

## FINDING OF NO SIGNIFICANT IMPACT

### Fire Management Plan Moore's Creek National Battlefield

Moore's Creek National Battlefield is located within the relatively flat coastal region of southeastern North Carolina, in Pender County. The town of Currie lies one mile to the northeast of the park. The nearest major metropolitan area in the region is Wilmington, located approximately 20 miles to the southeast of the park. The authorized boundary of the park is 88 acres. The park's varying topography has resulted in four distinct ecosystems. These include:

- Swamp woodland - located adjacent to Moore's Creek at an elevation of 3 to 4 feet above sea level. Cypress (*Taxodium* spp.), willow (*Salix* spp.), and water ash (*Fraxinus pennsylvanica*) are the dominant vegetation.
- Savanna - largely created from drained swamp and contains grasses, vascular plants, and longleaf pine, with invasive hardwood brush and exotic vegetation.
- Sandhill - ranges in elevation from 3 to 5 feet. Its vegetation includes longleaf (*Pinus palustris*) and loblolly pine (*Pinus taeda*), oak, hickory, bear grass (*Xerophyllum tenax*), and prickly pear cactus (*Opuntia humifusa*), with thick hardwood brush.
- Pocosin wetland (Bog) - varies from wet to damp, at a general elevation of 4 to 8 feet above sea level. The bog area supports sweetgum, bay (*Magnolia* spp.), water ash, and longleaf pine, with thick hardwood brush.

Prescribed fire will help the staff at Moore's Creek National Battlefield to achieve their natural and cultural resource management goals. It will be used as a tool to restore, protect, and maintain historic vistas. Prescribed fire can assist in the preservation of fire-adapted plant species in the savanna habitat. It will effectively remove competing woody vegetation and help expand and maintain suitable habitat for rare savanna species such as Carolina bogmint (*Macbridea caroliniana*) and the Carolina grass-of-parnassus (*Parnassia caroliniana*). Prescribed fire can also be effective in controlling invasive and exotic plant species.

An environmental assessment (EA) was prepared to better understand the environmental effects associated with employing prescribed fire and thinning to protect the cultural and natural resources of the Park, while at the same time protecting employee and visitor safety during these fire management activities. Environmental issues identified during scoping and evaluated in the EA included geology and soils, surface water resources, vegetation and wildlife (including federally threatened and endangered species), air quality, visitor use and experience, human health and safety, and cultural resources. Alternatives considered for restoring fire to savannah and bog habitats, managing the cultural landscape, and reducing hazardous fuels in the park included employing the use of prescribed fire and mechanical treatments (the preferred alternative) and employing mechanical treatments only.

#### SELECTED ALTERNATIVE

Under the Preferred/Selected Alternative, the Fire Management Plan will include the following: suppression of all wildland fires, manual/mechanical thinning treatments, utilizing prescribed fires as a management tool, and conducting hazard fuels reduction throughout the park. Due to its small size and relative uniformity, the entirety of Moores Creek National Battlefield will be contained in one FMU.

All wildland fires in the park, human-caused fires and naturally ignited fires (e.g. lightning), will be declared wildland fires and suppressed in a manner that minimizes negative environmental impacts of suppression activities. All wildfire suppression activities will adhere to Minimum Impact Suppression Tactics (MIST) guidelines.

Manual and mechanical thinning will involve limited, selective thinning (chainsaws) of small diameter woody shrubs and trees encroaching upon open fields and meadows and pine-savannah wetland habitats, and employing a bush hog in parts of the savannah during the dormant season. These thinning measures will serve to protect and maintain the historic landscape of the park, and also to maintain longleaf pine-savanna wetland habitat found within the park.

Prescribed fire will be employed on three prescribed fire treatment units comprising 10.5 acres. During the initial restoration phase (2003-2015), fire return intervals for all treatment units will be every 1 to 3 years. Once the park reaches its management objectives for a particular prescribed fire unit, it will then implement a maintenance program for the unit with a prescribed fire return interval of every 3 to 5 years. A more frequent fire return interval during the restoration phase will be necessary to combat exotics and promote the development of native plant communities.

Hazard fuels reduction will be conducted in areas along the southern edge and the northeastern portions of the park, where loblolly pines compose the majority of the overstory. The majority of the loblolly pine fire regime at the park has a dense understory of hardwood and woody shrubs and is considered to be in Fire Regime Condition Class 3. The vegetation in these areas is extremely dense and the hazard fuels within this area, except for the deep litter layer and woody debris, are almost entirely living. Hardwood brush within this forested portion of the park can act as ladder fuels, allowing fire to carry from surface fuels into the crowns of trees or shrubs with relative ease, resulting in undesirable fire behavior such as excessive scorching. Because of the high fuel loads within these areas, prescribed fire is not presently an option. The treatment area will undergo mechanical hazard fuels reduction, via chainsawing and manual removal. Fuels considered to be "hazards" will primarily be dead and down timber, ladder fuels, exotic vegetation, and timber of less than 4 inches dbh (diameter at breast height). Downed fuels will be removed or chipped on site. This action will concurrently begin moving the area from its present Fire Regime Condition Class of 3 to Condition Class 2, making the future use of prescribed fire as a management tool possible. By returning the area to its normal fire regime the current longleaf pine population should become reestablished over time.

