

# Final General Management Plan/Environmental Impact Statement

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## TALLGRASS PRAIRIE National Preserve Kansas

**RESPONSIBLE AGENCY:** National Park Service, U.S. Department of the Interior

The approving official is the National Park Service's Regional Director for the Midwest Region. A "Record of Decision" can be issued 30 days after publication of the release of this document by the Environmental Protection Agency in the *Federal Register*. The National Park Service will accept comments on the Final General Management Plan and Environmental Impact Statement during this 30-day period. For the exact date that the 30-day period will end, contact the park at the address or phone number below, or see the Tallgrass Prairie National Preserve web site: <http://www.nps.gov/tapr/>

**FOR FURTHER INFORMATION:** Contact the Superintendent, Tallgrass Prairie National Preserve, 226 Broadway, Cottonwood Falls, Kansas 66845, (316) 273-6034. Written comments also can be sent to this address.

### ABSTRACT:

This *General Management Plan* is intended to provide a blueprint to guide park management decisions at Tallgrass Prairie National Preserve for the next 10-15 years. In keeping with National Park Service planning policy, the *General Management Plan* is a holistic, long-term, policy-level view for the future of the preserve. The plan does not address site-specific actions, which will be deferred to future implementation planning. In the course of preparing the plan, six alternatives were developed. **Alternative A** is the no-action alternative required by the National Environmental Policy Act. It provides a baseline for comparison of the other alternatives.

The five "action" alternatives each would strive to achieve all desired futures for the preserve, including those related to prairie enhancement, natural and cultural resources protection, and visitor experiences. The primary difference between alternatives is their central focus. The **Preferred Alternative (Proposed Action)** would focus on the integrated management of the natural and cultural resources of the preserve. This alternative is based on the ideas that the Preserve was established to preserve, protect, and interpret a remnant of the tallgrass prairie ecosystem and that the remnant prairie exists today because of a complex history of interaction between people and the land. **Alternative B** would focus primarily on the preservation, protection, and interpretation of the preserve's cultural resources, although the prairie ecosystem would be enhanced and natural resources protected. **Alternative C** would emphasize visitor experience goals. This alternative would provide the broadest range of visitor experiences over the largest area of the preserve. **Alternative D** would center on the story of ranching in the Flint Hills region, along the story of human interaction with the tallgrass prairie ecosystem. Finally, **Alternative E** would more fully focus on management of the natural landscape, including the unplowed prairie and its associated creeks, springs, and seeps.

The potential environmental consequences of the action alternatives have been evaluated. As this is a programmatic environmental impact statement, the affects of the alternatives are described in terms of reasonable projections of likely impacts. In general, all action alternatives would provide for better protection and/or enhancement of all of the preserve's resources (than is provided for by the current preserve management framework, i.e., Alternative A). They also would provide for greater visitor access to the preserve, and an increased understanding of the prairie and all of its related stories. Major impact topics assessed include vegetation, wildlife, threatened and endangered species, air and water quality, historic, ethnographic, and archeological resources, visitor use, and the socioeconomic environment.



# SUMMARY

Tallgrass Prairie National Preserve was established in 1996. The legislation authorizing the preserve states that the purposes of the preserve are "to preserve, protect, and interpret for the public an example of a tallgrass prairie ecosystem...and to preserve and interpret for the public the historic and cultural values represented on the Spring Hill Ranch." Beginning with the legislative mandate, the planning team identified the significance of the preserve, interpretation themes, "desired futures," and visitor experience goals. The team then developed management alternatives that would meet these requirements and goals.

The public was invited to participate throughout the various stages of the planning effort. Open houses, newsletters, and the preserve's website were all used to share information and solicit comments. Originally six alternatives were developed in addition to the "no action" alternative. One, Alternative B, places a primary focus on cultural resources; another, Alternative C, places a primary focus on visitor opportunities. Two alternatives were developed with the help of outside panels that were made up of acknowledged experts and scholars in the fields of prairie ecosystem management and range management. The finding of these panels formed the basis of Alternative D, with a "two-pronged" focus on ranching and tallgrass prairie management, and Alternative E, with a primary focus on enhancing the tallgrass prairie ecosystem. Two other alternatives, a "modern working ranch" alternative and a "prairie wilderness" alternative were eliminated early in the planning process because the team felt they did not meet the legislated mandates or the visitor experience goals for the preserve. The Preferred Alternative was developed as a new alternative, an outgrowth of the four surviving preliminary alternatives and the comments received from consultations and public response. The focus of the Preferred Alternative is the integrated management of the natural and cultural resources of the preserve, recognizing the intertwining of these resources throughout time.

Differences between alternatives are a function of each alternative's primary focus. All action alternatives are intended to support the park's significance and purpose, achieve desired futures, avoid unacceptable resource impacts, and provide for public enjoyment of the preserve. Thus, natural resources, cultural resources, and visitor use are important considerations in all of the alternatives. However, the focus of each alternative helps determine how each of these concerns is managed relative to the other concerns.

Implementation of any of the action alternatives, including the Preferred Alternative, would result in significantly better protection of the preserve's natural and cultural resources than would result if the preserve continued to be managed as it is now (that is, under Alternative A, the "no action" alternative). Any of the action alternatives would also result in significantly improved visitor experiences and increased visitor understanding of the preserve.

The Preferred Alternative and Alternative E would provide for a greater expression of vegetative species diversity than any other alternative because these alternatives would place a strong emphasis on the prairie landscape and those processes documented to increase diversity.

Alternative B would provide for the preservation and restoration of the greatest number of cultural landscape features, because of its emphasis on protecting and interpreting the cultural resources. Alternative E would allow for more deterioration of cultural resources than any other action alternative because the emphasis would be on the protection and interpretation of the tallgrass prairie ecosystem preserve-wide.

Alternative E would provide for a greater improvement to water quality than any other alternative because of the lack of construction directly related to watercourses and the reduction in the number of stocked grazers on the preserve.

Alternative C would facilitate achievement of more visitor experience goals than any other alternative, while Alternative D would result in achievement of the fewest number of visitor experience goals. Visitor access to bison would be limited under Alternative B. Access to bison would be greatest under Alternative C or E.

None of the alternatives would appreciably affect the socioeconomic environment.



