



FINDING OF NO SIGNIFICANT IMPACT

Trail Development Plan Phase One: Through Park Connector; Northern Half, River Left Environmental Assessment

New River Gorge National River Fayette County, West Virginia

Introduction

The National Park Service (NPS) proposes to develop new trails throughout areas of the northern half of the New River Gorge National River (NERI) in accordance with decisions made in the park's General Management Plan (GMP) approved in 2011. These trails will include trail segments of the Through Park Connector from McCreery to the northern park boundary on river left of the New River, as well as several trail segments that will connect the Through Park Connector to the rim, to the river and to other public trails that link to trailheads outside the park, nearby communities and regional points of interest.

The purpose of the proposed action is to implement trail- related actions approved in the GMP, and in particular, those actions for which the planning can be accomplished within a short time frame and largely constructed with volunteer labor during the summer of 2013. The proposed action includes four components:

- Through Park Connector Trail Segments
- Bicycle Use on Through Park Connector Trail Segments
- Bridge Buttress Trail Extension
- Trail Connections to Non- Federal Lands

Action is needed at this time for the following reasons:

- The Boy Scouts of America (BSA) requested the opportunity to provide hundreds of Scout volunteers during their Jamboree in July 2013 to construct new trails and complete other service projects within the park.
- Public input for the GMP and this Trail Development Plan and Environmental Assessment (Trail Plan/EA) revealed strong support for the park to provide more trails and opportunities for hiking and biking on these new trails, especially segments of the Through Park Connector.

- Because NPS would develop trail segments for multiple user groups, including pedestrians and bicyclists, it must complete an analysis of impacts of bicycle use on those trails in order to promulgate a special rule in the Code of Federation Regulations (CFR) that designates those trails as open to bicycle use.

The NPS completed a Trail Plan/EA that evaluated two alternatives and the impacts, or environmental consequences, of implementing each of the alternatives on a variety of resources. The Trail Plan/EA was prepared in accordance with the National Environmental Policy Act of 1969, as amended (NEPA), the Council on Environmental Quality (CEQ) implementing regulations for NEPA [40 CFR 1500-1508], and NPS Director's Order #12: *Conservation Planning, Environmental Impact Analysis and Decision Making* (DO- 12, 2011) and its accompanying DO- 12 Handbook (2001).

Selected Alternative

Based on the analysis presented in the Trail Plan/EA, the NPS has selected Alternative B, Trail Development, for implementation. The selected alternative was described in Section 2.2 of the Trail Plan/EA (pages 10- 22). It was also the NPS Environmentally Preferable Alternative (Section 2.4, page 24). All trail development proposed in this plan will follow the Standard Operating Procedures (SOPs) for trail development for determining the final flagged trail route (Attachment A). Trails will be built to the sustainable trail design concepts and classifications described in Attachment A.

The selected alternative is composed of four action elements:

Through Park Connector Trail Segments

Bicycle Use on Through Park Connector Trail Segments

Bridge Buttress Trail Extension

Trail Connections to Non- Federal Lands

Through Park Connector Trail Segments – Total Length approximately 7.9 miles

The NPS will develop seven additional trail segments of the Through Park Connector, as proposed in the GMP, on river left of the New River, from the area of the confluence of Piney Creek and the New River to a point close to the northern park boundary. The individual trail segments proposed in this plan are identified in the table below by individual segment names and are not contiguous.

Bicycle Use on Through Park Connector Trail Segments

The seven Through Park Connector Trail Segments will be designated as routes open to bicycle use following the promulgation of a special regulation pursuant to 36 CFR 4.30. Amenities related to the management of bicycle use will be provided, as appropriate. Trails will be assessed for their difficulty and classification, and signed accordingly. Requests for special events, special uses, large groups and commercial activities using the proposed trails will be subject to review and approval according to existing NPS policies and regulations regarding their activities.

Bridge Buttress Trail Extension – Total Length 0.6 miles

The NPS will work in partnership with New River Alliance of Climbers (NRAC), the Access Fund and the American Alpine Club (AAC) to develop a trail that connects the new AAC

campground to the Bridge climbing area and the existing Bridge Buttress Trail. Trail development will include a connection between the campground property and the existing Burnwood Trail, as well as the primary segment of new trail construction: a link down a break in the cliff line from the Burnwood Trail to the area between the North Bridge Wall and the First Strike Area. It will connect, on the downhill end, with the existing social trails at the cliff bases that are used to access existing rock climbing areas. A short ladder or set of steps will be needed to scale a small (approximately four- foot) section of rock cliff at the bottom of the descent to the cliff base. Trail development in this area includes addressing an existing network of social trails, either by formalizing and designating social trails or by eliminating social trails that are in inappropriate locations and/or are causing resource damage. Where social trails are faint or braided, the preferred route for resource protection and recreational access will be determined according to the SOPs in Attachment A. The selected route will be developed between a boulder field that extends from the cliff line and a substantial rhododendron stand, avoiding traversing each of these sensitive habitat areas. The route may include the installation of a set of steps up a steep slope near the Promised Area in order to mitigate erosion concerns. Where social trails are heavily used and well- defined, the NPS will use the SOPs in Attachment A to assess the existing social route(s) and mitigate any concerns for resource protection as much as possible, while maintaining access to the existing climbing routes. Most of the obvious existing base- of- cliff social trail from the Promised Area to the existing Bridge Buttress Trail will likely remain in its existing location and will be included in the NPS trail inventory (see Figure 2- 6). Prior to construction, an agreement will be developed with NRAC, the AAC, and/or the Access Fund according to the guidelines proposed in Section 2.2.5.

Trail Development Plan: Phase One – Total Length 8.5 miles		
Through Park Connector Trail Segments – Total Length approximately 7.9 miles		
Trail Segment Name	Length (miles)	Description
Piney Creek Trail	0.5 miles	New trail
McCreery Trail	1.1 miles	Abandoned railgrade
Camp Creek Trail	2.3 miles	Mostly new trail
Arbuckle Connector Trail Improvements	0.2 miles	Existing hiking trail
Wolf Creek Trail	0.5 miles	New trail
Whitney Trail	2.9 miles	Mostly existing mine bench
Pipers Branch Trail	0.4 miles	Abandoned logging road
Bridge Buttress Trail Extension – Total Length 0.6 miles		
Bridge Buttress Trail	0.6 miles	Combination of new trail, existing trail, and social trail

Trail Connections to Non- Federal Lands

In cases where a trail connects NPS property to adjacent property in public ownership (including federal, state, county or city governments), the NPS will enter into an agreement with the government entity, such as a cooperative agreement or memorandum of understanding, that provides for consistent public trail access across land ownership boundaries. This will apply, for example, if the NPS were to develop trails that connect with trails in Babcock State Park.

