Saving the Tallgrass Prairie

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Below the cement of the many strip malls covering Illinois lay the remains of the tallgrass prairie, an ecosystem with a history spanning thousands of years in creation. At one point in American history, the landscape enthralled visitors with its fields of color and grasses that stretched farther than the eye could see. Eliza Steele, a young traveler entering Illinois for the first time, writes, “A world of grass and flowers stretched around me, rising and falling in gentle undulations, as if an enchanter had struck the ocean swell, and it was at rest forever,” (Johnson). Unfortunately, while the beauty of the Tallgrass prairie still exists in small, fragmented patches around the state of Illinois, most of the land has been converted into farmland and residential or commercial areas. The purpose of this essay is to prove the need for increased tallgrass prairie restoration across the state by providing historical examples, scientific reasoning, and viable methods of prairie restoration.

Historically, the Tallgrass prairie has distinguished itself from the many other ecosystems of North America for its rich biodiversity. The development of such rich land was not an overnight phenomenon, however, as the beginnings of the prairie come from the period following the Pleistocene glaciation. Approximately 18,000 years before the current time, most of the state of Illinois was covered in glaciers and, when melted, converted the vegetation to a tundra-like state, and then into a spruce forest. Between 14,000 to 10,000 years before the current time, the climate changed into a warmer and drier atmosphere. Mesic forests, characterized by their cooler temperatures and abundant wood life, dominated for a few thousand years until the climate became increasingly warm and dry. At this point, approximately 8,300 years ago, most forest growth disappeared, save for the trees dotting stream banks and rivers (Robertson).

Prairies develop from a combination of conditions too wet to be a desert and too dry to be a forest. In Illinois specifically, the last 1,000 years has become wetter, allowing for the influx of trees, but without human contamination, prairies would still be the dominant vegetation. According to Ken Robertson of the Illinois Natural History Survey, prairies are controlled by three non-biological stresses: climate, fire, and grazing. Prairies in general consist of extreme temperature ranges, so those living in Illinois typically experience hot summers and frigid winters. Another characteristic of prairies is the amount of rainfall per year, which can also vary. Average rainfall may surprise travelers, as, “the annual rainfall in Champaign, Illinois is seven inches more per year than London, England,” (Robertson) but Londoners will rarely experience the droughts found in Illinois. Severe droughts and extended dry periods are often characteristics of prairie life.

As stated previously, their varying climate, grazing, and needed fires characterize prairies. The extreme temperatures once deterred settlers, but nothing compared to the fear generated by fires. Although it is undetermined, fires were most likely started by lightning or Native American tribes (Savage 81). Nevertheless, fire is an essential aspect of maintaining tallgrass prairie health. Periodic fires cut down woody growth and provide the soil with nutrients. When too many trees sprout in the prairie, the shade blocks the sunlight and starts to choke the grasses. Fire stops the woody plants from dominating, cleans out the dead grasses and nonnative plant life, and then returns the nutrients to the soil (Robertson). However, the necessary burn periods for prairies unsettle residents to this day, understandably, and this presents yet another problem when advocating for increased restoration projects within the state.
Likewise, grazing the land is an aspect of the tallgrass prairie historically accomplished by bison but, after settlement bison were largely exterminated and replaced by cattle (Robertson). Bison restoration is slower in the eastern states of the prairie, as opposed to the expanse of land found in the west, but certain sites have adopted the need for increased bison presence. Nachusa Grasslands in Illinois will begin to add bison to the land in the fall of 2014, after incredible preparation provided by the help of volunteers and donations. Before heavy settlement, over 30 million bison roamed the country, but the species was nearly exterminated due to the mistreatment from early settlers and other land profiteers. Today, the U.S. Department of Agriculture estimates that 198,000 individuals live on private properties and 20,000 survive on public land (Delgado). These numbers are startlingly low for such an iconic North American land mammal, but the conservation of natural prairie habitat sustains the remaining populations.

