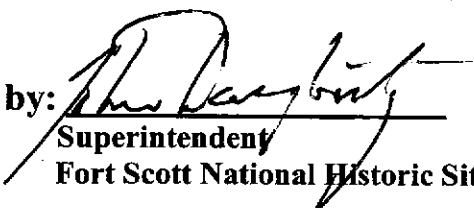


FIRE MANAGEMENT PLAN
FORT SCOTT NATIONAL HISTORIC SITE

Submitted by:

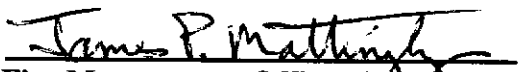

**Chief of Interpretation and Resource
Management
Fort Scott National Historic Site**

Recommended by:


**Superintendent
Fort Scott National Historic Site**

Concurred by:

acting


Fire Management Officer, Midwest Region

Approved by:

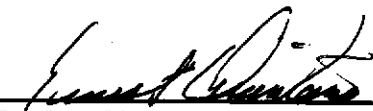

Regional Director, Midwest Region

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I. INTRODUCTION

A. Reasons for Developing This Plan

This Fire Management Plan (FMP) is a planning document developed to support and implement the management goals and objectives outlined in the Fort Scott National Historic Site General Management and Resource Management Plans while meeting the requirements of the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA). It is a detailed action plan that provides specific guidance and procedures for accomplishing resource management and fire protection goals. It fulfills the requirement outlined in National Park Service (NPS) Fire Management Guidelines (Director's Order [DO]-18) that any NPS unit "with vegetation capable of supporting fire will prepare a Fire Management Plan to guide a fire management program..."

The FMP will allow the staff at Fort Scott National Historic Site (FOSC) to manage the park's natural resources more efficiently and effectively and reduce fire hazards through the use of prescribed fire. It will also address wildland fire suppression to protect the park's historic structures and neighboring development outside park boundaries.

B. Collaborative Process

The FMP was developed through a collaborative process involving FOSC staff, Midwest Regional Office (MWRO) staff, NPS Fire Management staff at Ozarks Scenic Riverways. Developers of the plan consulted with the City of Fort Scott Fire Department and the Kansas Department of Game and Parks, and the NPS Prairie Cluster Long Term Ecological Monitoring program.

Implementation of the FMP will continue and reinforce collaboration with the city of Fort Scott, Kansas, which provides fire protection to the site.

Director's Order #18 states: "The overall resource management objectives for an NPS unit must guide Fire Management Plans. The resource management objectives will determine whether and how fire will be managed."

In addition to achieving resource management goals as stated in the Post's resource management plan, this FMP will implement fire management policies and help achieve fire management goals as defined in: (1) Federal Wildland Fire Management Policy and Program Review, 2001 (USDO/USDA 2001); (2) Managing Impacts of Wildfires on Communities and the Environment, and Protecting People and Sustaining Resources in Fire Adapted Ecosystems – A Cohesive Strategy (USDO/USDA 2001); and (3) A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy Implementation Plan 2001(USDO/USDA 2001).

C. Compliance

This plan will comply with the NEPA and NHPA. The attached Environmental Assessment, prepared with public input and review, will be submitted for compliance approval as part of this plan. Compliance with Section 106 of NHPA will be accomplished by submitting a XXX for approval with each prescribed fire plan.

D. Authorities for Implementing this Plan

Legal authority for the operation of the fire management program is found in 16 U.S.C - Chapters 1 and 3. The Specific authorities can be found in 620 DM 1.1.

The Organic Act of the National Park Service (August 25, 1916, Section 102) provides the authority for implementation of this plan. This act states that the primary goal of the National Park Service (NPS) is to preserve and protect the natural and cultural resources found on lands under its management in such manner as will leave them unimpaired for future generations.

The NPS management policies (DO-18, November 1998, and Reference Manual 18, February 1999 [RM-18]) provide guidance for FMP implementation. The park's fire management objectives conform to the referenced documents. Servicewide fire management policy is expressed in the current revisions of the Director's Orders and attendant Reference Manual, and "The Wildland and Prescribed Fire Management Policy: Implementation and Reference Guide," and is incorporated herein by reference.

Statutes cited below authorize and provide the means for managing wildland fire on lands under the jurisdiction of the Department of the Interior, or lands adjacent thereto.

- Protection Act of September 20, 1922 (42 Stat. 857; 16 U.S.C. 594)
- McSweeney-McNary Act of 1928 (45 Stat. 221; 16 U.S.C. 487)
- Economy Act of June 30, 1932 (47 Stat. 417; 31 U.S.C. 1535)
- Taylor Grazing Act of June 28, 1934 (48 Stat. 1269; 43 U.S.C. 315)
- O. and C. Act of August 28, 1937 (50 Stat. 875; 43 U.S.C. 1181e)
- National Park Service Acts as amended (67 Stat. 495; 16 U.S.C. 1b)
- Federal Property and Administrative Service Act of 1949 (40 U.S.C. 471; et seq.)
- Reciprocal Fire Protection Act of May 27, 1955 (69 Stat. 66; 42 U.S.C. 1856a)
- National Wildlife Refuge System Administration Act of 1966 as amended (80 Stat. 927; 16 U.S.C. 668dd through 668ee)
- Alaska Native Claims Settlement Act of December 18, 1971 (85 Stat. 688; 43 U.S.C. 1601)
- Disaster Relief Act of May 22, 1974 (88 Stat. 143; 42 U.S.C. 5121)

- Federal Fire Prevention and Control Act of October 29, 1974 (88 Stat. 1535; 15 U.S.C. 2201)
- Federal Land Policy and Management Act of 1976 (90 Stat. 2743)
- Federal Grant and Cooperative Agreement Act of 1977 (P.L. 950224, as amended by P.L. 97-258, September 13, 1982 (96 Stat. 1003; 31 U.S.C. 6301 thru 6308)
- Alaska National Interest Lands Conservation Act of December 2, 1980 (94 Stat. 2371)
- Supplemental Appropriation Act of September 10, 1982 (96 Stat. 837)
- Wildfire Suppression Assistance Act of 1989 (P.L. 100-428, as amended by P.L. 101-11, April 7, 1989)
- Indian Self-Determination and Education Assistance Act (PL 93-638) as amended
- National Indian Forest Resources Management Act (P. L. 101-630 November 28, 1990)
- Tribal Self-Governance Act of 1994 (P.L. 103-413)
- Department of the Interior and Related Agencies Appropriations Act (P.L. 103-32)

II. NPS POLICY AND RELATION TO OTHER PLANS

The Fire Management Plan provides a program of action necessary to implement fire management policies and objectives. An outline of those policies and objectives are described below.

A. NPS Policy and 2001 Federal Fire Management Policy

NPS Management Policies 2001 requires "Each park with vegetation capable of burning will prepare a fire management plan and will address the need for adequate funding and staffing to support its fire management program. The plan will be designed to guide a program that responds to the park's natural and cultural resource objectives; provides for safety considerations for park visitors, employees, neighbors, and developed facilities; and addresses potential impacts to public and private property adjacent to the park." The FMP provides a program of action necessary to implement fire management policies and objectives.

This FMP is prepared to meet the policy requirements of Director's Order 18, Wildland Fire Management dated November 17, 1998. The primary NPS policy consideration from DO-18 is: "Wildland fire may contribute to or hinder the achievement of park objectives. Therefore, park fire management programs will be designed to meet resource management objectives prescribed for various areas of the park and ensure that firefighter and public safety are not compromised." In addition, preparation of this plan meets the requirements set forth in Department of Interior Manual 620 (620 DM) and the requirements of the Federal Fire Policy update of 2001.

The goals of the NPS wildland fire management program are to:

- Conduct a vigorous and safe wildland fire management program with the highest professional and technological standards.
- Identify the type of wildland fire that is most appropriate to specific situations and areas.
- Efficiently accomplish resource management objectives through the application and management of prescribed and wildland fires.
- Continually evaluate the wildland fire program operations and accomplishments to better meet program goals by refining treatment and monitoring methods, and by integrating applicable technical and scientific advancements.

The 2001 Federal Fire Management Policy update addresses 17 distinct items, the foremost being safety; all Fire Management Plans and activities must reflect this commitment.

B. Enabling Legislation

Fort Scott National Historic Site was established by Public Law 95-484, October 19, 1978, "...in order to commemorate the significant role played by Fort Scott in the opening of the west, as well as the Civil War and the strife in the state of Kansas that preceded it..." The park, which is listed on the National Register of Historic Places, consists of 20 major historic structures, a parade ground, and five acres of restored tallgrass prairie on 16.69 acres. The restoration of tallgrass prairie on site began in 1979 with the purpose of recreating the historic scene, mitigating modern intrusions, and interpreting the tallgrass prairie ecosystem; an ecosystem that evolved in the presence of periodic fires.