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**SECTION 3: THE AFFECTED ENVIRONMENT ERROR! BOOKMARK NOT DEFINED.**

**NATURAL RESOURCES**

- Geology
- Climate
- Minerals
- Soils
- Vegetation
- Water Resources
- Wildlife
- Air Quality
- Fire Management
- Viewsheds (Landscapes and Vistas)
- Grazing

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**CULTURAL RESOURCES**

- Archeological Resources
- Ethnographic Resources
- Structures
- Cultural Landscapes
- Museum Collections

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**SOCIOECONOMIC ENVIRONMENT**

- Regional Land Use
- Demographic Characteristics
- General Economy of the Area

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**VISITOR SERVICES/VISITOR USE**

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**MANAGEMENT INFRASTRUCTURE**

- Existing Local Policies, Land Use Plans
- Public Health and Safety
- Existing Special Uses
- Advisory Committee

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**IMPACTS OF ALTERNATIVE A**

- Natural Resources
- Cultural Resources
- Socioeconomic Environment
- Visitor Services/ Visitor Use

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**IMPACTS OF PREFERRED ALTERNATIVE**

- Natural Resources
- Cultural Resources
- Socioeconomic Environment

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Visitor Services/ Visitor Use  
Other Impacts

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**IMPACTS OF ALTERNATIVE B**

Natural Resources  
Cultural Resources  
Socioeconomic Environment  
Visitor Services/ Visitor Use  
Other Impacts

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**IMPACTS OF ALTERNATIVE C**

Natural Resources  
Cultural Resources  
Socioeconomic Environment  
Visitor Services/ Visitor Use  
Other Impacts

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**IMPACTS OF ALTERNATIVE D**

Natural Resources  
Cultural Resources  
Socioeconomic Environment  
Visitor Services/ Visitor Use  
Other Impacts

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**IMPACTS OF ALTERNATIVE E**

Natural Resources  
Cultural Resources  
Socioeconomic Environment  
Visitor Services/ Visitor Use  
Other Impacts

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**COMPLIANCE WITH KEY FEDERAL AND STATE LAWS, EXECUTIVE ORDERS, AND OTHER REGULATIONS**

Compliance Regarding Cultural Resources  
Consultation with American Indian Tribes  
Compliance Regarding the Social Environment  
Compliance Regarding Natural Resources

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**PUBLIC AND AGENCY REVIEW**

Agency and Organization Comments  
Citizen Comments

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**APPENDICES**

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**APPENDIX 1 – STUDIES COMPLETED, UNDERWAY, NEEDED**

Cultural Resources  
Natural Resources

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**APPENDIX 2 – PLANS COMPLETED, UNDERWAY, NEEDED**

General  
Cultural Resources  
Natural Resources

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General Development Costs - Preferred Alternative  
Historic Structure Rehabilitation – Preferred Alternative  
Interpretation and Education – Preferred Alternative  
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Historic Structure Rehabilitation/Restoration/Preservation - Alternative B  
General Development Costs - Alternative C  
Historic Structure Rehabilitation/Restoration/Preservation - Alternative C  
General Development Costs - Alternative D  
Historic Structure Rehabilitation/Restoration/Preservation - Alternative D  
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Enhancement Panel and Support  
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**LIST OF PREPARERS**

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# **SECTION 1: BACKGROUND**

## **PURPOSE AND NEED FOR A PLAN**

It is a policy of the National Park Service (NPS) that each unit of the National Park System maintain an up-to-date general management plan (GMP). The purpose of the plan is to ensure that each park has a clearly defined direction for resource preservation and visitor use.

The preserve is a new unit of the National Park System, authorized by Congress in 1996. Section 1005(g) of Public Law 104-333, the act authorizing Tallgrass Prairie National Preserve (hereafter 'preserve') calls for the preparation of a GMP, and includes direction on what should be included in the plan and who must be consulted in preparing the plan. The legislated deadline for completing the GMP is September 30, 2000.

A GMP articulates a management philosophy and provides broad direction for future management decisions at the preserve. The vision developed in the GMP must derive from the intent articulated in the preserve's enabling legislation. By definition, a GMP does not provide specific details; it provides broad brushstrokes that are refined later through implementation plans such as the Resource Management and Comprehensive Interpretation plans. This GMP will set a direction and provide a framework for decision making at the preserve for the next 10-15 years.

The Environmental Impact Statement (EIS) is a programmatic statement, presenting an overview of potential impacts related to the proposed program for each alternative. More detailed plans may be developed for individual actions and would be tiered to this programmatic statement.

## **BRIEF DESCRIPTION OF PRESERVE**

The preserve was established in November 1996. This act culminated more than 70 years of interest in, work towards, and opposition to the creation of a national prairie park.

The preserve is located in northern Chase County, Kansas, in the heart of the Flint Hills region (see Figure 1). It consists of 10,894 acres (4398.1 hectares) of rolling grasslands. Two major creeks cross the property, Fox Creek and a tributary, Palmer Creek. Numerous springs, seeps, and stock ponds dot the landscape. In addition to the prominent buildings and structures related to the ranching history of the property, a number of less prominent archeological features have been identified on the land.

