The National Park Service (NPS) uses general management planning to establish the resource conditions and visitor experiences that should be achieved and maintained by a specific unit of the National Park System over time. The purpose of the proposed federal action described in this Final General Management Plan/Environmental Impact Statement is to provide a clearly-defined direction for resource protection and visitor use at Big South Fork National River and Recreation Area for a period of 15-20 years. Three alternative management approaches and a no-action alternative are analyzed in this document.

Alternatives A and B each present a general management framework using three different types of management zone (i.e., Primitive Recreation Unit, Backwoods Recreation Unit, and Enhanced Recreation Unit). Alternatives A and B differ principally in the way that they configure the zones across the landscape. Alternative C is the no-action alternative.

Alternative D is the NPS Preferred Alternative. Alternative D would use more zones in more areas in order to provide more strategic management direction for resources and visitor use. Overall, the scale and level of development would remain roughly the same under this alternative as currently exists, with additional facilities proposed primarily in the southwest portion of the National Area, where lands have been more recently acquired and designated facilities have not yet been built.

The three action alternatives identify development possibilities for numerous sites within the National Area. In addition, each of the alternatives contains information on the possible location of various roads and trails. Alternative D would constitute the official roads and trails system for the National Area.

The institutional framework of law and policy is discussed, and an environmental evaluation of the alternatives is provided. This document is a programmatic treatment of proposals, with additional more detailed planning and compliance documentation to be accomplished as needed at the time of implementation.

This is the first General Management Plan prepared under National Park Service policies and procedures for Big South Fork NRRA.

Comments on this document should be sent:

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SUMMARY

This Final General Management Plan/Environmental Impact Statement for Big South Fork National River and Recreation Area (NRRA or National Area) provides the first comprehensive framework plan prepared according to NPS policies and procedures. It provides a current overall plan for the area. Previously, the National Area operated along the lines of a 1981 Master Plan prepared by the US Army Corps of Engineers, plus specific plans prepared since jurisdiction was transferred to the National Park Service (NPS) in 1990.

The Final General Management Plan/Environmental Impact Statement examines and reaffirms Congress' purpose and direction for the National Area. It identifies the management requirements placed on the National Area as a unit of the national park system. The plan then considers different alternatives for managing the National Area along with an environmental evaluation of the alternatives. A no-action alternative is included for comparison. Development sites, roads, and trails within the National Area are examined.

Out of three preliminary alternatives presented to the public prior to the issuance of the first draft plan, two were chosen for evaluation in greater detail and the third was dropped due to its higher development level. The two remaining alternatives, Alternatives A and B, provided general zones for management guidance and some additional detail on selected development sites. Alternative A represented a somewhat less developed concept than Alternative B.

In addition to Alternatives A and B identified in the first draft plan, a new, more detailed alternative was presented in a Supplemental Draft GMP/EIS. This new alternative, Alternative D, was the NPS' preferred alternative in the Supplemental Draft. Now revised based on public comment and additional internal review, Alternative D is the Preferred Alternative in the Final GMP/EIS. Under the Preferred Alternative, more localized areas are identified for different zone types, with particularized management prescriptions. A greater degree of guidance for resource management and visitor use would be achieved. This guidance is augmented with information, proposals, and alternatives for development of facilities, including roads and trails. Many existing facilities are reaffirmed as appropriate for inclusion in an official system; a number of new facilities are proposed to fill gaps and to provide for areas more recently acquired; and some existing facilities would be removed. Overall, the development level and types of facilities proposed over the planning horizon of 15 to 20 years would remain essentially the same. Special provisions are included for hunting access and for off-road vehicles. All routes proposed for use by off-road vehicles would be designated, according to Executive Order.

Development and rehabilitation of various sites and facilities would have short-term, localized resource impacts that would occur sporadically over time. Planning and design measures, including mitigation, would be included to minimize these impacts.

Special projects, including management of oil and gas activities, reclamation of contaminated mine drainage, native species management, cultural landscape identification and management, and increased monitoring, would be continued or initiated. Interpretation of National Area resources would be increased and become more focused through completion of comprehensive interpretive planning.
Changes to the Supplemental Draft General Management Plan

In January 2003, NPS released a Supplemental Draft General Management Plan and Environmental Impact Statement for the National Area. The Supplemental Draft generated a total of 171 comments from the public. Based on these comments and additional internal review by NPS staff, a number of changes have been made to the Preferred Alternative of the Final General Management Plan/Environmental Impact Statement. The most important of these changes are summarized below.

The final GMP:

- Combines the “seasonal access” trail-type with the multiple-use trail category to create a single designation. Most trails listed as “seasonal access only” in the Supplemental Draft have been converted to year-round multiple-use trails. These trails are open to 4-wheel drives, 2-wheel drives (where the route allows), horses, mountain bikes, hikers, and, during big game season only, ATVs (when used by licensed hunters). Some short seasonal access routes in the draft plan have been removed from the official roads and trails system. However, the total number of trail miles available to multiple uses remains virtually unchanged under the final plan: 49 miles in the final plan (multiple-use trails) vs. 48 miles in the Supplemental Draft (seasonal access routes plus multiple-use trails).

- Provides additional opportunities for mountain bikes. The final plan will:
  - Allow bicycling on the existing connector trail from the National Forest Sheltowee Trace Tr. -> Divide Rd (development map 4: trails ST-35, JMT-51, and JMT-50). This short connector would enable bikers to ride the loop that includes Divide Road and the portion of the Sheltowee Trace Trail on the National Forest.
  - Allow bicycling on Cat Ridge, Long Trail North, and the Kentucky Trail (development map 3: trails LTN16, KY-28, LTN-28, KY-39, KY-27, KY-71, and KY-26), so that cyclists could complete a circuit that includes Bald Knob – Hill Cemetery Road and Laurel Ridge Road. This loop would have a high degree of challenge and may need some physical modifications prior to being a fully functional bike circuit.
  - Allow bicycling on Rock Creek Trailhead -> John Muir Trail -> John Muir Overlook -> Chestnut Ridge Trail (development map 4: development site 4; trails 33, JMT-50, JMT-15, 3 and 4), to create a loop that includes Divide Rd. This route is already suitable for bicycle use.
  - Adds language stating that if the Monday-Friday “experiment” is successful on Grand Gap Loop, NPS would consider allowing bikes on the following two trails, also on a Monday-Friday basis:
    - John Muir Trail (development map 7: trails 10 and JMT-20). This would allow a cycling loop that includes Alfred Smith Rd. -> John Muir Tr. -> Duncan Hollow Rd.
• Angel Falls Trail (development map 7, trail 3; development map 8, trail 1).

Makes the following changes in the Darrow Ridge area (Development Map 10):

• Opens Little Cliff Trail to horses and bicycles
• Designates the following as multiple-use trails to allow equestrian use: Darrow Ridge Road (eastern portion), Christian Cemetery Road, Little Cliff Road (to gorge closure), and Upper Panther Branch Road
• Changes the road standard for Darrow Ridge Road (western portion) to “2-lane paved”
• Designates John Hall Trailhead for horses and hikers as a second access to the Darrow Ridge Horse Trail

Makes the following changes in the Hurricane Ridge/Big Woods area (Development Map 8):

• Adds the Hurricane Ridge Trail. Part of this trail is designated as a multiple-use trail; the remainder is a designated horse trail
• Includes the Long Ridge Trail on the development map. (This trail was inadvertently omitted from the map in the Supplemental Draft.)

The foregoing changes will not result in any environmental impacts not previously analyzed in the Supplemental Draft GMP.
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CHAPTER ONE

Purpose And Need For The Plan
PURPOSE AND NEED FOR THE PLAN

Purpose of the General Management Plan

A General Management Plan is required by law for every area administered by the National Park Service (NPS). The purpose of the plan is to ensure that each NPS area has a defined direction for resource preservation and visitor use. The General Management Plan focuses on why the area was established and what resource conditions and visitor experiences should be achieved and maintained over time. The plan takes a long-term view and is updated as conditions change, about every 15-20 years.

General management plans consider an area’s mission, or purpose, and provide management prescriptions, which include desired resource conditions and visitor experiences for all the different portions of a NPS-administered area. As a general rule, specific sites and facilities are not included in general management plans. However, in the present General Management Plan specific sites and facilities are considered in some detail because the public expressed a desire for more information about future area management.

Need for the General Management Plan and Background of Public Involvement

For this first NPS General Management Plan for Big South Fork National River and Recreation Area, there needs to be a clarification and reaffirmation of what must be achieved in the National Area. These requirements are based on the legislative purpose of the National Area, its significance, any special legislative mandates, administrative commitments, and the body of laws and policies directing management of all areas administered by the NPS. These requirements are discussed in Chapter Two, Required Management—The Institutional Framework.

The process of formulating management alternatives is documented in Chapter Three. Chapter Four identifies the affected environment, i.e., those elements of the natural and cultural environment that would potentially be affected by implementation of any of the alternatives. Identification of potential environmental consequences of the alternatives is discussed in Chapter Five.

Throughout the planning process, the public expressed interest in numerous issues, broadly categorized below.

- Certain visitor uses and facilities in certain locations
- More (or less) of a certain type of use
- More (or fewer) visitor facilities
- Conditions and standards for trails
- Impacts caused by certain types of uses
- Appropriate levels of use
- Past uses of the area by local residents
- Use of the O&W railbed
- Undeveloped, roadless areas for solitude
- Visitor impacts on the economy
- Historic landscape restoration and interpretation
- Ecosystem management
- Native species restoration
- Hunting opportunity
- Water quality problems
Upon consideration of the overall planning task by the public and the NPS, the following questions were raised that had been addressed only generally in the February 2000 draft. These questions are addressed more specifically in this final GMP:

- What resource management strategies would support the achievement of the National Area’s purpose and maintain its significance?

- What visitor experiences are appropriate in the National Area to allow visitors to enjoy and appreciate the area’s attributes and to permit healthful outdoor recreation?

- How do the many and differing requirements pertaining to the gorge and plateau affect planning for the National Area?

- Where should recreation use and facility development occur and what kinds and levels are appropriate?

- What should the official system of roads and trails include?

The public was initially engaged by the first of a series of newsletters distributed in May 1997 to an extensive mailing list of elected officials, agencies, organizations, and individuals. Names were added to the mailing list as people became aware of the planning effort, and the list currently has nearly 500 entries. The newsletters were used to explain the planning process, discuss various influences on that process, announce public meetings, report back to the public what issues and comments had been received at the various meetings, and provide ideas for comment. Newsletters were also made available at local community gathering locations at the suggestion of a National Area employee. They were also posted on the National Area’s web site.

During the early months of the process, numerous officials, agencies, and organizations were sent the first newsletter as well as a letter announcing the process and requesting identification of issues that should be included. These efforts were supplemented by those of National Area staff members, who made local contacts at regular meetings held by community and service organizations.

In June 1997, nine public meetings ("scoping meetings") were held in locations ranging from Knoxville to Murfreesboro and including the surrounding local Kentucky and Tennessee area to inform people of the planning process and to invite comments on planning issues. Five public meetings were held in four local and regional locations in November and December 1998 to discuss ideas for alternatives. Another series of six meetings was held over a two-week period at local and regional locations in April 2000 to receive comments on the first official draft plan and also to discuss what was then to be a separate planning effort for National Area roads and trails. Comments were received at the meetings and afterward in response forms, letters, and electronic mail.

In addition to these meetings, NPS undertook a targeted effort during this period to obtain the views of the general public. NPS wanted to hear from others in the local area who might not have been included in, or taken advantage of, the normal NPS public involvement methods. NPS contracted with the University of Kentucky to gather information in the surrounding counties using ethnographic study techniques to identify the preferences and concerns of these people. Participation in the effort was well received, and common themes
appearing in the conversations, interviews, and focus groups reflected and corroborated the substance of comments NPS received through other means.

Largely as a result of these efforts, NPS decided to prepare a supplemental draft GMP/EIS. Faced with the need to gather more information for a supplemental draft document, NPS entered into an intensive data collection effort. This took two forms, a public effort and an internal effort. In order to supplement information gained during preparation of the first draft, focus groups were established consisting of different user group representatives and representatives of the local communities, including elected officials. Three groups were formed and an initial series of evening meetings was held in Stearns, Kentucky and in Jamestown and Oneida, Tennessee. Meetings were held during May and June of 2000. Following these meetings, and after a period of data collection and analysis, additional meetings of the focus groups were held in January, March, and July of 2001 at the National Area's headquarters, a central location. One of the main purposes of the groups was to identify the desirable characteristics of a road and trail system for the National Area. A summary of this discussion is included in the appendix.

The second form of information gathering was internal and involved the formation of a team of National Area personnel, consisting of specialists from each division of the organization. Other personnel were involved as needed. The initial effort of the team was to develop a basic data set of consistent information on roads and trails. A significant amount of time was invested in this effort in order to respond to the public's desire for additional detail and because of NPS' decision to incorporate roads and trails planning into the general management plan. Initial road and trail documentation required over 50 days of meetings with the team of seven staff. These data were then converted for entry into the National Area's geographic information system. Reviews, corrections, and analyses of these data and information gathered on development sites and natural and cultural resources required, conservatively, over 5,000 hours of staff time.

Regular contacts continued through meetings with groups and organizations by various members of the National Area staff that kept open the dialogue concerning the planning process and planning issues. As a result of these efforts, a Supplemental Draft General Management Plan and Environmental Impact Statement was released in January 2003. The public comment period on this document lasted until May 2003, during which time a series of four public meetings was held at locations in Tennessee and Kentucky.

The Supplemental Draft General Management Plan and Environmental Impact Statement generated a total of 171 comments from the public. (Multiple copies of identical postcards were counted as a single comment, as were petitions.) Based on a review of these comments and additional internal deliberations, NPS has revised the plan in certain particulars and approved it for publication in final form. The result is this Final General Management Plan and Environmental Impact Statement, which has long been needed for the National Area.
CHAPTER TWO

Required Management-The Institutional Framework
CHAPTER TWO

REQUIRED MANAGEMENT—THE INSTITUTIONAL FRAMEWORK

Many management requirements are placed on NPS in its administration of Big South Fork NRRA. These requirements come from two sources: the National Area's establishing legislation and the laws and policies that relate to all NPS-administered areas. It is important to understand what these requirements are because they affect the range of possibilities that may be considered in planning for the National Area.

National Area Legislation

The purpose of the National Area is stated clearly in its establishing legislation and includes all of the following. (The full text of the legislation is included in the appendix.)

- To preserve and interpret the National Area's cultural, historic, archeological, geologic, fish and wildlife, scenic, and recreational values,
- To preserve the free-flowing Big South Fork and portions of its tributaries,
- To preserve the natural integrity of the gorge,
- To provide healthful outdoor recreation for the enjoyment of the public and for the benefit of the regional economy.

This legislation also includes specific reference to the NPS Organic Act, as amended, which states the purposes of all NPS-administered units. This act and related laws are discussed under "Other Laws" below.

The area's significance, which led to its establishment, is reflected in the following statements.

- Dramatic sandstone gorges, imposing bluff lines, some of the nation's largest water-crafted arches, and other notable geologic formations are found throughout the National Area.
- The Big South Fork is a free-flowing river system, flowing unhindered by water development projects except as it enters Lake Cumberland.
- The National Area contains a wide variety of habitats with associated flora and fauna of the Cumberland Plateau in a limited geographic area.
- Large numbers and varieties of archeological, historic, and ethnographic resources, illustrating a long continuum of use, are found in the National Area, including farmsteads eligible for the National Register of Historic Places.
- National Area waters provide habitat for a world-class freshwater mussel assemblage and are an important refuge for many endangered mussel species. Few other river systems support this level of mussel diversity.
- The National Area provides a broad range of natural and cultural resource-based outdoor recreation and education opportunities.

The purpose and significance have been translated into the following National Area mission statement:

The Big South Fork NRRA provides healthful outdoor recreation while preserving the free-flowing condition of the Big South Fork and its tributaries, the scenic, natural, and cultural values of the area, and the essentially primitive condition of the gorge.
The National Area is a National River and Recreation Area. The National River designation denotes that it is centered on a free-flowing river. While it is not designated a National Wild and Scenic River, Congress included in the legislation some of the same protection from federal or federally assisted water development projects. Higher water quality and historical in-stream flows were clearly important values to be achieved and protected.

The National Recreation Area designation indicates the area is to be responsive to outdoor recreation needs, consistent with the protection of resource values. The dual designation of National River and Recreation Area and Congress' special direction regarding the gorge would indicate the concern over resource protection while still providing importantly for recreation.

Special Mandates and Commitments

The National Area legislation included very specific directions that describe what can and cannot be done within the Area. The following list summarizes the actual wording. The full text may be reviewed in the appendix.

- Hunting, fishing, and trapping are allowed in accordance with federal and state laws. Zones and periods may be established for public safety and use, fish and wildlife management, and administration.
- The National Area is divided into "gorge" and "adjacent area" (the plateau).

In the "gorge"...  
- there is no mineral, petroleum, or gas development  
- there is no timber cutting except what may be required for limited visitor facilities  
- day-use facilities and some primitive campgrounds may be constructed only within 500 feet of designated access roads  
- only primitive campgrounds may be constructed elsewhere in the gorge that are accessible only by water or by foot  
- improvements may be made only to certain historic structures  
- there is no motorized transportation except on designated access roads and certain other routes for administrative use and limited cemetery access  
- motorboats are allowed to just below Devils' Jump rapids  
- the K&T railroad may continue for visitor use  
- any construction or maintenance shall be accomplished in a manner that protects the declared values of the area

In the "adjacent area"...
- there is no surface or strip mining  
- mineral prospecting and extraction is permitted according to applicable regulations when the entrance is outside the National Area boundary  
- petroleum and gas prospecting and extraction is permitted according to applicable regulations  
- timber cutting is allowed only for public and administrative facilities  
- two lodges may be constructed  
- all road and facility construction must maintain the scenic and esthetic values of both the gorge and adjacent areas

- The historical integrity of Rugby shall be preserved and enhanced by
sensitive development and management of nearby National Area lands.

- The Blue Heron Mine community shall be restored, preserved, and enhanced for public understanding and enjoyment of its historic value.
- The abandoned O&W railbed shall be studied for possible transportation use.
- Any improvements to Charit Creek lodge or to other historic structures shall be consistent with the historic scene and the National Area's limited ability to support additional use. Charit Creek lodge improvements will be only within a prescribed area and predetermined capacity limits.
- Transportation facilities will be established to enhance public access.
- Water quality will be protected and enhanced in cooperation with others, with special emphasis on the New River watershed.

Along with these directions, specific instructions to consult with various entities were given. These included the State Historic Preservation Officers for cultural resources, the Rugby Restoration Association concerning nearby development, the states, their political subdivisions, and other federal agencies for water resource issues, and the states for wildlife and fishery resources.

As may be seen, Congress provided many detailed instructions for Big South Fork managers. Clearly, there is a resource preservation directive focused on, but not limited to, the gorge. The resource significance of the gorge is referenced more than once and the gorge is referred to in one instance as a "unique natural scenic resource." However, facility construction anywhere in the National Area must be undertaken with "careful regard for the maintenance of the scenic and esthetic values of the gorge area and the adjacent areas."
The gorge and the adjacent area cannot be managed entirely separate from one another since almost all of the adjacent area drains into the gorge and is otherwise geographically and ecologically related to the gorge.

Public use and enjoyment are also important and clearly indicated in several places. One instance refers to "developing the natural recreational potential of the area."

The NPS has commitments or understandings with certain entities concerning uses within the National Area, including state and county roads, TVA transmission lines, the US Army Corps of Engineers concerning Lake Cumberland, the US Forest Service and Tennessee concerning trail connections and other land management issues. Also important are concession contracts and incidental business permits mostly providing river use and equestrian services.

Other Federal Laws

Other laws apply to all areas administered by NPS. Congress referenced several of these in the National Area legislation. Generally, laws of general applicability direct NPS to manage its areas so that their resources and values will be preserved for the enjoyment of present and future generations. These laws include the following:

National Park Service Organic Act of 1916, as amended:

Through this act, Congress established the National Park Service and directed it to...
promote and regulate the use of the federal areas known as national parks, monuments, and reservations...by such means and measures as to conform to the fundamental purpose of said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

General Authorities Act of 1970

The Organic Act was amended by the General Authorities Act of 1970. The purpose of this act was to include all areas administered by the NPS in one national park system and to clarify applicable authorities. It recognized the diversity of NPS-administered areas, which now included seashores, lakeshores, parkways, battlefields, recreation areas, and historic sites and affirmed...

that these areas, though distinct in character, are united through their inter-related purposes and resources into one national park system as cumulative expressions of a single national heritage; that, individually and collectively, these areas derive increased national dignity and recognition of their superb environmental national quality through their inclusion jointly with each other in one national park system preserved and managed for the benefit and inspiration of all the people of the United States.

This 1970 act made it clear that the Organic Act applied to all NPS-administered units where not in conflict with a unit's establishing legislation.

Redwoods National Park Act, as amended

In the Redwoods National Park Act, as amended in 1978, Congress reaffirmed and directed that the promotion and regulation of the various units of the national park system shall be consistent with the purpose established by the Organic Act and further directed that within all NPS-administered areas the...

authorization of activities shall be construed and the protection, management, and administration (of these areas) shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established....

This legislation mandated that NPS provide the highest standard of protection to the resources it manages and may not permit activities harmful to those resources unless specifically provided for by Congress.

The above laws apply to the use and management of all types of resources and resource values and to all types of public use. The only exceptions are where Congress has specifically directed otherwise. Therefore, these laws apply to all of the resources and values mentioned by Congress in the Big South Fork legislation, i.e., geologic, biological, fish and wildlife, cultural, archeological, historical, scenic, and recreational. While Congress specifically provided for mineral development, hunting, and trapping, these activities are to be managed with careful regard for the values of the National Area.
National Environmental Policy Act

While this law did not amend any of the previously mentioned laws, it is the national charter for environmental protection. Among its provisions, this act declares that it is the policy of the federal government to “preserve important historic, cultural, and natural aspects of our national heritage.” Federal agencies are required to plan and carry out their activities in a manner that protects and enhances the quality of the environment. Analysis of the impacts of any plan or project is required. Since many issues involving environmental quality will be resolved through implementation-level planning, the planning and consultation processes begun during general management planning will continue as part of implementation planning.

There are still other laws, executive orders, and regulations that apply to all NPS-administered areas and are focused on certain resources. The primary ones are briefly discussed below.

Federal Water Pollution Control Act (Clean Water Act), as amended

Federal agencies are partners with the states in restoring and maintaining the chemical, physical, and biological integrity of the nation’s waters. Both Kentucky and Tennessee have laws and stream use classifications that address water quality protection. That portion of the Big South Fork of the Cumberland River located in Tennessee has been designated a Tier III Outstanding National Resource Water under the Clean Water Act. Water resources are a priority management issue, and NPS has recently prepared a Water Resource Management Plan for the National Area.

Endangered Species Act, as amended

This act requires federal agencies and those using federal funds to ensure that their projects and activities do not adversely affect plant or animal species that are formally listed as threatened with extinction or endangered. This includes consideration of the habitats of such species. Coordination is required with the US Fish and Wildlife Service. The National Area contains numerous threatened or endangered species. More information on these and other resources referenced in this section is located in the Affected Environment chapter.

Wetlands Protection (Executive Order 11990) and Floodplain Management (Executive Order 11988)

These orders require all federal agencies to enhance floodplain and wetland values, to avoid development in wetlands and floodplains when practical alternatives exist, and to avoid creating adverse impacts if a floodplain or wetland must be occupied or modified. Uses within the gorge involve floodplains and can involve wetlands. With the restrictions on use and development in the gorge, much of the concern that would otherwise be the case is minimized; however, compatibility with these orders must always be considered.

Invasive Species (Executive Order 13112)

This order directs all federal agencies to take steps to prevent the introduction and spread of invasive species, i.e., non-native species whose introduction does or is likely to cause economic or environmental harm or harm to human health. Several invasive species have been identified at various locations within the National Area. Strategies for
preventing their spread and for implementing environmental restoration efforts will be addressed in a separate Exotic Species Control and Eradication Plan.

*Archeological Resources Protection Act; National Historic Preservation Act, as amended; The Historic Sites, Buildings, and Antiquities Act; Protection and Enhancement of the Cultural Environment (Executive Order 11593)*

These acts and directives mandate the preservation and protection of cultural resources. Federal agencies must evaluate the significance of potentially affected resources and the effects of their actions on these resources, consulting with the State Historic Preservation Officers pursuant to a programmatic agreement. The National Area contains thousands of archeological sites and numerous historic community sites, mine sites, home and farmstead sites and structures, transportation structures, and ethnographic resources significant to people living in the surrounding community. Many of these are very important for visitor understanding and appreciation of the cultural continuum that occurred in the area.

*Clean Air Act*

The main purpose of this act is to protect and enhance the nation's air quality to promote the public health and welfare. The act also seeks to preserve, protect and enhance air quality in areas of special national or regional natural, recreational, scenic or historic value. The National Area is designated a Class II area, which is an area where the air quality is better than the applicable national standards and there is allowed a moderate increase in certain air pollutants, but only as defined to prevent significant deterioration. Specific projects may need to be coordinated with the state air quality agency to determine if a state permit is required and if they are consistent with the state air quality plan.

*Federal regulation 36 CFR 9B—Non-federal oil and gas development*

This federal regulation controls all non-federal oil and gas development activities within any unit of the National Park System where access is on, across, or through federally owned lands and waters. All operations plans are reviewed and approved by NPS. Large areas of the National Area (in the adjacent area, as provided for by Congress) are affected by non-federal oil and gas activities and these activities restrict availability of these areas, in part, for visitor use. There is also potential for resource impact.

*Executive Orders 11989 and 11644—Use of Off-Road Vehicles on Public Lands*

These orders direct federal agencies to regulate off-road vehicle use (i.e., use by “off-highway vehicle,” which term includes all-terrain vehicles (ATVs), 4-wheel drive vehicles, and motorized dirt bikes) to minimize damage to soil, watershed, vegetation, wildlife, and other resources, and to minimize conflicts with other recreational uses, taking into account noise and other factors. All use of ORVs, or OHVs, is only to occur on trails or areas specifically designated for such use by special regulation, which becomes part of the Code of Federal Regulations. The test for permitting such use is no adverse impacts on the area’s natural, cultural, and scenic, and esthetic values, after consideration of other visitor uses. OHV use is popular in the National Area and, since they are motor vehicles, is limited by legislation to the adjacent area, or plateau.
**Americans with Disabilities Act**

Under this act, along with the mandates of the Architectural Barriers Act and the Rehabilitation Act, federal facilities, services, and programs would be as accessible as feasible to disabled visitors. NPS policies indicate the degree of accessibility in any area would be proportionate to the extent it has been developed and its visitation levels, allowing for resources to be protected and a high quality visitor experience to be maintained. Specific implementation is addressed in detailed project and program planning.

**State Laws**

There are several legislatively based programs that apply to resources in the National Area. The portion of the Big South Fork of the Cumberland River from the state line to the Blue Heron mine has been designated a Wild River under Kentucky's Wild Rivers program, which protects rivers for recreation, esthetics, and scientific pursuits. Under Tennessee's Natural Areas program, which preserves areas possessing ecological, scenic, recreational, scientific, and educational values, the Twin Arches and Honey Creek areas have been designated as component units, preceding the establishment of the National Area (see Tennessee Natural Areas Preservation Act of 1971 [T.C.A. §11-1701 et seq.] and implementing regulations). Also, the two states have natural heritage programs, which are concerned with the identification and preservation of biodiversity, including species declining on statewide bases. Water quality classifications by the states apply to waters within the National Area.

**National Park Service Policy**

NPS policy provides a framework and direction for management decisions. Agency policy has its basis in law and provides specific guidance for agency activities and programs. Adherence to policy is required unless specifically waived at the national level. The following statements are rooted in policy and are worded to indicate application to the National Area.

**Water Environments, Quality, and Quantity**

- The flows of the Big South Fork and its tributaries within the National Area exhibit the characteristics of natural free-flowing streams and historical flow distributions.
- Natural aquatic, wetland, and riparian environments exist in which natural physical, chemical, and biological processes function healthfully.
- Aquatic systems support sensitive native indicator species.
- Natural hydrological processes continue to shape the landscape of the National Area, periodically flooding the bottomlands in a dynamic process of erosion and deposition.
- Surface waters provide high quality fishing and swimming and are consistent with the Clean Water Act and other applicable laws and regulations.

**Air Quality**

- The air quality within the National Area supports objectives for healthful visitor use, enjoyment of scenic vistas, and the preservation of natural and cultural resources and is, in general, in compliance with the requirements of the Clean Air Act and state air quality plans.
**Geology and Soils**

- Natural processes continue to shape the National Area’s uplands and gorge.
- Erosional features of the National Area, such as the canyons and arches, exist in a natural condition and setting.
- Natural soil resources and soil formation processes are preserved and protected and unnatural erosion is minimized.
- Mineral development conforms to applicable laws, regulations, policy, and National Area legislation.

**Plants**

- Natural processes are occurring that perpetuate native plant life as part of the natural ecosystem of the National Area.
- Succession of the native plant communities of the National Area is occurring through natural species interaction and the removal of exotic species.
- Groves of old growth trees are identified and protected.

**Animals**

- Native animal life is self-perpetuating and the natural ecosystem is being protected.
- Non-native animals are managed to minimize impacts on the natural ecosystem.
- Hunting, fishing, and trapping are allowed for recreation and occur consistent with federal and state laws and regulations.
- Cooperative arrangements are in place concerning management of species of concern.

**Endangered and Threatened Species**

- All federally listed threatened and endangered species within National Area boundaries along with their critical habitats are identified and protected. Visitor access to critical habitats is controlled where necessary. NPS is cooperating in the protection and enhancement of species of concern listed by the states.

**Cultural Resources**

- Pending planning decisions, cultural resources are protected and preserved in their existing condition.
- Archeological sites are being protected and further deterioration is being slowed to the extent possible.
- Routine park operations are not intruding on sites or structures unnecessarily by introducing incompatible visible, audible, or atmospheric elements. New facilities do not adversely impact and are compatible with the resource.
- Condition and use are being monitored and use is being regulated.
- Resources are being used as they were historically or in new or adaptive ways that maximize the retention of historic materials, features, spaces, and spatial relationships.
- Cemeteries and other burial areas have been documented and are being managed according to specific plans.
- The National Area’s museum collection is protected and is being used to aid visitor understanding and the advancement of human knowledge.
- Cultural landscapes meeting National Register of Historic Places criteria are identified and preserved.
Use and Development

- Visitors are pursuing inspirational, educational, and recreational activities related to the special environments found in the National Area and use is safe, lawful, and consistent with the National Area’s purposes and values.
- Use of the National Area is enjoyable, is consistent with the protection of resources, and is compatible with other visitor uses.
- Interpretive programs instill understanding and appreciation for the National Area and its resources and provide information necessary for visitors to safely and appropriately use the National Area.
- NPS provides facilities that are required for visitor enjoyment and that are harmonious with and avoid significant impacts on National Area resources.
- Facility development sites are limited to the smallest feasible area, are consistent with environmental limitations and conservation practices, and include appropriate mitigation measures.
- National Area facilities are esthetically pleasing, functional and safe, and as accessible as possible to all segments of the population.

Having discussed the background and framework for general management planning in the National Area, the discussion of alternatives follows.
CHAPTER THREE

Alternatives, Including The Proposed Action
CHAPTER THREE
ALTERNATIVES, INCLUDING THE PROPOSED ACTION

Introduction

Based on comments received on the earlier official draft plan/EIS circulated for public comment in February 2000, additional information was developed on alternatives. One new alternative was developed that responded to the desire of many for additional detail. The additional alternative was labeled “D,” following the previous alternatives “A,” “B,” and No-Action (or “C”) described in the February 2000 draft. In January 2003, NPS released Alternative D and the earlier three alternatives for public review and comment. As revised herein, Alternative D is the NPS’ Preferred Alternative.

The information discussed in the previous chapter under “Required Management” outlined the laws and other requirements imposed on National Area management. These requirements, such as the various distinctions between the gorge and the plateau (or “adjacent area”), underlie all of the alternatives, including Alternative D.

This section on alternatives includes a full discussion of Alternative D, plus references to the other alternatives as needed. Discussion of the other alternatives can be found in the February 2000 draft. That document is included here by reference. Chapter 3 of that document on alternatives is reproduced in the appendix for ready reference. Additional details of the no-action alternative, or current conditions, are presented along with Alternative D.

Alternative D Concept

In contrast to the other action alternatives, which are broad applications of three types of management units, or zones, Alternative D includes additional information that permits a greater understanding of management objectives in different parts of the National Area. More types of zones are used to highlight different kinds of resources, development, and use.

In addition to more zone types, specific roads and trails are identified for public use. The roads and trails included in alternative “D” would constitute the official road and trail system for the National Area.

It is important to note that while increased staffing and funding are called for under Alternative D, it would remain for the National Area to balance the rate of plan implementation with increases in staffing and funding. Projects described in Alternative D would only be implemented to the extent that funding and staffing allowed.

Following the discussion on zones (management units) will be a discussion of land ownership, resource management, visitor education, and development, including roads and trails. Maps and text are used to help in understanding all the elements of the alternative.

Alternative D Zones

The following zone types would be applied at suitable locations within the National Area. All of the National Area is covered in one zone type or another because all lands and waters would be managed according to certain identified objectives. Each zone type has a “management prescription” outlining desired conditions and what it would...
take to achieve and maintain those conditions. The management prescriptions are National Area policy for the areas included in the various zones.

The application of the different zone types within the National Area is shown in the series of seven maps following the detailed zone discussion.

Some land within the National Area remains in private ownership. Including these areas in certain zones does not indicate any manner of NPS management of these lands while they are still in private ownership. The intent is only to show how such lands would be managed in the future if and when acquired and how they would fit in with plans for the surrounding NPS lands.

IMPORTANT NOTE: Only the few roads selected for inclusion in the two types of transportation zones are shown on the following series of zone maps. The vast majority of roads – and all trails – are only referenced and shown in the later discussion and series of maps covering individual roads and trails.
NATURAL ENVIRONMENT RECREATION ZONE

Application:

This unit is applied to natural landscape areas suitable for and capable of sustaining dispersed recreation. It includes a variety of environments from ridges to valleys. It is typically forested. This unit type covers most of the National Area.

Desired resource conditions and setting:

Natural processes would be protected within this unit, and a predominantly natural condition would be readily apparent to the visitor. Natural succession into mature forest would generally be the resource objective, although some areas may be managed to promote certain vegetation types, such as native grasses. Resource manipulation by official personnel for the low level of development in this unit would be accepted with prior planning and compliance.

Desired visitor experience:

Away from points of congregation, such as trailheads, visitors would be in a natural setting free from most modern facilities and conveniences. Most visitors would sense that they are in an “undeveloped” area and have left behind the familiar. Solitude and natural quiet would generally be available in this unit in all but peak use times. There would be a broad range of challenge, physical exertion, and outdoor skill involved depending on one’s activity and selected location. A moderate to high time commitment would be typical.

Kinds/levels of management:

A variety of resource management projects and studies would be continuous as National Area personnel strive to increase their knowledge of the area’s resources and their use. Thus, a sustained, moderate level of management effort is anticipated in working towards this unit’s desired conditions. Addressing resource degradation would be a priority, especially in the gorge area. Fire management would contribute to the desired resource conditions and setting. Visitor safety awareness, information, and orientation would be critical because of the remoteness of much of the unit and there would be little interaction with National Area personnel. Similarly, trail maintenance would be important for visitor safety as well as for visitor enjoyment and resource protection. Monitoring of trail conditions and use would occur. Management of trail use may be appropriate at some point to protect resources and the visitor experience if other means of maintaining objectives are ineffective or impractical. For instance, if trail use exceeds the ability of a trail at its desired standard to sustain that use, then use on that trail may be redirected, restricted, or otherwise managed to maintain objectives. Also, it is conceivable, although not probable, during the life of this plan that trail use may increase to the point where visitors become generally dissatisfied with the amount of trail use encountered during popular times of use, e.g., spring break, summer, fall color. Management of use may become desirable to ensure appropriate visitor goals can be met somewhere in the National Area.

(Resource indicators: evidence of trail travel outside of the constructed travelway; existence of unofficial trails; loss of trail tread; increased erosion on trails and at stream crossings; increased size or erosion/compaction at backcountry camping areas. Resource standards: no evidence of permanent widening of the travelway; no increase in unofficial trails; no significant trail erosion; no environmental degradation at backcountry campsites. Social indicators: visitor comments, either volunteered or by survey, expressing dissatisfaction concerning perceived overuse of trails; number of visitor groups registering for backcountry permits on trails frequented by hikers or equestrians on overnight outings during peak months.)
Social standards: substantial dissatisfaction expressed voluntarily or by more than 10% of users surveyed; no visible overuse of backcountry campsites.

Kinds/levels of visitor use:

Trail uses would predominate. Camping by backpack or packhorse would be available. Hunting would occur in season outside of safety zones. Use levels would be higher near development sites and trailheads. Once away from points of congregation, use levels would naturally be lower and even more so in remote areas.

Kinds/levels of development:

A variety of trail types would be available to support different uses and visitor experience objectives. Trail structures would harmonize with the natural scene while being of appropriate design to protect resources. Camping areas may be designated, would be located to minimize resource impacts, and would be small and unimproved, although they may include fire rings and hitching rails. Administrative use structures needed for maintenance or resource management may be provided with administrative approval and would be sensitively located with regard to resource protection and designed to harmonize with the setting. With mineral development allowed by legislation, facilities required for oil and gas operations would continue to exist. These operations are coordinated between the operators and NPS. Their presence in some areas could affect resource and visitor experience objectives. Operations planning is subject to NPS’ environmental compliance process.

SENSITIVE RESOURCE PROTECTION ZONE

General application:

This zone designates natural and cultural areas and features particularly vulnerable or sensitive to damage or deterioration by natural causes or human disturbance. This zone also includes sensitive resources that have been previously impacted and where remedial actions may be appropriate. Specific resource types that are included within this unit are discussed separately following this general prescriptive statement. These prescriptions overlap where the resources are co-located. For instance, cliff edges, rock shelters, and threatened or endangered species are discussed separately; however, such species may be found at these sites. In a location where more than one sensitive resource zone occurs, multiple management prescriptions apply, with the most restrictive given priority. Smaller size features distributed throughout the National Area may not be indicated on the maps but still are considered in this zone and the resource-specific management prescriptions apply. Any resources that are subsequently designated as sensitive during the life of this plan (e.g., newly-discovered endangered species, archaeological resources) would be considered a part of this zone and would be subject to the applicable resource-specific management prescriptions.

Desired resource conditions and setting:

Resources in this zone would reflect natural processes and would be carefully protected from unnatural degradation. Cultural resources would reflect specific management objectives on desired treatments. Tolerance for degradation due to human interaction is extremely low.

Desired visitor experience:

Visitor access may or may not be provided, and if so, it is under controlled conditions. It is desirable that visitors learn about these resources and the need to protect them. This educational effort would normally be provided prior to possible contact with the resources, such as in the visitor contact stations, in available literature, and at trailheads. If access is provided, it may only
allow visitors to view the resource, either close up or from afar, depending on the resource.

Kinds/levels of management:

Management of the resources and any visitor use within the unit would be intensive. Specific resource management projects would likely be targeted at these resources. Monitoring of resource conditions would occur. Fire management objectives would address and be consistent with the various resource protection objectives. Educating visitors of resource values would be high priority, although mainly off-site. Any visitor facilities provided in these units would have a high priority for maintenance in order to protect resources. Resource and social indicators and standards are identified for each sensitive resource type included.

Kinds/levels of visitor use:

Depending on the resource, its location, and the appropriateness of making it available to visitors, visitor use could range from high to none. Use may only be viewing the resource from a distance, either near or far. It could also be walking through a sensitive area on a clearly marked trail or a boardwalk marked with appropriate guidance. Horseback riding may be allowable in certain instances. River use may involve wading and swimming in certain areas, fishing, and the use of human-powered watercraft. Primitive camping may occur along rivers in carefully selected locations. Visitor use may be limited if resource conditions warrant special treatment.

Kinds/levels of development:

If visitor use is determined appropriate, sufficient facilities would be provided to protect the resources. These facilities could include dirt or hardened trails, boardwalks, bridges, ladders, platforms, railings, signs, and hitching rails. In the case of river corridors, small parking sites for river ingress/egress may be provided consistent with legislative restrictions in the gorge. In cases of new facility construction, appropriate planning and compliance documentation would be completed. As in the Natural Environment Recreation Zone, oil and gas development could occur in areas zoned for Sensitive Resource Protection. This would only be the case where mineral rights are owned by others. Operational planning for oil and gas development would provide for review by NPS, including environmental compliance. Protection of resources, while permitting the responsible exercise of legal rights, is the objective.

- Cliff edges

Application:

Cliff edges are defined here as the exposed, rocky, sparsely vegetated, sandstone outcrops along the rim of the gorge. They can be found along the main gorge of the Big South Fork and up the valleys of many tributaries. They can run for a mile or more or occur in isolated short lengths. Cliff edges are a recognizable physiographic feature and are not necessarily the same as the "gorge" outline as defined in the legislation.

Desired resource conditions and setting:

These areas are home to sensitive plant species, provide roosting and nesting sites for birds, and may be significant archeological sites. They would be managed as natural habitats with only minimal and necessary human interaction.

Desired visitor experience:

Cliff edges and their associated cliff faces (see following) represent a prime scenic resource of the National Area. Visitors would be allowed access to these areas in a few, carefully selected places for viewing purposes at natural or developed overlooks.
Kinds/levels of management:

Only pedestrian access would be provided. Management would include provision of trails, walkways, platforms, railings, signs and other facilities needed to provide personal safety and minimize resource impacts. However, not all access points, or overlooks, would be developed, i.e., those in more remote areas may only be natural, with only trail access. Trail access would generally be perpendicular to the cliff edge in order to minimize disturbance. Any parking and hitching rails would be provided outside this zone. Use would be monitored to ensure it remains safe and minimally impacting. (Resource Indicator: visible or otherwise detectable damage to rock, soils, and vegetation. Resource Standard: no appreciable change from natural condition. Social Indicator: visitors outside of safe area, e.g., railings, platform. Social Standard: no visitors outside of safe area.) While access would not be provided to particularly sensitive cliff edges, access to others may be restricted or removed if other means to maintain standards are not effective.

Kinds/levels of visitor use:

All use in this zone would be on foot, whether approached by vehicle or horse trail. Common activities would include viewing, photography, bird watching, and hearing natural sounds. Use at easily accessible, developed overlooks is expected to be high, particularly at times such as fall color season. Remote overlooks are expected to remain relatively low in use. Generally, use would be limited to acceptable levels by associated means of access such as parking but may be administratively limited when necessary to achieve desired resource and visitor experience objectives. No camping would be allowed.