C. Park Planning Documents

The FMP is a detailed program of action to implement fire management policies and objectives. It is linked to the park General Management Plan (GMP) and Resource Management Plan (RMP).

The plans contain the following resource objectives that are applicable to the Fire Management Plan:

- To monitor, evaluate, protect and preserve the cultural resources of the Historic Site in accordance with local mandates, executive and administrative requirements, Management Policies and the DO-28, Cultural Resources Management Guideline. This general objective includes the following more specific objectives:
 1. To restore and cultivate the native vegetation which provides the historic setting for the primary historic restoration and interpretive period of 1842 to 1853.
 2. To provide security for the cultural resources of the Historic Site through the protection against fire, theft and vandalism.
 3. To protect the integrity of the historic scene. To mitigate, to the fullest extent possible, modern intrusions on the historic scene.

Additionally the GMP charges the park staff with ensuring "... a safe, clean, and attractive environment to enhance visitor enjoyment."

III. WILDLAND FIRE MANAGEMENT STRATEGIES

A. General Fire Management Considerations

Wildland fire in the park will be managed to enhance community protection, resource objectives and reduce the potential of severe wildland fires. Fire management focuses on 4 issues.

1. Prevention and suppression of wildland fires.
2. Hazardous fuel reduction.
3. Restoration of native vegetation.
4. Promotion community assistance.

Being located within the city of Fort Scott, the wildland urban interface is a primary concern. Fire suppression will generally be undertaken by the City of Fort Scott Fire Department.

B. Wildland Fire Management Goals

The goals of this plan are to use prescribed fire in support of resource management goals, to comply with DO-18 and to provide the site with the capability to protect human life, structures, and resources from wildland fires. Strategic goals that support the over-riding goals include:

- Promote a program that ensures firefighter and public safety.
- Protect human life and property both within and adjacent to parks areas.
- Suppress all wildland fire ignited within the boundaries of the site.
- Protect and maintain the park's natural resources and cultural landscape including the tallgrass prairie.
- Reduce hazardous fuel loading within the park.
- Control exotic and invasive woody species.
- Encourage natural propagation and species diversity.
- Reintroduce fire to the fire-dependent tallgrass prairie.

C. Wildland Fire Management Options

1. Wildland Fire Suppression: All wildland fires, regardless of cause, will receive an appropriate response. If resource needs exceed the park's ability, then local resources from fire departments will be requested.
2. Prescribed Fire: The use of prescribed fire is an important tool to manage and restore a representative sample of tallgrass prairie. In addition

prescribed fire will be used to reduce hazardous fuel accumulation. All prescription parameters and objectives will be outlined for each prescribed fire project.

3. Wildland Fire Use: There will be no wildland fire use at Fort Scott National Historic Site. This decision is due to the small size of area under consideration and its juxtaposition within the city limits.
4. Non-Fire Applications: Vegetation will be removed from the immediate vicinity of park structures, utilities, neighboring structures and other sensitive resources. Mechanical removal such as mowing and haying will be utilized in prairie units to reduce hazardous fuel loads when using prescribed fire is not possible. Cutting and removing woody/brushy vegetation would also be used to control invasive vegetation and reduce fuel load. Seasonal mowing of the historic core areas, trails, maintenance areas, and around the prairie perimeter will occur throughout the growing season. Broadcast and spot herbicide treatments would also be used on a limited as needed basis throughout the park to control exotic and invasive woody species.

Prescribed fire, mechanical, and chemical treatments may be used either sequentially or in conjunction with each other.

D. Description of Wildland Fire Management Strategies by Fire Management Units (FMUs)

The site has been intensely used since the establishment of the fort in 1842. In the 1840s the military constructed buildings and delineated a parade ground. In 1855, the U.S. Army sold the structures to private citizens and the post became the nucleus of the town of Fort Scott. The structures became businesses and residences. Throughout the years, additional homes were built, brick streets laid, and lawns and gardens established. The impact was such that no vestiges of the original prairie remain.

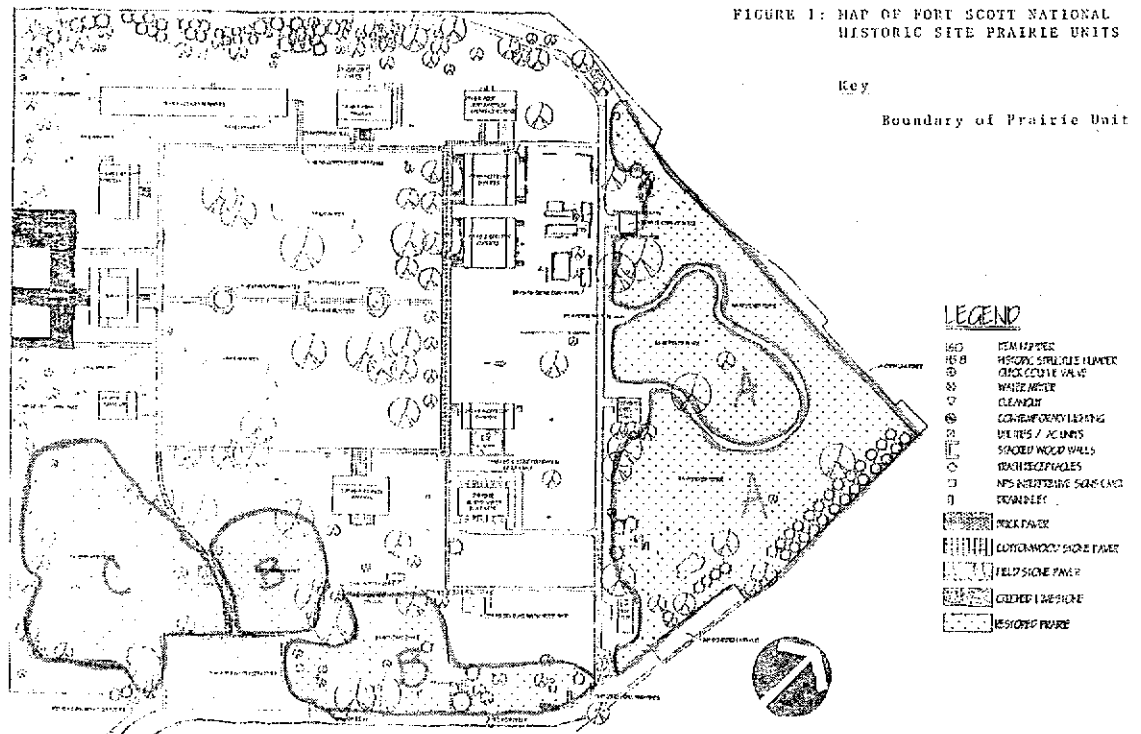
In the 1950s and 1960s a movement to preserve and restore Fort Scott began. The city acquired the land and donated it to the NPS in 1978. Restoration of tallgrass prairie on site began in 1979 with the purpose of recreating the historic scene, mitigating modern intrusions, and interpreting the tallgrass prairie ecosystem; an ecosystem that evolved in the presence of periodic fires.

Two fire management units have been designated at Fort Scott National Historic Site.

1. Prescribed Fire FMU

The prescribed fire FMU encompasses approximately five acres of land on the northeast, east, southeast and south perimeters of the property. It is divided into three sub-units; Prairie Restoration Units A, B, and C. These sub-units have similar physical and biotic characteristics.

This unit comprises the park's tallgrass prairie restoration. Initial prairie restoration efforts began in 1979 and are ongoing.



consist of stony, silty, clay-loam, with one to four percent slopes (Bell, 1981).

Climate: The park lies in a temperate climate zone with weather conditions ranging from extreme heat and humidity in the summer to cold, icy conditions in the winter.

Hydrology: There are no streams or other hydrological features within the park's boundary.

Threatened and Endangered Species: No federally endangered plant or animal species are present.

Wildlife: Due to the small size of the prairie restoration, wildlife is limited. Small mammals such as mice, voles, skunks, and rabbits have been sighted. Reptiles such as snakes and turtles also utilize the area as do a variety of insects and birds.

Vegetation: Historically, the site vegetation consisted of tallgrass prairie. Assistant Surgeon Joseph K. Barnes described it in 1852. He wrote "the immediate site of the post is a flat spur of high prairie, running from S. to N. bounded on the NW by the Marimiton (sic) River, and on the N.E. by a small clear-water creek, joining the Marimiton (sic) within a short distance of the spur. This plateau opens out rapidly to the south in a beautifully undulating prairie."