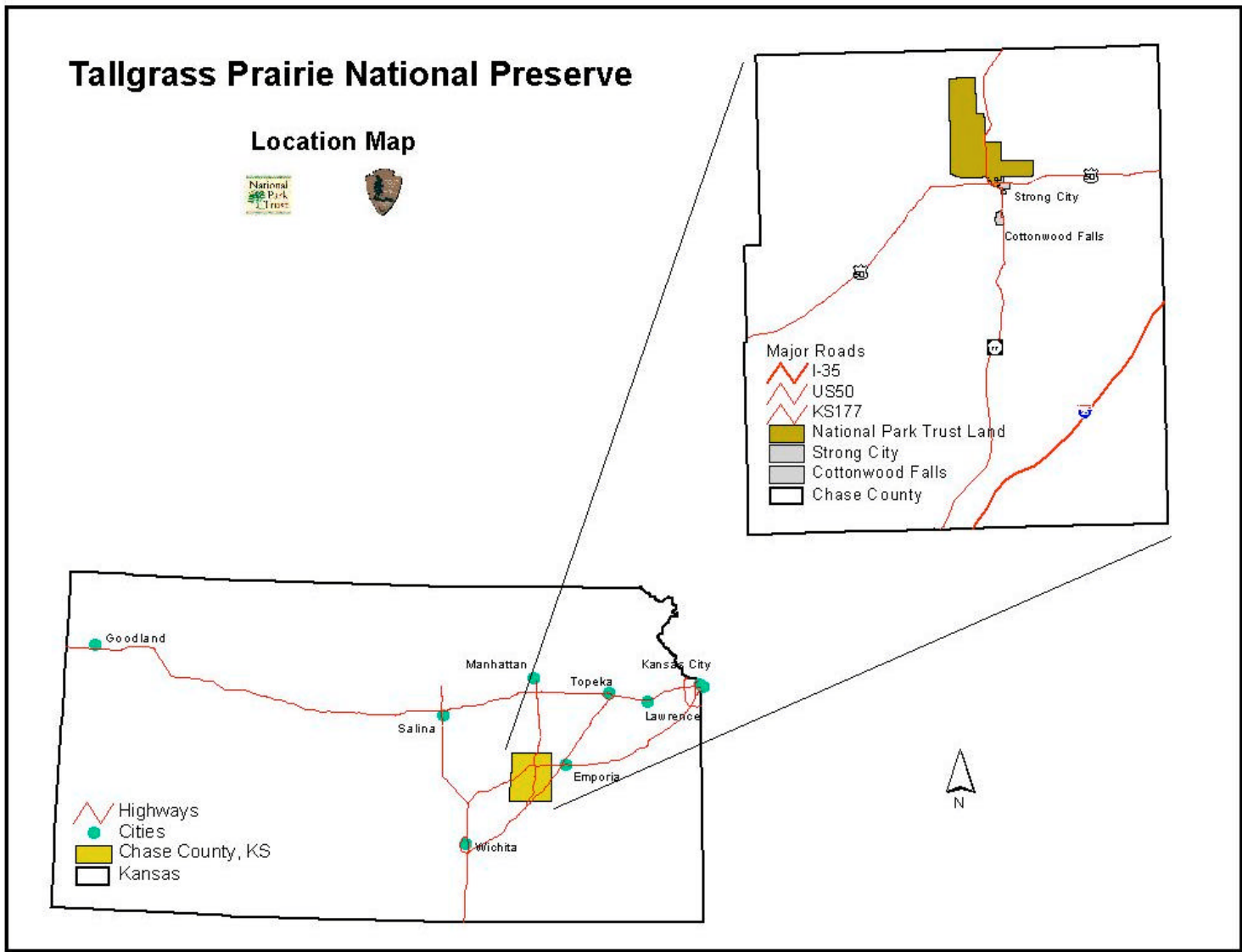
### **Archeological Overview**

The information in this and the following section has been excerpted from several studies that were prepared by the NPS, including an Archeological Overview and Assessment and a draft Ethnobotany Report. Additional studies are ongoing, and will provide background and analysis of the preserve's cultural resources. Two other studies, a Cultural Landscape Report (CLR), and a Historic Resource Study (HRS), will identify, evaluate, and help determine all historic cultural landscapes and structures within the preserve that are eligible for the National Register. Both the HRS and CLR will be primary documents used to guide the treatment and use of cultural resources at the preserve.

Human activity in the Kansas Flint Hills can be traced back about 10,000 years. Human use of the area's natural resources evolved from hunting large and small mammals and gathering wild plants, to the development of ceramic technologies and horticulture, with exchange networks extending well beyond the Plains (ca 6,000 B.C.-A.D.1). Beginning about A.D.1, new subsistence and technological traits developed, including the routine production of ceramics and the use of domesticated plants, and bow and arrow hunting. From about A.D.1000, domesticated plants and associated artifacts reflect a predominantly horticultural existence, and a shift to settled village life (Jones 1999: 6-9, 14-17).

By A.D.1500 - 1825, efficient horticultural activity was combined with increased bison hunting, almost certainly due to acquisition of the horse by American Indian groups. This was a transition time between the prehistoric past and the era of written history on the Great Plains. This period has clear association with specific American Indian peoples. In the area of the preserve, these include the Wichita, Kansa, Osage, and Pawnee. The movement of these people throughout the Great Plains during this period prevents attribution of specific peoples to fixed locations in the Flint Hills. The Wichita apparently abandoned the northern part of their territory between 1690-1719, moving south to the Arkansas River in present-day Oklahoma. By the first two decades of the 19th century, the western boundary of the Kansa core territory extended nearly to the preserve area. Pawnee and Osage occupation sites have not been discovered in the general area of the preserve, although the region was probably included in their hunting range (Jones 1999; 17-22).

Descriptions by explorers and early settlers across the Great Plains provide important information on American Indian use of the land and its resources, particularly bison, and the use of fire. Indian peoples throughout the Great Plains started prairie fires for a number of reasons, including plant management, grazing improvements, acts of aggression, and communications. There is little evidence, however, to support the idea that Indian people practiced large scale annual burning, or that they intentionally set fires to clear wooded areas. Documented instances described fires that were relatively small in size, while large fires caused by Indian people were either accidents or acts of aggression. Some American Indian groups in the northern Great Plains used fire to limit or control bison in order to predict the animals' movement the following spring, or to force bison movement towards encampments; however, the negative consequences outnumbered the benefits of the use of such large-scale fire. These fires were dangerous and difficult to control. They also destroyed vegetation, and as a result, drove animals further away from camps. Instead, typical historic references of bison hunting involve tribal groups, as a community, traveling to an area to hunt bison (Moore 1972, Higgins 1986, Arthur 1975, and Evans 1998, personal communicatio



**Figure 1**



## Historical and Ethnographic Overview

Mid-16<sup>th</sup> and early 17<sup>th</sup> century Spanish and French explorers provided the first written descriptions of this portion of the central Great Plains and its occupants. Spanish explorers described Wichita tribes in the areas of Cow Creek and the Little Arkansas River, and along the lower Arkansas River. French explorers interested in the fur trade noted both *les panis* (possibly meaning Pawnee settlements) on a northern tributary of the Arkansas River, and a Kansa village along the Missouri River in northeast Kansas (Jones 1999: 17-22).

While the Spanish were impressed with the agricultural possibilities of the region, American government-sponsored expeditions two decades later found little of economic value in what was described as the “Great American Desert” - a description that included all of Kansas (Evans 1939: 39-44, Richmond 1989: 15). Early 19<sup>th</sup> century perceptions of the plains grassland as an area unfit for agriculture encouraged public opinion on the unsuitability of settling west of the Missouri River. Instead, traders and travelers journeyed through the country, connecting with commercial centers in the Southwest and Far West. One route of predominately commercial use was the Santa Fe Trail, which passed through Council Grove (Richmond 1989: 24, 48).

This constant flow of travelers on the Santa Fe Trail brought an increase in hostilities with the American Indian peoples who were losing control over their lands and homes, and confronting a great increase in disease epidemics. Smallpox, cholera, and dysentery epidemics, among other disease episodes, led to a depopulation of the Kansa tribe by at least two-thirds by 1839.

