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4-27-2017

## Mapping a Home Where the Buffalo Roam

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### Recommended Citation

Peyton, Skylar, "Mapping a Home Where the Buffalo Roam" (2017). *Celebrating Scholarship & Creativity Day*. 118.

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# Mapping a Home Where Buffalo Roam

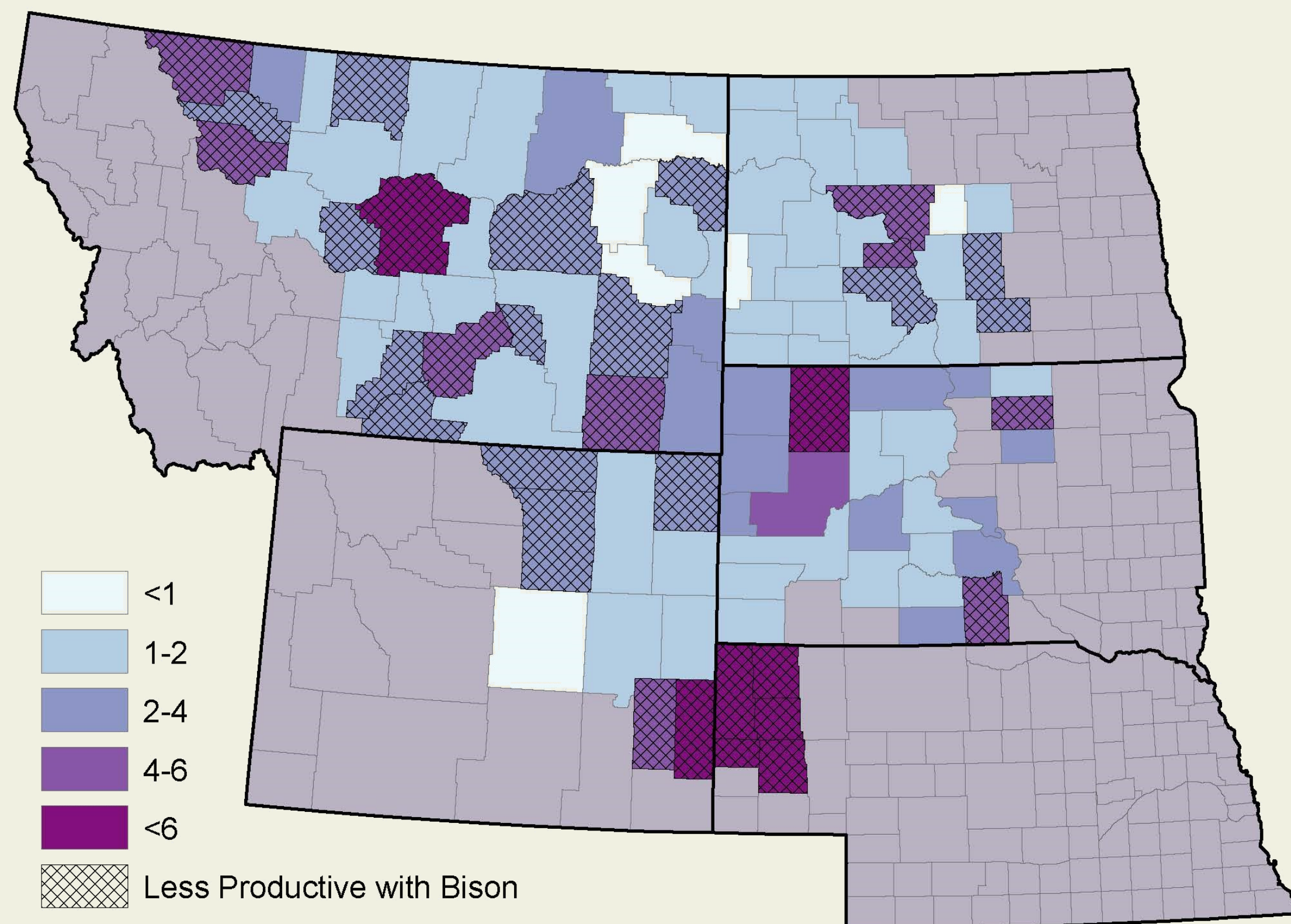
A Land Feasibility Analysis of Bison Farming