Present vegetative composition of the FOSC restoration units contains typical tallgrass prairie species. Native warm season grasses include big bluestem (*Andropogon gerardi*), Indian grass (*Sorghastrum nutan*) and little bluestem (*Schizachyrium scoparium*); native forbs include stiff goldenrod (*Solidago rigida*) and lead plant (*Amorpha canescens*); nonnative grasses include smooth brome (*Bromus inermis*) and Johnson grass (*Sorghum halepense*); nonnative forbs include yellow sweet clover (*Melilotus officinalis*); invasive woody species include elms (*Ulmus* spp.), walnut (*Juglans nigra*) and black locust (*Robinia psuedoacacia*). A complete species list is found in Appendix C. The majority of woody plants are saplings or shrubs with stems less than two inches in diameter. A few mature deciduous trees are scattered throughout all units while a row of Scotch pine (*Pinus sylvestris*), planted for screening, border the north east side of restoration unit A.

Cultural Resources: In addition to the 26 structures on the List of Classified Structures, cultural resources at the sites include sub-surface structural foundations of buildings and residences from the late 19th and 20th centuries. A number of historic structures are located within 20 feet of the prairie.

Adjacent Landownership: The park is surrounded by privately owned land that is predominantly urban development.

b. Strategic and Measurable Fire Management Objectives:

- Restore the tallgrass prairie using prescribed fire on approximately a 3-year return interval.
- Protect adjacent historic resources and neighboring property from wildland fire.
- Use mechanical treatments and herbicides as needed to control exotic and invasive species.

c. Management Considerations

These constraints, considerations or decisions criteria will influence all fire management activities within the prescribed fire management unit.

1. No unacceptable impacts to cultural resources or threatened and endangered species are permitted.
2. The development of implementation plans will include consideration of socio-political economic impacts, including wildland urban interface (WUI).
3. Public, organizations, and cooperating agencies will be informed of any suppression or prescribed fire operation that may have an impact on them.

Maintaining a 6-12 foot mowed firebreak around the historic structures, boundary fence, bone yard and neighboring buildings is essential. The park's above ground gas storage tank is located in the bone yard, which poses a safety hazard that should be considered in executing a prescribed fire.

d. Historic Role of Fire

The historic role of fire in the maintenance and evolution of the tallgrass prairie ecosystem is well documented. Prior to the settlement period, tallgrass prairie experienced repeated natural occurring fires with a periodicity of five to ten years (Wright and Bailey, 1982). The region receives enough moisture annually to support trees but fires favored the grassland ecosystem. Fire acted to kill trees and shrubs,

reduce litter accumulation which suppresses plant growth, and return nutrients to the soil.

e. Wildland Fire Management

1) *Historical Weather Analysis* - The climate of southeast Kansas is typical mid-continental. It is characterized by large daily and annual variations in temperature. In the winter, the average daily minimum temperature is 25.5 degrees. The average summer temperature is 79.4 degrees with the average daily maximum temperature being 91.0 degrees. Total annual precipitation is 39.88 inches. Precipitation is greatest in late spring and early summer. Much of it falls during late evening or nighttime thunderstorms.

The site does not maintain a fire weather station. Current weather information and fire weather forecasts are obtained from the Remote Automated Weather Station (RAWS) at Tallgrass Prairie National Preserve. Data is obtained via Internet at www.boi.noaa.gov/firewx.htm.

2) *Fire Season* – The relatively low humidity combined with an abundance of dried vegetative material from the summer growing season combine to make September through April the primary fire season in southeast Kansas. Periods of drought can also occur periodically during the summer months. During a drought, the fire season can begin as early as July. If droughty conditions continue, fire season conditions could exist year long or until sufficient precipitation has occurred to adequately penetrate surface and ground fuels.

3) *Fuels Characteristics* – The FMU can be described as an NFFL fuel model 3 (NFRDS Fuel Model N; Anderson 1982). Fuel model 3 predicts high rates of spread and high flame length.

4) *Fire Regime Alteration* – Fire has not played a major role in shaping the park since the established of the fort in 1842. The park now sits in the center of the town of Fort Scott where once tallgrass prairie existed. The park has reconstructed about 5 acres of tallgrass prairie for interpretation and historic setting. The reconstructed prairie has been treated occasionally with prescribed fire, but much less frequently than what occurred historically for the presettlement tallgrass prairies. Given the alteration of the fire regime and the structure and composition of the vegetation of the reconstruction prairie, it is considered to be in condition class 3.

5) *Control Problems* – The park is located on a relatively flat aspect surrounded by historic and modern structures. The restored tallgrass prairie is surrounded by manicured lawns and concrete sidewalks.

While these developments provide frequent breaks in the continuity of fuels and provide excellent access for fire suppression, they also increase the values at risk and the probability of ignition.

Control problems could range from moderate to low depending on site specifics and burning conditions. The major concern will be high rate of spreads associated with fuel model 3 and spotting to the historic structures' roofs.

6) *Elements Affecting Fire Management* - The wildland urban interface situation is an important consideration for the park. High visitation and use by school groups and the public to the park's trails and facilities have the potential to be affected by fire management operations and need to be coordinated whenever possible. Protection of the park's cultural resources is of paramount importance.

2. Suppression FMU

The suppression FMU consists of approximately 11.25 acres. Eleven acres of this unit include the park's historic structures, parade ground, and landscaped lawn areas of the park. The lawn is primarily buffalo grass and broad leaf weeds. When kept mowed the area contains little fuel to sustain a wildland fire. The remaining .25 acres of this unit consists of a small corner of the park on the southeast side of the service road. This disturbed area is part of a larger area of dry deciduous timber and brush on a steep slope part of which is owned by the City of Fort Scott. The woodland provides screening from modern intrusions and helps prevent erosion of the slope. No prescribed fire operations are planned for this area.

a. Physical and Biotic Characteristics

Topography/Geology/Soils: See III.D.1.a.

Climate: See III.D.1.a.

Hydrology: See III.D.1.a.

Threaten and Endangered Species: See III.D.1.a.

Wildlife: See III.D.1.a.

Vegetation: In this FMU, the vegetation is drastically altered. This area includes the landscaped lawn areas of the park. The lawn is primarily buffalo grass and broad leaf weeds. When kept mowed the area contains little fuel to sustain a wildland fire. The remaining .25 acres of this unit consists of a small corner of the

park on the southeast side of the service road. This disturbed area is part of a larger area of dry deciduous timber and brush on a steep slope part of which is owned by the City of Fort Scott.

Cultural Resources: The cultural resources in this FMU include historic structures, archaeological sites and the cultural landscape. The majority of historic structures within the park are located in this FMU. The entire property was placed on the National Register of Historic Places (Register) in 1976 and was designated a National Historic Site in 1978. All of the buildings have national significance and are contributing elements of the site.

The principal cultural resources include 11 original and nine reconstructed structures. Twenty structures and 31 historically furnished rooms depict the fort as it may have appeared during military occupation from 1842-1853. Six other features appear on the list of classified structures. Archeological features at the site include sub-surface structural foundations of buildings and residences from the late 19th and 20th centuries as well as archeological features from the period of interpretive significance (1842-1865).

Adjacent Landownership: See III.D.1.a.

b. Strategic and Measurable Fire Management Objectives:

- Immediately contain 100% of wildland fires.
- Ensure protection of historic structures and other improvements such as wayside exhibits and neighboring property.
- Prevent buildup of hazardous fuels through regular mowing and/or other mechanical and chemical means.

c. Management Considerations

These constraints, considerations or decisions criteria will influence all fire management activities within the prescribed fire management unit.

1. No unacceptable impacts to cultural resources or threaten and endangered species are permitted.
2. Ensure socio-political economic impacts, including wildland urban interface (WUI), are considered in developing implementation plans.

3. Ensure that the public, organizations, and cooperating agencies are aware of any suppression or prescribed fire operation that may have an impact on them.

The close proximity of some historic structures, park improvements, and neighboring buildings necessitate certain precautionary measures to prevent damage to property and irreplaceable historic resources when using prescribed fire. Maintaining a 6-12 foot mowed firebreak around the historic structures and neighboring buildings is essential.

d. Historic Role of Fire

See III.D.1.d.

e. Wildland Fire Management

1) *Historical Weather Analysis* - See III.D.1.e.

2) *Fire Season* – See III.D.1.e.

3) *Fuels Characteristics* – The fuels in this FMU would be classified as NFFL fuel models 8/9 (NFRDS Fuel Model E/R; Anderson 1982). Fires in Fuel model 9 are not expected to be catastrophic but confined to the ground even under extreme conditions. Fire behavior under normal conditions can be expected to include one-foot flame lengths with a moderate rate of spread. Under extreme conditions, four-foot flame lengths with rapid rates of spread can be expected.

4) *Fire Regime Alteration* – Fire has not played a major role in shaping the park since the established of the fort in 1842. The park now sits in the center of the town of Fort Scott where once tallgrass prairie existed. Given the alteration of the fire regime and the structure and composition of the vegetation of the suppression FMU, it is considered to be in condition class 3.

5) *Control Problems* – The park is located on a relatively flat aspect surrounded by historic and modern structures. The suppression FMU is broken by manicure lawns and concrete sidewalks. While these developments provide frequent breaks in the continuity of fuels and provide excellent access to suppression resources, they also increase the values at risk and the probability of ignition.

