

**National Park Service  
U.S. Department of the Interior**

**Abraham Lincoln Birthplace  
National Historic Park**



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## **ENVIRONMENTAL ASSESSMENT FOR GRANTING SPECIAL USE PERMIT TO THE KENTUCKY TRANSPORTATION CABINET FOR SAFETY IMPROVEMENTS TO US-31E**

**Finding of No Significant Impact  
August 2012**

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### **INTRODUCTION**

The Environmental Assessment (EA) for Granting Special Use Permit to the Kentucky Transportation Cabinet (KYTC) for Safety Improvements to US 31E and this Finding of No Significant Impact (FONSI) constitute the record of environmental impact analysis and decision-making process for granting permission to use park property from the Boyhood Unit of the Abraham Lincoln Birthplace National Historical Park (ABLI) to complete roadway improvements to US 31E. The National Park Service (NPS) has approved the selection of the Build Alternative. The KYTC will make improvements to US 31E along the existing alignment by increasing the super elevation of the roadway and stabilizing the streambank of Knob Creek to protect the roadway embankment from erosion. The NPS will issue KYTC a Special Use Permit in order to use park property. The FONSI summarizes the findings of the EA and incorporates the public input provided during the 30 day public comment period from July 11<sup>th</sup> through August 10<sup>th</sup>.

### **BACKGROUND**

The site commemorating Abraham Lincoln's birthplace was first authorized as a national park in 1916. The park was later redesignated as Abraham Lincoln Birthplace National Historic Park by Congress in 2009 (123 Stat 1202). The main part of the park, the Lincoln's Birthplace Unit, is a 116.5 acre site representing about one-third of the original approximately 350 acre farm owned by Thomas Lincoln at the time of Abraham's birth. On the site is a granite and marble memorial building which houses a log cabin which is symbolic of the cabin of Abraham Lincoln's birth. Although it is not the actual cabin Lincoln was born in it has become symbolic of Abraham's humble Kentucky origins.

The Boyhood Unit of the ABLI is a 232 acre farm located along Knob Creek where the Lincoln family rented 30 acres. The family moved to this site from the Sinking Spring Farm when Abraham was around 2 years old. In a June 4, 1860 letter to Samuel Haycraft, Lincoln wrote "My earliest recollection is of the Knob Creek place." Lincoln and his family lived on this farm for 5 years leaving in 1816 for Spencer County, Indiana. The Boyhood Unit along Knob Creek is located 10 miles east of the Lincoln's Birthplace Unit along US 31E.

The purpose of the project is to improve roadway geometric deficiencies along US 31E in LaRue County, Kentucky. These deficiencies have been a contributing factor in 10 vehicle accidents between 2005 and 2010 in the curve located within the Boyhood Unit. The current geometric properties of the roadway result in a recommended speed of 40 miles per hour (mph), while the posted speed limit of US 31E is 55 mph. This project will improve the geometric properties within the Boyhood Unit and improve the recommended speed to 50 mph. This should decrease the number of accidents along this stretch of roadway.

### **PREFERRED ALTERNATIVE**

The preferred alternate will preserve the roadway along the existing alignment through the National Park Property adjusting the super elevation in the curve down from maximum of 11% to a 10% maximum. Additionally, there will be two locations where Knob Creek will be stabilized using streambank stabilization measures (gabion baskets, concrete block retaining wall, etc) to prevent the roadbed from eroding. This design will result in a 50 mph design speed, which is a 5 mph increase versus the existing geometric conditions. This alternative will require one lane of traffic to be closed during working hours to allow adequate room for construction. See Appendix C for a set of project plans.

### **OTHER ALTERNATIVES CONSIDERED**

In addition to the preferred alternative the KYTC and NPS considered and rejected the 55 mph Reconstruction Alternative. This alternative would have extended the length of the curve away from the Boyhood Unit. This would require several hundred feet of Knob Creek to be relocated. This alternative was eliminated due to the high environmental damage and cost, both in construction and mitigation fees, of relocating Knob Creek.

### **ENVIRONMENTALLY PREFERRED ALTERNATIVE**

The environmentally preferred alternative is determined by applying the criteria from Section 2.7 (D) of NPS Director's Order 12. This is also the criteria laid out by the CEQ regulations that "the environmentally preferable alternative is the alternative that will best promote the national environmental policy as expressed in Section 101(b) of NEPA." This alternative will have the least impact to biological and physical environment as well as preserving historic, cultural and natural resources. Table 2-1 summarizes whether either the No Action or the Preferred Alternative meets the six NEPA goal statements of Section 101(b) of NEPA.