Author: Skylar Peyton

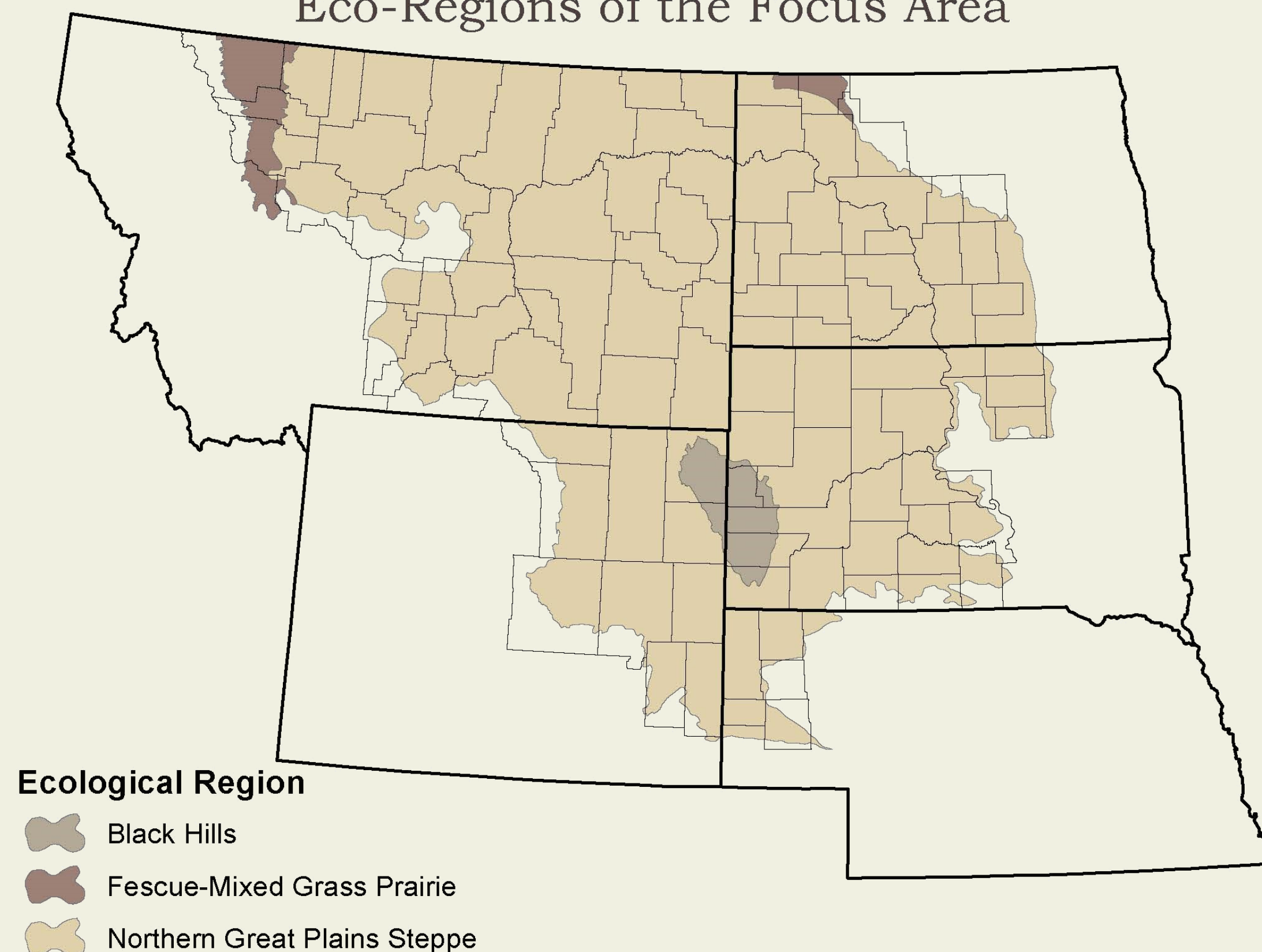
Advisor: Jean Lavigne

GIS Spring 2017

