LITERATURE CITED


Interpark Agreement
Between:

Ozark National Scenic Riverways Fire Management
and
Effigy Mounds National Monument
Fort Larned National Historic Site
Fort Scott National Historic Site
George Washington Carver National Monument
Harry S Truman National Historic Site
Herbert Hoover National Historic Site
Jefferson National Expansion Memorial
Ulysses S. Grant National Historic Site, and
Wilson’s Creek National Battlefield

ARTICLE I. PURPOSE

The FIREPRO process arranges for the funding of the fire staff to support the eight National Park Service units listed above. This grouping is known as the Ozark Fire Management Cluster (OZAR). These positions will be referred to in this document collectively as the "Fire Staff". The purpose of this agreement is to define the mutual responsibilities of the Fire Staff and staffs from the National Park Service units listed above in Missouri, Iowa, Kansas and Illinois in terms of fire management activities.

At certain times of the year, accomplishment of specific fire management objectives (FIREPRO budget submission, project planning, fire management planning, wildfire suppression, preparedness, capitalized equipment request, training request, prescribed fire/fuels planning and implementation) requires expertise and time allocations that may not be fully available in each of the non-firepro staffed parks. The establishment of a Ozark Fire Management Cluster alleviates this situation where the permanent Fire Management Officer and fire staff at Ozark National Scenic Riverways are made available to provide technical and professional assistance to the listed above parks in Missouri, Iowa, Kansas and Illinois. This provides greater capability for each park to fully complete their fire management planning and implement the desired fire management program.

ARTICLE II. RESPONSIBILITIES

The duties of the Fire Staff will include providing professional and technical support for the fire management programs at all Ozark Fire Management Cluster units.

A. Specific responsibilities of the Fire Management Staff include:

1. Assist in the development and implementation of wildland fire prevention, preparedness,
2. Assist in coordination of fire-related reports, correspondence, preparation and/or review of fire management plans, and aviation plans. Participate in other fire management planning as requested.

3. Assist in coordination and implementation of prescribed fire programs, fuel treatments, Wildland Urban Interface Initiative and community assistance programs.

4. Coordinate, through appropriate zone coordination centers, mobilization of National Park Service personnel for fire assignments.

5. Develop, coordinate, and conduct fire-related training as necessary to meet wildland fire needs of the units and interagency needs according to approved fire management plans, and local and national guidelines.

6. Manage fire qualification and training records in the Shared Applications Computer System (SACS), including: initial record input; updating fitness scores, training, experience, and issue incident qualification cards. The Fire Staff will provide an annual timetable to each unit fire coordinator for transferring the information to the Fire Program Assistant so that it can be input into the SACS.

7. Communicate with respective units on issues and concerns prior to representing the Ozark Fire Cluster at meetings, conferences, seminars and other functions as requested and required.

8. Coordinate National Park Service role in the interagency fire community; developing interagency agreements, cooperative agreements, and other agreements necessary for carrying out wildland fire management.

9. Prepare, review and return for approval prescribed fire plans developed for each park.

10. Assist with implementation of prescribed fire including providing staff and coordinating fire resources for project preparation and execution.

B. Responsibilities of the superintendents of the Ozark Fire Management Cluster include:

1. Make requests for assistance through the fire management office with sufficient lead-time to meet due dates and set-up meetings. Each unit superintendent will designate a unit fire coordinator who requests program assistance, budget, and training needs through the Fire Management Officer.

2. Submit fire experience and fire training records (using the EZ form), physical fitness scores, physical exam results (pass or fail), individual fire reports (DI-1202), availability reports, and situation reports, following established times and due dates. Unit fire coordinators will be responsible for maintaining fire readiness to the level identified in the park's fire...
management plan.

3. Notify the Fire Staff as soon as practical of any fire restrictions, closures, or fire occurrences.

4. Participate in the overall fire management of the Missouri, Iowa, Kansas and Illinois units of the National Park Service by committing to sharing of training and available personnel upon request.

5. The Chief Ranger of Ozark National Scenic Riverways will be the official supervisor of the Fire Management Officer (FMO). The other Superintendents will also work closely with the FMO and will provide input to the Ozark National Scenic Riverways' Chief Ranger for the FMO's performance appraisal.

ARTICLE III. WORK GROUP

The Fire Management Staff Officer will facilitate a Fire Management Work Group, which meets at least once a year to review budget inputs prior to submission, review the Interpark Agreement, and prioritize work plan activities. The Work Group will be composed of the Fire Coordinators from the park units covered by this Agreement and the fire staff for the Ozark Fire Management Cluster.

ARTICLE IV. FUNDING

Program costs (e.g. travel/per diem, communication, supplies and materials) incurred by the Fire Staff will be charged to FIREPRO accounts. In addition, any costs associated with the work group may be funded through FIREPRO accounts assigned to each park unit. If personnel are working on a project which has been individually funded, such as a prescribed fire, the overtime and travel costs for personnel may be paid from the appropriate project funds. The annual budget request will be reviewed and concurred with by the Work Group so that any supplemental requests, i.e.: physical exams, personal protective equipment, training, cache items, capital equipment, and hazard fuel reduction projects, are reflected in the annual budget request.

ARTICLE V. LOCATION OF THE FIRE STAFF

While it needs to be clear that the fire staff serves all eight parks, they will be located at Ozark National Scenic Riverways.

ARTICLE VI. TERM OF AGREEMENT

The term of this Agreement will be 5 years, beginning in fiscal year 2003. It is renewable at the end of each five-year period by written letter of agreement signed by each of the superintendents of the Ozark Fire Management Cluster.

This agreement will be reevaluated yearly between the parks and the fire management staff at the annual program review and evaluation.
Amendments to this Agreement can be made at any time subject to the written concurrence and approval of all superintendents. Participating parks may withdraw from this agreement at anytime by formally notifying the Ozark National Scenic Riverways Superintendent.

This agreement does not make any commitments by any of the parks concerning structure, assignment or designation of positions within the Ozark Fire Management Cluster. That restructuring process will continue to evolve as a separate process and is not bound by this agreement.

Superintendent  
Effigy Mounds National Monument  

Superintendent  
Fort Larned National Historic Site  

Superintendent  
Fort Scott National Historic Site  

Superintendent  
George Washington Carver National Monument  

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Harry S. Truman National Historic Site  

Superintendent  
Herbert Hoover National Historic Site  

Superintendent  
Jefferson National Expansion Memorial & Ulysses S. Grant National Historic Site  

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Appendix C

Plants species found in restored prairie
at Fort Scott National Historic Site

Graminoids

Agrostis alba
Alopecurus pratensis
Andropogon gerardi
Andropogon saccharoides
Bouteloua curtipedula
Bouteloua gracilis
Bromus inermis
Bromus kalmii
Bromus tectorum
Buchloe dactyloides
Chloris virgata
Cynodon dactylon
Cyperaceae
Digitaria sanguinalis
Elymus Canadensis
Festuca arundinacea
Juncaceae
Koeleria macrantha
Panicum ologosanthes-scribnerianum
Panicum virgatum
Paspalum
Poa pratensis
Schizachyrium scoparium
Setaria glauca
Sorghastrum nutans
Sorghum halepense
Spartina pectinata
Sporobolus heterolepis
Tripsacum dactyloides
red top
meadow foxtail
big bluestem
silver bluestem
side-oats grama
blue grama
smooth brome
prairie brome
downy brome
buffalo grass
windmill grass
Bermuda grass
seige
crab grass
Canada wild rye
tall fescue
rush
june grass
scriber’s panic grass
switch grass
smooth paspalum
Kentucky bluegrass
little bluestem
yellow foxtail
Indian grass
Johnson grass
prairie cord grass
prairie dropseed
gama grass
Legumes

*Amorpha canescens*
*Baptisia australis*
*Baptisia bracteata leucophaea*
*Desmanthus illinoensis*
*Lespedeza striata*
*Melilotus officinalis*
*Petalostemon purpureus*
*Securigera varia*
*Trifolium pretense*
*Trifolium repens*

Forbs

*Abutilon theophrasti*
*Achillea lanulosa*
*Achillea millefolium*
*Allium canadense*
*Ambrosia artemisiifolia*
*Ambrosia psilostachya*
*Ambrosia trifida*
*Antennaria neglecta*
*Arnoglossum plantaginum*
*Asclepias tuberosa*
*Asclepias viridis*
*Aster ericoides*
*Aster pilosus*
*Aster prealtus*
*Callirhoe alcaeoides*
*Chrysanthemum leucanthemum*
*Convolvulus arvensis*
*Daucus carota*
*Delphinium virescens*
*Desmodium illinoense*
*Dianthus armeria*
*Echinacea pallida*
*Erigeron annuus*
*Erigeron strigosus*
*Erythronium rostratum*
*Euphorbia corollata*
*Euphorbia marginata*
*Euthamia gymnospermoide*
*Fragaria virginiana*
*Helianthus maximiliani*

lead plant
blue wild indigo
cream wild indigo
Illinois bundleflower
common lespedeza
yellow sweet clover
purple prairie clover
crown vetch
red clover
white clover

velvetleaf
western yarrow
yarrow
wild garlic
common ragweed
western ragweed
giant ragweed
field pussy toes
prairie Indian plantain
butterfly milkweed
spider milkweed
heath aster
hairy aster
willow aster
pink poppy mallow
ox-eye daisy
field bindweed
queen anne's lace
plains larkspur
Illinois tick trefoil
Deptford pink
pale purple coneflower
annual fleabane
daisy fleabane
yellow dog's tooth violet
flowering spurge
snow on the mountain
plains grass-leaved goldenrod
wild strawberry
Maximilian sunflower
Helianthus annuus
Helianthus mollis
Heliopsis helianthoides
Hieracium longipilum
Hypericum perforatum
Hypoxis hirsuta
Lathyrus latifolius
Lespedeza cuneata
Liatris aspera
Liatris squarrosa
Linaria vulgaris
Linum sulphatum
Lithospermum canescens
Oxalis violacea
Penstemon pallidus
Penstemon tubaeflorus
Petalostemon candidum
Petalostemon purpureum
Physostegia virginiana
Phytolacca americana
Plantago aristata
Polytaenia nuttallii
Potentilla recta
Prunella vulgaris
Psoralea tuniflora
Pycnanthemum tenuifolium
Ratibida columnaris
Ratibida pinnata
Rudbeckia hirta
Ruellia humilis
Rumex crispus
Salvia azurea
Salvia pitcheri
Schrankia nuttallii
Silphium integrifolium
Silphium laciniatum
Solanum carolinense
Solidago missouriensis
Solidago rigida
Taraxacum officinale
Tradescantia cheniensis
Verbascum blattaria
Vernonia baldwini
Vernonia fasciculate
Viola pedata
Viola pedatifida
common sunflower
ashy sunflower
false sunflower
long-bearded hawkweed
common St. John’s-wort
yellow star grass
sweet pea
sericea lespedeza
rough blazing star
scaly blazing star
butter and eggs
grooved yellow flax
hoary puccoon
violet wood sorrel
pale bearded tongue
tube bearded tongue
white prairie clover
purple prairie clover
obedient plant
pokeweed
bracted plantain
prairie parsley
rough fruited cinquefoil
heal-all
scurfy pea
slender mountain mint
upright prairie-coneflower
gray headed coneflower
blackeyed susan
hairy wild petunia
curly dock
blue sage
pitchers sage
cat’s claw sensitive briar
whole leaf rosinweed
compass plant
Caroline horsemettle
Missouri goldenrod
stiff goldenrod
common dandelion
common spiderwort
moth mullein
Baldwin ironweed
common ironweed
bird’s foot violet
prairie violet
Woody Species

Acer negundo
Ailanthus altissima
Campsis radicans
Carya cordiformis
Celtis occidentalis
Cercis canadensis
Corylus americana
Cornus amomum
Crataegus phaenopyrum
Diospyros virginiana
Juglans nigra
Maclura pomifera
Mallus ioensis
Morus alba
Parthenocissus spp.
Prunus americana
Prunus bessey
Quercus alba
Quercus macrocarpa
Quercus rubra
Rhus radicans
Robinia pseudoacacia
Sambucus canadensis
Symphoricarpus orbiculatus
Ulmus americana
Ulmus parvifolia

box elder
tree of heaven
trumpet vine
bitternut hickory
hackberry
redbud
Washington hazel
silky dogwood
hawthorn
persimmon
black walnut
osage orange
wild crabapple
white mulberry
Virginia creeper
American plum
sand cherry
white oak
bur oak
red oak
poison ivy
black locust
elderberry
coral berry
American elm
Chinese elm

Fort Scott National Historic Site Fire Management Plan
Environmental Assessment

Introduction:

Fort Scott was first established in 1842 in what is now southeastern Kansas. It served as a base for the Army's peacekeeping efforts along the "Permanent Indian Frontier." Soldiers provided armed escorts for parties on the Santa Fe and Oregon Trails, surveyed unmapped country, and maintained contact with Native American tribes both indigenous and relocated. In the 1850s, Fort Scott was involved in the turmoil and violence of the "Bleeding Kansas" years when social conflict erupted in the question of Kansas being a "free" or "slave" state. The army abandoned the post in 1853 and the buildings were sold at public auction in 1855. The buildings then became the nucleus for the town of Fort Scott.

