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# Tallgrass Prairie National Preserve



## Historic Resource Study

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By Hal K. Rothman and Daniel J. Holder

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Subject: Tallgrass Prairie National Preserve Historic Resource Study

Attached for your information is a copy of the final *Tallgrass Prairie National Preserve Historic Resource Study*. The historic resource study was prepared under contract with Hal K. Rothman and Associates.

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# Tallgrass Prairie National Preserve

## Historic Resource Study

By Hal K. Rothman  
And  
Daniel J. Holder

United States Department of the Interior  
National Park Service  
Midwest Regional Office  
Cultural Resources

Omaha  
2000

Tallgrass Prairie National Preserve

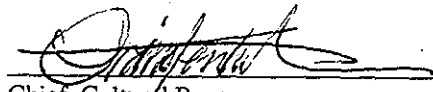
Historic Resource Study

Hal K. Rothman

United States Department of the Interior  
National Park Service  
Midwest Regional Office  
Cultural Resources

Omaha  
2000

RECOMMENDED:

  
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Chief, Cultural Resources

23 May 00  
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6/27/00  
Date

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Regional Director, Midwest Regional Office

6/30/00  
Date

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## Chapter 1:

# Cattle and the Kansas Flint Hills

Rich in luxuriant tall and short grasses that make it prime cattle grazing country, the bluestem pasture of the Flint Hills of east-central Kansas is distinctive. Simply put, it looks different from the lands around it, and as a result it possesses a history different from most of Kansas. Undulating mounds glow bright green in the summer sun, and its crevasses create depths that seem to be at the bottoms of deep wells. The bluffs that make up the Flint Hills are mostly limestone-based rock outcroppings that play a significant role in supporting the overlying vegetation. That plant life, particularly the various species of wild grasses, has combined with water resources, topography, and geographic location to play a crucial part in making the area a key part of the nation's beef industry.<sup>1</sup>

The geographical boundaries of the Flint Hills are clear. Observers know the moment they leave the grasslands; as they enter the low-lying, humid area near Emporia to the north or the dry plains to the south and west, the differences are unmistakable. Stretching from Pottawatomie County, Kansas, to Osage County, Oklahoma, the bluestem region appears on maps as an elongated, oval-shaped area almost 200 miles long and fifty miles wide. At the close of the twentieth century, the National Park Service received authorization to preserve, restore, and interpret a small part of this ecosystem. Created on November 12, 1996, and located in Chase County, Kansas, Tallgrass Prairie National Preserve holds almost 11,000 acres of prairie that made up a significant portion of the Spring Hill/Deer Park Ranch cattle operation and was designed to tell the story of people and the grasslands that once dominated the center of the North American continent.<sup>2</sup>

The ecological significance of the Flint Hills transcends human history. The last remaining significant expanse of unplowed tallgrass prairie in the United States, the region is a vestige of an earlier geological landscape. Vegetation common at the time of historical contact between Europeans and Indians predominates, as tallgrass or true prairie species, including switchgrass, big bluestem, little bluestem and Indian grass, still characterize the Flint Hills. Three major waterways cross the Flint Hills – the Republican, Blue, and Kansas rivers. Several others, including the Neosho (Grand), Cottonwood, Marais des Cygnes (Osage), and Walnut rivers receive water from the area. Tallgrass Prairie National Preserve's water drainage systems – larger courses such as the Cottonwood River and its South Fork, Middle Creek, Palmer Creek, and Diamond Creek, and their feeder streams – are lined with stands of burr oaks, walnuts and

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<sup>1</sup> James C. Malin, *History and Ecology: Studies of the Grassland* (Lincoln: University of Nebraska Press, 1984): 165-66.

