

FINDING OF NO SIGNIFICANT IMPACT
RESOURCE PRESERVATION AND VISITOR INTERPRETATION OF BLOODY HILL

ENVIRONMENTAL ASSESSMENT

Wilson's Creek National Battlefield

Greene and Christian Counties, Missouri

In compliance with the National Environmental Policy Act (NEPA), the National Park Service (NPS) prepared an environmental assessment (EA) to examine alternatives and potential environmental impacts associated with the Resource Preservation and Visitor Interpretation of Bloody Hill at Wilson's Creek National Battlefield. (the Park). The proposal determines how to protect sensitive resources while providing interpretation to visitors that utilize the Bloody Hill area of the Park.

This finding of no significant impact (FONSI) and the EA constitute the record of the environmental impact analysis and decision-making process for the project. The NPS will implement the preferred alternative which consists of hardening trail, short trail re-alignments, installing waysides with audio description, benches, re-location of cannon and adding Americans with Disabilities Act (ADA) resting platforms.

The Preferred Alternative includes measures for protection of park resources, and was selected after careful review of resource and visitor impacts and public comment. This document records: 1) a FONSI as required by NEPA, and 2) a determination of no impairment as required by the NPS Organic Act of 1916.

Selection of the Preferred Alternative

Three alternatives were evaluated in the EA: Alternative A (No Action), Alternative B (paving ADA trail with pervious pavement with 15 resting platforms, waysides with audio description, benches, re-location of cannons, new trail and cannon position, viewing platform and boardwalk) and Alternative C (hardening trail, installing waysides with audio description, benches, re-location of cannon, abandoning a small trail segment, constructing a short trail to a new cannon position, and constructing ADA resting platforms). Alternative C is the NPS's preferred alternative because it best meets the purpose and need for the project.

As described in the EA under the preferred Alternative C. Extensive archeological surveys have been conducted in the area and no known archeological sites will be disturbed in the project area. One federally threatened species, Missouri bladderpod (*Lesquerella filliformis*), is found on land adjacent to the project area and has been provided additional protection.

Mitigation Measures

NPS management would limit construction activities to the project area. Archeological monitoring and subsurface investigations, where necessary, would be conducted to ensure that construction activities do not affect the national battlefield's significant archeological resources. Every effort would be made to avoid known archeological sites. NPS staff would work with para-professional archeologists and to monitor construction activities.

NPS staff would apply ecological principles to ensure that natural resources were maintained and not impaired. The staff would continue to inventory and monitor the natural resources to avoid or minimize impacts resulting from future development. They would use fire and other techniques, such as mechanical processes, to maintain and/or restore ecosystem integrity and use integrated pest management procedures when necessary to control nonnative organisms or other pests. Habitats for threatened and endangered species would also be conserved.

Management Policies 2006, state that the National Park Service has an obligation to promote leadership in environmental stewardship. The National Park Service must set an example not only for visitors, other governmental agencies, the private sector, and the public at large, but also for a worldwide audience. Environmental leadership will be demonstrated in all aspects of NPS planning, operations, and facilities, design, construction, and management.

Accordingly, NPS staff would apply mitigation techniques to minimize the impacts of construction and other activities on national battlefield resources. To prevent soil erosion that degrades water quality, best management practices such as thorough design analysis, the use of soil retention structures, and prompt re-vegetation would be applied to all disturbed sites associated with construction activities.

Alternatives Considered

Three alternatives were evaluated in the EA: the no-action alternative and two action alternatives. Under Alternative A, no action, the Park would continue to permit employees and visitors to park in a paved parking area and utilize approximately 3,300 linear feet of unpaved existing trail that is not ADA accessible. This action would continue to allow approximately 15,000 visitors a year to walk past one overlook; one interpretive wayside exhibit and eight interpretive numbered posts; three directional signs; five cannon marking approximate locations of historic artillery positions; a sink hole where soldiers were buried after the battle; six park benches; a six foot wide trail defined by a two foot tall split rail fence for a distance of 445 linear feet through a limestone glade that contains several special status species and a federally threatened plant; the Lyon marker which commemorated the first Union General killed. Under this alternative the only improvements to interpretation or ADA accessibility would be the erection of cell phone signs on a few existing interpretive poles that would allow visitors to access audio descriptions on their cell phones. Special status species would continue to be provided some protection from a small split rail fence that limits foot traffic impacts to a defined area.