Kansas entered the Union as a free state in 1861. In the same year, the Civil War broke out and a new wave of conflict engulfed the area. The United States Army returned to Fort Scott and established a major military complex. This complex included a supply base, a training ground, an army hospital, and a military prison. The town served as a logistical center for troops operating in Kansas, Missouri, Arkansas and the Indian Territory (Oklahoma). The 1st Kansas Colored Volunteer Infantry Regiment was mustered into the United States Army on January 13, 1863, at Fort Scott, Kansas. It was the fifth black regiment to enter the Union Army. At the end of the Civil War in April of 1865 the Army sold their buildings and military surplus at public auction, and troops marched home.

The final phase of military occupation in Fort Scott came during the railroad years of 1869-73. The Post of Southeast Kansas was established with its headquarters in Fort Scott. Soldiers stationed in the area protected the construction of railroads in southeast Kansas and guarded the workers from being attacked by landholders determined to block the railroad's progress. The completion of the major railroad construction marked the final use of the Fort by the military.

Many of the fort buildings became the nucleus of the new town of Fort Scott and used as hotels and offices. Over time additional residences, businesses, and city streets and alleys were built on other previously military property. Some original buildings were torn down and other development filled the open areas. Throughout this extended period of rapid growth, the original parade grounds served as the central "town square" and became known as Carroll Plaza. In the mid- to late 1960's the community began efforts to restore "Old Fort Scott." Between 1967 and 1974 an urban renewal project transformed the area. All non-historic buildings and most post-military roads and alleys were removed. Most of the restoration/reconstruction of the site's historic buildings and the five-acre tallgrass prairie occurred between 1975 and 1981.
Fort Scott National Historic Site (FOSC) was established on October 19, 1978, "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 16.69 acre site includes 26 historic structures including three Officers' Quarters buildings; a Dragoon Barracks; two Infantry Barracks; the Post Hospital; a Guardhouse; a Dragoon Stables; the Ordinance and Post Headquarters building; the Quartermaster's Storehouse; the post Bakery; the post Well and Canopy; the Powder Magazine; the post Trade Shop; two Carriage houses; walls; outbuildings, and foundations. The main buildings generally surround the parade ground and have been restored and furnished to their late 1840s appearance. Restoration of approximately five acres of tallgrass prairie began in 1979.

**FORT SCOTT'S HISTORIC STRUCTURES and THEIR CURRENT USES**

(Current status of structures is noted in parentheses)

Prior to the settlement period, this prairie experienced repeated fires. Details of the fire regime are vague, but the best information suggests a frequency or interval of five to ten years (Wright and Bailey, 1982). One school of thought suggests that the fires were mostly lightning-caused and occurred in late summer, when fuels were dry from summer heat and grasses were going into dormancy. A second fire season would have occurred in late winter, at the end of the dry season. Another school of thought argues that many pre-settlement fires were started by aboriginal people to refurbish the grasslands for game species (Pyne 1982). These fires were set in late
winter or early spring to promote early greening. Essentially, the indigenous people managed the prairie and other environs with fire (Williams 2000).

Regardless of the cause of ignition, fire shaped the tallgrass prairie of southern Kansas. Fire reduced the accumulation of organic matter at the soil surface and recycled nutrients into the soil. It also stimulated prairie growth, particularly in spring when the blackened soil warmed quickly. Fire also controlled encroachment by shrubs and trees from waterways onto the upland prairies.

Throughout the 1840s, post surgeons at Fort Scott noted the occurrence of prairie fires in their meteorological reports. There is no evidence that any of the fires came close enough to warrant suppression. However, an 1853 letter does indicate concern about the possibility of prairie fire. In the letter, the ordnance sergeant requested “the weeds be cut down around the quarters before Prairie (sic) burning commences which is about the latter end of August…”

Evidence also exists that early settlers adopted the Native Americans’ practice of intentionally setting prairie fires. An article in the February 23, 1860 issue of the Fort Scott Democrat stated “The farmers are now engaged in burning off the prairie which escaped the ravages of the fire last fall.” With the onset of widespread settlement and cultivation, the remaining prairie became fragmented and fire suppression became the norm.

Park managers recognize that a 5-acre prairie is too small to function as a fully self-supporting ecosystem. While it is impractical to completely restore the prairie to pre-settlement conditions, park staff can restore a portion of tallgrass prairie that conserves native bio-diversity and contributes to the commemorative nature of the park.

Chapter 1 Purpose and Need:

FOSC includes vegetation that is capable of burning and therefore is required to develop a Fire Management Plan to identify how fire will be managed and for what purpose under Director’s Order (DO) 18. Additionally, the park’s 1993 General Management Plan, Section B Cultural Resource Preservation, Number 5, identifies cultural goals including: “To protect the integrity of the historic scene. To mitigate to the fullest extent possible, modern intrusions on the historic scene…to minimize intrusions created by maintenance operations (e.g. mowing, painting, etc.).” Number 6 goes on: “To restore and cultivate the native vegetation, which provides the historic setting for the primary historic restoration and interpretive period of 1842 to 1853.”

The 1994 Draft Prairie Management Action Plan identifies the introduction of “prescribed fire regime to the restored prairie” as a Restoration Objective. Specifically, the Draft Prairie Management Action Plan identified the following specific objectives

- Control invasive exotic species throughout the restored prairie;
- Remove unwanted exotic and fire sensitive trees; control shrub encroachment;
- Introduce prescribed fire regime to (the) restored prairie;
- Increase the diversity and abundance of conservative prairie forbs using the Little Osage Prairie as a model for choosing appropriate species and proportions;
• Reduce switch grass (Panicum virgatum) dominance of (the) prairie; increase (the) frequency and abundance of little bluestem (Schizachyrium scoparius).

These plans anticipated that the use of prescribed fire which may be a preferable method of vegetation control in some instances, including the reestablishment and management of the restored prairie.

In addition, the park is required to control the hazard fuels within the park especially those fuels adjacent to historic and other structures. Hazard fuels are combustible vegetative material including grass, leaves, ground litter, plants, shrubs and trees that feed a fire and, when present, increase the threat of ignition and fire intensity or rate of spread to hazardous levels. Prescribed fire may be an appropriate tool for removing and control of hazardous fuels in the park.

If the park is to use prescribed fire for prairie restoration and/or hazardous fuel reduction, it must have an approved Fire Management Plan (FMP) in place. An FMP is a detailed action plan that provides specific guidance and procedures for accomplishing resource management and fire protection goals. In addition to describing, in detail, the use of prescribed fire to accomplish resource management objectives, it also details the fire protection program for the park including structural and wildland fires.

National Park Service Wildland Fire Management Guidelines (DO-18) requires that all parks with vegetation capable of sustaining fire develop a wildland fire management plan that will “meet the specific resource management objectives for that park and ensure that firefighter and public safety are not compromised.” This guideline identifies fire as the most aggressive natural resource management tool employed by the National Park Service. The guideline further states that all non-structure fires are classified as either wildland fires or prescribed fires. Prescribed fires are ignited by management actions to meet specific resource management objectives, and may be authorized by an approved wildland fire management plan. Wildland fires are unplanned, naturally or accidentally ignited fires. The term wildland fire encompasses fires previously called both wildfires and natural prescribed natural fires.

DO-18 identifies three paramount considerations for each park’s fire management program. They are:

• Protect human life and property both within and adjacent to Park areas;
• Perpetuate, restore, replace, or replicate natural processes to the greatest extent practicable; and
• Protect natural and cultural resources and intrinsic values from unacceptable impacts attributable to fire and fire management activities.

Currently there is no approved FMP for FOSC. The purpose of the action (developing a new FMP) is to determine appropriate method(s) for restoration of the prairie areas and hazardous fuel reduction consistent with approved park planning documents and National Park Service Policies (2001) and incorporate these finding into the new FMP. The need is for FOSC to develop an FMP, which fully complies with and incorporate all of the provisions, operational policies, and procedures required under the 1995 fire policy outlined in DO-18.
External scoping was conducted in the January 2002 by sending letters to adjacent landowners and placing notices in local newspaper. Letters were also sent to appropriate federal and state agencies (A sample letter and a complete list of addressees can be found in appendices A & B). No public comment was received. There was much discussion about the development of appropriate impact topics to include in the EA during internal scoping. The following topics were adopted for analysis:

- Cultural Resources
- Vegetation
- Air quality
- Park Operations and Work Force (This topic was adopted to analyze the increased workload of park personnel under each of the alternatives)

Topics Considered but Dismissed for Analysis are:

- Wildlife and Endangered Species. During the pre-settlement period, bison, elk, deer, coyote, and wolf existed in the vicinity. Now, with the exception of the occasional white tail deer or coyote, only small mammals such as mice, voles, rabbits, groundhogs, and skunks remain. Common migrant birds pass through the area. A few grassland birds may occasionally breed within the prairie area, and reptiles such as snakes and turtles also utilize the area to a small degree. However, because of its small size and the fragmented nature of the prairie area and its proximity to the urbanization of the town of Fort Scott, almost all of the use by wildlife is incidental and temporary. No endangered plant or animal species are present.
- Prime and Unique agricultural lands. The park property does not contain any prime or unique agricultural lands.
- Wetlands and Floodplains. FSNHS does not occur within a 100 or 500 year floodplain and no recognized wetlands occur within the property. Therefore, adoption of any of the proposed alternatives would be in compliance with Executive Orders 11990 and 11988 for action affecting wetlands and floodplains.
- Geology and Soils. The soils within the park are highly degraded fragmented prairie soils. The entire area of the restored prairie was part of the expanding townsite of Fort Scott. Storefronts, residences, storehouses, roads, and alleys occupied almost the entire area until the early 1970's. This resulted in deep disturbance of the native soils and geology as foundations, cellars, and basements were excavated. Because of the previous deep profound disturbance, the activities associated with the development and implementation of the FOSC FMP are not likely to have any adverse or beneficial effects on the soils or geology of the Park.

This environmental assessment considers three alternative management methods to restore native prairie and reduce hazardous fuels in the park. Each alternative is described in detail in the Alternatives section, and the impacts of each alternative are described in the Impacts section. Each impact is described under its appropriate Alternative heading. A summary follows each alternative's impact analysis.
Chapter 2 Alternatives:


Spring burning of the tallgrass prairie is a ritual in parts of southeastern Kansas. The practice began by early settlers followed still older Indian tradition, in which spring burning promoted the growth of new grass to attract and sustain the buffalo. Often misunderstood or opposed by the public, prescribed fire is now recognized as an important, natural management tool for maintaining the grassland environment (Hoy 1993). A prescribed fire is a fire intentionally ignited by management to meet specific resource management objectives, such as exotic vegetation control or hazard fuel control. Hazard fuels are excessive live or dead wildland fuel accumulations having the potential for the occurrence of uncharacteristically intense wildland fire.

Alternative A relies on a variety of management tools for vegetation management, predominated by prescribed fire. It anticipates mowing and baling portions of the restored prairie when hazard fuels must be reduced but burning is impossible and cutting and removing woody/brushy vegetation. Mowing to maintain fire breaks along the park boundary and near historic structures would be performed routinely throughout the growing season. Broadcast and spot herbicide treatments would also be used on a limited, as needed basis in the entire park area. Seasonal mowing of the historic core areas, trails, and maintenance areas and adjacent to buildings would continue.

This alternative incorporates the rigorous use of prescribed fire to meet vegetation management goals (prairie restoration and exotic invasive weed control) and hazard fuel management objectives and is the hallmark of this alternative. Prescribed fires would be intentionally ignited under predetermined weather and fuel-moisture conditions allowing managers to safely exert substantial influence over the spread and intensity of the fire.

The focus of the use of prescribed fire would be restoration of the prairie and exotic weed control, with reduction of hazard fuels as an additional benefit. All prescribed fires in parks as well as other hazard fuel reduction projects are governed by the NPS Reference Manual-18 - Wildland Fire Management, Chapter 10 - Fuels Management (RM-18). All prescribed fires projects under this alternative would be documented in a written prescription plan approved by the park superintendent prior to implementation according to guidelines set out in RM-18.

Each prescribed fire project will include a site specific Prescribed Fire Plan that will include a description of the specific purpose, goals, and objectives for the project. In addition, each plan will include: a description of the project area, including geographical boundaries; vegetation type(s) within the burn project area, including the corresponding fuel model(s); fuel(s) type, fuel loadings by class, fuel bed depth, and past observed environmental effects; Specific goals and objectives as stated in the Fire Management Plan; a risk management Assessment and mitigation measures, a fire complexity rating; necessary organizational and resources required (firefighters,
equipment, standby crews): pre-burn activities (fireline construction and fuel preparations, required permitting, equipment placement, special features to be protected, etc.). It will also describe, in detail, the necessary environmental conditions such as wind direction and velocity, relative humidity and fuel moisture content, air temperature, atmospheric stability, and seasonal window, and would include vicinity and project maps. For additional more information on these and other specific requirements of Prescribed Fire Plans, please refer to NPS Reference Manual-18 – Wildland Fire Management, Chapter 10 – Fuels Management.