The Preferred Alternative would improve the safety of visitor access to the Boyhood Unit by improving the geometric deficiencies currently present and do so with minimal impact to the environment. By improving the safety of the traveling public and visitors to the Boyhood Unit the Action Alternative is the Environmentally Preferred Alternative.

## **THE PREFERRED ALTERNATIVE AND SIGNIFICANCE CRITERIA**

As defined in 40 CFR §1508.27, significance is determined by examining the following criteria:

***Impacts that may have both beneficial and adverse aspects and which on balance may be beneficial, but that may still have significant adverse impacts which require analysis in an Environmental Impact Statement (EIS):***

There will be no significant impacts as a result of implementing the selected alternative. Effects from the selected alternative to the resources as analyzed in the EA are described below.

### Aesthetics

There will be no impact to aesthetics because the alignment of the roadway is unchanged and the retaining wall feature will not be visible from the ABLI.

### Air Quality

There will be direct, short-term minor impacts are expected from construction activities which will result in temporary increases in air particulates and carbon monoxide.

### Aquatic Resources

Short term, minor, negative impacts will occur during construction of the bank stabilization feature. This will include increased sedimentation and turbidity. However, this impact will be minimized by constructing the feature during the summer low flow season. When the bank is stabilized it will ultimately provide a long term minor benefit by decreasing the amount of sediment produced from the eroding streambank.

### Cultural, Historic and Archaeological Resources

There will be no impact to these resources. A qualified KYTC historian conducted an investigation based on the plans and the Kentucky State Preservation Office (SHPO) agreed a No Historic Resources Affected finding for the project. UK archaeologists conducted an archaeological survey and determined no arch resources will be affected by the project. If cultural artifacts or remains are discovered during construction the SHPO will be notified immediately.

### Designated Natural Areas

There are no designated Natural Areas within the proposed project limits.

### Ecologically Critical Areas

There are no ecologically critical areas within the proposed project limits.

#### Environmental Justice

There are no relocations or environmental justice issues associated with this project.

#### Floodplains

The project will have a minor, long-term impact to the floodplain of Knob Creek. The project does lie within the FEMA mapped 100 year flood plain. The plan is to maintain the existing channel cross section as much as possible with the bank stabilization features. Since there will be minimal loss of flood storage the project will not endanger park resources.

#### Indian Sacred and Indian Trust Resources

There are no Indian sacred sites known within the project area.

#### Noise

The project will result in a short term, minor negative impact. During construction the noise level will increase. No additional traffic is expected due to this project. The roadway will not be moved from its current location.

#### Park Operations

No Impact because there the Park is not responsible for maintaining any new resources. KYTC is responsible for maintaining the roadway and all associated features.

#### Prime and Unique Farmlands

The project will have no impact because the area disturbed is between the existing roadway and Knob Creek and is not capable of supporting agricultural operations.

#### Public Health and Safety

There will be a short term, minor negative impact and a long term minor positive impact to public health and safety. During construction visitor use and experience will be negatively impacted by closing one lane of traffic and by the construction noise. This will be a temporary impact and the public will ultimately be better off having a safer route to and through the Boyhood Unit.

#### Recreation

No impact because there are no recreation facilities affected by this project.

#### Sediment

There will be a short term, negative and long term, positive impact as a result of this project. During construction there will be an immediate and intense disturbance due to the increasing the sediment load. This will be mitigated by using Best Management Practices. When the project is completed this impact will be reduced. Additionally, once the bank is armored it will ultimately decrease the amount of sediment produced from the eroding streambank.

#### Soils

There will be no significant impact because the project area is small and mostly disturbed by previous construction.



### Special Status Species

A biological assessment was conducted by qualified KYTC personnel and it was determined by the USFWS that the project is Not Likely to Adversely Affect the federally listed species *Myotis sodalis* (Indiana Bat) and *Myotis grisescens* (Gray Bat). Additionally it was determined the project would have No Effect on *Cyprogenia stegaria* (Fanshell Mussel), *Epioblasma torulosa rangiana* (Northern Riffleshell) and *Plethobasus cooperianus* (Orangefoot Pimpleback Mussel).