Kinds/levels of development:

In the cliff edge zone itself there would only be the minimum facilities provided to ensure visitor safety. At easily accessible locations, facilities could include hardened trails, platforms, railings, and signs. Remote locations may only have a single, natural surfaced approach trail. Any associated development such as parking would be located in a different zone.

- **Cliff faces**

Application:

These are defined as those portions of the gorge walls that are sheer, exposed rock.

Desired resource conditions and setting:

Natural conditions, processes and appearance would characterize these areas.

Desired visitor experience:

These areas are visually important to all visitors. The contrast of sheer rock walls with forested slopes and the river is highly attractive. Most visitors would observe these areas from afar, either from overlooks, trails, or the river. Others would be allowed to climb these areas in locations that have been determined suitable by specific planning.

Kinds/levels of management:

Protecting natural processes and maintaining a natural appearance would be the primary management objectives. Management focus would be on direct visitor use of these areas, mostly climbing. Identifying suitable areas, specific routes, techniques, access, and use levels would be the subject of specific planning. Areas made available for climbing would be sites where sensitive resources are not abundant or are not a significant issue and then only where routes can readily avoid adverse
impacts. They would also be sites accessible by trails that are not problematic in terms of resource or visual impacts. Monitoring of use and the potential resource impacts would occur and management of that use, including restrictions, may be necessary. (Resource indicator: damage to or defacement of the rock wall; detectable damage to associated biological or cultural resources. Resource standard: no defacement and only extremely small, incidental physical damage that is determined not to be cumulatively significant.)

Kinds/levels of visitor use:

Viewing these resources from various observation points would be the major use. The level of this type of use would be high and would be determined by the variety of available viewpoints, including not only specific overlooks but also viewing locations along the river, other streams, and trails. Rock climbing is an acceptable use under controlled conditions. The specific types of climbing and the amount of use would be determined by specific planning consistent with this prescription and applicable regulations.

Kinds/levels of development:

Specific development to permit observation of cliff faces would be provided as described under Cliff Edges, above. No development to facilitate climbing would be provided other than approved trail access.

- **Rock shelters**

Application:

These are the “shallow caves” that occur in many locations in the National Area, typically at the base of cliffs.

Desired resource conditions and setting:

Rock shelters are important as both natural and cultural resources. They provide special habitat for certain plant and animal species and they have provided shelter for humans from pre-Columbian times. While many have been previously disturbed by persons seeking artifacts, they would be generally characterized by natural conditions.

Desired visitor experience:

Visitors would have opportunities to learn of the values of rock shelters and the role they played in providing human shelter. These learning experiences would be available in literature and other media and in visiting selected sites.

Kinds/levels of management:

Protecting these sites from further human-caused disturbance would be the primary management objective. Additionally, opportunities for on-site observation at selected sites would be made available by trail access that may or may not actually enter the rock shelter. Scientifically conducted data recovery may be specifically permitted. Monitoring would occur and use managed or restricted as needed for protection. (Resource indicator: further evidence of human damage or disturbance. Resource standard: no further evidence of human damage or disturbance. Social indicator: persons in restricted locations or engaging in inappropriate activity. Social standard: no persons in restricted locations or engaging in inappropriate activity.)

Kinds/levels of visitor use:

All visitors would be on foot on any trails that enter these sites or their immediate vicinity. Most observation of rock shelters would be incidental to a visitor's activity, such as hiking or horseback riding. Some rock shelters, because of their features, would be specific destinations. Levels of use would be heavy at destination sites, especially where they are near other attractions. No camping would be allowed.
Kinds/levels of development:

Foot trails may be provided within selected sites; however, generally, they would be undeveloped and left natural. Existing trails may be relocated out of some sites. Information signs may be provided. Where horse trails approach sites and access to the inside is appropriate, hitching rails would be provided at a suitable location near a foot trail leading to the site.

- **Arches and chimneys**

Application:

These unusual, readily recognizable resources are found in a number of places within the National Area.

Desired resource conditions and setting:

These resources are relatively fragile for geologic resources because they are in their end stages of existence. Their visual interest is extremely high. They also often support unusual or rare vegetation. Some arches are large enough to offer human shelter or are otherwise important to humans and therefore also have cultural value. The natural processes of erosion would be protected.

Desired visitor experience:

Visitors would learn of the natural processes that formed these features, their fragility, and their other natural and cultural values. This information would be gained mostly off-site through various media. Visitors would be able to view these resources by means that protect the formations.

Kinds/levels of management:

Protection of the natural processes that formed and continue to erode these formations would be the primary management objective. These features would become more fragile with time and may need increasing degrees of protection.

Management of these popular visitor sites would be continually reevaluated. Monitoring of conditions and visitor use would occur and changes made as needed. (Resource indicator: visible or otherwise detectable human-caused damage to the formation or associated vegetation. Resource standard: no detectable human-caused damage. Social indicators: persons in restricted areas; inappropriate behavior. Social standards: no persons in restricted areas; no inappropriate behavior.)

Kinds/levels of visitor use:

Visiting these features would occur mainly by trail access, although some can be viewed from a vehicle. Primary activities would be viewing and photography. Visitors would follow well-marked trails where casual wandering about is inappropriate. Levels of use would vary depending on location and access. Formations having high scenic value or easy accessibility would be heavily visited consistent with resource objectives. No camping would be allowed.

Kinds/levels of development:

Facilities would provide viewing opportunity while also providing resource protection and visitor safety. Foot trails would generally be the only facilities in the immediate vicinity of the site. Hitching rails would be provided on approaching horse trails. Development would be the minimum to achieve objectives.

- **Cultural spaces**

Application:

Certain areas and sites within the National Area have pronounced importance culturally. They exist in a variety of places and forms throughout the National Area. They range from small open fields used by previous landowners in the area to entire farmsteads with structures still standing. They include community, mining, and
logging sites, cemeteries, railroad grades, bridges, and sites used traditionally for recreation. Some have more importance than others according to established standards, and some may be selected primarily for visitor use and interpretive purposes. The sites listed below and shown on the accompanying maps are those with known attributes and for which special management, including visitor use, is proposed, pending additional planning. Other sites may be added after further research.

- Oscar Blevins Farmstead
- Litton/Slaven Farmstead
- Litton/Slaven Fields
- Lora Blevins Farmstead
- Parchcorn Creek Farmstead
- Ranse Boyatt Farmstead
- Charit Creek
- Charit and Tackett Cabin
- Newtie King Farmstead
- Niter Mines
- Station Camp Historic Zone
- Historic Chimney Rock Cemetery
- Walnut Corner
- No Business Creek Community
- Beatty Salt Works
- Beatty Oil Well Historic Zone
- Rockhouse/Fire Tower Site
- Roysden Homesite

Desired resource conditions and setting:

Natural elements and processes cause changes in or deterioration of human-caused features. Fields grow up in forest and structures weather and rot away. Except where decisions are made based on certain criteria to preserve, rehabilitate, or restore these sites, the toll of natural processes would be accepted after appropriate documentation. Each area would be inventoried and classified for a certain type of management consistent with preserving identified cultural values and providing visitor use. This process would be a continuing one, although some have already been determined worthy of management intervention.

Desired visitor experience:

Visitors would have ample opportunity to gain an understanding and appreciation for the human life activities that occurred and still occur within the National Area. Visitor entry into these sites generally would be allowed, as determined by site-specific management objectives.

Kinds/levels of management:

Inventorying and classifying these sites and their features and determining their treatment would be an ongoing effort. Later detailed planning would also determine the exact, appropriate boundaries of an area. Because of the processes of deterioration on features selected for preservation, management activity would be intensive to minimize the effects of these processes. At times, personal services may be provided in the form of guided tours or an on-site resource person. Site-related cultural demonstrations may be provided. Sites and features would be monitored for changes/deterioration in an identified, desirable condition, for safety concerns, and for inappropriate use. Management of these sites may include the use of fire. (Resource indicators: varies with types of features, for instance: for fields, it could be woody stemmed plant invasion; for structures, loss of or damage to historic fabric. Resource standard: no unacceptable loss or damage based on periodic assessment. Social indicator: persons in restricted locations or engaging in inappropriate activity. Social standard: no persons in restricted locations or engaging in inappropriate activity.) Management of visitor use in some manner may occur as needed to achieve or maintain management objectives. Special management arrangements would be identified for cemeteries according to specific planning. Maintenance of cemeteries not owned by
NPS would be a matter of coordination with the owners.

Kinds/levels of visitor use:

Visiting features or sites identified for preservation and/or interpretation would typically occur on foot. Activities would include viewing, photography, sketching, and learning from exhibits and literature. Well-marked trails may be provided if casual wandering about is inappropriate. For visitors arriving on horseback, or in some cases, vehicles, hitching rails or parking would be provided away from sensitive resources. For other features, trails may pass nearby and permit casual viewing. Levels of use would vary by site, depending heavily on its proximity to other visitor attractions and whether or not the site was readily accessible. No camping would be allowed.

Kinds/levels of development:

Any facilities would be in keeping with cultural resource values and would include facilities identified as necessary to ensure protection of resources and provide for visitor education and safety. Trails, steps, railings, and signs would be common elements. Parking and hitching rails, if not intrusive, may also be provided. Structures needed for maintenance may be provided with specific approval and would be sensitively located and designed to harmonize with their setting and not degrade identified cultural values. Gorge restrictions on new structures would be followed.

- **Wetlands**

Application:

Wetlands are defined here to be those meeting criteria used by the U.S. Fish and Wildlife Service. These are generally identified by vegetation, undrained wet soils, or saturated or covered non-soil substrate. Most often, these include bogs, marshes, swamps, rocky streambeds, mudflats, and gravel beaches.

Desired resource conditions and setting:

These resources are important components of ecological systems and would remain as undisturbed by human activity as possible, while meeting site management objectives.

Desired visitor experience:

Visitors would learn about the values of wetlands and their different types. Visitors could experience wetlands firsthand, mostly those associated with large streams.

Kinds/levels of management:

Potential wetland impacts would be identified in the field on a project basis according to federal and state wetland regulations. Only in the cases where there is no practicable alternative would wetlands be disturbed or otherwise impacted. It is recognized that trail and road crossings of streams would occur throughout the National Area and associated wetlands crossed as well. Specific consideration of each instance would be undertaken, with priority given to known problem sites and any new construction. In cases where visitor use or development to support that use may directly affect or is in proximity to a wetland, NPS would monitor the use and effects and may relocate or restrict that use as necessary. (Resource indicators: detectable erosion/sedimentation; physical damage or loss. Resource standards: no indication of a trend in human-caused erosion/sedimentation or damage/loss.)

Kinds/levels of visitor use:

Visitor use of wetlands would result from fording streams by foot or horse, river access for fishing, wading, boat launching, and beaching float craft on natural banks or gravel bars. Levels would vary from seldom and incidental to frequent, depending on
whether or not the site was designated for visitor use.

**Kinds/levels of development:**

Any development would consist of the minimum necessary to accomplish approved objectives and would be subject to specific policy guidance concerning wetlands, including the possible need for a Statement of Findings determination. Development may include trails and small boat launch ramps.

- **Rare, threatened, or endangered species**

**Application:**

This would include supporting habitat areas for species of concern listed currently or in the future by federal or state agencies.

**Desired resource conditions and setting:**

The natural conditions of these areas would be protected to the maximum extent possible, while allowing only those uses that are approved by specific analyses.

**Desired visitor experience:**

Visitors could learn about these species and their values mainly through off-site means such as literature and other media. Visual observation may be possible. Special educational visits may be led by qualified staff.

**Kinds/levels of management:**

Avoiding human disturbance of these areas is the general management objective. Where visitor use is allowed to come in contact with these sites, it would be under controlled conditions to the maximum extent possible. Monitoring of impacts would occur and management of use as necessary to minimize impacts. (Resource indicators: any detectable disturbance of these areas whether direct or indirect. Resource standard: sustainability of identified resources.) Where appropriate, habitat maintenance or restoration efforts would be undertaken in consultation with concerned agencies. Fire management may play a role in habitat maintenance.

**Kinds/levels of visitor use:**

Trail and river uses would be the types most involved in contact with these resources. Contact would be infrequent and incidental except in instances where designated use sites have been planned and approved. Photography would be a common activity.

**Application:**

No development would occur in these areas unless it is compatible with related laws and specifically approved.

- **Rivers and streams**

**Application:**

All natural, perennial watercourses and their riparian areas and floodplains would be included in the Sensitive Resource Protection Zone. Not all streams are equal in importance; however, the nature of their contribution one to another indicates they be recognized as a unit.

**Desired resource conditions and setting:**

These resources would afford suitable habitat for native aquatic life and be an attractive and biologically safe resource for human recreational use. They would be unaffected adversely to any significant degree by contaminants as measured by accepted methods of assessment. They would be within state and federal water quality standards, and the Big South Fork River itself would meet the anti-degradation and non-degradation policy standards of Tennessee and Kentucky, respectively. They would be free-flowing in quantities typical of historic flow regimes, unaffected significantly by upstream developments.
Riparian and floodplain areas would provide sustainable habitat for dependent species and be managed to protect natural values and human safety.

Desired visitor experience:

Visitors would learn about the natural processes and values of rivers and streams and their floodplains. Actual use of these resources would be enjoyable and occur in safe, appropriate ways and mostly at designated sites.

Kinds/levels of management:

General kinds of management actions would include inventories and research, monitoring, planning, coordinating with others, and impact assessment. The primary management objective would be understanding and protecting these resources while making them available for appropriate visitor use. The intensity of management would vary by watercourse, with waters providing important habitat and significant recreational use receiving the highest management attention. Monitoring would occur and management actions taken to maintain or achieve objectives. It is conceivable that within the life of this plan that use, particularly river floating, could begin to exceed desirable levels and, therefore, would be subject to restriction if other means to modify use proved ineffective. (Resource indicators: accepted physical, chemical, and biological parameters, including mussels and species diversity. Resource standards: no violation of accepted standards or trends indicating a violation; no degradation in Big South Fork River; no trends in decreasing numbers of mussels or species diversity. Social indicators: visitor activity on, in, or near these resources; visitor dissatisfaction. Social standards: no visitor activity that would be inconsistent with achieving or maintaining objectives; no substantial dissatisfaction as determined by survey or complaints.)

Kinds/levels of visitor use:

Many activities depend on water and many others are enhanced by it. Typical water-dependent activities would be rafting, canoeing, kayaking, fishing, and wading. Land-based activities that would "use" these water resources include trail uses where users actually ford the stream or river. Activities enhanced by the sights and sounds of water would include any nearby trail use, camping, and picnicking, and viewing from overlooks. Levels of use would vary, with heavy use occurring at designated sites at popular use times.

Kinds/levels of development:

Development actually within the watercourses would be minimal and sufficient only to provide for appropriate use at suitable, approved locations. Facilities may include watercraft launching sites, steps, and stabilized, marked trail crossings. Any development in riparian and floodplain areas (e.g., bridges) would be compatible with National Area legislation and other federal and state laws and regulations governing waterways and floodplain areas, and would include the preparation of a Statement of Findings if appropriate. Trails along streams within the riparian zones would be allowed only when needed to provide desirable access and where resource impacts could be minimized.

- Special scenery

Application:

This zone would be applied to sites and areas that are either especially scenic themselves or offer prime scenic views. Because of their locations in relation to scenic resources, these sites and areas are heavily visited and/or used in ways that can detract from the experiences of others. These areas would typically be co-located with many of the sensitive resource zones discussed above; for example, cliff edges and arches. Specific examples include
Twin Arches, Honey Creek Overlook, Angel Falls Overlook, Maude's Crack, Sawtooth, and Yahoo Falls. Generally, this zone would be applied to areas within 300 feet of all designated overlooks, developed or natural, and well-known geological formations, including arches, chimneys, and rock shelters. Specific sites and their boundaries would be identified in a Backcountry Management Plan. As future studies may identify additional sites having visitor use potential, this zone may be applied.

**Desired resource conditions and setting:**

Natural resources and processes would be protected. Cultural resources, where present, would be managed according to identified cultural resource objectives. Where co-located with another sensitive resource zone, those management prescriptions would take priority. The setting would also be protected and managed to enhance scenic values.

**Desired visitor experience:**

The visitor experience would be one of being allowed to unhurriedly focus on the scenic values of the site or area and not be unduly disturbed by unrelated human activity. Scenic enjoyment would be the priority and not other types of use. For example, camping in or near a popular scenic place would not be appropriate.

**Kinds/levels of management:**

Management would be intensive since these sites and areas would typically be popular to visit. It is reasonable to think that these sites could become so popular that some management of visitors may become necessary to protect resources and the visitor experience visitors seek. Monitoring of use would occur to enable management to take appropriate action. (Resource indicator: detectable damage to resources. Resource standard: no detectable damage to resources. Social indicators: visitor comments, either volunteered or by survey, expressing dissatisfaction or concern with being able to enjoy the scenic values offered by a site; evidence of inappropriate, unrelated uses of a site. Social standards: visitor dissatisfaction expressed voluntarily or through surveys; no inappropriate or unrelated uses.)

**Kinds/levels of visitor use:**

Sites would typically be approached by foot trail even though parking may be provided nearby. Use of these sites would include scenic viewing, photography, and other passive uses related to exceptional scenery. Types of uses that would interfere with the desired visitor experience would be disallowed. Use levels would tend to be high at these sites, particularly those near development sites and trailheads.

**Kinds/levels of development:**

Development would be sufficient to allow the desired visitor experience and provide for visitor safety. For sites easily reached, this may include platforms, railings, and signs. In more remote areas, fewer facilities may be provided, or none at all. Any development would harmonize with the setting to the maximum extent possible to avoid being unduly intrusive.

- **Sensitive resource area overlay**

**Application:**

The sensitive resource area overlay differs from the previous resource-specific zones, and is not actually a zone itself. This special overlay is used in various locations to enclose, or group together, several different sensitive resource zones as a practical means of highlighting their presence. Rather than relying solely on the specific resource zones themselves, which can be small with obscure boundaries, Alternative D also includes the overlay, which encompasses a larger, more easily recognizable area. Such an overlay
provides a means to locate appropriate, educational signage that can be placed on approaching roads and trails. The overlays would serve National Area personnel, as well as visitors, by providing map location of easily recognizable, sizable areas in which to be especially cautious to the presence of sensitive resources. The overlay area would not be subject to any additional management prescriptions beyond those of the other identified zones. The overlay may change over time if new sensitive resources are identified and reconfiguration of the overlay is deemed appropriate by National Area management.

FIRST ORDER DEVELOPMENT AND VISITOR USE ZONE

Application:

These zones would designate readily accessible concentrations of visitor or administrative facilities. They would include the nearby surrounding areas that are typically heavily used because of their proximity and may be used for overflow situations and possible future facility expansion. They are generally located where environmental concerns can be relatively easily managed. With the exception of the Blue Heron mine exhibit area, these zones would only be located outside of the designated gorge. They include:

- Bandy Creek
- Blue Heron
- Headquarters Area

Desired resource conditions and setting:

These units would essentially be designed landscapes planned in harmony with their surrounding natural communities. Native vegetation would occur as backdrop, screening, and facility landscaping. Landscape modification for visitor and administrative needs would be accepted with prior planning and compliance.

Desired visitor experience:

Visitors would have a feeling of being in a natural setting but provided with familiar conveniences. Visitors would find a highly structured experience supported with specific facilities. Visitor movement within these units would present little to no challenge, including for those with disabilities. Visitors would find a high level of information service. Encounters with other visitors and with NPS personnel would be common and expected. Within administrative areas, certain facilities or grounds may be unavailable to visitors. All administrative facilities would harmonize with the natural surroundings or be screened from view.

Kinds/levels of management:

An intensive level of management would be required to minimize, mitigate, and monitor resource impacts and ensure visitor safety in this highly used unit. Facility maintenance would be high priority. Interpretation and education would be key management activities and would often include personal services. During the life of this plan, it is entirely possible that visitor use within some or all of these units could exceed the current capacity to sustain that use without adverse effects. At such time, management actions could include redirecting, restricting, or expanding opportunity within the units. Any new facilities would be subject to specific planning and compliance. Fire management would include total suppression for personal safety and protection of infrastructure. Management for fire protection may include cleared areas immediately adjacent to structures. Waste management would be important to protect wildlife as well as visitors. (Resource indicators: water quality in streams exiting or near the units; vegetation damage; evidence of wildlife invading trash receptacles. Resource standards: absence of water quality compliance issues; no trend indicating permanent loss or damage to
vegetation; no evidence of wildlife/trash contact. Social indicators: obvious inability (formally or informally derived) by official personnel to meet visitor expectations; widespread damage to facilities and grounds clearly related to legitimate overuse. Social standards: sustained ability of official personnel to meet the reasonable expectations of most visitors during traditional high-use periods but not at peak days or hours; no damage beyond reasonable wear and tear determined by post-season assessment.

Kinds/levels of visitor use:

Visitors to this unit would include campers, picnickers, and others using the variety of facilities available in the unit. Many visitors would come seeking information and then go on to other zones of the National Area. The number of visitors would vary by time of year but large numbers occur during popular high-use periods. Visitors would typically not use administrative areas.

Kinds/levels of development:

Facilities provided in this unit would include almost any type that would meet the needs of visitors while remaining consistent with resource management objectives and the purpose of the National Area. Typically, they would include visitor contact offices, exhibit display spaces, educational spaces, book and selected supply sales spaces, storage spaces, camp grounds, picnic areas, play spaces, internal roads and trails, parking, sidewalks, rest rooms, water supply and treatment facilities, and waste disposal and solid waste collection points. Design standards applied would sustain heavy use. The level of development would vary, but would be fairly intensive. Administrative areas would typically contain offices, storage space, and work areas.

SECOND ORDER DEVELOPMENT AND VISITOR USE ZONE

Application:

This zone type would designate areas of limited visitor facility development typically situated at or near a resource attraction. These zones would only occur outside the designated gorge or be associated with a legislatively designated gorge access route. Like First Order zones, they would include some surrounding area that may be used for overflow situations and possible minor facility expansion. They are also located where environmental concerns would not be a significant issue. These are numerous and are identified later in the maps and accompanying text showing specific sites. Examples are Yahoo Falls, the Bear Creek and Station Camp horse camps, and Burnt Mill Bridge.

Desired resource conditions and setting:

Much smaller than Primary Development and Visitor Use Units, these units would also be designed landscapes situated in harmony with their surrounding natural communities. Native vegetation would occur as backdrop, screening, and facility landscaping. Landscape modification for visitor facility needs would be accepted with proper planning and compliance.

Desired visitor experience:

Visitors would have a feeling of being in a natural setting with just enough facilities to allow fairly easy and comfortable participation in the targeted activity. Extra conveniences are not a priority and use would only be minimally to moderately structured. Depending on the site, those with disabilities may find participation to be moderately challenging. Information found would only be site oriented. Encounters with other visitors and with NPS personnel would be fairly common and expected.
Kinds/levels of management:

Management would be intensive to minimize, mitigate, and monitor resource impacts and ensure visitor safety. Facility maintenance would be high priority. Units with historical connections may be interpreted for visitor education through onsite media and available literature. During the life of this plan, it is entirely possible that visitor use within some or all of these units could exceed the current capacity to sustain that use without adverse effects. At such time, management actions could include redirecting, restricting, or expanding opportunity within the units. New facilities would be subject to specific planning and compliance. Fire management would vary depending on the amount and type of facilities at a site, and may not include total suppression. Management for fire protection may include cleared areas immediately adjacent to any structures. Waste management would be of utmost importance in this zone as it is where a significant human/wildlife interface would occur. Proper management of garbage disposal would protect the visitor and prevent wildlife from being attracted to the area. (Resource indicators: water quality in streams exiting or near the units; trampled vegetation; evidence of wildlife invading trash receptacles. Resource standards: absence of water quality compliance issues; no trend indicating permanent loss or damage to vegetation; no evidence of wildlife/trash contact. Social indicators: visitor dissatisfaction; widespread damage to facilities and grounds clearly related to legitimate overuse. Social standards: no significant level of expressed dissatisfaction as determined by survey or voluntary complaints; no damage beyond reasonable wear and tear determined by post-season assessment.)

Kinds/levels of development:

Facilities provided in these units would vary depending on the purpose of the site. Typically, they would provide facilities for one or two activities, such as picnicking and stream wading or camping and fishing. Specific facilities could include campsites, picnic tables, stream access, launching ramps, and toilets. Development levels would be low to moderate although generally low, but facilities may be concentrated within a small area. Facility design would harmonize with the surroundings. Design standards applied would vary between sites depending on their purpose and location.

ACCESS ZONE

Application:

This zone would designate small sites that provide convenient vehicle parking primarily for purposes of trail access. These zones would only occur outside the designated gorge or be associated with a legislatively designated gorge access route. These are numerous and are identified later in the maps and accompanying text showing specific sites. Examples are Dick’s Gap Trailhead, Terry Cemetery Trailhead, Station Camp Day Use Trailhead, East Rim Trailhead, and Rugby Trailhead.

Desired resource conditions and setting:

These sites would be situated unobtrusively in a natural setting, which would be cleared only for the immediate footprint of the using the unit as a base. Most visitors to these units would be repeat visitors familiar with a particular unit’s location and offerings. These units would typically receive frequent use from local area residents. The number of visitors would vary by time of year but units would generally be well used during popular high-use periods.

Kinds/levels of visitor use:

Visitors to these zones would typically engage in camping, picnicking, fishing, wading, boating, and hunting in season...
needed parking area and any associated short access road. No site would be located near sensitive resources.

 Desired visitor experience:

 Visitors would find convenient, suitable parking and trail information in places where trail access is appropriate. Encounters with other visitors and with NPS personnel would be fairly common and expected.

 Kinds/levels of management:

 Management would be much less intensive than in the other development zones. It would be sufficient to ensure continuing serviceability of the facility and to monitor resource impacts. On-site media would provide at least basic visitor information. There would be no personal services except occasionally for a guided activity. Should visitor use within any of these units exceed their capacity, management actions could include redirecting, restricting, or expanding the opportunity. Any expansion would be subject to prior planning and compliance. There would be no specific fire management objectives for these zones, i.e., they would be the same as for the surrounding zone. Waste management would be important to protect wildlife as well as visitors. (Resource indicators: damaged vegetation; evidence of wildlife invading trash receptacles. Resource standards: no trend indicating permanent loss or damage to vegetation; no evidence of wildlife/trash contact. Social indicators: off-site parking clearly related to legitimate overuse. Social standards: no off-site damage.)

 Kinds/levels of visitor use:

 Kinds of visitors would include trail users of various types, depending on the nature of the trail(s) accessed at a given location. Levels of use would vary depending on the remoteness of the location and popularity of the trail. Use would generally be high at popular heavy-use times.

 Kinds/levels of development:

 These sites are basically for parking, and, therefore, would include at least a level area suitable for vehicles. The sites may be graded and improved with appropriate surfacing, such as gravel. Timbers may mark the limits of the parking area. Very short access, or connector, roads may be a part of these zones, which would typically also have informational signage. Where appropriate, sanitary facilities may be provided.

 FIRST ORDER TRANSPORTATION ZONE

 Application:

 This zone designates road corridors providing access to First Order Development and Visitor Use Zones. Through traffic routes are also included in this unit. These include:

 - KY 92
 - KY 1363
 - Blue Heron Road
 - TN 297
 - East Bandy Creek Road
 - TN 154
 - TN 52

 Desired resource conditions and setting:

 Resources in these road corridors would only necessarily be impacted to meet objectives of vehicle movement and passenger safety. These corridors would relate harmoniously to the surrounding environment with a minimum of adverse effect on natural processes.

 Desired visitor experience:

 Visitors would travel safely while within the National Area. They would have a sense of being in a park-like setting that is esthetically more pleasing than highways outside the National Area. Even though
most of these corridors support through traffic, visitors would feel free to drive at speeds somewhat slower than posted limits. Vehicle congestion would not significantly affect the visitor experience. Visitors would have adequate information to navigate to intended destinations.

Kinds/levels of visitor use:

Vehicle types would include any that are “street legal.” Certain types may be limited or restricted due to their large size. These corridors would have high levels of use.

Kinds/levels of development:

Roads in this zone would normally be designed and paved to sustain a high level of use by passenger vehicles and light trucks. Some may be designed to carry heavy-duty trucks. More than just the road itself, the corridor would include shoulders, related drainage features, safe zones, and slopes. It may include pullouts. The width of the zone would be considered the area cleared and graded. This area would be the minimum necessary and still conform to applicable road design standards.

SECOND ORDER TRANSPORTATION ZONE

Application:

This zone designates road corridors providing access to Second Order Development and Visitor Use Zones. Examples include the road to Alum Ford, Station Camp Road, Twin Arches Road, and Honey Creek Road. This zone also applies to the Kentucky and Tennessee Scenic Railroad.

Desired resource conditions and setting:

Resources in these road corridors would only necessarily be impacted to meet objectives of vehicle movement and passenger safety. These corridors would relate harmoniously to the surrounding environment with a minimum of adverse effect on the natural setting and processes.
Desired visitor experience:

Visitors would be in a mostly natural setting, traveling rather slowly either to sightsee or to visit a specific place in the National Area. Travelers would arrive at their destinations safely. Seeing other vehicles would be fairly common and expected. Vehicle congestion would not significantly impact the visitor experience. Visitors would have adequate information to navigate to intended destinations.

Kinds/levels of management:

Safety and sensitivity to resources and the visitor experience would be general objectives. These routes would be well traveled since they would provide access to most of the National Area's attractions and, therefore, maintenance would be a high priority. Informational literature and signing would be very important. Speed limits would be lower than in First Order Transportation corridors. While the road prism or railbed itself would be considered essentially permanent, related features such as drainage and slopes may be altered if monitoring indicates adverse resource effects are occurring. (Resource indicators: water quality of streams affected by roadway drainage; sloughing or erosion of slopes; invasive exotic plants in road corridor. Resource standards: absence of water quality compliance issues, including trends; no clearly visible signs of a worsening situation; absence of invasive exotic plants. Social indicators: roadway level of service during high use times; visitor dissatisfaction. Social standards: level of service “C” (moderate congestion/delays) over peak hours; dissatisfaction determined significant through surveys or by substantial visitor complaints.) Related management actions may include information dissemination, and redirecting traffic.

Kinds/levels of visitor use:

Vehicle types would be “street legal” and include all types, except certain types may be limited or restricted due to their large size. The amount of use of these corridors would vary. Most would receive moderately heavy use during popular high use periods. The Kentucky and Tennessee Railroad would offer scenic rides and provide a different type of access to selected development and visitor use zones.

Kinds/levels of development:

Roads in this unit would normally be designed and improved to sustain a moderate level of all-season use by passenger vehicles and light trucks. Design speeds would typically be 35 miles per hour or less. These roads would normally be two lanes wide and graveled. The corridor would include shoulders, related drainage features, safe zones, and slopes. It may include pullouts. The width of the unit would be considered the area cleared and graded. This area would be the minimum necessary and still meet management objectives. The zone for the railroad would include the tracks, rail bed, and related drainage features (all area and facilities covered by the right-of-way owned by the railroad) and may include appropriate, related facilities as determined by both the operator and NPS.

ALL-TERRAIN VEHICLE (ATV) PLANNING AREA

Application:

Not really a zone, the ATV Planning Area designates two locations on the plateau, or “adjacent area,” where specifically designated ATV trails would be considered. It would be applied to (overlaid on) selected plateau portions of the Natural Environment Recreation Zone only. The two locations designated for possible ATV use are on Darrow Ridge. Initial trail selection would be considered experimental, with expansion or elimination considered after evaluation. The ATV Planning Area cannot be expanded to include additional locations without formally amending the GMP.
Desired resource conditions and setting:

Since this planning area is a use-oriented overlay on the Natural Environment Recreation Zone, the desired resource conditions would remain the same as for the Natural Environment Recreation Zone as described above, i.e., generally the protection of natural processes and naturally maturing forest. The planning area includes lands that are determined to be able to sustain a network of trails without adversely affecting resources or the experiences of others, including the effects of noise. Some resource manipulation would occur to provide a trail that meets design standards.

Desired visitor experience:

Users of ATV trails within this area would experience a generally natural setting that may be disturbed with past or current non-recreational land uses, such as oil and gas operations. The experience would combine the goals of viewing resources and having an enjoyable ride. Speed, acrobatics, and other skill-oriented challenges would not be purposes of the experience. Some visitors would use the trails specifically to visit a particular place, while others may use them for general riding purposes only.

Kinds/levels of management:

Specific trails inside these areas would be designated for use. Standards would be applied for use, any new trails, and maintenance. Old roads would be used where possible. Trails would avoid perennial stream crossings. Use may be managed by permit to monitor patterns of use as well as the use of appropriate equipment such as stock mufflers and spark arrestors. Speeds would be monitored and limits may be set. An initial experimental trail would be planned for the near-term to allow National Area management to evaluate the effects of a specifically designated trail. Decisions on expansion or elimination of trails would be made following evaluation. Monitoring the condition of the trails for user safety, user satisfaction, and resource impacts would occur. Representatives of environmental and ATV-user groups would be invited to participate in the monitoring effort. Official trail changes, including relocation or restrictions, may occur. Where existing oil and gas access roads may be used, prior coordination with industry operators would occur. (Resource indicators: tread erosion; tread widening; damaged vegetation; creation of new routes by users. Resource standards: no signs of significant tread erosion or widening; no permanent vegetation damage; no visible signs of user-created routes. Social indicators: accidents, injuries, and complaints. Social standards: no sustained level or trend of accidents, injuries, or complaints.)

Kinds/levels of visitor use:

For the experimental trail and any subsequent trails, only vehicles that are driven by sitting astride the vehicle and using handlebars would be allowed. These trails would be intensively used, particularly during popular high use periods; however, sensitivity to resources and other users would be the basis for determining the acceptable extent of use.

Kinds/levels of development:

Other than designated trails, staging areas would be provided that would include parking for vehicles with trailers and may include campsites, toilets, and potable water. Development levels could vary by site and would be sized according to the amount of associated trail opportunity.
Land Ownership – Alternative D

With a minor exception, no changes are included in the plan with regard to the National Area’s exterior boundary. Similarly, no changes are proposed in the amount of land—125,000 acres—authorized by the legislation to be acquired. The plan reaffirms the present intent to acquire the remaining private lands within the boundary (approximately 5,900 acres). The exception refers to the 20-acre outlying parcel on TN 297 east of the National Area. Originally acquired for the National Area’s headquarters, this parcel is no longer being considered for use.

Centrally located within the National Area, Scott State Forest virtually surrounds the National Area’s most highly developed site, Bandy Creek. As such, it remains an unusual land use arrangement, but one which has been very cooperative. Visitors using the many designated roads and trails crossing state land are generally unaware of that fact. Its use is critical to the continued provision of visitor services at Bandy Creek. The primary mission of the state forest is the propagation of White pine, a monoculture that is actually inconsistent with the NPS mission of promoting species diversity and natural processes. The plan includes the acquisition of these lands at such time as the state is willing, since state lands can only be acquired by donation pursuant to National Area legislation.

Resource Management – Alternative D

The desired resource conditions identified for each type of zone indicate the resource objectives for all portions of the National Area. (See the previous discussion in this chapter on zones.) The kinds and levels of management, use, and development for each zone provide an outline for achieving and maintaining those conditions.

In addition to the zone-specific management objectives, National Area personnel would continue or commence the following strategic efforts on a National Area-wide basis (the following are not necessarily in priority order and do not encompass all concerns):

- Development of a watershed protection strategy through data collection and management improvements and increased coordination with others; special, near-term initiatives of reclaiming resources contaminated by mine drainage and coordinating with surrounding communities concerning water needs.

Of prime importance is water quality management. Congress recognized the significance of the Big South Fork of the Cumberland River by specifically including as a purpose of establishment the preservation of the river, including its free flowing character. Other purposes for establishment are based on the river’s—and its tributaries’—quality and quantity, including the preservation and interpretation of, among others, scenic and fish and wildlife values, the natural integrity of the gorge, and healthful outdoor recreation.

A primary issue is the fact that the National Area includes only the “bottom” fourteen percent of the entire drainage. In other words, virtually all water draining the watershed flows through the National Area, whether it is good quality or not. Many streams inside and outside the National Area have been and some continue to be contributors to various types of water quality problems, e.g., sediment, toxic chemicals, and low pH levels.

Treatment and cleanup of contaminated mine drainage sites would occur in the gorge. Specific planning and compliance would be undertaken. It is believed that work would involve several sites of various sizes, would need to be accomplished by large machinery, would result in permanent landscape change, and would need to be maintained in perpetuity. Such actions...
appear necessary to eliminate or minimize this long-standing water quality issue.

Beneficial cooperation with the two states and several federal agencies has resulted in rehabilitation of coal spoil sites, some deep mine closures, and a new sewage treatment facility. Expanded monitoring and coordination with others influencing water quality is needed. Additional research involving water quality problems is also needed.

- Development of the Inventory and Monitoring Program and its integration into National Area management

More expansive than just the water quality issues is the development of an integrated, strategic system of inventorying key resources and monitoring their condition. Much basic information remains to be collected, stored, and analyzed in order to effectively achieve and maintain the desired resource conditions.

- Expansion of the cultural resource management program; special, near-term initiatives of defining and managing cultural landscapes and enhancing the management of museum collections

Previous research within and around the National Area provides significant information, but management and interpretation needs were not a consideration of much of this work. Essential information is still needed. Completion of the archeological survey is a high priority. This survey would consist of locating historic and prehistoric sites, establishing a cultural chronology, and making evaluations of significance. Proper storage is needed for data and collections. Historic Resource Studies are needed for National Register qualified structures followed by stabilization/rehabilitation plans and maintenance guides. Landscape studies are needed to document and determine the preservation and interpretation objectives of the several historic farmsteads.

- Continued development of the oil and gas management program, including completion of plans of operation, plugging abandoned wells, and reclaiming disturbed lands

Minerals management has been and would continue to be a concern. Legislation provides for exploration and development along strict guidelines, but the nature of the products and related infrastructure and probable future demands are cause for increased attention. A minerals management plan would include plan and permit reviews, field monitoring, site reclamation, data maintenance, coordination with various agencies, and investigations of spills and other detrimental disturbances.

While potential adverse effects on National Area values may occur as a result of oil and gas production, the reverse may also be true. Increasing visitor use could result in conflicts with this legitimate use. For example, visitors and industry vehicles may be traveling the same route at the same time, or visitors may find objectionable some of the industry's operations and facilities. Coordination of each other's planning and projects through the procedures established by 36 CFR 9B and the NPS' compliance policies and procedures would promote compatible activity. Visitor education would also be important.

- Continued enhancement of biodiversity; special near-term initiatives involving restoration of extirpated species, augmentation and reintroduction of freshwater mussels, and reintroduction of native grasses

Currently, much more information is needed on ecosystem dynamics within the National Area. Consequently, past and present uses and abuses and their impacts on resources
are not sufficiently understood. Only a relatively few targeted projects have been initiated, and a multitude of others need attention, some of which are mentioned above.

- Continued development of a fire management program

The use of fire as a management tool to protect persons and property and also to promote resource objectives is a priority concern. Recent damage in other parts of the country has heightened the concerns of land managing agencies, including NPS. The National Area is in process of completing a fire management plan that provides guidance for dealing with both undesirable and desirable fire events.

- Identification and implementation of method(s) for trail/stream crossings that protect aquatic species, particularly mussels

Roads and trails necessarily cross streams and drainage ways since the drainage pattern in the National Area is so dense. Mostly, the concern is how to cross a stream or drainage and not whether it should or should not be crossed. There are exceptions since many ridges offer suitable locations. Ridges generally carry the roads and many trails; however, trails very often cut across the terrain, or drainage pattern. Crossings can lead to bank erosion and sediment loading of streams, stirring up of stream bottoms, disturbance to habitat, and contribution of animal waste. Of immediate concern are crossings that affect federally endangered mussels, and coordination would continue with the U.S. Fish and Wildlife Service. Special project funding to study this issue has been requested and is receiving review within the agency.

- Development of a fields management program and plan, considering the potential purposes of native grass reintroduction, native wildlife management, cultural landscapes, agricultural leases, recreation, and administrative needs

Over 100 open fields of various sizes totaling almost 800 acres dot the landscape of the National Area. Decisions are needed and management plans developed for those areas to be kept open and not allowed to naturally revert to forest. Use of these areas has served and can continue to serve a variety of purposes, but currently there is no overall direction. Ponds exist in many fields, and decisions are also needed on their use.

- Continued enhancement of the National Area's visitor education and outreach program with increased resource information

A natural consequence of increased resource information is a greater factual basis on which to develop the National Area's education and interpretive programs. Increased visitor knowledge would contribute importantly to resource management goals.

Resource issue-specific plans and studies would continue to be conducted by NPS or through coordination with others. These could include, but not necessarily be limited to, the following, in alphabetical order:

- Archeological Surveys (completion)
- Backcountry Management Plan
- Black Bear Management Guidelines
- Cemetery Management Plan
- Climbing Management Plan
- Collections Management Plan
- Cultural Landscape Reports
- Endangered Species Recovery Plans (as needed)
- Equestrian Livestock Management Plan
- Exotic Species Management Plan
- Fields Management Plan
- Fire Management Plan
- Historic Structure Preservation Guides
- Historic Structure Reports
✓ Individual road, trail, and development site evaluations, comparing desired project with GMP/EIS
✓ Integrated Pest Management Plan
✓ Monitoring Plans/Protocols
✓ Oil and Gas Management Plan
✓ Section 9B Oil & Gas Operations Plans
✓ Study of River Crossings by Horse Trails
✓ Trail Condition Assessment/Protocol
✓ Vegetation Management Plan
✓ VERP (Visitor Experience and Resource Protection) or similar study to address carrying capacity
✓ Wildlife Management Plan

Specific studies and actions are considered and prioritized in the preparation of the National Area's Strategic Plan, pursuant to the requirements of the Government Performance and Results Act.

Visitor Education and Orientation – Alternative D

A Comprehensive Interpretive Plan is the foundational planning document for identifying in detail the information and "stories" National Area visitors should be offered. Current efforts are thematically structured but not according to a comprehensive plan. Available personnel make significant efforts to provide information to visitors and to the public at sites outside the National Area, such as schools.

Wayside exhibits, or informative signs, are located throughout the National Area to convey information; however, these are becoming dated. A phased wayside exhibit plan was prepared but only partially implemented due to lack of funding. Completion of wayside planning is awaiting completion of the general management plan. More interpretation of available resources is needed for expanding visitor education and appreciation. Resource management objectives could benefit by increasing the presentation of resources and their past and appropriate future uses.