This proposed alternative anticipates the intensive use of prescribed fires (up to one prescribed fire per prescribed fire unit per year) for several years to reverse the intrusion of exotic invasive weeds and to release and stimulate native species regeneration. With the restoration of a more naturally occurring mix of native species, the burn units will undergo prescribed burn on a 2 to 5 year cycle averaging one burn every three years. While even this fire frequency may be shorter than the historic average (Wright and Bailey 1982), frequent fire interval is desirable for reducing exotic and woody vegetation during restoration and maintenance of the prairie and for hazard fuel reduction.

All prescribed fires would be conducted within the following guidelines:

- Public and employee safety would be the highest priority for every fire management activity.
- All fires, either prescribed or wildland, would be managed in concert with federal, state, and local air quality regulations. Reciprocal fire management activities would be facilitated through the development and maintenance of cooperative agreements and working relationships with pertinent fire management entities.
- Wildland fuels (natural combustible material such as grass, leaves, plants, shrubs, trees, etc.) around developed areas, along interface boundary areas and adjacent to cultural and historic sites would be reduced by mowing and/or haying prior to application of prescribed fire.

All wildland fires regardless of ignition source would be suppressed to protect the public, prevent fire spread onto adjacent private property, and protect natural, cultural, and historic resources of the park. Likewise, all wildland fires would be managed to protect FOSC natural and cultural resources and park property from direct damage by fire, and from fire suppression actions.

Under this alternative, park managers would select mechanical (mowing, haying, grubbing, hand cutting, chainsaw cutting,) removal of hazard fuels in areas adjacent to cultural or other resources, and in areas outside of the Restored Prairie Area. Some mechanical hazard fuel reduction is anticipated prior to a prescribed fire in the vicinity of fire vulnerable resources, such as historic buildings, park operations areas, and equipment storage areas. The entire Historic Core, which is outside the restored prairie area, will continue to be regularly mowed on a seasonal basis. This alternative would reduce hazard fuel to safe levels, limit the probability of
accidental ignition, and enable local fire suppression forces to control any wildland fires with minimal loss or damage to historic resources and park property.

This alternative calls for FOSC to be divided into two areas called Fire Management Units (FMUs): Suppression FMU and Prescribed Fire 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 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. Fire Management objectives for this FMU are: Immediately contain 100% of wildland fires; ensure protection of historic structures and other improvements such as trail exhibits and neighboring property; and prevent buildup of hazardous fuels through regular mowing, cutting, and herbicide use.

The Prescribed Fire FMU encompasses approximately five acres of land situated at the northeast, east, southeast and south perimeters of the property. It comprises the park's entire prairie restoration area. Initial prairie restoration efforts began in 1979 and are ongoing. The desired vegetative composition of the prairie is based on a native tallgrass prairie model in Vernon County, Missouri known as Little Osage Prairie. The model has similar soil and slope characteristics as the FOSC prairie.

The Prescribed Fire FMU is further sub-divided into three sub-units: Prairie Restoration Units A (1.4 acres), B (.8 acres), and C (2.5 acres). The sub-units have similar physical and biotic characteristics. Each are physically separated from the other by paved or mowed access roads/trails or walkways which also serve as effective fire breaks. Typically, all three Prairie Restoration Units will be burned on the same day, each being ignited in turn.

Boundaries for the restoration units will utilize existing mowed or paved roads and trails for perimeter fire control along with mowed fuel breaks for reinforcing perimeter fire control lines. Construction of bare soil fire breaks will not occur for prescribed fire perimeter control. Interior control lines and mechanical fuel treatments are not anticipated because of the small size of each unit. 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 effective fire breaks.
Prescribed fires will be initiated with a drip torch. Most prescribed fires will occur in the spring and early summer or in the autumn. Fuel consumption is usually very complete in prairie fires, creating a solid blackened burn pattern within the prescribed fire unit. However, creating a burn mosaic within the BU is a desirable alternative, and in most cases, no special efforts will be expended to ensure 100% burn coverage following the initial ignition.

Visitor services are not likely to be greatly impacted, although some park walkway and parking area closures might be necessary during a prescribed fire. Walkway or parking area closures are not likely to last more than 4 hours.

Prescribed fire will be used at FOSC to accomplish resource management and hazardous fuel reduction objectives as outlined in this plan. The FMO at OZAR will prepare the prescribed fire plan with the approval/assistance of the Midwest Region FMO. The plan will be submitted to the Superintendent for approval. It will detail all burn projects proposed, including burn plans, for the year and will specify objectives of each burn.

A prescribed fire plan (formerly a burn plan) with 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 will be completed and approved prior to ignition. The
treatment area, objectives, constraints, and alternatives will be clearly outlined. No prescribed
fire will be ignited unless all prescriptions of the plan are met. The factors considered in all burn
plans are further described in RM-18, Chapter 10.

Prescribed fires shall be conducted under the direction of a fully qualified Prescribed Fire Burn
Boss designated by the Ozark NSR Fire Management Officer. All positions required to conduct
the burn will be filled by qualified personnel. 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. When all prescription
criteria are within the desired ranges a date will selected for ignitions based upon current and
predicted weather forecasts and available resources. The Chief of Interpretation and Resource
Management will identify the windows of opportunity and work with the Prescribed Fire Boss to
ensure the prescribed fire is accomplished. If these conditions are not satisfactory, the burn will
be postponed until more favorable conditions are present. A more detailed description of
prescribed fire planning can be found in the proposed FMP.

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. Both air quality and
smoke management must be considered in developing prescribed fire plans. A burning permit will
be obtained from the City of Fort Scott Fire Department (FSFD) before igniting a prescribed fire.
Law enforcement agencies will be notified if smoke is expected to affect highway visibility.

The following management guidelines will be followed during all phases of the prescribed 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 only be conducted 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 along with the Kansas Highway Patrol will provide needed assistance with traffic
  flow in the event smoke dispersal problems occur.
- The local fire department will be notified and will provide structural fire protection if needed.
- 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 and should not be done.
- Any prescribed fires will not violate Federal Clean Air Act standards.
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. Fort Scott Fire Department will be onsite on standby status during prescribed fires to provide structural protection to park buildings and protection to neighboring lands and developments.

Smoke can be a health concern for sensitive individuals and a "call list" is maintained of individuals and businesses wishing to be notified of planned fires. In addition, the general public will be informed of scheduled prescribed fires through press releases and general interpretive presentations. 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. Park staff during formal and informal contacts will discuss the prescribed fire program and any upcoming scheduled prescribed fires with park visitors, neighbors, and others.

Timely and accurate information will be provided to the media and park visitors regarding the status of potential fire actions and suppression efforts. During prescribed fires viewing areas will be designated by the park staff and a park ranger or volunteer will be available to answer questions during prescribed fire operations. Interpretive messages to educate the visitors on the positive effects of fire on the prairie ecosystem will be included in guided tours and roving interpretation throughout the year.

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 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 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.

As part of the prescribed fire planning process, appropriate NHPA Section 106 compliance procedures completed and documented. Following any wildland or prescribed fires, the burned areas will be surveyed and documented by park staff for impacts to archeological, cultural or historic resources.

**Alternative B: Vegetation Management by Mowing, Haying, Grubbing.**

As with alternative A above, prairie restoration and reduction of hazardous fuels are the overall goals of this Alternative. Mowing to manage and improve vegetation conditions would occur in areas where exotic invasive species are widespread or widely distributed. Haying would occur
where vegetation removal is desired for hazard fuel reduction. Areas where the exotic invasive vegetation infestation was limited or widely dispersed would be treated by hand chopping or grubbing and herbicide applications. No prescribed fires would be used at FOSC under this alternative.

Selecting the correct mowing heights, seasonal timing, and specific locations of the treatments is critical to the success of this technique (Becker, et al. 1986). These decisions would be based on the phenology (the timing seed germination, flower emergence, sequence of bloom, fruiting, and leaf drop) of the exotic invasive species targeted for control, as well as the phenology of the desired native prairie species. Season mowing and haying may also be performed at any time if hazard fuel reduction is immediately necessary.

The control of trees and brush spreading to the native prairie areas would be accomplished by hand cutting (chainsaws) and removal followed by “stump treatment” of herbicide.

As in alternative A, all wildland fires would be immediately suppressed. Along with an increase in the mechanical mowing and haying of the restored prairie area, there is expected to be an increased use of herbicides for exotic weed control under this alternative. The fire management plan under this alternative would not allow for the use of prescribed fire for any reason at FOSC.

**Alternative C:** No Action - Continue All Current Vegetation Management Activities in the Absence of an Approved Fire Management Plan

Like alternatives A and B above, the landscape management goals for this alternative include the retention and vegetative restoration of the prairie area, and reducing hazardous fuels and risk of wildfire. Management has used a variety of management tools to accomplish these goals including the use of prescribed fire in the restored prairie. However, because FOSC does not have an approved Fire Management Plan, the current condition does not allow the use of prescribed fire. Vegetation management, therefore, includes only mowing, haying, hand cutting, grubbing, and herbicide treatments. In this regard, the current condition is identical to alternative B.

As with the other alternatives, prairie restoration and reduction of hazardous fuels are the overall goals of this Alternative. Mowing to manage and improve vegetation conditions would occur in areas where exotic invasive species are widespread or widely distributed. Haying would occur where vegetation removal is desired for native seed release or hazard fuel reduction. Areas where the exotic invasive vegetation infestation was limited or widely dispersed could be treated by hand chopping, grubbing, and herbicide applications. No prescription fires would be used at FOSC under this alternative.

Selecting the correct mowing heights, seasonal timing, and specific locations of the treatments is critical to the success of this technique (Becker, et al. 1986). These decisions would continue to be based on the phenology (the timing seed germination, flower emergence, sequence of bloom, fruiting, and leaf drop) of the exotic invasive species targeted for control, as well as the
phenology of the desired native prairie species. Season mowing and haying may also be performed at any time if hazard fuel reduction is immediately necessary.

The control of trees and brush spreading to the native prairie areas would be accomplished by hand cutting (chainsaws) or grubbing and removal followed by “stump treatment” of herbicide.

As in the other alternatives, all wildland fires would be immediately suppressed. However, because of the current NPS rules regarding prescription fires at parks with no approved FMP, no prescribed fires would be planned or initiated. Under this alternative only mechanical mowing and haying of the restored prairie area and the use of herbicides for exotic weed control will continue. No FMP would be developed for FOSC.

Environmentally Preferred Alternative.

Each of these alternatives would preserve the historic and cultural resources and maintain public safety to a comparable degree. Alternative A relies on fire for the majority of the exotic invasive weed control outside the historic core area, with mechanical removal (mowing and haying, cutting and grubbing) and herbicide treatments used on an as needed basis. Alternative B and C rely on mechanical removal (mowing, haying, cutting and grubbing) and herbicide treatments for weed control in the restored prairie area, without the benefit of prescription fire. All three alternatives utilize the same degree of mowing and herbicide use to maintain the historic core area and trails. The difference is the treatment of the restored prairie area.

Alternatives B and C eliminate the possibility of the use of prescribed fire for exotic invasive weed control and hazard fuel reduction. These two alternatives use mowing, haying, hand cutting, grubbing, and pesticide treatments for all of their vegetation management activities. Mowing and haying, although effective at reducing hazardous fuels, are not effective at eliminating exotic invasive weeds. This is because many native plants are not as aggressive at re-sprouting and rapidly growing following mowing as many invasive weeds. This necessitates the use of herbicides to control many exotic weed species following mowing and haying treatments. In addition, many native plants are very susceptible to the same herbicides used to control exotic weeds. Mowing and haying have met with only limited success in native prairie restoration on the Great Plains (J.R. Thompson, 1992).

Alternative A has a much greater potential for returning the natural aspects of the restored prairie to the desired pre-settlement condition and therefore to produce a healthful, productive native vegetation mix surrounding to the historic core area of the park. Since fire was a natural force on the pre-settlement prairie, the native prairie species are well adapted to fire. It also reintroduces the natural condition of nutrient recycling to the restored prairie area. Alternative A would likely decrease the amount and frequency of herbicide relying instead on prescribed fire for exotic weed control.

This restorative reaction of prairie vegetation to fires has been well documented in the region with a high degree of success. Because of this, prescription fires are commonplace on restored prairies throughout the Great Plains. Prescribed fires are, of course, also effective in removing
hazard fuels from an area. Mowing and haying can also be used for hazard fuel reduction on prairie areas, and are effectively used to make firebreaks in fire boundary areas.