In cases where a trail connects NPS property to adjacent property in non- public ownership (such as a private, corporate or non- profit landowner), legal evidence of public access in perpetuity will be required, and the NPS will enter into an agreement with the holder of that legal access. Cases that apply include, for example:

- a county or city government develops a trail across the land of several private landowners in order to connect with a trail or trails inside NERI. That government entity would acquire and hold an easement or right- of- way from the private landowners guaranteeing public access to the trail on NPS land;
- a private or non- profit landowner whose property is outside the boundary of NERI is willing to allow public trail access across their land to connect with a trail inside the NERI boundary. A local government entity or non- profit would hold a document (permanent easement or right- of- way) that allows public access across that landowner's land to connect to the government trail;
- a private or non- profit landowner whose land is within the NERI boundary is willing to allow public trail access across their land to connect with a trail or trails inside NERI. The NPS would hold deed and title to an easement or right- of- way. The NPS could acquire the easement or right- of- way from the landowner through donation, purchase or other legal agreement. If the NPS were to hold the right- of- way, no additional agreement with the landowner, such as a memorandum of understanding or cooperative agreement, would be necessary.

Terms of an easement or right- of- way could allow for either a stationary easement or a floating easement, in which the trail location on the non- NPS property could change to accommodate landowner needs, but the endpoints to NPS trail or trails or other public access would remain intact.

Where a trail connection between NERI and a trail on non- NPS lands already exists, the NPS will work with the landowner to develop a right- of- way as soon as possible. Where a trail connection does currently exist, the NPS will require that the appropriate legal public access and agreements be in place before a connecting trail on NPS land will be constructed.

The intent of this proposed action is to avoid development of a public trail on NPS lands for exclusive use of a private landowner, as well as to avoid development of a trail that might dead- end if an agreement for public trail access across private property were not legally binding in perpetuity.

Other Alternatives Considered

The Trail Plan/EA prepared for this project also analyzed Alternative A, the No Action Alternative, which would continue current management of all project areas. With Alternative A, no new trail would be developed to implement the GMP- approved vision of the trail segments of the Through Park Connector. From the area of the confluence of Piney Creek and the New River to nearly the northern park boundary on river left, trail users would remain on existing park trails and use roads (see Figure 1- 1) in order to connect between trails. Also, no trail would be developed that would connect the new AAC campground to the existing social trails that access the climbing in the Bridge area and connect to the existing, recognized Bridge Buttress Trail. Climbers would continue to access the area from the main Bridge Buttress parking area along Fayette Station Road, from social trails leading from a handful of roadside pull- offs large enough to accommodate one car, or from social trails leading from the Burnwood picnic shelters. Trail connections from the NPS to non- federal lands beyond park boundaries would continue as is with no park- wide system to normalize agreements with applicable adjacent landowners.

Alternative A, the No Action Alternative, was not selected for reasons associated with both visitor use and resource protection. Due in large part to public input through several recent planning processes, including the development of a General Management Plan, the Stacked Loop Hiking and Biking Trail Systems Plan, and this Trail Plan/EA, the park has identified the need to provide additional trails and more opportunities for trail users and to provide additional trails designed as routes open to bicycle use. Alternative A does not meet the need for additional hiking and biking opportunities as expressed by the public. Additionally, the dependence of Alternative A on the continued use of social trails did not offer the greater degree of resource protection provided by planning and building more sustainable and designated trails throughout the park. Alternative A, the No Action Alternative, does not fully meet the purpose and need for the proposed actions identified in the approved GMP.

Alternatives Considered but Dismissed

There were several other alternative elements that were considered but rejected, and therefore not carried forward for further analysis because they were determined to be inappropriate for the park or for the scope of the Trail Plan/EA.

McCreery Hollow Trail. The NPS considered developing the McCreery Hollow Trail. This trail would have started at the proposed McCreery Trailhead, crossed the CSX Piney Creek Spur rail line, followed the old McCreery Hollow Road toward the base of the hill below Grandview, then left the old road bed to climb a ridge line, pointed upstream along the New River, to the Bucklick Trail in Grandview. Management of this trail would have been proposed for pedestrian access only, as the grade up the ridge would be too steep to appropriately accommodate bicycle use.

The purpose of this trail would be to provide a pedestrian- only trail segment of the Through Park Connector that would connect the trails at Grandview to the trails north of Grandview on river left of the New River. Bicyclists would need to ride on State Route 41 from McCreery to Glade Creek Road and the Mud Turn Trail, which is approved but not built, in order to access Grandview.

The NPS dismissed this alternative from consideration at this time because park staff does not have enough knowledge of the area or the proposed route. A substantial amount of staff time is required to review a proposed route according to the SOPs in Attachment A and choose a final route alignment. The NPS staff felt more time would be required than was currently available in order to complete this Trail Plan/EA in time to take advantage of the many hours of volunteer trail construction labor being offered by the BSA in 2013. The NPS may explore development of the McCreery Hollow Trail in a future trail development plan.

Camp Creek Trail First and Second Alignments. The NPS considered several alignments for the proposed Camp Creek Trail. The first proposed trail alignment followed the Camp Creek drainage up the creek left side through a large thicket of rhododendron.

The NPS dismissed this alignment alternative from consideration because the trail would run the length of the rhododendron thicket, rather than merely crossing it at a narrow point. Rhododendron provides important habitat for Swainson's warblers (*Limnothlypis swainsonii*) and other bird species that depend on large rhododendron stands for breeding habitat. In order to best protect wildlife resources, the NPS determined that a feasible alternate trail alignment could be found.

A second potential alignment for the Camp Creek Trail was proposed, this one following the drainage on creek right of Camp Creek and on an old road trace through a rhododendron thicket and a stand of young hemlocks. The NPS dismissed this alignment because of its proximity to Camp Creek and to avoid impacting the hemlock and rhododendron communities on the road trace. The proposed trail alignment was moved upslope away from Camp Creek to be 50 meters or more away from a streamside bird survey transect that goes up the middle of the Camp Creek drainage. This survey is performed multiple times each year and is part of a long-term effort to monitor the ecosystem health of the watersheds within the park. Farther upslope, the proposed alignment was moved off the old road trace to get out of a rhododendron thicket, avoid cutting hemlock trees and minimize additional stresses on the hemlock trees with the intent of improving their chance for survival. Hemlocks in the park and elsewhere are threatened by the hemlock woolly adelgid, an exotic, aphid- like insect that kills hemlock trees; it can cause mortality within four to ten years of infestation. As one of the few evergreen tree species in the park, hemlocks are an important part of the park ecosystem and provide vital habitat to many animal species, including the Acadian flycatcher (*Empidonax vireescens*).

Bachmann Trail. The NPS considered developing the Bachmann Trail, which would run from the intersection of the proposed Whitney and Pipers Branch Trails to the northern park boundary, by following the same mine bench as the Whitney Trail and other old roads to the area of the old town of McDougal, and then an unknown connection to the northern boundary. Management of this trail would have been for both pedestrian and bicycle use, pending promulgation of a special regulation.

The purpose of this trail would be to provide a trail segment of the Through Park Connector. The long term vision for this trail is that it would connect with a public trail beyond the NPS boundary that would cross the New River and eventually connect with the Hawks Nest Connector Trail on river right, creating a loop for the Through Park Connector that allows visitors to explore both sides of the New River.