Waysides are complemented by "off site" media, or materials, such as books, pamphlets and amphitheater talks. Guided tours, such as on the Big South Fork Scenic Railway, and guided walks are available. National Area partners providing river and horse trips also provide educational information to those using their services.

Special events currently include several programs and demonstrations illustrating thematically related subjects. These include story telling, a "spring planting," Cumberland Heritage Days, and a "longhunter pioneer camp" program depicting early exploration of the area.

Overall themes guiding the educational program would be systematically identified in the Comprehensive Interpretive Plan. Themes would relate to the National Area's purpose, its resources, their significance, and their use over time, including the terrestrial and aquatic ecosystems, early human use and exploration, early farm life, the extraction of natural resources, and recreational use.

Outreach to local community schools would continue to complement on-site personal services and facilities. Increased educational space is needed in the Bandy Creek area, and the plan includes this. No specific location has been determined, although use of existing structures would receive first consideration. On-site educational efforts would continue to be focused on the Bandy Creek and Blue Heron Mine developed areas, with guided activities offered throughout the National Area focused on specific resources.

The National Area does not have an extensive internal circulatory road system due to its terrain. Therefore, visitors must travel on the surrounding highway network to reach attractions in various locations. The plan includes visitor contact/orientation
stations in several locations outside the National Area (discussed further under Development Highlights, below). Visitors would be able to plan their trips more effectively than at present, which currently involves driving into the center of the Area.

The desired visitor experience identified for each type of zone, like the desired resource conditions, indicates the general visitor experience objectives for various sections of the National Area. (See the previous discussion in this chapter on zones.) The kinds and levels of management, use, and development for each zone provide an outline for achieving and maintaining those conditions.

Studies and plans needing attention that deal with visitor use, education, and resource interpretation include the following, in alphabetical order:

✓ Commercial Services Plan
✓ Comprehensive Interpretive Plan
✓ National Area-wide Sign Plan (directions and orientation), including directional signing on the surrounding road network
✓ Wayside Exhibit Plan (update)

Development Highlights/Introduction – Alternative D

Following are summary highlights regarding developed facility sites and also roads and trails. More detail is provided later in this chapter in the form of maps and itemized text.

No significant change is proposed in the overall level of development. Generally speaking, internal development is believed sufficient for use over the planning period. Certain additional facilities are identified and proposed that would fill identified gaps. Some existing development sites could be improved. There are heavy use times when certain facilities are crowded. Other ways of providing certain visitor services would likely be needed as visitation increases. Other than facilities that can only be provided inside the boundary, there are other facility types and services that could be provided by outside private interests in the surrounding area and in many instances are currently being provided. These include overnight accommodations (e.g., motels, campgrounds, bed and breakfasts), food services, groceries, equipment and supplies, guide services, and related or supplementary attractions.

Outreach to surrounding counties and towns would continue in order to strengthen and increase the benefits of being located together on the Cumberland Plateau. With no significant additional visitor facilities included in the plan for inside the National Area other than a basic system of roads, trails, and access points, the surrounding outside area would be in position to provide what visitors want and need to supplement their visits. Attractive resources exist outside the National Area, both natural and cultural. Many of these have already been recognized and are already being marketed. More could be. Efforts are being made to show visitors to the region how they can combine a number of areas and attractions for a more comprehensive visit. This can only increase the potential for longer stays by visitors and more return visits. Efforts at Stearns and Rugby are particularly notable. The restoration of the Barthell mining community by private interests is as well. Cooperation would specifically be sought to jointly provide services outside the National Area that would provide visitors and travelers with information about area opportunities. The Stearns Depot visitor center, co-located with the Big South Fork Scenic Railway, is an example of an off-site visitor facility with a park partner. Opportunities exist to cooperate with others for more comprehensive and effective visitor service. Suitable locations would be in or near Oneida-Huntsville, Jamestown, Rugby, and the Stearns-Whitley City-Winfield area.

The plan also reaffirms the NPS partnership mentioned in the National Area legislation.
with Rugby and with the McCreary County Heritage Foundation, operators of the Big South Fork Scenic Railway. These entities continue to expand and promote their offerings to the general public. Their relationship to the National Area is mutually beneficial, offering visitors a greater variety of related experiences. Cooperation has been excellent and, in the case of the railroad, NPS has no current plans to exercise the legislative provision that allows the acquisition of any necessary easements for resource protection.

Highlights/Development Priorities – Alternative D

NPS requires that all units of the National Park System identify development priorities via a strategic planning process. Upon final approval of the GMP, the National Area would initiate an update of its Strategic Plan.

Highlights/Developed Facility Sites – Alternative D

Existing sites have been considered in terms of continued use with no significant change, some level of rehabilitation, expansion, or removal. Generally, existing sites were reconfirmed and, for many, some level of work, or improvement, identified for them. The notable exception to this are the new sites that are proposed in the southwest portion of the National Area where NPS has been actively acquiring land in recent years, such as the Darrow Ridge and Tar Kiln Ridge areas, and where there are currently no designated facilities.

There are no significant changes identified for the First Order type development zones. Bandy Creek, Blue Heron, and the Headquarters area are considered essentially built out, although the management zones allow some changes or additions. For example, a fire facility is in the process of being constructed in the Headquarters Area, and a facility for museum collection storage is needed. Some of the existing office space is located in houses NPS acquired when it purchased the underlying land. These aging structures are not fully suitable for office use over the long term and are nearing the time for replacement. Improvements would always be needed to these three sites, but no deviations in management direction are foreseen.

A number of Second Order type developments are identified for improvement and two for new development. Two additional potential Second Order developments are identified, although these are not included in the preferred alternative. The new sites are mostly small Access type areas (essentially trailheads) and mainly in the southwest.

The maps following the road and trail highlights discussion show the location and category type for these sites. Descriptive text accompanies the maps.

Highlights/Roads and Trails – Alternative D

The following discussion highlights notable characteristics of the proposed official road and trail system. Maps and itemized text follow this discussion and provide information on individual development sites and road and trail alternatives.

In developing the proposed official road and trail system, NPS evaluated all currently designated, official roads and trails, plus all undesignated, unofficial roads and trails that are receiving any significant amount of use or have received significant use in the recent past. Field surveys, geographic information system data, the combined knowledge of National Area staff, and extensive public input contributed to the large number of roads and trails considered.

As a part of the planning process, the public was requested to provide comments on the characteristics of a "good" road and trail system. In addition to the general public,
representatives of the various user groups were convened to have a focused discussion on this subject. The summarized results of these latter discussions are included in the appendix. All comments received were evaluated by NPS and have been further distilled into the following general goals.

- System elements, i.e., individual roads and trails, should have a purpose sufficient to justify a continued expenditure of limited management resources.
- They should provide high-quality, enjoyable, and meaningful visitor experiences to appropriate user types and offer choices in terms of skill levels, remoteness, and solitude.
- They should lie lightly on the landscape, i.e., be environmentally friendly and avoid or be specifically designed to minimally affect sensitive resources.
- The system should be coordinated with outside interests to provide mutually beneficial linkages.
- The system should be sustainable, i.e., the resource base, visitor use, and management of the system should be kept in balance to prevent degradation of resources, the visitor experience, and also management capabilities.
- System elements must be consistent with applicable laws, regulations, and NPS policy.

Each of these generally stated goals is supported by numerous specifics from user input, which have also been used to guide selection of a variety of proposed system elements.

*Establishment of official road and trail system*

This plan would establish for the first time an official road and trail system for the National Area. It is important to note that under the proposed plan, road and trail use would only be allowed on the official system as identified and described in Alternative D (the Preferred Alternative). All trails not expressly included as part of the official system would be designated as “administratively closed.” In addition, public use of a particular road or trail would be limited to the designated use set forth in Alternative D. Only foot travel, which would be permitted anywhere, would not be restricted to designated routes. Thus, foot travel would be allowed on both designated trails and off-trail so long as no adverse impacts to resources were occurring. (Note: foot travel would be prohibited on administratively closed trails that are undergoing active restoration/rehabilitation.)

Oil and gas access roads are specifically and separately regulated. Most oil and gas access routes, i.e., those routes not significantly used by the general public, have been excluded from this plan (see below).

Portions of the official system may, from time to time, be unavailable for use as determined necessary by National Area management for visitor safety, resource protection, or maintenance. Any future changes in the official system would have to be evaluated and justified in terms of their relationship to the system as included in this plan. These changes would also follow established planning and compliance procedures. If future conditions indicate a change is needed, the implementation effort must identify the effects of the change on resources and users and determine the proper NEPA pathway for compliance documentation.

With road and trail use occurring only on the designated system, other routes used in the past would be closed, would not be maintained, and re-vegetation with native plants would be encouraged. Maintenance would therefore be allowed to focus on an “official” system and become more effective. Those other routes not on the official system would be monitored for erosion as needed and appropriate actions taken to
correct problems. Where necessary to protect resources, former trail segments would be actively rehabilitated by the NPS and/or park volunteers.

**Oil and gas roads**

Since the National Area legislation provides for continued mineral development on the plateau, or adjacent area, according to the limitations contained in that legislation, certain access roads have been constructed by the operators to well sites and their associated necessary facilities. Oil and gas rights and responsibilities are complex and regulated by both the states and the federal government. Management of roads and trails must consider oil and gas rights. Existing federal regulations provide a process whereby NPS evaluates these operations and can require modifications if needed to achieve the purposes of the National Area.

Currently, many oil and gas access routes are being used as routes by off-highway vehicles and horses where the public has access. This use is not always suitable because of safety, maintenance and resource issues. As noted above, oil and gas roads are allowed in the National Area, outside the gorge, for mineral owners and oil and gas operators to access oil and gas sites. Oil and gas sites include wells, pipelines and tank batteries where private minerals below the government owned surface are extracted, collected or stored. Management of these access roads and oil and gas sites would be specifically addressed in oil and gas plans of operations and a Big South Fork NRRA oil and gas management plan that would be developed. The recreational routes proposed in the plan that also are used by oil and gas operators have been identified as suitable for public use. Use and maintenance of these roads would be addressed through discussions with the oil and gas operators to insure an equitable cooperative management strategy. Oil and gas well access roads, other than those specifically designated for public use in the official roads and trails system, would not be open for recreational use.

**Use designations**

Use designations would be continued to permit specific user types to carefully plan an outing according to their objectives. Some users may wish to avoid other user types as much as possible, while others may not find certain types of use sharing a concern. In any case, by referring to the use designations, visitors would be able to plan a trip that best suits their wishes. For example, hikers could locate areas or corridors where there is the highest potential for solitude and/or the least potential for sharing trails with certain other use types.

**Noise controls**

The visitor experience would be enhanced in other ways. For example, controlling noise impacts would include the use of stock mufflers on all vehicles used in the National Area. Noise management in developed areas is currently regulated and would remain so. The visitor would play an important part in planning for an enhanced experience by visiting when possible during times of reduced use, seasonally and/or during weekdays.

**Horse/foot trails**

Some horse trails are identified where bike use would not be allowed. In public discussions, some horseback riders expressed a desire for trails where only other equestrians and hikers would be encountered. To make such an experience available in the National Area, it was concluded that some horse trails should be free of all other uses but foot travel. The horse trails so identified are Cotton Patch Loop, Pilot-Wines Loop, most of North White Oak Loop, a portion of Jack’s Ridge Loop, the Bandy Stables – Katie Trail Connector, the Station Camp Horse Camp
Connector, and the proposed new designations of Yellow Cliff Trail, Salt Pine Trail, and Darrow Ridge Trail.

**Bicycle use**

All trails proposed for bicycle use have been determined consistent with the protection of the National Area's natural, scenic and esthetic values, safety considerations and management objectives, and would not disturb wildlife or National Area resources.

Bicycle use would be designated on the currently-used bicycle trails with a new extension proposed to one of the trails. In addition, bicycles would share some of the lesser-used hiking trails on the west side of the river in the Rock Creek, Chestnut Ridge, and Cat Ridge areas.

**Time-sharing of trails**

In addition to shared use on many trails, time-sharing is another element included in the plan, in an experimental manner, to provide increased opportunities without increasing trail mileage. This management tool must be applied carefully in order to maintain a high degree of the desired experience of the different types of users. User types and applicable trail standards must be considered. Also, user education and enforcement would be considerations in application and evaluation. The plan would initially combine hiking and mountain biking on an experimental basis on Grand Gap Loop. The time-sharing arrangement being considered is for biking to occur on weekdays only. This trail was selected because of its scenic quality and because it was built to a hiking standard; as a result, the plan would allow bike use to be evaluated on a true hiking trail. Some places would require bikers to carry their bikes and they would be so instructed. This tool could be applied elsewhere at different locations or for different user groups as opportunities or needs arise.

If the Monday-Friday “experiment” works on Grand Gap Loop, consideration would be given to allowing bikes on the following two trails, also on a Monday-Friday basis:

- John Muir Trail (development map 7: trails 10 and JMT-20). This would allow a cycling loop that includes Alfred Smith Rd. -> John Muir Tr. -> Duncan Hollow Rd.

- Angel Falls Trail (development map 7, trail 3; development map 8, trail 1).

**Multiple-use trails**

This plan continues the trail type, “multiple-use trail.” This trail type allows various designated uses and is typically known in the National Area for allowing vehicles and horses on the same route. Significantly, it is a violation of regulations for horseback riding to occur on park roads. The plan addresses this issue by trail relocations and also by re-designating certain routes as multiple-use trails and maintaining them to trail, rather than road, standards.

The plan allows motor vehicles that are licensed and registered to be driven on multiple-use trails. The plan also allows ATV use on multiple-use trails by hunters actively hunting during big game season only (see discussion following). (Multiple-use trails would be closed to ATVs at all other times of the year.) Design and maintenance standards would be such that vehicles can usually only negotiate these routes at slow speeds. Where necessary, National Area staff would install speed reduction devices such as speed bumps and warning signs to ensure slow vehicular travel.

Consideration was given to relocating trail uses off of roads in order to enhance the safety and enjoyment of trail users. The potential for this was significant, but the construction of new trails to accomplish this in all cases was not considered appropriate.
unless there were overriding concerns in terms of visitor experience, including safety. Cost, increased maintenance efforts, and further disturbance of the natural environment were factors.

**Off-highway vehicle use**

Off-highway vehicle (OHV) use in the National Area currently occurs in many areas and for different reasons. Most users are from the local area and use these vehicles, primarily all-terrain vehicles (ATV), for general recreation and hunting. Users also arrive from outside the local area looking for riding opportunities. These vehicles are capable of heroic riding experiences, and, unfortunately, some users test themselves and their machines in ways that damage resources and disturb other users. This concern, multiplied many times over in many parts of the country, led to the issuance of Executive Orders 11644 and 11989. Signed by the President in 1972 and 1977, respectively, these orders require all federal agencies to regulate off-road, or off-highway, vehicles in order to minimize both damage to resources and conflicts with other users.

For the purposes of this document, the following definitions apply:

**Off-highway vehicle (OHV):** An umbrella term that includes the class of motorized vehicles that are designed for cross-country travel or operation on routes considered inadequate for the typical highway vehicle. These include all-terrain vehicles, four-wheel drive vehicles, “rail cars,” and motorcycles commonly referred to as “dirt bikes”.

**All-terrain vehicle (ATV):** Licensed or unlicensed (currently ineligible for licensing) three- or four-wheeled motorized vehicle having a seat/saddle a rider straddles and uses handlebars to steer.

**Four-wheel drives:** Licensed motor vehicle capable of four-wheel drive, in which the operator and any passengers sit within.

**Rail car:** Licensed motorized vehicle of open tubular construction, in which the operator and any passengers sit within. Unlicensed rail cars are not permitted within the National Area.

**Dirt bike:** Licensed two-wheeled motor vehicle. Unlicensed dirt bikes are not permitted within the National Area.

**ATVs/Hunting**

Clearly, there are responsible users and uses of OHVs. This plan’s preferred alternative attempts to provide for these in two ways. First, there are the hunters. Hunting is a legitimate use, as provided for in the National Area legislation. Many hunters, especially when hunting deer or wild boar, have used vehicles to get to desirable areas and for hauling game out. Under the Preferred Alternative, hunters would be able to use ATVs on multiple-use trails while actively hunting, during big game season only. Multiple-use trails would be closed to ATVs at all other times of the year. Big game season is defined for this purpose as the legal season for deer and wild boar only (in the future, elk and bear may be available for hunting; these species would also be classified as “big game”). Turkey season would not be included. The reason for this route designation is to permit the use of vehicles for the hauling out of heavy animals. hunters using ATVs on multiple-use trails during big game season would be required to possess a valid hunting license; they must be hunting big game and be in possession of an appropriate weapon.

Hunting other game besides deer and wild boar would continue to be available, but ATVs would only be allowed as described, i.e., on designated multiple-use trails, during big game season, when the ATV user is
engaged in hunting activities (note: it is illegal to hunt from a vehicle). Vehicles would not be allowed off of designated routes to retrieve animals.

**Experimental ATV routes**

Second, ATV routes for year-round general recreational use could be designated within "planning areas" identified for consideration of such use (reference Zone Map 5). The plan includes two such planning areas in the Darrow Ridge area that would provide opportunity to design an experimental prototype system. Any system would not provide for special features specifically considered as "challenges," i.e., boulder fields, water holes, and jumps, which are not natural.

ATVs would not be permitted on any park road or any other trail type (except multiple-use trails during big-game hunting season – see above).

**Addition/removal of specified trails**

It has been recognized that while the National Area has many miles of trails, there are certain gaps that exist in what could be a more integrated trail system offering a better visitor experience. The plan would fill these gaps, such as a connector linking the networks surrounding Station Camp and Bear Creek horse camps and the completion of the John Muir Trail. Lesser trails have also been considered and would be included, such as a substitute for the Blue Heron Campground Spur foot trail, which currently follows the access road, and an extension off an existing foot trail that would link all the overlooks located near the headquarters complex.

In some cases, existing designated trails may be removed where there are safety or resource issues, or where there is duplication of opportunity. For instance, it may become appropriate to combine the existing two North White Oak Loop crossings of TN 297 into only one crossing.

**Road and trail standards**

Road and trail standards are a critical part of the plan. For each road and trail, a standard is indicated that supports the designated use(s) and also is consistent with desired resource conditions in the surrounding area, or zone. Guidelines exist for the national park system as a whole, but each unit is expected to adapt the guidelines for its own conditions. Adaptation of the guidelines occurred using the suggestions from user group representatives and National Area personnel. Specific standards cover a variety of uses and purposes. Descriptions of these standards are in the appendix. Included with the standards are illustrative photographs and a typical work plan for trail maintenance.

Standards in the appendix are typically expressed in terms of maximum widths. Trails can and should be narrower in more remote areas and in areas within the Sensitive Resource Protection Zone. Trails located on former roadbeds need not necessarily be maintained to road width. On the other hand, staffing levels would often dictate the amount of vegetation clearing adjacent to trail treads. Where return intervals for maintenance treatments are lengthy, more vegetation would be cleared from trailsides in order to ensure that the trail stays open between treatments. Vegetation management along roads and trails would avoid the encouragement or spreading of exotic species and would be conducted in a manner that acknowledges sensitive plant communities and species of management concern (e.g., state or federally listed species).

In addition to specific standards, the planning and design of roads and trails needs to take into account their effects on resources, especially those highly sensitive to human disturbance. The combination of the zone management prescription, the use designation, and the appropriate standard
would provide the design guidance for a specific road or trail in a particular location. General policy includes complete physical avoidance of sensitive resources where reasonable alternatives are available. Additional factors such as sight and sound could increase the distance a road or trail may need to be routed away from or around some resource. Specific distances would depend on the type of resource and the type of use(s) and would be considered as resources are monitored and/or during specific project planning, including maintenance. As a general rule, a 100 to 200-foot buffer would be considered, with any access within that distance being subject to extra evaluation measures. The National Area’s automated database would provide the first level of analysis of any issues of proximity to sensitive resources.

As a general rule, old roadbeds are unsuitable locations for trails. All new trails would conform to the trail standards in this plan to the maximum extent practicable, including the standards for slope and drainage configurations. The long-term goal for trails currently existing on old roadbeds where resource damage is occurring is to relocate and rebuild the trail at an appropriate grade with the necessary drainage characteristics. Where relocation is not feasible and resource damage is occurring, closure of trails is an option.

*Use capacity*

In the absence of data on the condition and use—and the relationship between the two—for each road or trail, the assignment of a pre-determined use capacity (number) on specific routes has not been attempted. Coupled with possible opportunities for changes with additional planning and design, capacity levels have been addressed in a more general manner. The basic consideration has been to identify desired conditions for resources and a desired visitor experience for each management zone type and a management prescription to achieve and maintain those goals, including practical indicators and standards. On-going research, monitoring, and adaptively managing in response to findings is considered the only practical way to identify and address capacity type issues. Generally, some routes leading to specific attractions may be in jeopardy of exceeding acceptable capacity levels, either for the resource or visitor experience, or both. Prior to limiting the number of visitors at a certain attraction, specific evaluation of options including other planning/design solutions could yield ways to continue unrestricted numbers to visit an attraction and still meet identified standards. When conditions require, however, National Area management can impose current federal regulations to limit or otherwise regulate use, either permanently or temporarily. Specific studies would be conducted to address significant issues.

*Monitoring road and trail conditions*

Monitoring the condition and use of the road and trail system is crucial to achieving visitor experience and resource objectives. The plan would include a significant increase in monitoring as management responsibility. Because of the continued likelihood of limited funds, this effort would necessitate a creative approach involving not only National Area personnel but also others interested in the area’s use and well being. Achieving and maintaining the desired conditions of the various zones would require the cooperative involvement of partners in a variety of efforts including not only monitoring but also trail building and maintenance. The Big South Fork Bicycle Club continues to be an outstanding example of an able and willing partner. Others from the various user groups have stepped forward as well.

*Trail hubs*

There are areas where trails naturally converge, such as near trailheads, at water crossings, and at breaks in the cliffs. These areas deserve special consideration. Trail
density can be higher, and use is usually more concentrated. Areas having multiple converging trails are frequently referred to as "hubs," with the radiating trails being the spokes. The area immediately west of the Station Camp river crossing is one such location. Where these concentrations are appropriate, special management considerations may include some deviation in standards. These could include increased trail widths, increased surface hardening, or more signs, in addition to a higher level of monitoring for resource impacts and visitor satisfaction. They could also include greater notification of changing experience conditions.

**Stream crossings**

Trail crossings of the rivers and streams would get increased scrutiny. Trail crossings exist where the water is typically shallow. These areas are sometimes important habitat for certain aquatic species, perhaps most significantly, endangered mussels. (See policy statement on horses and mussels in the appendix.) Agreement with the U.S. Fish and Wildlife Service has been reached for interim treatment, i.e., flagged corridors, at certain existing crossings to minimize impacts on mussels from trail users. As mentioned in the discussion of resource management, studies are planned, along with detailed environmental compliance, to further investigate how best to provide crossings where they are needed.

**Use of O&W roadbed**

Under the plan, the route of the old O&W railroad would provide continued passenger vehicle access to the O&W bridge from the east. The route would be improved to the extent of providing safe passage. Within its jurisdiction, Scott County has acquired and maintained a deeded interest in the former O&W right-of-way. This interest is coupled with an implied dedicated easement in favor of the public to travel on the right-of-way from the eastern boundary of the National Area to the point it intersects North White Oak Creek. Coordination with Scott County on the improvement would be essential to achieve desired use and resource conditions.

The O&W route west of the bridge (determined abandoned in Fentress County) to trail connections near the western boundary of the National Area would be a trail designated for foot, horse, and bike use. This is consistent with previous studies. The route would be brought to a standard suitable for the intended trail uses.

**Trail connections to adjacent public lands**

The Preferred Alternative provides for additional trail connections to areas outside the boundary in several locations. Currently, there are numerous designated trails that cross the National Area boundary to link with trails provided by other public agencies, i.e., Daniel Boone National Forest, Pickett State Park and Forest, and Scott State Forest. However, additional connections are needed to optimize opportunities in the National Area.

A need exists for horse trail connections between the Daniel Boone National Forest and the National Area. Specifically, connections are desirable between Barren Fork Horse Camp and Bell Farm on the National Forest and Bear Creek Horse Camp and other horse trails in the National Area. Under the Preferred Alternative, provision is made for horses using the Sheltowee Trace west of the river by connecting with National Area trails through Ledbetter Trailhead and proceeding eastward to Bear Creek Horse Camp or westward to Peters Mountain and Bell Farm. This eliminates the need for the Trace's current routing on Laurel Ridge Road. Future connections from the east, i.e., the Forest Service's Barren Fork Horse Camp, would be coordinated with Forest Service planning. Current thinking involves using Negro Creek Trail and the portion of
the Trace south to KY 92 and possibly the K&T Bridge.

The plan calls for completion of the John Muir Trail. Major new sections are proposed for the Clear Fork corridor and in the Hurricane Ridge – Big Woods area. This would provide a continuous hiking, or backpacking, experience through the National Area and tying to trails outside. For example, the John Muir Trail would be extended all the way to the south end of the National Area at Peter’s Ford. This would allow for possible future connections to the state’s Cumberland Trail.

Access to trail system from adjacent private lands

In some areas, no official route or other formal provision exists for trails entering the Area from privately owned lands outside the boundary. These trails were reviewed for possible inclusion in the proposed designated system. Major considerations were a high or growing user population near the National Area, the potential for a dedicated trailhead open to use by the general public (with vehicle access), compatibility with both the proposed system and National Area objectives, non-duplication of proposed system elements, and public interest.

At some locations, unofficial trails cross the boundary providing what amounts to private access to individual adjacent landowners. This practice is not allowed under the Preferred Alternative. A proposed solution is for landowners to cooperate in providing each other trail access across their lands to a central point along the boundary where a public trailhead would be provided. A good example of this already exists in the Spruce Creek subdivision where a collector trail on private lands enters the boundary at the Cumberland Valley Trailhead, just off TN 297. Connections with outside trails or trailheads can provide a larger, regional system available to users.

Competitive events

Competitive events using the National Area’s trail system are a popular and appropriate use within specific limits. Special Use Permits are necessary to allow management to consider the nature and effects of the events and to control their conduct. Generally, events involving horseback riding and bicycles would continue to be allowed, limited to routes designated for their respective uses. Foot travel events would continue to be allowed on and off designated routes. Orienteering, or cross-country/map-and-compass events, is gaining in popularity. Any proposed off-trail events would be especially reviewed to avoid potential resource conflicts. Motor vehicle events would continue to be disallowed. Because competitive events typically involve repeated impacts by participants over a short period of time, routing would be given a high level of review. For this reason, special consideration would be given to the Big South Fork River during low flow periods in order to provide extra protection to endangered mussels.

Trail mileage

An analysis was undertaken to compare trail mileage among the several alternatives. The following table displays on a National Area-wide basis mileage of various trail types under the different alternatives. In using the table, it should be kept in mind that most user groups are allowed to use more than one trail type. For example, horseback riders may use both horse trails and multiple-use trails. As a result, the mileage of hiking, biking, and horse trails as set forth in the table is less than the overall trail mileage available to each of these user groups. (Note: not all of the trail miles open to a particular user group may actually be optimal for that group’s activities.)

Specific discussion of what uses are allowed on which trail types is provided in the section below under Individual
Proposals. Again, D is the NPS Preferred Alternative; Alternative C represents the “existing condition,” or no-action alternative (Alternative C generally represents the trail system as used by park visitors in 2003); A and B are the alternatives carried over from the February 2000 draft.

<table>
<thead>
<tr>
<th>TRAIL TYPE</th>
<th>ALTERNATIVE</th>
<th>MILES</th>
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</thead>
<tbody>
<tr>
<td>Hiking</td>
<td>A 133</td>
<td>B 146</td>
</tr>
<tr>
<td></td>
<td>C 129</td>
<td>D 141</td>
</tr>
<tr>
<td>Horse</td>
<td>A 169</td>
<td>B 187</td>
</tr>
<tr>
<td></td>
<td>C 156</td>
<td>D 182</td>
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<td>49</td>
<td>B 50</td>
</tr>
<tr>
<td></td>
<td>C 50</td>
<td>D 49</td>
</tr>
<tr>
<td>Mountain Bike</td>
<td>22</td>
<td>B 24</td>
</tr>
<tr>
<td></td>
<td>C 8</td>
<td>D 24</td>
</tr>
<tr>
<td>TOTAL MILES</td>
<td>374</td>
<td>407</td>
</tr>
<tr>
<td></td>
<td>343</td>
<td>396</td>
</tr>
</tbody>
</table>

State and County Roads

Large vehicles, including commercial 18-wheelers and certain recreational vehicles, use TN 297 through the center of the National Area. Use of this steep winding route through the gorge is not desirable and can be unsafe for visitors wishing to experience the scenic serenity of this main access road into the National Area. The plan includes evaluating a prohibition on large vehicles using TN 297.

A number of county roads exist in the National Area, mostly short dead-end routes. The plan would continue existing cooperation with the counties. Maps of county roads are included in the appendix.

Boating

River access for boating is provided by roads and some trails. No change is proposed in the existing legislatively authorized access points. Access would be enhanced by upgrading certain trails and development/access sites, but no additional access points are proposed. Trail access to overlooks on the gorge rim is a concern from the standpoint of potential effects on boater experiences. When not having to concentrate on maneuvering through swift water and rapids, boaters, like others, enjoy the serenity of natural surroundings. The management prescription for cliff edges would address this concern. Trails paralleling the river are also a concern in this regard, and trail proposals are included only where believed appropriate, considering the need to “share” the river corridor. Boater camping along the rivers, apart from development sites included in this plan, would be addressed in a backcountry management plan. Portage trails around rapids are used by boaters; however, their routes and use are subject to change due to floods. These routes are not specifically identified in this plan. Current conditions would continue to be available from National Area personnel.

Individual Proposals – Alternative D

Using the development maps

The following series of maps and accompanying itemized text discussions present the preferred alternative (plan) for development, including the road and trail system. The existing situation is referenced to help identify differences. Graphic limitations prevent a fully detailed illustration of all the plan’s characteristics. Consequently, the text accompanying each map must also be referenced in order to gain the best understanding of the plan.

Specific roads or trails of reader interest can be found in two ways. The reader may first refer to the index map following this discussion that shows the National Area and how it is divided up for map coverage. There are eleven maps that, together, cover the entire National Area. Next, find the map
that covers the area of interest. Only certain names are included on these maps for reference purposes. The names of all roads, trails, and development sites appear in alphabetical order in the text following that map and are linked to the map by number. A second way is to refer to the Roads and Trails Index to Maps located in the appendix. This provides a comprehensive listing, in alphabetical order, of all the roads and trails considered. It also indicates the particular map or maps on which the route is located and the map numbers assigned. Routes may be listed in segments, indicating the route is either discussed or treated in some manner in segments or data were collected and stored by segment.

Most roads and trails discussed already exist, and the various map lines simply represent their existing alignments. Other trails discussed do not exist at present, and the map lines only indicate approximate locations. Specific alignments of any new trails would be the subject of later planning and compliance evaluation. The text items also show how the specific development sites and roads and trails would relate to Alternatives A and B.

It is important to note that text references in the Description to current use include all known uses, legal and illegal. For instance, if vehicle use is occurring where it is inappropriate, that use is still shown as a current use. The uses indicated for the preferred alternative, or any other alternative, would only include those that are legal and appropriate.

The following series of eleven maps depict several types of routes and their allowed use types:

- Hiking Trails (hikers only)
- Mountain Bike Trails (mountain bikes and hikers)
- Horse Trails (horses, hikers, and mountain bikes – bikes on most horse trails)
- Multiple-Use Trails (4WD, horses, mountain bikes, hikers, and, during big game season while actively hunting, ATVs. 2WD where route allows.)
- Less-than-2-Lane designated Roads, gravel or dirt (horses and ATVs are not allowed on designated roads by law and regulation)
- 2-Lane Roads, gravel (horses and ATVs not allowed as indicated above)
- 2-Lane Roads, paved (horses and ATVs not allowed as indicated above)

Methods of travel would be allowed, as designated, on the different types of routes as follows:

- By foot – on all designated trails and off-trail, except in locations that have been closed per the Superintendent’s compendium.
- Horse – on all designated horse trails and multiple-use trails
- Bicycle – on all designated bike trails; horse trails, except where designated for horse use only; multiple-use trails; and on all public routes used by motor vehicles
- ATV (licensed or unlicensed) – only on specifically designated recreational ATV routes within the ATV planning areas, and multiple-use trails during big game season while actively hunting (other unlicensed vehicles prohibited throughout the National Area)
- Licensed 2- or 4-wheel drive vehicle, licensed rail car, or licensed dirt bike – on public roads and multiple-use trails

In the text comments about each site, road, and trail, three consistent terms are used to explain their status. They are: “designated,” where they are currently officially recognized; “existing, undesignated,” where they are used but only informally; and “proposed new,” where they do not currently exist and are now being considered.

Two additional terms are used in the text items consistently. They are: “site plan” and
"site review." "Site plan" is used in the cases of proposed new facilities to indicate a more detailed project planning effort since previously undisturbed land would generally be involved. "Site review" is used in the cases where existing, undesignated routes are proposed for designation. This review at a minimum would entail a field review and use of the NPS' environmental screening form to determine the extent of environmental compliance documentation needed. Either the site plan or site review evaluation could result in a change in the action proposed in this plan.

Programmatic treatment of certain trail, trailhead, and road projects

This document is considered programmatic in that it includes an analysis of the environmental consequences of typical new trails and trailheads and existing site, road, and trail rehabilitation, maintenance, use, and management. As such, this document would serve as the environmental documentation for individual trail, trailhead, and road projects that conform to the parameters discussed herein.

Elements of individual proposals would include the following:

- Projects could involve building trails in previously undisturbed areas. (No new roads are proposed.) These trails could range in tread width from 18 inches (minimum for foot trail) to eight feet (maximum for horse trail). The appendix includes dimensions for the various types of trails proposed for the National Area. Activities would typically include surveying and flagging the route for the best possible alignment, clearing trees and brush according to trail standards from the corridor using chainsaws and brush axes, removing stumps by grubbing, and excavating where needed for tread material installation. Grade dips, water bars, and cross drains would be placed where appropriate to facilitate drainage; geotext fabric or webbing would be placed as needed at stream crossings; and turnpikes or puncheons used where needed in wet areas. This would include the use of equipment suited to the desired standard. This means that trails from 18 to 24 inches would typically be hand dug using tools such as picks and shovels, pulaskis, and Mcleod rakes. (Where appropriate, heavier machines can be used.) Trails from two feet to six feet would be built using the previous tools, plus tracked wheelbarrows, "Dingos" (mechanical auger), and ATV-type dump vehicles. Trails wider than six feet would be built using the any of the above, plus a small bulldozer, where appropriate. A typical trailhead (Access site) would range in configuration from 4 to 15 vehicles—average assumed to be 8 vehicles—in new sites or additions to existing sites. The location of a trailhead is assumed to be immediately adjacent to a road but could include a very short—less than 50 feet—access road connecting the road and parking area. Activities involved in implementation would typically include those used for wider trails. The surface would typically be graveled and have cement or log wheelstops. An informational sign would be provided.

- Projects could involve rehabilitation of all or major portions of an existing trail, trailhead, or road. Such work would include any type of significant work required to bring an existing route to a desired standard. Work could include many of the elements of installing a new facility except the work would be concentrated on the existing road or trail. Some re-routing may be necessary.

- Routine maintenance projects would involve clearing, restoring clearances, cleaning and repairing drainage structures, and repairing surfaces, bridges, other structures, and signs.
(See annual work plan in appendix for additional detail.)

- **Protection** and environmental compliance measures for different project phases would include:
  
  
  ✓ **Pre-project**: surveys and field investigations to identify possible involvement with resources identified in the sensitive resource zone discussion, especially archeological surveys and field checks for threatened or endangered species, including coordination with agencies having jurisdiction. Surveys would also identify any resources which, if damaged or destroyed, could result in impairment of National Area resources or values. Results of the surveys and other available information would be used by NPS personnel to complete appropriate environmental screening as prescribed by NPS policy to determine whether any potential impacts could occur that have not been identified and analyzed in this document. If any such impacts are identified, a site-specific environmental compliance process would be completed prior to commencement of work.

  Any adverse impacts identified in connection with a project would be avoided if practical or minimized by altering the route or design standard. Projects that could result in resource impairment would not be approved.

  ✓ **During project**: best management practices (BMP) for erosion control, including silt fencing such as plastic, hay bales, and brush barriers; sediment traps and check dams; mulching and replanting disturbed areas.

  ✓ **Post-project**: monitoring according to indicators and standards identified in the zone discussions or more refined techniques and other physical condition and visitor experience assessment methods.

  - **Use** of the trails and roads, according to use designations referenced herein.

  - **Adaptive management**, according to monitoring feedback. This could include managing use differently by redirecting, reducing, or otherwise changing an existing use pattern. It could also include changing the physical design, changing work methods, or changing maintenance parameters.

  A series of eleven maps, each with accompanying text, follows. In the event of a discrepancy between a particular map and the accompanying text, the text is controlling.
DEVELOPMENT SITES

Alum Ford (Map 1, Site 2)

Description: Existing designated site provides boat launching, camping in small unimproved campground, and trail access. Launch area and parking subject to flooding. Access by KY 700.

Alternatives/actions:
- Preferred: Continue existing uses; site review; minor improvements to campground; minor potential for campground expansion. (Second Order)
- A: Same as Preferred
- B: Same as Preferred

Big Creek (Map 1, Site 3)

Description: Existing designated site provides small boat launching and primitive camping. Access by Big Creek Road.

Alternatives/actions:
- Preferred: Continue existing uses; site review; improve parking; add picnicking. (Second Order)
- A: Same as Preferred
- B: Same as Preferred

Yahoo Falls (Map 1, Site 4)

Description: Existing designated site provides picnicking and trail access. Access from KY 700.

Alternatives/actions:
- Preferred: Continue existing uses. (Second Order)
- A: Same as Preferred
- B: Same as Preferred

ROADS AND TRAILS

Alum Campground Road (Map 1, Road 1)

Description: Short, designated gravel road suitable for 2 wheel drive vehicles providing campground access from Alum Ford Road.

Alternatives/actions:
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: 2C

Alum Creek Road (aka Chicken Bristle Road) (Map 1, Road 2)

Description: Designated gravel and dirt road currently closed by storm debris and very substandard. Previously used by 4 wheel drive vehicles and ATVs mainly for river access and access for hunting.

Alternatives/actions:
- Preferred: Reopen for suitable road use following acquisition of adjacent private land
- A: Same as Preferred
- B: Same as Preferred

Standard: 4

Big Creek Road (Map 1, Road 3)

Description: Designated gravel road used by 2 and 4 wheel drive vehicles for water access at Big Creek development area. Road is substandard.

Alternatives/actions:
- Preferred: Continue as designated; bring to standard
- A: Same as Preferred
- B: Same as Preferred

**Standard: 2B**

**KY 700 (aka Alum Ford Road) (Map 1, Road 6)**

*Description:* Designated paved road providing access to Alum Ford development site, which provides water access and camping. Also used for cemetery access. Road shoulder failure evident near ramp.

*Alternatives/actions:*
- Preferred: Continue as designated; coordinate maintenance with state
- A: Same as Preferred
- B: Same as Preferred

**Standard: 2B**

**KY Highway 92 (Map 1, Road 7)**

*Description:* Designated paved through road. Sheltowee Trace hiking trail crosses the river on the KY 92 bridge. Bridge is narrow for existing uses.

*Alternatives/actions:*
- Preferred: Continue as designated; coordinate with Commonwealth
- A: Same as Preferred
- B: Same as Preferred

**Standard: 1A**

**Negro Creek Trail (Map 1, Trail 8)**

*Description:* Designated hiking-only trail on old road used as a connector to and from the National Forest. Route also used inappropriately by ATVs and horses.

*Alternatives/actions:*
- Preferred: Continue hiking use, but coordinate with Forest Service in the future provision of designated horse use entering from the National Forest for travel to points west and south.
- A: Same as Preferred
- B: Same as Preferred

**Standard: F-4 (H-5)**

**Sheltowee Trace (Map 1, Trails 9, 10)**

*Description:* Designated National Recreation Trail, a long-distance trail located mostly on Daniel Boone National Forest and also on Pickett State Park and Forest. National Area portions of this trail are located in Kentucky, in proximity to and north of KY Highway 92, and in Tennessee west of Divide Road. The portions in the National Area are designated for hiking only. The route uses the KY 92 bridge. The portion in Tennessee west of Divide Road shares its route with other named foot trails, including the John Muir Trail. Segment A enters the National Area near Big Creek and ends at Negro Creek Trail. Segment B proceeds to the KY 92 bridge.

*Alternatives/actions:*
- Preferred: Continue hiking only use on segment A; coordinate with the Forest Service in the future provision of designated horse use on segment B. Future planning for horses (and hiking) would consider possible use of the K&T bridge.
- A: Same as Preferred
- B: Same as Preferred

**Standard:** Segment A: F-4; Segment B: F-4 (H-5)
Wolf Ridge Divide Trail (Map 1, Trail 12)

Description: Existing, undesignated old road entering from Daniel Boone National Forest used by ATVs during hunting season.

Alternatives/actions:
- Preferred: Site review; designate as multiple use trail
- A: Same as Preferred
- B: Same as Preferred

Standard: 4

Yahoo Area Trails/Yahoo Arch Trail (Map 1, Trail 13)

Description: Designated system of foot trails providing short, scenic hikes to and around Yahoo Falls. Yahoo Arch Trail shared with National Forest. Some of these trails have historic value, having been built by the Civilian Conservation Corps.

Alternatives/actions:
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: Historic compatibility; foot use

Yahoo Falls Access Road (Map 1, Road 14)

Description: Designated 2-lane gravel road suitable for 2 wheel drive vehicles for access to day use development area and trails. Portion on National Forest.

Alternatives/actions:
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: 2B
TEXT TO ACCOMPANY MAP 2

DEVELOPMENT SITES

Blue Heron Campground (Map 2, Site 1)

Description: Existing designated site provides camping in improved campground. Access by Blue Heron Road (Mine 18 Road) and campground access road.

Alternatives/actions:
- Preferred: Continue existing use; minor expansion for group camping, picnic shelter, and parking (Second Order)
- A: Same as Preferred
- B: Same as Preferred

Blue Heron Mine (Map 2, Site 2)

Description: Major existing, designated coal mine exhibit provides educational opportunities, trails, trail access, and water access. Access by Blue Heron Road (Mine 18 Road) and passenger train.

Alternatives/actions:
- Preferred: Continue existing uses. (First Order)
- A: Same as Preferred
- B: Same as Preferred

Devils Jump Overlook Access (Map 2, Site 3)

Description: Designated overlook trailhead. Access by Blue Heron Overlooks Road.