The repeated use of herbicides poses some risk of environmental damage. Non-target species can be harmed, and surface and ground water can be contaminated. In addition, improperly handled herbicides jeopardize the safety and health of workers and the public. Because of these risks, the NPS Integrated Pest Management policy requires that pesticides be used only after all other alternatives (including prescribed fire) have been considered and found to be inadequate.

Alternative A relies primarily on the regular application of prescribed fires for both vegetation management as well as hazard fuel reduction. Fires were a naturally occurring process of the Great Plains prairie environment before the Anglo-European settlement of the region. Today, prescription fires are common tools used on private pastureland and restored prairie for vegetation management in the Fort Scott area.

Alternatives B and C are identical in environmental considerations in that they rely on mowing, cutting, grubbing, and pesticide use for vegetation control and hazard fuel reduction. Alternative B and C do not allow for the use of prescription fires on any part of FOSC. All three alternatives allow for the use of pesticides for exotic weed control, but alternative A is expected to result in less pesticide use as prescribed fire results in the effective control of exotic invasive non-native vegetative species. In addition, since alternative C does not result in the development of an approved FMP and therefore does not meet the new requirements of DO-18, it does not meet the Purpose and Need of the federal action.

Because of this, Alternative A is judged to be the Environmentally Preferred Alternative. Alternative A is also the Agencies Preferred Alternative.

Chapter 3  Affected Environment:

Fort Scott National Historic Site (NHS) is located within the city limits of the town of Fort Scott, in Bourbon County, Kansas. Located immediately north of downtown Fort Scott, it is bounded on the east, south and west by urbanized development. The north side consists of a steep bluff overlooking the largely undeveloped Marmiton River floodplain. The US Highway 69 right-of-way abuts the eastern most edge of the NHS.

The 16+ acre site includes 26 historic structures including three Officers’ Quarters buildings; a Dragoon Barracks; two Infantry Barracks; the Post Hospital; a Guardhouse; a Dragoon Stables; the Ordinance and Post Headquarters building; the Quartermaster’s Storehouse; the post Bakery; the post Well and Canopy; the Powder Magazine; the post Trade Shop; two Carriage Houses; walls; foundations and outbuildings. The main buildings generally surround the parade ground, and have been restored and furnished to their original appearance. Restoration of the five-acre tallgrass prairie began in 1979.

The affected environment includes all the holdings of Fort Scott NHS, its air, vegetation, cultural landscape, and archeological artifacts and sites. Areas adjacent to FOSC may be affected by fire
management activities, including residences and businesses in the town of Fort Scott and US Highway 69. The specific resources of the affected environment are described in detail below.

Air Quality

The 1990 National Air Quality and Emissions Trends report and the 2000 Kansas Air Quality Report indicate no air quality data has been collected in Bourbon county or any surrounding counties.

Generally, smoke from prescribed fires, at both at FOSC and other local landowners land managers, creates fairly localized, short-term air quality concerns. This could be of special concern to individuals in town suffering from respiratory ailments or asthma. There are also safety concerns from temporary visual traffic hazard along US Highway 69.

Although the State of Kansas does not regulate smoke emissions from prescribed fires, nor do they require a burn permit, the City of Fort Scott does require such a Permit. They also require that the proper authorities be notified if smoke is expected poses a traffic hazard during a prescribed fire.

Vegetation

Fort Scott NHS consists of three principal vegetation types:

0. Mowed and manicured lawn area, dotted with a few trees which is associated with the historic core and park facilities (11+ acres).

0. A small corner of deciduous timber and weedy vegetation located on a steep slope in the southeast corner of the park. (.25 acres)

0. Three small grassland areas consisting of approximately five acres of reestablished prairie. The areas provide small viewscapes reminiscent of the historic prairie vegetation that an early soldier might have encountered in the area. (5 acres)

The reestablishment and maintenance of the prairie in a condition that is fairly representative of an early 1840's period appearance would include the reestablishment of perennial warm season grasses and forbs, and a reduction of tree and brush species on the upland areas. Historically representative native plant species included switchgrass, (Panicum virgatum); big bluestem (Andropogon gerardii); little bluestem (Schizachyrium scoparium); Indian grass (Sorghastrum nutans); eastern gamagrass (Tripsacum dactyloides) and side oats grama (Bouteloua curtipendula). Forbs included Leadplant (Amorpha canescens), blue wild Indigo (Bastidia australis), butterfly milkweed (Asclepias tuberosa), compass plant (Silphium laciniatum), and gray headed coneflower (Ratibida pinnata) among many others. All of these species were common during the period of significance but now have a diminished presence in the region as a result of agricultural practices.
Although all of these species have been established to some degree on the restored prairie, they have not come to dominate the prairie area as they might have in the 1840’s: biologically or visually. Invasive exotic species of grasses and forbs have also established themselves on the restored prairie. Despite the efforts of the Park staff to control them, some of the more common troublesome exotic species include smooth brome (Bromus inermis), downy brome (Bromus tectorum), Kentucky bluegrass (Poa pratensis), Johnson grass (Sorghum halepense), yellow sweet clover (Melilotus officinalis), crown vetch (Securigera varia), and tall fescue (Festuca arundinacea).

Exotic invasive plant species have, in places, invaded to such an extent as to dominate the vegetative community. Woody plant encroachment is also a persistent concern at the NHS. Blackberry and black locust (Robinia pseudoacacia) are two species particularly troublesome species due to their propensity to spread via the root system. Black walnut (Juglans nigra), wild plum (Prunus americana), poison ivy (Rhus radicans) and tree of heaven (Ailanthus altissima) among others have also become established in the restored prairie. The presence of exotic plant species, especially the brush and forb species, has resulted in a decidedly non-period appearance.

Woody plants, especially trees, were not common elements of the 1840’s landscape. Naturally occurring fires effectively eliminated most woody species except along rivers and streams. Typically, prairies in this region with a high frequency of fires showed few woody species (Gruell 1979, Reichman 1987, Sieg and Severson 1996). However, complete removal of all woody plants in the park is not desirable because of the “screening” effect of 20th century visual intrusions on the site. Controlling their spread in the prairie restoration areas is desirable.

There are no known Federal or State listed threatened or endangered plants, or plants of special concern at FOSC. A list of plant species found in the park appears in Appendix C of the attached Fire Management Plan.

**Cultural Resources**

Fort Scott NHS was established to commemorate Fort Scott’s role in the opening of the West, the strife over slavery in Kansas Territory, and the Civil War. The park preserves the cultural resources associated with these events which occurred between 1842 and 1873.

The entire property was placed on the National Register of Historic Places (Register) in 1976 and was designated a National Historic Site in 1978. The site is also a designated National Historic Landmark. All of the buildings possess 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 during military occupation from 1842-1853. There are six additional contributing structures.

On display and stored within these buildings are approximately 72,860 collection objects including period military objects, furnishings, archeological objects and field records, and archival material.
The park contains one archaelogical site that dates from the historic period of 1842 to the present. No prehistoric archeological sites or artifacts have been located through surveys and excavations.

The cultural landscape is a contemporary landscape as defined by National Register criteria. The present landscape was developed from urban and residential sections of the city of Fort Scott between 1972 and 1978. The totality of the reconstructed military complex was based on primary resource information and has restored the spatial association of the principal buildings and of the fort. Part of the contemporary landscape is the reestablished tallgrass prairie. The prairie provides visitors with a glimpse of the original landscape that surrounded the fort and provides an opportunity to interpret human interaction with the environment.

Prior to the arrival of Euro-Americans, the Osage claimed the land that comprises park grounds. They ceded the land to the United States by treaty in 1825. The land became part of a reserve set aside for three New York tribes, who never took up residence on the reserve. The park does not contain any sites or possess any objects possessing funerary, sacred, or cultural patrimony to the Osage or other American Indian tribe. Because of ancestral claims to the land, the Osage Tribe of Oklahoma possesses direct affiliation with the site.

While the presence of thick stands of large trees and brush are inconsistent with the period of significance, some trees growing in those areas today serve to mask undesirable modern intrusions on the otherwise historic view. The presence of some large trees represents a reasonable viewpoint compromise of the area immediately surrounding the otherwise historic fort complex.

**Chapter 4 Impacts:**

Impacts associated with the alternatives considered in this assessment have been predicted and evaluated by direct consultation with those individuals with experience or expertise related to the resource affected (see Chapter 5). In addition, academic research and other published material have been reviewed. Published summaries and conclusions used in this document have been referenced.

**TABLE 1: IMPACT DEFINITIONS**

<table>
<thead>
<tr>
<th>Resources</th>
<th>“Minor” Impact</th>
<th>“Major” Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality</td>
<td>Minimal to negligible air emissions and temporary smoke accumulation; temporary and limited smoke exposure to sensitive resources; significant smoke duration of less than 4 hours</td>
<td>Violation of state and federal air quality standards; violation of Class II air quality standards; prolonged smoke exposure to sensitive receptors; significant smoke duration of longer than 4 hours</td>
</tr>
<tr>
<td></td>
<td>Short-term changes in plant species composition and or structure, consistent with expected</td>
<td>Violation of the Endangered Species Act of 1973: extensive spread of</td>
</tr>
<tr>
<td>Resources</td>
<td>“Minor” Impact</td>
<td>“Major” Impact</td>
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</tr>
<tr>
<td>Vegetation</td>
<td>succession pathways of a given plant community from a natural disturbance event like fire; thinning of small diameter (less than 30 cm) trees; removal of most brushy species during a single burn; occasional death of a large diameter (less than 30 cm) canopy tree</td>
<td>exotic species, extensive (more than 25 percent) removal of large diameter or old growth trees greater than 30 cm at breast height during a single burn</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>Temporary, non-adverse effects to cultural resource sites, historic buildings, sites with an undetermined eligibility, and traditional cultural properties or contributing elements of a registered site</td>
<td>Temporary or long-term adverse impacts to cultural resource sites, historic buildings, sites with an undetermined eligibility, and traditional cultural properties or contributing elements of a registered site</td>
</tr>
</tbody>
</table>


Air Quality

Smoke from annual prescribed fires creates local, short-term (usually less than 4 hours) air quality concerns. Smoke would temporarily decrease air quality and visibility in the immediate vicinity. Safety issues could arise from temporary visual hazards, particularly along State Highway 69 and the city streets. There may be some small patches within any burned unit that continue to smolder, producing light smoke for up to 8 hours following a fire, but these areas are not expected to affect air quality or 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. Because of this, both air quality and smoke management will 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. FOSC parking areas may be closed, and local traffic enforcement officials would be notified if smoke was expected to affect driver visibility on city streets or state routes.

The state of Kansas does not regulate smoke emissions from prescribed fires, nor does it require a permit for open burning (pursuant to Kansas Air Quality Regulations 28-19-648, Agricultural open burning, June 2001). The EPA Air Quality Policy on Wildland and Prescribed Burn (1998) integrates two general goals: "(1) to allow fire to function, as nearly as possible, in its natural role in maintaining healthy wildland ecosystems; and (2) to protect public health and welfare by mitigating the impacts of air pollutant emissions on air quality and visibility." This alternative would adopt and incorporate these general goals. In order to meet these goals the following guidelines will be adopted in the prescribed fire plan:
• 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.
• Burning will be done 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 and should not be done.
• Any prescribed fires will not violate Federal Clean Air Act standards.
• A call list of individuals and businesses 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.

**Vegetation**

The effects on the restored prairie vegetation under this alternative would be positive. Tallgrass prairie would not exist without occasional fire to prevent the establishment of trees and woody brush (Fitch et al. 2001). Prescribed fires, over time, would reduce or eliminate invasive exotic species, as well as brushy species not tolerant to fire driven prairie ecosystems. Desirable native fire tolerant species such as big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*), Indian grass (*Sorghastrum nutans*), and side oats grama (*Bouteloua curtipendula*) would increase in vigor and percent cover as competition from less fire tolerant species decreases.

Cool season grasses such as smooth brome reach their peak biomass early in the growing season. Prescribed fire at this time has been shown to retard growth of this cool-season exotic grass and others, and thereby results in an increased dominance of desirable native warm season grasses (Ehrenreich 1959, Old 1969, Anderson et al. 1970, Bragg and Becie 1976). Under this alternative, the exotic invasive grass species, which are generally cool season grasses, would decrease in dominance, and the native warm season grasses would increase in dominance. Fire has been demonstrated to be an effective primary treatment for control of Smooth brome (*Bromus inermis*) one of the more aggressive nonnative species in the park.

Some trees and brush will be damaged and killed by prescribed fires. One of the goals of the prescribed fires is to eliminate the spread of the trees and brush, and create a small representative sample of tallgrass prairie that also screens modern intrusions. Because of this, the removal of most of the trees and brush in the Prescribed Fire FMU is a desirable outcome of prescribed fire.
This does not mean that a complete removal of all trees on the park is desirable or eventual. Some trees are desirable, especially those that screen modern visual intrusions from the historic core area viewshed.

