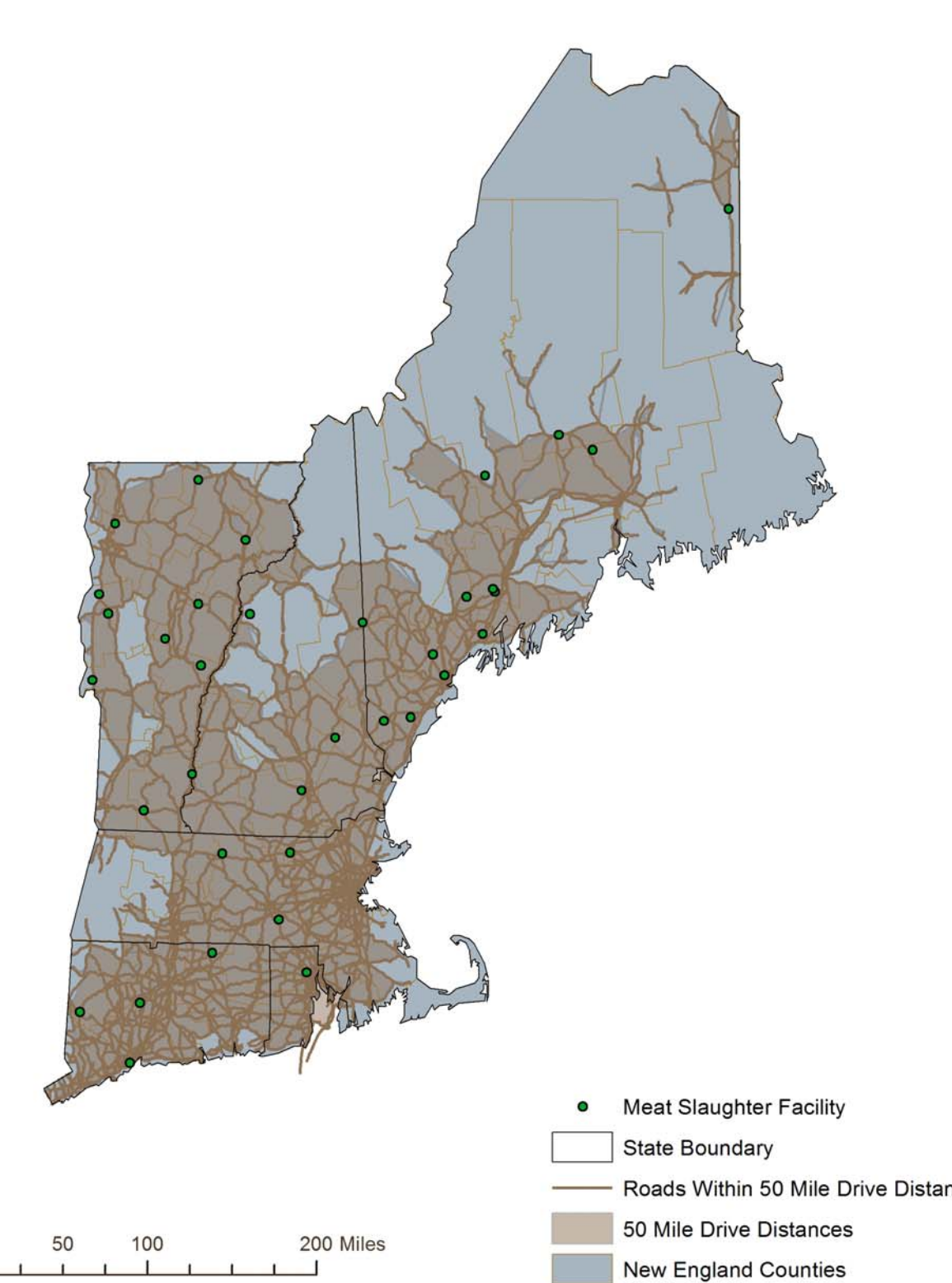
are best served, a density raster was created using the point data for slaughter facility locations. This was superimposed over the farms by county to identify areas with high density of farms that have low access to slaughter facilities.

A series of maps was created to identify locations of slaughter facilities and locations of farms. The density raster is depicted twice to show areas of high density and where areas of high density are in relation to counties with high number of cattle farms.