Alternative land uses evolved with the increase in traffic through the region. American policy makers found the area an important tool in carrying out governmental goals regarding removal of American Indians. In 1825, the same year they allowed Santa Fe traffic through their land, the Osage and Kansa signed treaties whereby they surrendered their traditional lands--nearly 45 million acres-- to make way for relocated western tribes. The Osage cession included the land that now constitutes Chase County and Tallgrass Prairie National Preserve. The Kansa cession included some 15 million acres comprising most of the northern half of the state of Kansas. By 1841, 17 reservations were established west of the Missouri. In 1846, the Kansa tribe was persuaded to give up their last 2 million acres in a long strip north of Council Grove, for a reduced reservation of 250,000 acres centered around Council Grove. The resultant "permanent Indian frontier" lasted less than 35 years (Jones 1999: 21, Richmond 1989: 30; Garver 1981: 204-229).

Before Kansas was established as a Territory in 1854, Anglo-American emigrants were moving west, and “squatting” on unsurveyed land. (Evans personal communication 5/19/1998, Register of Deeds, *Strong City Independent* 1881, Shortridge: 1995 18-27, Garver 1981: 524-530). The new arrivals found the region’s tillable and fertile floodplains supported agriculture, and the grasses and forbs nourished their livestock. Trees and native limestone provided construction material.

Pressure for westward expansion increased after the end of the Civil War. It resulted in a complete removal of native populations, the influx of new settlers, and the establishment of a transportation system that would have a broad impact on the region. To legally allow for the sale of public land for settlement and development, additional treaties were signed; these further reduced the amount of land held by tribes. In other cases, tribes sold their land to promoters. By the late 1870s, nearly all of the original inhabitants of the eastern region of Kansas were moved to the Indian Territory of Oklahoma (Davis 1976: 33-34; Evans 1939: 376, Richmond 1989: 41-43; Garver 1981: 472-543). The last original resident American Indian tribe in Kansas, the Kansa (or Kaw), from which the state took its name, was forced to move to Oklahoma in 1873. A few of the eastern tribes refused to leave Kansas, however, and they still have reservations in the state. Currently residing in Kansas are the federally recognized Potawatomis, Iowas, and Kickapoos. A group of Wyandots in the Kansas City area are attempting to gain federal recognition as an American Indian tribe. Despite their forced removal, the Kaw still maintain historical and cultural ties to their former reservation lands surrounding Council Grove. The tribal government is currently negotiating to acquire a few acres encompassing the original Kaw Agency site, and they participate in an annual Pow-Wow at Council Grove. Some members of

the tribe still retain family history from the area, but the specifics have grown dim since the 1873 removal.

After 1873, millions of acres of newly opened public land were granted or sold to railroad companies to encourage commercial traffic and development. The railroads in turn sold excess land to obtain capital for building new rail lines across the territory. In this region of the Flint Hills, the Atchison, Topeka and Santa Fe extended a line to Cottonwood Station (Strong City) in 1871. The Missouri, Kansas and Texas Railroad was built through Council Grove on its route south. Within a decade of the establishment of the territory, nearly all the land in Chase County was under private ownership.

One result of rail access to the prairie was the slaughter of the plains bison by both market and sports hunters. The estimated number of bison on the Great Plains in the early 1800s prior to their decimation varies from 30 to 75 million (U.S. Department of the Interior 1995, Davis 1976: 106). Within four years of the railroads' advance and the development of a market in tannable hides, well over four million bison died on the southern plains. In Kansas, the slaughter peaked between 1870-1873, then collapsed (Cronan 1991: 217).

With the annihilation of the bison and removal of most tribes to Oklahoma, the grasslands of eastern Kansas and the Flint Hills became the focus of farming and ranching economies. In the early 1870s, small farmers made up the majority of the Chase County population, and many even cultivated portions of uplands adjoining their lower fields (Hickey and Webb 1987: 249-250). In addition to cattle grazing, early settlers practiced a diversified agriculture, raising crops in small, enclosed holdings on the bottomlands, and running hogs and sheep on the unfenced uplands. With the exception of the floodplains, however, much of the topsoil in the Flint Hills region was considered too thin to support cultivation (Kollmorgen and Simonett 1965 in Hickey and Webb 1987: 244).

An additional hindrance to agricultural development was the lack of a herd law in Chase County. Livestock grazed unrestricted on the uplands (Hickey 1988: 204). Fencing, such as limestone walls or Osage orange hedges, kept livestock out of crop areas (Peters 1989-90 in Yoder 1995: 12). Barbed wire, invented in 1874, would not be widely available or within the means of most Chase County farmers until the 1880s (Isern in Hickey 1988:205).

The 1880s saw the boom of the cattle industry in the Flint Hills, a development integrally related to the availability of the railroad service. For the railroads, transporting cattle from western and southwestern railheads became a primary source of revenue. Flint Hills stockowners and landowners profited from feeding cattle enroute on their shipment east by rail. When the Flint Hills were recognized as a prime place to fatten cattle, livestock came to dominate the agricultural sector. Unfenced grazing practices gave way to grazing in enclosed fields. Herd sizes were reduced, in conjunction with improved care and improved stock quality (Wolfenbarger 1996: 17; Hickey 1988: 206).

Two businessmen who recognized the importance of the grasses in this region were Stephen Jones and Barney Lantry. In the late 1870s, Jones switched from stockraising on the Colorado open range to raising purebred stock in Chase County. From 1878 to 1886, Jones purchased a number of parcels of land in the county, ranging from small existing farms to tracts of over a thousand acres. Many of the larger tracts of land were obtained from the railroads (Register of Deeds, *Strong City Independent* 1881). He named his property the Spring Hill Ranch and Stock Farm. The 7,000-acre (2,826 hectares) holdings represented the transition from open-range ranching to the more specialized cattle industry which developed on enclosed ranches during the cattle industry's mature stage. Jones specialized in Hereford, Shorthorn, and Galloway stock, and also raised Hambletonian thoroughbreds, hogs, horses, and sheep. The ranch included over 400 acres (160 hectares) cultivated in a variety of grains, corn, potatoes, tame grass, and fruit trees. Thirty miles (50 kilometers) of stone fence enclosed and subdivided the property. One-half mile (0.8 kilometers) north of the ranch headquarters, Jones donated land for a one-room limestone schoolhouse, commonly known as the Lower Fox Creek School (Snell 1991: 5, 13).