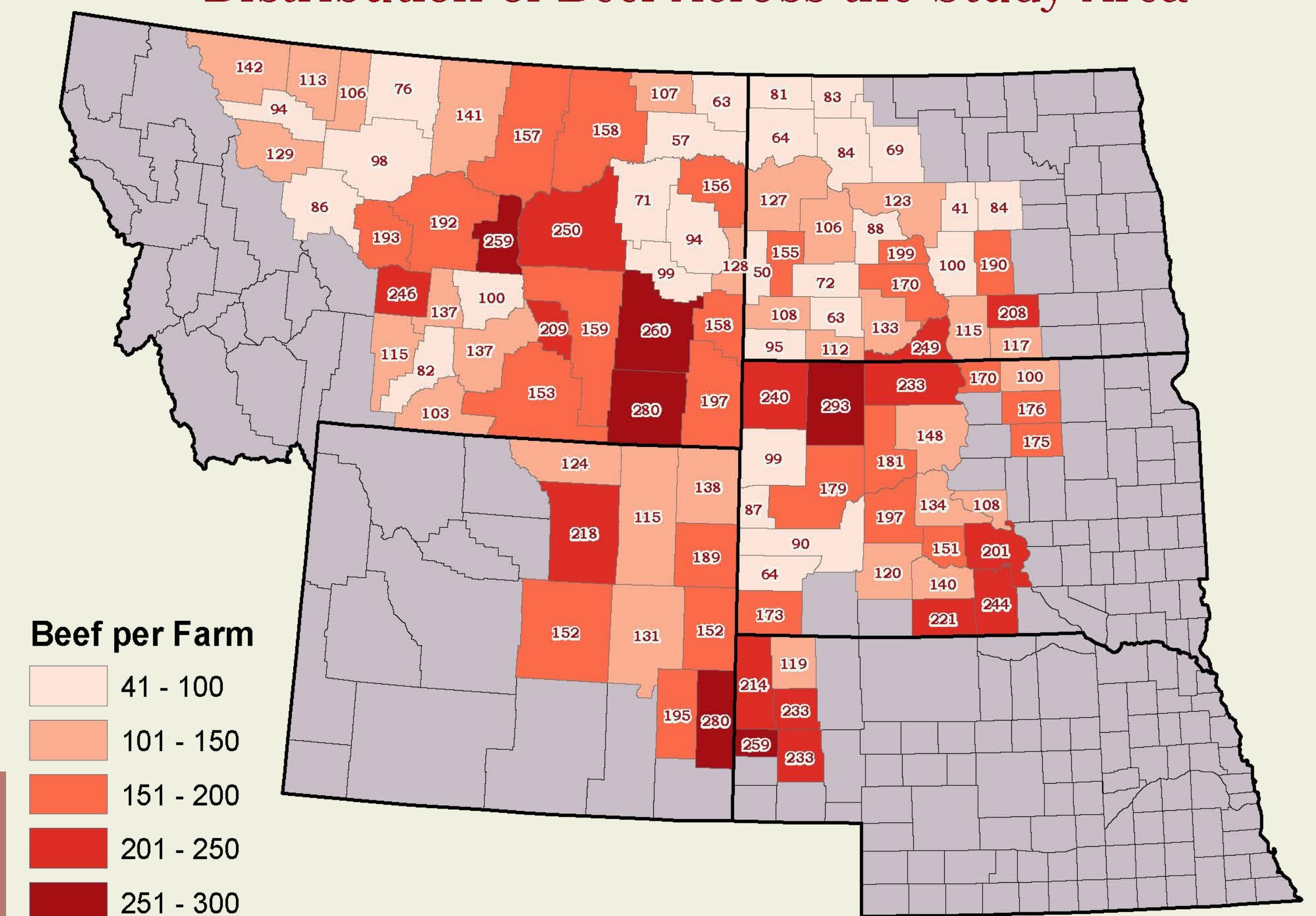
Percentage of Acreage used by Farms for Feedlots