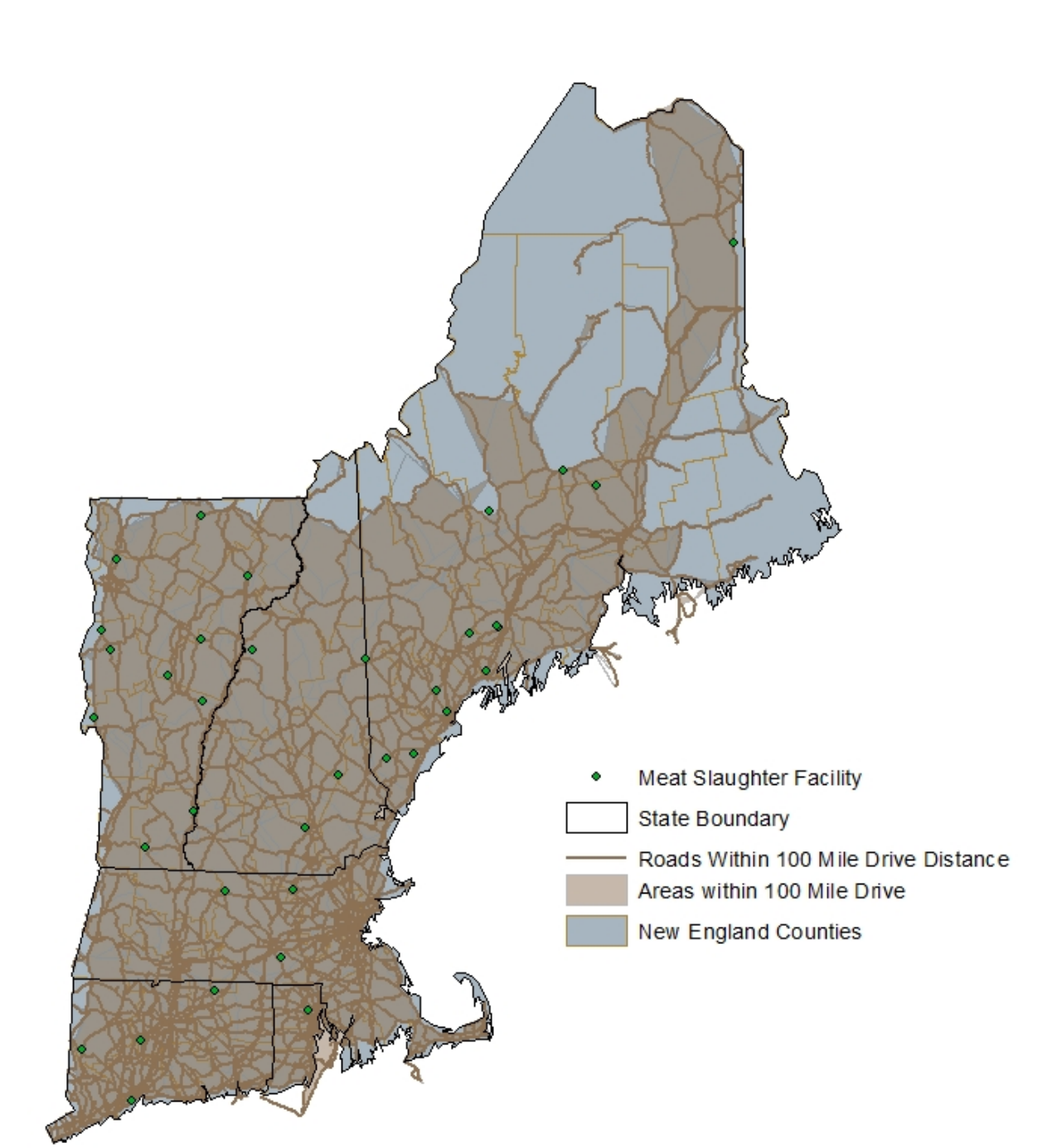
Density of Slaughter Facilities and Farms by County