**Cultural Resources and the Cultural Landscape**

The use of prescribed fire would provide the means of maintaining a small representation of the pre-settlement or historical period landscape surrounding this southeast Kansas fort.

If properly conducted, prescribed fires would have no effect on the historic buildings and other cultural artifacts of the park. Because of mowing and maintenance in and around the historic core area, it is highly unlikely that prescribed fires would impact, directly or indirectly any of the buildings. Likewise, these same measures also protect these resources from wildland fires.

Maintaining a prescribed fire regime would help keep hazardous wildland fuels in check throughout the restored prairie area. This would reduce fuels where wildland fires are most likely to occur and spread. A reduced fuel load in an area during any natural or accidental wildland fire would be less intense, spread more slowly, and be easier to contain and extinguish, affording the historical buildings in the adjacent historic core area a large measure of safety.

Prescribed fire is unlikely to produce an accurate historic representation of the fort’s landscape during the period of significance. Although not documented, the historic landscape around the fort during the period of significance was probably pockmarked with bare patches void of vegetation and dominated by weeds and other poor quality vegetation resulting from the impacts of construction and overgrazing. Thus prescribed fires may result in too much good quality native cover to accurately represent the historical landscape in the immediate fort vicinity. However, restoring the landscape to the assumed condition is impractical and undesirable. Results of this alternative will produce a reasonable compromise of a high quality prairie fragment that will contribute to the commemorative nature of the park and evoke the feeling of a pre-settlement period prairie.

The entire area of the restored prairie was part of the expanding townsite of Fort Scott. Storefronts, residences, storehouses, roads, and alleys occupied almost the entire area until the early 1970s. This resulted in deep disturbance of the soils and any pertinent archeological resources. Because of the previous deep profound disturbance, the activities associated with the prescribed fires are not likely to have any effects on the archeology of FOSC.

Fires can play an important role in helping archeologists discover artifacts, building sites, and other archeological sites by clearing vegetation and exposing the soil. Fire could allow researchers to examine the soil surface for signs of buried artifacts and other human activity. Prescribed fire could assist the park in identifying additional archeological sites.

Seasonal mowing will continue to be used as it is in the historic core area and around historic structures, and would have no effect on the historic district or the historic buildings.
Adverse effects on archeological or historic resources are not expected under this alternative. Appendix D includes a form XXX-Model Form for Assessment of Actions Having an Effect on Cultural Resources describing the expected effects for this alternative.

**Alternative A Conclusions**

Air quality and visibility would be locally and temporarily adversely affected by smoke during a prescribed fire. The effects are not expected to last more than four hours during any prescribed fire, and only once in any year. In addition, the potential effects of smoke will be reduced by smoke mitigation planning and fire management techniques.

The introduction of prescribed fire is expected to have the same effects on vegetation as naturally occurring fires did in pre-settlement era. Native vegetative species, which are fire tolerant, would thrive under this treatment, while cool season exotics, which are somewhat intolerant of fire, would be diminish in dominiance. Generally, vegetation in the restored prairie area would more closely resemble a pre-settlement condition and species mix. The need for herbicide use in the restored prairie area would be reduced as desirable native vegetation becomes more dominant.

There would be no effects on archeological or historic resources. The cultural landscape would benefit, providing a representative view of the pre-settlement prairie.

Alternative A would include the development of a new FMP that fully incorporates all of the newly required provisions, operational policies, and procedures required under DO-18 (1995). Because of this, Alternative A does meet the Purpose and Need of this Environmental Assessment.

There would be no impairment of the park resources or values under alternative A.

**Alternative B: Vegetation Management by Mowing, Haying, Grubbing.**

**Air Quality**

With the exception of increasing dust particulates and equipment exhaust in the air for short periods of time (three to-six hours per mowing day), mowing has little impact on air quality.

**Vegetation**
Mowing has been shown to be an effective way to control some weedy annuals and biennials, when a single species can be targeted and the harvest timed accordingly. Mowing would effectively reduce seed production of invasive exotic weeds, when timed correctly. Timing is difficult, however, because there are several exotic invasive species needing control in the restored prairie, each with its own optimum period of control. Generally the timing of mowing operations on the prairie will occur in order to control the most troublesome weeds for any given area.

Mechanical harvest (or mowing) at the 8 – 12 inch height will suppress seed production in some weedy plants during the years before native grasses and forbs obtain their full stature, but it has little effect on many perennial weeds (Kern 1995). Because of this, herbicide application will almost always be necessary following mowing. Several of the perennial weeds actually benefit from reduced competition caused by mowing. Field bindweed (*Convolvulus arvensis*) is not greatly impacted by mowing because of its prostrate growth habit.

Clipping of smooth brome during maximum flowering shoot elongation affords some control, but clipping stimulates spread through rhizomes and delays dormancy. Bermuda grass (*Cynodon dactylon*) will spread more rapidly under close, frequent clipping. Mowing does not usually deter sweet clover (*Melilotus spp.*), unless mowing cuts the plant at ground level (Cole 1991). Such mowing at extremely short mowing height would also deter desirable native prairie plants.

Other mowing regimes seem to deter the establishment and vigor of desirable native prairie plants as well. The remaining herbaceous mulch is likely to suppress the growth of native warm-season grasses and reduce vigor of the desirable little bluestem and side-oats grama. In addition, mowing and haying operations have been demonstrated to contribute to the broad distribution and spread of the seeds of invasive weedy species.

While mechanical harvesting would cause a slowing of the encroachment of non-native woody species, it generally does not eliminate it. Many tree and shrubs sprout from stem and roots following mechanical cutting. This produces short shrubby growth, which results in greater cover and light competition than the untreated woody plant prior to cutting. To control this, mechanical harvesting is usually coupled with chemical herbicide treatments. Care must be taken to protect herbaceous plants in the vicinity during chemical treatment. Collateral chemical damage may occur to desirable native plants during herbicide treatment, which could result in invasion of other opportunistic species.

This alternative will result in the continuation and expansion of some of the same land management activities, such as mowing and haying, which have been largely unsuccessful in the effective control of invasive exotic weeds.

### Cultural Resources and the Cultural Landscape

The primary way that the alternatives would impact cultural resources is through changes in the cultural landscape through the mowing of the re-established prairie. Mechanical harvesting
simulates the grazing by livestock and hayed performed by the Army and later citizens during the period of significance and may approximate the appearance of the terrain during the period of significance quite well. However, it would be considerably less aesthetically appealing than the reestablished prairie.

Managers recognize that they cannot completely restore the prairie to historic conditions. Instead, their goal is to maintain a high quality prairie restoration that conserves native biodiversity and contributes to the commemorative nature of the park.

The entire area of the restored prairie was part of the expanding townsite of Fort Scott. Storefronts, residences, storehouses, roads, and alleys occupied almost the entire area the early 1970s. This resulted in deep disturbance of the soils and geology as foundations, cellars, and basements were excavated. Because of the previous deep profound disturbance, the activities associated with mowing and haying the restored prairie are not likely to have any effects on the archeology of FOSC.

Seasonal mowing will continue to be used as it is in the historic core area and around historic structures, and would have no effect on the historic district or the historic buildings.

**Alternative B Conclusions**

With the exception of increasing dust particulates and equipment exhaust in the air for short periods of time there would be no impact on air quality.

The expansion of mechanical mowing and haying is expected to approximate the viewshed of the historic period of the park. Native vegetative species harvested at carefully timed intervals will survive and reproduce, while some exotic invasive plants may not. While the return of the native prairie vegetative diversity is desired, similar treatment in the past has been fairly ineffective at exotic invasive weed control or reestablishment of the dominance of native vegetation species. The continued use of pesticides at current rates is expected under this alternative.

There would be no effects on archeological or historic resources. The cultural landscape could benefit, providing a reasonably representative historic viewshed. There would be no effect on the historic or archeological resources of FOSC.

Alternative B would include the development of a new FMP that fully incorporates all of the newly required provisions, operational policies, and procedures required under DO-18, but does not allow for the use of prescribed fire. Because a new compliant FMP would be developed, this alternative meets the Purpose and Need of the Environmental Assessment.

There would be no impairment of the park resources or values under alternative B.
Alternative C: No Action - Continue All Current Vegetation Management Activities under the Existing Unapproved 1990 Fire Management Plan

Since the existing unapproved Fire Management Plan does not comply with the current NPS DO-18, the use of prescribed fire at FOSC is not allowed. Because of this, the no action alternative would use the same vegetation management techniques and methods described in Alternative B - Vegetation Management by Mowing, Haying, and Grubbing. The environmental effects of these techniques and methods are described below.

Air Quality

With the exception of increasing dust particulates and equipment exhaust in the air for short periods of time (three to six hours per mowing day), mowing has little impact on air quality.

Vegetation

Mowing has been shown to be an effective way to control some weedy annuals and biennials, when a single species can be targeted and the harvest timed accordingly. Mowing would effectively reduce seed production of invasive exotic weeds, when timed correctly. Timing is difficult, however, because there are several exotic invasive species needing control in the restored prairie, each with its own optimum period of control. Generally the timing of mowing operations on the prairie will occur in order to control the most troublesome weeds for any given area.

Mechanical harvest (or mowing) at the 8 – 12 inch height will suppress seed production in some weedy plants during the years before native grasses and forbs obtain their full stature, but it has little effect on many perennial weeds (Kern 1995). Because of this, herbicide application will almost always be necessary following mowing. Several of the perennial weeds at the rave basal rosettes (musk thistle) that actually benefit from reduced competition caused by mowing. Field bindweed (Convolvulus arvensis) is not greatly impacted by mowing because of its prostrate growth habit.

Clipping of smooth brome during maximum flowering shoot elongation affords some control, but clipping stimulates spread through rhizomes and delays dormancy. Bermuda grass (Cynodon dactylon) will spread more rapidly under close, frequent clipping. Mowing does not usually deter sweet clover (Melilotus spp.), unless mowing cuts the plant at ground level (Cole 1991). Such mowing at extremely short mowing height would also deter desirable native prairie plants.

Other mowing regimes seem to deter the establishment and vigor of desirable native prairie plants as well. The remaining herbaceous mulch is likely to suppress the growth of native warm-season grasses and reduce vigor of the desirable little bluestem and side-oats grama. In addition, mowing and haying operations have been demonstrated to contribute to the broad distribution and spread of the seeds of invasive weedy species.
While mechanical harvesting would cause a slowing of the encroachment of non-native woody species, it generally does not eliminate it. Many tree and shrubs sprout from stems and roots following mechanical cutting. This produces short shrubby growth, which results in greater cover and light competition than the untreated woody plant prior to cutting. To control this, mechanical harvesting is usually coupled with chemical herbicide treatments. Care must be taken to protect herbaceous plants in the vicinity during chemical treatment. Collateral chemical damage may occur to desirable native plants during herbicide treatment, which could result in invasion of other opportunistic species.

This alternative will result in the continuation and expansion of some of the same land management activities, such as mowing and haying, which have been largely unsuccessful in the effective control of invasive exotic weeds.

**Cultural Resources and the Cultural Landscape**

The primary way that the alternatives would impact cultural resources is through changes in the cultural landscape through the mowing of the re-established prairie. Mechanical harvesting simulates the grazing by livestock likely to have occurred during the period of significance and may approximate the appearance of the terrain during the period of significance quite well. However, it would be considerably less aesthetically appealing than the reestablished prairie.

Managers recognize that they cannot completely restore the prairie to historic conditions. Instead, their goal is to restore a small prairie fragment that conserves native bio-diversity and contributes to the commemorative nature of the park.

The entire area of the restored prairie was part of the expanding townsite of Fort Scott. Storefronts, residences, storehouses, roads, and alleys occupied almost the entire area until the early 1970s. This resulted in deep disturbance of the soils and geology as foundations, cellars, and basements were excavated. Because of the previous deep profound disturbance, the activities associated with mowing and haying the restored prairie are not likely to have any effects on the archeology of FOSC.

Seasonal mowing will continue to be used as it is in the historic core area and around historic structures, and would have no effect on the historic district or the historic buildings.

**Alternative C Conclusions**

With the exception of increasing dust particulates and equipment exhaust in the air for short periods of time there would be no impact on air quality.

The expansion of mechanical mowing and haying is expected to approximate the viewsheds of the historic period of the park. Native vegetative species harvested at carefully timed intervals will survive and reproduce, while some exotic invasive plants may not. While the return of the native prairie vegetative diversity is desired, similar treatment in the past has been fairly ineffective at exotic invasive weed control or reestablishment of the dominance of native.
vegetation species. The continued use of pesticides at current rates is expected under this alternative.

There would be no effects on archeological or historic resources. The cultural landscape could benefit, providing a reasonably representative historic viewshed. There would be no effect on the historic or archeological resources of FOSC.

Alternative C would not include the development of a new FMP that fully incorporates all of the newly required provisions, operational policies, and procedures required under DO-18, and would not allow for the use of prescribed fire. Because a new compliant FMP would not be developed, this alternative does not meet the Purpose and Need of the Environmental Assessment.