Control problems could range from moderate to low depending on site specifics and burning conditions. The major concern will be

spotting associated with fuel model 8 to the historic structures' roofs.

6) *Elements Affecting Fire Management* – The wildland urban interface situation is an important consideration for the park. High visitation and use by school groups and the public to the park's trails and facilities have the potential to be affected by fire management operations and need to be coordinated whenever possible. Protection of the park's cultural resources is of paramount importance.

IV. WILDLAND FIRE MANAGEMENT

A. General Implementation Procedures

A Wildland Fire Implementation Plan (WFIP) will be initiated for all wildland fires. This plan will provide the framework for determining the appropriate management response. The WFIP Stage I: Initial Fire Assessment will be the responsibility of the Incident Commander or the Park's Fire Coordinator. As the Park Fire Management Unit only allows for suppression of unplanned ignitions, the requirement of a decision checklist as a part of the Stage I analysis can be considered met. Subsequently, Stage I analysis may be satisfied at the programmatic level in the FMP through determinations made by combinations of values to be protected and/or fire behavior thresholds. A copy of the WFIP Stage I form can be found in Appendix F.

B. Wildland Fire Suppression

1. Fire Behavior

Fire behavior varies with fuels and weather conditions. Under extreme weather conditions, a wildland fire on site may damage park and neighboring vegetation and minor park improvements (chain link fences, signs, etc.). Depending on wind direction, flying embers may also ignite the wood shingle roofs of the park historic structures and neighboring property such as the Chamber of Commerce building. Extreme fire behavior occurs when wind speeds are over 15 MPH or moisture levels drop below 7 % in fuel.

Fire spread and intensity characteristics for the Prescribed Fire FMU under normal and extreme conditions are summarized.

Table 1: National Fire Danger Rating System (NFDRS) Fuel Model N and Fire Behavior Fuel Model 3 (Anderson 1982)

<u>Extreme Conditions*</u>			
Fuel Model	Rate of Spread	Flame Length	Fire Characteristics

3	264 chains/hr	19 feet	Fires in this fuel model will move extremely fast and have short residence times as these fuels are consumed rapidly. Direct attack is impossible
Normal Conditions**			
Fuel Model	Rate of Spread	Flame Length	Fire Characteristics
3	104 chains/hr	12 feet	Fires in this model are the most intense of the grass group and display high rates of spread under the influence of wind.

*Extreme is for 1 hour fuel moisture of 7% and midflame wind speeds of 15 mph

**Normal is for 1-hour fuel moisture of 10% and midflame wind speeds of 5 mph

Fire spread and intensity characteristics for the Suppression FMU under normal and extreme conditions are summarized.

Table 2: National Fire Danger Rating System (NFDRS) Fuel Model R and Fire Behavior Fuel Model 8 (Anderson 1982)

Extreme Conditions*			
Fuel Model	Rate of Spread	Flame Length	Fire Characteristics
8	4 chains/hr	1.5 feet	Only with high temperatures, high winds and low RH's, do the fuels pose a high danger with spotting potential.
Normal Conditions**			
Fuel Model	Rate of Spread	Flame Length	Fire Characteristics
8	2 chains/hr	.9 feet	Slow burning ground fires with low flame lengths are generally the case, occasional "jackpot" conditions can cause flare ups.

*Extreme is for 1 hour fuel moisture of 7% and midflame wind speeds of 15 mph

**Normal is for 1-hour fuel moisture of 10% and midflame wind speeds of 5 mph

2. Preparedness Actions

- a. Prevention – An objective of the park's fire prevention program is to prevent human-caused wildland fires. This can be accomplished by posting signs, limiting certain activities (i.e., open fires, weapons demonstrations, etc.) during times of high fire danger and incorporating fire prevention messages into interpretive programs. Fire prevention will be the responsibility of the Chief Ranger.
- b. Annual Training – Annual fire line refresher emphasizing safety is required for redcarded firefighters. It will be coordinated through the Area FMO and available to Fort Scott staff. Minimum training will include LCES, Standards for Survival, fire shelter training and other updates as appropriate. In addition, each year the Ozark Fire Management Officer

will assess the current qualifications of the park's fire qualified personnel. From this assessment, current and future training needs for both the park and individuals will be determined. Training will be obtained in the most cost effective manner either in house or through interagency training courses. Qualified instructors will be utilized for all courses.

- c. Readiness – Each year prior to and after the fire season, supervisory personnel will conduct an inventory of the park's fire cache. Any supplies or equipment will be requested through the Ozark Fire Management Officer. Fort Scott NHS maintains a basic fire cache. As the park has no qualified wildland firefighters at this time, all suppression activities are undertaken by the Fort Scott Fire Department. The Superintendent will coordinate all interagency contacts and agreements. The Superintendent will communicate any severe fire conditions to the Fort Scott Fire Chief.

Regular mowing around historic structures, along fence lines, bone yard, neighboring buildings and the prairie trail will be performed throughout the growing season (April – September) to prevent fuel buildup and provide fire breaks.

- d. Fire Weather and Fire Danger

- 1) *Weather Stations* – The closest fire weather station is located at Tallgrass Prairie National Preserve (Cottonwood Falls, Kansas). Weather inputs from the Remote Automated Weather Station (RAWS) are entered into the Weather Information System (WIMS) to determine the observed and forecasted National Fire Danger Rating System (NFRDS) adjective rating. The station number for the Tallgrass Prairie RAWS is 145201.

- 2) *National Fire Danger Rating System* – The Burning Index will be used to determine the breakpoints for the Step-Up Plan. The Burning Index integrates the effects of weather, fuels topography, and other factors to estimate potential fire behavior and corresponding amount of effort require to contain a fire. The numeric range for each level is shown in the table located in Section IV B. 2.e.

- e. Step-Up Staffing Plan – The staffing classes relate to the expected severity of fire conditions. Fire days are divided into five staffing or manning classes according to the intensity of danger factors as indicated by the Burning Index (BI).

Each staffing class level has a corresponding set of actions that will be initiated to meet potential fire problems. Staffing Class Low, Moderate and High are funded by the park while actions taken at Very High and Extreme are supported with emergency funds. The Park Fire Coordinator will obtain these funds from the Area Fire Management Officer at Ozark National Scenic Riverways. The Superintendent, Acting Superintendent or

Area Fire Management Officer (OZAR) has the authority to raise or lower the staffing class by one based on such situations as heavy holiday use, predicted weather and other unusual factors that may affect the start of a fire.

Table 3. Step-Up Staffing Plan

Staffing Class	Fuel Model	Burning Index (BI)	Step-Up Actions
SC-1 (Low)	N	0-7	Normal Tours of Duty are scheduled. Review fire weather daily. Ensure fire tools and equipment in a state of readiness. Proceed with regular mowing activities around structures.
SC-2 (Moderate)	N	8-16	All actions for Staffing Class 1 will be conducted. Ensure Fort Scott Fire Department is notified of increasing fire danger. Coordinate park staffing with Fort Scott Fire Department. Ensure proper communication and contact numbers are valid with Fort Scott Fire Department. Ensure all mowed lines are maintained and adequate.
SC-3 (High)	N	17-34	All actions for Staffing Class 2 will be conducted. Notify Area Fire Management Officer (OZAR).
SC-4 (Very High)	N	35-37	All actions for Staffing Class 3 will be conducted. Area Fire Management Officer (OZAR) to notify the Midwest Regional Fire Management Officer and request emergency funds if deemed appropriate. Fire Danger notices will be posted. Visitor Center personnel will alert the public to the fire danger. Interpretive activities will include a fire safety

			message. Park will issue a smoking ban to designated areas such as parking lots. Consideration will be given to mowing the tallgrass prairie and removing the thatch reducing the fire behavior of a potential fire.
SC-5 (Extreme)	N	38+	All actions for Staffing Class 4 will be conducted. Park may have sections closed to preserve the safety of visitors. Park will issue a smoking ban within the park's boundaries.

3. Pre-attack Plan

Due to the small size and scope of the fire program at of Fort Scott NHS, no formal pre-attack plan has been written. The Fort Scott Fire Department has developed their own protocols and procedures for initial attack of fires within the Park boundary.

4. Initial Attack

a. Priority setting during multiple fire occurrences

In the event of multiple fires, priority of initial attack will be determined using the following:

- Cultural and Historical site map.
- Park facility map.
- Vegetative cover map; any fire with continuous fuels up to and across the park's boundary or structures.

b. Criteria for appropriate initial attack response

The criteria for selecting appropriate initial attack response will be consistent with GMP and RMP objectives. The following criteria will be used to determine the appropriate initial attack.

- Public and firefighter safety.