<sup>2</sup> Bruce A. Jones, *Archeological Overview and Assessment for Tallgrass Prairie National Preserve, Chase County, Kansas* (Lincoln, NE: Midwest Archeological Center, National Park Service, 1998).

hackberry trees, and other woody and grass species. Chase County's hills contain more than seven hundred plant species and almost one thousand species of vascular plants. Many of the lowland acres with deep soil have been cultivated into pastures of smooth brome, winter wheat, milo, corn, soybeans, and alfalfa. Atop many of the bluffs, thin layers of sod laced with pieces of chert make the fields difficult to cultivate. As a result, the area has won renown for its cattle grazing.<sup>3</sup>

The Flint Hills is an ecological remnant of a much larger ecosystem. At one time, 1.1 million square miles of grass and savanna dominated the center of the North American continent. Created after the last Ice Age, these grasslands took their present form about 11,000 years ago. Stretching east to west from Indiana to the Rocky Mountains, grasses grew on lands too wet to become deserts and too dry to support forests. A host of other environmental factors contributed to their development. The relatively young Rocky Mountains to the west became the most defining environmental feature of the plains, blocking the moisture-laden winds that blow off the Pacific Ocean from reaching the region's western zone and refocusing wet air masses coming north from the Gulf of Mexico further to the east. As a result of this ecological combination, grasses predominated the landscape. Less than one-third of those central 1.1 million square miles were grassland-tree mixtures, with small groups of trees covering between 10 percent and 75 percent of the terrain.<sup>4</sup> The grasses seemed to stretch forever.

The human history of the Flint Hills closely links environmental change and cultural behavior. Human beings develop the systems called culture as a complex web of strategies and techniques that enable them to cope with survival problems in specific ecological contexts. Other living things adapt physiologically to assure survival; humans alone use culture as an instinctive response to environmental pressures and limitations. The environmental conditions imposed by the Flint Hills have affected every human population that ever settled there. The Tallgrass Prairies had a distinct set of uses to each of the peoples who came to make its lands their own. Despite its initial foreignness to both native peoples and the European-American settlers who followed them, all learned to see the prairies in the terms of their culture, to adapt to its advantages and to develop strategies to limit its disadvantages. The deep grasses of the Flint Hills fed abundant wildlife, and along river courses, seeps, and small springs a wide array of plants made gathering possible. Humans learned to support themselves by exploiting those resources. Later those grasses came to support cattle brought in from hundreds of miles away. Much of human behavior and indeed human history in the region stem from this pattern of accommodation.<sup>5</sup>

Shaping that behavior was the Flint Hill's fundamental liminal condition, for the region lies in a series of transition zones. Located within what geographers describe as the Central Lowlands Province of the Interior Plains of North America, the Flint Hills contain a series of microclimates, each diverse from one another. Chase County lies in a boundary zone between the subtropical

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<sup>3</sup> Vascular plant species: Ira Lee Barnard, who has done extensive study of the plant species at Tallgrass Prairie. She references a 1969 University of Kansas science bulletin for this information.

<sup>4</sup> James T. Neill, *Soil Survey of Chase County, Kansas* (Washington: United States Department of Agriculture, Soil Conservation Service, in cooperation with the Kansas Agricultural Experiment Station, 1974).

<sup>5</sup> Larry L. Naylor, *Culture and Change: An Introduction* (Westport, Conn.: Bergin & Garvey, 1996): 1-60; Marshall Sahlins, *Culture and Practical Reason* (Chicago: University of Chicago Press, 1976): 169-70, 205-210.



climate of the southeastern United States and the semiarid Great Plains. Located in the northern section of the Flint Hills, it exhibits many of the traits of the southern parts of its region. Periodic seasonal droughts typify the area, but expansive, grassy pastures and tree growth limited to the fertile bottom lands next to streams reveal elements of a subtropical climate. Except for the southernmost range of the Flint Hills in southern Kansas and northern Oklahoma, average annual rainfall reaches 30 to 35 inches. In that southern portion, higher average temperatures and longer frost-free periods offset lower precipitation levels. In southern Kansas, eight additional days in the average year remain free of frost, permitting a wider range of agroecological strategies. In the northern parts of the Flint Hills, earlier frost obviates the advantages of greater rainfall, creating a transitional bioregion.<sup>6</sup>