Alternatives/actions:
- Preferred: Continue existing uses. (Access)
- A: Same as Preferred
- B: Same as Preferred

Gorge Overlook (aka Blue Heron Overlook) (Map 2, Site 5)

Description: Existing designated site provides access to overlook and trails. Large parking area, paved trail, shelter, and picnic tables provided. Access by Blue Heron Overlooks Road.

Alternatives/actions:
- Preferred: Continue existing use.
- (Second Order)
- A: Same as Preferred
- B: Same as Preferred

K&T Railroad Bridge/Yamacraw Town Site (Map 2, Sites 6, 7)

Description: Potential new site would provide stop for scenic railroad as the railroad service may be extended. Depending on inspection of the bridge, the site could be west or east of the river. The western site would be more conducive to related uses, including trail and river access and parking. Access by railroad and by KY 1363 on west side.

Alternatives/actions:
- Preferred: Site plan; coordinate provision of facility with Big South Fork Scenic Railway (Second Order)
- A: Same as Preferred
- B: Same as Preferred
Laurel Branch Access (Map 2, Site 8)

Description: Potential new site would provide trail access. Access would be by Laurel Branch Rd.

Alternatives/actions:
- Preferred: Site plan; construct or coordinate provision of trailhead for vehicles. (Access) (Note: Improvements would depend on use of Laurel Branch Road for contaminated mine drainage project.)
  - A: Same as Preferred
  - B: Same as Preferred

Worley (Map 2, Site 9)

Description: Existing designated site provides river access. Inadequate access. Access from KY 791.

Alternatives/actions:
- Preferred: Site plan; improve access, parking and trail; interpret former town site; coordinate with train planning and contaminated mine drainage restoration effort. (Second Order)
  - A: Same as Preferred
  - B: Same as Preferred

Yamacraw East (Map 2, Site 10)

Description: Existing designated site provides river access and picnicking. Access by KY 92.

Alternatives/actions:
- Preferred: Continue existing uses; site review; improve and expand picnicking. (Second Order)
  - A: Same as Preferred
  - B: Same as Preferred

Yamacraw West (Map 2, Site 11)

Description: Existing designated site provides river access and boat launching.

Existing boat ramp is plagued by erosion. Access by KY 92.

Alternatives/actions:
- Preferred: Site review; investigate better boat ramp opportunity. (Second Order)
  - A: Same as Preferred
  - B: Same as Preferred

ROADS AND TRAILS

Bald Knob—Hill Cemetery Trail (aka Ledbetter Road; Old Bear Creek Crossing Road) (Map 2, Trail 1)

Description: Designated gravel road suitable for use by 2 wheel drive vehicles to access the Ledbetter trailhead (see Map 3, Site 4) and for access to cemeteries and for hunting. A portion is also used as part of a foot trail, the Kentucky Trail.

Alternatives/actions:
- Preferred: Redesignate as multiple use trail; allow horses from National Forest using Sheltowee Trace to access proposed Long Trail North horse trail
  - A: Same as Preferred
  - B: Same as Preferred

Standard: MU

Barthell Road (Map 2, Road 2)

Description: Designated gravel road suitable for 2 wheel drive vehicles and used for access to privately owned community restoration project.

Alternatives/actions:
- Preferred: Continue as designated
  - A: Same as Preferred
  - B: Same as Preferred

Standard: 2B
Big Spring Falls Trail (Map 2, Trail 5)

Description: Designated foot trail used to access Big Spring Falls.

Alternatives/actions:
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: F-4

Blue Heron Loop Trail (Map 2, Trail 9)

Description: Designated foot trail used for loop hikes and access to overlooks and mine exhibit.

Alternatives/actions:
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: F-2

Blue Heron Campground Access Road (Map 2, Road 6)

Description: Designated two-lane paved access road to developed campground. Also used to access land-locked private land.

Alternatives/actions:
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: 2A

Blue Heron Overlooks Road (Map 2, Road 10)

Description: Designated two-lane paved road providing access to two developed overlooks and trails.

Alternatives/actions:
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: 2A

Blue Heron Campground Spur Trail (current: Map 2, Trail 8; new: Map 2, Trail 7)

Description: Designated foot trail connecting campground with Blue Heron Loop Trail. Trail is mostly on the campground access road and is located very close to NPS residence.

Alternatives/actions:
- Preferred: Remove trail designation from existing route and provide new trail between campground and Blue Heron Loop Trail that avoids using roads.
- A: Not included
- B: Same as Preferred

Standard: F-3

Blue Heron Residence Access Road (Map 2, Road 11)

Description: Designated paved administrative use road.

Alternatives/actions:
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: 2B

Blue Heron Road (aka Mine 18 Road) (Map 2, Road 35)

Description: Designated two-lane paved access road leading to the Blue Heron Mine exhibit, developed overlooks, campground, river, and the Barthell community restoration project, a private venture.
Alternatives/actions:
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: 2A

Blue Heron Tram Bridge (Map 2, Trail 12)

Description: Designated historic tram bridge providing pedestrian access over river and for viewing.

Alternatives/actions:
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: F-3

Dick Gap Connector Trail (Map 2, Trail 15)

Description: Designated connecting foot trail used to access the Kentucky Trail.

Alternatives/actions:
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: N/A

Dick Gap Overlook Trail (Map 2, Trail 16)

Description: Designated gravel foot trail used for overlook access.

Alternatives/actions:
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: F-3

Devil Creek Road (Map 2, Road 13)

Description: Designated old road used for administrative purposes only (powerline access).

Alternatives/actions:
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: 5B

Devil's Jump Overlook Trail (Map 2, Trail 14)

Description: Designated paved trail leading to overlook. Marked for use by those with disabilities (ADA).

Alternatives/actions:
- Preferred: Continue as designated; site review: minor realignment
- A: Same as Preferred
- B: Same as Preferred

Standard: ADA

Dick Gap Road (Map 2, Road 17)

Description: Designated gravel road suitable for 2 wheel drive vehicles for access to overlook, trailhead, and gravesite. Portion used as horse trail.

Alternatives/actions:
- Preferred: Continue as designated; relocate horse trail
- A: Same as Preferred
- B: Same as Preferred

Standard: 2B

K & T Railroad (Map 2, Railbed 19)

Description: Designated route historically used for logging and coal mining operations along and west of the river. Route extended from Stearns to Blue Heron mine and from there north to Yamacraw and points west, over the K & T Railroad Bridge. Scenic train ride offered by non-profit organization from Stearns to Blue Heron mine exhibit. Plans
are underway to extend train ride on its right-of-way to K & T Bridge in phases.

Alternatives/actions:
- Preferred: Coordinate with organization to continue and expand compatible operations
- A: Same as Preferred
- B: Same as Preferred

Standard: N/A

Kentucky Trail (Map 2, Trails 20, 22, 23, 24)

Description: Designated long-distance hiking trail. Besides trail sections, the trail route lies on old coal tramways, and old and existing roads. Small portion on north end lies on National Forest.

Alternatives/actions:
- Preferred: Continue as designated; consider relocating portion off of Wilson Ridge Road; allow bicycle use on that portion between the Blue Heron Tram Bridge and Dick Gap Trailhead to provide a bike connection to Long Trail North and Dick Gap Road.
  - A: Same as Preferred
  - B: Same as Preferred

Standard: F-4 (where another use would not determine a different standard)

KY Highway 92 (Map 2, Road 27)

Description: Designated paved through road. Sheltowee Trace hiking trail crosses the river on the KY 92 bridge. Bridge is narrow for existing uses.

Alternatives/actions:
- Preferred: Continue as designated; coordinate with Commonwealth
  - A: Same as Preferred
  - B: Same as Preferred

Standard: 1A

Laurel Branch Horse Trail (Map 2, Trail 28)

Description: Designated graveled horse trail largely on route of old coal tram line used to access Blue Heron and horse trails west of river. Also used some by bikes. Route along tram line is susceptible to slides, goes by old mine openings, and has poor drainage in certain locations.

Alternatives/actions:
- Preferred: Continue as designated; bring to standard; address mine openings
  - A: Same as Preferred
  - B: Same as Preferred

Standard: H-4

KY Highway 1363 (Map 2, Road 25)

Description: Designated two-lane paved road used as through route for access to points west of river.

Alternatives/actions:
- Preferred: Continue as designated; coordinate with state
  - A: Same as Preferred
  - B: Same as Preferred

Standard: 1B

Laurel Branch Trail (Map 2, Trail 29)

Description: Designated, short gravel and dirt road used by 4 wheel drives and increasing numbers of horses to access the horse trail and for hunting access.

Alternatives/actions:
- Preferred: Designate as multiple use trail; provide small access site/trailhead near boundary; bring to standard (Note: Improvements would depend on expected route use for contaminated mine drainage project.)
Lee Hollow Loop (Map 2, Trail 31)

Description: Designated gravel horse trail providing recreational loop ride and connection to other trails. Also used some by bikes.

Alternatives/actions:
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: H-5

Lick Creek Trail (Map 2, Trail 32)

Description: Designated old road used by ATVs. Also used by hikers as part of the Sheltowee Trace trail. Route is in poor condition from floods, wet soils, and ATV use.

Alternatives/actions:
- Preferred: Designate for hiking use, but coordinate with the Forest Service in the future provision of designated horse use (see Sheltowee Trace)
- A: Same as Preferred
- B: Same as Preferred

Standard: H-5

Long Trail North (Map 2, Trails 23, 33)

Description: Designated horse trail connecting Blue Heron with Peter’s Mountain Trailhead and points beyond, including trails on Daniel Boone National Forest. The majority of the current route uses two well-traveled roads, including Laurel Ridge Road, which has safety and visitor experience issues.

Alternatives/actions:
- Preferred: Site plan; relocate trail off of roads except for the portion between Blue Heron and Dick Gap Road, which is not on presently used roads; rename trail at some future point as a segment of the Sheltowee Trace. Trail would be mostly relocated onto old roads and existing trails within the National Area. There would be one section between Cat Ridge Road and Peter’s Mountain that could involve some new routing.
- A: Same as Preferred
- B: Same as Preferred

Standard: Trails 36, 38: F-4 (H-5); Trail 32: 4
Waters Cemetery Road (Map 2, Road 40)

Description: Designated gravel road suitable for use by 2 wheel drive vehicles and used to access cemetery, Dick Gap Overlook, trails, and for hunting access. Portion of road used by horses.

Alternatives/actions:
- Preferred: Continue as designated road; relocate horses to proposed Long Trail North
- A: Same as Preferred
- B: Same as Preferred

Standard: 2C

Worley Road (Map 2, Road 41)

Description: Designated substandard gravel road used by 2 and 4 wheel drive vehicles and ATVs primarily for river access. Site includes historic remains of Worley mining town and is the site for reclamation efforts of contaminated mine drainage. These efforts would affect road alignment and standard.

Alternatives/actions:
- Preferred: Continue designated road uses; bring to standard (coordinate with contaminated mine drainage reclamation effort)
- A: Same as Preferred
- B: Same as Preferred

Standard: To be determined; ultimately to provide for 2 wheel drive vehicles
TEXT TO ACCOMPANY MAP 3

DEVELOPMENT SITES

Bear Creek Horse Camp (Map 3, Site 1)

Description: Existing designated site provides developed campground for equestrians and trail access. Access by Lee Hollow Road.

Alternatives/actions:
- Preferred: Continue designated uses; site review; minor expansion of campground. (Second Order)
- A: Same as Preferred
- B: Same as Preferred

Bear Creek Trailhead (Map 3, Site 2)

Description: Existing designated site provides foot trail access to Bear Creek Overlook. Access by Bear Creek Road.

Alternatives/actions:
- Preferred: Continue designated use. (Access)
- A: Same as Preferred
- B: Same as Preferred

Burke Cabin (Map 3, Site 3)

Description: Existing, non-historic remote cabin built as a hunting cabin and now used informally by many. Use is having resource impacts and cannot be controlled due to location. Access by Big Island Loop.

Alternatives/actions:
- Preferred: Study cabin to determine if it is a necessary and appropriate component of the recreational experience at the National Area. If not, remove and reclaim.
- A: Same as Preferred

Ledbetter Trailhead (Map 3, Site 4)

Description: Existing designated site provides access to trails. Access by Bald Knob-Hill Cemetery Road.

Alternatives/actions:
- Preferred: Continue existing use; site review; improve site. (Access)
- A: Same as Preferred
- B: Same as Preferred

Slavens Branch Trailhead (Map 3, Site 5)

Description: Existing designated site provides trail access. Access by Little Bill Slavens Road.

Alternatives/actions:
- Preferred: Site review; formalize parking and trailhead. (Access)
- A: Same as Preferred
- B: Same as Preferred

Split Bow Arch Trailhead (Map 3, Site 6)

Description: Existing designated site provides parking for overlook trail. Access by Bear Creek Road.

Alternatives/actions:
- Preferred: Continue designated use; coordinate with any changes to Bear Creek Road. (Access)
- A: Same as Preferred
- B: Same as Preferred
ROADS AND TRAILS

Bald Knob—Hill Cemetery Trail (aka Ledbetter Road; Old Bear Creek Crossing Road) (Map 3, Trails 1, 26)

Description: Designated gravel road suitable for use by 2 wheel drive vehicles to access the Ledbetter trailhead and for access to cemeteries and for hunting. A portion is also used as part of a foot trail, the Kentucky Trail.

Alternatives/actions:
- Preferred: Redesignate as multiple use trail; allow horses from National Forest using Sheltowee Trace to access proposed Long Trail North horse trail. (The Long Trail North horse trail would later be renamed a segment of the Sheltowee Trace.)
- A: Same as Preferred
- B: Same as Preferred

Standard: Trail 1: MU; Trail 26: F-4

Bear Creek Gauging Station Trail (Map 3, Trails 2, 5)

Description: Designated graveled road used for administrative vehicle access to USGS river gauge and also by horses as a portion of Bear Creek Loop and Cotton Patch Loop trails. Route also used by boaters, on foot, to access the river.

Alternatives/actions:
- Preferred: Redesignate as horse trail; administrative access would continue, including concessionaire use potential
- A: Same as Preferred
- B: Same as Preferred

Standard: H-2

Bear Creek Horse Camp Connector (Map 3, Trail 4)

Description: Designated gravel horse trail connecting to other trails. Also used occasionally by bikes.

Alternatives/actions:
- Preferred: Continue designated uses
- A: Same as Preferred
- B: Same as Preferred

Standard: H-2

Bear Creek Loop (Map 3, Trail 5)

Description: Designated gravel horse trail, also used occasionally by bikes, for recreational riding and connecting with other horse trails. Some grades are quite steep.

Alternatives/actions:
- Preferred: Continue as designated; study/correct steep portions; bike use to be studied for one-way, clockwise use only due to speeds on steep grades and potential presence of horses
- A: Same as Preferred
- B: Same as Preferred

Standard: H-2

Bear Creek Overlook Trail (Map 3, Trail 6)

Description: Designated gravel foot trail to developed overlook.

Alternatives/actions:
- Preferred: Raise standard sufficiently to provide for mobility impaired
- A: Same as Preferred
- B: Same as Preferred

Standard: ADA
**Bear Creek Road** (Map 3, Roads 8, 9)

*Description:* Designated gravel road suitable for 2 wheel drive vehicles and used to access Bear Creek Horse Camp/Day Use Area and other points of interest. Road width is insufficient for passing horse trailers and is steep in one section, i.e., from the boundary to the intersection with Lee Hollow Road leading to the horse camp (Segment A). Lower section intrudes on sensitive species habitat and resources of cultural interest (Segment B).

*Alternatives/actions:*

- Preferred: Study and widen Segment A to standard; site review and designate Segment B as a one-way route to eliminate need for two-way road width and investigate realignment around sensitive resources.
- A: Same as Preferred
- B: Same as Preferred

*Standard:* Segment A: 1B; Segment B: 3B

**Big Island Ford** (Map 3, Trail 10)

*Description:* Designated river crossing for horses used as a connector to other trails. Crossing area is mussel habitat.

*Alternatives/actions:*

- Preferred: Continue use as currently guided by interim flagging; conduct study on appropriate crossing method in coordination with Fish and Wildlife Service
- A: Same as Preferred
- B: Same as Preferred

*Standard:* To be determined

**Big Island Loop** (Map 3, Trail 11)

*Description:* Designated mostly graveled horse trail used primarily by horses as well as hikers and bikes as a day loop route and as a connector to other trails. Portion near Station Camp uses Station Camp Road, having safety and visitor experience issues.

*Alternatives/actions:*

- Preferred: Continue designated use; relocate section that uses Station Camp Road by tying into Old Station Camp Road
- A: Continue use in current location
- B: Same as Preferred

*Standard:* H-3

**Big Island Road (aka No Business Road)** (Map 3, Road 12)

*Description:* Designated gravel road branching off Station Camp Road. Used by 2WD and 4WD vehicles for hunting, oil and gas well access, and administration.

*Alternatives/actions:*

- Preferred: Continue use as designated.
- A: Same as Preferred
- B: Same as Preferred

*Standard:* 2C

**Big Island Spur** (Map 3, Trail 13)

*Description:* Designated hiking trail between the JMT and Big Island often used by horses to avoid poor conditions on River Trail West.

*Alternatives/actions:*

- Preferred: Site review; combine hikers and horses on suitable trail where needed; bring to standard.
- A: Same as Preferred
- B: Same as Preferred

*Standard:* F-4/H-5
Big Island to Williams Creek Trail (Map 3, Trail 14)

**Description:** Undesignated, unmaintained old road paralleling river used by horses for hunting and fishing access and as part of a loop ride. Route has drainage problems but they do not affect the river. Route also enters the mouth of Williams Creek.

**Alternatives/actions:**
- Preferred: Designate for horse use; relocate at Williams Creek; bring to standard
- A: Not included
- B: Same as Preferred

**Standard:** H-5

Cat Ridge Road and Trail (Map 3, Road 15, Trails 16, 17, 28)

**Description:** Designated old road used by 4 wheel drives and ATVs to access the backcountry for hunting, cemetery access, and administration. The middle section is used by horses as part of the Long Trail North and by hikers as part of the Kentucky Trail.

(Segment A: Road 15; Segment B: Trails 16, 28; Segment C: Trail 17.)

**Alternatives/actions:**
- Preferred: Continue road designation to Bradley Kidd homesite (Segment A); designate horse use beyond homesite to road closure (Segments B and C); continue hiking use on Kentucky Trail portion of Segment B; designate Segment B for horse use as portion of relocated Long Trail North; include Cat Ridge Road and Trail as portion of bicycle loop
- A: Same as Preferred
- B: Same as Preferred

**Standard:** Segment A: 4; Segment B: H-6; Segment C: 4

Cotton Patch Loop (Map 3, Trails 2, 18, 48)

**Description:** Designated gravel horse trail providing loop ride and connection with other trails. Steep portions warrant attention and possible realignment; major erosion problems near Bear Creek.

**Alternatives/actions:**
- Preferred: Continue as designated (horse/foot trail – no bicycle use); correct steep sections and erosion problems; re-route trail if necessary; closure of trail as warranted to protect resources
- A: Same as Preferred
- B: Same as Preferred

**Standard:** H-2

Duncan Cemetery Access Trail (aka Paul T. West Spur) (Map 3, Trail 19)

**Description:** Designated primitive road used by 4 wheel drives to access cemetery and for backcountry driving.

**Alternatives/actions:**
- Preferred: Designate as multiple-use trail
- A: Same as Preferred
- B: Same as Preferred

**Standard:** 4

Hurricane Ridge East Trail (aka Rob Watson Road) (Map 3, Trail 22)

**Description:** Designated graveled old road used by horses, 4 wheel drives, and ATVs to access trails, cemeteries, and backcountry. Also used to access oil/gas sites.

**Alternatives/actions:**
- Preferred: Designate as a multiple use trail to gorge closure
- A: Same as Preferred
- B: Same as Preferred
Standard: MU

Hurricane Ridge East Spur (Map 3, Trails 23, 24, 61)

Description: Designated graveled old road on plateau (Segment A) used by horses for trail access and by 4 wheel drives and ATVs for backcountry, cemetery, and oil/gas site access. Beyond gorge closure, route is dirt horse trail steeply descending to Williams Creek area (Segment B). Erosion and sedimentation occurs due to steep alignment.

Alternatives/actions:
- Preferred: Designate as a multiple use trail to gorge closure (Segment A); remove trail beyond closure (Segment B) and relocate horse use to proposed new connector trail (Trail 61)
- A: Same as Preferred
- B: Segment A: Same as Preferred; Segment B: Continue horse use; realign trail to standard

Standard: Segment A: MU; Segment B/Alternative B: H-5; New connector: H-5

Kentucky Trail (Map 3, Trails 25, 26, 27, 28, 29, 30, 31, 37, 39, 71)

Description: Designated long-distance hiking trail. Besides built trail sections, the trail route lies on old coal tramways, and old and existing roads.

Alternatives/actions:
- Preferred: Continue hiking designation on trails 25, 29, and 31; redesignate as horse use on trails 27, 28, 37, and 39; redesignate as multiple use on trails 26 and 30; redesignate as bicycle use on trail 71; reconstruct/reroute trails 27, 39, and 71 where necessary to allow bike use
- A: Same as Preferred
- B: Same as Preferred

Standard: F-4 (where another use would not determine a different standard)

Laurel Hill Multiple Use Trail (Map 3, Trails 30, 32)

Description: Designated, graveled old road used by horses, wagons, 4 wheel drives, ATVs, bikes, and hikers (Kentucky Trail portion). Route provides access to points of interest, cemeteries, and to other trails as well as hunting access and recreational riding.

Alternatives/actions:
- Preferred: Designate as multiple-use trail
- A: Same as Preferred
- B: Same as Preferred

Standard: 2C

Lee Hollow Loop (Map 3, Trail 34)

Description: Designated gravel horse trail providing recreational loop ride and connection to other trails. Also used some by bikes.

Alternatives/actions:
- Preferred: Continue as designated horse trail due to heavy horse use
- A: Same as Preferred
- B: Same as Preferred

Standard: H-4

Lee Hollow Road (Map 3, Road 35)

Description: Designated gravel road suitable for 2 wheel drive vehicles providing access to horse camp and day use area.

Alternatives/actions:
- Preferred: Continue as designated road
Miller Branch Trail (Map 3, Trail 42)

*Description:* Designated graveled old road used as a horse trail link and for administrative uses.

*Alternatives/actions:*
- Preferred: Continue as designated horse trail
- A: Same as Preferred
- B: Same as Preferred

*Standard:* H-3

Little Bill Slaven Road (Map 3, Road 36)

*Description:* Designated graveled road suitable for 2 wheel drive vehicles, providing access to cemeteries, trailhead, hunting, and backcountry driving.

*Alternatives/actions:*
- Preferred: Continue use as designated; vehicle traffic only as far as trailhead
- A: Same as Preferred
- B: Same as Preferred

*Standard:* 2B

Long Trail North (Map 3, Trails 16, 26, 27, 28, 37, 39, 41, and 44)

*Description:* Designated horse trail connecting Blue Heron with Peter’s Mountain Trailhead and points beyond, including trails on Daniel Boone National Forest. The majority of the current route uses two well-traveled roads, including Laurel Ridge Road, which has safety and visitor experience issues.

*Alternatives/actions:*
- Preferred: Continue as designated; site plan; relocate this trail except for the portion between Blue Heron and Dick Gap Road; rename trail at some future point as a segment of the Sheltowee Trace. Trail would be mostly relocated onto old roads and existing trails within the National Area. There would be one section between Cat Ridge Road and Peter’s Mountain that would involve some new routing.
- A: Same as Preferred
- B: Same as Preferred

*Standard:* H-6, H-5

No Business Trail (Map 3, Trail 43)

*Description:* Designated horse and foot trail through No Business valley, which was once a subsistence community. Trail uses old road in part. Portion used by the John Muir Trail. Used as a horse trail link, for cemetery and cultural site access, and for administrative uses.

*Alternatives/actions:*
- Preferred: Continue designated uses; adjust as needed based on future cultural landscape planning.
- A: Same as Preferred
- B: Same as Preferred

*Standard:* H-6

Oil Well Branch Trail (Map 3, Trail 44)

*Description:* Designated dirt road to gorge closure used by 4 wheel drives for hunting and fishing access. Route beyond the closure is used on foot and by occasional administrative-only vehicles. Road exhibits erosion beyond closure. Well is site of first commercial oil well, originally drilled for salt brine, and has interpretive potential.

*Alternatives/actions:*
- Preferred: Designate as horse trail; address erosion and bring to standard
- A: Same as Preferred
• B: Same as Preferred

Standard: H-5

Paul T. West Trail (Map 3, Trails 46, 47, 63)

Description: Designated graveled old road used by 4 wheel drives and ATVs for hunting, backcountry, and cemetery access.

Alternatives/actions:
• Preferred: Continue as designated horse/foot trail – no bicycle use
• A: Same as Preferred
• B: Same as Preferred

Standard: H-2

River Trail West (Map 3, Trail 50)

Description: Designated horse trail between Station Camp and Big Island used to access points of interest and as one leg of a longer ride. Trail gets flooded frequently and is often muddy. Users often move to the parallel John Muir Trail.

Alternatives/actions:
• Preferred: Site review; investigate combining trail uses on suitable single alignment as appropriate.
• A: Same as Preferred
• B: Same as Preferred

Standard: MU

Peter Tapley Trail aka Peter Tapley Road (Map 3, Trail 48)

Description: Short portion of designated horse trail (Cotton Patch Loop) on old road. Also used by 4 wheel drives and ATVs for hunting.

Alternatives/actions:
• Preferred: Continue designation as horse trail; install gate and remove all motorized vehicular use. Interpret old fields as part of interpretation of Newtie King homesite.
• A: Same as Preferred
• B: Same as Preferred

Standard: H-6

Shot Off Cliff Trail (Map 3, Trail 52)

Description: Designated primitive dirt road used by horses to access other trails. Also used to access oil/gas wells.

Alternatives/actions:
• Preferred: Redesignate as horse trail and for administrative (oil/gas) use; bring to standard
• A: Same as Preferred
• B: Same as Preferred

Standard: MU

Pilot-Wines Loop (Map 3, Trail 49)

Description: Designated gravel horse trail also used by 4 wheel drives and ATVs on plateau portions. Some steeper sections are substandard, requiring vigilant maintenance, but are in locations where new alignments would be equally or more problematic.
used for hunting access and occasionally to access oil/gas sites.

**Alternatives/actions:**
- Preferred: Continue for horse use and administrative use; site review; relocate out of Williams Creek onto route of proposed connector trail; bring to standard
- A: Same as Preferred
- B: Same as Preferred

**Standard:** H-5

**Split Bow Arch Overlook Trail** (Map 3, Trail 57)

**Description:** Designated short foot trail providing view of arch. Overlook does not provide good view of arch. Trail invites unauthorized use on arch.

**Alternatives/actions:**
- Preferred: Site review; investigate better viewing location; realign trail and provide for mobility impaired; include as part of Bear Creek Road rehabilitation
- A: Same as Preferred
- B: Same as Preferred

**Standard:** ADA

**Split Bow Arch Trail** (Map 3, Trail 58)

**Description:** Designated foot trail with stairs providing arch viewing and a short loop hike.

**Alternatives/actions:**
- Preferred: Continue as designated; portions brought to standard
- A: Same as Preferred
- B: Same as Preferred

**Standard:** F-4

**Station Camp to Bear Creek Connector (aka Cub Branch Trail)** (Map 3, Trails 23, 55, 59, 60, 61, 62, 63, 64)

**Description:** Proposed new horse trail completing the connection between Station Camp Horse Camp and Bear Creek Horse Camp. Route would actually connect Pilot-Wines Loop with Cotton Patch Loop. Portions would be on existing routes but would also involve new trail.

**Alternatives/actions:**
- Preferred: Site plan; designate route; bring to standard; relocate Shot Off Cliff Trail near Williams Creek onto this trail route
- A: Not included
- B: Same as Preferred

**Standard:** Trails 55, 59, 60, 61, 62, 64: H-5; Trails 23, 63: MU

**Waters Cemetery Road** (Map 3, Road 65)

**Description:** Designated gravel road suitable for 2 wheel drive vehicles and used for cemetery access, hunting and trail access. A portion is designated as horse trail.

**Alternatives/actions:**
- Preferred: Continue use for vehicles; relocate horse use off of road to proposed Long Trail North
- A: Same as Preferred
- B: Same as Preferred

**Standard:** 2C

**Watson Branch Trail** (Map 3, Trails 66, 67)

**Description:** Designated dirt road almost entirely in gorge used by 4 wheel drive vehicles and ATVs for hunting and river access, cemetery access, and administrative use. Beyond gorge closure, route is used on foot by public
Alternatives/actions:

- Preferred: Redesignate as multiple-use trail to gorge closure (Trail 67); redesignate as hiking trail beyond gorge closure (Trail 66)
- A: Same as Preferred
- B: Same as Preferred

Standard: MU to gorge closure; F-3 in gorge
DEVELOPMENT SITES

John Muir Trail/Divide Road Access (Map 4, Site 2)

Description: Potential new trailhead access site. Access would be by Divide Road.

Alternatives/actions:
- Preferred: Site plan; provide vehicle trailhead. (Access)
- A: Not included
- B: Same as Preferred

Peters Mountain (Map 4, Site 3)

Description: Existing designated site provides trail access and primitive camping. Access by Laurel Ridge Road.

Alternatives/actions:
- Preferred: Continue designated uses. (Access)
- A: Same as Preferred
- B: Same as Preferred

Rock Creek Loop Trailhead (Map 4, Site 4)

Description: Existing designated site provides trail access. Access by Hattie Blevins Road.

Alternatives/actions:
- Preferred: Site review; improve trailhead; review possibility of combining parking with cemetery parking. (Access)
- A: Same as Preferred
- B: Same as Preferred

Terry Cemetery Trailhead (Map 4, Site 5)

Description: Existing designated site provides trail access. Access by Terry Cemetery Road.

Alternatives/actions:
- Preferred: Continue designated use. (Access)
- A: Same as Preferred
- B: Same as Preferred

ROADS AND TRAILS

Big Island Loop (Map 4, Trail 1)

Description: Designated mostly graveled horse trail used primarily by horses as well as hikers and bikes as a day loop route and as a connector to other trails. Portion near Station Camp uses Station Camp Road, having safety and visitor experience issues.

Alternatives/actions:
- Preferred: Continue designated uses; site review; relocate section that uses Station Camp Road by tying into Old Station Camp Road (Alternative 2)
- A: Continue use in current location
- B: Same as Preferred

Standard: H-3

Big Island Spur (Map 4, Trails 31, 49)

Description: Designated hiking trail between the JMT and Big Island often used by horses to avoid poor conditions on River Trail West.

Alternatives/actions:
- Preferred: Site review; combine hikers and horses on suitable trail where needed; bring to standard.
- A: Same as Preferred
- B: Same as Preferred
Standard: F-4/H-3 & H-5

Cat Ridge Road and Trail (Map 4, Road 2)

Description: Designated old road used by 4 wheel drives and ATVs to access the backcountry for hunting, cemetery access, and administration. The middle section is used by horses as part of the Long Trail North and by hikers as part of the Kentucky Trail. (Segment A: Road 2.)

Alternatives/actions:
- Preferred: Continue road designation to Bradley Kidd homesite (Segment A); designate as horse trail beyond homesite to road closure (Segments B and C); continue hiking use on Kentucky Trail portion of Segment B; designate Segment B for horse use as portion of relocated Long Trail North.
- A: Same as Preferred
- B: Same as Preferred

Standard: Segment A: 4; Segment B: H-6; Segment C: 4

Coffee Trail (Map 4, Trail 5)

Description: Designated primitive foot trail entering the National Area from Pickett State Park and Forest and connecting with the John Muir Trail.

Alternatives/actions:
- Preferred: Continue as designated; coordinate with state
- A: Same as Preferred
- B: Same as Preferred

Standard: F-4

Divide Road (Map 4, Road 6)

Description: Designated gravel road used by all types of motor vehicles, wagons, horses, and hikers to access backcountry locations, special features, hunting areas, and by through traffic. Road is essentially one lane with pullouts and is often unsafe for the mix of uses. The portion from TN 154 to Twin Arches Road is designated Segment A, and the remainder to the state line is Segment B.

Alternatives/actions:
- Preferred: Continue designation for road uses only, including wagons; increase standard on Segment A due to attraction of Twin Arches
- A: Same as Preferred
- B: Continue road uses only; relocate wagons to potential new trail under
Alternative B (Gobbler’s Knob – Peters Mountain Wagon Trail)

*Standard:* Segment A: 2B; Segment B: 2C

**Gobbler’s Knob – Peters Mountain Wagon Trail (Map 4, Trail 7)**

*Description:* Potential new trail for use by wagons and horses for general recreation and access to trails within Daniel Boone National Forest. Currently, these uses must be on Divide Road and Laurel Ridge Road.

**Alternatives/actions:**
- Preferred: Not included
- A: Not included
- B: Site plan; provide new trail

*Standard:* H-4

**Guy Kidd Road and Trail (Map 4, Road 8, Trail 9)**

*Description:* Designated, primitive old road used by 4 wheel drives and ATVs primarily for hunting access but also to access cemeteries. Erosion problems are evident. (Segment A: Road 8; Segment B: Trail 9.)

**Alternatives/actions:**
- Preferred: Designate as less than 2-lane gravel or dirt road to Kidd Cemetery; designate as multiple-use trail beyond the Kidd Cemetery (Segment B); address erosion issues
- A: Same as Preferred
- B: Designate entire length as less than 2-lane road

*Standard:* 4

**Hattie Blevins Cemetery Road (Map 4, Road 10)**

*Description:* Designated gravel road used by 2 wheel drive vehicles to access the cemetery, a trailhead, and also for hunting access. A portion of the road is also used as a foot trail.

**Alternatives/actions:**
- Preferred: Continue as designated road; bring to standard; site plan and relocate trail use off of road
- A: Same as Preferred
- B: Same as Preferred

*Standard:* 2B

**John Muir Trail (Segment I) (Map 4, Trail 11)**

*Description:* Portion of designated long-distance hiking trail between Station Camp and No Business Trail. Section along river is also being used by horses to avoid wet areas on River Trail West, resulting in unsatisfactory trail conditions and resource impacts.

**Alternatives/actions:**
- Preferred: Site review; combine hiking and horse use on site-specifically planned portions of this section on best location
- A: Same as Preferred
- B: Same as Preferred

*Standard:* F-4/H-3

**John Muir Trail (Segment J) (Map 4, Trail 12)**

*Description:* Portion of designated long-distance foot trail between No Business Trail and the river, passing near Maude’s Crack.

**Alternatives/actions:**
- Preferred: Continue designated use
- A: Same as Preferred
- B: Same as Preferred

*Standard:* F-4
John Muir Trail (Segments K, L & M) (Map 4, Trails 13, 14, 15)

Description: Portion of designated long-distance foot trail between Divide Road and No Business Trail. (Segment L: No Business Trail to John Muir Overlook; Segment M: overlook to Divide Road. Segment K of JMT is part of No Business Trail.)
(Segment K: trail 13; Segment L: trail 14; Segment M: trail 15)

Alternatives/actions:
- Preferred: Continue hiking designation for Segment L; redesignate Segment M as bike trail; site plan; provide two or three short spur foot trails to selected natural overlooks on Segment M
- A: Same as Preferred
- B: Same as Preferred

Standard: Segment K: H-6; Segment L: F-4; Segment M: B

John Muir Trail (Segment N) (Map 4, Trails 16, 50, 51)

Description: Portion of designated foot trail designed for long-distance hiking. Much of this particular trail segment is also signed as the Sheltowee Trace and as Rock Creek Loop.

Alternatives/actions:
- Preferred: Continue hiking designation for trail 16; redesignate trails 50 and 51 as bike trails
- A: Same as Preferred
- B: Same as Preferred

Standard: Trail 16: F-4; Trails 50 and 51: B

Kentucky Trail (Map 4, Trail 17)

Description: Designated long-distance hiking trail. Besides built trail sections, the trail route lies on old coal tramways, and old and existing roads.

Alternatives/actions:
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: F-4 (where another use would not determine a different standard)

Laurel Hill Multiple Use Trail (Map 4, Trail 19)

Description: Designated, graveled old road used by horses, wagons, 4 wheel drives, ATVs, bikes, and hikers (Kentucky Trail portion). Route provides access to points of interest, cemeteries, and to other trails as well as hunting access and recreational riding.

Alternatives/actions:
- Preferred: Continue multiple-use designation
- A: Same as Preferred
- B: Same as Preferred

Standard: 2C

Long Trail North (Map 4, Trails 21, 50)

Description: Designated horse trail connecting Blue Heron with Peter's Mountain Trailhead and points beyond, including trails on Daniel Boone National Forest. The majority of the current route uses two well-traveled roads, including Laurel Ridge Road, which has safety and visitor experience issues.

Alternatives/actions:
- Preferred: Site plan; relocate this trail except for the portion between Blue Heron and Dick Gap Road; rename trail at some future point as a segment of the Sheltowee Trace. Trail would be mostly relocated onto old roads and existing...
trails within the National Area. There would be one section between Cat Ridge Road and Peter's Mountain that would involve some new routing.

- A: Same as Preferred
- B: Same as Preferred

**Standard:** H-5, H-6

**Longfield Branch Trail (Map 4, Trail 24)**

**Description:** Designated gravel horse trail also used by hikers and bikers to access the No Business valley, cemeteries, and to access other trails. The trail crosses through No Business Creek.

**Alternatives/actions:**
- Preferred: Continue as designated; investigate less impacting creek crossing.
- A: Same as Preferred
- B: Same as Preferred

**Standard:** H-4

**Maude's Crack Trail (Map 4, Trails 25, 26)**

**Description:** Designated old road used by horses, hikers, and ATVs and 4 wheel drive vehicles to access overlook and crack from Terry Cemetery Trailhead. Hikers can continue on trail through the crack to connect with the John Muir Trail. Trail is substandard, with large mud holes on the plateau portion (Segment A) and erosion and braided trails characterizing the portion connecting with the John Muir Trail (Segment B).

**Alternatives/actions:**
- Preferred: Designate entire trail as a foot trail only, with vehicles and horses kept back at Terry Cemetery Trailhead. Bring to standard.
- A: Same as Preferred
- B: Designate Segment A for foot, bike, and horse use only, with hitch rails provided well back from overlook.

**Standard:** Preferred/A: F-3; B: Segment A: H-5, Segment B: F-3

**Michigan Camp Road (Map 4, Road 27)**

**Description:** Designated dirt road used by 4 wheel drive vehicles for hunting and backcountry access and for cemetery access.

**Alternatives/actions:**
- Preferred: Continue designated road use
- A: Not included
- B: Same as Preferred

**Standard:** 4

**No Business Trail (Map 4, Trails 13, 48)**

**Description:** Designated trail between Big Island Ford and Longfield Branch Trail on old road through the No Business community used by horses and hikers to access points of interest in the valley, as part of a loop horse ride, as part of the John Muir Trail (Segment K), and as a link between the John Muir Trail and the Kentucky Trail. Also used for cemetery access.

**Alternatives/actions:**
- Preferred: Continue designated public and administrative use; maintain and modify as necessary to be sensitive to cultural resource objectives
- A: Same as Preferred
- B: Same as Preferred

**Standard:** H-6

**Parch Corn Trail (Map 4, Trail 29)**

**Description:** Existing, designated old road -- currently closed by storm debris -- leading from Terry Cemetery Road into the gorge to the Parch Corn cabin site and river.
Numerous sensitive resources lie along the ridgetop portion of the route. Leaving the plateau, the route descends steeply to Parch Corn Creek. Before storm closure, the route was previously used for hunting and backcountry access, search and rescue (SAR), and maintenance of trails along the river.

Alternatives/Actions:
- Preferred: Reopen and redesignate as a hiking trail only. This route would be reopened under very stringent conditions. Reopening for hiking only would allow public use in the least impacting manner and would allow for interpretation of nearby resources. Administrative use could continue for the infrequent trail maintenance needs along the river and for SAR, especially needed under high water conditions. Reopening would occur in such a way to minimize impacts on resources through design and/or minor relocations and public education. Monitoring would be intensive. If monitoring indicates a trend in adverse impacts, use would be restricted. Also, if maintenance practices change that could include a suitable river crossing at Station Camp, administrative use of the Parch Corn route would be re-evaluated.
  - A: Route to remain unopened/unused. Remove designation.
  - B: Same as Preferred.

Standard: 4 (for limited administrative use of OHVs); surface suitable for hiking

Ranse Boyatt Trail (Map 4, Trail 30)

Description: Undesignated old road currently used informally by horses and occasionally by 4 wheel drive vehicles for administrative access to the Boyatt site. This site has been determined to be eligible for listing in the National Register for Historical Places.

Alternatives/actions:
**Standard:** Road 10: 2B; Trails 16, 32, 34, 36: F-4; Trails 33, 51: B

**Sheltowee Trace** (Map 4, Trails 16, 35)

*Description:* Designated long distance National Recreation Trail enters National Area again from National Forest and exits into Pickett Rustic State Park and Forest. Segment E is the portion from the National Forest boundary to the intersection with the John Muir Trail. Segment F is coincident with the JMT through the rest of its length.

*Alternatives/actions:*
- Preferred: Continue hiking designation for trail 16; redesignate trail 35 as bike trail
- A: Same as Preferred
- B: Same as Preferred

**Standard:** F-4

**Stoopin Oak Trail** (Map 4, Trail 39)

*Description:* Designated, graveled old road used by 2 and 4 wheel drive vehicles primarily for hunting access and cemetery access. Also used by horses.

*Alternatives/actions:*
- Preferred: Redesignate as multiple use trail
- A: Remove
- B: Continue designation as road for year-round vehicle use, i.e., horses would be disallowed

**Standard:** Preferred: 4; B: 2C

**TN 154** (Map 4, Road 41)

*Description:* Designated, two-lane paved state highway.

*Alternatives/actions:*
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

**Standard:** 2A

**Terry Cemetery Road and Trail** (Map 4, Trail 40)

*Description:* Designated two-lane gravel road usable by 2 wheel drive vehicles to access trailheads and cemeteries and for backcountry driving. Considered in two sections: Segment A, from Divide Road to Gobbler's Knob Trailhead, and Segment B, out to Terry Cemetery Trailhead. Segment B is also used by horses.

*Alternatives/actions:*
- Preferred: Continue use of Segment A as currently designated; redesignate Segment B as a multiple use trail to legally allow horse use; reduce standard, install traffic control devices, and allow native vegetation to reclaim roadsides for more natural corridor and to slow traffic.
- A: Same as Preferred
- B: Continue use of both segments as a Road designation, which would not allow horse use; same vegetation treatment of roadsides as in Preferred.