- Protection of cultural, historic and natural resources.
- Protection of improvements and private property.
- Minimum fire line construction.
- Available suppression resources and response times.
- Fire danger as determined by fuels, weather and topography.
- Use aircraft and mechanized equipment only where necessary to support above listed criteria.

c. Confinement as a Strategy

Confinement may be used to minimize resource damage and to provide for firefighter safety.

A confinement strategy may be selected for initial attack as long as it is not being used solely to meet resource management objectives.

Resource benefits may be a by-product, but the strategy must be based upon the criteria listed above.

A confinement strategy may also be selected in the Wildland Fire Situation Analysis (WFSA) process when initial attack has failed to contain a wildland fire.

d. Response Times

Response time for initial attack forces will vary depending on time of day and park staffing. Initial Attack is provided by the Fort Scott Fire Department which is located less than 5 minutes from the park. Their response time will be under 10 minutes while extended attack resources will range from 2 to 8 hours response time depending on location and availability. Aircraft resources will have the greatest range of response time depending on seasonality, regional severity, fire priorities, availability and proximity.

e. Restrictions and Special Concerns

Initial attack should be aggressive to contain the fire as fast as possible providing first for the safety of the public and firefighters. Minimum Impact Suppression Tactics (MIST) will be used in efforts to contain wildland fires. Priority will be given to the Prescribed Fire FMU in the event of multiple fires involving both FMUs. Constraints that will guide suppression and prescribed fire operations include:

- Archeological resources must be protected. Therefore, creating firelines to mineral soil, ditching, or other earthwork activities will not

take place over known sites unless authorized by the Park's Superintendent or Acting Superintendent.

- The only mechanized equipment allowed unless authorized by the Superintendent or Acting Superintendent will be chainsaws, weed eaters or brush cutters, portable and mobile pumps, fire engines, all terrain vehicles (ATVs), backpack leaf blowers, and devices used for heat or fire detection.
- No retardant or foam will be used without the approval of the Superintendent or Acting Superintendent.
- No new roads or trails will be created.
- Dead or live standing trees will not be cut unless firefighter, public safety, or suppression actions are compromised. The approval may be given by the Incident Commander or Burn Boss.
- Operation of vehicles off existing roads will only be allowed in appropriate soil conditions.
- Human-caused wildland fires will require an investigation and report by law enforcement personnel, preferably trained in wildland fire cause investigation.
- In the event of threat of life or the potential for extensive property damage, the Superintendent or Acting Superintendent may amend these constraints.

f. Local Issues

The park depends on the Fort Scott Fire department resources for initial and extended attack. This close alliance requires that the park works closely with this department in planning, training, preparedness, and other fire management issues.

Suppression qualification standards of cooperator fire personnel will be accepted at that entity's standards while under that entity's supervision. Cooperators must meet National Wildland Fire Coordinating Group (NWCG) standards while under NPS supervision. During initial attack, personnel will meet their agency standards and will be accepted by NPS Fire Management.

5. Extended Attack and Large Fire Suppression:

a. Extended Attack Needs

Due to the small size of the park and the fuels involved, extended attack is highly unlikely. However, should this situation arise, extended attack needs will be determined by considering the following:

- Threats to life, property and park resources.
- Availability of suppression forces.
- Current and expected fire behavior.

b. Implementation Plan Requirements – Wildland Fire Situation Analysis (WFSa) Development:

When a fire escapes initial attack, a new strategy must be developed to suppress the fire. The selection process is accomplished through the development of a Wildland Fire Situation Analysis (WFSa).

The WFSa is a decision process that employs a systematic and reasonable approach to determine the most appropriate management strategy for a particular situation. Reasonable management alternatives are identified, analyzed and evaluated, and are consistent with the expected probability of success/consequences of failure. The Superintendent shall approve the WFSa and any revisions. Evaluation criteria include firefighter safety, anticipated cost, resource impacts, and social, political, and environmental considerations. The evaluation of alternatives becomes the triggering mechanism for re-evaluation of the WFSa.

A written copy of a WFSa can be found in Appendix G.

c. Incident Management Transition:

Transition to an Incident Management Team entails a briefing by the Superintendent and a limited Delegation of Authority for the suppression of the fire(s). The briefing should address agency specific concerns, priorities, firefighter and public safety, economic and resource concerns and other topics or issues of importance and relevance to the suppression effort.

d. Delegation Of Authority:

A Delegation of Authority from the Superintendent to the Incident Commander is located in Appendix .

6. Exceeding WIFIP and New Strategy Selection:

A Wildland Fire Implementation Plan (WIFIP) is a progressively developed assessment and operational management plan that documents the analysis and selection of strategies, and describes the appropriate management response. An example can be found in Appendix F.

7. Minimum Impact Suppression Tactics (MIST)

MIST does not represent a separate or distinct classification of firefighting tactics but rather a mind set – how to suppress a wildland fire while minimizing the long term effects of the suppression action. MIST is the concept of using the minimum tool to safely and effectively accomplish the task. MIST should be considered for application on all fires in all types of land management.

Because the park contains numerous archeological, cultural and historic resources, personnel taking part in wildland fire suppression and prescribed fires will be briefed on the potential for disturbance of such resources. Any control actions undertaken will be performed to minimize the impact on such resources. Construction of hand lines to mineral soil is not expected and will be discouraged. The use of mowed grass lines in combination of the use of water should be sufficient to contain any prescribed fire. The Superintendent will ensure that representatives of the Fort Scott Fire Department are briefed on the importance of maintaining the historic and cultural resources of FOSC, the associated fire suppression constraints, and mitigation procedures prior to any prescribed fires.

- All fire management activities in the park will rely on tactics that cause a minimum amount of resource damage while maintaining the safety of firefighters, personnel and the public as the highest priority.
- The Superintendent's approval is needed for off road use of vehicles and mechanized equipment.

8. Rehabilitation

When a suppression action is taken, rehabilitation may be necessary. On January 19, 2001, the Department of the Interior issued new policies on burned area emergency stabilization and rehabilitation. The specifics of the policy can be found in 620 DM 3 *DOI BAER Policy (2001)*. The most effective rehabilitation measure is prevention of impacts through careful planning and the use of minimum impact suppression tactics. The Incident Commander and the Park Ranger (Resource Management) will initiate rehabilitation actions. Rehabilitation will be directed toward minimizing or eliminating the effects of the suppression effort and reducing the potential damage and hazards caused by the fire.

These actions may include:

- Backfilling of control lines, scarify, and seed with native species.
- Installation of water bars and construction of drain dips on control lines to prevent erosion.
- Installation of check dams to reduce erosion potential in drainages.
- Flush cutting of stumps and camouflaging with soil and moss.
- The placement of cut vegetative materials in random positions.
- Restoration of natural ground contours.
- Removal of all flagging, equipment, and litter.
- Consideration and planning for more extensive rehabilitation or revegetation to restore sensitive impacted areas.

The Park Fire Coordinator and/or the Area FMO will jointly formulate rehabilitation plans for each fire. Rehabilitation efforts should be initiated as soon as they can be safely implemented, which may be before the fire is declared controlled.

Rehabilitation work resulting from suppression actions will be charged to the corresponding suppression account. Rehabilitation work needed to rehabilitate the effects of the fire will be described in the BAER plan, and will be submitted to the Region BAER Coordinator (Regional Fire Ecologist) for approval within one week of the date the fire is declared controlled. BAER project requests totaling \$300,000 or less can be approved by the Regional Fire Management Officer. Submissions over this amount are reviewed at the regional level and forwarded to the NPS Fire Management Program Center for approval.

9. Records and Reports

The Park Fire Coordinator is responsible for all fire related records and reports except the WFIP. This responsibility may be delegated to an incoming Incident Commander for any fire escaping initial attack.

a. Fires

All fires will be sequentially assigned a fire number by calendar year. The Incident Commander will fill out a DI-1202 (Individual Fire Report) after the fire is declared out. A designated member of the park staff will review all DI-1202's for accuracy and completeness before a copy is

mailed to the Area FMO. The original will be kept in the park files. An Individual Fire Report form will be filed by fire number with each year having a separate folder. A complete park report will include the following attachments if applicable:

- Any written policies, guidelines, or authority statements signed by the Superintendent.
 - Copies of equipment purchase or personnel request orders.
 - All situation maps.
 - Personnel lists (including Individual Fire Fighter Time Reports (OF-288).
 - Approved Prescribed Fire Plan.
 - Fire Behavior Analyst Report/Post Burn Evaluation.
 - Press clippings.
 - Accident reports.
 - All weather data reports and records.
 - Burning permits and air quality clearances for prescribed burns.
 - Documentation of all financial charges made against the assigned fire account number.
 - Rehabilitation Plan.
- b. Daily Situation Reports
- All wildland fires will be closely monitored. The following information regarding the status of the fire will be relayed to the Area and Regional FMO by 9:30 a.m. daily for entry into the nationwide fire summary report via the Shared Applications Computer System (SACS). The fire coordinator will be responsible for contacting the Regional FMO or Area FMO. Specific applicable information may also need to be provided to the Kansas – Colorado Interagency Dispatch Center in Pueblo, Colorado.
- Fire name and start date (only for the first day).
 - Present fire behavior.
 - Estimate of acreage burned in last 24 hours.