Like its climate, Chase County's soil is classed as transitional. The United States Department of Agriculture places the county's soil within two of its classifications: prairie soils associated with forest-grassland transition zones, and alluvial. Both are relatively fertile and with care will support agriculture. Although they are laden with coarse chert fragments of as much as three inches in diameter, Chase County's upland soils tend to have a well-drained texture, making them suitable for prairie grasses. The silty clay loam alluvial soils of the area's flood plains and low terraces are deep and well suited for cultivation, provided farmers practice conservation. Rolling hills, featuring extensive limestone bluffs that are divided by narrow valleys, define the region. This mineral resource proved to be of considerable economic worth as local entrepreneurs in the post-Civil War era quarried the area's limestone for building materials for the region and the nation.<sup>7</sup>

The Flint Hills represent a transition zone for several other environmental categories. Its vegetation encompasses tallgrass and mixed grass habitats, while the land immediately to the north of the Blue and Kansas rivers shows well-eroded features marking the southernmost reach of the glaciers. Ecologists categorize most of North America's prairie midsection as tallgrass, mixed-grass, and shortgrass prairie, divided by an east-west gradient measuring annual precipitation. Tallgrasses comprised the larger bluestem and Indian grass that dominated the region's eastern 120,000 square miles, including the eastern third of Kansas. Directly to the west, mid-size grasses covered the terrain, although tallgrasses are found in riverine environments and other moist areas. In the drier areas, little bluestem clusters predominated, alongside junegrass, needlegrass, and western wheatgrass. Short grasses thrived in the drier climate to the west, as buffalograss, blue grama, and other species of grass adapted to the environmental extremes of the

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<sup>6</sup> Malin, *History and Ecology*, 165-66.

<sup>7</sup> *Ibid.*, 247; according to a 1948 aerial survey, of the county's 495,360 acres, 69,241 acres have slopes of less than 2 percent with no abrupt changes in relief; 126,302 acres have moderately sloping topography ranging from 2 percent to 7 percent; 170,000 acres have somewhat steeper slopes of 8 percent to 14 percent; 117,314 acres have steep hills or bluff-like slopes of more than 14 percent. *Physical Land Condition Affecting Use, Conservation, and Management of Land Resources: Chase County, Kansas* (United States Department of Agriculture, Soil Conservation Service, May 1948): 1-4.

region.<sup>8</sup>

In addition to the vast fields of grass, the Flint Hills was home to hundreds of animal and insect species. Fine grazing provided for a wealth of animal life, and flora and fauna adapted to each other. During earlier geological periods, large herbivorous mammals such as elephants, horses, camels, and bison thrived on the area's vegetation while they themselves provided nutrition for human hunters. Mammals either extinct or now strangers to the plains, such as the plains grizzly and the bighorn sheep, once crossed the Flint Hills. Until recent times, bison, pronghorn antelope, elk, and mule deer lived on the tallgrasses. Currently, most of the grasses are devoted to grazing cattle, but native species still inhabit the region, including smaller animals such as coyotes, bobcats, jack rabbits and small burrowing animals such as gophers.<sup>9</sup>

Despite the aeons of animal life in the Flint Hills, human population has registered the greatest impact on the region, and in turn has been most affected by its environment. Humans learned advantages that sustained their societies through extended experience that can best be characterized as trial and error. People initially tapped the Flint Hills natural resources, pushing against the biogeographical limits of the region and the boundaries of their cultures. When technological advances permitted humans new ways to shape the physical environment for their cultural and economic gain, they met the region on its own terms. They adapted their culture to the potential they learned to see. Reflecting broader trends in environmental history, the region's earliest inhabitants made comparatively few demands on the often erratic and always undependable Great Plains environment. Later settlers to the area utilized a more potent arsenal to achieve their ends. Assisted by technologies that helped tame the hills and valleys and better transportation systems that connected far-flung communities and enabled residents to survive the worst environmental setbacks, these settlers brought different expectations that demanded more from the land. This constellation of forces and the cultural values of the people who developed it commenced large-scale environmental change, transforming the land into a source for the needs of a society far distant from the Flint Hills of Kansas.<sup>10</sup>

The human presence in the east-central Kansas area dates back at least ten thousand years, with many sites showing evidence of long-term occupation and use. Initially, the animals and plants supported by the grassy prairie and the relatively easily accessible rock faces where chert could be quarried and sharpened into tools and weapons were primary attractions. More than 150 recorded prehistoric and historic sites – animal kill sites, quarries, burial mounds, and campsites – have been identified in Chase County, with another several hundred known sites in the

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<sup>8</sup> Janet E. Bare, *Wildflowers and Weeds of Kansas* (Lawrence: Regents Press of Kansas, 1979): 1-6; Daniel S. Licht, *Ecology and Economics of the Great Plains* (Lincoln: University of Nebraska Press, 1997): 1-5.