Under Alternative B—the Park would continue to permit employees and approximately 15,000 visitors a year to park in a paved parking area. This action would modify 2,750 linear feet of existing trail and construct approximately 15 resting platforms on the steepest section of trail (650 linear feet) so people using wheelchairs can view waysides; pave (pervious pavement) 2,750 linear feet of existing trail to ADA trail standards and construct 490 linear feet of new paved trail; construct a new 50 square foot shade shelter with hardened surfaced underneath at the existing Bloody Hill overlook; rehabilitate 440 feet of abandoned trail in federally threatened plant habitat, provide up to 12 interpretive wayside exhibits (11 new, one existing) with cell phone audio descriptions; remove eight interpretive numbered posts; install six new directional signs; provide eight cannon (five relocated, three new) to mark approximate locations of historic artillery positions; provide interpretation for a historic sink hole where soldiers were buried after the battle; provide seven park benches (one new and one relocated); install a Boardwalk made from recycled plastic on 105 feet of existing trail and 45 feet of new paved trail and 120 square foot viewing platform viewing area across from the Lyon Marker. Under this alternative trail modifications would be made to provide an ADA accessible trail. The boardwalk and viewing platform in the glade habitat will provide protection for several special status species and a federally threatened plant and would provide ADA access to the historic Lyon marker. This alternative would also rehabilitate 400 feet of abandoned trail within core habitat of a federally threatened plant species.

Under Alternative C (Preferred Alternative) – The Park would continue to permit employees and approximately 15,000 visitors a year to park in a paved parking area. This action would: modify 2,920 linear feet of existing trail by constructing approximately 15 resting platforms on the steepest section of trail (650 linear feet); harden 2,920 linear feet of existing trail to ADA trail standards; create 320 feet of new hardened trail to a new cannon battery; rehabilitate 440 feet of abandoned trail; provide up to 12 interpretive wayside exhibits (11 new, one existing) with cell phone audio descriptions; remove eight interpretive numbered posts; install 6 new directional signs; provide eight cannon (five relocated, three new) to mark approximate locations of historic artillery positions; provide interpretation for a historic sink hole where soldiers were buried after the battle; provide seven park benches (one new and one relocated). Under this alternative trail modifications would be made to provide an ADA accessible trail.

Environmentally Preferable Alternative

The preferred alternative (selected action) is the environmentally preferred alternative. The environmentally preferred alternative is determined by applying the six criteria suggested in § 101 of NEPA. According to these criteria, the environmentally preferred alternative should 1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations; 2) assure for all generations 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.

The preferred alternative (selected action) best protects and enhances the scenic resources of the Park while minimizing disruption to the natural environment to meet project purpose and need. The preferred alternative (selected action) will provide a wide range of beneficial uses without degradation of the resource. Likewise, the preferred alternative (selected action) will provide Park staff with better resources for visitor services without detriment to the aesthetics of the Park.

Why the Preferred Alternative Will Not Have a Significant Effect on the Human Environment As defined in 40 CFR §1508.27, 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.

As detailed below, adverse impacts anticipated as a result of implementing the preferred alternative on a resource or value whose conservation is necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or identified as significant in the park's general management plan or other relevant NPS planning documents, would not rise to levels that would be considered a significant effect.

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

The preferred alternative (selected action) will have an overall beneficial effect on public health and safety. The hardened trail will allow access to Bloody Hill for those with disabilities. The hardening of the trail and the switchbacks will make the trail less strenuous and safer for the general public.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, Park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

The preferred alternative provides better interpretation of the historic and cultural resources of Wilson's Creek, particularly Bloody Hill. The new waysides will provide better interpretation of the fighting that took place and will inform the visitor of the significance of the Battle of Wilson's Creek. The alternative also protects an endangered special species and still allows for full interpretation of General Lyon, the artillery batteries, and the men who fought and died on Bloody Hill.