**Standard:** Preferred/A: Segment A: 2B; Segment B: MU (exception: some sections of this multiple-use trail may be up to 22 feet wide to allow safe passage of two trailers) B: both segments—2B

**Wagon Trail Access Roads** (Map 4, Road 42)

*Description:* Existing old roads currently unused but potentially available for very occasional use by National Area maintenance personnel to access the
potential Gobbler's Knob – Peter's Mountain Wagon Trail (Alternative B; see above). Multiple routes would allow access and avoid having to cross small streams with equipment.

Alternatives/actions:
- Preferred: Not included
- A: Not included
- B: Depending on any implementation of a new wagon trail, these routes would be for administrative use only. Future maintenance practices/technology may not require use.

Standard: 4

Watson Cemetery Trail (Map 4, Trails 43, 52)

Description: Existing road used for access to Watson-Pennington Cemetery, and undesignated, eroding dirt trail used by horses as an informal connector. Adverse effects on cemetery. Segment A (Trail 52) lies between Terry Cemetery Trail and gorge boundary. Segment B (Trail 43) lies between Watson-Pennington Cemetery and the river. Segment B is eroded and unsuitable for recreational use.

Alternatives/actions:
- Preferred: Segment A – designate as multiple-use trail. Per legislation, continue to allow access to cemetery. Segment B – remove.
- A: Same as Preferred
- B: Same as Preferred

Standard: to gorge boundary: MU; from gorge boundary to cemetery: 4; from cemetery to river: remove trail and rehabilitate treadway
PROPOSED DEVELOPMENT AND DESIGNATIONS

MAP 5

TRAILS
- Hike
- Horse
- Bike
- Multiple Use trail

ROADS
- 2 - Lane Paved
- 2 - Lane Gravel
- Less than 2 - Lane Gravel or Dirt
- Railroad
- Remove

DEVELOPMENT ZONES
- First Order
- Second Order
- Access

ALTERNATIVES

Legend:
- Canal Creek Trail
- Twin Arches Road
- Horseback Trail
- Multiple Use trail
- Lane Paved
- Lane Gravel
- Less than 2 - Lane Gravel or Dirt
- Railroad
- Remove

Access

Legend:
- Canal Creek Trail
- Twin Arches Road
- Horseback Trail
- Multiple Use trail
- Lane Paved
- Lane Gravel
- Less than 2 - Lane Gravel or Dirt
- Railroad
- Remove

Access

Legend:
- Canal Creek Trail
- Twin Arches Road
- Horseback Trail
- Multiple Use trail
- Lane Paved
- Lane Gravel
- Less than 2 - Lane Gravel or Dirt
- Railroad
- Remove

Access

Legend:
- Canal Creek Trail
- Twin Arches Road
- Horseback Trail
- Multiple Use trail
- Lane Paved
- Lane Gravel
- Less than 2 - Lane Gravel or Dirt
- Railroad
- Remove

Access

Legend:
- Canal Creek Trail
- Twin Arches Road
- Horseback Trail
- Multiple Use trail
- Lane Paved
- Lane Gravel
- Less than 2 - Lane Gravel or Dirt
- Railroad
- Remove

Access
TEXT TO ACCOMPANY MAP 5

DEVELOPMENT SITES

Charit Creek Trailhead (Map 5, Site 1 – current; Site 2 – new)

Description: Existing designated site provides horse and foot trail access to Charit Creek. Access by Fork Ridge Road.

Alternatives/actions:
- Preferred: Move trailhead back to Fork Ridge Road near power line; site plan; provide parking for vehicles; remove existing site; provide separate areas for hikers and equestrians at new trailhead. Stop all recreational vehicular traffic at this site and allow only horse, hiking, and bicycle use beyond on Fork Ridge; continue administrative access to Charit Creek Lodge (Access)
  - A: Same as Preferred
  - B: Same as Preferred

Gobblers Knob Trailhead (Map 5, Site 3)

Description: Existing designated site provides trail access. Access by Terry Cemetery Road.

Alternatives/actions:
- Preferred: Continue designated use. (Access)
  - A: Same as Preferred
  - B: Same as Preferred

Middle Creek Horse Camp (Map 5, Site 5)

Description: Potential new site would provide developed campsites for equestrians. Access by Divide Road.

Alternatives/Actions:
- Preferred: Not included
  - A: Not included
  - B: Site plan; provide horse camp. (Second Order)

Middle Creek Loop Trailhead (Map 5, Site 6)

Description: Existing designated site provides limited parking for hiking trail access. Access by well-traveled perimeter road, i.e., Divide Road.

Alternatives/actions:
- Preferred: Continue designated use.
  - A: Same as Preferred
  - B: Same as Preferred

Salt Pine Trailhead (Map 5, Site 7)

Description: Potential new trailhead to be provided by NPS or others for use by the general public. Access by Obey Blevins Road.

Alternatives/actions:
- Preferred: Coordinate site plan and provision of new equestrian trailhead. (Access)
  - A: Same as Preferred
  - B: Same as Preferred

Middle Creek Equestrian Trailhead (Map 5, Site 4)

Description: Existing designated site provides access to horse trails. Access by Fork Ridge Road.
Sawmill Trailhead (Map 5, Site 8)

Description: Existing designated site provides trail access. Access by Fork Ridge Road.

Alternatives/actions:
- Preferred: Continue designated use; site review; possible expansion. (Access)
- A: Same as Preferred
- B: Same as Preferred

Twin Arches Trailhead (Map 5, Site 9)

Description: Existing designated site provides trail access and picnicking. Access by Twin Arches Road.

Alternatives/actions:
- Preferred: Continue designated uses. (Second Order)
- A: Same as Preferred
- B: Same as Preferred

Yellow Clift Trailhead (Map 5, Site 10)

Description: Potential new trailhead to be provided by NPS or others for use by the general public. Access by Obey Blevins Road.

Alternatives/actions:
- Preferred: Coordinate site plan and provision of new equestrian trailhead. (Access)
- A: Same as Preferred
- B: Same as Preferred

Charit Creek Hiking Trail (Map 5, Trail 6)

Description: Designated foot trail used to access Charit Creek Lodge and to connect with other trails. Portions are substandard.

Alternatives/actions:
- Preferred: Continue designated use; minor relocations; rehabilitate to standard
- A: Same as Preferred
- B: Same as Preferred

Standard: F-2

Charit Creek Horse Trail (Map 5, Trails 7, 8)

Description: Designated horse trail also used by administrative vehicles to access Charit Creek Lodge and to connect with other trails. Hikers on Twin Arches Loop Trail share portion of this trail. Crossing of Station Camp Creek is impacting stream.

Alternatives/actions:
- Preferred: Continue as designated; address stream crossing impacts
- A: Same as Preferred
- B: Same as Preferred

Standard: H-2

ROADS AND TRAILS

Black House Branch Trail (Segment A) (Map 5, Trail 3)

Description: Designated multiple-use trail on plateau up to gorge closure; horse trail within the gorge. Multiple-use trail is located on old road and used for hunting and power line access. Horse trail is gravel and also used by hikers to access Laurel Fork Creek Hiking Trail.

Alternatives/actions:
- Preferred: Designate as horse trail.
- A: Same as Preferred
- B: Same as Preferred

Standard: H-2
Charit Creek Overlook Spur (aka Station Camp Overlook) (Map 5, Trail 9)

*Description:* Designated route on old road, used by wagons and horses to access overlook.

*Alternatives/actions:*
  - Preferred: Continue as designated
  - A: Same as Preferred
  - B: Same as Preferred

*Standard:* H-4

Charit Creek Trailhead Access Trail (Map 5, Trail 10)

*Description:* Designated gravel road used by 2 wheel drive vehicles to access the trailhead. Parking area is too small for amount of use. Road is also used by horses as a connecting route between trails.

*Alternatives/actions:*
  - Preferred: Move trailhead back next to Fork Ridge Road near the power line crossing and change designation of this access road to a horse trail. Continue administrative vehicle access to Charit Creek Lodge.
  - A: Same as Preferred
  - B: Same as Preferred

*Standard:* H-2

Dirt Rockhouse Cemetery Trail (aka Sharp Cemetery Road) (Map 5, Trail 11)

*Description:* Designated gravel road providing access to cemetery

*Alternatives/actions:*
  - Preferred: Redesignate as multiple-use trail
  - A: Same as preferred
  - B: Continue road designation (i.e., no horse use)

*Standard:* Preferred/A: MU; B: 2C

Divide Road (Map 5, Road 12, 13)

*Description:* Designated gravel road used by all types of motor vehicles, wagons, horses, and hikers to access backcountry locations, special features, hunting areas, and by through traffic. Road is essentially one lane with pullouts and is often unsafe for the mix of uses. The portion from TN 154 to Twin Arches Road is designated Segment A, and the remainder to the state line is Segment B.

*Alternatives/actions:*
  - Preferred: Continue designation for road uses only, including properly marked wagons but not allowing horseback riding; increase standard on Segment A due to attraction of Twin Arches
  - A: Same as Preferred
  - B: Continue road uses only; relocate wagons and horses to potential new trail under Alternative B (only): Gobbler's Knob-Peters Mountain Wagon Trail

*Standard:* Segment A: 2B; Segment B: 2C

Duncan Hollow Road (Map 5, Road 14)

*Description:* Designated multiple-use trail; gravel, single lane old road used by vehicles of all types, horses, bikes, and some hikers for backcountry and hunting access, access to other trails, cemeteries, gas wells and other administrative needs, including the State Forest. This is a heavily used route with frequent user conflicts.

*Alternatives/actions:*
  - Preferred: Redesignate for Road uses only. Relocate trail uses to new trail (see proposed new Duncan Hollow Trail/Segment A).
- A: Continue as designated multiple-use trail.
- B: Same as Preferred

**Standard: 2C**

**Duncan Hollow Trail (Segment A) (Map 5, Trail 15)**

*Description:* Potential new horse/foot trail providing a better and safer trail experience.

*Alternatives/actions:*
- Preferred: Provide new horse/foot trail between Bandy Creek development area and the vicinity of the gorge closure for Duncan Hollow Road.
- A: Not included
- B: Same as Preferred

**Standard: H-5**

**Duncan Hollow Trail (Segment B) (Map 5, Trail 16)**

*Description:* Designated gravel horse trail, also used by bikes, to access other trails in Station Camp area. Steep sections are erosion-prone and difficult for horses. Bikes and horses on this segment can be a safety issue.

*Alternatives/actions:*
- Preferred: Continue as designated horse trail; provide potential alternate route for bikes; rehabilitate and relocate trail portions
- A: Same as Preferred
- B: Same as Preferred

**Standard: H-5**

**Fire Tower Trail (Map 5, Trail 17)**

*Description:* Designated old road leading to site of old Pickett fire tower and cabin (built by CCC). Cabin remains but in poor condition. Site of informal camping and inappropriate uses. Interpretive potential.

*Alternatives/actions:*
- Preferred: Continue access and redesignate as multiple use trail for 4 wheel drives, horses, and hikers; interpret cabin and site, cabin treatment to be decided by site-specific plan; add small picnic opportunity
- A: Same as Preferred
- B: Continue only road access by vehicle; add interpretation and picnicking

**Standard: Preferred/A: MU; B: 2C**

**Fork Ridge Road and Trail (Map 5, Road 18, Trail 19)**

*Description:* Designated gravel road, suitable for 2 wheel drive vehicles, providing access to trailheads. Horse trail currently on road from Middle Creek Equestrian Trailhead out. Also used for power line access and administrative access to Charit Creek Lodge.

*Alternatives/actions:*
- Preferred: Continue designated road use from Divide Road to Middle Creek Equestrian Trailhead (Segment A); change designation of rest of road to Multiple Use Trail (Segment B), which would provide for legal use by horses; slow vehicle traffic on Segment B with speed reduction devices; post warning signs
- A: Same as Preferred
- B: Same as Preferred

**Standard: Segment A: 2B; Segment B: MU**

(exception: some sections of this multiple-use trail may be up to 22 feet wide to allow safe passage of two trailers)
Fork Ridge Gorge Access Trail (Map 5, Trails 20, 21)

**Description:** Designated multiple-use trail on old road out to gorge closure and horse trail into gorge.

**Alternatives/actions:**
- Preferred: Designate as horse, foot, and bicycle trail from new trailhead (Site 2) to end of trail in gorge
- A: Same as Preferred
- B: Same as Preferred

**Standard:** Trail 20: MU; Trail 21: H-5

Gobblers Knob – Peters Mountain Wagon Trail (Map 5, Trail 23)

**Description:** Potential new trail for use by wagons and horses for general recreation and access to trails within Daniel Boone National Forest. Currently, these uses must be on Divide Road and Laurel Ridge Road, causing safety issues.

**Alternatives/actions:**
- Preferred: Not included
- A: Not included
- B: Site plan; provide new trail

**Standard:** H-4

Hatfield Ridge Trail (Map 5, Trails 25, 26, 27)

**Description:** Designated trail mainly on old roads, considered in three sections:
- Segment A: the horse trail from Gobbler's Knob Trailhead essentially paralleling Terry Cemetery Road; Segment B: the multiple use trail to the closure; Segment C: the horse trail extending to Station Camp Creek Trail. Segments A and B are used by horses to access Charit Creek Lodge and other trails, and by horses and wagons to access the Charit Creek Overlook.
- Segment B, the multiple use section, connects with Terry Cemetery Road and is also used by 2 and 4 wheel drive vehicles for backcountry and hunting access.
- Segment C extends into the gorge over a particularly steep section to the Station Camp crossing area.
  (Segment A: Trail 25; Segment B: Trail 26; Segment C: Trail 27)

**Alternatives/actions:**
- Preferred: Retain designation of Segment B as multiple-use trail; move trail uses from Segment A onto Terry Cemetery Road (see proposed redesignation for Terry Cemetery Road) and allow Segment A to revegetate. Continue horse use of Segment C.
- A: Continue current horse trail use of existing Segments A and C; redesignate multiple-use Segment B as horse trail only.
- B: Same as Preferred

**Standard:** Preferred/B: Segment A: remove; Segment B: 2C; Segment C: H-5
  A: Segment A: H-4; Segments B&C: H-5

Hatfield Ridge – Charit Creek Lodge Connector (Map 5, Trail 24)

**Description:** Designated graveled trail for horses and administrative vehicles to access Charit Creek Lodge area and other
trails. Impacts occurring on Lonesome Arch through off-trail use.

**Alternatives/actions:**
- Preferred: Continue as designated; address impacts on arch through changes in trail design, including hiking-only approach trail
- A: Same as Preferred
- B: Same as Preferred

**Standard:** H-4

**Hattie Blevins Cemetery Road (Map 5, Road 28)**

**Description:** Designated gravel road used by 2 wheel drive and other vehicles to access the cemetery, a trailhead, and also for hunting access. A portion of the road is also used as a foot trail, Rock Creek Loop.

**Alternatives/actions:**
- Preferred: Continue as designated road; bring road and parking to standard; relocate trail use to improve safety and visitor experience.
- A: Same as Preferred
- B: Same as Preferred

**Standard:** 2B

**Laurel Fork Creek Connector (Map 5, Trails 36, 37)**

**Description:** Designated, short, heavily used connector trail linking several horse and foot trails, including John Muir Trail, Segment H.

**Alternatives/actions:**
- Preferred: Continue use as designated
- A: Same as Preferred
- B: Same as Preferred

**Standard:** H-2

**Laurel Fork Creek Trail (Map 5, Trails 34, 35)**

**Description:** Designated hiking-only trail traversing the length of Laurel Fork Creek. A short portion is located on Black House Branch horse trail. Horses also use portions of this hike-only trail in other areas, resulting in adverse impacts to hiking trail.

**Alternatives/actions:**
- Preferred: Continue use for hiking only, except that portion on Black House Branch Trail; correct impacts caused by horse use; take appropriate actions to remove horse use from other portions of trail.
- A: Same as Preferred
- B: Same as Preferred

**Standard:** F-3
Middle Creek Equestrian Connector Trail (Map 5, Trail 70)

Description: Trail does not currently exist. Would connect Middle Creek Horse Camp (proposed under Alternative B) with existing horse trail system.

Alternatives/actions:
- Preferred: Not included
- A: Not included
- B: Designate new trail for horse use

Standard: H-4

Middle Creek Equestrian Trailhead Spur (Map 5, Road 41)

Description: Designated short gravel spur road to trailhead

Alternatives/actions:
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: 2B

Middle Creek Nature Loop Trail (Map 5, Trail 38)

Description: Designated, easily accessible nature trail. Short portion of trail is on Jones Cabin Road. Parking at Middle Creek Trailhead on Divide Road is very small and limits use.

Alternatives/actions:
- Preferred: Continue designated hiking-only use; eliminate all vehicular/road uses
- A: Same as Preferred
- B: Most of trail area would be redeveloped for a new (Alternative B) horse camp/trailhead accessed from Divide Road. The current trail would no longer exist.

Standard: Preferred/A: F-4; B: N/A

Middle Creek Road (Map 5, Road 39)

Description: Designated, single lane gravel road used to access the Gobbler's Knob Trail.

Alternatives/actions:
- Preferred: Designate for administrative uses only, no public access
- A: Same as preferred
- B: Same as preferred

Standard: MU

Parch Corn Trail (Map 5, Trails 42, 43)

Description: Existing, designated old road -- currently closed by storm debris -- leading from Terry Cemetery Road into the gorge to the Parch Corn cabin site and river. Numerous sensitive resources lie along the ridgetop portion of the route. Leaving the plateau, the route descends steeply to Parch Corn Creek. Before storm closure, the route was previously used for hunting and backcountry access, search and rescue (SAR), and maintenance of trails along the river.

Alternatives/Actions:
- Preferred: Reopen and redesignate as hiking trail only. This route would be reopened under very stringent conditions. Reopening for hiking only would allow public use in the least impacting manner and would allow for interpretation of nearby resources. Administrative use could continue for the infrequent trail maintenance needs along the river and for SAR, especially needed under high water conditions. Reopening would occur in such a way to minimize impacts on resources through design and/or minor relocations and public education. Monitoring would be intensive. If monitoring indicates a trend in adverse impacts, use would be restricted. Also, if maintenance practices change that could include a suitable river crossing at Station Camp,
administrative use of the Parch Corn route would be re-evaluated.

- A: Route to remain unopened/unused. Remove designation.
- B: Same as Preferred.

Standard: 4 (for limited administrative use of OHVs); surface suitable for hiking

Parch Corn Spur (Map 5, Trail 44)

Description: Undesignated old road used by horses and hikers to access the Parch Corn farmstead site from River Trail West and the John Muir Trail. Route is indefinite and in stream in places. This site has been determined to be eligible for listing in the National Register for Historical Places.

Alternatives/actions:
- Preferred: Site review; designate route for horses and hiking; rehabilitate to bring to appropriate standard.
- A: Not included
- B: Same as Preferred

Standard: H-5

Salt Pine Ridge Trail (Map 5, Trail 46)

Description: Existing, undesignated route mostly on old road used increasingly by horses coming from outside the National Area connecting with Fork Ridge Road to access trails beyond or to make a loop ride using Yellow Cliff Trail. Not maintained; erosion occurring.

Alternatives/actions:
- Preferred: Site review; designate as horse/foot trail (no bicycle use). Designate general public-use trailhead (trail designation depends on availability of public use trailhead). Bring to standard and address eroding areas and crossing of Laurel Fork Creek Trail
- A: Same as Preferred
providing access to both sides of Slave Falls and associated rock shelter. Users tend to go past ends of trails and are impacting a sensitive area.

Alternatives/actions:
- Preferred: Continue designated use of the east spur only and remove/reclaim the west spur. Increase user education.
- A: Same as Preferred
- B: Continue use of both spurs; conduct minor rehabilitation; increase user education.

Standard: F-4

Slave Falls-to-Chant Creek Trail (Map 5, Trail 47)

Description: Designated connector foot trail providing access to Slave Falls, Twin Arches, Chant Creek, and other trails.

Alternatives/actions:
- Preferred: Continue designated use.
- A: Same as Preferred
- B: Same as Preferred

Standard: F-4

Station Camp Creek Trail (Map 5, Trail 54)

Description: Designated graveled trail used significantly by horses between Charit Creek Lodge and the Station Camp crossing and "hub" area. Trail has many stream crossings and is in the stream in places. Route is also used for cemetery access and administrative purposes.

Alternatives/actions:
- Preferred: Continue as designated horse trail; re-route trail to minimize stream crossings, and mitigate resource impacts.
- A: Same as Preferred
- B: Same as Preferred

Standard: 2A

Station Camp – Duncan Hollow Connector (Map 5, Trail 53)

Description: Designated horse and foot connecting trail on old road. Flooding and erosion of the trail are issues.

Alternatives/actions:
- Preferred: Continue designated use, but investigate possibilities for relocation/rerouting of use
- A: Same as Preferred
- B: Same as Preferred

Standard: H-5

TN 154 (#) (Map 5, Road 57)

Description: Designated, two-lane paved state highway.

Alternatives/actions:
- Preferred: Continue as designated; coordinate with state
- A: Same as Preferred
- B: Same as Preferred

Standard: 2A

TN 297 (Map 5, Road 58)

Description: Paved, major access route to and through National Area; access to Bandy Creek development area; used by all types of street-legal vehicles, including through commercial vehicles and trucks. Portion through gorge has very tight turns and 13% grades.

Alternatives/actions:
- Preferred: Continue use as designated. Investigate limiting use of large commercial vehicles to improve safety and visitor experience.
• A: Same as Preferred
• B: Same as Preferred

Standard: 1A

Terry Cemetery Road and Trail (Map 5, Road 55, Trail 56)

Description: Designated two-lane gravel road usable by 2 wheel drive vehicles to access trailheads and cemeteries and for backcountry driving. Considered in two sections: Segment A, from Divide Road to Gobblers Knob Trailhead, and Segment B, out to Terry Cemetery Trailhead. Segment B is also used by horses.

Alternatives/actions:
• Preferred: Continue use of Segment A as designated road; redesignate Segment B as a multiple-use trail to allow legal use by horses; reduce standard; install traffic control devices, and allow native vegetation to reclaim roadsides for more natural corridor and to slow traffic.
• A: Same as Preferred
• B: Continue use of both segments as designated road, which would disallow horses; same vegetation treatment of roadsides.

Standard: Preferred/A: Segment A: 2B; Segment B: MU (exception: some sections of this multiple-use trail may be up to 22 feet wide to allow safe passage of two trailers)
B: both segments—2B

Twin Arches Loop Trail (Map 5, Trails 8, 59, 61)

Description: Designated constructed foot trail providing loop hiking experience and access to arches, Charit Creek Lodge, and other sites and trails. Use at arches is impacting these formations. Small portion is on Charit Creek Horse Trail.

Alternatives/actions:
• Preferred: Continue as designated; address impacts on arches through changes in design and/or management
• A: Same as Preferred
• B: Same as Preferred

Standard: F-4

Twin Arches Road (Map 5, Road 62)

Description: Designated gravel road intended for use by 2 wheel drive vehicles for access to the Twin Arches trailhead. Road is substandard for amount of use occurring.

Alternatives/actions:
• Preferred: Continue as designated; raise standard
• A: Same as Preferred
• B: Same as Preferred

Standard: 2B

Twin Arches Trail (Map 5, Trail 63)

Description: Designated, popular constructed foot trail providing access to Twin Arches and other trails. Access is resulting in impacts to arches.

Alternatives/actions:
• Preferred: Continue as designated; address impacts through changes in design and/or management
• A: Same as Preferred
• B: Same as Preferred

Standard: F-4

West Bandy Creek Bike Trail (Map 5, Trail 65)

Description: Designated, easily accessible, single-track mountain bike trail.
Alternatives/actions:
- Preferred: Continue use as designated.
- A: Same as Preferred
- B: Same as Preferred

*Standard: B*

**West Bandy Creek Bike Trail Extension**
(*Map 5, Trail 66*)

*Description:* Potential new single-track mountain bike trail that would lengthen ride and connect with Collier Ridge Bike Trail.

Alternatives/actions:
- Preferred: Site plan; provide new trail
- A: Same as Preferred
- B: Same as Preferred

*Standard: B*

**West Bandy Creek Road**
(*Map 5, Road 67*)

*Description:* Designated, two-way, gravel connector road suitable for 2 wheel drive vehicles. Road used to access active cemetery, historic sites, trailheads, and as another connector between the Bandy Creek development area and TN 297. Width varies from essentially one-lane to stretches that are wide enough for oncoming vehicles to pass easily.

Alternatives/actions:
- Preferred: Continue two-way use. Site review; maintain essentially the existing narrow width, but bring to standard to allow safer on-coming vehicle passing in appropriate areas. Gravel surface.
- A: Designate one-way to maintain narrow width and bring to standard (somewhat narrower width than Preferred). Gravel surface.
- B: Continue two-way use. Site review and widen where necessary to provide for a continuous two-lane roadway. Paved.

*Standard: Preferred: 2B; A: 2B; B: 2A*

**West Entrance Trail**
(*Map 5, Trail 68*)

*Description:* Designated foot trail providing access northward from trailhead to Laurel Fork Creek Trail and eastward to Oscar Blevins Loop Trail and the Bandy Creek development area. Portion also designated as part of Collier Ridge Bike Loop.

Alternatives/actions:
- Preferred: Redesignate portion immediately east of West Entrance Trailhead for the additional use by bikes to provide connection with Collier Ridge Loop bike trail.
- A: Same as Preferred
- B: Continue use as foot trail only

*Standard: F-2*

**Yellow Cliff Trail**
(*Map 5, Trails 50, 69*)

*Description:* Undesignated route on old road used by horses as a connecting trail between Fork Ridge Road and an entry on the boundary of the National Area. Not maintained and substandard. Used also as part of long ride with Salt Pine Trail.

Alternatives/site review:
- Preferred: Designate route as horse/foot trail (no bicycle use); bring to standard. Designate public-use trailhead (trail designation depends on public-use trailhead). Address impacts on Laurel Fork Creek Trail at crossing.
- A: Same as Preferred
- B: Same as Preferred

*Standard: Trail 50: F-4; Trail 69: H-5*
PROPOSED DEVELOPMENT AND DESIGNATIONS

MAP 6

TRAILS
- Hike
- Bike
- Horse
- Multiple Use Trail

ROADS
- 2-Lane Paved
- 2-Lane Gravel
- Less than 2-Lane Gravel or Dirt
- Railroad

DEVELOPMENT ZONES
- First Order
- Second Order
- Access

ALTERNATIVES
TEXT TO ACCOMPANY MAP 6

DEVELOPMENT SITES

Bandy Creek (Map 6, Site 1)

Description: Existing designated site provides visitor information, developed campgrounds, amphitheater, picnicking, trails and trail access, play areas, horse rentals and stables. Essentially surrounded by Scott State Forest. Primary access by East Bandy Creek Road.

Alternatives/actions:
- Preferred: Continue designated uses; increase educational opportunity for school groups and others; if demand warrants, consider providing a shelter at Appaloosa Field (locate shelter outside of Sensitive Resource Protection Zone). (First Order)
- A: Continue designated uses; no changes
- B: Same as Preferred

Litton Farm Trailhead (Map 6, Site 4)

Description: Potential new site would provide parking for trail access. Access would be by John Litton Road.

Alternatives/actions:
- Preferred: Site plan; provide vehicle trailhead. (Access)
- A: Same as Preferred
- B: Same as Preferred

North White Oak Loop Trailhead (Map 6, Site 5)

Description: Existing undesignated site provides trail access. Access by TN 297.

Alternatives/actions:
- Preferred: Site review; provide designated trailhead at best site and vehicle parking. (Access)
- A: Not included
- B: Same as Preferred

Katie Blevins Trailhead (Map 6, Site 3)

Description: Potential new site would provide parking for trail access as well as for the cemetery and cultural site. Current parking only along road. Access would be by West Bandy Creek Road.

Alternatives/actions:
- Preferred: Site plan; provide vehicle trailhead compatible with planning for cultural site. (Access)
- A: Not included
- B: Same as Preferred

Oscar Blevins Farm Trailhead (Map 6, Site 6)

Description: Existing designated site provides access to farmstead. Parking substandard and very small. Access by West Bandy Creek Road.

Alternatives/actions:
- Preferred: Site review; provide all-weather surface; designate for ADA/handicapped use only. (Access)
- A: Same as Preferred
- B: Same as Preferred
ROADS AND TRAILS

Alfred Smith Road (Map 6, Road 1)

Description: Undesignated old road used by 2 and 4 wheel drive vehicles, ATVs, and horses for hunting access, backcountry driving, and riding. Conflicts occur with John Muir Trail/Grand Gap Loop users.

Alternatives/actions:
- Preferred: Site review; designate for road uses only (disallowing ATVs and horses) to vicinity of junction with Grand Gap Loop. Remove road beyond junction with Grand Gap Loop and eliminate all uses on this portion.
- A: Site review; designate multiple-use to vicinity of Grand Gap Loop. Administrative use only beyond.
- B: Same as A

Standard: 2C

Bandy Creek Amphitheater Trail (Map 6, Trail 2)

Description: Designated short foot trail

Alternatives/actions:
- Preferred: Continue use as designated.
- A: Same as Preferred
- B: Same as Preferred

Standard: F-1

Bandy Creek Loop (Map 6, Trails 2, 3, 4)

Description: Designated, easy loop foot trail near development area.

Alternatives/actions:
- Preferred: Continue use as designated. Potential for ADA design.
- A: Same as Preferred
- B: Same as Preferred

Standard: 2C

Bandy Creek Trailhead to John Litton Trail Connector (Map 6, Trail 4)

Description: Designated gravel connector foot trail

Alternatives/actions:
- Preferred: Continue use as designated.
- A: Same as Preferred
- B: Same as Preferred

Standard: F-2

Bandy Stables – Katie Trail Connector (Map 6, Trail 5)

Description: Designated, heavily used, gravel horse trail connecting stables and Bandy equestrian trailhead with horse trail systems; occasional conflicts with bicycles.

Alternatives/actions:
- Preferred: Continue use as designated; disallow bicycles.
- A: Same as Preferred
- B: Same as Preferred

Standard: H-1

Black House Branch Trail (Map 6, Trails 7, 28)

Description: Designated multiple-use trail on plateau up to gorge closure; horse trail within the gorge. Multiple-use trail is located on old road used for hunting and power line access. Horse trail is gravel and also used by hikers to access Laurel Fork Creek Trail.

Alternatives/actions:
- Preferred: Designate as horse trail; continue administrative access.
- A: Same as Preferred
- B: Same as Preferred
**Standard: H-2**

**Collier Ridge Bike Loop** (Map 6, Trail 8)

*Description:* Designated mountain bike loop trail mostly on old roads. Shares portion with hikers using West Entrance Trail and also with occasional vehicles accessing Scott State Forest on Leonard Blevins Road. Creek crossing causing some erosion and sedimentation.

*Alternatives/actions:*
- Preferred: Continue use as designated. Disallow all motorized/road uses. Address creek crossing in environmentally compatible manner. (To address erosion and the creek crossing, consideration will be given to rerouting bicycle use off the segment that connects to West Bandy Creek Rd. and onto a short segment of Oscar Blevins Farm Loop. If this re-designation occurs, the segment of Collier Ridge in question would be closed and rehabilitated.)
  - A: Same as Preferred
  - B: Same as Preferred

**Standard: Bicycle**

**Cumberland Valley Loop Trail (Segment F)** (Map 6, Trails 10, 48, 49, 50, 51)

*Description:* Designated horse trail on old road (connecting trail between portions of North White Oak Loop); part of day loop ride

*Alternatives/actions:*
- Preferred: Continue designated horse use
- A: Same as Preferred
- B: Same as Preferred

**Standard: H-3**

**Cumberland Valley Loop (Segment G) (aka Grooms Branch Trail)** (Map 6, Trail 11)

*Description:* Designated, hardened horse trail and part of day loop ride.

*Alternatives/actions:*
- Preferred: Continue designated horse use
  - A: Same as Preferred
  - B: Same as Preferred

**Standard: H-3**

**Duncan Hollow Bike Loop** (Map 6, Trail 12)

*Description:* Designated bike trail off of Duncan Hollow Bypass

*Alternatives/actions:*
- Preferred: Designate as multiple-use trail
  - A: Same as Preferred
  - B: Same as Preferred

**Standard: MU**
Road and Jack's Ridge Loop/Road used by horses, wagons, 4 wheel drives, and bikes; also used for hunting and administrative access. Existing stream crossings (bridges) are problem for horses, and riders tend to go through the streams around bridges.

**Alternatives/actions:**
- Preferred: Designate for multiple use; address stream crossings
- A: Same as Preferred
- B: Same as Preferred

**Standard:** MU

_Duncan Hollow Road_ (Map 6, Road 14)

*Description:* Designated multiple-use trail on graveled, single lane old road used by vehicles of all types, horses, bikes, and some hikers for backcountry and hunting access, access to other trails, cemeteries, gas wells and other administrative needs. This is a heavily used route with frequent user conflicts.

**Alternatives/actions:**
- Preferred: Redesignate as a Road suitable for 2 wheel drive vehicles. Relocate trail uses to new trail (see Duncan Hollow Trail/Segment A).
- A: Continue as designated multiple-use trail.
- B: Same as Preferred

**Standard:** 2C

_Duncan Hollow Trail (Segment A)_ (Map 6, Trail 15)

*Description:* Potential new horse trail providing a better and safer trail experience, between Bandy Creek development area and the vicinity of the gorge closure for Duncan Hollow Multiple Use Trail

**Alternatives/actions:**
- Preferred: Site plan; provide new horse trail
- A: Not included
- B: Same as Preferred

**Standard:** H-5

_East Bandy Creek Road_ (Map 6, Road 16)

*Description:* Main, paved, road access to Bandy Creek development area.

**Alternatives/actions:**
- Preferred: Continue use as designated.
- A: Same as Preferred
- B: Same as Preferred

**Standard:** 2A

_Gar Blevins Multiple Use Trail aka Gar Blevins Road_ (Segment A) (Map 6, Trail 17)

*Description:* Existing, undesignated route used by all types of vehicles as well as horses, bikes, and hikers for access to various trails, the North White Oak Overlook, backcountry driving, hunting access, and for administrative purposes. The first half mile (approx.) is graveled and the remainder is dirt and substandard.

**Alternatives/actions:**
- Preferred: Site review; designate as multiple use trail to point at/near crossing of North White Oak Loop Horse Trail and provide small parking/turnaround area for vehicles; continue non-motorized access trail to overlook (see North White Oak Overlook Spur Trail). (If the NPS administrative-use-only horse facility is moved from the Oscar Blevins Farmstead to a location served by this route, then the route to this facility from TN 297 would become classified as a road and visitor uses
would have to be adjusted on this route.)

- A: Same as Preferred
- B: Designate the route from TN 297 to at/near the North White Oak Loop Horse Trail as an OHV route available to 4 wheel drives and ATVs only.

**Standard:** Preferred/A: MU; B: 4

**Jack's Ridge Loop** (Map 6, Trails 19, 20)

**Description:** Designated loop horse route also used by 2 and 4 wheel drive vehicles, ATVs, and hikers on old road portion (Segment A) for access to Charit Creek Lodge, other trails, and for administrative access.

Segment A: Trail 19; Segment B: Trail 20

**Alternatives/actions:**
- Preferred: Continue as loop horse trail; designate Segment A for multiple use; designate Segment B as horse/foot trail (no bicycle use)
- A: Same as Preferred
- B: Same as Preferred

**Standard:** Segment A: MU; Segment B: H-3

**John Litton Farm Hiking Loop** (Map 6, Trails 22, 23)

**Description:** Designated hiking trail out of Bandy Creek area providing access to historic John Litton (Litton – Slaven) Farmstead cultural landscape. Some users choose to park vehicles on the side of John Litton Road near the gorge closure gate to make a short, direct hike to the farmstead; however, there is no designated, formal parking available. The portion from Bandy Creek to the farm is designated Segment A, and the short portion from the farm to the John Litton Road is Segment B. Loop hiking would involve using Litton road and Duncan Hollow Road to return to Bandy Creek area.

**Alternatives/actions:**
- Preferred: Continue designated use; provide small parking area on Litton Road
  - A: Same as Preferred
  - B: Same as Preferred

**Standard:** F-3

**Jack's Ridge Road** (Map 6, Road 21)

**Description:** Designated gravel and dirt road used by 2 and 4 wheel drive vehicles, horses, and hikers to access trails, hunting, and for administrative uses.

**Alternatives/actions:**
- Preferred: Continue public and administrative road uses only (e.g., no horse use)
  - A: Same as Preferred
  - B: Same as Preferred

**Standard:** 2C

**John Litton Road** (Map 6, Roads 24, 25)

**Description:** Designated graveled road used by the public and administratively in 2 and 4 wheel drive vehicles and by hikers to access the Litton – Slaven farmstead. Road is partially on Scott State Forest. Route also used to access upper farm fields for overflow and group camping. Portion is used as a hiking loop. From Duncan Hollow Road to the gorge closure is designated Segment A, and on to the farm as Segment B. Visitors sometimes park along road near closure to hike to the farm. Segment B is for administrative vehicles only.

**Alternatives/actions:**
- Preferred: Continue designated use; provide small, designated parking area near gorge closure gate.
  - A: Same as Preferred
• B: Same as Preferred

**Standard:** Segment A: 2C; Segment B: 5B

**Katie Trail (Map 6, Trail 26)**

**Description:** Designated gravel and dirt connector horse trail also used by some hikers.

**Alternatives/actions:**
- Preferred: Continue use as designated horse trail; upgrade portions to standard
- A: Same as Preferred
- B: Same as Preferred

**Standard:** H-4

**Laurel Fork Creek Trail (Map 6, Trails 27, 28, 29)**

**Description:** Designated hiking-only trail traversing the length of Laurel Fork Creek. A short portion is located on Black House Branch horse trail. Horses also use short portions of this hike-only trail in other areas, resulting in adverse impacts to hiking trail.

**Alternatives/actions:**
- Preferred: Continue use for hiking only, except that portion on Black House Branch Trail; correct impacts caused by horse use; take appropriate actions to remove horse use from other portions of trail.
- A: Same as Preferred
- B: Same as Preferred

**Standard:** F-3

**North White Oak Loop (Segment B) (Map 6, Trail 32)**

**Description:** Proposed new portion connecting the proposed new trailhead with Segment C, relocating horse traffic off of route used by vehicles.

**Alternatives/actions:**
- Preferred: Not included
- A: Same as Preferred
- B: Site plan; new trail

**Standard:** H-3

**North White Oak Loop (Segment A) (Map 6, Trail 34)**

**Description:** Designated graveled horse trail portion from North White Oak Loop Connector to informal trailhead just south of TN 297. This is the eastern fork that crosses TN 297. This entire trail is a family-friendly day loop ride that also provides access to overlooks. The trail crosses a broad stream north of 297.

**Alternatives/actions:**
- Preferred: Designate as horse/foot trail – no bicycle use; monitor stream and highway crossings; tie in with proposed new trailhead south of 297.
- A: Same as Preferred
- B: Same as Preferred

**Standard:** H-3
North White Oak Loop (Segment C) (aka Cumberland Valley Loop) (Map 6, Trails 36, 48, 49, 50, 52)

Description: Designated, mostly dirt, horse trail and major portion of day loop ride.

Alternatives/actions:
- Preferred: Designate as horse/foot trail – no bicycle use
- A: Same as Preferred
- B: Same as Preferred

Standard: H-3

North White Oak Loop (Segment E) (Map 6, Trail 37) (new Segment E) (Map 6, Trail 33)

Description: Designated graveled portion of horse trail from south of TN 297, crossing the highway, to the beginning of the Loop Trail. This highway crossing is the western crossing of this same loop.

Alternatives/actions:
- Preferred: Designate as horse/foot trail (no bicycle use) on existing Segment E; monitor highway crossing. If increased use indicates safety issues, evaluate relocating trail use to new route on south side of 297 eastward to the proposed new trailhead also south of the highway (this route would be the new Segment E). This would eliminate the need for two highway crossings.
- A: Same as Preferred
- B: Eliminate highway crossing and provide trail south and parallel to TN 297 to proposed new trailhead.

Standard: H-3

Oscar Blevins Farm Road (Map 6, Road 39)

Description: Designated, short gravel road used for public access to the farmstead and trailhead and administratively for the NPS horse barn operation.

Alternatives/actions:
- Preferred: Continue designated use
- A: Same as Preferred
- B: Same as Preferred

Standard: 5B

Oscar Blevins Loop (Map 6, Trails 8, 40, 47)

Description: Designated foot trail providing short hike and access to historic farmstead.

Alternatives/actions:
- Preferred: Continue use as designated. Increase interpretation. Consideration will be given to allowing bicycles on the trail between the Oscar Blevins Farm Trailhead (Development Site 6) and the Collier Ridge Bicycle Trail.
- A: Same as Preferred
- B: Same as Preferred

Standard: Trails 40, 47: F-2; Trail 8: B

North White Oak Loop Connector (Map 6, Trail 38)

Description: Designated gravel horse trail serving as connector from Bandy Creek Stables or Trailhead to extensive trail system south of Bandy Creek development area. Crosses through Bandy Creek.

Alternatives/actions:
- Preferred: Designate as horse/foot trail – no bicycle use; provide environmentally compatible stream crossing.
- A: Same as Preferred
- B: Same as Preferred

Standard: H-2
Ralph Burke Road (Map 6, Road 41)

Description: Designated short gravel road usable by 2 wheel drive vehicles to connect to multiple-use portions of North White Oak Loop and Leatherwood Overlook Trail

Alternatives/actions:
- Preferred: Continue use as designated.
- A: Same as Preferred
- B: Same as Preferred

Standard: 2C

Upper Burke Fields Road (Map 6, Road 44)

Description: Designated short, graveled, administrative road used to access agricultural lease, currently inactive; also used by visitors to access trails and Leatherwood Overlook.

Alternatives/actions:
- Preferred: Continue use and designate for public use
- A: Same as Preferred
- B: Same as Preferred

Standard: 2B

TN 297 (Map 6, Road 43)

Description: Paved, major access route to and through National Area; access to Bandy Creek development area; used by all types of street-legal vehicles, including through commercial vehicles and trucks. Portion through gorge has very tight turns and 13% grades.

Alternatives/actions:
- Preferred: Continue use as designated. Evaluate prohibition on large vehicles to improve safety and visitor experience.
- A: Same as Preferred
- B: Same as Preferred

Standard: 2B

West Bandy Creek Bike Trail (Map 6, Trail 45)

Description: Designated, easily accessible, single-track mountain bike trail.

Alternatives/actions:
- Preferred: Continue use as designated.
- A: Same as Preferred
- B: Same as Preferred

Standard: B

West Bandy Creek Road (Map 6, Road 46)

Description: Designated, two-way, gravel connector road suitable for 2 wheel drive vehicles. Road used to access active cemetery, historic sites, trailheads, and as another connector between the Bandy Creek development area and TN 297. Width varies from essentially one-lane to stretches that are wide enough for oncoming vehicles to pass easily.