<sup>9</sup> Eugene D. Fleharty, *Wild Animals and Settlers on the Great Plains* (Norman: University of Oklahoma Press, 1995): 11-27; Waldo R. Wedel, *An Introduction to Kansas Archeology* (Washington: Government Printing Office, 1959): 3-18 and Wedel, *Environment and Native Subsistence Economies in the Central Great Plains* (Washington, Smithsonian Institution, 1941); communication with Robert Mathews, Kansas Department of Wildlife and Parks, April 17, 2000.

<sup>10</sup> Joseph V. Hickey, *Ghost Settlement on the Prairie: A Biography of Thurman, Kansas* (Lawrence: University Press of Kansas, 1995): 26-31; Waldo Rudolph Wedel, *Prehistoric Man on the Great Plains* (Norman, University of Oklahoma Press, 1961): 29, 128-9.

surrounding Flint Hill counties of Morris, Lyon, and Marion. As far back as the Paleo-Indian era, when humans advanced onto the Central Plains following the last retreat of the North American glaciers, the natural resources of the Flint Hills supported small human communities. By the time the Europeans pushed onto the plains in the mid-sixteenth century, scattered groups of peoples may have lived throughout the area. These horticulturalists supplemented their diets by hunting the animals that lived on the surrounding grasses with weapons made from the materials they found around them.<sup>11</sup>

The limits of the region defined the practices of the people who came to the Great Plains before and after written history. Prehistoric pre-horse cultures spread all across the Great Plains on foot, adapting to environmental limits, but without horses they were limited to sedentary societies. Most of these communities were clustered around sources of water, with limited contact between different groups. All were limited in the ways in which they could exploit the region's animal resources, with hunting of bison restricted to communal affairs where herds were driven over cliffs or small numbers of animals were isolated in rough funnel-shaped enclosures that drove the bison to the killing zone. What horses allowed Indians to do was hunt bison more efficiently, with small numbers of men collecting large numbers of animals as needed instead of the whole community engaged in the pursuit. Nomadic groups began exploiting the rest of the plains' resources only after mounted travel became widespread. Horses also revolutionized transportation opportunities for villages and individuals, and made increased trading contacts possible, by allowing the movement of large numbers of trade goods.<sup>12</sup>

Incoming Europeans and Americans saw the region through their own cultural limitations. The first French explorers from Canada, entering Kansas from the east, labeled the region a prairie, seeing in it the grassy orchard or a park with scattered trees of their homeland. When Americans came, they saw a landscape they neither understood nor appreciated. Brought up in the typically wooded areas along the eastern seaboard, Americans labeled the treeless plains as worthless, imposing their own cultural expectations and the limits their perspective contained. The area lacked the primary necessity of their culture, the wood that so dominated nineteenth-century American society. People of the culture of wood, they derived much of their sustenance from it: their homes, their fuel, their tools, and many of their other accouterments. Without wood, they were lost. When they looked at land they rated its value by the amount of wood it contained. By this measure, the Flint Hills were impoverished and of minimal value to their society.<sup>13</sup>

In place of forests that covered eastern North America, these prairies were filled with grasses that displayed their splendor in tall thin stems that in the richer alluvial soils outside the Flint Hills could arch more than nine feet high. Despite the impressive show, the unseen truly distinguishes the prairie's natural ecosystem. Grasses are able to survive and flourish because of their large extensive root systems, vegetation made possible by the level of precipitation and high-quality sod. All across Missouri, Indiana, Iowa, Illinois, and eastern Kansas, the rich soil drew

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<sup>11</sup> Jones, *Archeological Overview and Assessment*, 1-29.