Because the preferred alternative would minimize future significant impacts to operations it would have a beneficial impact on NPS operations. This alternative will make the maintenance and operation of this trail much more efficient and benefits the visitor as well.

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

Throughout the environmental process, the proposal for Resource Preservation and Visitor Interpretation of Bloody Hill was not controversial, nor are the effects expected to generate future controversy. During the public scoping period in February of 2013 the NPS received no comments regarding the proposed action. No public comments regarding the proposal were received during the public and agency review of the EA. Two American Indian tribes, Osage Nation and Delaware Tribe of Indians, responded to our consultation request and they had no problem with the project.

The degree to which the possible effects on the quality on the human environment are highly uncertain or involve unique or unknown risks.

The environmental process did not identify any effects that may involve highly unique or unknown risks.

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 (selected action) is not expected to set a precedent for future actions with significant effects, nor does it represent a decision in principle about a future consideration.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

Cumulative effects were analyzed in the EA and no significant cumulative impacts were identified.

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

There is no adverse effect on historic properties either listed in or eligible for listing in the National Register of Historic Places will be affected by the preferred alternative (selected action). By letter dated February 15, 2013, the Missouri State Historic Preservation Officer concurred with the NPS determination of no adverse effect affected.

The park preserves over 50 archeological sites within the battlefield, many of these are necessary to fulfilling the purpose for which the park was established, however, no archeological sites are within the project area. A survey of the project area was conducted by Dr. Doug Scott in May of 2010. Dr. Scott intensively inventoried the project area via shovel testing and metal detecting with negative results. Dr. Scott's finding was that no archeological resources will be impacted

by the project. Because no archeological sites will be impacted by the project there will be a non-adverse effect on archeological resources.

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.

By letter dated March 1, 2013, the USFWS concurred with the NPS determination that the preferred alternative (selected action) would be not likely to adversely affect the Missouri bladderpod (*Lesquerella filliformis*).

One federally threatened species, Missouri bladderpod (*Lesquerella filliformis*), is found in the project area. By abandoning existing trail through Bladderpod habitat this sensitive species would have an additional area to populate. The action would impact less than one-tenth acre of existing habitat and would create potentially more area of habitat of the species

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

The preferred alternative (selected action) will not violate any Federal, State, or local laws or environmental protection laws.

Public/Agency Involvement

The EA was made available for public review and comment during a 30-day period ending April 7, 2014. There were no comments from the public on this document.

Two comments were received from an American Indian tribe traditionally associated with park lands: The following tribes were consulted: Shawnee Tribe (Miami, OK), Cherokee Nation (Tahlequah, OK), United Keetoowah Band of Cherokee Indians (Tahlequah, OK), Delaware Nation (Anadarko, OK), Absentee Shawnee Tribe of Oklahoma (Shawnee, OK), Osage Nation (Pawhuska, OK), Delaware Tribe of Indians (Bartlesville, OK), and the Eastern Shawnee Tribe of Oklahoma (Seneca, MO).

In accordance with Section 106 of the National Historic Preservation Act, the NPS consulted with the Missouri State Historic Preservation Officer (SHPO). By letter dated February 15, 2013, the SHPO concurred with the NPS determination of no adverse effect.

By letter dated March 1, 2013, the USFWS concurred with the NPS determination that the preferred alternative (selected action) would be not likely to adversely affect the Missouri bladderpod (*Lesquerella filliformis*).

Conclusion

As described above, the preferred alternative (selected action) does not constitute an action meeting the criteria that normally requires preparation of an environmental impact statement (EIS). The preferred alternative (selected action) will not have a significant effect on the human environment. Environmental impacts that could occur are limited in context and intensity, and no adverse effects exceed minor in intensity. There are no unmitigated adverse effects on public

health, public safety, threatened or endangered species, 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 preferred alternative (selected action) will not violate any Federal, State, or local environmental protection law.