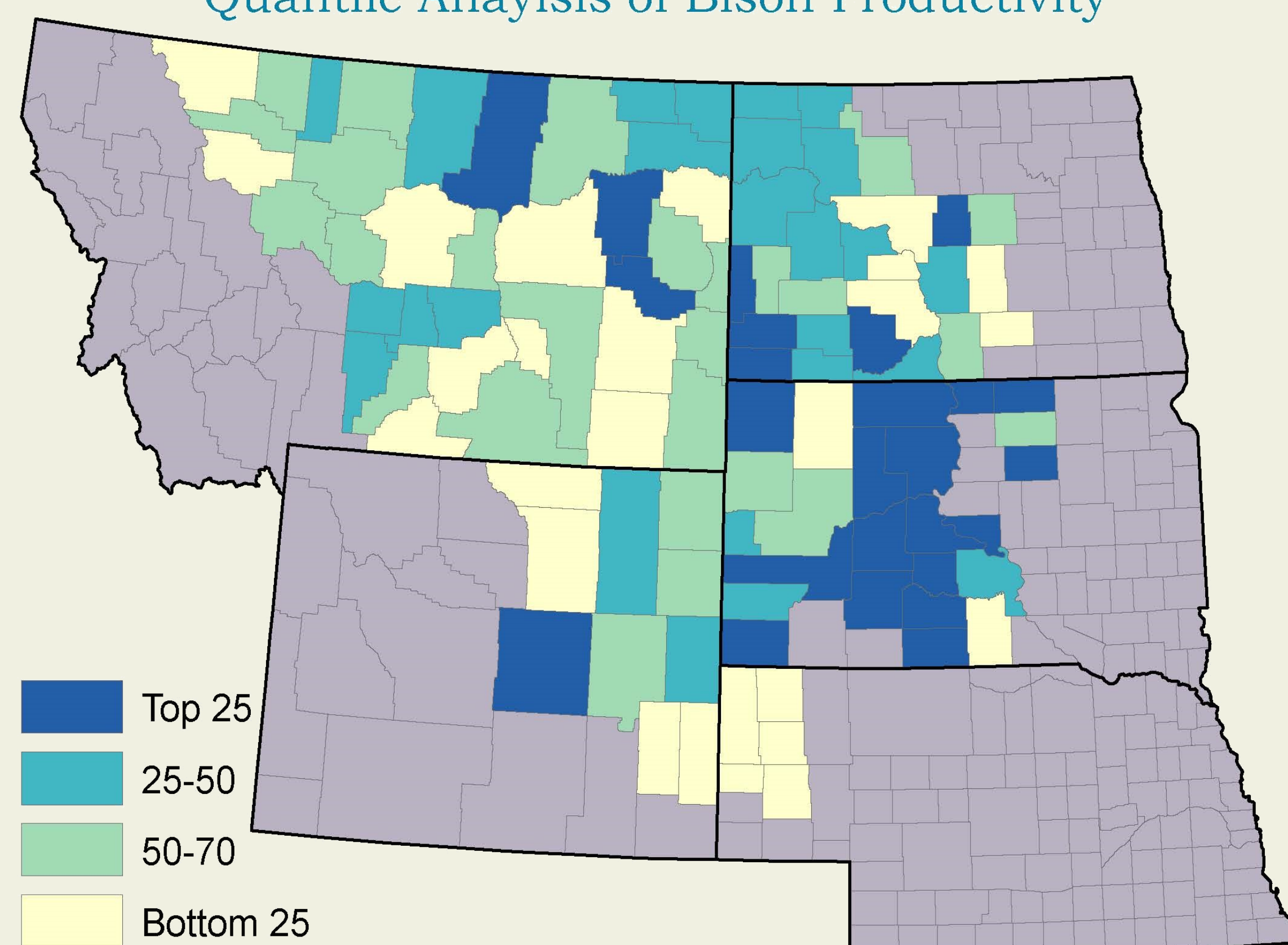
Eco-Regions of the Focus Area