Bison remain contenders for prairie restoration projects over their competition, cattle, because they are a natural part of the ecosystem. Cattle were introduced after European settlers arrived, and are prevalent today because of the accustomed American diet to beef. However, cattle accomplish the same tasks as Bison, but they accomplish it less effectively. Bison are wonderful contributors to the land because they wallow in the soil, “creat[ing] openings for other kinds of plants,” (Savage 112), clear out unnecessary woody vegetation and forbs, and eat grass, which promotes healthier growth. Grazing is an essential aspect of healthy prairie, but also of healthy land in general. As stated in the beginning of this essay, increased prairie restoration will be explained using scientific and historical evidence – the existence of scientific research as the basis for bison at sites like Nachusa, FermiLab, or Midewin National Tallgrass Prairie (Fall 2014 possibly) prove that increased restoration is approved by a wide range of professionals.

Returning to the other two attributes of the prairie, fire and climate, both stalled the development of the tallgrass prairie for a hundred years or so but, after the development of the John Deere plow, settlers attempted to weather the country. Tallgrass prairies can grow higher than most people, and their height is the landscape’s trademark. The types of tall grasses that grows such as Indian grass, Big and Little Blue Stem, Switchgrass, Prairie Dropseed, and Side-oats Grama among many others, achieve this height. Because the landscape appeared so difficult to navigate, early explorers thought the land beautiful, but infertile (Robertson). The tremendous height deterred farming, but after the creation of the plow, settlers soon realized that they had stumbled upon one of the most fertile, if not the most fertile, areas of the world.

“Although the majority of original prairies in Illinois have been destroyed, there are still a number of areas where people can see prairies,” writes Ken Robertson in his essay entitled, The Tallgrass Prairie in Illinois. After the discovery of fertile lands, pioneers rapidly converted the grasslands into farmland, and the Industrial Age changed the land into residential and commercial use. Today, the tallgrass prairie, which previously spanned thousands of acres, occupies less than 0.02% of its former domain. Locally, sites like the Schulenburg Prairie at the Morton Arboretum, Gooselake Prairie, Fermilab, SpringBrook prairie, and the Russell Kirk site at the College of DuPage are available for visitation (Robertson). The remainder of the Tallgrass prairie exists in remnants and fragments scattered across the state, including a national restoration project at Midewin National Tallgrass Prairie.

Midewin National Tallgrass Prairie was created through the Illinois Land Conservation Act of 1995 on February 10, 1996, and was signed by President Clinton. It is the first federally designated sanction for Tallgrass prairie and continues to be of importance today (Robertson). The prairie spans over 19,000 acres, and remains the, “largest piece of contiguous open space in northeastern Illinois,” (Midewin). Using volunteer support, the site nurtures prairie restoration while maintaining areas for human recreation, such as hiking, bird watching, biking, hunting, and horseback riding.

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One of the interesting features of the prairie is the renovation of the land from its previous arsenal space in Joliet, to an area that both benefits the community and the health of the land. When discussing prairie restoration and opposition to developing new prairies, it is important to remember that restoration can begin in places misused and neglected, and change a destitute area into aesthetically pleasing land. Prairies are necessary to restore because they return the land to its natural state – this means that instead of farmland, tall grasses and wildlife can return. Farmland can be beneficial for human resources but also incredibly damaging, as land farmed annually begins to deteriorate the soil and rob it of its nutrients, thus creating very poor land. When the land becomes poor, it will cease to sustain life for an extended period, and cause occurrences such as drought and subsequent hunger.

Many people oppose new prairie restoration sites because they replace areas for commercial use, but as with the Midewin Nation Tallgrass Prairie, lands that are no longer life sustaining, or abandoned, can become prairie. Therefore, both commercial and natural needs would be met. This is the situation regarding Springbrook Prairie in Will County, where citizens agreed to create a prairie with recreation instead of further construction. Regardless, prairie restoration is a difficult task, consisting of many volunteers and often hard labor. Even at Midewin the site is in continual construction, as reconstruction is time consuming and labor intensive. According to Daryl Smith in The Tallgrass Prairie Center Guide to Prairie Restoration in the Upper Midwest, “a reconstruction consisting of a diverse, species-rich seed mixture will undergo successional stages and exhibit changes in species composition and species domination for decades,” (Smith 9) meaning that reconstruction does not end with planting, but is the beginning of a beautiful journey.