The ranching domain represented in the Spring Hill Ranch grew to 15,000 acres (6,056 hectares) with its purchase by neighbor Barney Lantry in 1888. Lantry made his fortune as a railroad construction contractor; included on his Flint Hills property were limestone quarry sites. Although he would purchase the ranch headquarters used by Jones, Lantry's headquarters remained at his Deer Park Place stock farm to the south (Snell 1991: 9-10).

Later owners modified the ranch boundaries over the next several decades. From 1909 to 1935, the Benninghoven family owned 1,080 acres (436 hectares), including the original ranch headquarters. They were the first owners to

live in the Spring Hill Ranch house since the Jones family. Debts forced the Benninghovens to sell their land in 1935 to George H. Davis, a prominent grain dealer from Kansas City.

The purchase by Davis reunited the historic Spring Hill/Deer Park Place, along with holdings in five other counties. The subsequent Davis Ranch was the largest holding in the state, totaling over 70,000 acres (28,260 hectares) of ranch land. Under the Davis/Davis-Noland-Merril operations, stock ponds, corrals and spring-fed water troughs were installed across the property. Davis transferred title of the property to his Davis-Noland-Merril Grain Company, although his cattle operation was known as the Davis Ranch. The ranch was a huge feeder calf operation; an average of about 6,000 Hereford calves were shipped by rail to this area of the Flint Hills where they were fed for two years before they were sent to market (Hoots 1998: 6-10; Slabaugh 10/5/1994 interview). As with the earlier Jones and Lantry period, large-scale ranching defined land use under the Davis and Davis-Noland-Merril Grain Company ownership. The proximity to and use of railroads to transport stock continued to play an important role in ranching operations (Quinn Evans 1999; 3-3 to 3-4).

When Davis died in 1955, the ranch name changed to the Davis-Noland-Merril Grain Company Ranch. Prior to his death, Davis reorganized the ranch ownership, placing most of his estate in an educational trust fund, with the remainder divided between specific individuals. In 1975 the business name changed to the Z Bar Cattle Company, and the Chase County ranch property became known as the Z Bar Ranch. In 1985 the company ceased cattle and ranch operations, and the stockholders voted to dissolve the corporation. In 1986 the property was placed in trust with Boatman's First National Bank of Kansas (now Bank of America). The bank's trust department leased the property for seasonal grazing. In 1994, the National Park Trust (NPT), a non-profit land conservancy organization purchased the property. The NPT's mortgage payments on the Z Bar Ranch were eased in 1995 by a \$1 million donation by Edward Bass. Bass also paid in advance for a \$2 million, 35-year grazing lease on the property. (United States Dept. of Interior 1/28/98, Snell 1991: 12; Rothman and Associates 1999: 199-201; Conard 1998: 47).

The preserve represents a unique partnership between NPT, who owns the land, and the NPS, who will serve as the primary managing agency. The legislation permits the NPS to own up to 180 acres (72.7 hectares); the rest will remain in private ownership.



## FOUNDATIONS OF THE PLANNING EFFORT

### Legislation

The legislation authorizing the preserve states that the purposes of the preserve are "to preserve, protect, and interpret for the public an example of a tallgrass prairie ecosystem...and to preserve and interpret for the public the historic and cultural values represented on the Spring Hill Ranch." The legislation calls for the development of a GMP that provides for maintaining and enhancing the tallgrass prairie within the boundary, ensuring public access to and enjoyment of the property consistent with conservation and proper management of the resources, and providing for interpretive and educational programming. The enabling legislation also requires that the NPS comply with applicable state laws regarding the maintenance of adequate fencing, control of noxious weeds, use of pesticides, and maintenance of animal health (see Appendix 8 for full act).

### Significance and Purpose

All planning for national park areas begins with an examination of the legislation establishing the site. This legislation usually contains information about the significance of the site (why the area was designated), and the purpose of the site (what the area should accomplish). The Tallgrass Prairie National Preserve GMP planning team began their planning effort by first examining the legislation and developing some short statements that capture the significance and purpose of the preserve. These statements served as the foundation for the development of the management alternatives.

The **significance** of Tallgrass Prairie National Preserve:

- Of the 400,000 square miles (1,036,279 square kilometers) of tallgrass prairie ecosystem that once covered North America, less than four percent remains; Tallgrass Prairie National Preserve represents a portion of this remnant.
- The landscape of the Tallgrass Prairie National Preserve contains a unique collection of natural and cultural features that tells the story of human interaction with the prairie environment, from pre-contact times to the present.
- The Spring Hill Ranch is an outstanding representation of the transition from the open range to the enclosed holdings of the large cattle companies of the 1880s.
- The Spring Hill Ranch Headquarters area contains outstanding examples of Second Empire and other 19th century architectural styles.
- Tallgrass Prairie National Preserve offers opportunities for extraordinary and inspirational scenic views of the Flint Hills prairie landscape.

The **purpose** of Tallgrass Prairie National Preserve:

- to preserve, protect, and interpret for the public, an example of a tallgrass prairie ecosystem;
- to preserve and protect the cultural resources found within the preserve;

- to interpret for the public, the cultural resources and the social and cultural values represented within the preserve.

## Mission Statement

Together, significance and purpose statements are the park's mission. The mission statement is a distillation of significance and purpose into a single statement of worth – why the park exists, what it accomplishes, and what value it offers the American people.

Tallgrass Prairie National Preserve is a public/private partnership dedicated to preserving and enhancing a nationally significant remnant of the tallgrass prairie ecosystem and the processes that sustain it; preserving and interpreting the cultural resources of the preserve and the heritage associated with the ranch property; and offering opportunities for education, inspiration, and enjoyment through public access to its geological, ecological, scenic, and historical features.

## Desired Futures

Before any alternatives were developed, the planning team took the significance and purpose statements and developed a set of “desired futures” for the preserve. These represent the conditions that would be desirable to have in place in order to achieve the purpose of the preserve. They are written in the present tense, as if they already exist, in order to help planners then focus on how they might be achieved. The following “desired futures” were identified for the preserve.

***The preserve's private landowner and the National Park Service maintain a strong partnership to accomplish the mission of the preserve.***

This is the primary key to success at Tallgrass Prairie National Preserve. Ninety-eight percent of the land will remain in private ownership, so the maintenance of this partnership between the landowner and the land manager is vital to the success of the preserve.

***The preserve's management team maintains effective working relationships with preserve neighbors, adjacent communities, and other partners in order to identify and cooperate on issues of mutual interest.***

Many issues, such as viewsheds, water quality, transportation, and fire management, can be addressed effectively only through partnership efforts; educators and researchers may have important current knowledge, other landowners may have similar needs and concerns; nearby communities may have additional valuable resources. Accommodating diverse viewpoints and interests, and sharing information, will be very important for the successful, long-term management of the preserve.