Alternatives/actions:
- Preferred: Continue two-way use. Site review; maintain essentially the existing narrow width, but bring to standard to allow safer on-coming vehicle passing in appropriate areas. Gravel surface.

Standard: N/A

Thompson Field Road (Map 6, Road 42)

Description: Old road used for administrative access to field.

Alternatives/actions:
- Preferred: Remove.
- A: Same as Preferred
- B: Same as Preferred

Standard: N/A
• A: Designate one-way to maintain narrow width and bring to standard (somewhat narrower width than Preferred). Gravel surface.
• B: Continue two-way use. Site review and widen where necessary to provide for a continuous two-lane roadway. Paved.

*Standard: Preferred/A: 2B; B: 2A

**West Entrance Trail** (Map 6, Trail 47)

*Description:* Designated foot trail providing access northward from trailhead to Laurel Fork Creek Trail and eastward to Oscar Blevins Loop Trail and the Bandy Creek development area. Portion also designated as part of Collier Ridge Bike Loop.

*Alternatives/actions:*
• Preferred: Continue as designated. Redesignate portion immediately east of West Entrance Trailhead for the additional use by bikes to provide connection with Collier Ridge Loop bike trail.
• A: Same as Preferred
• B: Same as Preferred

*Standard: F-2*
PROPOSED DEVELOPMENT AND DESIGNATIONS

MAP 7

TRAILS
- Hike
- Horse
- Bike
- Multiple Use trail

ROADS
- 2 - Lane Paved
- 2 - Lane Gravel
- Less than 2 - Lane Gravel or Dirt
- Railroad
- Remove

DEVELOPMENT ZONES
- First Order
- Second Order
- Access

ALTERNATIVES

A

B

River Trail East

Station Camp Road

6 - Station Camp Horse Camp

0 0.5 1
Miles
TEXT TO ACCOMPANY MAP 7

DEVELOPMENT SITES

John Smith Trailhead (Map 7, Site 1)

*Description:* Potential new site would provide trail access for developing area. Access would be from TN 297.

*Alternatives/actions:*
- Preferred: Site plan; coordinate provision of trailhead at or near boundary. (Access)
- A: Not included
- B: Same as Preferred

Shot Off Cliff Trailhead (Map 7, Site 2)

*Description:* Potential new site would provide trail access and allow redesignation of road to a horse trail. Access would be from Grave Hill Road.

*Alternatives/actions:*
- Preferred: Site plan; coordinate provision of trailhead at or near boundary. (Access)
- A: Same as Preferred
- B: Same as Preferred

Station Camp (Map 7, Site 3)

*Description:* Existing designated site provides river access, picnicking, and trail access. Subject to flooding. Access by Station Camp Road.

*Alternatives/actions:*
- Preferred: Continue designated uses; site review; formalize picnic sites and trailhead. (Second Order)
- A: Same as Preferred
- B: Same as Preferred

Station Camp Collector Access (Map 7, Site 4)

*Description:* Potential new site at boundary would provide for consolidation of growing number of outside horse trails prior to connection with National Area trails. Road access would be by Station Camp Road.

*Alternatives/actions:*
- Preferred: Site plan; coordinate provision of trailhead/hub. (Access)
- A: Not included
- B: Same as Preferred

Station Camp Day Use Equestrian Trailhead (Map 7, Site 5)

*Description:* Existing designated site provides horse trail access. Access by Station Camp Road.

*Alternatives/actions:*
- Preferred: Continue designated uses. (Access)
- A: Same as Preferred
- B: Same as Preferred

Station Camp Horse Camp (Map 7, Site 6)

*Description:* Existing designated site provides developed campground for equestrians and trail access. Access by Station Camp Road.

*Alternatives/actions:*
- Preferred: Continue designated uses; minor expansion of campground. (Second Order)
- A: Same as Preferred
- B: Same as Preferred
ROADS AND TRAILS

Alfred Smith Road (Map 7, Roads 1, 2)

Description: Undesignated old road used by 2 and 4 wheel drive vehicles, ATVs, and horses for hunting access, backcountry driving, and riding. Also administrative use. Conflicts occur with John Muir Trail/Grand Gap Loop users.

Alternatives/actions:
  - Preferred: Site review; designate for road uses only (disallowing ATVs and horses) to vicinity of junction with Grand Gap Loop. Remove road beyond junction with Grand Gap Loop and eliminate all uses on this portion.
  - A: Site review; designate multiple-use to vicinity of Grand Gap Loop
  - B: Same as A

Standard: 2C

Angel Falls Trail (Map 7, Trail 3)

Description: Designated foot trail on old road providing access to river.

Alternatives/actions:
  - Preferred: Continue designated use for hiking only; allow weekday bicycle use if experiment on Grand Gap is successful
  - A: Same as Preferred
  - B: Same as Preferred

Standard: F-2

Big Island Road (aka No Business Road) (Map 7, Road 7)

Description: Designated gravel road used by 2 and 4 wheel drive vehicles for hunting access and administrative use. Route is also used for oil/gas well access.

Alternatives/actions:
  - Preferred: Continue as designated
  - A: Same as Preferred
  - B: Same as Preferred

Standard: 2C

Big Island Loop (Map 7, Trails 4, 5, 6, 25)

Description: Designated mostly graveled horse trail used primarily by horses as well as hikers and bikes as a day loop route and as a connector to other trails. Portion near Station Camp uses Station Camp Road, having safety and visitor experience issues.

Alternatives/actions:
  - Preferred: Continue designated use; site review; relocate section that uses Station Camp Road by tying into Old Station Camp Road
  - A: Continue use as designated in current location
  - B: Same as Preferred

Standard: Trails 4, 5, 6, 25: H-3; Trail 29: H-4

Bronco Overlook Trail (Map 7, Trail 9)

Description: Designated graveled old road used by horses, 4 wheel drives, ATVs, and occasional hikers to access this natural overlook.

Alternatives/actions:
  - Preferred: Redesignate as horse trail (would disallow all vehicles)
  - A: Same as Preferred
  - B: Designate as multiple-use trail

Standard: Preferred/A: H-4; B: MU

Duncan Hollow Road (Map 7, Road 11)

Description: Designated multiple-use trail on graveled, single lane old road used by vehicles of all types, horses, bikes, and
some hikers for backcountry and hunting access, access to other trails, cemeteries, gas wells and other administrative needs. This is a heavily used route with frequent user conflicts.

Alternatives/actions:
- Preferred: Redesignate as a Road suitable for 2 wheel drive vehicles. Relocate trail uses to new trail (see Duncan Hollow Trail/Segment A).
- A: Continue as designated multiple-use trail.
- B: Same as Preferred

Standard: 2C

Grand Gap Loop (Map 7, Trails 14, 15)

Description: Designated loop foot trail offering scenic views of gorge. Western portion is also part of the John Muir Trail.

Alternatives/actions:
- Preferred: Continue designated use; also designate for mountain bike use on weekdays on an experimental basis; provide visitor education warning of bicycle use.
- A: Same as Preferred
- B: Same as Preferred

Standard: F-4

Duncan Hollow Trail (Segment A) (Map 7, Trail 12)

Description: Potential new horse/foot trail providing a better and safer trail experience, between Bandy Creek development area and the vicinity of the gorge closure for Duncan Hollow Multiple Use Trail

Alternatives/actions:
- Preferred: Site plan; provide new horse/foot trail
- A: Not included
- B: Same as Preferred

Standard: H-5

Fall Branch Trail (Map 7, Trail 13)

Description: Designated connector foot trail.

Alternatives/actions:
- Preferred: Continue use as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: F-3

Hatfield Ridge Trail (Segment C) (Map 7, Trail 16)

Description: Designated horse trail connecting gorge portions of trail to Station Camp area. Also used for administrative vehicle access. Steep sections.

Alternatives/actions:
- Preferred: Continue designated use
- A: Same as Preferred
- B: Same as Preferred

Standard: H-5

Indian Dome Rockhouse Trail (Map 7, Trail 17)

Description: Designated gravel spur trail off of Big Island Loop used by horses, hikers, and bikes to access to the Indian Dome Rockhouse (rock shelter). Undesignated foot trail leads to waterfall.

Alternatives/actions:
- Preferred: Continue as designated horse trail; site review; designate foot trail to waterfall; bring to standard
- A: Same as Preferred
- B: Same as Preferred
John Litton Farm Hiking Loop (Map 7, Trail 18)

Description: Designated hiking trail out of Bandy Creek area providing access to historic John Litton (Litton – Slaven) Farmstead cultural landscape. Some users choose to park vehicles on the side of John Litton Road near the gorge closure gate to make a short, direct hike to the farmstead; however, there is no designated, formal parking available. The portion from Bandy Creek to the farm is designated Segment A, and the short portion from the farm to the John Litton Road is Segment B. Loop hiking would involve using Litton Road and Duncan Hollow Road to return to Bandy Creek.

Alternatives/actions:
- Preferred: Continue designated use; provide small parking area near gate on John Litton Road.
- A: Same as Preferred
- B: Same as Preferred

Standard: F-3

John Muir Trail (Segment F and G) (Map 7, Trails 20, 21)

Description: Portion of designated long-distance hiking trail from Grand Gap Loop to Station Camp area providing scenic views of gorge and river from cliff edge overlooks.

Alternatives/actions:
- Preferred: Continue designated use; allow bicycle use on a Monday-Friday basis if experiment on Grand Gap Loop is successful; manage natural overlooks according to Sensitive Resource Protection Zone management prescription
- A: Same as Preferred
- B: Same as Preferred

Standard: F-4

John Muir Trail (Segment I) (Map 7, Trail 23)

Description: Portion of designated long-distance hiking trail between Station Camp and No Business Trail. Section along river is also being used by horses to avoid wet areas on River Trail West, resulting in unsatisfactory trail conditions and resource impacts.

Alternatives/actions:
- Preferred: Site review; combine hiking and horse use on site-specifically planned portions of this section on best location
- A: Same as Preferred
- B: Same as Preferred

Standard: F-4/H-3

John Smith Trail (Map 7, Trail 24)

Description: Existing, undesignated graveled old road used by horses, vehicles, some hikers and bikers, and occasional wagons to access the river, River Trail East,
and a cemetery. Also used for administrative access. Extremely steep and showing signs of erosion.

**Alternatives/actions:**
- Preferred: Site review; designate as horse trail plus administrative access; bring to standard
- A: Not included
- B: Same as Preferred

*Standard: MU*

**Old Station Camp Trail (aka Old Station Camp Road) (Map 7, Trail 25)**

*Description:* Undesignated, unmaintained old road used by horses to connect with trails at Station Camp.

**Alternatives/actions:**
- Preferred: Designate as horse trail; bring to standard
- A: Not included
- B: Same as Preferred

*Standard: H-3*

**Pilot-Wines Loop (Map 7, Trail 27)**

*Description:* Designated gravel horse trail also used by 4 wheel drives and ATVs on plateau portions. Some steeper sections are substandard, requiring vigilant maintenance, but are in locations where new alignments would be equally or more problematic.

**Alternatives/actions:**
- Preferred: Continue as designated for horse and hiking use only
- A: Same as Preferred
- B: Same as Preferred

*Standard: H-2*

**Red Rock Trail (Map 7, Trail 28)**

*Description:* Designated old road used by 4 wheel drives and ATVs for access to backcountry mostly for hunting purposes.

**Alternatives/actions:**
- Preferred: Redesignate as multiple-use trail
- A: Remove
- B: Same as Preferred

*Standard: 4*

**River Trail East (Map 7, Trail 29)**

*Description:* Designated, graveled horse trail using old road. Used primarily by horses but also by hikers and bikes as a riverside recreational ride and as access to Angel Falls and also to Station Camp.

**Alternatives/actions:**
- Preferred: Continue as designated; hiking only south of Angel Falls
- A: Same as Preferred
- B: Same as Preferred

*Standard: H-4*

**River Trail West (Map 7, Trail 30)**

*Description:* Designated horse trail between Station Camp and Big Island used to access points of interest and as one leg of a longer ride. Trail gets flooded frequently and is often muddy. Users often move to the parallel John Muir Trail.

**Alternatives/actions:**
- Preferred: Site review; continue as designated on site-specifically planned portions of this section on best location
- A: Same as Preferred
- B: Same as Preferred

*Standard: H-3/F-4*
**Shot Off Cliff Trail** (Map 7, Trail 31)

*Description:* Designated old road used by horses and 4 wheel drive vehicles to access the river, Williams Creek, and trail system. Also used for administrative access, including oil and gas sites.

*Alternatives/actions:*
- Preferred: Redesignate as horse trail; allowing vehicle use only for oil/gas and administrative uses.
- A: Same as Preferred
- B: Same as Preferred

*Standard:* H-4

**Station Camp Day Use Trailhead Connector** (Map 7, Trail 34)

*Description:* Designated gravel horse trail connecting the day use equestrian horse trail with the Station Camp Horse Camp Connector.

*Alternatives/actions:*
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

*Standard:* H-1

**Station Camp Ford** (Map 7, Trail 35)

*Description:* Designated river crossing for horses at location of old ford used for access to various sites and as a link in longer loop rides. The riverbed at this location is habitat for endangered mussels. An interim method for addressing this issue, i.e., a flagged trail and educational signs, continues to provide for visitor use across, or through, the river. Additional studies are planned.

*Alternatives/actions:*
- Preferred: Continue interim trail crossing method; continue to investigate most appropriate long-term crossing method.
- A: Same as Preferred
- B: Same as Preferred

*Standard:* (To be determined)
Station Camp Horse Camp Access Road
(Map 7, Road 36)

Description: Designated gravel road used by 2 and 4 wheel drive vehicles towing horse trailers.

Alternatives/actions:
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: 2A

Station Camp Horse Camp Connector Trail
(Map 7, Trail 37)

Description: Designated gravel horse trail circling the horse camp, serving as a collector, and connecting it with Pilot-Wines Loop. Some of trail also used by 2 and 4 wheel drives and ATVs.

Alternatives/actions:
- Preferred: Continue horse use only
- A: Same as Preferred
- B: Same as Preferred

Standard: H-1

Station Camp Road (Map 7, Road 38)

Description: Designated, mostly two-lane graveled road used by 2 wheel drive passenger vehicles and vehicles towing horse trailers to access Station Camp horse camp, the river, and other roads and trails. Horse trailers towed all the way to the river are a safety issue because of the road width in the gorge. Horses also use portions of the road on the plateau and in the gorge as part of designated trails or connections to trails. One of the legislative gorge access roads.

Alternatives/actions:
- Preferred: Relocate horse use; provide road standard suitable for horse trailers only to Chimney Rock parking area
- A: Same as Preferred
- B: Same as Preferred

Standard: 2A to Chimney Rock parking area; 2B from Chimney Rock to river

TN 297 (Map 7, Road 39)

Description: Paved, major access route to and through National Area; access to Bandy Creek development area; used by all types of street-legal vehicles, including through commercial vehicles and trucks. Portion through gorge has very tight turns and 13% grades.

Alternatives/actions:
- Preferred: Continue use as designated. Investigate limiting use of large vehicles to improve safety and visitor experience.
- A: Same as Preferred
- B: Same as Preferred

Standard: 1A
PROPOSED DEVELOPMENT AND DESIGNATIONS

MAP 8

TRAILS
- Hike
- Horse
- Bike
- Multiple Use trail

ROADS
- 2 - Lane Paved
- 2 - Lane Gravel
- Less than 2 - Lane Gravel or Dirt
- Railroad
- Remove

DEVELOPMENT ZONES
- First Order
- Second Order
- Access

ALTERNATIVES
TEXT TO ACCOMPANY MAP 8

DEVELOPMENT SITES

**East Rim Overlook** (Map 8, Site 1)

*Description:* Designated site provides paved parking for trail to overlook. Access is by East Rim Overlook Road.

*Alternatives/actions:*
- Preferred: Continue designated use (Access)
- A: Same as Preferred
- B: Same as Preferred

**Headquarters Development Area** (Map 8, Site 2)

*Description:* Existing designated area is the site for the primary administrative facilities for the National Area. Access by TN 297.

*Alternatives/actions:*
- Preferred: Continue designated uses, minor additions/changes (e.g., new fire cache) within designated zone; evaluate opening firing range to the public. (First Order)
- A: Same as Preferred
- B: Same as Preferred

**Honey Creek Overlook** (Map 8, Site 3)

*Description:* Existing designated site provides access to developed overlook and trails. Access by Honey Creek Road.

*Alternatives/actions:*
- Preferred: Continue designated uses. (Second Order)
- A: Same as Preferred
- B: Same as Preferred

**Honey Creek Trailhead** (Map 8, Site 4)

*Description:* Existing designated site provides access to John Muir and Honey Creek Loop Trails. Access by Honey Creek Road.

*Alternatives/actions:*
- Preferred: Continue designated uses. (Access)
- A: Same as Preferred
- B: Same as Preferred

**Leatherwood Ford** (Map 8, Site 5)

*Description:* Existing designated site provides river access, exhibits, picnicking, trails, and trail access. Access by TN 297.

*Alternatives/actions:*
- Preferred: Continue designated uses. (Second Order)
- A: Same as Preferred
- B: Same as Preferred

**Mt. Helen Trailhead (aka Long Ridge Trailhead)** (Map 8, Site 6)

*Description:* Potential new site would provide trail access. Access would be off Mt. Helen Road.

*Alternatives/actions:*
- Preferred: Site plan; provide vehicle parking area and trailhead. (Access)
- A: Same as Preferred
- B: Same as Preferred

**O&W Bridge** (Map 8, Site 7)

*Description:* Existing undesignated informal site on east side of river provides access to river, John Muir Trail, and points west on O&W railbed. Access by O&W road.
Alternatives/actions:
- Preferred: Site plan; work in partnership with Scott County to provide vehicle parking, picnic sites, trailhead, interpretive signage. (Second Order)
- A: Same as Preferred
- B: Same as Preferred

Pine Creek Access (Map 8, Site 8)

Description: Existing undesignated site provides very limited parking for boater access to Big South Fork. Access by O&W road.

Alternatives/actions:
- Preferred: Site review; formalize small parking site and trailer turn-around. (Access)
- A: Not included
- B: Same as Preferred

East Rim Trailhead (aka Sunset Trailhead) (Map 8, Site 9)

Description: Existing designated site provides trail access. Access by East Rim Overlook Road.

Alternatives/actions:
- Preferred: Continue designated use. (Access)
- A: Same as Preferred
- B: Same as Preferred

ROADS AND TRAILS

Angel Falls Trail (Map 8, Trail 1)

Description: Designated foot trail on old road providing access to river. Popular for school groups.

Alternatives/actions:
- Preferred: Continue designated use; allow weekday bicycle use if experiment on Grand Gap Loop is successful
- A: Same as Preferred
- B: Same as Preferred

Standard: F-2

Burnt Mill Road (aka Honey Creek Road) (Map 8, Road 2)

Description: Designated gravel road maintained by county providing 2 wheel drive access to Clear Fork and trails. Bridge over Clear Fork is scheduled for replacement by state/county at location immediately downstream.

Alternatives/actions:
- Preferred: Continue use and coordinate with county and state
- A: Same as Preferred
- B: Same as Preferred

Standard: 2B

Cumberland Valley Loop Trail (Segment B) (Map 8, Trail 3)

Description: Designated portion of horse trail beyond gorge closure to O&W used by horses, hikers, ATVs, bikes, and 4 wheel drives as part of a loop ride and as access to the O&W. Erosion on steep sections.

Alternatives/actions:
- Preferred: Continue designation for horse, bike, and foot use only; address erosion
- A: Same as Preferred
- B: Same as Preferred

Standard: H-2
Cumberland Valley Loop Trail Segment (Segment C) (aka O&W) (Map 8, Trail 33)

Description: (This segment, from the Gernt Trail to the Coyle Branch Trail, is the same as a portion of the O&W Segment C. See the O&W Segment C discussion below.)

Alternatives/actions:
- Preferred: Continue use as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: 1B

Cumberland Valley Loop Trail (Segment D) (aka Coyle Branch Trail) (Map 8, Trail 5)

Description: Designated horse trail used currently by horses, hikers, ATVs, and bikes as part of a loop ride and as access to the O&W.

Alternatives/actions:
- Preferred: Continue designation for horse, foot, and bike use only
- A: Same as Preferred
- B: Same as Preferred

Standard: H-2

Cumberland Valley Loop Trail (Segment E) (Map 8, Trail 6)

Description: Designated portion of loop trail between White Pine Road Spur and Coyle Branch section of loop trail. Used by all types of users (currently part of designated multiple use trail) mostly to access Leatherwood Overlook area.

Alternatives/actions:
- Preferred: Continue multiple-use designation
- A: Same as Preferred
- B: Same as Preferred

Standard: MU

East Rim Overlook Road (Map 8, Road 7)

Description: Paved access road to overlook and trailheads.

East Rim Overlook Trail (Map 8, Trail 8)

Description: Short, paved foot trail to overlook from parking area.

Alternatives/actions:
- Preferred: Continue designated use. Bring to ADA/accessible standard. Remove/reclaim previously used, eroded trail access.
- A: Same as Preferred
- B: Same as Preferred

Standard: ADA

East Rim Trail (aka O&W Overlook Trail) (Map 8, Trails 9, 37)

Description: Proposed new foot trail connecting Sunset Overlook and O&W Overlook.

Alternatives/actions:
- Preferred: Site plan; provide new foot trail.
- A: Not included
- B: Same as Preferred

Standard: F-2

Gar Blevins Multiple Use Trail Segment (Segment B) (Map 8, Trail 11)

Description: Existing, designated route used by all types of vehicles as well as horses, bikes, and hikers for access to various trails, the North White Oak Overlook, backcountry driving, hunting access, and for administrative purposes.
The first half mile (approx.) is graveled and the remainder is dirt and substandard.

Alternatives/actions:
- Preferred: Site review; designate as multiple-use trail to point at/near crossing of North White Oak Loop Horse Trail and provide small parking/turnaround area for vehicles; continue non-motorized access trail to overlook (see North White Oak Overlook Spur Trail). (If the NPS administrative-use-only horse facility is moved from the Oscar Blevins Farmstead to a location served by this route, then the route to this facility from TN 297 would become classified as a road and visitor uses would have to be adjusted on this route.)
- A: Same as Preferred
- B: Designate the route from TN 297 to at/near the North White Oak Loop Horse Trail as an OHV route available to 4 wheel drives and ATVs only.

Standard: Preferred/A: MU; B: 4

Honey Creek Loop (Map 8, Trails 12, 16)

Description: Designated foot trail system offering challenge and scenic views of the gorge and river.

Alternatives/actions:
- Preferred: Continue as designated; bring to standard as needed; replace/add trail structures
- A: Same as Preferred
- B: Same as Preferred

Standard: F-4 (high level of challenge)

Honey Creek Overlook Road (Map 8, Road 13)

Description: Designated gravel automobile road providing access to popular overlook.

Alternatives/actions:
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

Standard: F-4
John Muir Trail (Segment C) (Map 8, Trail 16)

Description: Except for a short designated portion near the O&W Bridge, the remaining distance in this segment is undesignated, and hikers use old roads and other routes, which are also used by horses and ATVs. The concept is to connect existing portions of this long-distance hiking trail.

Alternatives/actions:
- Preferred: Site plan; provide connection and designate for hiking only; incorporate spurs to natural overlooks as appropriate; remove horse and motorized use
- A: Same as Preferred
- B: Same as Preferred

Standard: F-4

Leatherwood Loop Trail (Map 8, Trails 18, 21)

Description: Designated foot trail accessed from Leatherwood Ford or East Rim Trailhead

Alternatives/actions:
- Preferred: Continue use as designated.
- A: Same as Preferred
- B: Same as Preferred

Standard: Trail 18: F-4; Trail 21: F-3

John Muir Trail (Segment D) (Map 8, Trail 18)

Description: Designated foot trail on old road from O&W Bridge to Leatherwood Ford. Portion near Leatherwood Ford designed for ADA/accessibility.

Alternatives/actions:
- Preferred: Continue designated hiking use
- A: Same as Preferred
- B: Same as Preferred

Standard: F-4

John Muir Trail (Segment E) (Map 8, Trail 19)

Description: Portion of designated long-distance hiking trail from Leatherwood Ford to Grand Gap Loop. Crosses and parallels river before climb to Angel Falls Overlook and beyond.

Alternatives/actions:
- Preferred: Continue designated hiking use
- A: Same as Preferred
- B: Same as Preferred

Standard: Segment A: MU; Segment B: H-3; Segment C: F-3
Long Ridge Trail (aka Mt. Helen Trail)  
(Map 8, Trails 35, 36)

*Description:* Existing, undesignated route using old roads and other routes. Segment A is old road segment west of proposed new trailhead to Old Camp Branch Road (see Map 10, Trail 46 for location of Old Camp Branch Road). Segment A is used by horses, ATVs, 4 wheel drive vehicles for recreation and hunting access. This segment is also needed for oil and gas well access. Segment B exists from Old Camp Branch Road to the O&W, currently used by horses and ATVs. Segment C is the portion east of the proposed trailhead to the end of the ridge near Potter Branch (private property beyond). Segment C will continue north to the O&W should NPS acquire the underlying private tract. (Segments A and B: Trail 35; Segment C: Trail 36.)

*Alternatives/actions:*
- Preferred: Site review; bring to standard; designate Segments A, B and C (to the end of the ridge near Potter Branch) as horse trail. Active NPS management on Segment C will not begin until the private property is acquired. Upon acquisition, designate the reminder of Segment C as horse trail.
- A: Same as Preferred
- B: Same as Preferred

*Standard:* H-3 (provisions as necessary for oil and gas access)

North White Oak Overlook Spur Trail  
(Map 8, Trails 28, 29, 30)

*Description:* Designated trail to overlook. Gravel section from North White Oak Loop to hitching rails is mostly gravel and used by horses, hikers, 4 wheel drives, and ATVs (Segment A: Trail 29). Portion on to overlook is for foot traffic only (Segment B: Trail 30). Existing overlook is a poor location and is not popular. A much better overlook exists at the “Narrows.”

*Alternatives/actions:*
- Preferred: Designate Segment A as horse/foot trail (no bicycle use). A new “Narrows” overlook site and new Segment B (Trail 28) (foot traffic only) would replace the existing overlook and existing Segment B.
- A: Same as Preferred
- B: Same as Preferred

*Standard:* Segment A: H-5; new Segment B: F-3

O&W (Segment A) (Map 8, Road 31)

*Description:* Segment from eastern boundary to river. Existing gravel road (old rail bed) heavily used by all types of vehicles, bikes, and some horses to access the river, continue farther on the O&W, or access other trails.

*Alternatives/actions:*
- Preferred: Coordinate with Scott County to cooperatively plan for suitable and compatible automobile access to the river.
- A: Same as Preferred
- B: Same as Preferred

*Standard:* Applicable NPS standard would be 2A
OW Segment (Map 8, Trail 32)

Description: One-mile segment from OW bridge on Big South Fork to North White Oak Creek. Existing old rail bed is heavily used by ATVs, other vehicles (bridge is limitation), bikes, and some horses to access North White Oak Creek, continue farther on the OW, or access other trails.

Alternatives/actions:
- Preferred: Coordinate with Scott County to cooperatively plan for a suitable and compatible bike, foot, and horse trail; provide quality, “rail-to-trail” type recreational experience
- A: Same as Preferred
- B: Same as Preferred

Standard: Suitable for designated uses and compatible with historic rail bed

O&W (Segment C) (Map 8, Trail 33)

Description: Segment from the crossing of North White Oak Creek to Zenith. Existing, undesignated old rail bed used by horses, ATVs, bikes, and hikers for general recreation, access to other trails, and for hunting access. (Portion is designated and blazed as the Cumberland Valley Loop trail.)

Alternatives/actions:
- Preferred: Site review; designate as trail for horse, bike, and foot use; provide quality, “rail-to-trail” type recreational experience
- A: Same as Preferred
- B: Same as Preferred

Standard: Suitable for designated uses and compatible with historic rail bed

Park Road (Map 8, Road 34)

Description: Existing, undesignated road providing 4 wheel drive and seasonal automobile access off of Mt. Helen Road to the Cecil Stewart homesite and various undesignated trails.

Alternatives/actions:
- Preferred: Site review; bring to standard; designate as road
- A: Same as Preferred
- B: Same as Preferred

Standard: 2A

Sunset Overlook Trail (Map 8, Trail 37)

Description: Designated foot trail to overlook.

Alternatives/actions:
- Preferred: Continue use as designated.
- A: Same as Preferred
- B: Same as Preferred

Standard: F-2

TN 297 (Map 8, Road 38)

Description: Paved, major access route to and through National Area; access to Bandy Creek development area; used by all types of street-legal vehicles, including through commercial vehicles and trucks. Portion through gorge has very tight turns and 13% grades.

Alternatives/actions:
- Preferred: Continue use as designated. Investigate limiting use of large vehicles to improve safety and visitor experience.
- A: Same as Preferred
- B: Same as Preferred

Standard: 1A
Pine Creek Boater Access Trail (Map 8, Trail 42)

Description: Undesignated river access for boaters and administrative uses.

Alternatives/actions:
- Preferred: Site review. Designate for hiking only; continue administrative access.
- A: Same as Preferred
- B: Same as Preferred

Standard: 4
TEXT TO ACCOMPANY MAP 9

DEVELOPMENT SITES

Burnt Mill Bridge (Map 9, Site 1)

Description: Existing designated site provides picnicking, access to Clear Fork, and trail access. Site is to be changed and improved as part of State’s bridge replacement project. Access by Honey Creek Road.

Alternatives/actions:
- Preferred: Continue existing uses; coordinate with State in changes/rehabilitation of site in accordance with pending bridge replacement. (Second Order)
  - A: Same as Preferred
  - B: Same as Preferred

Confluence Access (Map 9, Site 4)

Description: Existing undesignated site provides parking for trail to confluence of Clear Fork and New River. Some picnicking occurs. Access from Airport Road (Long Road).

Alternatives/actions:
- Preferred: Continue existing use; site review; designate and formalize/improve parking and picnicking. (Second Order)
  - A: Same as Preferred
  - B: Same as Preferred

ROADS AND TRAILS

Black Creek Trail (Map 9, Trail 1)

Description: Existing, undesignated old road providing foot, horse, and ATV access to the creek, river, and falls for swimming, fishing, and hunting. Trail mostly in gorge.

Alternatives/actions:
- Preferred: Site review; designate as horse trail; bring to standard
  - A: Same as Preferred
  - B: Same as Preferred

Standard: H-5

Burnt Mill Loop Trail (Map 9, Trail 2)

Description: Designated short hiking loop also used for river access.

Alternatives/actions:
- Preferred: Continue designated uses; site review for possible minor relocations in sensitive areas
  - A: Same as Preferred
  - B: Same as Preferred

Standard: F-4

Burnt Mill Road (aka Honey Creek Road) (Map 9, Road 3)

Description: Designated, gravel, through road maintained by county providing automobile access to Clear Fork and trails. Bridge replacement planned.

Alternatives/actions:
- Preferred: Continue use as designated; coordinate with county and state; bring to standard
  - A: Same as Preferred
  - B: Same as Preferred

Standard: 2B

Confluence Hiking Loop Trail (Map 9, Trail 7)

Description: Existing, undesignated short hiking trail also used for river access.
Alternatives/actions:
- Preferred: Site review; designate for hiking; provide loop option; bring to standard
- A: Same as Preferred
- B: Same as Preferred

Standard: F-3

Confluence Road (aka Airport Road, Long Road) (Map 9, Road 8)

Description: Designated gravel route used by all types of vehicles for access to parking/picnic area and, by trail, to river.

Alternatives/actions:
- Preferred: Continue as designated Road; bring to standard
- A: Same as Preferred
- B: Same as Preferred

Standard: 2B

Forks of the River Trail (Map 9, Trail 10, 14)

Description: Existing, undesignated old road used by 4 wheel drive vehicles, ATVs, and horses for hunting and access to river. Oil and gas well access needed.

Alternatives/actions:
- Preferred: Site review; designate as multiple-use trail
- A: Same as Preferred
- B: Same as Preferred

Standard: 4

John Muir Trail (Segment A) (Map 9, Trail 13)

Description: Proposed new section of through hiking trail between Peters Ford and Burnt Mill Loop.

Alternatives/actions:
- Preferred: Site plan; provide new hiking-only trail (map shows conceptual corridor only)
- A: Same as Preferred
- B: Same as Preferred

Standard: F-4

John Muir Trail (Segment B) (Map 9, Trail 14)

Description: Designated section of through hiking trail between Burnt Mill Loop and Honey Creek Loop. Portion located on Forks of the River Road.

Alternatives/actions:
- Preferred: Redesignate portion located on Forks of the River Road as multiple-use trail; continue designated hiking-only use on remainder; site review to examine potential for relocating section off of road; if user conflicts develop, or if otherwise deemed desirable, relocate section off of road to the extent feasible
- A: Same as Preferred
- B: Same as Preferred

Standard: F-4; portion located on Forks of the River Road: 4
PROPOSED DEVELOPMENT AND DESIGNATIONS

MAP 10

TRAILS
- Hike
- Horse
- Bike
- Multiple Use trail

ROADS
- 2 - Lane Paved
- 2 - Lane Gravel
- Less than 2 - Lane Gravel or Dirt
- Railroad
- Remove

DEVELOPMENT ZONES
- First Order
- Second Order
- Access
- ATV Planning Overlay

ALTERNATIVES
TEXT TO ACCOMPANY MAP 10

DEVELOPMENT SITES

Cowbone Trailhead (Map 10, Site 1)

Description: Potential new site would provide trail access to proposed new Cowbone Loop Hiking Trail. Access would be by Darrow Ridge Road.

Alternatives/Actions:
- Preferred: Site plan; provide vehicle trailhead. (Access)
- A: Same as Preferred
- B: Same as Preferred

Cumberland Valley Trailhead (Map 10, Site 2)

Description: Existing designated site provides trail access to Cumberland Valley Loop and Gernt Multiple Use Trail. Access from TN 297.

Alternatives/Actions:
- Preferred: Continue existing use. (Access)
- A: Same as Preferred
- B: Same as Preferred

Darrow Ridge Trailhead (Map 10, Site 3)

Description: Potential new site would provide picnicking, horse trail, and potential ATV access upon entering the National Area. Access would be by Darrow Ridge Road.

Alternatives/Actions:
- Preferred: Site plan; provide vehicle trailhead and picnic area. (Second Order)
- A: Same as Preferred
- B: Same as Preferred

Hicks Ridge Trailhead (Map 10, Site 5)

Description: Potential new site would provide trail access.

Alternatives/Actions:
- Preferred: Site plan; coordinate provision of trailhead at or near boundary. (Access)
- A: Same as Preferred
- B: Same as Preferred

Hicks Ridge Trailhead/Darrow Ridge Road (Map 10, Site 6)

Description: Potential new site would provide horse trail access. Access would be by Darrow Ridge Road.

Alternatives/Actions:
- Preferred: Site plan; provide vehicle trailhead. (Access)
- A: Same as Preferred
- B: Same as Preferred

John Hall Trailhead (Map 10, Site 7)

Description: Potential new site would provide hiking and horse trail access. Access would be by Darrow Ridge Road.

Alternatives/Actions:
- Preferred: Site plan; provide vehicle trailhead. (Access)
- A: Same as Preferred
- B: Same as Preferred

Mill Creek Trailhead (Map 10, Site 4)

Description: Potential new site would provide trail access to O&W and other trails. Access would be by Range Cemetery Road.

Alternatives/Actions:
Zenith (Map 10, Site 13)

*Description:* Existing designated site in gorge provides access to North White Oak Creek, former town site, and informal picnicking and camping. ATVs cross creek to access the O&W. Access by Zenith (Camp Branch) Road from Mt. Helen Road.

*Alternatives/actions:*
- Preferred: Site review; expand and formalize parking and picnicking; interpret town site; conduct site review for possible foot, bike, and/or horse trail connection (possibly a bridge) to O&W across North White Oak Creek. Disallow ATV crossings and ATV use.  
  (Second Order)
- A: Same as Preferred
- B: Same as Preferred

Proctor Ridge Trailhead (Map 10, Site 10)

*Description:* Potential new site would provide horse trail access.

*Alternatives/actions:*
- Preferred: Site plan; coordinate provision of trailhead at or near boundary.  
  (Access)
- A: Same as Preferred
- B: Same as Preferred

Tar Kiln Trailhead (Map 10, Site 11)

*Description:* Potential new site would provide multiple-use trail and potential ATV access. Access would be by Tar Kiln Road.

*Alternatives/actions:*
- Preferred: Site plan; coordinate provision of trailhead at or near boundary.  
  (Access)
- A: Same as Preferred
- B: Same as Preferred

West Entrance Trailhead (Map 10, Site 12)

*Description:* Existing designated site provides trail access. Access by TN 297.

*Alternatives/actions:*
- Preferred: Continue designated use. Designate as the primary access/trailhead for the Collier Ridge Bicycle Loop.  
  (Access)
- A: Same as Preferred
- B: Same as Preferred

Zenith Loop Trail Connector Access (Map 10, Site 15)

*Description:* Potential new site would provide horse trail access connecting with Zenith Loop and other trails. Access would be by Zenith (Camp Branch) Road.

*Alternatives/actions:*
- Preferred: Site plan; coordinate provision of trailhead access at/near boundary.  
  (Access)
ROADS AND TRAILS

Arch Trail (aka Arch Ridge Road) (Map 10, Trail 1)

Description: Existing, undesignated old road used by ATVs, 4 wheel drives, bikes, and horses to access an unnamed arch and for hunting access. Needed for oil and gas well access.

Alternatives/actions:
- Preferred: Site review; designate as multiple-use trail
- A: Same as Preferred
- B: Same as Preferred

Standard: MU

Bluff House Trail (Map 10, Trails 2, 3)

Description: Undesignated old road previously used by horses as part of a loop ride, ATVs, and 4 wheel drives for backcountry driving and for hunting access before it was closed by the 1998 storm. Crosses designated gorge.

Alternatives/actions:
- Preferred: Site plan; designate as horse trail; bring to standard, including relocation around washed out crossing of Mill Seat Creek. (Segment B, from Christian Cemetery Road to the proposed Darrow Ridge Horse Trail intersection [Trail 3], would become a portion of the new Darrow Ridge Trail.)
- A: Same as Preferred
- B: Same as Preferred

Standard: H-5

Christian Cemetery Trail (Map 10, Trails 5, 6, 7)

Description: Existing, undesignated dirt/gravel road used by all types of vehicles and bikes for backcountry driving, access to the O&W, and for hunting access. Also used extensively by horses. Needed for oil and gas well access.

Alternatives/actions:
- Preferred: Site review; designate as multiple-use trail.
- A: Same as Preferred
- B: Same as Preferred

Standard: MU

Christian Cemetery Horse Trail (Map 10, Trail 4)

Description: Existing, undesignated old road used by ATVs, 4 wheel drives, horses, and hikers for access to the O&W and as part of a loop ride.

Alternatives/actions:
- Preferred: Site review; designate as horse trail.
- A: Same as Preferred
- B: Same as Preferred

Standard: H-5

Collier Ridge Bike Loop (Map 10, Trails 8, 9)

Description: Designated mountain bike loop trail mostly on old roads. Shares portion with hikers using West Entrance Trail and also occasional vehicles accessing Scott State Forest on Leonard Blevins Road. Creek crossing causing some erosion and sedimentation.

Alternatives/actions:
- Preferred: Continue use as designated. Disallow all motorized/road uses.
Address creek crossing in environmentally compatible manner. (To address erosion and the creek crossing, consideration will be given to rerouting bicycle use off the segment that connects to West Bandy Creek Rd. and onto a short segment of Oscar Blevins Farm Loop. If this re-designation occurs, the segment of Collier Ridge in question would be closed and rehabilitated.)

- A: Same as Preferred
- B: Same as Preferred

**Standard: B**

**Cowbone Loop Hiking Trail (Map 10, Trail 10)**

*Description:* Undesignated, existing route, some of which is old road, having potential for a short loop hiking experience.

*Alternatives/actions:*
- Preferred: Site plan; designate for hiking only; bring to standard.
- A: Same as Preferred
- B: Same as Preferred

**Standard: F-3**

**Cumberland Valley Loop (Segment A) (aka Gernt Trail) (Map 10, Trail 11)**

*Description:* Designated multiple-use trail well used by horses, 4 wheel drives, ATVs, bikes, and hikers to access the O&W, the East Laurel Overlook, and for hunting access. The route is an old road developed by the Gernt Lumber Company. The route has several sections with erosion problems. Segment A portion is from the trailhead to the gorge closure.

*Alternatives/actions:*
- Preferred: Continue multiple-use designation
- A: Same as Preferred

**Standard: H-3**

**Cumberland Valley Road (Map 10, Road 14)**

*Description:* Short, designated gravel access road connecting TN 297 with the Cumberland Valley Trailhead. Besides automobiles and vehicles with horse trailers, the short route is also used by horses as a connector with a horse trail system located on private land.

**Standard: MU**

**Cumberland Valley Loop Trail (Segment B) (Map 10, Trail 12)**

*Description:* Designated portion of horse trail beyond gorge closure to O&W used by horses, hikers, ATVs, bikes, and 4 wheel drives as part of a loop ride and as access to the O&W. Erosion on steep sections.

*Alternatives/actions:*
- Preferred: Continue designation as horse trail; address erosion
- A: Same as Preferred
- B: Same as Preferred

**Cumberland Valley Loop (Segment G) (aka Grooms Branch Trail) (Map 10, Trail 13)**

*Description:* Designated, hardened horse trail and part of day loop ride.

*Alternatives/actions:*
- Preferred: Continue designated use
- A: Same as Preferred
- B: Same as Preferred

**Cumberland Valley Road (Map 10, Road 14)**

*Description:* Short, designated gravel access road connecting TN 297 with the Cumberland Valley Trailhead. Besides automobiles and vehicles with horse trailers, the short route is also used by horses as a connector with a horse trail system located on private land.

**Standard: MU**
Alternatives/actions:
- Preferred: Site review; provide separation between vehicles and horses
  - A: Same as Preferred
  - B: Same as Preferred

Standard: 2B

Darrow Ridge Road and Trail (Map 10, Road 18, Trail 19)

Description: Existing, undesignated road used as primary access to this large area. Road is in poor condition and used by all types of vehicles for hunting and cemetery access and access to backcountry areas such as Cactus Rock. Also used by horses. Needed for oil and gas well access.