<sup>12</sup> Frank Gilbert Roe, *The Indian and the Horse* (Norman: University of Oklahoma Press, 1955): 11-71.

<sup>13</sup> James C. Malin, *History and Ecology*, 15-16; John Perlin, *A Forest Journey: The Role of Wood in the Development of Civilization* (New York: W.W. Norton, 1989).

early emigrants, and their settlement efforts became tenable with the invention of a plow in the middle of the nineteenth century that could easily break up the thick sod formed by generation of prairie plants. This farming device devastated the grasses' root system, and within a relatively short time, usually two planting seasons, the newcomers turned most of the tallgrass prairie into vast fields of croplands. Settlers' efforts modified most of the original grasslands and few areas escaped the plow. The Flint Hills provided a primary exception. Within Tallgrass Prairie National Preserve, cattle have been the predominant industry, and as a result, most of the original grassroot ecosystem has survived. Today Chase County is one of the few places in the American West where both unirrigated agriculture and small- and large-scale animal husbandry are possible.<sup>14</sup>

Even with the power of industrial technologies and the transportation systems that made their society function, the Flint Hills possessed only fixed and ultimately limited potential to American settlers. Unlike the humid climates east of the Mississippi River, where rainfall routinely topped thirty inches per year and the predominant color of the landscape was green rather than golden brown, the Flint Hills were marginally suited for the agro-economic regime of the nineteenth-century United States. The unusual environmental characteristics of the Flint Hills made the process of harnessing it different from nearly every other place in the American West. The physical nature of Chase County, its historical circumstances, and economic patterns combined to preserve much of the precontact vegetation. Flinty soil provided the most obvious reason that the region escaped large-scale cultivation during the Euro-American pioneer period, but just as the tallgrass shows off its stem and leaves while hiding its roots far underground, the continuation of the cattle industry sprang from deeper, hidden causes. In most American frontier communities, ranchers preceded farmers, raising animals on relatively low-value lands until increasing populations and changing conceptions of use raised their value. Many parts of the Flint Hills reversed that cycle, with ranchers eventually supplanting Chase County's early farmers. From necessity and circumstance, the Euro-American emigrants who survived in the area learned to rely on cattle for their economic livelihood.<sup>15</sup>

As the country faced an increasingly bitter sectional debate over slavery during the middle of the nineteenth century, thousands of Americans headed west. They sought economic prosperity and political control of the new lands that belonged to the nation by the power of Manifest Destiny, the divinely guided mission laid out in 1845 by John L. O'Sullivan, editor of the *United States Magazine and Democratic Review*, that called for the United States to assume control of the entire continent. The West was shaped by the ever-extending railroad tracks, most running in

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<sup>14</sup> Walter M. Kollmorgen and David S. Simonett, "Grazing Operations in the Flint Hills-Bluestem Pastures of Chase County, Kansas," *Annals of the Association of American Geographers* 55, no. 2 (June 1965): 260-290; George Cameron Coggins and Michael McCloskey, "New Directions for the National Park System: The Proposed Kansas Tallgrass Prairie National Park," *Kansas Law Review* 25, no. 4 (Summer 1977): 480; Joseph V. Hickey and Charles E. Webb, "The Transition From Farming to Ranching in the Kansas Flint Hills," *Great Plains Quarterly* 7 (Fall 1987): 246-47.