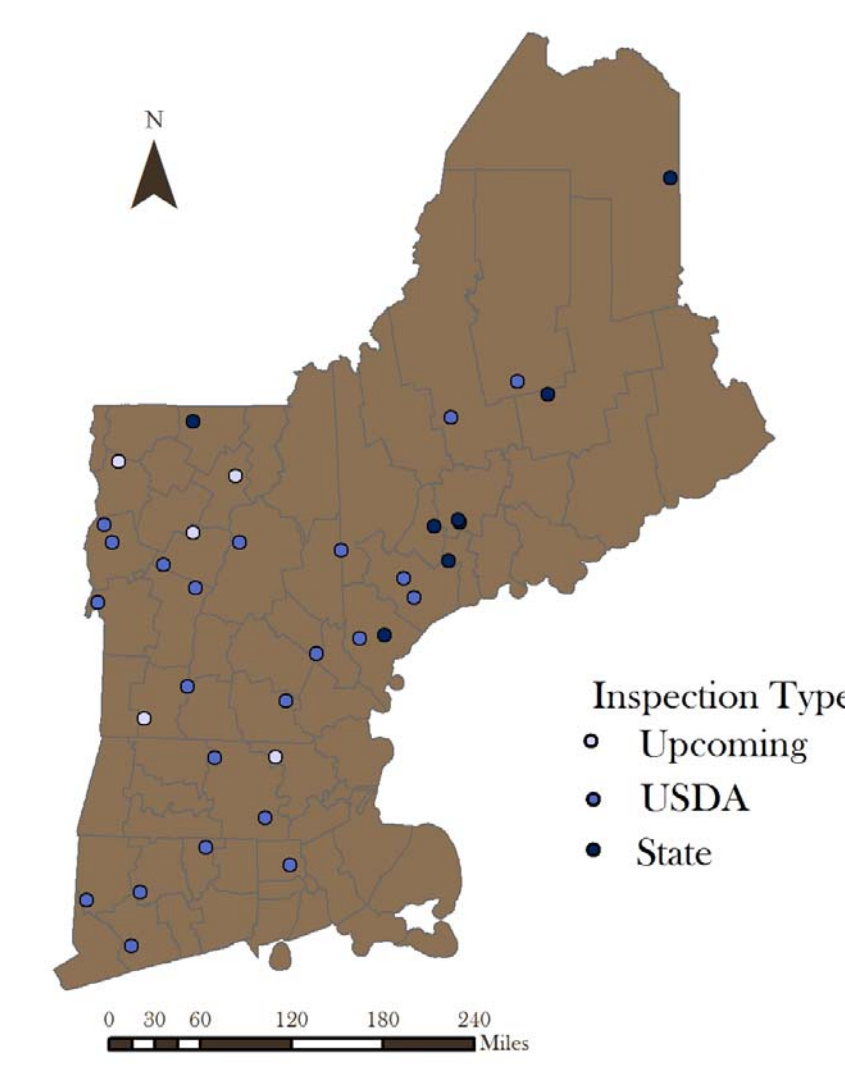
50 Mile Coverage of Meat Slaughter Facilities



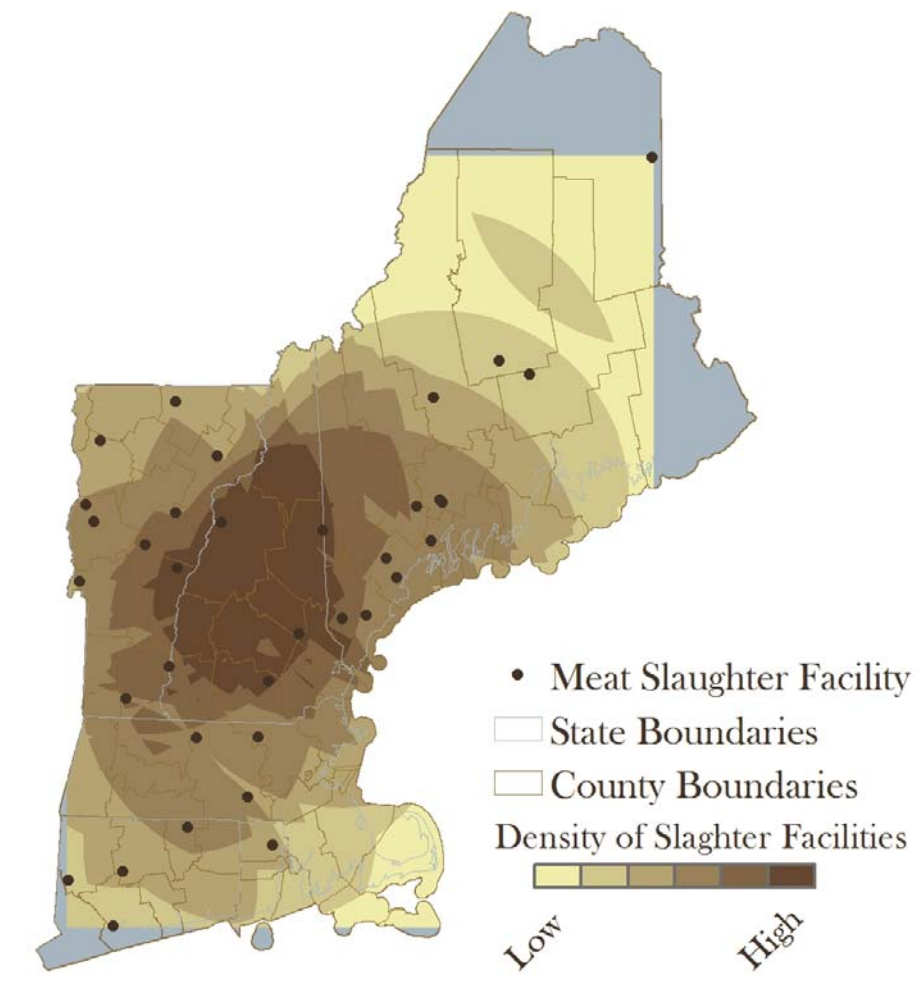
100 Mile Coverage of Meat Slaughter Facilities