***The preserve has adequate information available for making management decisions.***

There is a need to establish a long-term inventory and monitoring program at the preserve. The current state of the resources of the preserve must be established as baseline data, then quantitative and qualitative changes must be identified over time. Only through a comprehensive inventory and monitoring program can adequate information be made available for sound decision making.

***Management activities and policies at the preserve lead to the enhancement of the tallgrass prairie ecosystem and a greater understanding of its associated processes.***

Experts have consistently stated that to enhance the tallgrass prairie ecosystem it is important to maintain the processes that allow for its full expression; it is less important to focus only on

increasing the number of species present. The preserve provides opportunities at the local, regional, and national level to demonstrate and create a better understanding of these processes.

***Heterogeneous disturbance regimes are an integral part of management activities at the preserve.***

Experts suggest that in order to allow for the full expression of the tallgrass prairie ecosystem, elements of randomness should be encouraged. The complex interrelationships found within the prairie ecosystem, especially those involving fire and grazing, should be perpetuated in such a way as to ensure that the same activity (such as fire or grazing) does not occur in the same area, in the same way, at the same time, every year.

***The preserve's seeps, springs, and streams are in good ecological condition and support a healthy and diverse aquatic community.***

Healthy aquatic resources are vital to a fully functioning prairie ecosystem. These resources should be assessed and either maintained or restored to function as integral parts of the ecosystem.

***Open and unobstructed views, an integral part of the prairie experience, are maintained.***

The vistas and views have been repeatedly identified by the public as some of the preserve's most important resources. The relationship of earth and sky, the feeling of vastness (during both day and night), and the openness of the landscape all contribute to a "sense of place." Existing developments should be managed to enhance views (i.e., power lines buried), and future developments should enhance and not detract from this important resource.

***Resources are managed to interpret the legacy of human interaction in the Flint Hills.***

The tallgrass prairie has evolved through the complex interplay between climate, geology, grazing, fire, and human activities. The span and variety of human activities in the Flint Hills appear to be well represented at the preserve. These stories should be told in large part through and by the resources of the preserve.

***Natural and cultural resources are managed to preserve the character-defining features of the Flint Hills cultural landscape.***

The Flint Hills landscape today represents the dynamic interrelationship of people and the land. Maintenance and enhancement of the tallgrass prairie ecosystem should be done in such a way that this landscape is maintained.

***The preserve's historic records and objects are properly managed and preserved.***

The preserve's historic records and objects should be an integral part of education and interpretation programming at the preserve. Preservation and use of these materials can bring visitors into direct contact with the story of the preserve. Archive materials should be available to researchers.

***Education and interpretation efforts extend beyond the boundary of the preserve, in order to reach a wide audience.***

Although on-site experiences will be a very important part of education and interpretation at the preserve, interpretive efforts cannot be successful if they are directed only toward those who visit a site. Outreach to communities, educational institutions, and potential visitors through off-site activities, dissemination of written materials, and development of long distance learning opportunities should be pursued.

***Visitors are transported to and through the preserve using a variety of transportation modes, in order to protect the landscape and provide for high-quality visitor experiences.***

Because of the desire to preserve the landscape and protect integral parts of the prairie experience, a transportation system other than personal automobiles might be needed to transport visitors from a visitor center to the historic ranch headquarters area, or from one visitor area to another. A range of alternative visitor transportation modes will need to be considered. These options could closely tie transportation to interpretation at the site, and should address safety issues, including potential conflicts between grazers and visitors.

## Interpretation and Education Themes

Interpretation and education themes are those ideas, concepts, or compelling stories that are central to the preserve's significance, purpose, and visitor experience. Every visitor should have access to these ideas, concepts, and stories. These themes provide the framework and backbone of the preserve's programs. They provide direction for planners and for designers of various media such as exhibits, publications, audiovisual presentations, and personal service programs such as guided tours or living history demonstrations.

### ***The once vast tallgrass prairie ecosystem, endemic to North America, is one of the world's most endangered ecosystems.***

Much of the Midwest was once covered with tallgrass prairie, a complex, productive, and beautiful ecosystem. Today, unplowed tallgrass prairies are nearly extinct, with an estimated four percent remaining nationwide. Many of those remaining prairies are small, isolated remnants that barely resemble the once vast expanses known to American Indians. Though much of the prairie story is hidden beneath the surface in the soil, an entire collection of above ground species and their interactions have been adversely affected by loss of prairie habitat. Biodiversity loss is an increasingly serious global environmental problem. While land management practices are compatible to some degree, the full expression of native species diversity is suppressed. Not all impacts are realized immediately. The subtle changes to the native plant and animal communities associated with air borne pollutants are slowly having an effect on the unique habitats and their life forms. Our choices, whether local or global, are having impacts on the remaining resources. The preserve offers a unique opportunity to understand the value of prairies worldwide by preserving a significant example of one of the rarest of North America's major ecosystems.

### ***Tallgrass prairie is a biologically diverse association of flora and fauna, specially adapted over thousands of years to topography, soils, climate, fire, grazing, and other natural influences.***

Biological diversity, or biodiversity, refers to the many species of native plants and animals that comprise and sustain natural communities. The interactions between the species above and below the surface of the ground are complex. Numbers of grassland bird species have been particularly affected by loss of habitat brought on by changes in land management practices. The preservation of Flint Hills prairie can provide an important storehouse of genetic diversity.

### ***Interrelationships between the natural and cultural resources and features of the preserve reflect the influence of the land on the people and the people on the land.***

A remnant tallgrass prairie exists in east central Kansas because of a complex history of interaction between people and the landscape. Early inhabitants hunted, gathered, and practiced horticulture for medicinal and ceremonial purposes and to sustain themselves. Rocky, shallow soils unsuitable for farming, and a change in livestock management to enclosed grazing, caused this region to remain as prairie long after other tracts in the Midwest had been plowed. In turn, the prairie influenced the people who lived here, changing the foods they ate, the appearance and design of their structures and landscape, and their cultural expressions.

### ***The cultural resources and features of the site illustrate the continuum of human experience in the Flint Hills region of Kansas from the first inhabitants through today's residents.***

Initial reconnaissance of the archeological resources indicates that the preserve contains evidence of early human activity dating to the past several thousand years. Research also indicates that American Indians used this specific area for horticulture, hunting, and gathering. The development of a railroad through this area played a critical role in the economic evolution of the region and in the establishment of the historic Jones and Lantry ranches. The ranching history of this region includes facets such as the railroad influence, the cowboy lifestyle, farming, cattle management, ranch organization, and rural education.