### Terrestrial Resources

There will be no impact because the project area is small and previously disturbed by the existing roadway.

### Visitor Use and Experience

There will be a short term, minor negative impact during construction. Visitor use and experience will be negatively impacted by closing one lane of traffic and by the construction noise. This will be a temporary impact and the public will ultimately be better off having a safer route to the Boyhood Unit from the main ABLI Park.

### Water Quality and Hydrology

A short term, minor, negative impact will result from this project. During construction there will be increased sedimentation. This will be mitigated by using BMPs. A KPDES KYR10 stormwater construction permit will be required by the Kentucky Division of Water. There will be no change in the hydrology.

### Wetlands

A long term minor negative impact will result from the placement of fill in 1114 ft<sup>2</sup> of riverine intermittent streambed wetland. These impacts will be mitigated using the BMPs and conditions from Appendix 2 of PM-77-1 (NPS 2011).

### Wild and Scenic Rivers

Knob Creek is not a designated Wild or Scenic River

### Wildlife

No impact will result from this project because there is minimal wildlife habitat in the project area. The area is already disturbed by the adjacent roadway and annual maintenance ensures that the area remains fescue.

### ***The degree to which the action affects public health and safety:***

This project will improve the roadway geometry and increase the calculated safe speed of travel to 50 miles per hour (mph), which is an increase from existing 40 mph geometric conditions today. This will have a minor positive effect on public health and safety.

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

Within the construction limits of the selected alternative, no historic or cultural resources, prime farmlands and soils, wild and scenic rivers, or ecologically critical areas were identified and will not be impacted. The project area largely consists of previously disturbed roadway compacted fill. Best Management Practices will be employed to prevent excessive sedimentation and disturbed areas will be reseeded with appropriate vegetation upon completion.

***Degree to which the effects on the quality of the human environment are likely to be highly controversial:***

There will be direct, adverse, minor and short-term impacts to visitor use during construction of the selected alternative. There will be temporary lane closures resulting in one lane of traffic. This will cause some delay to the traveling public. Visitor use will also be impacted by construction noise as heavy machinery work will disrupt the tranquil landscape. The park will remain open during construction.

There were no public comments received so there appears to be no controversial impacts as a result of implementing the selected alternative.

***Degree to which the possible effects on the quality of human environment are highly uncertain or involve unique or unknown risks:***

There are no highly uncertain impacts to the human environment from the selected alternative. Unique or unknown risks are not expected.

***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:***

Improving the roadway geometry and stabilizing the roadbed will not establish a precedent for future actions. No precedent is intended or created with the selected alternative. All future NPS actions and decisions will be made based on law, policy, and management objectives.

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

The selected alternative, when considered with other reasonably foreseeable past, present, and future projects is anticipated to result in cumulative effects. None of the cumulative effects are significant.

Cumulative impacts are expected to be minor as a result of this project. The improvements are not expected on their own to induce more drivers to travel the US-31E corridor, nor are they sufficient enough to make the area more attractive to future development. The area will still maintain its rural, residential and agricultural qualities. The work will largely be performed within the existing disturbance of the US-31E corridor.

Impacts from construction of the bank stabilization feature will negligibly contribute to loss of riverine wetland habitat within the Knob Creek drainage. Minor cumulative effects are expected to occur from the introduction of non-native species. Cumulative effects to terrestrial species are expected to be minor and are minimized by using the current alignment. There will be a minor beneficial cumulative effect to the transportation system and visitor use as safety of traveling the corridor is increased.

Construction of the selected alternative will have negligible impacts on water resources because there will be only a minor increase in the pavement width through the project area. This will cause a minor acceleration of the time of concentration for storm flow in Knob Creek. However compared to the total conveyance of the stream channel this volume would be minimal. Impact to water resources during construction will be mitigated with the implementation of BMPs for erosion and sediment control in accordance with the KPDES General Stormwater permit for construction.

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

No archaeological or historic resources eligible for listing in the National Register of Historic Places will be impacted by the implementation of the selected alternative. In accordance with Section 106 of the NHPA, formal consultation with the Kentucky SHPO has resulted in a Finding of No Effect to archaeological and historic resources. The No Effect concurrence for historic resources was received on September 2, 2011, and on August 29, 2011 for archaeological resources.