There would be no impairment of the park resources or values under alternative C.

**Cumulative Impacts**

A little over a century ago, the tallgrass prairie in North America stretched over most of what is now Iowa, Illinois, southern Minnesota, northern Missouri, and the eastern edges of the Dakotas, Nebraska, Kansas, and Oklahoma. Today, only a few scattered patches—less than one percent—remain of the seemingly endless land that greeted the pioneers and finally fell to their plows. Settlement, urbanization, and widespread tillage agricultural have eliminated nearly the entire native Kansas prairie.

The proposed federal action seeks to restore a very small part of the modern Kansas landscape to a sustainable natural condition approximating the species mix and vegetative characteristics of the pre-settlement prairie. The overall cumulative impact of this action is tiny compared to the millions of acres affected by agricultural practices since the 1860's. It will in no way mark any reversal of the historic destruction of the native prairie. However, when restored, it will be an important community educational tool, and enhance the cultural landscape of the historic fort it surrounds.
<table>
<thead>
<tr>
<th>Environmental Feature</th>
<th>Alt 1 - Prescribed Burning</th>
<th>Alt 2 - Mowing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality</td>
<td>Minor - Short term Air Quality degradation and some temporary road safety concerns as a result of localized smoke.</td>
<td>No effects on air quality.</td>
</tr>
<tr>
<td>Vegetation</td>
<td>Minor - Expected to be greatly beneficial to returning a native species composition to the restored prairie, and reducing or eliminating invasive exotic weed species. Reduce the use of Herbicides on the restored prairie.</td>
<td>Expected to reduce but not eliminate some exotic invasive weed species. Will have little effect on native prairie species composition. Maintain current rate of use of herbicides on the restored prairie.</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>Minor - Effects will not represent the Fort's historic period of significance, but will better represent the desired pre-settlement era. Expected to have no effect on Archeological resources.</td>
<td>Effects are likely to represent the historic period if significance, but is unlikely to achieve the pre-settlement views desired. Expected to have no effect on Archeological or Historic resources.</td>
</tr>
</tbody>
</table>
Chapter 5  Coordination and Consultation

National Park Service
Doug Alexander, former Wildland Fire Specialist, FIREPRO
Bobby Bloodworth, Quarks NSR Fire Management Officer, Midwest Region (MWR)
Steve Cinnamon, Chief, Natural Resource Stewardship & Science, MWR
Jim DeCoste, Fire Ecologist, MWR
Rod O'Sullivan, Environmental Protection Specialist, MWR
Don Stevens, Senior Historian, MWR
John Daugherty, Superintendent, Fort Scott National Historic Site (FOSHC)
Arnold Schofield, Historian, FOSHC
Kelley Collins, Chief I & RM, FOSHC

Agency Consultation

Natural Resources Conservation Services
Scott Weir, Environmental Scientist, Bureau of Air and Radiation, Kansas Department of Health and Environment
U.S. Fish and Wildlife Service
Kansas Department of Wildlife and Parks

Literature Cited

A complete list of literature cited in this document is available in the Fire Management Plan.

Appendices:
A. Sample scoping letter
B. Addresses of individuals, businesses, and agencies included in public scoping
C. News release announcing public scoping
D. XXX Compliance Document
United States Department of the Interior

NATIONAL PARK SERVICE
Fort Scott National Historic Site
Old Fort Boulevard
P.O. Box 918
Fort Scott, Kansas 66701-0918

July 18, 2002

L7615
N16

Mr. Bruce Freske
Marais des Cygnes NWR
24141 Kansas Highway 52
Pleasanton, Kansas 66075

Dear Mr. Freske:

Fort Scott National Historic Site is preparing an Environmental Assessment to develop a comprehensive fire management program. This plan is being developed to properly ascertain and manage the prairie units within the boundaries of the Fort. This Environmental Assessment will explore the various ways in which National Park Service and park policy can be carried out. It will analyze the impacts associated with a variety of fire management program objectives.

We are now requesting comments on various ways to develop the fire management program. Since we are in the scoping stage of the project, our staff is trying to identify issues that need to be addressed. These issues include concerns regarding natural and cultural resources as well as socio-economic impacts and impacts on the local community. Once these issues are identified, the appropriate level of compliance needed under the National Environmental Policy Act and National Historic Preservation Act will be determined.

The overall objectives for fire management are to promote a fire prevention program aimed at reducing the incidence and extent of human-caused fires, to promote suppression response capability to meet expected wildfire complexity and to the use of prescribed fire for reduction of hazardous fuel conditions and restoration of natural processes.

The National Park Service will consider public input to develop several alternatives for Fort Scott National Historic Site’s Fire Management Program. We would appreciate your comments on this proposal so they can be considered in the development of the program. Written comments should be postmarked no later than August 2, 2002, and should be addressed to John Daugherty, Superintendent, Fort Scott National Historic Site, Old Fort Boulevard, P.O. Box 918, Fort Scott, KS 66701.

Should you have any questions, please contact Chief Ranger Kelley Collins or Superintendent John Daugherty at 620-223-0310.

Sincerely,

Kelley Collins
Acting Superintendent
Appendix B

MR GARY EMRY
CHAMBER OF COMMERCE
231 E WALL
FORT SCOTT, KS 66701

MR JAY REYES
CHIEF OF POLICE
FORT SCOTT POLICE DEPARTMENT
1604 S NATIONAL
FORT SCOTT, KS 66701

MR LEROY NELSON
SHILOH BAPTIST CHURCH
16 N RANSOM
FORT SCOTT, KS 66701

MR HAROLD COLEMAN
BOURBON COUNTY SHERIFF
COURTHOUSE, 204 S NATIONAL
FORT SCOTT, KS 66701

MR BRUCE FRESKE
MARAIAS DES CYGNES NWR
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PLEASANTON KS 66075

MR RICHARD NIENSTEDT
CITY MANAGER
CITY OF FORT SCOTT
1 E 3RD
FORT SCOTT, KS 66701

MR RICHARD DUNCAN
TRAIN MASTER
BURLINGTON NORTHERN RAILROAD
623 EAST WALL
FORT SCOTT, KS 66701

MR JEFF DAVIS
FIRE CHIEF
FORT SCOTT FIRE DEPARTMENT
1604 S NATIONAL
FORT SCOTT, KS 66701

MR JIM SACKETT
WESTAR ENERGY
15 NORTH STANTON
FORT SCOTT, KS 66701

MR LANCE HEDGES
DISTRICT WILDLIFE BIOLOGIST
KANSAS DEPARTMENT OF WILDLIFE & PARKS
COURTHOUSE, 315 MAIN
MOUND CITY, KS 66056

DR RICHARD HEDGES
PRESIDENT
FORT SCOTT COMMUNITY COLLEGE
2108 HORTON
FORT SCOTT, KS 66701

MR RICHARD PANKRANTZ
CHIEF, CULTURAL RESOURCES
KANSAS STATE HISTORICAL SOCIETY
6425 SW SIXTH
TOPEKA, KS 66615-1099

MR DENNIS EGBERT
MANAGER, SHERWIN-WILLIAMS
301 E WALL
FORT SCOTT, KS 66701
FORT SCOTT NATIONAL HISTORIC SITE SEEKS PUBLIC INPUT

The National Park Service is seeking public input in preparing an Environmental Assessment to develop a fire management program at Fort Scott National Historic Site, Superintendent John Daugherty announced today. This plan is being developed to properly ascertain and manage the tallgrass prairie within the boundaries of the Fort. This Environmental Assessment will explore the various ways in which National Park Service and park policy can be carried out. It will analyze the impacts associated with a variety of fire management program objectives.

The overall objectives for fire management are to promote a fire prevention program aimed at reducing the incidence and extent of human-caused fires, to promote adequate suppression response capability to meet expected wildfire complexity and to the use of prescribed fire for reduction of hazardous fuel conditions and restoration of natural processes.

Several alternatives will be developed for Fort Scott National Historic Site's Fire Management Program. Public comments will be considered when formulating the program. Written comments should be postmarked no later than July 29, 2002, and should be addressed to John Daugherty, Superintendent, Fort Scott National Historic Site, Old Fort Boulevard, P.O. Box 918, Fort Scott, KS 66701. Questions can be directed to Chief Ranger Kelley Collins or Superintendent John Daugherty, 620-223-0310.

# # # # #
7/12/02
MODEL FORM FOR ASSESSMENT OF ACTIONS HAVING AN EFFECT ON CULTURAL RESOURCES

A. DESCRIPTION OF UNDERTAKING

1. Park: Fort Scott National Historic Site ___________ Park district (optional)

2. Work/Project Description:
   a. Project name: Implementation of FOSC Fire Management Plan; park project #(s) FOSC-002.00
   b. Describe project and area of potential effects (as defined in 36 CFR Part 800.2(c)); explain why work/project is needed.

   The purpose of this document is to support and assist with the implementation of specific sections of the FOSC Fire Management Plan (FSFMP) that are related to (3) Fire Management Units (FMUs) that comprise FOSC. The FOSC FMUs consist of (1) Prescribed Fire FMU and (2) Suppression FMUs. This document and cover letter are included as appendix "F" of the FSFMP to provide the required 106 Compliance Documentation for the FSFMP.

   Completion of this project is necessary to facilitate the continued propagation of the Prescribed Fire FMU that contains (3) sub-units (A, B & C) of approx. 5 acres of restored Tallgrass Prairie and the enhanced management of (2) Suppression FMUs. Prescribed Fire FMU I consists of approx. 11 acres of land that includes 20 historic structures, a parade ground and additional landscaped grounds. The groundcover of the landscaped grounds consists of Buffalo grass and mixed short grasses. Suppression FMU II is approximately 0.25 acres of dry deciduous timber on a steep slope in a small corner of the site on the southeast side of the service road. No prescribed fire operations are planned for the Suppression Fire FMUs. Realization of the Prescribed Fire FMU treatment objective will utilize prescribed fire to accomplish following:

   "Treat the entire FMU with prescribed fire every third year to control the growth and spread of undesirable woody and exotic vegetation, enhance the growth of native species, and reduce the hazardous fuel load."

3. Has the area of potential effects been surveyed to identify cultural resources?
   — No


   X Check here if no known cultural resources will be affected. (If area has been disturbed in the past, please explain or attach additional sheets to describe nature, extent, and intensity of disturbance.)

   All FOSC FMUs are part of the original U.S. Army fort (1842-1853) and the city of Fort Scott from 1855-1978. Consequently, they have been heavily impacted by the military occupation, urban development and the restoration / reconstruction of FOSC (1970-1980). Each FMU contains archaeological resources in the form of sub-surface structural foundations of 19th and 20th Century buildings, residences and stone walls which will not be affected by any treatment that utilizes prescribed fire.

4. Affected Resource(s):

   a) PF FMU: Tallgrass Prairie Sub-Unit A. Location: Northeast FOSC (Behind Officers Row). NR status: Yes* & (7**).
   b) PF FMU: Tallgrass Prairie Sub-Unit B. Location: Southeast FOSC (Behind HS-6: Inf. Bks). NR status: Yes* & (7**).
   c) PF FMU: Tallgrass Prairie Sub-Unit C. Location: Southeast FOSC (East of HS-9: Gdhouse). NR status: Yes* & (7**).
   d) Suppression FMU-I: 11 Acres, Bldgs. & Grounds. Location: Central / Core of FOSC. NR status: Yes* & (7**).
   e) Suppression FMU-II: 0.25 Acres, Deciduous Timber. Location: Southeast FOSC. NR Status: Yes* & (7**).

5. **The proposed action will:** (Check as many as apply.)
   - Destroy, remove, or alter features/elements from a historic structure
   - Replace historic features/elements in kind
   - Add nonhistoric features/elements to a historic structure
   - Alter or remove features/elements of a historic setting or environment (inc. terrain)
   - Add nonhistoric features/elements (inc. visual, audible, or atmospheric) to a historic setting or cultural landscape
   - Disturb, destroy, or make archeological resources inaccessible, or alter terrain
   - Potentially affect presently unidentified cultural resources
   - Begin or contribute to deterioration of historic fabric, terrain, setting, landscape elements, or archeological or ethnographic resources
   - Involve a real property transaction (exchange, sale, or lease of land or structures)
   - Other (please specify):

   a) **Prescribed Fire FMU:** Treatment of the entire FMU as described in the FSFMP with prescribed fire every third year will assist controlling the growth and spread of undesirable woody and exotic vegetation, enhance the growth of native species and reduce the hazardous fuel load. This will also protect adjacent historic / cultural resources and neighboring property.

   b) **Suppression FMU- I & II:** Accomplishment of the objectives described in the FSFMP will result in the following
      1. Containment and extinguishing of 100% of wildland fires as soon as possible,
      2. Prevent the increase of a hazardous fuel load through mechanical means,
      3. Assist in the protection of historic structures, related improvements and adjacent property.