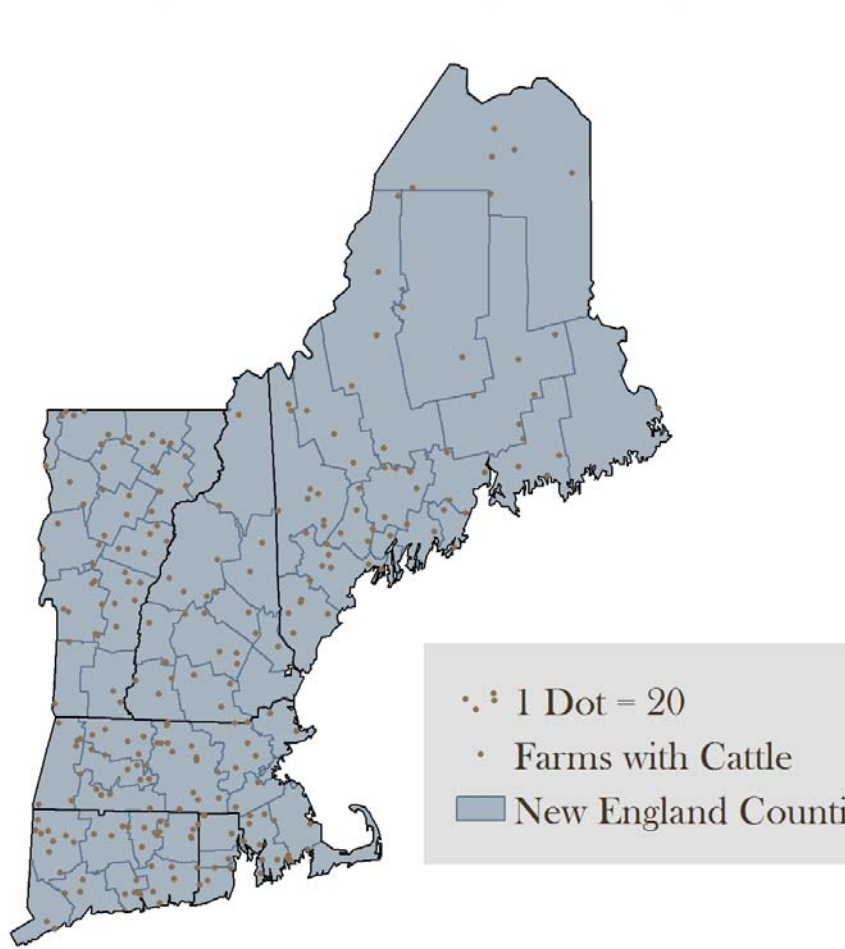
Meat Slaughter Facilities in New England



Density of New England Slaughter Facilities



Density of Farms in New England



Meat Slaughter Facilities and Cattle Farms in New England