The NPS dismissed this alternative from consideration at this time because very little is known about potential trail routes on the steep side of the gorge that would serve the purpose of the trail. It would take a great deal of time to scout potential trail routes in this area, and that work could not be accomplished in time to complete this Trail Plan/EA to take advantage of the many hours of volunteer trail construction labor being offered by the BSA in 2013. The NPS may explore development of the Bachmann Trail in a future trail development plan.

Bridge Area Connection Trail Alignment Proposed by NRAC. NRAC approached the NPS with a proposal of a trail connection between the AAC campground and the Bridge climbing area. The route proposed by NRAC followed an unnamed drainage directly from the campground property to the base of the cliff, between The Pinnacle and North Bridge Wall. This proposed route would have come through sensitive and wet habitats important to rare plants and declining animal species, including Allegheny woodrats (*Neotoma magister*) and green salamanders (*Aneides aeneus*). Both the Allegheny woodrat and green salamander are listed by the West Virginia Division of Natural Resources (WVDNR) Nongame Wildlife and Natural Heritage Program as species of special concern with a rank of S₃ (vulnerable to extirpation in the state).

The NPS determined that an alternative route that serves the same purpose and need, as discussed in Section 1.4, yet offers better protection for park resources, could be located. This route is proposed in Section 2.2.2.

Environmentally Preferable Alternative

In accordance with the DO- 12 Handbook, the NPS identifies the environmentally preferable alternative in its NEPA documents for public review and comment [Sect. 4.5 E(9)]. The environmentally preferable alternative is the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. The environmentally preferable alternative is identified upon consideration and weighing by the Responsible Official of long- term environmental impacts against short- term impacts in evaluating what is the best protection of these resources. In some situations, such as when different alternatives impact different resources to different degrees, there may be more than one environmentally preferable alternative (43 CFR 46.30).

Based on the analysis of the environmental consequences of each alternative, the NPS determined that the selected alternative is the environmentally preferable alternative because it best protects park resources related to trail planning and development. Under Alternative A, Continuation of Current Management, visitors may continue to use and begin to develop social trails in inappropriate places that meet their needs for access and recreational activities. These circumstances can increase the potential for resource damage, whereas Alternative B provides for the development of trails that address visitor needs and that would be designed and

constructed so as to minimize resource impacts through appropriate routing, avoidance of key sites or sensitive areas and other mitigations.

Mitigation Measures

The NPS places a strong emphasis on avoiding, minimizing and mitigating potentially adverse environmental impacts. To help ensure the protection of natural and cultural resources and the quality of the visitor experience, the NPS will implement a number of mitigation measures for all new trail development in the selected alternative. These mitigation measures are described in detail in Appendix A of the Trail Plan/EA (pages 85- 90) and include an additional mitigation to protect significant amphibian breeding pools. The mitigation measures can be summarized as follows:

Mitigations to Protect Soils, Streams and Water Resources

- Riparian areas will be avoided.
- Where trails must cross perennial and intermittent streams, bridges or bottomless culverts will be used.
- Protections will be put in place during construction that prevent or minimize the potential for loose soil to enter water ways. Duff layers will be replaced over side- cast soils to protect from post- construction erosion.
- Where existing features, such as abandoned roads, have changed natural streamflow characteristics, trail construction will generally include stream restoration to rehabilitate existing resource damage and to prevent impacts to streamflow from new trail development.

Mitigations to Protect Vegetation

- Known rare plants will be avoided. Rare plant surveys will be conducted along the proposed trail corridor prior to construction. Proposed trail alignments may be rerouted to protect vegetation.
- Known rare plant communities will be avoided, with the exception of several short trail sections that lead out and back to vistas through cliff top vegetation communities.
- Non- native and invasive plants along the trail construction corridor will be treated or removed as part of construction, in addition to the rehabilitation and invasive treatment actions described in the selected alternative.

Mitigations to Protect Wildlife

- Wildlife habitat surveys will be conducted along the proposed trail corridor prior to construction. Proposed trail alignments may be rerouted to protect key habitat of species of concern.
- Bat habitat will be avoided as much as possible. Where new trails are located near an open mine portal, the portal will be gated with a bat- friendly design.
- Seasonal tree cutting restrictions and review of all trees greater than five inches diameter breast height that may be removed for trail construction will be implemented in order to protect bat habitat.
- Allegheny woodrat habitat will be avoided as much as possible. Where avoidance is not feasible, measures will be taken, in consultation with the park wildlife biologist, to

mitigate impacts, such as gating mine portals along the new trails with bat- friendly designs, which are also woodrat- friendly.

- The NPS will design trails to avoid rhododendron thickets as much as possible to protect Swainson's warbler habitat.
- Riparian areas and ruts in old road traces that have filled with water and serve as amphibian habitat will be avoided.
- Where trails are built on mine benches and road traces on which significant amphibian breeding pools form, mitigation measures may include:
 - o trail construction techniques which preserve the pools while providing dry passage for bicyclists and pedestrians around the pools and discourage travelling through them;
 - o information in trail brochures and signs explaining the importance of not disturbing breeding pools;
 - o seasonal closure of trail segments to protect breeding amphibians.

Mitigations to Protect Cultural Resources

- Known archeological and historic sites will be avoided. Archeological surveys will be conducted along the proposed trail corridor prior to construction. Proposed trail alignments may be rerouted to protect archeological and historic sites.
- Prior to construction, trail crews will be trained to recognize archeological and historic sites inadvertently discovered during construction and what to do to protect those sites.
- A cultural resource specialist will be roving during trail construction.

Why the Selected 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:

1) 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).

As described in the Trail Plan/EA, both beneficial and adverse impacts to the resources analyzed could result from the actions proposed, however, no significant impacts were identified that will require analysis in an EIS.

Because of the need to clear a tread and corridor for trail development, the selected alternative will result in negligible to minor adverse impacts on vegetation that are mainly localized to the area immediately adjacent to the trail and will persist for the life of the trail. However, trail design and trail development standard operating procedures (SOPs) will direct use away from rare plant communities and habitats, particularly in the McCreery Trailhead, Pipers Branch and Bridge Buttress Trail Extension project areas, resulting in beneficial impacts to rare plants and plant communities. Implementation of guidelines for trail connections between NPS and non-NPS lands will result in negligible changes beyond existing adverse impacts of current management, associated with the spread of invasive plant species along trail vectors.

Adverse impacts to threatened and endangered wildlife species, species of concern and wildlife habitat from the selected alternative will generally be negligible for bats, Allegheny woodrats, amphibians and neotropical migratory birds. This is because NPS will develop trails to avoid the habitats of these species to the degree possible. For several individual actions within the selected alternative, adverse impacts to wildlife may be minor, rather than negligible. There may be some potential for minor adverse impacts to bat species, including federally- listed threatened and endangered bats, if any trails are inadvertently placed and constructed close enough to an Indiana bat nursery colony tree, so as to disrupt the future use of the tree by Indiana bats (or other bat species). There may be minor adverse, localized impacts on amphibian populations on trails that will be routed along existing features such as mine benches and road traces where standing water can act as breeding pools for amphibians, including the Piney Creek, Camp Creek and Whitney Trails. There will be minor adverse impacts on neotropical migratory birds from the construction of the Camp Creek Trail due to its length and intrusion into relatively unfragmented forest.