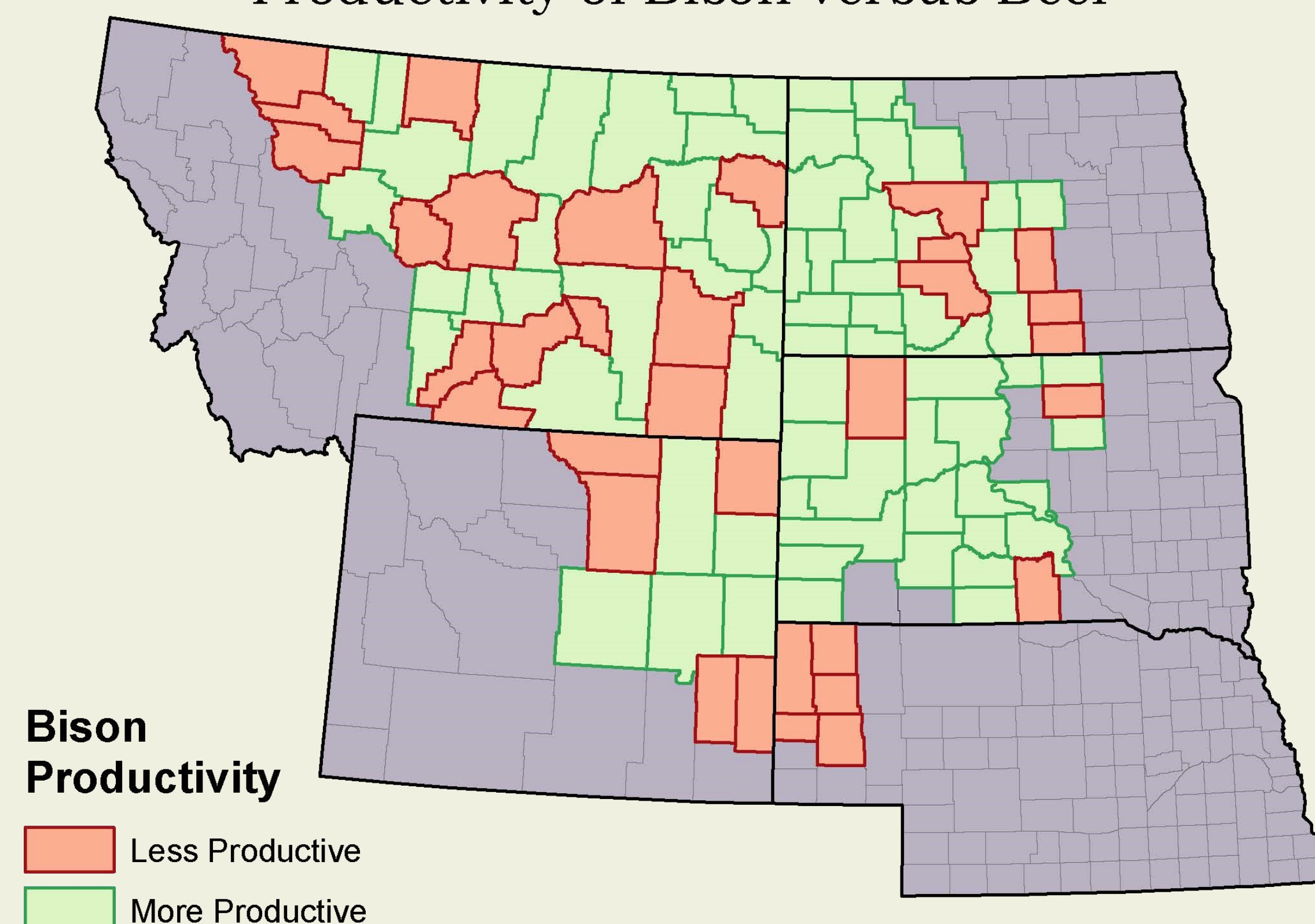
Distribution of Beef Across the Study Area