*Tallgrass Prairie National Preserve is a new model of public/private partnership in the stewardship of resources and for public enjoyment.*

The preserve's enabling legislation provides a new framework for cooperative public/private efforts to preserve nationally significant natural and cultural resources. The NPT, a private, non-profit organization, and the NPS manage these resources and visitor opportunities through a cooperative agreement. NPT will donate up to 180 acres (72.7 hectares), or about two percent of the preserve, to the NPS to facilitate management, interpretation, and operation of the preserve.

## Visitor Experience Goals

Visitor experience goals describe what experiences (cognitive, emotional, active, and sensory) should be available for visitors to the preserve. Like the interpretation and education themes, these goals provide the basis for management activities including the development of management areas within the preserve, the design of facilities and media, and the development of programs and partnerships. Visitor needs and perceptions will vary greatly from person to person since each individual will bring his or her own mental pictures of a prairie experience to the preserve. Likewise, they will take away very personal experiences when they leave.

*Visitors will have opportunities to:*

- Understand the role of partnerships at the preserve.
- Become emotionally involved with the prairie through a variety of media.
- Experience the resources in solitude and through social or structured activities.
- Experience the tallgrass prairie through direct contact.
- Appreciate the expanse of tallgrass prairie through unimpeded views of the Flint Hills landscape.
- Gain a sense of some of the daily and annual activities of the people who have lived here and continue to live here.
- Appreciate cultural landscapes, structures, and artifacts representative of various periods of habitation at the preserve.
- Experience and understand indigenous prairie plants and animals, and the processes through which they are interrelated.
- Understand the interrelationships between people and the landscape.
- Experience universally accessible facilities and programs where feasible.
- Appreciate the “prairie underground” as the non-visible element of the ecosystem.
- Be moved to personal action toward the protection of prairie and other natural and cultural landscapes.
- Appreciate the role of fire and grazing in the prairie ecosystem.
- Experience a greater personal “sense of place.”
- Appreciate the role of springs, seeps, streams, and other riparian areas as a part of the prairie.
- Understand key prairie ecological processes and relationships.
- Appreciate the special experiences of prairie sights, sounds, skylines, views, and feelings during all seasons and times – and during both day and night.



## SUMMARY OF PUBLIC INVOLVEMENT

Five newsletters have been produced; the first four issues went to all postal patrons in Chase County, to relevant agencies and organizations, and to those requesting to be on the mailing list. Chase County residents who requested to remain on the list were included in the mailing of the fifth issue. The planning mailing list currently contains approximately 1,600 addresses.

Informational open houses have been held throughout the planning process. Two were held in July 1997, in Cottonwood Falls and Topeka, to introduce the planning team and to explain the planning process. Two were held in October 1997, in Emporia and Council Grove, to provide an opportunity for the public to ask questions about planning activities and to share information. One hundred forty-one people attended these meetings. Two hundred sixty-seven written comments were received early in the planning effort, expressing thoughts and concerns about a vision for the future of the preserve.

In June 1998, when the preliminary management alternatives were developed, four open houses were held, one each in Strong City, Wichita, Council Grove, and Lawrence, to present these alternatives. A total of 245 people attended those meetings, and during the comment period, 324 written comments were received.

Open houses were again held in these four cities and in Topeka, in February 1999, when the draft preferred alternative was developed. One hundred fifty-six people attended these meetings; 215 written comments were received.

In conjunction with the 60 day public review of the draft GMP/EIS which began in November 1999 open houses were held in Cottonwood Falls (November 30), Wichita (December 1), and Lawrence (December 2). An additional open house was held at the preserve's administrative office in Cottonwood Falls on December 21. A total of 70 people attended these open houses. During the comment period, 69 written public comments were received. Copies of the plan were available for review in local government offices and libraries. Plans were provided to the public upon request.

The Tallgrass Prairie National Preserve worldwide website ([www.nps.gov/tapr](http://www.nps.gov/tapr)) has contained planning information since June 1997, and electronic comment sheets were posted there during the public comment period for the preliminary alternatives, draft preferred alternative, and draft GMP/EIS. Approximately 87 comments have been received through that medium.

Newsletters and response forms were available at the preserve's administrative offices in Cottonwood Falls, Kansas as well as at the historic ranch headquarters, two miles north of Strong City, Kansas.

The public comments received on the first three phases of the plan— vision, preliminary alternatives, and draft preferred alternative - were analyzed, and the results were provided to the planning team. In addition, these analyses were given to NPT, the advisory committee, some members of the Kansas congressional delegation, and other interested groups and individuals requesting the information. The public comments received on the draft GMP/EIS were analyzed and evaluated by the planning team to prepare agency responses to the substantive comments. A briefing on the public comment was provided to the advisory committee at their February 2000 meeting.

Public comments, existing scholarly and scientific information, new information developed out of the planning effort, information obtained during consultation, and the professional judgement of planning team members and consultants were all used to develop the preliminary management alternatives, the preferred management alternative, and the draft GMP/EIS. The preferred was not one of the preliminary alternatives but evolved from them as a result of this comprehensive process. See the section on **Consultation and Coordination** for more details.

## SCIENTIFIC PANELS

The GMP team chose the use of two panels as a means of receiving scientific, technical, scholarly, and practical resource management advice and for developing broad consensus on topics and issues that would be difficult to consider without long and expensive studies. The panel participants are recognized for their contributions to our knowledge and understanding of prairie ecosystems and for their practical knowledge of resource management applications. Copies of the reports generated by these two panels are available from the preserve office.

The team used the conclusions, recommendations, and conceptual models of the panels along with the other information outlined above to develop a range of practical and reasonable alternatives for the long-term management of the preserve, the preservation of its resources, and the development of visitor use and services.

### **The Enhancement Panel** (see Appendix 9 for panel members)

The legislation directs that the general management plan shall provide for the maintenance and enhancement of the tallgrass prairie within the preserve. Consistent with the NPS Organic Act of 1916 and the authorizing legislation for the preserve, to "maintain and enhance" is interpreted to mean that management will sustain and increase biodiversity.

Limited site-specific information has been gathered on the biological resources of the preserve. However, research on the effects of different fire and grazing regimes on biodiversity and productivity in the tallgrass prairie ecosystem has been conducted at similar locations in the Midwest. Such areas include the nearby Konza Prairie Biological Station, operated by Kansas State University, and other institutions affiliated with land grant universities, such as the Kansas Agricultural Experiment Station and Oklahoma State University.