Adverse impacts to soil conditions, streamflow characteristics and water quality as a result of the selected alternative will be mostly negligible in both the short- term (from construction activities) and the long- term (from use of the trail treads). Improvements to the Arbuckle Connector Trail will be beneficial for soils and water because more sustainable trail grades would cause less erosion than existing ones. If the under- trestle crossing is the best way to get the proposed Piney Creek Trail across the CSX Piney Creek Spur rail line, then construction of the crossing could result in short- term, minor adverse impacts to Pack's Branch during construction, which is a small tributary to Piney Creek.

The selected alternative will likely result in no adverse impacts on prehistoric or historic archeological resources in all project areas because trail design and SOPs provide for trails to be routed away from these resources where they are known to exist. There is some potential for negligible adverse impacts as a result of accidental discovery during trail construction. Developing a more sustainable route to improve the Arbuckle Connector Trail will be beneficial for historic resources in that project area.

Implementation of the selected alternative will be beneficial to visitor use, experience, access and safety in all project areas and park- wide with regard to the proposed requirements for development of Trail Connections to Non- Federal Lands. The benefits will be derived from the implementation of popular trail concepts approved in the GMP and the provision of safe and enjoyable visitor experiences on trails that would meet the goals of the Through Park Connector concept in the northern half of the park.

Development of the proposed new trails will have minor adverse impacts on park operations, facilities and maintenance in the project areas for proposed trail segments of the Through Park Connector and negligible adverse impacts in the proposed Bridge Buttress Trail Extension project area.

For vegetation, including rare plants and rare plant communities, most wildlife species and habitats in the project areas, soil conditions, streamflow characteristics, water quality and prehistoric and historic archeological resources, impacts from the selected alternative of

designating new trail segments of the Through Park Connector as routes open to bicycle use will result in no additional adverse impacts, as compared to pedestrian use of the trails. In a few cases, amphibian mortality may increase somewhat as a result of allowing bicycle use on trails as compared to pedestrian use only, but the adverse impacts would be minor (on the Piney Creek and Camp Creek Trails) to negligible (on the Wolf Creek Trail). Designating the trail segments of the Through Park Connector as routes open to bicycle use will be beneficial for visitor use and experience.

2) The degree to which public health and safety are affected.

Public health benefits could result from the provision of more recreational trail opportunities, which allows trail users to develop healthy, active habits. Public safety could be negligibly impacted in the short-term during construction of new trails if visitors stray into construction areas from developed park trails and facilities.

3) Any unique characteristics of the area (proximity to historic or cultural resources, wild and scenic rivers, ecologically critical areas, prime farmlands, wetlands or floodplains, and so forth).

No wild and scenic rivers, ecologically critical areas, prime farmlands, or known Indian sacred sites occur within or adjacent to the project areas. No new development will occur in a floodplain as a result of the selected alternative, and any wetland in the project areas will be avoided in trail design and protected from sedimentation during construction.

Under the selected alternative, new trails will be developed near historic and cultural resources. Direct impacts to known archeological and historic sites will be avoided either through trail design or in-kind replacement. Archeological surveys will be conducted along all proposed trails prior to construction to identify and avoid sensitive resources. Several trails will be constructed on existing informal routes (abandoned roads and railroad grades) that are also historic routes, including the McCreery Trail and Whitney Trail. Development of these trails could provide for protection and interpretation of these historic routes, allowing visitors to develop a better understanding of how people have moved around the gorge throughout its history.

4) The degree to which impacts are likely to be highly controversial.

No highly controversial effects were identified during either preparation of the EA or the public review period.

5) The degree to which the potential impacts are highly uncertain or involve unique or unknown risks.

No highly uncertain, unique or unknown risks were identified during either preparation of the EA or the public review period.

6) Whether the action may establish a precedent for future actions with significant effects, or represents a decision in principle about a future consideration.

The selected alternative does not establish a NPS precedent for future actions with significant effects, nor does it represent a decision in principle about a future consideration. Any future actions regarding trails and trail management will be directed by the park's approved GMP.

7) Whether the action is related to other actions that may have individual insignificant impacts but cumulatively significant effects. Significance cannot be avoided by terming an action temporary or breaking it down into small component parts.

Implementation of the selected alternative will have no significant cumulative impacts. As described in the Trail Plan/EA, the selected alternative will contribute either imperceptibly to cumulative adverse impacts on most resources that were analyzed, or it will contribute beneficially to the cumulative impacts. Impacts from the selected alternative could be noticeable, but not significant, within the overall cumulative impacts of numerous federal and non-federal actions to some localized communities of rare plants and species of concern, such as neotropical migratory birds and the Allegheny woodrat.

8) The degree to which the action may adversely affect historic properties in or eligible for listing in the National Register of Historic Places, or other significant scientific, archeological, or cultural resources.

Implementation of the selected alternative will result in no adverse effect to archeological or historic sites, including properties in or eligible for listing in the National Register of Historic Places. The selected alternative includes mitigations that will avoid direct impacts to historic and archeological sites.

In accordance with Section 106 of the NHPA, the park consulted with the West Virginia State Historic Preservation Officer (SHPO) in preparation of the Trail Plan/EA. The park sent a copy of the Trail Plan/EA to the SHPO with a determination of *No Adverse Effect* on archeological and historic resources on February 28, 2013. The SHPO concurred with this determination on March 29, 2013.

9) The degree to which an action may adversely affect an endangered or threatened species or its habitat.

In accordance with Section 7 of the Endangered Species Act, the park consulted with the U.S. Fish and Wildlife Service (USFWS) in development and analysis of and selection from the alternatives. The park mailed a letter and a copy of the Trail Plan/EA to the USFWS on February 28, 2013 requesting concurrence with an NPS determination of *No Effect* for federally listed plant species, Virginia spiraea and Running buffalo clover, which are not known to occur in the project areas and, if found through pre-construction plant surveys, would be avoided. Additionally, the NPS made a determination of *May Affect, But Not Likely to Adversely Affect* for federally listed Indiana and Virginia big-eared bats, allowing for any potential inadvertent indirect impacts if roosting bats were undetected along the proposed trail routes. The USFWS concurred with this determination on April 19, 2013.

The park also consulted with the West Virginia Division of Natural Resources (WVDNR), Nongame Wildlife & Natural Heritage Program. A letter requesting comments and a copy of

the Trail Plan/EA was mailed to the WVDNR on February 28, 2013 and a letter of concurrence was received April 16, 2013.

10) Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment.

The selected alternative violates no federal, state or local environmental protection laws. The development of new trails and allowing bicycle use on new and existing trails will be consistent with all laws, regulations and requirements.

