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## Introduction

The tall grass prairie landscape used to range across majority of the great plains in the heart of North America. The race to claim these vast prairies altered the landscape dramatically. The tall grass prairie landscape used to range across "Iowa, Illinois, Minnesota, northern Missouri, and the eastern edges of the Dakotas, Nebraska, Kansas and Oklahoma"<sup>1</sup>. The loss of native tall grass prairie and biodiversity across the great plains of North America was heavily influenced by government programs that supported agricultural development. Private landowners were given an incentive through government farming subsidies to convert all of their land to crop fields or to plow away the land for new towns and housing developments. While public tall grass prairie landscapes were not conserved or allocated funding, due to a lack of public demand. My research took a deeper look into the need for more restorations of the tall grass prairie ecosystem and how there is not enough native tall grass prairie left to simply conserve this endangered landscape. I discuss how private and public landowners can restore their land back to native tall grass prairie. Which both economically benefits the landowner and improves the diversity of the prairie ecosystem.



## What's left today?

According to the USGS, today in Minnesota and across the rest of the United States, only about one percent of the entire grassland ecosystem still remains uninfluenced by human development. "Every year across the Great Plains millions more acres of grasslands are turned into corn, soybeans and other crops"<sup>2</sup>.

## Conservation of North American Prairie Ecosystems

Prairie conservation and restorations primarily began around the late nineteenth and early twentieth centuries when horticulturist, landscape architects and scientist began to study, collect and use native seeds to try and bring back some of the native vegetation. "A more modern phase of thinking about restoration began with efforts to restore native prairie at the University of Wisconsin Arboretum in Madison in the 1930's"<sup>3</sup>. The University of Wisconsin was the first to begin with the academic study of ecological prairie restorations at a small scale but other small restoration projects conducted by University programs in the Midwest have also helped keep the prairie conservation movement growing.

## Methods

- Solutions for prairie restorations for both private and public landowners were determined through the use of primary and secondary literature and ecological scientific studies in order to describe the history and development of prairies and to develop solutions for prairie restorations. Solutions and barriers were analyzed and weighed, while using literature to find the best solutions for landowners.
- Interview questions from The Nature Conservancy, Prairie Restorations Inc. and the Minnesota DNR were used to distinguish public land barriers and the complex steps required for a successful prairie restoration.
- Specific government programs, like CRP (The Conservation Reserve Program) were analyzed to determine a private landowners' prairie restoration funding opportunities. Then I compared these opportunities to government crop subsidy influences for both farmers and ranchers.

## Results

Solutions for overcoming the barriers of tall grass prairie restorations

### Private Landowners

**Price of commodity crops:** Corn and soybean prices have risen creating a barrier for farmers that wish to restore their land back to tall grass prairie. Commodity crops are more profitable than prairies, it is "estimated that they can make \$50 to \$100 an acre by grazing cattle; corn is fetching \$300 or more per acre"<sup>4</sup>.

**Management requirements:** Prairies require annual control burns, regular invasive species management, haying and mowing. Additionally, all management techniques also require experience and a crew of workers to accomplish the land management.

**Landowners negative perspective of the tall grass prairie landscape:** Lawns are viewed as more aesthetically pleasing to the eye and from a distance the tall grass prairie landscape can appear empty and "underdeveloped".

**Economic incentives:** Government funded programs or with the assistance from non-profit conservation groups, a landowner can fund their tall grass prairie restoration.

### Public Landowners

**Financing management:** Landowners already receive financial support through government-funded programs for public land under conservation. It is through the additional help from non-profit groups that public landowners can expand the size of a prairie restoration, when there is not enough government funding or if the funding is cut off.

**The Iowa D.O.T:** This government-funded program sponsors cities within the state of Iowa that would like to convert the land adjacent to their major roadways back to a native prairie landscape. A program, which can be easily replicated across all tall grass prairie region states.

**Pocket prairies:** A conservation technique used by landowners to try and restore small regions of land between developed areas of land. Offering long-term habits for pollinators, native vegetation and smaller prairie species.

**Support from the community:** Public demand for more prairie restorations can persuade government leaders to allocate more money towards the conservation and restoration of the tall grass prairie.

## The Complex Prairie Restoration Process



**"The prairie, in all its expressions, is a massive, subtle place, with a long history of contradiction and misunderstanding. But it is worth the effort at comprehension. It is, after all, at the center of our national identity."**

**- William Least Heat Moon (1991)**

## Conclusion

Although the cost of prairie restorations is challenging for conservationist and landowners, prairie restorations offer many ecological benefits. North America's tall grass prairie is an ecosystem filled with a vast diversity of ecologically important animals and vegetation. Unfortunately, a majority of the population is uneducated and unfamiliar on most environmental and conservation issues. Therefore, landowners do not know or are unaware of the prairie ecosystem's benefits and ecological importance. Additionally, patience is key for landowners. Restoring an ecosystem takes time. Immediate results will not appear during the first growing season after restoration of the land. It takes years for native prairie grasses and forb species to re-establish on the land.