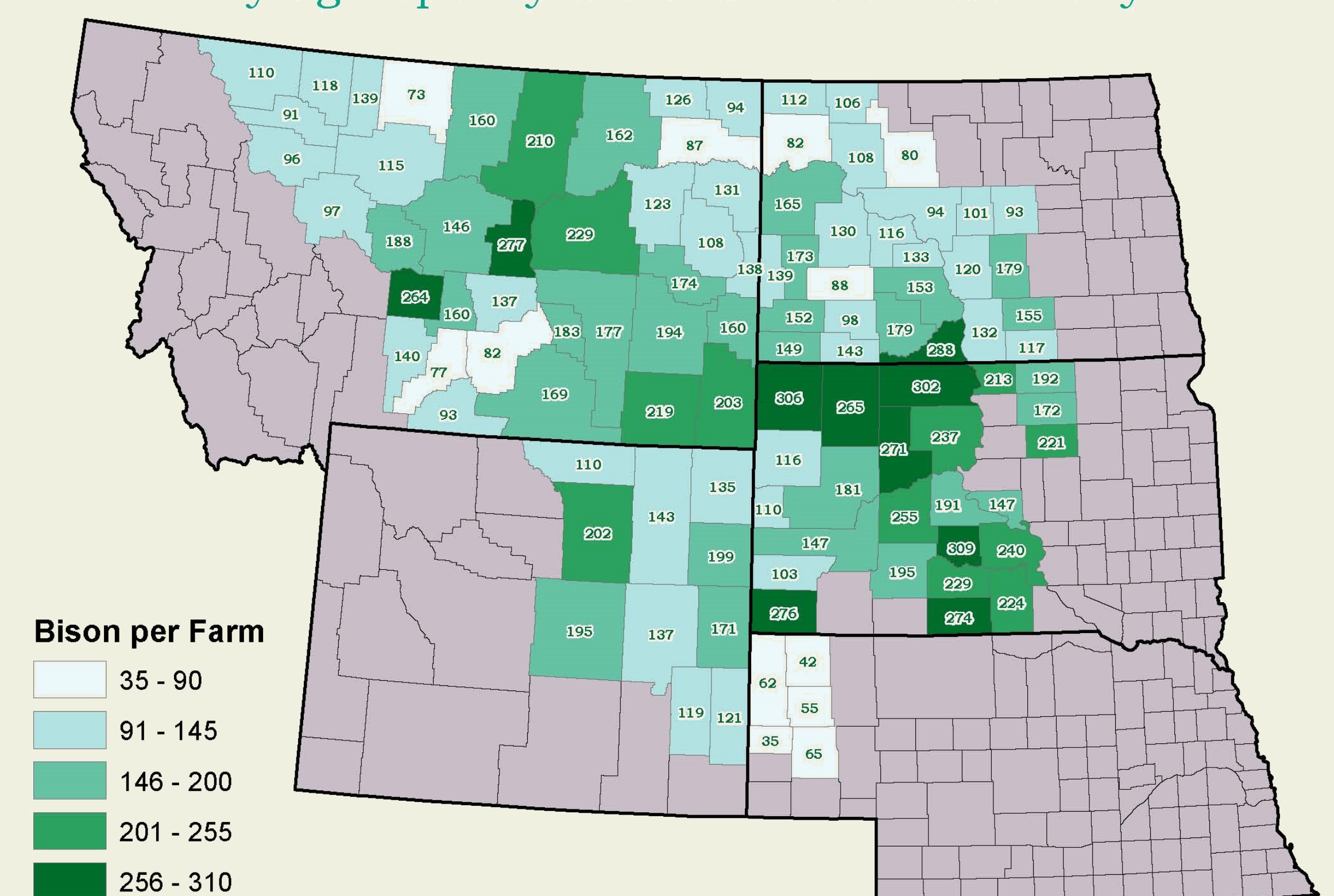
Quantile Analysis of Bison Productivity



Productivity of Bison versus Beef



Carrying Capacity of Bison Across the Study Area



Data was collected from the National Agriculture Statistics Service, the US Department of Agriculture, and interviews. It was then manipulated by state in order to calculate acreage used by beef. This same acreage underwent another calculation to come up with a carrying capacity for bison. These then calculated farm productivity.

## Bison, It's what's for Dinner.

The beef industry has increasingly become unsustainable, relying heavily on trucking and corn-based feed. Bison seems like a positive alternative due to labor, gestation, and carcass weight. This project explored the land usage, carrying capacity, and potential land barriers for large-scale bison farming in the Upper Midwest. The results found that almost 70% of the study area could switch to bison and maintain or increase productivity.

North and South Dakota showed the most potential while Nebraska showed the least. This could be due to the acreage-efficiency found in feedlots. The final conclusion is that land is not a barrier for this industry.