- Direction of spread.
- Rate of spread.
- Type of fuels on ground.
- Wind speed, temperature, and relative humidity on-site readings.
- Number of personnel and equipment committed to the fire.
- Resources threatened and whether or not actions need to be re-evaluated.
- Document all cultural resources encountered, affected visibility, archeological, or cultural landscape features.
- Estimated control date.
- Judgment of the ability of local forces to control the fire.
- Anytime BI's reach the 90th percentile and the park moves into Staffing Class IV and V.

c. Individual Training and Experience

Every employee who has had training or fire experience in the past year will complete an Employee Master Record Update Form. This will be minimally done once a year after the fire season. Additional training or experience can be entered into the system at any time. If the training or experience qualifies an individual for additional qualifications, a new red card may be issued. The Park Fire Coordinator will keep the originals and send copies to the Area FMO for entry into the Incident Qualification and Certification System (IQCS) computer. Employees who are not in the computer but wish to participate in the fire program will fill out an initial Employee Master Record Update Form.

C. Wildland Fire Use

This option was rejected due to the size of the park, the significant degree of wildland urban interface along the park boundary, the rapid rates of spread for fire, and the lack of available qualified personnel required to manage these fires.

D. Prescribed Fire

1. Planning and Documentation

a. Annual Activities for Preparation and Implementation of Program

Prescribed fire will be used as a resource management tool. Its use will support the goals and objectives stated in the Resource Management Plan. To reach the desired goals and objectives, the unit or portions of the unit will be burned on a three-year rotation.

Actions taken in a prescribed fire year will include; selection of projects to be carried out during the year, prescribed fire planning, prescription preparation, documentation and reporting, prescribed fire critiques, and monitoring. Measures to ensure successful implementation of prescribed fires will include approval of prescribed fire plans (burn plans) by a qualified prescribed fire manager (RXM2) or a prescribed fire burn boss (RXB1 or RXB2). The prescribed fire burn boss will conduct a field reconnaissance of proposed burn location with park staff to discuss objectives, special concerns, and to gather all necessary information to develop the prescribed fire plan. A prescribed fire plan will be developed after completion of the field reconnaissance. The prescribed fire plan will be reviewed by a qualified FUMA, RXB1, or RXB2 to verify the proposal in regard to fire behavior, fuel conditions, operations assignments, contingency plans, and safety. A qualified prescribed fire burn boss will conduct prescribed fires with qualified support personnel present to accomplish objectives. All prescribed fire plans will be approved and signed by the Superintendent of FOSC.

b. Long-Term Prescribed Fire Strategy

Fuels management will be accomplished through both manual means and with prescribed fire. Removal of woody species within the prairie and vegetation surrounding historic structures and park improvements will be accomplished through cutting and mowing. Inspection of each burn unit to determine the need for manual fuel removal will be a part of the prescribed fire planning process and any mitigation will become a part of the prescribed fire burn plan.

The restored prairie should be considered to be in a Condition Class 3, due to missed burn rotations and invasive species. The fire regime for the prescribed fire units is Fire Regime group II- a short-interval replacement regime.

Fuels management goals are:

- Use prescribed fire and non-fire applications where appropriate as tools to achieve resource management objectives.

- Create defensible spaces around structures and other flammable values at risk by reducing dead and down hazard fuels.
- Assist with the establishment and maintenance of the desired cultural scene.
- Manage the area to promote the growth of native vegetation and control woody/invasive/exotic vegetation.

c. Personnel

Prescribed fires shall be conducted under the direction of a Prescribed Fire Burn Boss designated by the Ozark NSR Fire Management Officer. The project Burn Boss will be certified for that positions according to standards currently utilized by the National Wildfire Coordination Group. All positions required to conduct the burn will be filled by qualified personnel. The minimum personnel required for a prescribed fire operation at the site is one Prescribed Fire Burn Boss, one Prescribed Fire Ignition Specialist, and sufficient holding forces to prevent fire spread beyond site boundaries. All personnel listed in the plan must be available for the duration of the burn or it will be postponed.

Outside support in the form of local cooperators and fire management staff from Buffalo NR Fire Use Module (FUM), Ozark NSR (OZAR), and other area parks or fire modules will be requested for support in planning and implementation of the prescribed fire program.

d. Fire Monitoring:

Weather and fuel moisture conditions will be monitored closely in planned burn units to determine when the prescription criteria are met. Weather data will be gathered for a period of seven days prior to burn implementation.

Operational guidelines, allowable ranges of fire behavior and weather conditions shall be specified in the prescribed burn plan drafted for each proposed project. Each prescribed burn project shall include monitoring and evaluation as part of the project. This monitoring and evaluation must be continuous during the actual burn operation. Its purpose is to ensure the ongoing fire behavior and weather conditions remain within the prescribed burn parameters. The individual responsible for the ongoing fire monitoring/evaluation shall keep the project Burn Boss informed of any and all changes which might result in the fire exceeding the prescribed burn plan parameters. Monitoring also allows for the correlation between fire effects and fire weather/behavior to help refine prescribed fire

prescriptions. The Fire Monitoring Handbook (2003) is the reference for fire monitoring.

e. Prescribed Fire Project Critique

The Area FMO will critique each prescribed fire. A report detailing the actual prescribed fire burn will accompany any recommendations or changes deemed necessary in the program. This report will be submitted to the Superintendent. When appropriate, a post-season critique of the fire management program, including the prescribed fire program, will be held each year by park staff at the conclusion of the fall fire season.

f. Reporting and Documentation Requirements:

All prescribed fire forms will be completed as outlined by the Prescribed Burn Boss. All predetermined information will be collected and all necessary forms prior to, during, and after the fire will be completed. All records will be archived in the park's fire records for reference.

The Park Fire Coordinator will prepare a final report on the prescribed fire for the Chief Park Ranger. Information will include a narrative of the fire operation, a determination of whether objectives were met, description of any resources adversely affected and why, weather and fire behavior data, map of the burned area, photographs of the burn, number of work hours, and final cost of the prescribed fire.

g. Historic Fuels Treatment

All prairie restoration units were mowed and hayed three consecutive years in the late 1980s to remove the hazardous fuel load. Mowing was performed in early July.

Prescribed fires were conducted in Prairie Restoration Units A & C in April 1998 and again in April 1999 in both units. Attempts were made to apply prescribed fire to Prairie Restoration Unit B both years but were unsuccessful due to lack of fuel.

h. Prescribed Fire Plan Requirements

The prescribed fire plan is a site specific action plan describing the goals, objectives, prescription, operational procedures, go/no-go check list, organizational chart, weather forecasts, contingency actions, monitoring actions, and safety concerns in burn preparation and implementations. The treatment area, objectives, constraints, and alternatives will be clearly outlined. No burn will be ignited unless all prescriptions of the plan are met. The factors considered in all burn plans are described in RM-18,

Chapter 10 and include preparation of XXX forms for compliance with Section 106 of the National Historic Preservation Act. A sample burn plan can be found in Appendix A.

2. Exceeding Prescribed Fire Plan

In the event of an escaped fire, the suppression actions as discussed in the pre-burn briefing will be implemented. The RXB2 will determine if and when an escape fire reaches wildland fire status and when a Wildland Fire Situation Analysis (WFSA) must be initiated. The WFSA is developed in accordance with RM-18, Chapter 9. Local fire department cooperators will be alerted to escaped fires, and prescribed burning operations will cease.

3. Air Quality and Smoke Management

a. Air Quality Issues

A key management consideration in the total prescribed fire program and also applicable to wildland fires, is the short-term smoke impact on both air quality and visibility. As Fort Scott National Historic Site is located within the metropolitan area of Fort Scott, smoke is a primary concern, both with wildland fires and prescribed fire. The park is also bounded on the northeast by Highway 69, making smoke a safety concern for motorists.

Due to these concerns, both air quality and smoke management must be considered in developing prescribed fire plans. The City of Fort Scott has a regulation requiring a permit to be obtained before igniting a prescribed fire. This permit is obtained from the Fort Scott Fire Department.

b. Smoke Mitigation

The following management guidelines will be adhered to during all phases of the fire management program:

- No prescribed fires will be ignited during air pollution alerts, temperature inversions or when a burn ban has been established by any local government agency.
- Fire weather forecasts will be used to predict smoke dispersal. The nearest fire weather forecast will be obtained from the National Weather Service, Springfield, Missouri.
- Prescribed fires will be conducted only when conditions result in rapid smoke dispersal.
- Proper firing techniques to lower smoke production will be utilized.