***Degree to which the action may adversely affect an endangered or threatened species or its critical habitat:***

No critical habitat was identified within the construction limits of the selected alternative. KYTC completed a thorough habitat assessment and Biological Assessment for listed endangered species. It was determined, and concurred by USFWS in correspondence dated November 25, 2011, that there would be “no effect on listed mussel species and a finding of “not likely to adversely affect” either Indiana Bat or Gray Bat individuals. KYTC has agreed to seasonal tree clearing restrictions and minimization measures to minimize impacts to listed species.

***Whether the action threatens a violation of federal, state, or local environmental protection law:***

The selected alternative will not threaten a violation of any other Federal, State, or local law imposed for the protection of the environment. A Nationwide Permit Numbers 13 and 14 will be obtained by KYTC prior to construction for the stream and wetland impacts, in accordance with Section 404 of the Clean Water Act.

## **MITIGATION MEASURES AND BEST MANAGEMENT PRACTICES FOR THE SELECTED ALTERNATIVE**

- 1. Effects on hydrology and fluvial processes:** Action must have only negligible to minor, new adverse effects on site hydrology and fluvial processes, including flow, circulation, velocities, hydroperiods, water level fluctuations, sediment transport, channel morphology, and so on. Care must be taken to avoid any rutting caused by vehicles or equipment.
- 2. Effects on fauna:** Action must have only negligible to minor, new adverse effects on normal movement, migration, reproduction, or health of aquatic or terrestrial fauna, including at low flow conditions.
- 3. Water quality protection and certification:** Action is conducted so as to avoid degrading water quality to the maximum extent practicable. Measures must be employed to prevent or control spills of fuels, lubricants, or other contaminants from entering the waterway or wetland. Action is consistent with state water quality standards and Clean Water Act Section 401 certification requirements (check with appropriate state agency).
- 4. Erosion and siltation controls:** Appropriate erosion and siltation controls must be maintained during construction, and all exposed soil or fill material must be permanently stabilized at the earliest practicable date.
- 5. Proper maintenance:** Structure or fill must be properly maintained so as to avoid adverse impacts on aquatic environments or public safety.
- 6. Heavy equipment use:** Heavy equipment use in wetlands must be avoided if at all possible. Heavy equipment used in wetlands must be placed on mats, or other measures must be taken to minimize soil and plant root disturbance and to preserve preconstruction elevations.
- 7. Stockpiling material:** Whenever possible, excavated material must be placed on an upland site. However, when this is not feasible, temporary stockpiling of excavated material in wetlands must be placed on filter cloth, mats, or some other semi permeable surface, or comparable measures must be taken to ensure that underlying wetland habitat is protected. The material must be stabilized with straw bales, filter cloth, or other appropriate means to prevent reentry into the waterway or wetland.
- 8. Removal of stockpiles and other temporary disturbances during construction:** Temporary stockpiles in wetlands must be removed in their entirety as soon as practicable. Wetland areas temporarily disturbed by stockpiling or other activities during construction must be returned to their pre-existing elevations, and soil, hydrology, and native vegetation communities must be restored as soon as practicable.
- 9. Topsoil storage and reuse:** Revegetation of disturbed soil areas should be facilitated by salvaging and storing existing topsoil and reusing it in restoration efforts in accordance with NPS



policies and guidance. Topsoil storage must be for as short a time as possible to prevent loss of seed and root viability, loss of organic matter, and degradation of the soil microbial community.

**10. Tree Clearing Restrictions:** In order to minimize impacts to the Federally Endangered Indiana Bat and Gray Bat tree clearing is restricted to October 15<sup>th</sup> through March 31<sup>st</sup> when bats are hibernating in caves. This mitigation was agreed upon with USFWS.

**11. Indiana Bat Conservation Fund:** A payment was made to the Natural Lands Heritage Trust to mitigate loss of potential Indiana Bat Habitat loss as a result of this project.

## **PUBLIC INVOLVEMENT**


Internal meetings were held between KYTC, ABLI and the NPS Southeast Regional Office staff on January 5, 2011 and February 15, 2012 to discuss project plans and impacts. The EA was made available for public comment between July 11<sup>th</sup> and August 10<sup>th</sup>. There were no comments received during the 30 day comment period.