<sup>15</sup> Richard White, *"It's Your Misfortune and None of My Own": A New History of the American West* (Norman: University of Oklahoma Press, 1991): 3; Frank Wilson, "Landscapes: A Geologic Diary," in Rex Buchanan, ed. *Kansas Geology: An Introduction to Landscapes, Rocks, Minerals, and Fossils* (Lawrence: University Press of Kansas, 1984): 19-20.

an east-west direction, linking the raw materials of the western region to the industrial parts along the Atlantic seaboard. Farmers and ranchers in the new territories and states quickly became part of a national market economy, and national demand for products soon influenced their activities. Kansas became a territory in 1854, just as the nation's agricultural sector entered a three-year period of prosperity blunted by the national economic depression of 1857, an early harbinger of how the two sections of the country were interrelated. The territory's economic picture brightened with the discovery of gold in the mountains surrounding Denver. Thousands of Americans traveled across Kansas in pursuit of sudden wealth, and merchants and farmers suddenly saw a new flood of customers to satisfy.<sup>16</sup>

When Euro-Americans crossed America, they initially viewed the prairies with a mixture of hope and disdain. Great Plains settlement came as an afterthought in American expansion, for many settlers considered the region nothing more than the "Great American Desert," to be traversed as quickly as possible on the way to more fruitful places beyond. Many of those seeking frontier opportunities looked past the broken terrain and sought the broad plains further west, but some liked what they saw in the Flint Hills. Chase County attracted enough people to organize in 1859, two years before Kansas attained statehood. Named after Ohio Governor Salmon P. Chase, the new county calved from the southern portion of Wise County and the northern section of Butler County.

The sectional unrest that led to the Civil War isolated Texas, the nation's largest cattle-producing state, from the rest of the nation, and for the four years of conflict its immense, mainly unmanaged herds only grew bigger. The economic and transportation disruptions caused by the war left the county with immense herds in Texas and hundreds of thousands of consumers eager but unable to buy beef. After the war ended in 1865, ranchers began driving the animals west, feeding soldiers at isolated Army posts and Indians confined to reservations. The cattlemen also drove their herds north, at first directly to the stockyards of the cities and later to rail heads that fed those cities. By 1870, Abilene, a small Kansas town with a rail connection that was surrounded by huge areas of grazing land, became the major destination for countless steers. Many cattle owners made fortunes from their herds, but the prosperity did not extend far beyond the corridors created by the cattle trails.<sup>17</sup>

Left out of the initial growth of the cattle trade, the Flint Hills farming population grew slowly. Chase County remained mostly prairie, interrupted by thin bands of wooded areas and small farming plots. Broader economic circumstances eventually contributed to the region's development as a locale for cattle grazing. As did many other counties in the bluestem region, Chase County became prime grazing territory for cattle imported from elsewhere in the Southwest before shipment to eastern markets. This development reflected the marked increase in consumer demand for meat and meat products in both the United States and Europe that followed the Civil War. Located at the end of long cattle drive trails and near major rail transshipment

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<sup>16</sup> Sam W. Haynes and Christopher Morris, ed. *Manifest Destiny and Empire: American Antebellum Expansionism* (College Station: Texas A&M Press, 1997): 8-10; Elliott West, *The Contested Plains: Indians, Goldseekers, and the Rush to Colorado* (Lawrence: University Press of Kansas, 1998): 6-14.

<sup>17</sup> Joseph G. McCoy, *Sketches of the Cattle Trade of the West and Southwest* (Kansas City: Ramsey, Millett and Hudson, 1874): 111-34.

points, the Flint Hills region became connected to the larger national cattle industry early in its history. The link created a service industry of feed distributors, bankers, and veterinarians to assist local cattle traders and ranchers. Chase County's major towns had their roots in agriculture and transportation, the county seat of Cottonwood Falls for its verdant grasslands and its close neighbor to the north, Strong City, as an important stop on the Atchison, Topeka and Santa Fe Railroad (AT&SF) line, a major shipping point for the area's cattle and limestone, and to a lesser extent, its agricultural products.<sup>18</sup>

Across the West, range cattle dominated from about 1870 to 1885, only to be replaced by cattle ranching. Changes in consumer preferences and the development of affordable barbed wire revolutionized the industry and led to the substitution of controlled pasturing of high-quality herds for unrestricted grazing of unblooded longhorns on public lands. The expansion of railroad lines into the Flint Hills area, especially tracks connecting to Kansas City and Chicago, fostered the growth of a regional agriculture industry. Someone had to construct the region's railroads, along with stock pens and cattle loading facilities, and the rails had to be maintained. In itself these became an important ancillary industry. Predictably, a regional economy developed with cattle-raising at its core. In the broader picture of Chase County's development, the expansion of transportation made the Flint Hills part of a Midwestern component of the larger national market economy.