Public Involvement and Agency Consultations

Internal and agency scoping for the Trail Plan/EA began with an interdisciplinary team (IDT) meeting February 29, 2012. An additional IDT meeting was held on September 24, 2012. Numerous field visits were conducted by IDT members and many individual meetings were held between planners, designers and resource specialists after the initial IDT meeting.

Public scoping and input, however, began much earlier. Public input from previous park planning processes was considered in the development of alternatives for the Trail Plan/EA, particularly during the development of the park's General Management Plan from 2007 through 2010 and the Stacked Loop Hiking and Biking Trail Systems Plan in 2011.

The Trail Plan/EA was made available for public review and comment on February 27, 2013 and was followed by a 38 day comment period that concluded on April 5, 2013. NPS distributed a press release announcing the availability of the plan, the ways for the public to comment, and the scheduling of a public meeting to the local and state media on March 21, 2013 and was posted on the park webpage on February 27, 2013. NPS made printed copies of the plan available at the park headquarters office and visitor centers and copies were mailed to the public as requested. NPS posted the plan for review on the park webpage and announced its availability on Facebook. The NPS also sent an e-mail announcement on March 15, 2013 to 62 individuals that had attended the public meeting for the Stacked Loop Trail Plan in 2011.

NPS held a public open house to provide information and collect comments on the plan on March 21, 2013 at the NPS Canyon Rim Visitor Center. NPS placed advertisements in local newspapers announcing the date and location of the meeting, availability of the document, and opportunities for public comment. Approximately 14 people attended the meeting.

At the conclusion of the public comment period on April 5, 2013, thirteen public scoping comments were submitted online via the NPS Planning, Environment and Public Comment (PEPC) website and one comment was mailed to the Superintendent. Of the fourteen total comments received, all fourteen indicated a preference for the implementation of Alternative B, Trail Development (the NPS Preferred Alternative). Ten comments (four did not respond) said it was a reasonable range of alternatives. Thirteen comments agreed with allowing bicycle use on the trails identified in Alternative B. All comments received expressed support for the selected alternative and excitement at the expansion of trail-related recreation opportunities in the park. Several comments applauded bicycle use as a good way to link different areas of the park and provide needed connectivity to adjacent towns and public areas. Several comments supported the notion that hiking and biking are compatible uses on trails, citing consistent

experiences on multi- use trails without conflicts, both locally around the New River Gorge and in the broader mid- Atlantic region. One comment called for the use of additional trail signage on existing or new trails that permit bicycle use “so it is friendly for both enthusiasts.” Another comment urged the use of educational efforts to encourage bicyclists to refrain from trail use during wet conditions to limit potential impacts to the trails. Several of the comments received raised concerns that do not affect the selected alternative or impact analysis in the Trail Plan/EA, but warrant a response; these comments and responses are provided in Attachment B.

NPS initiated Section 106 and Section 7 consultation processes with letters to the West Virginia SHPO and the USFWS on September 17, 2012. The NPS sent a copy of the Trail Plan/EA with a letter to each agency containing the park’s assessment and determination of effect from the selected alternative on February 28, 2013. NPS received a response from the SHPO on March 29, 2013 concurring with the determination of *No Adverse Effect*. NPS received a response from the USFWS on April 19, 2013 concurring with the determination of *No Effect* for federally listed plant species, Virginia spiraea and Running buffalo clover, and *May Affect, But Not Likely to Adversely Affect* for federally listed Indiana and Virginia big- eared bats, and allowing for any potential inadvertent indirect impacts if roosting bats were undetected along the proposed trail routes.

The NPS initiated consultation with Native American tribes for this project through the GMP, which proposed the ideas that this Trail Plan/EA will implement. Additional consultation letters and a copy of the Trail Plan/EA were sent to thirteen potentially -interested tribes on May 14, 2013. There are no federally- recognized tribal affiliations with the park.

Public and agency comments and further review by park staff resulted in no changes to the NPS Preferred Alternative or the impact analysis presented in the Trail Plan/EA. Responses to the public comments are provided in Attachment B.

Finding of No Significant Impact

The NPS has selected Alternative B, the Trail Development Alternative, for implementation. The selected alternative is described on pages 10- 22 of the Trail Plan/EA. The selected alternative will not have a significant effect on the human environment. 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 selected alternative 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 action and thus will not be prepared.

Recommended: Patricia Kicklighter 5-22-13
Patricia Kicklighter, Superintendent Date
New River Gorge National River
National Park Service

Approved: Dennis R. Reidenbach 5/28/13
Dennis R. Reidenbach, Regional Director Date
Northeast Region
National Park Service

Attachment A

Standard Operating Procedures for Trail Development

From Appendix A of the Trail Development Plan Phase One: Through Park Connector; Northern Half, River-Left Environmental Assessment

The 2011 Hike/Bike Trail Plan (NPS 2011b) proposed design and construction techniques, trail classifications (easiest, more difficult, most difficult), and methodologies and mitigation measures that provide protections for soils, streams and water resources, vegetation, wildlife and cultural resources when laying out, designing and constructing trails. These techniques, classifications, methodologies and mitigations proved effective in the implementation of the actions proposed in the 2011 Hike/Bike Trail Plan, and would be treated as standard operating procedures (SOPs) in this plan/EA. The park would adopt these SOPs as park-wide standards and protocols for trail development. As the SOPs are used and improved on the ground, NERI would utilize future EAs and other appropriate administrative and compliance procedures to refine them and incorporate any additional mitigations that would offer better protection for park resources during trail development.

This appendix is a reproduction of those procedures for the reader's benefit. Specific proposed actions regarding individual trails in the 2011 Hike/Bike Trail Plan have been deleted from this reproduction.

Procedure for Determining the Best Trail Route From pages 35 – 38 of the 2011 Hike/Bike Trail Plan

For all proposed new trails, routes would be flagged on the ground, and resource surveys would be conducted along a corridor of within about 100 feet on either side of the proposed trail, creating about a 200-foot survey corridor.

Mitigations to Protect Soils, Streams and Water Resources

Riparian areas and ruts in old road traces that have filled with water and serve as habitats for wetland plants and amphibians would be avoided during design and construction of proposed new trails. Where trails must cross perennial and intermittent streams, a bridge or bottomless culvert would be used to reduce the possibilities of erosion and interference with aquatic invertebrates. Crossings of ephemeral channels would be minimized, and where they are necessary, the trail should cross perpendicular to the channel direction.

During construction, some side casting of soils would be appropriate where there are no streams. On steep slopes, side casting would be limited, as it could create a future hazard for erosion and possibly safety. Construction occurring near streams would include measures that minimize or prevent loose soils from entering the waterways. Additionally, as much as possible, the duff layer removed to construct the trail tread would be preserved intact and replaced on any areas where soils have been cast. Often, plants in the duff layer are able to continue growing in their new location, reducing the opportunity for side-cast soils to erode and mitigating the visual effects of trail construction.