## ENVIRONMENTALLY PREFERRED ALTERNATIVE

The “Preferred” Alternative is the environmentally preferred alternative. The environmentally preferred alternative is the alternative that will promote the national environmental policy as expressed by §101 of the National Environmental Policy Act (NEPA). This includes alternatives that:

- 1) Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- 2) ensure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;
- 3) attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
- 4) preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
- 5) achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life’s amenities; and
- 6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

In essence, the environmentally preferred alternative would be the one(s) that “causes the least damage to the biological and physical environment and best protects, preserves, and enhances historic, cultural, and natural resources”.

In this case, the Proposed Action Alternative is the environmentally preferred alternative for Moores Creek National Battlefield since it meets goals 1, 2, 3, and 4 described above. Under this alternative, fire management activities will reduce hazardous fuel loads in the park, mimic the natural ecological processes, and combat the invasion of exotic invasive plants. In addition, this alternative helps protect the park’s resources and adjacent lands from the threat of wildland fires. Finally, this alternative best protects and preserves the historic, cultural, and natural resources in the park for current and future generations.

## THE PREFERRED ALTERNATIVE AND SIGNIFICANCE CRITERIA

As defined at 40 CFR §1508.27, from the regulations of the Council on Environmental Quality that implement the provisions of NEPA, significance is determined by examining the following criteria:

***Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.***

Periodic burning on park property will be beneficial by enhancing diversity of native plant species and habitats, and helping to control noxious weeds. Additionally, hazard fuels will be reduced (surface and ladder fuels). Prescribed fire will also release nutrients into the soil and the fertilization effects of ash will provide an important source of nutrition for vegetation in the area. These effects are considered to be minor and not significant impacts because they exemplify natural ecological processes that occur under a natural fire regime for the open savannahs and southern mixed forests.

The EA also discusses the negligible to minor impacts to air quality associated with the preferred alternative. Approximately 10.5 acres will be burned. Air quality impacts should be negligible to minor, and not significant.

***The degree to which the proposed action affects public health or safety.***

When conducting fire management activities, human health and safety is the primary concern. Under the preferred alternative, there will likely be very minor human health and safety impacts (small cuts and bruises) to firefighters resulting from wildland fire suppression and prescribed fire activities. The preferred alternative provides the best protection since prescribed fire and hazard fuels reduction activities will help reduce hazard fuels within the park and minimize the fire danger to park staff and nearby private residences. Before conducting any prescribed fire, fire management officials will ensure that weather conditions exist to facilitate smoke dispersion, thus minimizing and/or eliminating potential smoke impacts on sensitive receptors and the general public. The fire managers will also work with local emergency services including police and fire departments to ensure public safety.

***Unique characteristics of the geographic area such as proximity to historic or cultural resources, parklands, prime farmlands, and wetlands.***

As described in the EA, the intent of the action alternatives was to provide the maximum amount of protection for the important natural and cultural resources of the park. The implementation of the preferred alternative will result in no significant adverse effects to cultural resources. In fact, the “Preferred” Alternative will benefit the visual landscape in the park by preserving the historical landscape associated with the battle at Moores Creek.

There are no prime and unique farmlands found within Moores Creek National Battlefield. Fire management activities, however, will not prevent these lands from being farmed under special use permit, and prescribed fires on these lands will likely benefit future crops through the fertilization effect of the ash and control of noxious weeds.

There are approximately 20 acres of wetlands within the park. Under the “Preferred” alternative, there will likely be very minor impacts to wetlands caused by fire management activities (minor sediment delivery, localized soil disturbance). However, the use of the “Preferred” Alternative will have overriding positive impacts to the wetland habitats within in the park by helping control the encroachment of woody vegetation and invasive plant species into the savannah and bog habitats. In addition, the use of prescribed fire will release nutrients into the soil and the

fertilization effects of ash will provide an important source of nutrition for the fire-tolerant wetland vegetation found within the area.

***The degree to which the effects on the quality of the human environment are likely to be highly controversial.***

There were no controversial impacts identified during the analysis done for the EA, and no controversial issues were raised during the public review of the EA.

***Degree to which the possible effects on the quality of the human environment is highly uncertain or involves unique or unknown risks.***

There are no identified risks associated with the preferred alternative that are unique or unknown. No highly uncertain effects associated with the preferred alternative were identified during the analysis for the EA or during the public review of the EA.