6. **Measures to prevent or minimize loss or impairment of historic/prehistoric fabric, setting, integrity, or data:**

   This project will be periodically completed according to all approved NPS policies and guidelines which govern the use of prescribed fire & will be coordinated and supervised by a MWR Fire Specialist. Implementation of the project will be initiated and completed by a certified NPS fire crew with reserve support provided by the local Fort Scott Fire and Police Departments.

7. **Supporting Study Data:** (attach if feasible; if action is in a plan, give name and project or page number):

   Approved FOSC Fire Management Plan.

8. **Attachments:** [X] Map [ ] Archeological Clearance, if applicable [ ] Drawings [ ] Specifications [ ] Photographs [ ] Scope of Work [ ] Site plan [ ] List of Materials [ ] Samples [ ] Other

**Prepared by Arnold W. Schofield**  Date: August 29, 2003.

Title _Historian / Site 106 Coordinator_  Telephone: 1-620-223-0310.
5. **The proposed action will:** (Check as many as apply.)
- Destroy, remove, or alter features/elements from a historic structure
- Replace historic features/elements in kind
- Add nonhistoric features/elements to a historic structure
- Alter or remove features/elements of a historic setting or environment (incl. terrain)
- Add nonhistoric features/elements (incl. visual, audible, or atmospheric) to a historic setting or cultural landscape
- Disturb, destroy, or make archeological resources inaccessible, or alter terrain
- Potentially affect presently unidentified cultural resources
- Begin or contribute to deterioration of historic fabric, terrain, setting, landscape elements, or archeological or ethnographic resources
- Involve a real property transaction (exchange, sale, or lease of land or structures)
- Other (please specify):

   a) **Prescribed Fire FMU:** Treatment of the entire FMU as described in the FSFMP with prescribed fire every third year will assist controlling the growth and spread of undesirable woody and exotic vegetation, enhance the growth of native species and reduce the hazardous fuel load. This will also protect adjacent historic / cultural resources and neighboring property.

   b) **Suppression FMU- I & II:** Accomplishment of the objectives described in the FSFMP will result in the following:
   1. Containment and extinguishing of 100% of wildland fires as soon as possible,
   2. Prevent the increase of a hazardous fuel load through mechanical means,
   3. Assist in the protection of historic structures, related improvements and adjacent property.

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   This project will be periodically completed according to all approved NPS policies and guidelines which govern the use of prescribed fire & will be coordinated and supervised by a MWR Fire Specialist. Implementation of the project will be initiated and completed by a certified NPS fire crew with reserve support provided by the local Fort Scott Fire and Police Departments.

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8. **Attachments:** [X] Map [ ] Archeological Clearance, if applicable [ ] Drawings [ ] Specifications [ ] Photographs [ ]
   Scope of Work [ ] Site plan [ ] List of Materials [ ] Samples [ ] Other

**Prepared by** Arnold W. Schofield  Date: August 29, 2003.

Title  Historian / Site 106 Coordinator  Telephone: 1-620-223-0310.
B. PARK 106 COORDINATOR REVIEW AND RECOMMENDATIONS (completed by the park Section 106 coordinator)

1. Review by additional specialists: The park is requesting review by specialists as indicated in check-off boxes in Part C.

2. Assessment of Effect:
   - [ ] No Effect
   - X [ ] No Adverse Effect
   - [ ] Adverse Effect

3. Compliance requirements: (The following is the park's assessment of Section 106 process needs and requirements for this undertaking):

   [ ] A. STANDARD 36 CFR PART 800 CONSULTATION
   Consultation under 36 CFR Part 800 is needed subsequent to preparation and review by appropriate CRM advisers of this form.

   [X] B. PROGRAMMATIC EXCLUSION
   The above action meets all conditions for a programmatic exclusion under Stipulation IV of the 1995 Servicewide PA for Section 106 compliance.
   APPLICABLE EXCLUSION: Exclusion IV.B - 9 [Specify 1-13 or IV.C addition to the list of exclusions.]

   [ ] C. PLAN-RELATED UNDERTAKING
   Consultation and review of the proposed undertaking were completed in the context of a plan review process, in accordance with the 1995 Servicewide PA and 36 CFR Part 800.

   [ ] D. UNDERTAKING RELATED TO ANOTHER AGREEMENT
   The proposed undertaking is covered for Section 106 purposes under another document such as a statewide agreement established in accord with 36 CFR Part 800.7 or counterpart regulations.

   [ ] E. STIPULATIONS/CONDITIONS
   Following are listed any stipulations or conditions necessary to ensure that the assessment of effect above is consistent with 36 CFR Part 800 criteria of effect or to mitigate potential adverse effects.

Recommended by: Arnold W. Schofield; Site Historian / 106 Coordinator.
Name and title of park Section 106 coordinator)
C. REVIEWS BY CULTURAL RESOURCE SPECIALISTS

I have reviewed this proposal for conformity with requirements for the Section 106 process, with the 1995 Servicewide Programmatic Agreement (if applicable), and applicable parts of the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, NPS Management Policies, and NPS-28. Below or attached is my best professional advice about this project and about issues relevant to the Section 106 process, including identification and evaluation of historic properties, assessment of the effects of this undertaking on historic properties, further review by the SHPO and Advisory Council, and mitigation and consultation on any potential adverse effects.

[ ] ARCHEOLOGIST
Name:
Date:
Comments:

Check if project does not involve ground disturbance [ ]
_No Effect   _No Adverse Effect   _Adverse Effect   _Programmatic Exclusion
Assessment of Effect:

Recommendations for conditions or stipulations:

[ ] HISTORICAL LANDSCAPE ARCHITECT
Name:
Date:
Comments:

Assessment of Effect: _No Effect on historic/cultural landscapes   _No Adverse Effect   _Adverse Effect   _Programmatic Exclusion

Check if project meets Secretary's Standards [ ]

Recommendations for conditions or stipulations:

[ ] CURATOR
Name:
Date:
Comments:

Assessment of Effect: _No Effect   _No Adverse Effect   _Adverse Effect   _Programmatic Exclusion

Recommendations for conditions or stipulations:

[ ]ETHNOGRAPHER
Name:
Date:
Comments:

Assessment of Effect: _No Effect   _No Adverse Effect   _Adverse Effect   _Programmatic Exclusion

Recommendations for conditions or stipulations:
[HISTORIAN]
Name:
Date:
Comments:

Assessment of Effect: ___ No Effect    ___ No Adverse Effect    ___ Adverse Effect    ___ Programmatic Exclusion
Recommendations for conditions or stipulations:

[HISTORICAL ARCHITECT:]
Name:
Date:
Comments:

Assessment of Effect: ___ No Effect on historic structures    ___ No Adverse Effect    ___ Adverse Effect
___ Programmatic Exclusion
Check if project meets Secretary's Standards [ ]
Recommendations for conditions or stipulations:

[ ] OTHER ADVISER: MWRO Fire Management Specialist.
Name:
Date:

Comments:

Assessment of Effect: ___ No Effect    ___ No Adverse Effect    ___ Adverse Effect    ___ Programmatic Exclusion
Recommendations for conditions or stipulations:


D. SUPERINTENDENT'S APPROVAL

The proposed work conforms to NPS Management Policies and NPS-28 and I approve the recommendations, stipulations or conditions noted in Section B of this form.

Name/Signature of Superintendent: John D. Daugherty
Date: August 29, 2003.
## FIVE YEAR PRESCRIBED FIRE PLAN PROJECTION

<table>
<thead>
<tr>
<th>Unit</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
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<td>Prairie Restoration Unit A</td>
<td>1.4 acres</td>
<td></td>
<td></td>
<td>1.4 acres</td>
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<tr>
<td>Prairie Restoration Unit B</td>
<td>.8 acre</td>
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<td>.8 acre</td>
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<tr>
<td>Prairie Restoration Unit C</td>
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<tr>
<td>Totals</td>
<td>4.7 acres</td>
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WILDLAND FIRE IMPLEMENTATION PLAN
STAGE 1

<table>
<thead>
<tr>
<th>Fire Name</th>
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<tr>
<td>Fire Number</td>
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<tr>
<td>Jurisdiction(s)</td>
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<td>Administrative Unit(s)</td>
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<td>FMP Unit(s)</td>
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<tr>
<td>Geographic Area</td>
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<td>Management Code</td>
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<td>Start Date/Time</td>
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<td>Discovery Date/Time</td>
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<td>Current Date/Time</td>
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<tr>
<td>Current Size</td>
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</table>

**Location:**
- Legal Description(s)
- Latitude
- Longitude
- UTM:
- County:
- Local Description

**Cause**

**Fuel Model/Conditions**

**Current Weather**

**Predicted Weather**
### DECISION CRITERIA CHECKLIST

<table>
<thead>
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<th>Decision Element</th>
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<tbody>
<tr>
<td>Is there a threat to life, property, or resources that cannot be mitigated?</td>
</tr>
<tr>
<td>Are potential effects on cultural and natural resources outside the range of acceptable effects?</td>
</tr>
<tr>
<td>Are relative risk indicators and/or risk assessment results unacceptable to the appropriate Agency Administrator?</td>
</tr>
<tr>
<td>Is there other proximate fire activity that limits or precludes successful management of this fire?</td>
</tr>
<tr>
<td>Are there other Agency Administrator issues that preclude wildland fire use?</td>
</tr>
</tbody>
</table>

The Decision Criteria Checklist is a process to assess whether or not the situation warrants continued wildland fire use implementation. A “Yes” response to any element on the checklist indicates that the appropriate management response should be suppression-oriented.

<table>
<thead>
<tr>
<th>Recommended Response Action (check appropriate box)</th>
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<tbody>
<tr>
<td>NO-GO (Initial attack/suppression action)</td>
</tr>
<tr>
<td>GO (Other appropriate management response)</td>
</tr>
</tbody>
</table>

| Signature | Date |
Wildland Fire Situation Analysis (WFSA)

Section I, WFSA Information Page (This page is completed by the Agency Administrator(s)).

A. Jurisdiction(s): Assign the agency or agencies that have or could have fire protection responsibility, e.g., USFWS, BLM, etc.

B. Geographic Area: Assign the recognized "Geographic Coordination Area" the fire is located in, e.g., Northwest, Northern Rockies, etc.

C. Unit(s): Designate the local administrative unit(s), e.g., Hart Mountain Refuge Area, Flathead Indian Reservation, etc.

D. WFSA #: Identify the number assigned to the most recent WFSA for this fire.

E. Fire Name: Self-explanatory.

F. Incident #: Identify the incident number assigned to the fire.

G. Accounting Code: Insert the local unit's accounting code.

H. Date/Time Prepared: Self-explanatory.

I. Attachments: Check here to designate items used to complete the WFSA. "Other could include data or models used in the development of the WFSA. Briefly describe the "other" items used."
## I. Wildland Fire Situation Analysis

To be completed by the Agency Administrator(s)

<table>
<thead>
<tr>
<th>A. Jurisdiction(s)</th>
<th>B. Geographic Area</th>
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<th>C. Unit(s)</th>
<th>D. WFSA #</th>
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<tr>
<th>E. Fire Name</th>
<th>F. Incident #</th>
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</table>

G. Accounting Code:

H. Date/Time Prepared @

I. Attachments

- Complexity Matrix/Analysis *
- Risk Assessment/Analysis *
  - Probability of Success *
  - Consequences of Failure *
- Maps *
- Decision Tree **
- Fire Behavior Projections *
- Calculations of Resource Requirements *
- Other (specify)

* Required

** Required by FWS
Section II. Objectives and Constraints  *(This page is completed by the Agency Administrator(s)).*

**A. Objectives:** Specify objectives that must be considered in the development of alternatives. Safety objectives for firefighter, aviation, and public must receive the highest priority. Suppression objectives must relate to resource management objectives in the unit resource management plan.

Economic objectives could include closure of all or portions of an area, thus impacting the public, or impacts to transportation, communication, and resource values.

Environmental objectives could include management objectives for airshed, water quality, wildlife, etc.

Social objectives could include any local attitudes toward fire or smoke that might affect decisions on the fire.

Other objectives might include legal or administrative constraints which would have to be considered in the analysis of the fire situation, such as the need to keep the fire off other agency lands, etc.

**B. Constraints:** List constraints on wildland fire action. These could include constraints to designated wilderness, wilderness study areas, environmentally or culturally sensitive areas, irreparable damage to resources or smoke management/air quality concerns. Economic constraints, such as public and agency cost, could be considered here.
II. Objectives and Constraints

To be Completed by the Agency Administrator(s)

A. Objectives  (Must be specific and measurable)

1. Safety
   - Public
   - Firefighter

2. Economic

3. Environmental

4. Social

5. Other

B. Constraints
Section III. Alternatives (This page is completed by the Fire Manager and/or Incident Commander.)

A. Wildland Fire Management Strategy: Briefly describe the general wildland fire strategies for each alternative. Alternatives must meet resource management plan objectives.