Alternatives/actions:
- Preferred: Road 18 - boundary to proposed new Darrow Ridge Trailhead (Site 3): site review; designate as road suitable for 2 wheel drives (paved); bring to standard. Trail 19 - proposed Darrow Ridge Trailhead to trail end: site review; designate as multiple-use trail.
  - A: Same as Preferred
  - B: Same as Preferred

Standard: Road 18: 2B (paved); Trail 19: MU

Darrow Ridge Road Spurs (3) (Map 10, Trails 20, 21, 22)

Description: Existing, undesignated old roads used by ATVs and 4 wheel drives for hunting access.

Alternatives/actions:
- Preferred: Site review; designate for road uses
  - A: Same as Preferred
  - B: Same as Preferred

Standard: 4

Darrow Ridge Connector (Map 10, Trail 33)

Description: Existing short stretch of undesignated old road used by horses and some hikers to access Darrow Ridge area.

Alternatives/actions:
- Preferred: Site review; designate as a horse trail. Darrow Ridge Connector would link proposed John Hall trailhead (at junction with Darrow Ridge Road) with proposed Darrow Ridge Horse Trail.
  - A: Same as Preferred
  - B: Same as Preferred

Standard: H-3

Darrow Ridge Horse Trail (Map 10, Trails 3, 23)

Description: Partially existing, undesignated route of mostly old roads previously used by ATVs and horses. Improved, the route would be used for general recreation and to access other trails.

Alternatives/actions:
- Preferred: Site plan; route shown represents a concept for a collector/connector horse trail; designate as horse/foot trail (no bicycle use). The portion lying between East Laurel Fork and Darrow Ridge Road would be located on the plateau and not in the gorge.
  - A: Same as Preferred
  - B: Same as Preferred

Standard: H-5

Darrow Ridge Trailhead/O&W Connector Trail (Map 10, Trail 24)

Description: Potential new horse trail route connecting the proposed Darrow Ridge Trailhead and the O&W that would provide for loop horse rides. Route shown
represents a concept only. Would use old roads where available and appropriate.

**Alternatives/actions:**
- Preferred: Site plan; provide new horse trail
- A: Same as Preferred
- B: Same as Preferred

**Standard:** H-5

**Darrow Ridge ATV Route** (Map 10, Trail 15)

**Description:** Potential ATV route. Route has yet to be determined and is therefore not shown on map 10. This is an experimental project involving a closed trail system for ATVs and dirt bikes only. Would use old roads where possible. Coordination needed with oil and gas operators to address safety issues.

**Alternatives/actions:**
- Preferred: Site plan; provide new designated ATV trail
- A: Same as Preferred
- B: Same as Preferred

**Standard:** ATV

**Dump Trail** (Map 10, Trail 25)

**Description:** Existing, undesignated old road used by ATVs and 4 wheel drives for hunting and backcountry access. Also used by horses.

**Alternatives/actions:**
- Preferred: Site review, to include investigation of old dumpsite; designate as multiple-use trail
- A: Not included
- B: Same as Preferred

**Standard:** 4

**East Laurel Overlook Spur** (Map 10, Trails 26, 27)

**Description:** Designated route off of Gernt Trail to overlook currently used by horses, hikers, ATVs, and bikes.

**Alternatives/actions:**
- Preferred: Site review; designate for horse and foot traffic to point back from overlook; provide hitch rails (Segment A), and foot traffic only on to overlook (Segment B); bring to standard.
- A: Same as Preferred
- B: Same as Preferred

**Standard:** Segment A: H5; Segment B: F-3

**East Laurel Spur** (Map 10, Trail 28)

**Description:** Existing old railbed from O&W to historic sawmill site. Closed in 1997 due to resource impacts.

**Alternatives/actions:**
- Preferred: Site plan; designate for hiking use after the O&W railbed has been brought to appropriate standard; consider allowing horse use if a sustainable trail design can be developed for riparian areas; bring to appropriate standard
- A: Not included
- B: Site plan; designate for horse use

**Standard:** Preferred: F-3 if hiking trail; H-5 if horse trail; B: H-5

**Flat Bottom Trail** (Map 10, Trail 29)

**Description:** Existing, undesignated old road used by ATVs and horses to access Flat Bottom Overlook and for hunting access.
Alternatives/actions:
- Preferred: Site review; designate as multiple-use trail
- A: Not included
- B: Same as Preferred

Standard: MU

Gar Blevins Multiple Use Trail (aka Gar Blevins Road (Segment A) (Map 10, Trail 30)

Description: Existing, undesignated route used by all types of vehicles as well as horses, bikes, and hikers for access to various trails, the North White Oak Overlook, backcountry driving, hunting access, and for administrative purposes. The first half mile (approx.) is graveled and the remainder is dirt and substandard.

Alternatives/actions:
- Preferred: Site review; designate as multiple use trail to point at/near crossing of North White Oak Loop Horse Trail and provide small parking/turnaround area for vehicles; continue non-motorized access trail to overlook (see North White Oak Overlook Spur Trail). (If the NPS administrative-use-only horse facility is moved from the Oscar Blevins Farmstead to a location served by this route, then the route to this facility from TN 297 would become classified as a road and visitor uses would have to be adjusted on this route.)
- A: Same as Preferred
- B: Designate the route from TN 297 to at/near the North White Oak Loop Horse Trail as an OHV route available to 4 wheel drives and ATVs only.

Standard: Preferred/A: MU; B: 4

Hicks Ridge Trail (aka Montgomery Road; Buddy Road) (Map 10, Trail 32)

Description: Existing, undesignated old road crossing East Laurel Fork gorge well used by ATVs, horses, and some bikes for backcountry and hunting access and for reaching the Darrow Ridge area. The route exhibits significant erosion and the presence of gas lines.

Alternatives/actions:
- Preferred: Site review; designate as horse trail; address erosion and gas lines to improve resource protection and visitor experience; may require substantial trail re-routing to achieve appropriate grade.
- A: Same as Preferred
- B: Same as Preferred

Standard: H-5

Hippy Cave Trail (Map 10, Trail 34)

Description: Existing, undesignated old road used by horses and some hikers to access Hippy Cave rock shelter (aka Accordion Bluff).

Alternatives/actions:
- Preferred: Site review; designate as foot trail; proposed John Hall trailhead would be at junction with Darrow Ridge Road; hitch rails would be provided at junction of Hippy Cave Trail and proposed Darrow Ridge Horse Trail.
- A: Same as Preferred
- B: Same as Preferred

Standard: F-3

John Hall Connector Trail (Map 10, Trail 35)

Description: Existing, undesignated route lying mostly in the designated gorge and used by horses, ATVs, 4 wheel drives, and hikers as a connector between the
Copeland House site at Darrow Ridge Road and Hicks Ridge Road.

**Alternatives/actions:**
- Preferred: Site review; designate for hiking only; bring to standard
- A: Not included
- B: Same as Preferred

**Standard:** F-3

**John Hall Trail (Map 10, Trail 36)**

**Description:** Existing, undesigned trail mostly within the East Laurel Fork gorge with potential for day and overnight hiking. Would access the Sawtooth area.

**Alternatives/actions:**
- Preferred: Site review; designate for hiking only
- A: Not included
- B: Same as Preferred

**Standard:** F-3

**Little Cliff Trail (Map 10, Trails 37, 68)**

**Description:** Existing, undesigned old road used by ATVs, 4 wheel drives, horses, and bikes for backcountry driving, access to the O&W, and for hunting access. Route in gorge is located within the Panther Branch streambed. Trail portion in gorge (Trail 68) exhibits significant erosion.

**Alternatives/actions:**
- Preferred: Site review; designate as multiple-use trail to gorge closure; designate as horse trail beyond closure. Address erosion; may require a substantial rerouting and rehabilitation.
- A: Same as Preferred
- B: Same as Preferred

**Standard:** 4

Long Ridge Trail (aka Mt. Helen Trail) (Map 10, Trail 50)

**Description:** Existing, undesigned route using old roads and other routes. Segment A is old road segment west of proposed new trailhead to Old Camp Branch Road (see Map 10, Trail 46 for location of Old Camp Branch Road). This segment is used by horses, ATVs, 4 wheel drive vehicles for recreation and hunting access. This segment is also needed for oil and gas well access. Segment B exists from Old Camp Branch Road to the O&W, currently used by horses and ATVs. Segment C is the portion east of the proposed trailhead to the end of the ridge near Potter Branch (private property beyond). Segment C will continue north to the O&W should NPS acquire the underlying private tract.

**Alternatives/actions:**
- Preferred: Site review; bring to standard; designate Segments A, B and C (to the end of the ridge near Potter Branch) as horse trail. Active NPS management on Segment C will not begin until the private property is acquired. Upon acquisition, designate the reminder of Segment C as horse trail.
  - A: Same as Preferred
  - B: Same as Preferred

**Standard:** H-5 (provisions as necessary for oil and gas access)

Mill Creek Trail (aka Thompkin or Range Cemetery Road) (Map 10, Trails 40, 41)

**Description:** Existing, undesigned old road used by horses, ATVs, and 4 wheel drive vehicles to access North White Oak Creek, the O&W, and other routes. Most of this road within the boundary is not yet owned by NPS (boundary to gorge) (Segment A). The portion owned currently by NPS is within the designated gorge (Segment B). (Segment A: Road 40; Segment B: Trail 41.)
Alternatives/actions:
- Preferred: Upon acquisition of land, conduct site review, designate Segment A as multiple use trail up to gorge closure and Segment B, beyond closure, as a horse and foot trail; bring to standard
- A: Same as Preferred
- B: Same as Preferred

Standard: Segment A: MU; Segment B: H-5

North White Oak Loop (Segment C) (aka Cumberland Valley Loop) (Map 10, Trail 43)

Description: Designated, mostly dirt, horse trail and major portion of day loop ride. (Segment C is longest portion of loop, from White Pine Road Spur southwesterly and back to vicinity of western crossing of TN 297.)

Alternatives/actions:
- Preferred: Designate as horse/foot trail – no bicycle use
- A: Same as Preferred
- B: Same as Preferred

Standard: H-3

O&W (Segment C) (Map 10, Trail 44)

Description: Existing, undesignated old rail bed used by horses, ATVs, bikes, and hikers for general recreation, access to other trails, and for hunting access. Segment C is from the crossing of North White Oak Creek to Zenith. (Portion is designated and blazed as Cumberland Valley Loop.)

Alternatives/actions:
- Preferred: Site review; designate as trail for horse, bike, and foot use only
- A: Same as Preferred
- B: Same as Preferred

Standard: Suitable for designated uses and compatible with historic rail bed

O&W (Segment D) (Map 10, Trail 45)

Description: Existing, undesignated old rail bed used by horses, ATVs, bikes, and hikers for general recreation, access to other trails, and for hunting access. Segment D is from Zenith to proposed Darrow Ridge Trailhead/O&W Connector Trail.

Alternatives/actions:
- Preferred: Site review; designate as trail for horse, bike, and foot use only
- A: Same as Preferred
- B: Same as Preferred

Standard: Suitable for designated uses and compatible with historic rail bed

Old Camp Branch Trail (Segment A) (aka Old Camp Branch Road) (Map 10, Trail 46)

Description: Existing, undesignated old road used for hunting access and horseback riding. Segment A is portion on plateau needed for oil/gas well access. Accessed from Cecil Stewart’s place.

Alternatives/actions:
- Preferred: Site review; designate as horse trail
- A: Same as Preferred
- B: Same as Preferred

Standard: 4

Old Camp Branch Trail (Segment B) (aka Old Camp Branch Road) (Map 10, Trail 47)

Description: Existing, undesignated old road mostly in gorge used for hunting access and horseback riding.
Alternatives/actions:
- Preferred: Site review; designate as horse trail; bring to standard
- A: Same as Preferred
- B: Same as Preferred

Standard: H-5

Oscar Blevins Loop (Map 10, Trails 9, 64)

Description: Designated foot trail providing short hike and access to historic farmstead.

Alternatives/actions:
- Preferred: Continue use as designated. Increase interpretation.
- A: Same as Preferred
- B: Same as Preferred

Standard: Trail 9: B; Trail 64: F-2

Pond Ridge Trail (Map 10, Trail 48)

Description: Existing, undesignated old road used mostly by ATVs for hunting access.

Alternatives/actions:
- Preferred: Site review; designate as horse trail
- A: Not included
- B: Same as Preferred

Standard: 4

Proctor Ridge Trail (Map 10, Trail 49)

Description: Existing, undesignated old road with some serious erosion issues used by ATVs, 4 wheel drives, and horses to access East Laurel Fork and the Darrow Ridge area. Needed for oil and gas well access. Exhibiting significant erosion.

Alternatives/actions:
- Preferred: Site review; designate as horse trail; address erosion; may require substantial trail re-routing to achieve appropriate grade.
- A: Not included
- B: Same as Preferred

Standard: MU for oil and gas access; H-5 in the gorge.

Sawtooth Ridge Trail (Map 10, Trail 51)

Description: Existing, undesignated old road used by horses, ATVs, hikers, and bikers to access a viewpoint of the Sawtooth Canyon of East Laurel Fork and for hunting access.

Alternatives/actions:
- Preferred: Site review; designate as horse trail
- A: Not included
- B: Same as Preferred

Standard: H-5

Tar Kiln Trail (Map 10, Trails 53, 54)

Description: Existing, undesignated old road used by horses, ATVs, wheel drives, and wagons for backcountry driving, access to the O&W, and for hunting access. Needed for oil and gas well access. Portion to gorge closure: Segment A; portion beyond closure: Segment B. (Segment A is Trail 53; Segment B is Trail 54).

Alternatives/actions:
- Preferred: Site review; designate Segment A as multiple-use trail. Designate Segment B as horse trail. Bring to standard
- A: Same as Preferred
- B: Same as Preferred

Standard: Segment A: 2C; Segment B: H-4
Tar Kiln Spur Trail (Map 10, Trails 55, 56)

Description: Existing, undesignated old road used by horses, ATVs, 4 wheel drives, and wagons for backcountry driving, access to the O&W, and for hunting access. Needed for oil and gas well access. Portion to gorge closure: Segment A; portion beyond closure: Segment B. (Segment A is Trail 55; Segment B is Trail 56).

Alternatives/actions:
• Preferred: Site review; designate Segment A as multiple-use trail; designate Segment B as horse trail; bring to standard.
• A: Same as Preferred
• B: Same as Preferred

Standard: Segment A: 2C; Segment B: H-4

TN 154 (#) (Map 10, Road 57)

Description: Designated, two-lane paved state highway.

Alternatives/actions:
• Preferred: Continue as designated; coordinate with state
• A: Same as Preferred
• B: Same as Preferred

Standard: 2A

TN 297 (Map 10, Road 58)

Description: Paved, major access route to and through National Area; access to Bandy Creek development area; used by all types of street-legal vehicles, including through commercial vehicles and trucks. Portion through gorge has very tight turns and 13% grades.

Alternatives/actions:
• Preferred: Continue use as designated. Investigate limiting use of large vehicles to improve safety and visitor experience.
• A: Same as Preferred
• B: Same as Preferred

Standard: 1A

Upper Panther Branch Trail (Map 10, Trail 59)

Description: Existing, undesignated old road used by ATVs and 4 wheel drives for backcountry driving. Also used by horses.

Alternatives/actions:
• Preferred: Site review; designate as multiple-use trail
• A: Not included
• B: Same as Preferred

Standard: 4

West Bandy Creek Bike Trail Extension (Map 10, Trail 60)

Description: Potential new single-track mountain bike trail to lengthen ride and connect with Collier Ridge Bike Trail.

Alternatives/actions:
• Preferred: Site plan; provide new trail
• A: Same as Preferred
• B: Same as Preferred

Standard: B

West Bandy Creek Road (Map 10, Road 61)

Description: Designated, two-way, gravel connector road suitable for 2 wheel drive vehicles. Road used to access active cemetery, historic sites, trailheads, and as another connector between the Bandy Creek development area and TN 297. Width varies from essentially one-lane to
stretches that are wide enough for oncoming vehicles to pass easily.

**Alternatives/actions:**
- **Preferred:** Continue two-way use. Maintain essentially the existing narrow width, but bring to standard to allow safer on-coming vehicle passing in appropriate areas. Gravel surface.
- **A:** Designate one-way to maintain narrow width and bring to standard (somewhat narrower width than Preferred). Gravel surface.
- **B:** Continue two-way use. Site review; widen where necessary to provide for a continuous two-lane roadway. Paved.

**Standard:** Preferred: 2B; A: 2B; B: 2A

West Entrance Trail (Map 10, Trails 8, 62, 63, 64)

**Description:** Designated foot trail providing access northward from trailhead to Laurel Fork Creek Trail and eastward to Oscar Blevins Loop Trail and the Bandy Creek development area. Portion also designated as part of Collier Ridge Bike Loop.

**Alternatives/actions:**
- **Preferred:** Redesignate portion immediately east of West Entrance Trailhead (Trail 63) for the additional use by bikes to provide connection with Collier Ridge Bicycle Loop.
- **A:** Same as Preferred
- **B:** Same as Preferred

**Standard:** Trail 8: B; Trails 62, 63, 64: F-2

Zenith Loop Trail Connector (Map 10, Trail 66)

**Description:** Existing, undesignated old road used for horse access to Zenith and the O&W.

**Alternatives/actions:**
- **Preferred:** Site review; designate as horse trail; bring to standard
- **A:** Same as Preferred
- **B:** Same as Preferred

**Standard:** H-5

Zenith Loop Trail (Map 10, Trails 46, 47, 65)

**Description:** Existing, undesignated old road used for horse loop ride.

**Alternatives/actions:**
- **Preferred:** Site review; designate as horse trail; bring to standard
- **A:** Same as Preferred
- **B:** Same as Preferred

**Standard:** H-5

Zenith Road (aka Camp Branch Road) (Map 10, Road 67)

**Description:** Designated gravel road used currently by automobiles, horses, and ATVs to access North White Oak Creek, the O&W, and remnants of the mining community. Beyond Camp Branch, the road to the informal day use area (Zenith Beach) is virtually impassable for automobiles. One of the legislative gorge access routes.

**Alternatives/actions:**
- **Preferred:** Bring to standard
- **A:** Same as Preferred
- **B:** Same as Preferred

**Standard:** 2B
TEXT TO ACCOMPANY MAP 11

DEVELOPMENT SITES

Brewster Bridge Access (Map 11, Site 1)

Description: Existing designated site provides picnicking and access to Clear Fork. Access by Old TN 52.

Alternatives/actions:
- Preferred: Continue designated uses. (Second Order)
- A: Same as Preferred
- B: Same as Preferred

Brewster Bridge Access-East (Map 11, Site 2)

Description: Potential new site would provide small parking area and access to Clear Fork using the eastern portion of the old highway. Access by Old TN 52 from the east.

Alternatives/actions:
- Preferred: Not included
- A: Not included
- B: Site plan; provide vehicle parking and water access (Access)

Brewster Bridge Campground (Map 11, Site 3)

Description: Potential new site would provide small improved campground on plateau west of the river. Access would be by new TN 52.

Alternatives/actions:
- Preferred: Not included
- A: Not included
- B: Site plan; provide campground. (Second Order)

Brewster Bridge Picnic Area (Map 11, Site 4)

Description: Existing designated site provides picnicking. Access by Old TN 52.

Alternatives/actions:
- Preferred: Continue designated uses; site review; upgrade picnicking facilities; provide river access. (Second Order)
- A: Same as Preferred
- B: Same as Preferred

Joe Branch (Map 11, Site 5)

Description: Existing designated site provides picnicking and trail access. Access by Joe Branch Road.

Alternatives/actions:
- Preferred: Continue designated uses; site review; improve picnic sites; minor expansion of trailhead. (Second Order)
- A: Same as Preferred
- B: Same as Preferred

Joe Branch Access Trailhead (Map 11, Site 6)

Description: Potential new site would provide for horse trail access into Joe Branch area. Currently, unless horses are trailered in, they must ride illegally on Joe Branch Road (see discussion below on Joe Branch Road). Access by Joe Branch Road.

Alternatives/actions:
- Preferred: Site plan; provide vehicle trailhead (Access)
- A: Same as Preferred
- B: Same as Preferred

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Peters Bridge (Map 11, Site 7)

**Description:** Existing designated site provides access to Clear Fork and streamside trail. Access by Peters Ford Road.

**Alternatives/actions:**
- **Preferred:** Continue designated use; site review; formalize parking and trailhead.
  - (Access)
- **A:** Same as Preferred
- **B:** Same as Preferred

Rugby Trailhead (aka Laurel Dale Cemetery Trailhead) (Map 11, Site 8)

**Description:** Existing designated site provides hiking trail access. Access by Laurel Dale Cemetery Road.

**Alternatives/actions:**
- **Preferred:** Continue designated use; site review; improve site; minor expansion.
  - (Access)
- **A:** Same as Preferred
- **B:** Same as Preferred

**ROADS AND TRAILS**

Brewster Bridge Loop Trail (Map 11, Trail 1)

**Description:** Existing, undesignated foot trail on old road used for short hikes from picnic area and for river access. In poor condition.

**Alternatives/actions:**
- **Preferred:** Site review; designate as foot trail; bring to standard
- **A:** Same as Preferred
- **B:** Same as Preferred

**Standard:** F-4

Gentleman's Swimming Hole Trail (Map 11, Trail 3, 4)

**Description:** Designated, historically used foot trail from Rugby to river (Segment A). Loop route includes a non-riverside portion on old road also used by horses, ATVs, and for oil/gas well access (Segment B). (Segment A is Trail 3; Segment B is Trail 4).

**Alternatives/actions:**
- **Preferred:** Bring Segment A to standard, incorporating historic elements; designate Segment B as foot trail; continue oil/gas access
- **A:** Same as Preferred
- **B:** Same as Preferred

**Standard:** Segment A: F-4; Segment B: MU

Hutt's Ford Trail (aka Hull's Ford Trail) (Map 11, Trail 5)

**Description:** Existing, undesignated old road used by horses and by foot for day-use access to the river.

**Alternatives/actions:**
- **Preferred:** Site review; designate for horse and foot use; install hitching rails away from river
- **A:** Same as Preferred
- **B:** Same as Preferred

**Standard:** 4

Joe Branch Access Trail (Map 11, Trail 6)

**Description:** Existing, undesignated horse route connection from Joe Branch Road to day use area and other trails. Uses old route of Joe Branch Road and is substandard.

**Alternatives/actions:**
- **Preferred:** Site review; designate as horse trail; bring to standard
Joe Branch Hiking Loop (Map 11, Trail 7)

Description: Proposed new foot trail starting and ending at the day-use development area and designed for short nature hikes. Route shown on map is conceptual only; alternative alignments could be provided.

Alternatives/actions:
- Preferred: Site plan; provide new foot trail
- A: Not included
- B: Same as Preferred

Standard: F-4

Joe Branch Horse/Wagon Loop (Map 11, Trail 2)

Description: Partially existing, undesignated route used by horses and wagons. Oil/gas well access needed.

Alternatives/actions:
- Preferred: Site review; designate; bring to standard
- A: Same as Preferred
- B: Same as Preferred

Standard: H-4

Joe Branch Trail and Road (Map 11, Trail 9, Road 10)

Description: Designated gravel road used by 2 and 4 wheel drive vehicles, ATVs, horses, and wagons to access the day-use development site and other trails. Also used for oil/gas well access. (Segment A is Trail 9; Segment B is Road 10).

Alternatives/actions:
- Preferred: Redesignate short portion (Segment A) between boundary and the junction with the Joe Branch Access Trail as a multiple use trail to allow legal use by horses; continue as designated road beyond junction with horse trail (Segment B)
- A: Same as Preferred
- B: Same as Preferred

Standard: MU

Old TN 52 Access Spur (Map 11, Road 17)

Description: Short, designated gravel road off of old highway used to access the river.
and a small picnic area. Suitable for 2 wheel drive vehicles.

**Alternatives/actions:**
- Preferred: Continue as designated road
- A: Same as Preferred
- B: Same as Preferred

**Standard:** 2C

**Old TN Highway 52 (Map 11, Trail 14, 15, Road 16)**

**Description:** Designated paved road formerly used as a through highway and for river access. Construction of new TN 52 and high bridge allows consideration of alternative uses of different portions of the old highway, i.e., portion east of river (Segment A) (Trail 14), the bridge (Segment B) (Trail 15), portion west of river (Segment C) (Road 16).

**Alternatives/actions:**
- Preferred: Segment A: Site review; designate and rehabilitate as foot trail with the potential of linking to walking path extending from Rugby; Segment B: Site review; designate and rehabilitate the old bridge to provide a suitable foot trail connection across the river; Segment C: Continue as designated road.
- A: Segment A: Remove route; Segment B: Remove fully or partially (no use); Segment C: Same as Preferred.
- B: Segment A: Continue use as road; site plan and provide small parking area near river; Segment B: Same as Preferred; Segment C: Same as Preferred.

**Standard:** Preferred: Segment A: F-4; Segment B: compatible with F-4; Segment C: 2A
- A: Segment A: N/A; Segment B: N/A; Segment C: 2A
- B: Segment A: 2A;

**Segment B:** any suitable condition that also protects river resources; Segment C: 2A

**Peters Ford Road (Map 11, Road 19)**

**Description:** Designated paved county road used by through traffic and for river access.

**Alternatives/actions:**
- Preferred: Continue as designated
- A: Same as Preferred
- B: Same as Preferred

**Standard:** 1B

**Peters Ford Trail (Map 11, Trail 20)**

**Description:** Existing, undesignated foot trail providing day-use access along river. Condition is unsatisfactory.

**Alternatives/actions:**
- Preferred: Site review; designate; bring to standard
- A: Same as Preferred
- B: Same as Preferred

**Standard:** F-4

**TN Highway 52 (Map 11, Road 22)**

**Description:** Designated through highway, including recent relocation and new high bridge

**Alternatives/actions:**
- Preferred: Continue as designated; coordinate with state
- A: Same as Preferred
- B: Same as Preferred

**Standard:** 1A
**White Oak Bend Trail** (Map 11, Trail 24)

*Description:* Existing, undesignated primitive road used by 4-wheel drives for backcountry access. Oil/gas well access needed.

*Alternatives/actions:*
- Preferred: Site review; designate for hiking
- A: Same as Preferred
- B: Same as Preferred

*Standard:* 4
Other Alternatives Considered

The zone applications shown in the maps of Alternative D are based on available resource and visitor use information and public comments received on the alternatives in the Supplemental Draft GMP, the February 2000 draft, and in focus group discussions. Significantly different types and applications of zones have not surfaced.

In the case of proposed development sites and roads and trails, consideration has been given to all comments received on the February 2000 draft, the subsequent planning for roads and trails, and comments on the Supplemental Draft GMP. A number of specific suggestions were made concerning certain roads or trails that are not reflected in this document. Some of these suggestions were left out because another idea surfaced that was considered a reasonable substitute. Some ideas were not compatible with the required management framework, as discussed in chapter two. An alternative that eliminates either the Big Island or Station Camp river crossings, or both, was considered but dismissed since the proposal includes the specific study of trail/river crossings, which would yield specific guidance. Bridges are an option to be evaluated. Additional formal lodging within the National Area, previously referenced in the Army Corps of Engineers’ master plan, has been reconfirmed as unneeded and, in fact, undesirable in view of actions being taken to provide these and other facilities in the surrounding community.

Environmentally Preferred Alternative

The environmentally preferred alternative is determined by applying criteria set forth in the National Environmental Policy Act (NEPA), as guided by direction from the Council on Environmental Quality (CEQ). The CEQ has stated that the environmentally preferred alternative is the alternative that will promote the national environmental policy as expressed in NEPA, Section 101. This includes alternatives that:

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

The No-Action Alternative would not, over the long term, provide the required strategic guidance for management that is necessary to safeguard the National Area’s resources while providing for visitor use and enjoyment. It would not meet several of the indicated goals.

The NPS has determined that the environmentally preferable alternative is Alternative D (Preferred Alternative) because it surpasses the other action alternatives in realizing the fullest range of national environmental policy goals as stated above. Of all the alternatives, Alternative D contains the most elaborate
and focused system of management zones, together with detailed management prescriptions, designed to protect natural and cultural resources and identify desired visitor experiences. Alternative D would a) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations, b) attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences; and c) preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice.

**Cost Considerations and Economic Impacts**

With an existing budget of $3.6 million and 51 permanent employees, plus current visitation of approximately 900,000 visits annually, the National Area provides significant economic benefits to the local and regional economy. In fiscal year 2002, the National Area spent $2.9 million for salaries, $75,000 for utilities, and $150,000 for supplies procured in the local area. An additional $650,000 was received for special park projects. Total combined sales for motels and restaurants in the local area was approximately $6.5 million, resulting in personal income of approximately $2.2 million. The value added from National Area operations was calculated to be $3.5 million. In addition, operation and use of the National Area has resulted in approximately 181 jobs being created for local communities. Using output from the Money Generation Model & Money Generation Model II (1992, 1999), it is estimated that the National Area has a total economic benefit for the local area of between $10 and $16 million dollars.

In years to come, the National Area will increasingly be a focus of efforts to promote tourism and related development in the region. As these efforts come to fruition, helped in part by actions called for in the Preferred Alternative, the beneficial impact of the National Area on the local and regional economy will become even more important.

As noted below, an additional $3,900,000 in annual operating funds would be needed to fully implement the Preferred Alternative. If this level of funding were to become available, the increase in annual operating expenditures, combined with higher levels of tourism attributable to the Preferred Alternative, would result in a significant increase in annual economic benefits to the local and regional economy. These continuing benefits would be over and above the one-time benefits associated with actual construction of the facilities called for in the Preferred Alternative.

Costs associated with the facility-related actions, including roads and trails, would be incurred according to specific needs, priorities, and funding availability over the multi-year planning period. The total of these costs associated with Alternative D, the Preferred Alternative, would approximate $5,600,000. Alternative A actions would be approximately $5,010,000. The total cost for Alternative B-associated actions would approximate $6,425,000. Of note is the fact that the no-action alternative, strictly speaking, assumes no actions taken, i.e., no additional costs incurred, its being a “snap shot” of current conditions. Therefore, the costs shown for the three action alternatives, A, B, and D, actually include costs needed to bring many existing, substandard roads and trails to a suitable condition.

A shortfall of $2,200,000 has been identified and requested previously to bring operations to a basic level to meet standards. Upon approval of the general management plan, additional annual operating funds of approximately $1,700,000 would be needed over the planning period to implement the Preferred Alternative. (The total required increase is thus $2,200,000 + $1,700,000 =
$3,900,000.) Given current base funding of $3,600,000, the projected base operating budget to fully implement the Preferred Alternative is $7,500,000.

Traditional means of implementation involve funding through congressional appropriations. Additional assistance from partnership programs and volunteer efforts would be encouraged. Greater clarity and understanding of management goals should lead to broadening the opportunity for partnerships and volunteers, and the expansion of the roles and number of partners could result in increased donations of supplies, material, equipment, research, and time to the National Area.

Summary Comparison of Alternatives

The four alternatives considered may be categorized into 1) no changes—or current conditions (Alternative C), 2) broad zoning guidance (Alternatives A and B), and 3) detailed zoning guidance (Alternative D). The No Action alternative aside, the most significant difference between the three action alternatives is the degree of resource and visitor use management guidance provided. Alternative D, the Preferred Alternative, provides National Area management and the public with the highest degree of information and guidance concerning objectives, management, use, and development.

The following two tables show selected elements of the several alternatives. These tables are intended for use only in conjunction with the text and should not be relied upon apart from these discussions.
## ELEMENTS OF THE ALTERNATIVES

<table>
<thead>
<tr>
<th>Element</th>
<th>No Action Included for comparison purposes only</th>
<th>Alternative A</th>
<th>Alternative B</th>
<th>Alternative D The proposed action and the environmentally preferred alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept</td>
<td>No formal concept; current management</td>
<td>Rustic and natural; conveniences available in selected areas</td>
<td>Variety of recreation opportunities; allows conveniences in many areas</td>
<td>Preservation and Use according to directed management</td>
</tr>
<tr>
<td>Number of Zones</td>
<td>2 “zones” – gorge and plateau, according to legislation</td>
<td>3 general zones</td>
<td>3 general zones</td>
<td>7 specific zones, plus 9 resource-specific sub-zones</td>
</tr>
<tr>
<td>Effects of Zones</td>
<td>Specific distinctions between gorge and “adjacent area”</td>
<td>Gorge distinctions plus general guidance for 3 zone types</td>
<td>Gorge distinctions plus general guidance for 3 zone types</td>
<td>Gorge distinctions plus specific guidance for 15 zone types</td>
</tr>
<tr>
<td>Gorge Restrictions and River Accesses</td>
<td>Eleven, per legislation</td>
<td>No change</td>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>Visitor Facility Development (general)</td>
<td>Per legislation</td>
<td>Per legislation; plus allowed in general zones according to management prescription</td>
<td>Per legislation; plus allowed in general zones according to management prescription</td>
<td>Per legislation; plus described by specific development zones; reaffirms current overall development scheme; no significant change except increase in southwest</td>
</tr>
<tr>
<td>Roads and Trails (general)</td>
<td>Per legislation, and addressed on case-by-case basis</td>
<td>Per legislation, and addressed in zones and individually on system basis</td>
<td>Per legislation, and addressed in zones and individually on system basis</td>
<td>Per legislation, and addressed in zones and individually on system basis</td>
</tr>
<tr>
<td>Resource Protection (general)</td>
<td>Per legislation, and addressed on individual project basis</td>
<td>Per legislation, and addressed generally by 3 zones</td>
<td>Per legislation, and addressed generally by 3 zones</td>
<td>Per legislation, and addressed by all zones, including 9 resource-specific zones; plus monitoring guidance</td>
</tr>
<tr>
<td>Oil and Gas Development</td>
<td>Per legislation and federal/state law</td>
<td>Per legislation and federal/state law; additional minerals management planning; zone guidance</td>
<td>Per legislation and federal/state law; additional minerals management planning; zone guidance</td>
<td>Per legislation and federal/state law; additional minerals management planning; zone guidance</td>
</tr>
</tbody>
</table>

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<tr>
<th>Element</th>
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<th>Alternative B</th>
<th>Alternative D The proposed action and the environmentally preferred alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horse trail opportunity</td>
<td>Partially defined system; existing opportunity using informal and designated trails</td>
<td>Defined system; designated trails increased; use limited to designated trails; relocations from roads; fill gaps</td>
<td>Defined system; designated trails increased; use limited to designated trails; relocations from roads; fill gaps</td>
<td>Defined system; designated trails increased; use limited to designated trails; relocations from roads; fill gaps</td>
</tr>
<tr>
<td>Hiking trail opportunity</td>
<td>Partially defined system, plus “hike anywhere” policy</td>
<td>Defined system, plus “hike anywhere” policy; fill gaps including completed JMT</td>
<td>Defined system, plus “hike anywhere” policy; fill gaps including completed JMT</td>
<td>Defined system, plus “hike anywhere” policy; fill gaps including completed JMT</td>
</tr>
<tr>
<td>Mountain bike trail opportunity</td>
<td>Existing opportunity on designated trails, roads, multiple-use and horse trails</td>
<td>Increased opportunity; Time-share experiment on 1 hiking trail; excluded from 7 horse trails</td>
<td>Increased opportunity; Time-share experiment on 1 hiking trail; excluded from 7 horse trails</td>
<td>Increased opportunity; Time-share experiment on 1 hiking trail; excluded from 7 horse trails</td>
</tr>
<tr>
<td>All-terrain vehicle (ATV) opportunity</td>
<td>Existing opportunity, except reduction due to continuing removal from gorge and public roads</td>
<td>Only on designated routes while hunting (big game season only), and on proposed ATV route</td>
<td>Only on designated routes while hunting (big game season only), and on proposed ATV route</td>
<td>Only on designated routes while hunting (big game season only), and in selected planning areas</td>
</tr>
<tr>
<td>Hunting opportunity</td>
<td>Existing opportunity per legislation and state and National Area regulations</td>
<td>Existing opportunity per legislation and state and National Area regulations; ATV access on multiple-use trails during big game season</td>
<td>Existing opportunity per legislation and state and National Area regulations; ATV access on multiple-use trails during big game season</td>
<td>Existing opportunity per legislation and state and National Area regulations; ATV access on multiple-use trails during big game season</td>
</tr>
</tbody>
</table>
## Environmental Consequences

<table>
<thead>
<tr>
<th>Consequences On...</th>
<th>No-Action Alternative C</th>
<th>Preferred Alternative D</th>
<th>Alternative A</th>
<th>Alternative B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Natural Resources</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geology, Physiography, and Soils</td>
<td>Resources threatened by uses inside &amp; outside National Area. Individual projects provide benefits inside the National Area and include specific consideration of impacts. No additional development (status quo). Management and use addressed by legislation only.</td>
<td>Still threatened, but greater potential benefit from focused, strategic management. Impacts from development actions and increased visitation would be negligible to moderate at individual project sites, with mitigation and monitoring. Development and use limits addressed by legislation and seven management zones, with prescriptions.</td>
<td>Still threatened, but greater potential benefit from more focused management than no-action but less than &quot;Preferred Alternative.&quot; Impacts from development and increased visitation essentially the same as &quot;Preferred Alternative,&quot; but slightly less area affected. Development and use limits addressed by legislation and three management units, with prescriptions.</td>
<td>Still threatened, but greater potential benefit from more focused management than no-action but less than &quot;Preferred Alternative.&quot; Impacts from development and increased visitation essentially the same as &quot;Preferred Alternative,&quot; but slightly more area affected. Development and use limits are same as &quot;A&quot;.</td>
</tr>
<tr>
<td><strong>Water Quality</strong></td>
<td>Resources threatened by uses inside &amp; outside National Area. Individual projects provide benefits inside the National Area and include specific consideration of impacts. No additional development (status quo). Management and use addressed by legislation only.</td>
<td>Still threatened, but greater potential benefit from focused, strategic management. Impacts from development actions and increased visitation would be negligible to minor in the vicinity of individual project sites, with mitigation and monitoring.</td>
<td>Still threatened, but greater potential benefit from more focused management than no-action but less than &quot;Preferred Alternative.&quot; Impacts from development and increased visitation essentially the same as &quot;Preferred Alternative,&quot; but slightly less area affected. Development and use limits addressed by legislation and three management units, with prescriptions.</td>
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</tr>
<tr>
<td>Development and use limits addressed by legislation and seven management zones, with prescriptions.</td>
<td>Development and use limits addressed by legislation and seven management zones, with prescriptions.</td>
<td>Slightly less area affected. Development and use-limits addressed by legislation and three management units, with prescriptions.</td>
<td>Slightly more area affected. Development and use-limits are same as “A”.</td>
<td></td>
</tr>
<tr>
<td>Floodplains</td>
<td>No additional development in streamside areas (status quo).</td>
<td>Very limited development and rehabilitation of visitor facilities in existing streamside areas. Impacts expected to be negligible.</td>
<td>Impacts from development essentially the same as “Preferred Alternative.” Impacts expected to be negligible.</td>
<td>Impacts from development essentially the same as “Preferred Alternative.” Impacts expected to be negligible.</td>
</tr>
<tr>
<td>Wetlands</td>
<td>No additional development (status quo).</td>
<td>Very limited development and rehabilitation of visitor facilities in wetland areas. Impacts negligible.</td>
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</tr>
<tr>
<td>Air Quality</td>
<td>Resources threatened by uses inside &amp; outside National Area. Individual projects provide benefits inside the National Area and include specific consideration of impacts. No additional development (status quo). Management and use addressed by legislation only.</td>
<td>Still threatened, but greater potential benefit from focused, strategic management. Impacts from development actions and increased visitation would be negligible to minor throughout the National Area, with mitigation and monitoring. Development and use limits addressed by legislation and seven management zones, with prescriptions.</td>
<td>Still threatened, but greater potential benefit from more focused management than no-action but less than “Preferred Alternative.” Impacts from development and increased visitation essentially the same as “Preferred Alternative,” but slightly less area affected. Development and use limits addressed by legislation and three management units, with prescriptions.</td>
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<tr>
<td>Vegetation</td>
<td>Resources threatened by uses inside &amp; outside National Area. Individual projects provide benefits inside the National Area and include specific consideration of impacts. No additional development (status quo). Management and use addressed by legislation only.</td>
<td>Still threatened, but greater potential benefit from focused, strategic management. Impacts from development actions and increased visitation would be minor to moderate in the vicinity of facilities and individual project sites, with mitigation and monitoring. Development and use limits addressed by legislation and seven management zones, with prescriptions.</td>
<td>Still threatened, but greater potential benefit from more focused management than no-action but less than “Preferred Alternative.” Impacts from development and increased visitation essentially the same as “Preferred Alternative,” but slightly less area affected. Development and use limits addressed by legislation and three management units, with prescriptions.</td>
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</tr>
<tr>
<td>Terrestrial and Aquatic Life</td>
<td>Resources threatened by uses inside &amp; outside National Area. Individual projects provide benefits inside the National Area and include specific consideration of impacts. No additional development (status quo). Management and use addressed by legislation only.</td>
<td>Still threatened, but greater potential benefit from focused, strategic management. Impacts from development actions and increased visitation would be negligible to minor in the vicinity of facilities and individual project sites, with mitigation and monitoring. Development and use limits addressed by legislation and seven management zones, with prescriptions.</td>
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</tr>
<tr>
<td>Special Status Species</td>
<td>Resources threatened by uses inside &amp; outside National Area. Individual projects provide benefits inside the National Area and include specific consideration of impacts. However, over time some species could be adversely affected. No additional development (status quo). Management and use addressed by legislation only.</td>
<td>Still threatened, but greater potential benefit from focused, strategic management. Impacts from development actions and increased visitation would <em>not adversely affect</em> any special status species, with appropriate mitigation and monitoring. Development and use limits addressed by legislation and seven management zones, with prescriptions.</td>
<td>Still threatened, but greater potential benefit from more focused management than no-action but less than &quot;Preferred Alternative.&quot; Impacts from development and increased visitation essentially the same as &quot;Preferred Alternative,&quot; but slightly <em>less</em> area affected. Development and use limits addressed by legislation and three management units, with prescriptions.</td>
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</tr>
<tr>
<td>Cultural Resources</td>
<td>Archeological Resources threatened. Individual projects provide benefits inside the National Area and include specific consideration of impacts. No additional development (status quo). Management and use addressed by legislation only.</td>
<td>Still threatened, but greater potential benefit from focused, strategic management. Impacts from development actions and increased visitation would be <em>minor to moderate</em> throughout the National Area,</td>
<td>Still threatened, but greater potential benefit from more focused management than no-action but less than &quot;Preferred Alternative.&quot; Impacts from development and increased visitation essentially the</td>
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</tr>
<tr>
<td>addressed by legislation only.</td>
<td>with mitigation and monitoring. Development and use limits addressed by legislation and <em>seven</em> management zones, with prescriptions.</td>
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<td></td>
</tr>
</tbody>
</table>

**Historical Resources**

- Resources threatened. Individual projects provide benefits inside the National Area and include specific consideration of impacts. No additional development (status quo). Management and use addressed by legislation only.