## CONCLUSION

The selected alternative will not have a significant effect, either adverse or beneficial, to the human environment. Adverse impacts will not exceed the moderate level, and will be mitigated to the extent possible during construction. The EA provides a thorough analysis for determining that an Environmental Impact Statement for the proposed action is not required.

The NPS has determined that the level of analysis in the EA meets the requirements set forth in the National Environmental Policy Act to assess the impacts of the proposed action. The Finding of No Significant Impact is based on review of the EA and consideration of the impacts and effects of the proposed action.

Recommended:

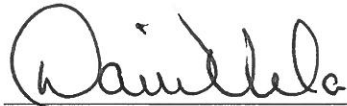


William Justice  
Superintendent

Abraham Lincoln Birthplace National Historical Park

8/30/12  
Date

Approved:



David Vela  
Regional Director, Southeast Region  
National Park Service

9-5-12  
Date

**Appendix A**  
PUBLIC COMMENTS AND RESPONSES

There were no public comments received.

## **Appendix B**

### **IMPAIRMENT DETERMINATION**

#### **The Prohibition on Impairment of Park Resources and Values**

NPS Management Policies 2006, Section 1.4.4, explains the prohibition on impairment of park resources and values:

While Congress has given the Service the management discretion to allow impacts within parks, that discretion is limited by the statutory requirement (generally enforceable by the federal courts) that the Park Service must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the Organic Act, establishes the primary responsibility of the National Park Service. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.

#### **What is Impairment?**

NPS Management Policies 2006, Section 1.4.5, *What Constitutes Impairment of Park Resources and Values*, and Section 1.4.6, *What Constitutes Park Resources and Values*, provide an explanation of impairment.

Impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values.

Section 1.4.5 of *Management Policies 2006* states:

An impact to any park resource or value may, but does not necessarily, constitute impairment. An impact would be more likely to constitute impairment to the extent that it affects 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 a goal in the park's general management plan or other relevant NPS planning documents as being of significance.

An impact would be less likely to constitute an impairment if it is an unavoidable result of an action necessary to preserve or restore the integrity of park resources or values and it cannot be further mitigated.

Per Section 1.4.6 of *Management Policies 2006*, park resources and values that may be impaired include:

- the park's scenery, natural and historic objects, and wildlife, and the processes and condition that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structure, and objects; museum collections; and native plants and animals;
- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;
- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and
- any additional attributes encompassed by the specific values and purposes for which the park was established.

Impairment may result from NPS activities in managing the park, visitor activities, or activities undertaken by concessionaires, contractors, and others operating in the park. Impairment may also result from sources or activities outside the park, but this would not be a violation of the Organic Act unless the NPS was in some way responsible for the action.

#### **How is an Impairment Determination Made?**

Section 1.4.7 of *Management Policies 2006* states, "[I]n making a determination of whether there would be an impairment, an NPS decision maker must use his or her professional judgment. This means that the decision-maker must consider any environmental assessments or environmental impact statements required by the National Environmental Policy Act of 1969 (NEPA); consultations required under Section 106 of the National Historic Preservation Act (NHPA); relevant scientific and scholarly studies; advice or insights offered by subject matter experts and others who have relevant knowledge or experience; and the results of civic engagement and public involvement activities relating to the decision.

*Management Policies 2006* further define "professional judgment" as "a decision or opinion that is shaped by study and analysis and full consideration of all the relevant facts, and that takes into account the decision maker's education, training, and experience; advice or insights offered by subject matter experts and others who have relevant knowledge and experience; good science and scholarship; and, whenever appropriate, the results of civic engagement and public involvement activities relation to the decision.



## **Impairment Determination for the Preferred Alternative**

This determination on impairment has been prepared for the preferred alternative described on page 13 of the EA. An impairment determination is made for all resource impact topics analyzed for the preferred alternative. An impairment determination is not made for environmental justice, park operations, public health and safety, recreation, and visitor use and experience, because impairment findings relate back to park resources and values, and these impact areas are not generally considered to be park resources or values according to the Organic Act, and cannot be impaired in the same way that an action can impair park resources and values.

### Aesthetics

The preferred alternative will result in direct, adverse, short-term, moderate impact from construction activities that will disrupt the scenic and aesthetic values of the Park. Because this impairment is temporary and the long term safety of visitors to the Park will be improved, the preferred alternative will not result in impairment to aesthetic values of the Park.