B. Narrative: Briefly describe each alternative with geographic names, locations, etc., that would be used when implementing a wildland fire strategy. For example: "Contain within the Starvation Meadows' watershed by the first burning period."

C. Resources Needed: Resources described must be reasonable to accomplish the tasks described in Section III.B. It is critical to also look at the reality of the availability of these needed resources.

D. Final Fire Size: Estimated final fire size for each alternative at time of containment.

E. Estimated Contain/Control Date: Estimates of each alternative shall be made based on predicted weather, fire behavior, resource availability, and the effects of suppression efforts.

F. Cost: Estimate all incident costs for each alternative. Consider mop-up, rehabilitation, and other costs as necessary.

G. Risk Assessment: Probability of Success/Consequences of Failure: Describe probability as a percentage and list associated consequences for success and failure. Develop this information from models, practical experience, or other acceptable means. Consequences described will include fire size, days to contain, days to control, costs, and other information such as park closures and effect on critical habitat. Include fire behavior and long-term fire weather forecasts to derive this information.

H. Complexity: Assign the complexity rating calculated in "Fire Complexity Analysis" for each alternative, e.g., Type II, Type I.

I. Map: A map for each alternative should be prepared. The map will be based on the "Probability of Success/Consequences of Failure" and include other relative information.
III. Alternatives *(To be completed by FMO/IC)*

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<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
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<tbody>
<tr>
<td>A. Wildland Fire Strategy</td>
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<tr>
<td>B. Narrative</td>
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<tr>
<td>C. Resources Needed</td>
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<td>Handcrews</td>
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<td>Engines</td>
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<td>D. Final Size</td>
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<td>E. Est. Contain/Control Date</td>
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<td>F. Costs</td>
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<td>G. Risk Assessment</td>
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<td>- Probability of Success</td>
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</table>
Section IV. Evaluation of Alternatives  *(This page is completed by the Agency Administrator(s), FMO and/or Incident Commander.)*

A. Evaluation Process: Conduct an analysis for each element of each objective and each alternative. Objectives shall match those identified in Section II.A. (Those listed are defaults only – not all will be applicable to every fire – add or delete as appropriate for each incident.) Use the best estimates available and quantify whenever possible. Provide ratings for each alternative and corresponding objective element. Fire effects may be negative, cause no change, or may be positive. Examples are: 1) a system which employs a "-" for negative effect, a "0" for no change, and a "+" for positive effect; 2) a system which uses a numeric factor for importance of the consideration (soils, watershed, political, etc.) and assigns values (such as -1 to +1, -100 to +100, etc.) to each consideration, then arrives at a weighted average. If you have the ability to estimate dollar amounts for natural resource and cultural values, this data is preferred. Use those methods which are most useful to managers and most appropriate for the situation and agency. To be able to evaluate positive fire effects, the area must be included in the resource management plan and consistent with prescriptions and objectives of the fire management plan.

Sum of Economic Values: Calculate for each element the net effect of the rating system used for each alternative. This could include the balance of: Pluses (+) and minuses (-), numerical rating (-3 and +3), or natural and cultural resource values in dollar amounts. (Again, resource benefits may be used as part of the analysis process when the wildland fire is within a prescription consistent with approved Fire Management Plans and in support of the unit's Resource Management Plan.)
### IV. Evaluation of Alternatives

*To be Completed by the Agency Administrator(s) and Fire Manager / Incident Commander*

<table>
<thead>
<tr>
<th>A. Evaluation Process</th>
<th>A</th>
<th>B</th>
<th>C</th>
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<td>Safety Firefighter</td>
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<td><strong>Other</strong></td>
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**Section V. Analysis Summary** *(This page is completed by the Agency Administrator(s) and Fire Manager and/or Incident Commander.)*

**A. Compliance with Objectives:** Prepare narratives that summarize each alternative's effectiveness in meeting each objective. Alternatives that do not comply with objectives are not acceptable. Narrative could be based on effectiveness and efficiency. For example: "most effective and least efficient," "least effective and most efficient," or "effective and efficient." Or answers could be based on a two-tiered rating system such as "complies with objective" and "fully complies with or exceeds objective." Use a system that best fits the manager's needs.

**B. Pertinent Data:** Data for this Section has already been presented, and is duplicated here to help the Agency Administrator(s) confirm their selection of an alternative. Final Fire Size is displayed in Section III.D. Complexity is calculated in the attachments and displayed in Section III.H. Costs are displayed on page 4. Probability of Success/Consequences of Failure is calculated in the attachments and displayed in Section III.G.

**C. External and Internal Influences:** Assign information and data occurring at the time the WFSA is signed. Identify the Preparedness Index (1 through 5) for the National and Geographic levels. If available, indicate the Incident Priority assigned by the MAC Group. Designate the Resource Availability status. This information is available at the Geographic Coordination Center, and is needed to select a viable alternative. Designate "yes," indicating an up-to-date weather forecast has been provided to, and used by, the Agency Administrator(s) to evaluate each alternative. Assign information to the "Other" category as needed by the Agency Administrator(s).

**Section IV. Decision**

Identify the alternative selected. Must have clear and concise rationale for the decision, and a signature with date and time. Agency Administrator(s) signature is mandatory.
V. Analysis Summary

*To be Completed by the Agency Administrator(s) and Fire Manager / Incident Commander*

<table>
<thead>
<tr>
<th>Alternatives</th>
<th>A</th>
<th>B</th>
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<td>Fire Behavior Projections</td>
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### VI. Decision

The Selected Alternative is:

Rationale:

---

Agency Administrator's Signature: __________________________  Date/Time: ____________
Section VII. Daily Review  (This Section is completed by the Agency Administrator(s) or designate.)

The date, time, and signature of reviewing officials are reported in each column for each day of the incident. The status of Preparedness Level, Incident Priority, Resource Availability, Weather Forecast, and WFSA validity is completed for each day reviewed. Ratings for the Preparedness Level, Incident Priority, Resource Availability, Fire Behavior, and Weather Forecast are addressed in Section V.C. Assign a "yes" under "WFSA Valid" to continue use of this WFSA. A "no" indicates this WFSA is no longer valid and another WFSA must be prepared or the original revised.

Section VIII. Final Review  (This Section is completed by the Agency Administrator(s). A signature, date, and time are provided once all conditions of the WFSA are met.)

### VIII. Daily Review

*To be completed by the Agency Administrator(s) or Designate*

Selected to be reviewed daily to determine if still valid until containment or control

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>By</th>
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<th>PREPAREDNESS LEVEL</th>
<th>RESOURCE AVAILABILITY</th>
<th>WEATHER FORECAST</th>
<th>FIRE BEHAVIOR</th>
<th>PROJECTIONS</th>
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A GUIDE FOR ASSESSING FIRE COMPLEXITY

The following questions are presented as a guide to assist the Agency Administrator(s) and staff in analyzing the complexity or predicted complexity of a wildland fire situation. Because of the time required to assemble or move an Incident Management Team to wildland fire, this checklist should be completed when a wildland fire escapes initial attack and be kept as a part of the fire records. This document is prepared concurrently with the preparation of (and attached to) a new or revised Wildland Fire Situation Analysis. It must be emphasized this analysis should, where possible, be based on predictions to allow adequate time for assembling and transporting the ordered resources.

Use of the Guide:

1. Analyze each element and check the response "yes" or "no."

2. If positive responses exceed, or are equal to, negative responses within any primary factor (A through G), the primary factor should be considered as a positive response.

3. If any three of the primary factors (A through G) are positive responses, this indicates the fire situation is, or is predicted to be, Type I.

4. Factor H should be considered after all the above steps. If more than two of these items are answered "yes," and three or more of the other primary factors are positive responses, a Type I team should be considered. If the composites of H
are negative, and there are fewer than three positive responses in the primary factors (A-G), a Type II team should be considered. If the answers to all questions in H are negative, it may be advisable to allow the existing overhead to continue action on the fire.

GLOSSARY OF WFSA TERMS

Potential for blow-up conditions - Any combination of fuels, weather, and topography excessively endangering personnel.

Rate or endangered species - Threat to habitat of such species or, in the case of flora, threat to the species itself.

Smoke management - Any situation which creates a significant public response, such as smoke in a metropolitan area or visual pollution in high-use scenic areas.

Extended exposure to unusually hazardous line conditions - Extended burnout or backfire situations, rockslide, cliffs, extremely steep terrain, abnormal fuel situation such as frost killed foliage, etc.

Disputed fire management responsibility - Any wildland fire where responsibility for management is not agreed upon due to lack of agreements or different interpretations, etc.

Disputed fire policy - Differing fire policies between suppression agencies when the fire involves multiple ownership is an example.

Pre-existing controversies - These may or may not be fire management related. Any controversy drawing public attention to an area may present unusual problems to the fire overhead and local management.

Have overhead overextended themselves mentally or physically - This is a critical item that requires judgment by the responsible agency. It is difficult to write guidelines for this judgment because of the wide differences between individuals. If, however, the Agency Administrator feels the existing overhead cannot continue to function efficiently and take safe and aggressive action due to mental or physical reasons, assistance is mandatory.

FIRE COMPLEXITY ANALYSIS

A. FIRE BEHAVIOR: Observed or Predicted  Yes/No

1. Burning Index (from on-site measurement of weather conditions predicted to be above the 90% level using the major fuel model in which the fire is burning.)
2. Potential exists for "blowup" conditions (fuel moisture, winds, etc.).

3. Crowning, profuse or long-range spotting.

4. Weather forecast indicating no significant relief or worsening conditions.

Total: ___ ___

B. RESOURCES COMMITTED

1. 200 or more personnel assigned.

2. Three or more divisions.

3. Wide variety of special support personnel.

4. Substantial air operation which is not properly staffed.

5. Majority of initial attack resources committed.

Total ___ ___

C. RESOURCES THREATENED

1. Urban interface.

2. Developments and facilities.

3. Restricted, threatened or endangered species habitat.

4. Cultural sites.

5. Unique natural resources, special designation zones or wilderness.

6. Other special resources.

Total ___ ___

D. SAFETY

1. Unusually hazardous fire line conditions.

2. Serious accidents or facilities.

3. Threat to safety of visitors from fire and related operations.
4. Restricted and/or closures in effect or being considered. ___ ___

5. No night operations in place for safety reasons. Total ___ ___

E. OWNERSHIP

1. Fire burning or threatening more than one jurisdiction. ___ ___

2. Potential for claims (damages). ___ ___

3. Conflicting management objectives. ___ ___

4. Disputes over fire management responsibility. ___ ___

5. Potential for unified command. Total ___ ___

F. EXTERNAL INFLUENCES

1. Controversial wildland fire management policy. ___ ___

2. Pre-existing controversies/relationships. ___ ___

3. Sensitive media relationships. ___ ___

4. Smoke management problems. ___ ___

5. Sensitive political interests. ___ ___

6. Other external influences. Total ___ ___

G. CHANGE IN STRATEGY

1. Change in strategy to control from confine or contain. ___ ___

2. Large amount of unburned fuel within planned perimeter. ___ ___

3. WFSA invalid or requires updating. Total ___ ___

H. EXISTING OVERHEAD

1. Worked two operational periods without achieving initial objectives. ___ ___
2. Existing management organization ineffective. ___ ___

3. IMT overextended themselves mentally and/or physically. ___ ___

4. Incident action plans, briefings, etc., missing or poorly prepared.

Total ___ ___

Signature __________________________________________

Date ____________________  Time __________
Limited Delegation of Authority

LIMITED DELEGATION OF AUTHORITY

To: ______________________, Incident Commander

From: Superintendent, Fort Scott National Historic Site

Subject: Limited Delegation of Authority

As of _____ hours, on this date __________, I have delegated limited authority to manage the ____________________ fire in the Fort Scott National Historic Site.

As Superintendent I have ultimate responsibility for protection of the Fort Scott National Historic Site’s resources and the lives of the visitors and employees. Your expertise in the area of wildland fire incident management will assist me in fulfilling that responsibility during the present situation. My considerations for management of this fire are:

1. Provide for firefighter, visitor, resident and neighbor safety.

2. I would like the fire managed using the most appropriate strategy that foremost considers, safety, economic cost, and probability of success and consequences of failure. The selected strategy should be implemented using minimum impact management tactics.

3. Key cultural features requiring priority protection are:

4. Key resource considerations are:
5. Restrictions for suppression actions are: no tracked or wheeled vehicles in the following areas:

except when human life is at immediate risk. The following mechanized equipment may be used as required; chainsaws, weedeaters or brushcutters, portable and mobile pumps, fire engines, all terrain vehicles (ATVs), backpack leaf blowers, and devices used for heat or fire protection. The use of chemical retardant must be authorized by me.

6. My agency Advisor/Representative will be:

7. Manage the fire cost effectively for the values at risk.

8. Provide training opportunities for FOSC and local firefighters to the extent possible.

9. Minimize disruption of visitor access to FOSC consistent with public safety.

Superintendent, Fort Scott National Historic Site

Date