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

Recommended: T. John Dillman, Jr.
Superintendent, Wilson's Creek National Battlefield

Date: 04-21-14

Approved: Patricia S. Trapp
Acting Regional Director, Midwest Region

Date: 4.24.14

Determination of Non-Impairment

Environmental Assessment for Resource Preservation and Visitor Interpretation of Bloody Hill

A determination of impairment is made for each of the resource impact topics carried forward and analyzed in the environmental impact statement for the preferred alternative. The description of park significance on page 5 was used as a basis for determining if a resource is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, or
- key to the natural or historic integrity of the park or to opportunities for enjoyment of the park, or
- identified in the park's general management plan or other relevant NPS planning documents as being of significance.

Impairment determinations are not necessary for visitor experience, socioeconomics, public health and safety, environmental justice, land use, and park operations, etc., because impairment findings relate back to park resources and values. These impact areas are not generally considered to be park resources or values according to the Organic Act, and cannot be impaired the same way that an action can impair park resources and values.

Archeological Resources

Within Greene and Christian Counties, Missouri, there are about 1600 recorded archeological sites and 50 of those sites are found on Wilson's Creek National Battlefield. Just over one-half of the identified sites within the battlefield have a component that is prehistoric in age. Twenty-five sites derive from the historic occupation of the land, and most of those were occupied at the time of the Civil War Battle of Wilson's Creek. Wilson's Creek National Battlefield is listed on the National Register of Historic Places. Specific sites and features related to the 1861 battle are also listed and include: Ray House, Ray Spring House, Ray Cornfield, Gibson's Mill, Edwards Cabin, Sharp House, Sharp's Cornfield, Short Farmstead, T.B. Manley House, C.B. Manley House, Gwinn House, Manley Cemetery, Edgar Cemetery, Lyon Marker, Bloody Hill, the Sinkhole, Wire Road, and Sigel's artillery position (Scott, 2005).

Under alternative C (preferred alternative) actions would consist of modifying 2,920 linear feet (0.4 acres) of existing trail by constructing approximately 15 resting platforms on the steepest section of trail (650 linear feet); harden 2,920 linear feet (0.4 acres) of existing trail to ADA trail standards; create 320 feet of new hardened trail to a new cannon battery; rehabilitate 440 feet (0.06 acres) of abandoned trail; provide up to 12 interpretive wayside exhibits (11 new, one existing) with cell phone audio descriptions; remove eight numbered posts; install 6 new directional signs; provide eight cannon (five relocated, three new) to mark approximated locations of historic artillery positions; provide interpretation for a historic sink hole where soldiers were buried after the battle; and provide seven park benches (one new and one relocated). Under this alternative trail modifications would be made to provide an ADA accessible trail. The two known archeological sites (Lyon Marker and sinkhole) in the project area would be altered but

would not diminish the overall historic integrity of the site.

Installing three waysides and one park bench adjacent to archeological sites; and hardening the trail adjacent to the sinkhole would continue to have long-term, minor adverse impacts and have a minor effect on archeological resources. The disruption of the landscape caused by hardening the trail surface, constructing a new cannon position and trail, and installing waysides will have no short or long term effects on archeological resources. Because there would be only minor impacts, the preferred alternative would not result in impairment of the resource.

Cultural Landscapes

At the time of the battle, the valley of Wilson's Creek was a thriving agricultural setting with several farms and homes for numerous families. Only a few remnants of this agricultural community remain. Other landscape features played key roles in the outcome of the battle. A cultural landscape report (CLR) for Wilson's Creek was completed in 2004. In assessing the integrity of Wilson's Creek National Battlefield, the CLR team concluded that overall the battlefield landscape at Wilson's Creek retains fair to good physical integrity. The park's significant landscape features include the following:

-
- Guibor's Battery site
- Totten's Battery site
- Bloody Hill
- the Lyon marker

The park preserves cultural landscapes within the battlefield, many features of these cultural landscapes are necessary to fulfilling the purpose for which the park was established. Bloody Hill, the Lyon marker, the sinkhole and possibly some of the artillery battery sites are significant landscape features located within the project area.