Traditional frontier businesses also contributed to the area's development. Trading posts, general stores, mills, lumber yards, banks, and local offices for the cattle trade developed and expanded over time. Quarries and construction companies were additional important Chase County industries because of the abundance of local limestone. In addition to business and financial expansion, the creation of institutions such as churches and schools, as well as local media, helped new residents discover a sense of place. The county's first newspaper, the *Kansas Press*, appeared in Cottonwood Falls on May 30, 1859, edited by abolitionist, community leader, and entrepreneur Samuel N. Wood. A free-state paper, it described the city as having but two cabins, and only one had a board floor. The *Kansas Press* and its numerous successors were instrumental in chronicling the area's economic growth as well as the differences that arose between the county's farming and ranching interests, including debates over fencing and water rights, herd laws, and quarantine of incoming cattle.<sup>19</sup>

The cattle trade needed supporting businesses to thrive, but maintaining the herds remained the core industry. Grazing eventually rose to dominate Chase County's agricultural economy, and one of the key locations that illustrates that story is the cattle operation founded by Stephen Jones and continued by his immediate successor, Barney Lantry, the first two owners of the land that historically been known as the Spring Hill/Z Bar Ranch and today comprises Tallgrass Prairie National Preserve. Representing dramatically diverse backgrounds – Jones a product of the Texas frontier and Lantry arriving in Kansas after careers in the North – the men

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<sup>18</sup> White, *It's Your Misfortune*, 28-29; William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W.W. Norton, 1991): 207-47; Joseph Nimmo, "The Texas Cattle Trade, 1870," in Wayne D. Rasmussen, ed., *Agriculture in the United States: A Documentary History*, vol. 2 (New York: Random House, 1975): 1141-46.

<sup>19</sup> Chase County Historical Society, *Chase County Historical Sketches*, Vol. 1 (1940): 68-70.

found common ground in the cattle industry. Their backgrounds contributed to differing viewpoints. These two protagonists defined the Spring Hill/Deer Park Farm, today's Z Bar Ranch, and gave their operations significance in the cattle trade. That importance became part of a larger whole, of the story of peopling, settling, and transforming the nation.

Viewed as part of the westward expansion of the United States in the nineteenth century, the cultural history of the Spring Hill/Z Bar Ranch reveals the changes in the Midwestern cattle trade. Like the industry as a whole, the ranch changed from an open range, resident-owner operation to the closed range, absentee-owner pattern that succeeded it.

Growing along with the Kansas cattle industry was the railroad system. In Chase County, the AT&SF connected the grazing areas with the ranges where the animals were born and the slaughterhouses where they died. Western railroads such as the AT&SF received enormous grants of land as partial compensation for the cost of building the rail system. When they could, they filled these lands with immigrants. Colonization agencies, steamship lines, and European agents flooded England, France, Germany, and other northern European countries with colorful, boastful circulars extolling the agricultural virtues of Kansas.<sup>20</sup>

The American settlers who established the region's cattle industry depended upon the technological transformations engendered by railroads and barbed wire. Improved transportation opened up urban markets to meat produced on the plains, while the new fencing material of barbed wire, patented in 1874, transformed grazing patterns. It ended the widespread practice of cattle owners grazing and watering their herds on public lands, kept traveling stock out of local crops and off local and private range, and imposed a formidable order on cattle raising in general. Once barbed wire became available, the richer owners could afford to purchase and enclose large tracts of land for the exclusive use of their herds. Enclosing the open range permitted better breeding practices, and blooded stock, whose meat consumers demanded, quickly replaced the scrawny Texas Longhorn, the eight pounds of hamburger on eight hundred pounds of hoof of regional lore. With barbed wire, cattle raising ceased to save a place for roustabouts and vagabonds and instead became the business of landed gentry. The fences also reduced labor costs and cattle losses, but the cost of acquiring lands greatly increased the initial stake needed to enter the cattle business.