Where trail alignments use existing road and railroad traces or mine benches, hydrology could be improved through trail construction. In many places, streams have been captured by ruts in the roads and benches, and rerouted from their natural course. On benches in particular, streams that have been captured and rerouted threaten the structural integrity of the bench, and flood events can often cause these sections of mine bench to slough off the hill as landslides. Where these situations exist along trail alignments, a component of trail construction would be to restore the streams to their original flow locations, or to develop features that route water downward rather than along a contour line, reducing landslide hazards and improving the structural integrity of the trail.

Mitigations to Protect Vegetation

Rare Plants. Known rare plants would be avoided during design and construction of proposed new trails. Once proposed trail routes are flagged, rare plant surveys would be conducted within the survey corridors. If surveys reveal that the proposed trail route encounters a rare plant or plants, the trail would be moved to a different location, preferably within the survey corridor, as other resource surveys would occur within a similar corridor. If a reroute beyond the survey corridor is necessary to avoid rare plants, concurrence among resource specialists for vegetation, wildlife and cultural resources would be needed to approve the new altered route.

Where possible, rare plant surveys would occur in both the early and late phases of the growing season, roughly in June and August. To conduct two seasonal surveys would be preferred because the vegetative stages of the many plants growing in West Virginia differ greatly over time, resulting from variables such as species, elevation, aspect and moisture gradient. For example, August survey work might identify sunflowers that are not visible in May or early June, while many species of the lily family are growing during a short period in the spring and would not be detectable in August. All proposed trails would, at a minimum, be surveyed during one of the recommended seasons.

Rare Plant Communities. Known rare plant communities would generally be avoided in the design of proposed new trails. These communities include forest seeps and riparian communities, as well as both the top and the bottom of cliffs, as cliff ecosystems tend to support globally rare vegetation communities. Generally, no trail would be placed closer than about 200 feet from any boundary of a mapped Cliff Top Virginia Pine Forest. Exceptions to avoidance of cliff top vegetation communities would be made for a limited number of vistas comprising short trail segments running out and back from overlooks, but not running parallel to cliff edges through cliff top vegetation communities.

Non-Native and Invasive Plant Species. Invasive plants within a 50-foot corridor on either side of the center line of proposed trails would be treated during construction using mechanical methods to control the further spread of exotic plants. Depending upon the season of trail construction, greater care may need to be taken with certain species to avoid seed dispersion during removal.

Mitigations to Protect Wildlife

Wildlife surveys targeting key habitat of species of concern would be conducted by the park wildlife biologist within the survey corridors. If surveys reveal that the proposed trail route encounters key habitat, especially for bats and Allegheny woodrats, the trail would be moved to a different location, preferably within the survey corridor, as other resource surveys would occur within a similar corridor. If a reroute beyond the survey corridor is necessary to avoid these habitats, concurrence among resource specialists for vegetation, wildlife and cultural resources would be needed to approve the new altered route.

Bats. Protected bat habitat includes abandoned mines, trees and snags (dead standing trees). For both protection of bat habitat and for visitor safety, the NPS would seek to route proposed trails away from mine portals. Where the best option for a trail is a location near a mine opening, the portal would be gated with a bat-friendly design.

Because trees, including snags, of a size greater than or equal to five inches diameter breast height (≥ 5 " DBH) could serve as bat habitat, particularly those with exfoliating bark, hollows or crevices, the NPS would design trails so as to minimize the need to remove them, avoiding these trees where it is feasible. The project areas are forested, and the NPS predicts that an estimated ten of these trees per mile of new trail would need to be removed to accommodate sustainable trail alignments. Prior to the removal of these trees, they would be inspected and approved for removal, on a tree by tree basis, by resource specialists, regardless what time of year they would be removed. Trees ≥ 5 " DBH that need to be felled for trail construction would be removed between November 15 and March 31. The park adopted these dates for tree clearing so as to coincide with Indiana bat hibernation. The dates and tree size specifications originated from guidance for surface mining activities and are the tree clearing dates required for areas with underground mines where Indiana bats have been recorded (USFWS et al. 2009). Cutting during this time reduces the impact to all locally-present bat species and breeding birds.

Allegheny Woodrats. Allegheny woodrat habitat includes boulder fields, cliff bases (including bases of mining high walls) and mine portals. Trails going to or through woodrat habitat facilitate mammalian predator movement into woodrat home ranges, exposing them to increased predator pressure and pathogen exposure. Trails in woodrat habitat also create areas denuded of vegetation that further increase their vulnerability to predation when traversing the area. For these reasons, the NPS would design trails to avoid, as much as possible, Allegheny woodrat habitat. Where the best option for a trail is a location in or near woodrat habitat, the NPS would take actions to protect woodrats as much as possible, such as gating mine portals with bat-friendly designs, which are also woodrat-friendly, or building raised features through unavoidable boulder fields, under which woodrats would be protected from view of predators.

Birds. The Swainson's warbler (*Limnothlypis swainsonii*) is listed by the West Virginia Natural Heritage Program (2007) with a ranking of S3B, meaning that it occurs in the state during breeding, and may be somewhat vulnerable to extirpation. The Swainson's warbler is a confirmed breeding resident of the park and is also listed by the park as a species of management concern. In the Appalachian Mountains, Swainson's warblers establish breeding territories in dense rhododendron thickets. Any trail through a rhododendron thicket could fragment the habitat and open it to increased predation pressures, therefore the NPS would design trails to avoid, as much as possible, rhododendron thickets.

Amphibians. Riparian areas and ruts in old road traces that have filled with water and serve as habitats for wetland plants and amphibians would be avoided during design and construction of proposed new trails.

Mitigations to Protect Cultural Resources

Known archeological and historic sites would be avoided when during trail design.

Archeological and historic resource surveys would be conducted by the park's cultural resource staff within the survey corridors. The assessment of proposed new trail routes would be based on archival research, pedestrian survey including visits to known archeological sites, and targeted shovel testing of upland landforms that have a higher potential for archeological sites (Bodor and Torp 2008, Dowdy Creek). The findings from the field work would be documented in a Phase One archeological survey report that includes restricted site location maps and state site registration forms. The pre-report findings would also be used to coordinate the avoidance of all known and potential archeological sites and to interpret historic resources. Digital data would be entered into NPS GIS databases for future planning actions. Any Native American artifacts recovered during the surveys would be accessioned and cataloged into the park's museum collection.

If surveys reveal that the proposed trail route encounters an archeological or historic site, the trail would be moved to a different location, preferably within the survey corridor, as other resource surveys would occur within a similar corridor. If a reroute beyond the survey corridor is necessary to avoid these habitats, concurrence among resource specialists for vegetation, wildlife and cultural resources would be needed to approve the new altered route.

Prior to construction, trail crews would be trained for how to recognize archeological and historic sites inadvertently discovered during construction and what to do to protect the sites. A cultural resource specialist would be roving and available during trail construction in order to mitigate any potential impacts to sites and resources discovered at that time.