The GMP team asked the then NPS Midwest Associate Regional Director for Natural Resource Stewardship and Science to assemble a panel of prairie and range scientists to provide expert opinions on the following issues:

1. the potential biodiversity of the tallgrass prairie ecosystem in the Flint Hills and the preserve;
2. the definition of high-quality range in the Flint Hills;
3. how fire and grazing could be manipulated to increase biodiversity of the tallgrass prairie ecosystem;
4. specific management scenarios for the preserve that would enhance tallgrass prairie;
5. inventory, monitoring and research needs; and,
6. restoration of cultivated and non-native grasslands in the floodplain of Fox Creek and restoration of other impacted riparian areas within the boundaries of the preserve.

The selection of panel members was based on their publication records and experience with tallgrass prairie ecosystems. Each member contributed to the mix of views and expertise (e.g. conservation biology, rangeland science, botany, zoology, and terrestrial and aquatic ecology).

The facilitated workshop was held September 7-10, 1997, at Konza Prairie Biological Station and Kansas State University. The workshop participants made the following recommendations:

- Make it a high priority to gather baseline information on the biological and related physical resources of the preserve. Develop monitoring schemes to detect trends over time and space, and to evaluate the effectiveness of the management schemes that are implemented.



- Create a heterogeneous, dynamic landscape by establishing burn units that are burned at different times with an average (but variable) fire return interval of three years, by restoring bison to the majority of the preserve, and by reducing stocking rates and switching to season-long cattle grazing in the remainder.
- Restore the majority of the floodplain to native prairie, as this is one of the rarest community types in the Flint Hills.
- Build no new ponds and promote no recreational fishing. Ponds are unnatural to the system and have impacted secondary streams throughout the preserve. Recreational fishing normally involves the introduction of non-native fish that may enter and impact creeks downstream.
- Minimize development within and adjacent to the preserve. The size of the preserve is minimal for restoration of bison and fire management at a landscape scale. Developments adjacent to the preserve could impact fire management, create sources of feral animals and invasive plants, and obstruct the vista.
- Mine no gravel in the streams. Impacts include erosion, disturbance of aquatic habitat, and increased siltation.
- As springs are "hot spots" of diversity, NPS management should consider protecting those areas found to be species rich or to contain rare species from potential livestock impacts.
- Hunting should remain an option as the natural predators have been extirpated. The potential for overpopulation of white-tailed deer is a specific concern.
- Monitor and control exotic plants. Special attention should be placed on the state list of noxious weeds (e.g., musk thistle and bind weed) and taxa known to be or anticipated to be a problem in the area. (*Sericea lespedeza* and caucasian bluestem).

In addition, the panel developed a conceptual spatial management model to illustrate their recommendations and to serve as a starting point for the development of a holistic management scheme for the preserve. This model became the basis for the development of Management Alternative E.

The first public release of the Enhancement Panel's findings resulted in a variety of comments, some supporting the recommendations and others offering criticism regarding the scientific basis of some of the conclusions. Dr. Clenton E. Owensby, professor in the Department of Agronomy at Kansas State University, provided comment. As a result of this dialog, additional scientific input was sought and received regarding the information used to support the findings within the report. Some areas still remain open to scientific interpretation and debate, but the new information has resulted in a revision of the first report. While new information was added to many of the discussion sections, the overall management recommendations and suggested direction remain unchanged from the original report.

### **The Sustainable Management Panel** (see Appendix 9 for panel members)

NPS employees from the Midwest Regional Office in Omaha, Nebraska organized the Sustainable (see Appendix 7, Definitions) Management Panel and Workshop. It was held on March 4 and 5, 1998 at Emporia State University in Emporia, Kansas. The workshop was held to develop long-range management options for the preserve.

One of the major purposes of the panel was to combine practical knowledge of land use practices such as grazing and prescribed fire with the management policies of the NPS. The workshop included the involvement and efforts of private citizens, representing practitioners, and subject-matter experts familiar with the Flint Hills. Panel members had experience in livestock and bison ranching, economics, cultural geography, ecology, and recreation. Each member brought first-hand experience of life in the Flint Hills or with range management practices such as prescribed fire and grazing. Panel members were chosen from

candidates recommended by the NPT, the Nature Conservancy, Emporia State University, Kansas State University, the University of Montana, and the NPS.

The panel members were recognized for their knowledge in their respective fields. They were asked to develop management strategy concepts that would fulfill the requirements of the legislation authorizing the preserve, provide recreational opportunities for the public, and preserve the natural and cultural heritage of the Spring Hill Ranch.

Objectives of the Sustainable Management Panel consisted of the following tasks:

1. Translate the Enhancement Panel's published recommendations into an on-the-ground management strategy, including evaluations of feasibility, benefits, impacts, and economic aspects of the concepts.
2. Develop additional preliminary management alternatives for the GMP team to consider and evaluate the pros and cons of corresponding management actions according to key issues such as grazing regimes, fire management policies, and visitor use.
3. Draft an economic analysis for the various management options to meet the sustainability objective stated in the enabling legislation.
4. Focus on the future of the preserve and identify the conditions that the preserve is to achieve.
5. Develop self-maintenance concepts using prescribed fire and grazing as management tools.

The panel did not reach a consensus on details such as the acreage to be devoted to each aspect of preserve use. Most panel members agreed on the following points:

- The long-term management plan should promote native species diversity and provide for visitor education on the cultural significance and history of the area from the period of American Indian use through more than a century of ranch life.
- A combination of native grazing animals and livestock would be necessary for the promotion of biodiversity, as well as for the educational program.
- More grazing areas should be devoted to bison than to cattle.
- A fire regime with more natural fire return intervals would promote native species diversity and provide an educational and enjoyable experience for visitors.
- The ecology of the tallgrass prairie, the landscape at the time of American Indian use, and historic-through-contemporary cattle ranching should all be covered in a comprehensive interpretation program. Bison and ranching should be featured on the west side of the preserve, while the ranch buildings should be incorporated into the interpretation of historical ranching. An area of tallgrass prairie near the ranch buildings should be made available to visitors. The east side of the preserve should focus on contemporary ranching and visitor recreation.
- The group generally agreed that a visitor center should be located at the preserve's south end and not at the ranch headquarters. Factors in this recommendation include water problems, building size, visitor safety, visitor accessibility, and other concerns. A portion of rare bottomland prairie should be restored in the area now used for brome production.

These recommendations served as the basis for the development of Management Alternative D.