The Flint Hills are among the most unspoiled tallgrass prairie ecosystems remaining in America, and remain one of the best examples of an American Indian ecology. Tallgrass Prairie National Preserve shows how humans used and shaped the unique environment of the Flint Hills to the specific needs of human cultures. In a post-industrial society where agricultural work is part of an increasingly distant past, the preserve provides a clear link to a way of life that most Americans revere, but few have ever experienced. In this it offers a window into the national soul, a look at who we were so that we can see who we have become.

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<sup>20</sup> Keith L. Bryant, Jr. *History of the Atchison, Topeka and Santa Fe Railway* (New York: Macmillan Publishing Co., 1974).

## Chapter 2:

### Early Flint Hills Inhabitants

The combination of grass and hills captures the eye of Flint Hills visitors. That pairing is ancient; it has undergone thousands of years of living, dying, and coexisting. Say the word “Kansas” to those unfamiliar with the state, and images of tornadoes and flat lands running out to the distant horizon are most likely to come to mind. In parts of the state, the weather is all too often as bad as portrayed in story, while the unrelieved landscape, starkly beautiful in its own way, has little appeal to those who accept the standard conventions of scenic beauty. The myth of Kansas topography and weather describes the western half of the state. The terrain across the eastern third of Kansas offers great variety, and the Flint Hills contain some of the best vistas in the state. Running through the Kansas counties of Clay, Riley, Dickinson, Geary, Wabaunsee, Marion, Chase, and Butler, the irregular oval-shaped landmarks created by eons of geographic forces provide a counterpoint to the legend of *The Wizard of Oz*.<sup>1</sup>

The jagged bluffs originated millions of years ago. Continents, oceans and atmosphere began forming during the Precambrian Era, dating from the earth’s formation about 4.65 billion years ago to about 600 million years ago. Continental land masses were created and destroyed throughout the Precambrian Era and its successor, the Paleozoic. The region that far in the future became Kansas was covered by shallow seas during the opening periods of the Paleozoic, starting the creation of limestone layers. These layers became the basis of east-central Kansas today.

During the era’s final period, the Permian, about 286 million to 245 million years ago, the Flint Hills were formed. The seas continued their cyclic raising and lowering, leaving behind deposits of limestone, shale, and chert. The sedimentary rocks formed by the deposit of the shallow inland seas’ dead marine life were buried under several thousand feet of rock, compacting the mass. Uplift and erosion eventually exposed the rocks and centuries of erosion wore away softer sedimentary material, leaving behind harder limestone deposits.<sup>2</sup>

In the subsequent Mesozoic Era, the eastern half of what became Kansas experienced little significant geologic activity. During the era’s earliest period, the Triassic, which started about 225

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<sup>1</sup> Rex Buchanan, ed. *Kansas Geology: An Introduction to Landscapes, Rocks, Minerals, and Fossils* (Lawrence: University Press of Kansas, 1984): 2-5; John C. Frye, “The Erosional History of the Flint Hills,” *Transactions of the Kansas Academy of Science* 58, n. 3 (1955): 79-86; Grace Muilenburg, *Land of the Post Rock: Its Origins, History, and People* (Lawrence: University Press of Kansas, 1975); Raymond Wood, ed., *Archeology on the Great Plains* (Lawrence: University Press of Kansas, 1998): 16-19; Douglas B. Bamforth, *Ecology and Human Organization on the Great Plains* (New York: Plenum Press, 1988): 2-14; Bruce A. Jones, *Archeological Overview and Assessment for Tallgrass Prairie National Preserve, Chase County, Kansas* (Lincoln, NE: United States Department of the Interior, National Park Service, Midwest Archeological Center, 1998): 10-11.

<sup>2</sup> W. Brian Harland, *A Geologic Time Scale* (Cambridge: Cambridge University Press, 1992): 23-4; Preston Cloud, *Oasis in Space: Earth History from the Beginning* (New York: W.W. Norton and Company, 1988): 121-138, 210-211; Colin W. Stearn, Robert L. Carroll, Thomas H. Clark, *Geological Evolution of North America*, 3d ed. (New York: Wiley, 1979).