Sustainable Trail Design Concepts From page 34 of the 2011 Hike/Bike Trail Plan

Sustainable trail design minimizes trail use impacts on the environment, especially as a result of erosion, and leads to a trail that requires relatively little maintenance. It also meets the needs of its users, providing fun and challenging opportunities and experiences and, through design, managing the

manner of their use and the expectations with which they approach the trail. In this way, sustainable trails also manage visitor conflicts.

Trails designed and constructed to manage the physical and social impacts of multiple user groups are the most sustainable. The ten principles or elements of sustainable trails would be incorporated into the design and construction of all proposed new trails. Trail features that mitigate for social impacts may include long sight lines so that trail users are not surprised and attributes that would slow trail users down as they approach turns and other areas where long sight lines are unavailable.

Where there is a history of OHV use in the project areas of the proposed new trails, the NPS would develop trail features that could deter or prevent this inappropriate use. Constricting features and barricades to OHV access would be constructed along the proposed trails and their access points where OHV users may illegally enter the area and use the trails, damaging the other features and designs that make the trails sustainable. These constricting features and barricades would blend in with the landscape as much as possible.

When constructing trails within previously-disturbed areas of existing informal routes, such as abandoned logging and mining roads and user-created OHV routes, it is ideal to do this on alignments and grades that inherently lend themselves to sustainable trail design principles. When these informal routes exist in locations that would not lend themselves to sustainable trail development (such as flat areas that hold water, fall lines, steep side slopes or informal routes that capture and divert water from its natural course), construction of sustainable or near-sustainable trail becomes highly resource-, material-, labor- and cost-intensive. Where proposed new trails are constructed on existing informal routes, the NPS would make every effort to incorporate the design and features necessary to make the trails as sustainable as possible.

Ten Elements of Sustainable Trail Design and Construction From Appendix A, pages 169 – 170, of the 2011 Hike/Bike Trail Plan

A rolling contour trail is the most sustainable trail design, and it follows ten main principles that manage both erosion and visitor experience.

1. **Trail Location** – The most sustainable trails are located along sidehills, which makes water drainage easier than it is for trails located on flat ground. Trails on sidehills also keep users on the trail and prevents trail widening.
2. **Trail Alignment** – Sustainable trails traverse slopes rather than directly ascending a hill side. A trail following the shortest route up a hill is called a fall-line trail, and such trails create pathways for water that result in erosive gullies through the tread of the trail. A trail traversing a slope allows for sheet runoff of water, which is more diffuse and causes considerably less erosion and no creation of gullies.
3. **The Half Rule** – At almost no time should the grade of the trail exceed half of the grade of the sidehill on which it is located. When the trail grade is greater than this figure, the easiest path for water to follow will be along the trail tread, causing gullies, rather than running off the side of the trail tread in a more diffuse sheet. Exceptions to the half rule occur, particularly when soils in the location of the trail are prone to erosion, in which case the maximum sustainable trail grade may be considerably less than half of the grade of the sidehill. Also, except in rare situations, the grade of a trail should never exceed 15 percent.
4. **Sustainable Grade** – For an entire uphill section of trail, the overall average grade of the trail should generally be ten percent or less. This number can fluctuate somewhat, depending on local conditions and needs, but applying this limitation to trail grade can slow both water and

trail users, thereby decreasing the impacts of erosion and the potential for trail user conflicts, as well as increasing trail user safety.

5. **Grade Reversals** – A grade reversal, also known as a grade dip or drainage dip, is a brief change in elevation where the trail drops subtly before rising again. Frequent grade reversals create miniature watersheds along the trail that encourage water to exit the trail at low points before it can gain speed and momentum, thereby causing erosion. These small watersheds also mean that problems on one part of the trail are unlikely to affect any other part of the trail. Grade reversals also make a trail more interesting to trail users, breaking up long uphill climbs, slowing long descents and providing variety and fun elements, like whoop-de-dos.
6. **Outslope** – Sustainable trails should be built, as much as possible, with a slight tilt (about five percent) of the trail tread toward the low side of the trail. This ensures that water runs in diffuse sheets off the trail and down the sidehill. Where outslope is difficult to maintain (often due to loose soils) or intentionally constructed otherwise (such as with banked turns, which are insloped), frequent grade reversals become more critical in order to prevent water from flowing long distances along the trail.
7. **Adaptation to Soil Texture** – Sustainable trails are designed with the local soils in mind. Develop the trail and its features based on the soils' qualities of drainage, cohesion and durability.
8. **Minimization of User-Caused Soil Displacement** – Soil shifts on any trail from use, but can be more substantially displaced in poorly-designed sections of trail, such as abrupt corners and sharp hills where trail users are making fast adjustments in speed and force. Designing a trail with consistent flow that prepares trail users for what is ahead of them, insloped turns that help trail users to maintain their speed and stay on the trail tread, and tread hardening where a trail might be especially susceptible to damage will all minimize soil displacement. Additionally, these features provide for a more fun and safe trail experience while keeping users within the intended trail tread.
9. **Prevention of User-Created Trails** – Sustainable trails provide a more desirable user experience than user-created routes or traveling off-trail. Such trails have a stable and predictable surface, stay away from areas in need of protection, go to appealing destinations and provide a sought-after experience.
10. **Maintenance** – Sustainable trails require considerably less maintenance than trails that are not designed following sustainable design principles. However, they do require some maintenance, the goals of which remain the same as the initial design and construction: keep users on the trail, move water off of it.

Developed from *Managing Mountain Biking: IMBA's Guide to Providing Great Riding* (Webber 2007)

Trail Classifications

From pages 34 – 35 of the 2011 Hike/Bike Trail Plan

Proposed new and existing trails would be assessed and signed for classifications that alert users to the difficulty of the trail. Table A-1 describes general guidelines for how these classification determinations would be made. New trails would be designed and signed so that trail users could expect alignments, grades features and challenges that are consistent throughout a particular segment of trail that they enter from an intersection or trailhead. Because the specifications for trail classifications are considered guidance rather than restrictions, it is possible, for example, that a backcountry area may have an Easiest trail segment, provided that the segment is built in accordance with backcountry trail standards and the terrain and route naturally lend themselves to the skill level of a novice trail user.

Table A-1. Trail Classification Specifications

	Easiest	More Difficult	Most Difficult
Symbol	Green Circle	Blue Square	Black Diamond
Active Tread Width	30-36 in.	20-24 in.	12-18 in.
Unavoidable Natural Obstacles	2 in. tall or less	8 in. tall or less	15 in. tall or less
Trail Features	Firm trail surface. May include rock surfaced sections.	May also include steps, stairs and steep/exposed sections.	May also include steps, stairs and significantly steep/exposed sections.
Average Trail Grade	5% or less	10% or less	15% or less
Maximum Trail Grade	10% or less	15% or less	15% or more
Suitable Location	Frontcountry only	Frontcountry or Backcountry	Frontcountry or Backcountry

Attachment B

Comments/Responses

Trail Development Plan Phase One: Through Park Connector; Northern Half, River-Left Environmental Assessment

The NPS received a total of fourteen public comments and letters from the USFWS, WV DNR, and the WV SHPO during the public review period of the Trail Development Plan and Environmental Assessment. Several of the comments received raised concerns that do not affect the selected alternative or impact analysis in the Trail Plan/EA, but warrant a response. These comments are summarized with comment statements and responses below.