After the decision to restore land has been made, site preparation, seed selection, planting methodology, and prescribed burns follow. When deciding to allow for bison, setting a prescribed burn team, or deciding which native plants to grow, setting goals that can be accomplished allow for an easier transition. As soon discussed in this paper, conflict often follows the restoration process, but, “the prairie [is] a region of expectant watchfulness, and life a perpetual contrast of work and idleness, hope and misgiving,” (Grierson 2). The discussions surrounding the restoration process may be long and arduous, but the prairie has the unrivaled ability to persevere against human folly, rivaling the dedication of the few who advocate for its very existence.

Conversely, the increase in restoration projects does not come without complications. Even amongst those in favor of environmentalism, there is a disagreement between those who advocate for the prairies and those who advocate for the trees. Restoration is a point of agreement between the two opposing forces, but the restoration of which ecosystem began an argument that would lead to a moratorium. In May 1996, the two divided groups of environmentalists disagreed on whether to destroy forests in favor of restoring natural grasslands, the tallgrass prairie. In Char Miller’s review of Restoring Nature: Perspectives from the Social Sciences and Humanities, edited by Paul Gobster and Bruce Hull, the controversy allowed for the assessment of, “Americans’ perceptions of the tangled relationship between nature and culture,” (Gobster 169). The majority of views indicate a need to preserve nature based on cultural inundation, but a lack of full scientific reasoning among the public, and sometimes the professional, spheres inhibits the ability to conserve intelligently. This is the reason behind moratoriums and political disagreements – neither party fully understands what lies in the best interest for both people and nature.

Acclaimed journalist and nature writer Richard Manning believes that, “industrialism is rational and progressive; it has an agenda based on our assumption that we understand how things work,” (Manning 262). In truth, the conflict between industrialists and environmentalists and the inner conflict between environmentalists stems from overconfidence in understanding something that is so complex. This lack of understanding is not an excuse for lowering restoration sites, but should stand as a proponent of increased conservation. While disagreements will still occur, without actual scientific experimentation, the general public will not have the chance to finally grasp why
restoration is important. Without the courage of trial and error, the science will remain undiscovered.

One of the senior editors of the National Geographic, Robert Paul Jordan, writes in 1967, “the men who explored this land for France would marvel at the expanding industrial network that is filling in the open spaces along the Illinois River Valley from the Chicago area to St. Louis,” (Jordan 581). A statement made in the last few decades still rings true today. Expansion is the motto of Illinois, and conservation is continually labeled as unimportant, despite the overwhelming scientific evidence that proves otherwise. Unfortunately, the destruction of the tallgrass prairie has, “seriously depleted the diverse and irreplaceable genetic resources found in nature” (Madson 258). The consequences of these actions will remain high unless further action is taken. Harmony must strike between the needs of the people and the conservation of the land, because the effects of pollution, mismanagement of the land, extinction of species, and the destruction of necessary nutrients will cause irreparable damage to future generations.

Naturalist and poet John Madson writes in Where the Sky Began: Land of the Tallgrass Prairie, that the, “tallgrass prairie is of historical and cultural interest and of high biological worth” (Madson 257), but the conservation of such areas relies on the dedication of those willing to save it. Saving the Tallgrass prairie is greater than advocating for a single species because the land itself is endangered. Along with the disappearance of the land, species that have existed solely on the land for generations will cease to exist. Throughout this paper, the scientific evidence of the importance of bison and the preservation of soil nutrients proves the necessity of conservation. The historical evidence from Nachusa and Midewin National Tallgrass Prairie elaborate on these statistics, and the acknowledgement of the struggles with restoration allows for the irrefutable decision to increase conservation. Regardless of the difficulties, without the attempt to save something still misunderstood, this country will lose countless natural artifacts. Saving the tallgrass prairie is more than saving aesthetically pleasing lands; it is saving a forgotten way of life.

Works Cited