- Timing of prescribed fires will occur after 9:00 a.m. with ignition ending before 4:00 p.m.
- Smoke projection maps will be prepared to assist in projecting smoke dispersal patterns.
- Local police and fire agencies will be notified of any prescribed fire so they may provide any needed assistance with traffic flow, in the event problems with smoke dispersal occurs.
- Prescribed fires will be planned and conducted when proper wind flow will disperse smoke over unpopulated or low density populated areas. The preferred wind direction will be from the south to southwest. Wind direction from the north and east will have a severe impact on the business district of Fort Scott. Prescribed fires under these conditions should not be conducted.
- Any prescribed fires will not violate Federal Clean Air Act standards.

Additionally smoke is a health concern for sensitive individuals. A call list of individuals wishing to be notified of planned fires will be maintained. A press release notifying the public will be issued prior to a prescribed fire and any sensitive individuals will be notified prior to ignition.

E. Non-Fire Treatment Applications

1. Mechanical Treatments and Other Applications

a. Annual Activities

Regular mowing around historic structures, along fence lines and the prairie trail will be performed throughout the growing season (April – September) to prevent fuel buildup and provide fire breaks. Mowing will also be used to eliminate weedy competition in newly seeded areas of the tallgrass prairie.

Mechanical removal of woody/brushy vegetation will be conducted on an as needed basis in the prairie units and woodland areas. Most woody removal will be accomplished with the use of hand tools such as loppers. Trees with diameters in excess of 1” will be removed with a chainsaw. Mowing will be utilized when it is not possible to use prescribed fire.

Broadcast and spot herbicide treatments will be used on a limited basis throughout the park. Herbicides will be used to treat cut stumps to prevent resprouting and to control exotic species.

b. Equipment and Seasonal Restrictions

The same restrictions apply to mechanical treatments as to prescribed or suppression fires. Superintendent or Acting Superintendent will approve the use of mechanical equipment use above chainsaws or brush cutters.

c. Required Monitoring

Monitoring of mechanical treatments is essential to ensure that treatment objectives are being met and that no unwanted effects are occurring. The Regional Fire Ecologist will recommend the appropriate levels of monitoring in the Monitoring Plan (to be developed).

d. Critique Format

The project supervisor will meet with the Park Fire Coordinator and/or the Park Ranger (Resource Management) to critique the project. Accomplishment of objectives, methodology, cost effectiveness, safety issues, and resource damage are some of the topics to be discussed. A written project completion report incorporating the findings of the critique will be forwarded to the Superintendent and the Area FMO.

e. Cost Accounting

On FIREPRO funded projects, individual project costs will be tracked by the park and the Area FMO and submitted to the Regional Fire Management Office for review. Expenditures should not exceed the authorized project amount. The Park will consult with the Area FMO (OZAR) in advance if project cost overruns are anticipated.

f. Reporting and Documentation

On FIREPRO funded projects, all project forms will be completed as outlined by the Park Fire Coordinator. A fire staff from Ozarks will be assigned to collect all predetermined information and complete all necessary forms prior to, during, and after completion of the project. All records will be archived in the park for future use and reference.

The forms necessary for documenting prescribed fire activities are outlined in NPS-Directors Orders #18 and Reference Manual #18. The Individual Fire Report (DI-1202), the Case Incident Report (10-343), personnel and equipment costs are the responsibility of the Park Fire Coordinator.

g. Annual Planned Project List

Any division chief may submit proposed projects to the Park Fire Coordinator. The Park Fire Coordinator will compile a list of these projects and submit them to the Superintendent for approval and prioritization.

F. Emergency Rehabilitation and Restoration

On January 19, 2001, the Department of the Interior issued new policy on burned area emergency stabilization and rehabilitation. The specifics of the policy can be found in 620 DM 3 *DOI BAER Policy (2001)*. The Park Fire Coordinator and the Natural Resource Specialist will jointly formulate a rehabilitation plan for each fire. The plans are then forwarded to the Area FMO, then the Regional BAER Coordinator, to request funding.

V. FIRE MANAGEMENT ORGANIZATION AND RESPONSIBILITIES

A. Fire Management Program Organizational Structure

Superintendent - Responsible for the overall program direction. Has final decision-making authority for management operations. Approves and signs prescribed fire plans. Periodically assesses and certifies by signature that continued management of wildland fire use actions is acceptable.

Chief Ranger – Will be responsible for preparing annual updates of Memoranda-of-Understanding and Cooperative Agreements, assessing fire danger and fire weather. Serves as the Information Officer for fire related inquiries and notifications. Responsible for updating the Fire Management Plan. Coordinates with the FMO to develop a fire effects monitoring program.

Area Fire Management Officer - Functions primarily as technical advisor for the park fire management program, assigned to Ozark National Scenic Riverways. The FMO will oversee any prescribed fires including planning, implementation and documentation. Submits budget requests and monitors FIREPRO funds allocated to Fort Scott National Historic Site. The Interpark Fire Management Agreement is located in Appendix B.

Fort Scott Fire Department - Will serve as the primary holding forces and back-up for all prescribed fires on the park.

B. FIREPRO Funding

Fort Scott National Historic Site is not a FIREPRO park. However, FIREPRO funds are used for prescribed fire projects and support to the park's staff that are members of Incident Management Teams. A small cache is maintain at the park for this purpose as well as supporting fire crews that are involved with the

prescribed fire projects. Any request for FIREPRO funds will go through the Area FMO located at Ozark National Scenic Riverways.

VI. FIRE RESEARCH

The park has no plans to conduct fire research at this time. Research conducted at other tallgrass prairie areas will be utilized to refine the fire management program.

VII. FIRE EFFECTS MONITORING

All prescribed fires will be monitored. Information gathered during fire monitoring is needed to keep fires within predetermined criteria, to identify trigger points for suppressions action, to protect human life and property, and to increase knowledge of fire behavior in the park's fuel types and of fire effects on the tallgrass prairie. A fire monitor or monitoring team will observe the fire, assess its potential and provide a historical record. Monitoring will include documenting the fire environment (weather, fuels, topography), fire behavior (manner and rate of spread, flame length, etc...) and fire effects (percent of fuels consumed, changes in plant and animal community composition and structure, etc...) Photographs may be taken. Weather readings will be made periodically with a belt weather kit at the fire site. Forms for recording data will be supplied to monitors.

The NPS Fire Monitoring Handbook (U.S. NPS 2001) will be the primary source for protocols for monitoring fire weather and fire behavior.

NPS fire effects monitoring program is a national program to determine whether prescribed fire objectives are being attained, and if any undesirable effects are occurring. This is generally accomplished through the establishment of permanent vegetation plots that are read prior to and following prescribed fires. The park is developing a Fire Effects Monitoring Plan that will become an appendix to this plan. It will define for the site fire monitoring goals and objectives; monitoring types; minimum qualification standards for fire monitors; monitoring levels; long-term and post-fire monitoring protocols; and minimum acceptable standards for documenting fire weather, behavior, and effects.

VIII. PUBLIC SAFETY

As hazards exist in both wildland and prescribed fires, safety will always be a high priority. In order to make park employees and the general public aware of such hazards, the following actions will be implemented.

- General public will be informed of wildland fires and prescribed fires through press releases and general interpretive presentations.

- During prescribed fires viewing areas will be designated by the park staff and a park interpreter will be available to answer questions during prescribed fire operations.
- Safety briefings will be conducted for park and cooperating agency personnel prior to any participation in wildland or prescribed fires.
- Appropriate regulatory and/or enforcement agencies will be notified prior to any prescribed fires to assist in safely managing pedestrian, vehicular or river traffic.
- “No smoking near prairie” warnings will be posted in the visitor center and at the beginning of the prairie trail.
- Fort Scott Police Department and the Kansas Highway Patrol will provide traffic control during periods of intense smoke.
- Fort Scott Fire Department will be on standby status during prescribed fires to provide structural protection to park buildings and protection to neighboring lands and developments.

IX. PUBLIC INFORMATION AND EDUCATION

To further public information and education, the following guidelines will be followed:

- Timely and accurate information will be provided to the media and park visitors regarding the status of potential fire actions and suppression efforts.
- Informational handouts explaining the fire management program will be prepared and updated as necessary. During periods when prescribed fires are planned, these handouts will be distributed to park visitors and general public. Interpretative tours both during the burn and after should be encouraged to educate the visitors on the positive effects of fire on the prairie ecosystem.
- The prescribed fire program will be discussed in informal contacts with all park personnel, park neighbors and visitors.

X. PROTECTION OF SENSITIVE RESOURCES

As the park contains numerous archeological, cultural and historic resources, personnel taking part in wildland fire suppression, as well as prescribed fires will be briefed on the potential for disturbance of such resources. Any and all control actions undertaken will minimize the impact on such resources. Construction of hand line to mineral soil will be discouraged. The use of mowed grass lines in a combination of the use of water and/or foam should be sufficient to contain any prescribed fire. The Superintendent will ensure that representatives of the Fort

Scott Fire Department are aware of fire suppression constraints and mitigation prior to each fire season.