Under alternative C (preferred alternative) actions would consist of modifying 2,920 linear feet (0.4 acres) of existing trail by constructing approximately 15 resting platforms on the steepest section of trail (650 linear feet); harden 2,920 linear feet (0.4 acres) of existing trail to ADA trail standards; create 320 feet of new hardened trail to a new cannon battery; rehabilitate 440 feet (0.06 acres) of abandoned trail; provide up to 12 interpretive wayside exhibits (11 new, one existing) with cell phone audio descriptions; remove eight numbered posts; install 6 new directional signs; provide eight cannon (five relocated, three new) to mark approximated locations of historic artillery positions; provide interpretation for a historic sink hole where soldiers were buried after the battle; and provide seven park benches (one new and one relocated). The trail exists as a feature of the cultural landscape and was documented in "good" condition in the CLR (2004). The hardened trail surface, interpretive waysides, directional signs, cannon batteries, and park benches are additions to the cultural landscape. The hardening of the trail and new cannon position are additions to the landscape that were not recommended in the CLR but are either small in size (less than a tenth of an acre) or if constructed with sensitivity to the resource and would have a long-term minor adverse impact on the cultural landscape and have a non-adverse effect on cultural landscapes.

Special Status Species

Two federally listed species and several species of special concern to the State of Missouri (state) have been documented at Wilson's Creek National Battlefield. The Missouri bladderpod (*Lesquerella filiformis*) exists in the project area and is listed as threatened by both the federal and state governments. In addition, the state considers five additional plants at the park to be imperiled or critically imperiled, including greenthread (*Thelesperma filifolium* var. *filifolium*), buffalograss (*Buchloe dactyloides*), blue gramma grass (*Bouteloua gracilis*), royal catchfly (*Silene regia*), and false gaura (*Stenosiphon linifolius*) (Missouri Department of Conservation 2000). Except for royal catchfly and false gaura, these plants are found on or adjacent to limestone glades. Royal catchfly inhabits transition zones in savanna habitat between open fields and woodlands.

In addition to plants, the federally and state endangered gray bat (*Myotis grisescens*) has been observed in McElhane Branch Cave near Wilson's Creek east of the visitor center. Gray bats have a limited geographic range in the southeastern United States where they generally inhabit pits and caves in limestone karst regions characterized by sinks, ridges, and caverns (USFWS 1999). The gray bat was last documented in the park in 1996. The grotto salamander (*Typhlotriton spelaeus*), a species of concern to the state, also was documented in McElhane Branch Cave during surveys conducted in 1985.

Under alternative C (preferred alternative) actions would consist of modifying 2,920 linear feet (0.4 acres) of existing trail by constructing approximately 15 resting platforms on the steepest section of trail (650 linear feet); harden 2,920 linear feet (0.4 acres) of existing trail to ADA trail standards; create 320 feet of new hardened trail to a new cannon battery; rehabilitate 440 feet (0.06 acres) of abandoned trail; provide up to 12 interpretive wayside exhibits (11 new, one existing) with cell phone audio descriptions; remove eight numbered posts; install 6 new directional signs; provide eight cannon (five relocated, three new) to mark approximated locations of historic artillery positions; provide interpretation for a historic sink hole where soldiers were buried after the battle; and provide seven park benches (one new and one relocated). This alternative would abandon a short trail segment through sensitive species habitat and prevent visitors from walking on sensitive glade habitat eliminating soil erosion. The area containing sensitive species, Bloody Hill glade, would continue to be managed as it is currently. Prescribed burns would be conducted on a 3-5 year cycle, Eastern red cedar trees would be removed, and exotic species would be controlled. This alternative would also provide educational waysides along the trail including two on the boardwalk/glade (around Lyon's Marker). The abandonment of a section of trail through sensitive habitat would protect the federally threatened plant species present on Bloody Hill while still allowing access to the Lyon Marker via an existing trail. Because of the actions proposed in this action alternative and the extensive habitat improvement efforts throughout the battlefield this action alternative would contribute a minor, long-term adverse component to cumulative minor, beneficial impacts on special status species.

SUMMARY

As described above, adverse impacts anticipated as a result of implementing the preferred alternative on a resource or value whose conservation is necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or identified as significant in the park's general management plan or other relevant NPS planning documents, would not rise to levels that would constitute impairment.