Comment Statements/Responses

One comment pointed out that the text in Section 2.2.4 Line 43 encourages visitors to wash their bikes, shoes and other gear before and after using park trails in order to prevent the spread of invasive weeds along trail corridors and asked if there would be a way to wash bikes on site and how visitors would know of these requirements.

The NPS would continue to encourage washing before and after visits through interpretive media and trailhead signage but no washing facilities are planned at either the proposed or existing trails and trailheads.

One comment suggested extending the Whitney Trail further downstream.

The NPS did consider this action, as noted on page 23 of the Trail Plan/EA, but called this trail segment the Bachmann Trail and will address this concern in a future trail development plan.

Several comments were received suggesting new and additional trail developments that were not included in the current Trail Development Plan. One comment suggested an extension to the Arbuckle Connector that crosses Arbuckle Creek and ties in to an existing trail on adjacent private property. One comment suggested extending the Wolf Creek Trail upstream and connecting the Fayetteville and Kaymoor trails. One comment suggested adding trails in the Cunard area that connected it to the Kaymoor Trail and crossed the New River to connect it to the Babcock area. Another comment suggested extending the Through Park Trail downstream through the New River "Dries" all the way to Cathedral Falls, which is well outside the park boundary.

These new trail ideas are currently beyond the scope of the current Trail Plan/EA but some may be considered in future trail planning efforts. A trail crossing Arbuckle Creek will likely require construction of a bridge, which requires engineering, project funding, and agreements with the land owner, all of which are actions beyond the scope of this project. There are sensitive habitats and long-term monitoring plots in the Wolf Creek drainage. The Cunard area trails, and especially the one requiring a bridge across the New River, would require additional evaluation. Finally, the NPS is currently working with partners to plan for trail segments that could connect the NPS Through Park Trail to the New River "Dries" area outside the park boundary.

Attachment C

Non-Impairment Determination

Trail Development Plan Phase One: Through Park Connector; Northern Half, River-Left Environmental Assessment

By enacting the NPS Organic Act of 1916 (Organic Act), Congress directed the U.S. Department of Interior and the NPS to manage units "to conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such a manner and by such a means as will leave them unimpaired for the enjoyment of future generations" (16 USC § 1). Congress reiterated this mandate in the Redwood National Park Expansion Act of 1978 by stating that NPS must conduct its actions in a manner that will ensure no "derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress" (16 USC 1a- 1).

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 Nation 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.

The NPS has discretion to allow impacts on Park resources and values when necessary and appropriate to fulfill the purposes of a Park (NPS 2006 sec. 1.4.3). However, the NPS cannot allow an adverse impact that would constitute impairment of the affected resources and values (NPS 2006 sec 1.4.3). An action constitutes an impairment when its impacts "harm the integrity of Park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values" (NPS 2006 sec 1.4.5). To determine impairment, the NPS must evaluate "the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts" (NPS 2006 sec 1.4.5).

This determination on impairment has been prepared for the selected alternative described in this FONSI. An impairment determination is made for all resource impact topics analyzed for the selected alternative. An impairment determination is not made for visitor use, experience, access and safety or park operations, facilities and maintenance 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.

Impairment Determination for the Preferred Alternative: Implementation of the selected alternative will not result in impairment of park resources or values. NPS bases this conclusion on a thorough analysis of the environmental impacts described in the Trail Plan/EA, relevant studies and the professional judgment of the decision-maker guided by the direction in NPS *Management Policies 2006*. The analysis did not identify any major adverse impacts that would result from implementation of the selected alternative. All adverse impacts were negligible to moderate in intensity.

Vegetation: Including Common and Rare Plant Communities, Rare Plants, Threatened and Endangered Plant Species and Non- Native Invasive Plant Species

Analysis of the preferred alternative demonstrates that the actions proposed could result in overall local, long-term, minor, direct and indirect adverse impacts in areas of new trail construction. Development of the proposed trail segments of the Through Park Connector will result in negligible to minor adverse impacts on vegetation that are mainly localized to the area immediately adjacent to the trail and will persist for the life of the trail. In the McCreery Trailhead and Pipers Branch project areas, the proposed actions will be beneficial by directing use away from rare plant communities and habitats. The proposed Bridge Buttress Trail Extension will result in minor, localized, adverse impacts to vegetation as a result of trail development; e.g., loss of vegetation from construction and small areas of trampling due to visitor use; but there will also be some potential for beneficial impacts by directing visitor use away from sensitive plant communities and habitats. Developing guidelines for the development of park trails that connect to trails on lands not owned by the NPS will result in negligible changes beyond existing adverse impacts of current management, associated with the potential for spread of invasive plant species along trail vectors. Development of the proposed trails will contribute an imperceptible increment to overall cumulative impacts to vegetation in the park. The NPS determination for the proposed actions in the Trail Development Alternative is *No Effect* for federally listed plant species. Because all adverse impacts were identified as localized and minor at most and will not result in forest fragmentation or the loss of key species important to the natural integrity of the park, the project does not result in an impairment of vegetation.

Wildlife and Habitat: Including Threatened and Endangered Species and Species of Concern Related to the Actions Proposed

Analysis of the preferred alternative demonstrates that the actions proposed will result in minor localized adverse impacts to amphibians, negligible adverse impacts on federally designated threatened or endangered species (bats, including non-listed bats), negligible adverse impacts on Allegheny woodrats and minor to negligible adverse impacts on neotropical migratory birds. Because NPS determined that all adverse impacts will be localized within the project areas, minor at most, and will not result in the loss of species or habitat important to the natural integrity of the park and enjoyment thereof, the project does not constitute an impairment of wildlife or habitat.

Soil Conditions, Streamflow Characteristics and Water Quality

Analysis of the preferred alternative demonstrates that the actions proposed for trail segments of the Through Park Connector will result in negligible short-term (from construction activities) and long-term (from use of the trail tread) adverse impacts to soil conditions, streamflow characteristics and water quality. Improvements in the Arbuckle Connector Trail will be beneficial for soils and water quality by reducing erosion. Because NPS determined that

the adverse impacts were negligible or beneficial and will not affect the park's fundamental resources and values, the project does not constitute an impairment of soil conditions, streamflow characteristics, or water quality.

Prehistoric and Historic Archeological Resources, Sites and Structures

Analysis of the preferred alternative demonstrates that the actions proposed will include mitigations to route trails away from known cultural sites, will develop a more sustainable route to improve the Arbuckle Connector Trail, and will likely result in no or negligible adverse impacts to prehistoric or historic archeological resources. Because the adverse impacts were determined to be negligible at most and will have no adverse effect on the park's cultural resources and values, the project does not constitute an impairment of cultural resources.