### Air Quality

Implementation of the preferred alternative will result in direct, adverse, negligible, short-term impacts on air quality from construction activities resulting in temporary increases in air particulates and carbon monoxide from heavy equipment powered by hydrocarbon fuels. Because LaRue County is within attainment for all air quality parameters and construction impacts are temporary the preferred alternative will not result in impairment of air quality.

### Aquatic Resources

Short term, minor, negative impacts will occur during construction of the bank stabilization feature. This will include increased sedimentation and turbidity. Because this impact will be minimized by constructing the feature during the summer low flow season and once the bank is stabilized it will ultimately provide a long term minor benefit by decreasing the amount of sediment produced from the eroding streambank there is no significant impact to aquatic resources.

### Cultural, Historic and Archaeological Resources

As a result of historic and archaeological baseline studies there will be no impact to historic and archaeological resources. A qualified KYTC historian conducted an investigation based on the plans and the SHPO agree there will be No Historic Resources Affected. University of Kentucky archaeologists conducted an archaeological survey and determined no arch resources will be affected by the project. If cultural artifacts or remains are discovered during construction the SHPO will be notified immediately.

### Designated Natural Areas

Because there are no designated Natural Areas within the proposed project limits, there will be no to park resources from implementation of the preferred alternative.

### Ecologically Critical Areas

Because there are no ecologically critical areas within the proposed project limits, there will be no impairment to park resources from implementation of the preferred alternative.

### Floodplains

The project will have a minor, long-term impact to the floodplain of Knob Creek. The project does lie within the FEMA mapped 100 year flood plain. Because the plan is to maintain the existing channel cross section as much as possible with the bank stabilization feature and since there will be minimal loss of flood storage the project will not endanger park resources.

### Indian Sacred and Indian Trust Resources

Because there are no Indian sacred sites known within the project area, there will be no impairment to park resources from implementation of the preferred alternative.

### Noise

The project will result in a short term, minor negative impact. During construction the noise level will increase. Because the impact is temporary and the preferred alternative will not increase traffic or reduce the distance between main elements of the park and the roadway, there will be no impairment to park resources from implementation of the preferred alternative.

### Prime and Unique Farmlands

Because the area proposed is between the existing roadway and Knob Creek and since it is not capable of supporting agricultural operations, there will be no impairment to park resources from implementation of the preferred alternative.

### Sediment

There will be a short term, negative and long term, positive impact as a result of this project. During construction there will be an immediate and intense disturbance due to the increasing the sediment load. Because this impact will be mitigated by using Best Management Practices and since the bank stabilization will ultimately decrease the amount of sediment produced from the eroding streambank, there will be no impairment to park resources from implementation of the preferred alternative.

### Soils

Because the area proposed is between the existing roadway and Knob Creek and since it was disturbed by previous roadway construction, there will be no impairment to park resources from implementation of the preferred alternative.

### Special Status Species

A biological assessment was conducted by qualified KYTC personnel and it was determined by the USFWS that the project is 'Not Likely to Adversely Affect' any federally listed species or species of concern. Therefore, there will be no impairment to park resources from implementation of the preferred alternative.

### Terrestrial Resources

Because the project area is small and previously disturbed by the existing roadway construction, there will be no impairment to park resources from implementation of the preferred alternative.

#### Water Quality and Hydrology

A short term, minor, negative impact will result from this project. During construction there will be increased sedimentation. This will be mitigated by using BMPs. A KPDES KYR10 stormwater construction permit will be required by the Kentucky Division of Water. Because the impacts are short term and will be mitigated by working in the summer low flow season and using BMPs there will be no impairment to water quality or hydrology.

#### Wetlands

A long term minor negative impact will result from the placement of fill in 1114 ft<sup>2</sup> of riverine intermittent streambed wetland. Because this impact will be minimized by constructing the feature during the summer low flow season and once the bank is stabilized it will ultimately provide a long term minor benefit by decreasing the amount of sediment produced from the eroding streambank there is no impairment to wetland resources.

#### Wild and Scenic Rivers

Because Knob Creek is not a designated Wild or Scenic River there will be no impairment to park resources from implementation of the preferred alternative.

#### Wildlife

Because the area is already disturbed by the adjacent roadway and annual maintenance ensures that the area remains fescue there will be no impairment to wildlife habitat from implementation of the preferred alternative.