Prior to any prescribed fires, appropriate compliance documentation will be completed; i.e. XXX forms. After any wildland or prescribed fires occur, the sites will be surveyed by park staff for any impacts on archeological, cultural or historic resources.

Care will be taken to protect park infrastructure and adjoining neighboring property. Mechanical control of vegetation around these sensitive resources will be performed regularly. The Fire Scott Fire Department will be standing by during prescribed fires to provide additional protection.

XI. FIRE CRITIQUES AND ANNUAL PLAN REVIEW

A. Introduction

1. Scope

All wildland fires and fire-related incidents will be reviewed. All prescribed fires will be reviewed as appropriate.

2. Reviews

Reviews are conducted for one or more of the following purposes:

- a. To examine the progress of an on-going fire incident and to confirm effective decisions or correct deficiencies.
- b. To identify new or improved procedures, techniques or tactics.
- c. To compile consistent and complete information to improve or refine park, regional or national fire management programs.
- d. To examine anomalous fire-related incidents in order to determine cause(s), contributing factors, and where applicable, recommends corrective actions. If negligence is indicated, the circumstances will be reported and investigated in accordance with applicable regulations, policies or guidelines.
- e. To determine the cost effectiveness of a fire operation.

3. Authority

The authority to convene a fire review rests with the park superintendent, regional director, or the Associate Director, Park Operations and Education. It

is the clear responsibility of the superintendent to call for a review, to ensure timely completion, and to implement recommended actions. The regional director has responsibility to follow-up with the superintendent: that reviews are established and completed in a timely manner, and that recommended actions are completed. The superintendent may request technical support from Fire Management Program Center, regional, park or interagency personnel with the appropriate expertise.

4. Incident Types

All wildland fire incidents which result in human entrapment, fatalities, or serious injuries, or result in incidents with potential, will be investigated and reviewed.

5. Associate Director

The Associate Director, Park Operations and Education, will convene an ad-hoc team to review Servicewide fire management programs subsequent to the occurrence of any significant, controversial or unusual wildland fire management activities.

6. Purpose

All reviews will be conducted as constructive critiques aimed at determining the facts related to the specific fire or fire management program. They will identify commendable actions, techniques and decisions as well as areas that need improvement. Reviews are intended to resolve operational issues, not impose punitive actions.

B. Fire Reviews

1. "Hotline" Review

The purpose of the hotline review is to examine the progress of an on-going fire incident, regardless of size. The review will provide a confirmation of the decisions being made daily in the Wildland Fire Situation Analysis or determine where the decision process has been faulty and corrective actions are needed.

The "hotline" review is normally conducted by the park's fire management officer (or an official who has designated fire program management responsibilities) in conjunction with the incident commander on the fire.

These reviews require no special reporting. Documentation of "hotline" reviews should be included in the normal fire report narrative.

2. Incident Management Team Closeout and Review

The park superintendent will conduct a closeout review with the Incident Management Team prior to their release from the fire incident. The purpose of this review is to ensure complete transition of the incident management back to the unit and to evaluate the status of any incomplete fire business. RM 18, Chapter 13, Exhibit 1 contains a sample Close-Out Review with an Incident Management Team.

3. Unit Level Review

The superintendent or his/her designated representative should conduct the unit level review. The superintendent will appoint other qualified persons, including the unit fire management officer (or an official who has designated fire program management responsibilities) to be a part of the review. The purpose of this review is to provide the superintendent with information to recognize commendable actions and to take needed corrective action(s). Costs associated with the review will be charged to the account assigned to the fire with the approval of the regional fire management officer. A copy of the complete report will be sent to the regional fire management officer, who will review it and, if appropriate, forward a copy to the Fire Management Program Center.

4. Regional Level Review

A regional level review may be conducted for any fire that:

- a. Crosses a park's boundary into another jurisdiction without the approval of an interagency agreement.
- b. Results in adverse media attention.
- c. Involves serious injury to less than 3 personnel, significant property damage, or an incident with potential.
- d. Results in controversy involving another agency.

The regional level review normally will be conducted at the unit where the fire occurred. The regional fire management officer or his/her designated representative will convene the review. Attendees will include the superintendent of the unit, unit fire management officer (or the official who has designated fire program management responsibilities), the incident commander(s) for the fire, and other individuals agreed upon by the regional director and superintendent. If possible, the review team should visit the actual fire site as part of the review. A copy of the review report will be sent to the Fire Management Program Center. Costs

associated with the review will be charged to the account assigned to the fire.

5. National Level Review

A national level review may be conducted for any fire that involves service wide or national issues, including:

- a. Significant adverse media or political interest.
- b. Multi-regional resource response.
- c. A substantial loss of equipment or property.
- d. A fatality, or multiple, serious fire-related injuries (three or more personnel).
- e. Any other fires that the Associate Director, Park Operations and Education, wants reviewed.

The national level review normally will be conducted at the unit where the fire occurred. The National Fire Management Officer or his/her designated representative will convene it. It will be attended by the superintendent of the unit, the unit's fire management officer (or an official who has designated fire program management responsibilities), the regional fire management officer, the incident commander(s) for the fire, and other individuals agreed upon by the National Fire Management Officer, the regional director and the superintendent. If possible, the review team should visit the actual site of the fire as part of the review. All costs associated with the review will be charged to the account assigned to the fire.

RM 18, Chapter 13, provides an outline for final reports of fire reviews. RM 18, Chapter 13, Exhibit 3 provides a checklist of sample questions which might be asked during a fire review. These two documents should be used for unit, regional and national level reviews.

6. Entrapment and Fire Shelter Deployment Review

Fire shelter deployment is defined as the use of a fire shelter for its intended purpose in any situation other than training. Use of the terms "precautionary deployment", "practice deployment" and "entrapment deployment" are not acceptable or recognized. Entrapments and fire shelter deployments will be reviewed in order to gather complete and accurate information to determine the reasons for the deployment. Corrective recommendations will be developed to minimize future situations which might lead to other shelter

deployments. All entrapments and fire shelter deployments will be reported to the regional fire management officer, who will be responsible for developing the review team in cooperation with the Fire Management Program Center. The team leader will contact the superintendent for reporting information. See Safety & Health RM 18, Chapter 3 for investigation and reporting requirements.

All entrapments and fire shelter deployments will be investigated as soon as possible after the deployment incident. RM 18, Chapter 13, Exhibit 4 provides specific directions for conducting an entrapment or shelter deployment review. RM 18, Chapter 13, Exhibit 5 provides an outline format for final reports on entrapment and fire shelter deployment reviews.

C. Program Reviews

1. Operations Evaluations

Operations evaluations of NPS units and regions may include review of fire management programs to assure compliance with established Service standards.

2. Annual Fire Program Review

The superintendent will convene an ad-hoc team to review park fire activity during any year in which significant, unusual or controversial fire activity occurs. This review team should analyze the reports from any reviews to determine what, if any, operational changes should be initiated. The review team will develop findings and recommendations and establish priorities for action.

3. FIREPRO Review

Annually, the FMO will conduct a FIREPRO audit and review of the park values at risk, research, equipment and project needs. This review will be completed on the schedule set by the Fire Management Program Center.

4. Fire Readiness Review

Fire readiness or preparedness reviews, utilizing the Interagency Fire Readiness Review Guide as adapted for park-specific needs, should be conducted annually prior to the established fire season by park fire management staff.

XII. CONSULTATION AND COORDINATION

The following individuals were consulted or contributed to the preparation of this plan:

John Daugherty, Superintendent, National Park Service, Fort Scott National Historic Site

Kelley Collins, Chief of Interpretation and Resource Management, National Park Service, Fort Scott National Historic Site

Bobby Bloodworth, Area Fire Management Officer, National Park Service, Ozark National Scenic Riverways

Jim DeCoster, Fire Ecologist, Branch of Aviation and Fire Management, National Park Service, Midwest Regional Office

Doug Alexander, former Wildland Fire Specialist, National Park Service, Midwest Regional Office

Jeff Davis, Fire Chief, City of Fort Scott Fire Department

Tom Swan, Wildlife Biologist, Kansas Department of Game and Parks

Lisa Thomas, former Botanist, National Park Service, Long Term Prairie Monitoring Project, Midwest Region

XIII. APPENDICES

- A. Literature Cited
- B. Missouri/Kansas Inter-Park Fire Agreement
- C. Plant Species at Fort Scott National Historic Site
- D. Environmental Assessment
- E. Five Year Plan for Use of Prescribed Fire
- F. Wildland Fire Implementation
- G. Wildland Fire Situation Analysis (WFSa)
- H. Limited Delegation of Authority