***The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.***

The preferred alternative does not establish a precedent for any future actions that may have significant effects, nor does it represent decisions about future considerations. The purpose of this action is to develop a fire management plan and program that utilizes the benefits of fire to achieve desired natural resource conditions while minimizing the fire danger to park resources and adjacent lands from hazardous fuel accumulations. Under such a program, prescribed fire and thinning activities will be conducted over several years to restore the savannah habitats by promoting fire-tolerant plant and wildlife species, reducing the hazard fuels in the park (surface and ladder fuels) and reducing the extent of noxious weeds. This program will be evaluated and, if necessary, revised during future revisions to the park's Fire Management Plan.

***Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.***

Since some plant communities in the park thrive under a management scheme that includes fire, the application of fire on a regular basis will cumulatively improve those areas. The air quality impacts associated with prescribed fire will be permitted through the North Carolina Division of Forestry and will have a very minor cumulative effect on the region's air quality. The EA determined that there will be no significant cumulative impacts associated with the preferred alternative.

***The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.***

The park in its entirety was administratively listed in the National Register of Historic Places, with the passage of the National Historic Preservation Act in 1966. A formal nomination was completed and approved in 1977. This documentation identified the earthworks, the historic road causeway,

and the six monuments as contributing elements to the park's significance. In 1987, the boundary identified in the National Register documentation was extended to include lands acquired by the park between 1974 and 1982. Another amendment to the National Register listing was approved in June 1996. In an attempt to clearly delineate significant park resources, this amendment cited the two Moores Creek Monumental Association boundary markers as contributing elements to the park. The amendment designs the earthworks as non-contributing since they constitute neither the original earthworks nor a full reconstruction. However, because the ground beneath the earthworks may contain significant archeological data, the amendment cited the location of the earthworks as contributing to archeological potential. In essence, the amendment argued for the integrity of the site as a commemorative landscape rather than as an actual Revolutionary War battlefield landscape. The EA was written in compliance of Section 106 of the National Historic Preservation Act, and was determined by consultation with the North Carolina State Historic Preservation Office, on May 1, 2003, that the proposed action would have no negative impact on the cultural resources of the park.

***The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.***

The U.S. Fish and Wildlife Service in coordination with the North Carolina Department of Natural Resources determined that there are no federally or state-listed threatened or endangered animal species in Moores Creek National Battlefield, nor does any known critical habitat exist at the park. It has, however, been determined that several State-listed plant species are known to occur in the park, these include: Carolina bogmint (threatened), Carolina grass-of-parnassus (endangered), Spring-flowering goldenrod (significantly rare), and Sarvis holly (significantly rare). NPS Management Policies (2001) state, "the National Park Service will inventory, monitor, and manage state and locally listed species in a manner similar to its treatment of federally listed species, to the greatest extent possible."

On May 16, 2003 the U.S. Fish and Wildlife Service notified Moores Creek National Battlefield that there would be no direct impacts to federally or state listed species from fire management activities under this alternative.

***Whether the action threatens a violation of Federal, state, or local law or requirements imposed for the protection of the environment.***

This action violates no federal, state, or local environmental protection laws.

***Impairment***

In addition to reviewing the list of significance criteria, the National Park Service has determined that implementation of the proposal will not constitute an impairment to the critical resources

and values of the Park. This conclusion is based on a thorough analysis of the environmental impacts described in the Fire Management Plan and its EA, public comment, relevant scientific studies, and the professional judgment of the decision-makers guided by the direction in NPS Management Policies 2001 (December 27, 2000). The plan under the preferred alternative will result in only negligible to minor adverse impacts to air quality resources, primarily in the form of smoke impacts to visibility. Overall, the plan results in benefits to park resources and values, opportunities for their enjoyment, and it does not result in their impairment.

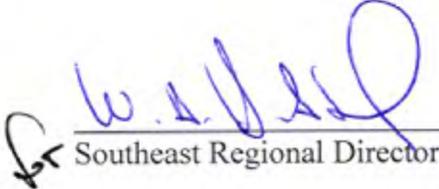
#### PUBLIC INVOLVEMENT

The Environmental Assessment was made available for public review and comment during a 30-day period ending July 8, 2003. A notice announcing its availability was published in the Pender Chronicle on June 11, 2003. The lack of comment on the part of the general public and other agencies resulted in no changes to the text of the environmental assessment.

The preferred alternative does not constitute an action that normally requires preparation of an environmental impact statement (EIS). The preferred alternative will not have a significant effect on the human environment. Negative environmental impacts that could occur are negligible or minor in intensity. There are no significant impacts on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law.

Based on the foregoing, it has been determined that an EIS is not required for this project and thus will not be prepared.

Recommended:  8/26/03  
Superintendent Date

Approved:  9/30/03  
for Southeast Regional Director Date