- Still threatened, but greater potential benefit from focused, strategic management. Impacts from development actions and increased visitation would be *minor to moderate* throughout the National Area, with mitigation and monitoring. Development and use limits addressed by legislation and *seven* management zones, with prescriptions.

- Still threatened, but greater potential benefit from more focused management than no-action but less than "Preferred Alternative." Impacts from development and increased visitation essentially the same as "Preferred Alternative," but slightly *less* area affected. Development and use limits addressed by legislation and *three* management units, with prescriptions.

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**Visitor Use and Experience**

- Adequate access to many key resources but quality is being compromised

- Enhancement through comprehensive strategies

- Enhancement through additional strategies beyond no-action but less than "Preferred Alternative."

- Enhancement through additional strategies beyond no-action but less than "Preferred Alternative."
<table>
<thead>
<tr>
<th>Consequences On...</th>
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<th>Alternative B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socioeconomic Environment</td>
<td>Annual economic benefit to local area of $10 - 16 million annually</td>
<td>Greater benefits, resulting from increased staff, new development and rehabilitation, and expanded resource management programs. <em>Moderate to major</em> beneficial impact to local community; <em>moderate</em> impacts to region.</td>
<td><em>Moderate</em> beneficial impact to local community; <em>moderate</em> impacts to region.</td>
<td><em>Moderate to major</em> beneficial impact to local community; <em>moderate</em> impacts to region.</td>
</tr>
<tr>
<td>Impact of National Area Operations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tourism and Recreation</td>
<td>Benefits from current upward visitation trends</td>
<td>Focused management efforts produce greater visitor satisfaction and potential for greater increases in visitation. <em>Moderate to major</em> beneficial impact to local community; <em>moderate</em> impacts to region.</td>
<td><em>Moderate</em> beneficial impact to local community; <em>moderate</em> impacts to region.</td>
<td><em>Moderate to major</em> beneficial impact to local community; <em>moderate</em> impacts to region.</td>
</tr>
<tr>
<td>Concessions</td>
<td>Benefits from current upward visitation trends</td>
<td><em>Minor to moderate</em> beneficial impacts resulting from increased visitation.</td>
<td><em>Minor beneficial</em> impacts resulting from increased visitation.</td>
<td><em>Minor to moderate</em> beneficial impacts resulting from increased visitation.</td>
</tr>
<tr>
<td>Operational Efficiency</td>
<td>No change (status quo)</td>
<td>Increased operational efficiency from focused, strategic management, increased staff, several new administrative facilities, and designated roads and trails.</td>
<td>Same as “Preferred Alternative,” but somewhat less due to less focused management strategies.</td>
<td>Same as “Preferred Alternative,” but somewhat less due to less focused management strategies.</td>
</tr>
<tr>
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</tr>
<tr>
<td>On...</td>
<td>system. Impacts are minor to moderate and beneficial.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impairment</td>
<td>Impairment</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Consistency with the Plans of Others</td>
<td>Continuing confusion, except in some specific instances</td>
<td>Clearer direction would provide greater consistency. Alternative is generally consistent with known goals</td>
<td>Essentially the same as &quot;Preferred Alternative&quot;</td>
<td>Essentially the same as &quot;Preferred Alternative&quot;</td>
</tr>
<tr>
<td>Unavoidable Adverse Effects</td>
<td>Continuing potential for degradation of natural and cultural resources</td>
<td>Increased use and limited new development would have unavoidable residual adverse effects.</td>
<td>Same as &quot;Preferred Alternative&quot;</td>
<td>Same as &quot;Preferred Alternative&quot;</td>
</tr>
<tr>
<td>Irretrievable or Irreversible Commitments of Resources</td>
<td>No change (status quo)</td>
<td>Development of new facilities is considered a permanent commitment of resources.</td>
<td>Same as &quot;Preferred Alternative&quot;</td>
<td>Same as &quot;Preferred Alternative&quot;</td>
</tr>
</tbody>
</table>
CHAPTER FOUR

Affected Environment
CHAPTER FOUR

AFFECTED ENVIRONMENT

Introduction

This section provides a description of those elements of the environment that would be affected in some manner by the alternatives. This discussion is not meant to be encyclopedic but rather a summary of information excerpted mainly from secondary sources. The source documents used are incorporated by reference and are on file at the National Area. A brief description of the surrounding region is presented first, followed by a discussion of the National Area.

The National Area in its Regional Context

Communities and Transportation Routes

The National Area is located approximately 70 highway miles north and west of Knoxville in portions of Fentress, Scott, Pickett, and Morgan Counties in Tennessee and McCreary County in Kentucky. The counties surrounding the National Area may be characterized as having scattered, low-density rural community development with no major urban areas. Oneida and Jamestown in Tennessee are the largest towns (1990 census population of 3,502 and 1,862, respectively), with Whiteley City, Kentucky and Huntsville in Tennessee being two of the other larger towns. Scott County, TN had a 2000 census count of 21,127, a 15.1% increase over 1990; Pickett County, TN had 4,945, a 8.7% increase; Fentress County, TN had 16,625, a 13.3% increase; McCreary County, KY had 17,080, a 9.5% increase; and Morgan County, TN had 19,757, a 14.2% increase.

These towns and other, smaller communities along the main highways provide services to business and pleasure travelers into and through the region, including visitors to the National Area. Motels, bed-and-breakfasts, and restaurants of all types are available. Most of these are but a few miles from the boundary of the National Area.

There are a number of instances where private lands adjacent to the National Area are being subdivided for vacation homes and primary residences—an indication of a growing awareness of the attractiveness of the National Area. Land use planning for the surrounding local jurisdictions has been done some years ago, but implementation through zoning and subdivision regulations has only been accomplished for the larger towns. A recent Tennessee law requires needed county-level growth development planning.

The larger communities are found along the two US-marked highways running north-south on both sides of the National Area. State-marked routes running through or near the National Area connect these highways. Approximately twenty-five miles separate the National Area from interstate highway 75 and slightly more from interstate highway 40.

Except for Highway 297, Kentucky and Tennessee each own the rights-of-way of the state roads within the National Area. The counties have some 57 miles of road rights-of-way that appear on county highway maps within National Area boundaries.

Land Use

Coal mining was previously mentioned regarding its presence and impacts around the National Area, particularly the New River headwaters. It is noteworthy that the majority of historic and current coal mining in Tennessee has occurred and still occurs within the Big South Fork watershed, especially in the New River drainage. Approximately 25,100 acres of unreclaimed abandoned coal mines exist in the Tennessee counties adjacent to the National Area, and there are about ten
abandoned surface coal mine sites in McCreary County, Kentucky. Most of these sites were mined prior to 1977, before the Surface Mining Control and Reclamation Act required reclamation of mine sites. (NPS, 1997a)

Timber production is a major land use adjacent to the National Area. This includes smaller, privately owned tracts, large holdings owned by industrial forest companies, and publicly owned lands managed by the US Forest Service. Timber markets in the nearby Tennessee region include approximately 26 sawmills and 16 secondary manufacturers, according to 1996 information. Most are able to use the lower grade hardwoods that characterize much of the second growth forests of the region. Hardwood flooring and log homes are major industries in Scott County. (NPS, 1997a)

Oil and gas production is a significant resource use in the watershed counties. Large fields are adjacent to and extend into the National Area, mostly in the southern portion. In 1994, 82% of Tennessee’s total oil production and 60% of its total gas production came from watershed counties. In 1992, there were 788 producing oil wells and 529 producing gas wells in this area. There are currently about 300 wells of both types within the National Area boundary. (NPS, 1997a)

Agriculture other than forestry occurs on less than 20% of the land in adjacent counties. Most of this is dedicated to hay production, livestock grazing, and only a very little row-cropping. (NPS, 1997a)

Adjacent public lands include the Daniel Boone National Forest and Pickett State Rustic Park and Forest. The National Forest boundary totally encompasses the Big South Fork NRRA within Kentucky, although many areas immediately adjacent to the National Area are privately owned. Forest Service-administered lands are essentially solid along the National Area’s western edge in Kentucky and also along the eastern side, north of highway 92. This area is in the Stearns Ranger District and offers campgrounds and trails for recreation in addition to its other uses of timber, wildlife, and water. Specific cooperation is necessary on trail and road use between the two areas, in addition to other aspects of land management.

Pickett State Rustic Park and Forest lies adjacent to the west boundary and consists of 11,752 acres. Of this total, 865 acres are managed by the Tennessee State Parks Division and include an area developed in the 1930s by the CCC with cabins, a campground, trails, and a recreational lake. The Tennessee Division of Forestry manages the remainder of the area for uses including timber harvest. As with the National Forest in Kentucky, cooperation is maintained on land and visitor use management issues including trail uses between the areas.

Scott State Forest is completely surrounded by the National Area. It is managed by the Tennessee Division of Forestry to provide a genetically superior white pine seed stock. There have been discussions of NPS acquisition of this area but the state is still interested in maintaining seed production and even expanding it on currently unplanted state acreage. Its location surrounding the intensively used Bandy Creek campground, including trail development and use in the state forest by National Area visitors, has not been a significant concern to date. Continuing cooperation is crucial.

The National Area is surrounded by other regionally important recreation sites, which provide a wide variety of visitor experiences. Some of them offer similar opportunities to those offered at Big South Fork. Some of the larger publicly owned areas are listed below. Not included are state wildlife management areas and large privately owned areas cooperatively managed with the states as public hunting areas.
• Lake Cumberland, with its two state parks
• Dale Hollow Lake, and its associated state park
• Cumberland Falls State Resort Park
• Daniel Boone National Forest
• Pickett State Rustic Park and Forest
• Obed National Wild and Scenic River
• Frozen Head State Natural Area
• Norris Lake, and its associated state park
• Cumberland Gap National Historical Park
• Standing Stone State Park
• Lone Mountain State Forest

The National Area functions within this network of areas, and in an even larger grouping that includes Great Smoky Mountains National Park, the Cherokee, Nantahala, and Pisgah National Forests, Mammoth Cave National Park, Little River Canyon National Preserve, and New River Gorge National River. To some extent, opportunities available at the National Area reflect its role within this network, and this is appropriate. However, as discussed in the Required Management section, the National Area has rather specific purposes for its establishment, as expressed by Congress, as well as quite specific management directions in its legislation. This provides guidance for many aspects of planning and management, with some aspects being given very specific direction.

Natural Resources of the National Area

Geology, Physiography, and Soils

Big South Fork National River and Recreation Area encompasses approximately 125,000 acres of rugged terrain on the Cumberland Plateau in northeastern Tennessee and southeastern Kentucky. The Big South Fork watershed lies within the Cumberland Plateau physiographic province, which is the southern portion of the Appalachian Plateaus structural province. The geology of the National Area is characterized by parallel, horizontally-bedded sedimentary rock of Pennsylvanian age overlaying Mississippian age rock. The Pennsylvanian rocks are predominantly sandstone and shale, and include siltstone, conglomerate, and coal. Oil and gas deposits associated with the Mississippian age limestone are found in many areas within and outside the southern portion of the National Area. There are an estimated 100 abandoned deep coal mine openings and associated spoil piles within the National Area. Mine reclamation efforts, funded by the Office of Surface Mining, have concentrated on areas having visitor access. Approximately 300 active or abandoned oil or gas wells and an unknown number of unmapped wells exist within the National Area. Mineral development is a possibility on the 18,900 acres where previous owners have retained mineral rights, subject to the National Area legislative restrictions and Federal regulations.

The upstream topography of the National Area is characterized by a dendritic drainage pattern and narrow, v-shaped gorges. The focal point of the area is the massive gorge with its many sheer bluffs at the gorge rim towering over wooded talus slopes and the naturally fluctuating river and tributaries below. The valleys are dotted with huge boulders broken from the cliff faces above. Streams include stretches of fast, rugged whitewater and quiet pools. Weathering processes have produced an impressive array of rock formations, including arches, mesas, chimneys, cracks, and rockshelters. Prior to National Area establishment, Tennessee designated Twin Arches and the Honey Creek area as State Natural Areas because of their superlative geological and other natural attributes. The gorge, as defined by the establishing legislation, is roughly one-half of the total acreage of the National Area.
Soils are weathered from the broad, massive and acidic sandstone caprock. There are two main soil groups in the National Area: the Ramsey-Hartsells-Grimsley-Gilpin complex located immediately adjacent to the gorge, and the Hartsells-Lonewood-Ramsey-Gilpin complex found on the plateau. They are generally acidic, thin, and stony but richer on the floodplains. (Primary sources: US Army Corps of Engineers, 1980; NPS, 1997a) No reference is made to area soils as “prime” or “unique.”

**Water**

The Big South Fork River begins within the National Area at the confluence of the New River with the Clear Fork and flows northward through the National Area for approximately 49 miles. It is free-flowing for about 37 miles until it is affected by the headwaters of Lake Cumberland. The Big South Fork watershed upstream of the northernmost National Area boundary covers approximately 1,123 square miles, primarily in Fentress and Scott Counties, Tennessee, and McCreary County, Kentucky. Smaller areas of Anderson, Campbell, Morgan, and Pickett Counties, Tennessee, are also included in the National Area watershed. The National Area includes only about 17% of the total drainage area. Other than small farm ponds and a few local water supply reservoirs within the watershed, there are no large artificial impoundments upstream to regulate flow or to trap suspended sediments. Lake Cumberland, at the lower end of the watershed, is managed by the US Army Corps of Engineers, which maintains flowage easements over approximately 177 acres within National Area boundaries.

Flows are highly variable due to the steepness of slopes, relative impermeability of exposed rocks, and the thinness of soils. Flow levels relate directly to seasonal and storm event variations. Highest flows occur in the winter (January – March), and low flows in the late summer and fall (August – October). The average annual flow at the one US Geological Survey gauge station in the National Area near Stearns, Kentucky, is 1,760 cubic feet per second (cfs). The maximum discharge recorded here was 93,200 cfs and the minimum was 11 cfs. A minimum of 800 cfs is needed for rafting through the main gorge and 10,000 cfs is the recommended maximum for safe rafting.

The geology of the area is a limiting factor in terms of water availability. There are limited water resources on the plateau because of the low producing formations. Lack of reliable groundwater in the watershed has resulted in a search for other options of water supply for surrounding communities. This search has included consideration of upstream impoundments and also direct withdrawals.

Floodplains have not generally been delineated in the National Area; however, in the headwater areas, slopes are steep and floodplains are not well formed. Minor floodplains generally occur the farther downstream one proceeds. Several recreation sites in the main gorge are in the 10-year floodplain.

Wetlands also have not yet been completely inventoried. Certain National Wetlands Inventory maps have been completed. The Tennessee Wildlife Resources Agency is identifying wetlands over five acres from aerial photography. The Kentucky Division of Water has provided estimates of wetland acreage totaling approximately 530 acres, not including lake-type wetlands associated with Lake Cumberland.

National Area waters are generally considered good quality; however, acid mine drainage and excessive sediment from logging, substandard road construction, and other past and present ground disturbing activities significantly affect certain tributary streams and to a lesser extent the Big South Fork. Agricultural chemicals also contribute negatively to water quality. In
general, streams in the western portion of the National Area watershed are less disturbed than streams in the eastern and southern portions. Impacts in the eastern and southern areas are more frequent and severe because coal mining, logging, and stormwater runoff are concentrated in these areas (NPS, 1986). The Big South Fork River has nearly twice the dissolved solids and suspended solids, and 2.5 times greater sulfate yield as a comparable unmined river basin (Evaldi and Garcia, 1991). Acid mine drainage impacts are most notable in Bear Creek and Roaring Paunch Creek. Sediment impacts are evident in these streams, New River, and several others. The New River is a slowly recovering system, as land stewardship in general becomes more compatible with water quality goals. Threats continue, however, in the New River headwaters as coal mining has seen a recent resurgence. Even inside the National Area boundary, a large portion of the New River corridor remains in private ownership and is the location of a major oil well field. Much of the corridor is designated a gorge. A special reclamation effort is being made for the Bear Creek watershed in Tennessee by numerous agencies, communities, organizations, and landowners, under the leadership of the Natural Resource Conservation Service. The National Area also has undertaken remediation studies of selected sites where contaminated mine drainage is of concern.

Tennessee and Kentucky have anti-degradation and non-degradation policies, respectively, and both include the Outstanding National Resource Waters (ONRW) category of protection. Both states have designated their portions of the Big South Fork River as an ONRW. Kentucky has also recognized the section of the Big South Fork from the state line to Blue Heron mine as a Kentucky Wild River.

Kentucky and Tennessee have stream use classification systems to protect surface water quality. Water quality criteria values are specified for each stream use. Tennessee has classified all streams within the National Area for primary contact recreation and fish and aquatic life. Kentucky classifies all National Area streams for primary contact recreation and for either warmwater or coldwater aquatic habitat. A number of streams in the National Area in both states do not meet standards, primarily due to acid mine drainage and/or sediment. Some of the streams have been identified as impaired streams, pursuant to the Clean Water Act. (Sources for this summary of water resource information: US Army Corps of Engineers, 1980; NPS, 1997a)

**General Vegetation**

The general forest type is mixed-oak with mixed-mesophytic pockets. This type is divided into an upland community on the plateau and a ravine community. The upland vegetation types range from red maple-dominated stands on poorly-drained flats to Virginia pine-dominated stands on dry ridges and cliff edges. On the broad flats and gentle slopes are mixed oaks with hickory. Ravine communities are generally dominated by more mesic species—beech, sugar maple, and yellow birch—with oaks on the middle and lower slopes. Hemlock is prominent in the narrow gorges and along streams. River birch and sycamore typify the floodplains.

A wide variety of specialized habitats exists on the floodplains, in protected coves and ravines, on moist north-facing slopes, and on the sandstone caprock with dry, shallow soils. The rugged topography and moist, moderate climate combine to produce a great variety of microclimatic influences due to slope, orientation, and exposure.

Because of logging in the early-to-mid-20th century, most of the forest areas are 2nd or 3rd growth. As a result, mature forests and groves of particular scenic interest are rare. Due to inaccessibility, several small areas containing impressive examples of 2nd
growth floodplain, mixed-mesic, and hemlock forests still exist, mostly in the more northern coves of the National Area. (US Army Corps of Engineers, et. al., 1974; NPS, 1997a)

Of note is the widespread damage caused between 2000 and 2002 by pine beetles. Dead standing and fallen trees remain virtually everywhere in the National Area where Virginia pine stands existed prior to the infestation. The safety hazard of falling limbs and trees is still significant although trees have been felled in all areas where visitors congregate. Many trails and some back roads will remain hazardous until the dead trees are down. The visual impact of so many dead trees is significant.

**General Terrestrial and Aquatic Animal Life**

The variety of natural conditions combine to provide a high diversity of habitat. Sixty-eight species of fish, 215 taxa of macroinvertebrates, and 23 species of mussels have been documented in recent surveys within the National Area. Game fish include resident native channel catfish, longear sunfish, muskellunge, rock bass, and smallmouth bass. Walleye, striped bass, and white bass migrate upstream from Lake Cumberland; and brown and rainbow trout have been stocked in three streams by state agencies. Mammals hunted in the National Area include white-tailed deer, raccoon, and gray squirrel. Game birds hunted include ruffed grouse, mourning dove, and turkey. Non-game species are plentiful and include a variety of salamanders, and various predators such as bobcat, gray fox, and the red-tailed hawk. Black bear have been re-introduced on an experimental basis, with analysis still continuing. Exotic wild boar exist in the area but data are lacking.

The diversity of habitat notwithstanding, water pollutants adversely affect aquatic diversity and populations. The macroinvertebrate and fish community is still essentially non-existent in Bear Creek, and other streams are suspected to be in a similar condition. Other effects of a lesser degree are generally known, but data are lacking to clearly identify pollution sources and direct and indirect impacts.

Mussel species are the most jeopardized and rapidly declining faunal group in the United States. Twelve of the nation’s 300 species are now extinct, and over sixty-seven percent are listed as endangered, threatened, special concern, or are being considered for listing. The National Area currently has 27 documented species, five of which are federally listed as endangered. In the southeast, only the Clinch and Green Rivers contain this level of diversity, and only two other NPS units in the country have greater diversity. In the National Area, sedimentation and chemical pollutants are the primary threats to these species. (US Army Corps of Engineers, 1980; NPS, 1997a; NPS, 1997b)

**Endangered Species and Other Listed Species of Concern**

Already mentioned are the five mussel species known to be endangered in the National Area. The duskytail darter is also known to be in National Area waters. Other federally listed animal species that may be in the watershed are Anthony’s river snail, slender chub, Palezone shiner, blackside dace, Indiana bat, American peregrine falcon, red-cockaded woodpecker, and the bald eagle. Three federally listed plants are known to be in the National Area, i.e., Cumberland sandwort, Cumberland rosemary, and Virginia spirea. The green pitcher plant and American chaffseed are thought to be within the watershed. Approximately 100 state listed endangered or threatened species may be located in the watershed. The river otter, which has been re-introduced into the National Area by the Tennessee Wildlife Resources Agency, is a state-listed endangered mammal. It is NPS policy to also protect state-listed species. The stretch of the Big South Fork from
Leatherwood Ford to Bear Creek is noteworthy because its water quality and streambed characteristics combine to provide critical habitat for several listed plant and animal species. Detailed lists are available in National Area files.

**Natural Resource Data**

Important natural resource inventory information and management strategies are needed in many subject areas. Foremost among these relate to water resource management. The National Area has prepared a Water Resource Management Plan, which addresses problems and data needs relating to the aquatic systems of the Big South Fork drainage. Data and strategies are also needed for managing mineral resources, more effectively protecting sensitive plants and animals, and restoring sustainable native vegetation and wildlife populations.

**Cultural Resources of the National Area**

**Archeological Record**

The rugged terrain and relatively infertile soils of the general Cumberland Plateau area resulted in its use as a transportation corridor and hunting area by the American Indians who chose to live in the more fertile Tennessee and Ohio River valleys. No remains of permanent American Indian settlements have been found. Without question, however, the numerous shallow caves, or rock shelters, provided ready cover for temporary use. Unfortunately, through the years most of these sites have been looted by illegal “pot hunters.” (NPS, 1996)

No cultural chronologies exist for the National Area, but surveys indicate pre-European occupations spanning the early Paleo-Indian Stage cultures of 12,000 years ago to approximately 400 years ago. The number of archeological sites within the National Area is very large. It is estimated, based on sampling, that approximately 10,000 sites exist within the boundary. About one-half of the known sites are historic, i.e., post-contact, the rest being pre-European.

**Historical Record**

A major influx of settlers began in 1812, with farmsteads developing throughout the Big South Fork gorge and, by the 1880s, on the plateau as well. Remnants of these homesteads and communities are found throughout the National Area in the form of stone walls, structural remains, road traces, and remnants of orchards and fields. Among the several historic farmstead sites in the National Area, 13 buildings and other structures have been determined eligible for listing in the National Register of Historic Places. Four component landscapes have been identified in a recent survey through the NPS Cultural Landscapes Program.

In 1880, educator and author Sir Thomas Hughes founded the colony of Rugby on the plateau near Clear Fork. It existed for approximately 20 years as an experimental utopian community for the younger sons of English gentry, who were traditionally excluded from family inheritance. The colony thrived briefly, reaching a population of about 450. The town is now a National Register District and is adjacent to the National Area boundary. The NPS cooperates with the town in visitor education programs.

The National Area is also marked by industrial development, which also began in 1812 with the drilling for salt and the mining of niter for the war effort. In 1818, the first commercial oil well in North America was drilled here. This well and the nearby saltworks are potentially eligible for National Register listing. But it was the presence of coal and timber that left their mark the most on the Big South Fork landscape. Their extraction, extending from the 1880s to the 1960s, resulted in lumber and mining towns, railroad spurs, mine sites, haul roads, and
the erosion and other pollution that still affect the area. Several structural and engineering sites are eligible for the National Register, and one of these, the restored Blue Heron mine site, is now a primary visitor attraction.

There are 56 known cemeteries and gravesites in the National Area, which represent another type of cultural resource. They provide a record of the cultural evolution of the region. Some of the cemeteries are still owned and maintained by others, while some grave sites have been abandoned and are now owned by NPS. NPS provides access to cemeteries in the gorge on a limited basis.

Surveys and studies, including those concerning natural resources, have produced thus far a collection of over one-hundred thousand items. This collection is currently housed in several locations, including non-NPS facilities. The items in the collection, and more to come as studies and inventories continue, are of critical importance to historical and scientific research and public education related to the Big South Fork region. Better storage conditions at the National Area are needed for those items it has and for those it is expecting to receive from the other facilities. (US Army Corps of Engineers, 1980; NPS, 1996)

**Cultural Resource Data**

Many data collection projects and studies are needed in the cultural resource area to provide additional information to better protect and manage the large and varied resource base included in the National Area. Inventories and surveys are needed, as are studies of specific resources, including identification of ultimate treatments. Determinations are needed whether and how to make resources available to visitors.

**Visitor Use of the National Area**

Total visitor use of the National Area has stayed around the mid-800,000 mark for the five years prior to 2001 and increased significantly to 917,000 in 2001. Prior to 1995, there was a reasonably steady increase. Seasonal distribution of recreational use is typical for this part of the country where summers are quite warm and humid and winters are mostly cold with frequent rain. Summer visitation is heavy due to school vacations and is heaviest on weekends and holidays. Water uses are the most popular. Fall sees slightly more visitors because days are cooler and less humid, and there are fewer bothersome insects. Weekends are very busy, and fall colors draw the largest crowds. Winter is the time of the least visitation, although hunting and fishing are popular and whitewater enthusiasts take advantage of increasing river flows. Spring is the third most popular season after the fall and summer, with warming temperatures and usually peak conditions for river running.

The following is a sketch of National Area visitor use.

**River Use**

The National Area was established, in part, to preserve the free-flowing Big South Fork and its tributaries. This system of rivers affords some of the highest quality rafting and canoeing in the eastern U.S. Whitewater rafting and kayaking generally occur in the upper reaches, upstream from Leatherwood Ford (TN 297), while canoeing occurs mostly downstream from Leatherwood Ford. Commercially provided trips are popular. NPS is committed to providing high quality experiences for visitors floating the National Area's rivers.

Whitewater uses occur mostly in the spring and are most popular with visitors from outside the local area. User education on safety and resource management objectives is important. A backcountry management
A plan is needed to address these objectives in terms of what can only be an increase in river use, with its attendant camping, rest stops, and accompanying waste issues.

Wading and playing in the river is a favorite summer pastime, particularly of nearby resident families. This occurs mostly at the approved access points, although many people hike along the rivers to favorite places. Safety is a concern because of the force of moving water and uneven bottoms. Due to the location of the larger streams, this use occurs within the legislatively defined gorge.

Fishing is seasonal and according to state regulations. It occurs in both the larger and smaller streams as well as in the headwaters of Lake Cumberland. Creek fishing is more popular with local residents than with regional visitors, and both fish the main rivers and Lake Cumberland. This is another "gorge" activity, except for the part of Lake Cumberland north of Yamacraw, and legislative restrictions on traditional motorized access to and along the rivers has curtailed this use in many locations.

Floating on smooth flowing stream stretches is more of a summertime, local resident activity, taking place on the upper portions of Clear Fork and on stretches downstream from Leatherwood Ford. Fishing is a common accompanying activity.

Motor boating on the slack waters of Lake Cumberland occurs largely in the summer but spans spring and fall. Boaters mainly from the local and regional area are likely to visit the National Area this way. Depending on lake elevations, which fluctuate seasonally, boats are able to go upstream to just below Devils Jump rapids, according to legislative provisions. Fishing is a primary reason for most of these outings. Jet skis have been a concern mainly because of the noise and water pollution, but national regulations prohibit their use in the National Area.

Hunting along the rivers for deer and waterfowl is popular for local and regional hunters. This is managed consistent with state regulations and the safety zones established by NPS. Vehicular restrictions imposed by the legislation have reduced the amount of this activity.

**Trail Use**

Trail use, with its many varieties, makes up a large portion of the total visitor use to the National Area. These activities occur on over 300 miles of trails and many additional miles of roads. Some of these trails are single-use and many are multiple-use. Some trails connect to and are part of trails administered by others on adjacent lands. With the legislative restrictions on motorized vehicle use in the gorge, which is roughly one-half the total area, trail use is important to visitors and necessary to see most of the attractions. The John Muir Trail, the Sheltowee Trace, and the Twin Arches Loop Trail are designated National Recreation Trails. National Recreation Trails are designated by the Secretary of Interior or the Secretary of Agriculture to recognize exemplary trails of local and regional significance. Through designation, these trails are recognized as part of America's national system of trails.

Horseback riding is very popular. The National Area has achieved a reputation for being a premier riding area, and riders come from the local area, nearby states, and beyond. Many bring their own horses and camp at special campgrounds. Many of these are members of equestrian organizations and come for pleasure riding, although competitive events occur also by special permit. Visitors not having horses and who wish to ride may rent horses from a concessionaire inside the National Area or from licensed businesses outside. Pack trips for hunting, fishing, and just camping are also available and offer another means for visitors to have an extended experience in the backcountry.
Approximately two-thirds of the Area’s horse trails are located in the area between White Oak Creek and the Tennessee state line and consist of 15- to 25-mile loops. Portions of the National Area don’t have trail connections that would provide for better distribution and variety. Riding occurs in all but the coldest months, and sunny winter weekends can still find riders enjoying the area. Horse-pulled wagons on marked routes are a specialized trail use and are popular with some local and regional visitors.

Maintenance of horse trails is a major work item for NPS staff. Proper design, installation, and maintenance are critical for resource protection as well as for rider safety and enjoyment. Resource impacts have occurred at stream crossings, on steeper terrain, and where riders (and other user group types as well) go off the trail to avoid boggy sites or downed trees. Because of the terrain, there are only certain places where trails can be located, and concentrations of use can also result in adverse effects. Riding groups often assist in trail maintenance.

Hiking is the other primary trail use. Hikers find significant opportunity to pursue their activity in the scenic, legislatively protected gorge. Trails are available on the plateau as well, and often provide access to some particular historic feature. There are short, paved trails leading from parking areas to overlooks, loop trails for day-hiking, and long-distance trails traversing much of the entire area, which provide backpacking opportunities. Hiking is mostly a use by visitors from outside the local area, who visit the area year-round. Spring breaks are a favorite time. Hikers can hike cross-country (off of trails), but trails receive the most use by far. Backcountry camping impacts on resources are the main concern.

Biking is currently allowed on three single-use, dedicated trails, all horse trails and marked multiple-use trails, and on all roads in the area. It is growing in popularity and the demand for additional available trails is increasing because of the concerns of conflicting use. Many of the roads and trails open to bike use are not really suitable because of the gravel or sand surface or heavy use by other user groups. Many who come belong to organizations and are from the local and regional areas. The dedicated trails were constructed and are maintained by one of the organizations. Increasing numbers of vacationers who pass through from other states come with their own bikes. Spring and fall are the most popular seasons for biking, as with most other activities.

Riding all-terrain vehicles (ATV) is a popular activity with local area residents. ATVs are currently used in the National Area on many of the graveled and old roads on the plateau. They also enter the gorge for recreational riding and during hunting season to get to sites for transporting game. Use on designated public roads leading to and within the National Area occurs and is contrary to law. Federal regulations require ATVs (all off-road vehicles) to be restricted to designated routes on all federal lands, and this plan considers and proposes acceptable routes to minimize impacts on resources and visitors. It is important to note that just the enforcement of the legislative gorge restrictions and state and county regulations will result in a reduction in the use of these vehicles within the National Area.

**Sightseeing**

The National Area has pleasant roadways, both paved and unpaved, for visitors to travel and enjoy a natural setting. Overlooks available a short walk away from parking allow scenic views of the gorge and the river below. Historic sites are also available for easy visits to view pastoral scenes and sites of past coal extraction. While these are available, the National Area is not considered a “touring” park where large numbers of visitors enjoy the area in a passive manner as they tour by passenger
vehicle. The main roads either cross or dead-end into the area because of the terrain and because of the legislative restrictions on roads in the gorge.

**Camping**

Camping at Bandy Creek and Blue Heron campgrounds offers visitors the conveniences of improved campsites. Bandy Creek has about 190 sites and Blue Heron 45. The Station Camp and Bear Creek “horse camps,” each having about 25 sites, offer equestrians specialized camping facilities. Improved group campgrounds are also available, and groups also are allowed by special permit to camp in certain open fields. A small primitive campground is available at Alum Ford. Other than these areas, camping is allowed along some of the back roads and in the backcountry reached by foot or horse. Some amount of vehicle camping still goes on at sites within the gorge that have been used since before the National Area was established. This type of camping was very popular because of the desire to camp along the streams but has now been curtailed by legislation. Recreational vehicle camping is showing steady increases and tent camping is decreasing. Backcountry camping is also increasing. Summer sees the most campers, but spring and fall weekends are also popular, particularly May and October. During the fall, hunters also add their numbers to those camping in the area. Camping in areas other than designated sites has resulted in minor amounts of resource impact, and increases in this activity could require measures to mitigate such impacts.

**Hunting**

Hunters come to Big South Fork from long distances for large game, but most are from the local and regional area. Small game hunting is a local activity. Hunting seasons and limits are regulated and enforced by NPS in cooperation with the states, state laws having been adopted for the National Area. Fall and early winter and the spring turkey season bring hunters to the area. Hunting occurs in all areas except designated safety zones around developed sites. While hunting is available throughout the National Area, the legislative restriction on motor vehicle use in the gorge has effectively limited hunting to the plateau and nearby gorge areas easily reached by ridgetop back roads. Hunting by arranged pack trips is an option to some.

**Other Activities**

Rock climbing, including rappelling, is an increasingly popular activity throughout the country, and the terrain of Big South Fork is attractive as a climbing destination. The extensive network of sandstone cliffs provides numerous opportunities, and recreational climbing is recognized as an acceptable way for people to enjoy the area. These same areas—along cliff lines and other, sometimes delicate, rock formations—also are important resources. They often are the sites for endangered and other rare species, and some species are cliff line-dependent. Some of the lichen mats on exposed rocks are extremely old and vulnerable. Archeological sites abound along the cliffs, and some formations are delicate enough to be damaged by this activity. Use of undesignated social trails to access climbing areas can result in damage to vegetation. A climbing management plan is needed to identify responsible use of the National Area while protecting important resources.

Nature study, such as photography, bird watching, and flower or plant identification, is enjoyed by growing numbers and occurs in many different areas. Frequently, such activities are a part of other pursuits such as hiking. National Area staff provides special programs for many of these activities. School groups are frequent participants.

Riding a sightseeing train into the gorge to Blue Heron mine from Stearns has been a popular, seasonal activity for many wishing
to experience the trip in a manner reminiscent of earlier days. The non-profit McCreary County Heritage Foundation owns and operates the train, which travels the historic route. The route extends from a restored depot in historic downtown Stearns into the gorge through the redeveloped mining community of Barthell adjacent to the National Area boundary and on to the Blue Heron mining town site. This visitor access by rail was specifically provided for by the legislation. Expansion plans are being developed for extension north to Yamacraw.

National Area staff provides regular programs and sponsors special events to interpret the wide variety of resources available. Some of the events are annual occasions that draw attendance from long distances. The National Area legislation is different from most other NPS units’ legislation in that part of its stated purpose is to interpret the area’s resources for the public’s enjoyment.

Rustic lodging in the backcountry, accessed only on foot or horseback, is provided by a concessionaire at Chant Creek Lodge. Located within the gorge in a scenic tributary valley, the lodge with its bunkhouses incorporates National Register-eligible historic log cabins providing accommodations for a maximum of 48. The National Area legislation specifically provides for continuation of this service, along with improvements, being careful not to change the character or exceed the carrying capacity of the approximate 30-acre site.

National Area Operations

NPS currently manages approximately 115,000 acres within the boundary. Within this area, National Area personnel are responsible for the preservation, management, and interpretation of resources, visitor use management and protection, facility construction, and maintenance. Supplementing on-site operations is a large variety of coordination and cooperative arrangements with other entities that support the purpose of the area. These include arrangements with the McCreary County Heritage Foundation, Rugby, Barthell, adjacent public agencies and counties, concessionaires and businesses, universities, and user groups. Limited staff and funding make it necessary to obtain assistance in addressing management concerns.

Facilities in the National Area include four improved campgrounds, one primitive campground, one rustic lodge, six day-use areas, one horse stable, one interpretive center/visitor contact station located at Bandy Creek, one visitor contact station located on 9 acres in Stearns, eleven river access areas, and eight administration buildings. There are also almost 300 miles of roads and over 300 miles of trails. Approximately 180 miles of roads are unimproved dirt roads, 95 miles are graveled, and 20 miles are paved. Most of the roads and trails existed prior to government acquisition of the land and were not located or constructed to protect resource values. National Area personnel are continuing to bring these routes up to standard.

The National Area’s base operational funding for fiscal year 2004 was approximately $3,572,000.00.

Various land rights remain in state, county, private, or other federal ownership. Privately owned land remaining to be acquired totals approximately 5,900 acres. The use of these lands is sometimes inconsistent with the purposes of the National Area, often contributing to water pollution, mainly through soil erosion from land disturbing activities.

A 20-acre tract adjacent to Highway 297 between Oneida and the National Area was acquired by the US Army Corps of Engineers for administrative use. It remains undeveloped.
Selected Area Highlights

The following are brief descriptions of selected area environments. The previous description of the National Area as a whole provides context and serves to supplement these area descriptions.

Yahoo Falls

This area was previously a US Forest Service Scenic Area. The site includes cliffs, waterfalls, rock shelters, and natural stone arches. Yahoo Falls, at 113 feet, is the tallest in the National Area and in the state of Kentucky. Its associated rock shelter is very large and contributes significantly to visitor interest. Vegetation is lush with large hemlocks and hardwoods above and large beech trees below in the ravines. The area offers picnicking, scenic trails, and access to the Sheltowee Trace National Recreation Trail.

Alum Ford

This site is forested and scenic with the bluff line above and the headwaters of Lake Cumberland below. The calm waters are conducive to passive recreation. Slope vegetation consists of mature and semi-mature oaks with open forest floor. Sugar maple, beech, and yellow birch characterize the shore areas. The site has a boat ramp, picnicking, shore fishing, and primitive camping (7 sites). The site adjoins Lake Cumberland. The Sheltowee Trace trail goes through the site.

Yamacraw/Highway 92

On the west side of the river, this area provides boat access to a calm portion of the river influenced by the Lake Cumberland pool. On the eastern side, the area provides picnicking and access to the Sheltowee Trace trail. Some of the developed area is within the floodplain.

Worley

This riverside area was a mining community and remnants of mining operations are evident, including mine tailings. Access, other than by river and the abandoned rail line, is through a narrow ravine and is difficult. Slopes are steep. The site primarily functions as river access for nearby residents but also serves as a stop for canoeists and a trailhead for hikers. Water quality on the site is an issue due to acid mine drainage. This is a site where remediation of mine effects is being planned.

Blue Heron

Located on a larger expanse of floodplain, this area was a major coal mining site and included a small community. Today, the restored mining structures and interpretation of the community through exhibits attract many visitors. Access is by paved roads and by the sightseeing train from Stearns. River access, shore fishing, and access to trails are available. The site's natural resources have been affected by development although the present day natural setting of bluffs, forest, and river now provide a scenic backdrop.

Bear Creek Area

This plateau area above and to the north of Bear Creek consists of two large, flat ridges of agricultural lands and hardwood forests. The area borders the gorge rim, and provides exceptional overlook views. The area is known for its rim edge views, equestrian campground and trails. The forested areas are mainly mixed hardwoods approximately 60 years old; however, there are small sections where old fields have become reforested in short-leaf pine. Some of these areas have been clear-cut within the past 10 - 20 years and are presently in the process of succession. The xeric gorge rim areas above Bear Creek are predominantly Virginia pine, while the northern portion of the area is a mature...
beech-hemlock community with some old-growth timber. A sandstone glade on the rim near Split Bow Arch has been identified as sustaining two rare plants. The area contains the Bear Creek Horse Camp, the Bear Creek Overlook, Split Bow Arch, the Newtie King homesite, and a gravel loop road and trails. It also provides administrative access to a river gauge.

**Station Camp Area**

This is an area of wooded ridges and ravines. Tree cover consists of mixed deciduous and oak to a mixture with Virginia pine. The site also contains rock shelters where the plateau breaks at the gorge rim. There is some evidence of ancient upland lithic campsites. The area contains the Station Camp Horse Camp, trails, and river access via graveled road. The road to the river exhibits some severe erosion and areas of poor horizontal and vertical alignment. Endangered mussels are found at the Station Camp ford.

**Twin Arches State Natural Area**

Twin Arches State Natural Area is a 1,500-acre tract formerly owned by the Stearns Coal & Lumber Company. It was designated a state natural area in 1974, primarily because of two impressive geological formations known as the Twin arches. This area protects the largest natural bridge complex in Tennessee, and one of the largest such complexes in the world. A high diversity of forest species, rockhouse species, and sandstone barrens species exists within the area, including the federally-endangered Cumberland Sandwort (*Arenaria cumberlandensis*) and State-threatened Lucy Braun's White Snakeroot (*Ageratina luciae-brauniae*). Scenic views of the surrounding forested upland and creek gorges are common.

**Charit Creek Lodge**

This lodge and its supporting structures are located within the gorge at the junction of Charit Creek and Station Camp Creek. This is a rustic facility that provides food and overnight accommodations in a scenic valley setting. The lodge can only be reached by trail. The main lodge was erected in approximately 1816, and it and several other structures are eligible for the National Register. Several trails emanate from the lodge area.

**Bandy Creek and West Bandy Creek**

This rather large area of plateau is woodland interspersed with openings of old farmsteads, fields, areas currently managed for visitor use, and the primary through highway, TN 297. The forested areas consist primarily of maple, oak, and hickory, with pockets of more mesic species, including hemlock, in ravines. Remnants of lithic material have been uncovered on many of the ridges. The Bandy Creek area is the largest visitor development area and includes a large campground with swimming pool and play structures, electric and water hookups, and restroom/shower houses. Group campgrounds are also provided as are stables for horse boarding and rentals, picnicking, a large variety of trails, and a small visitor information station.

**Leatherwood Ford**

Adjacent to Highway 297, Leatherwood Ford is a primary river access area. It offers river access for canoeists and rafters as well as boardwalks along the river that are universally accessible. There are shallows for water play, trailheads, picnic sites, shore fishing, and restrooms/showers. The river’s flood cycles have deposited broad alluvial terraces on its eastern bank. The vegetation is primarily deciduous, with two distinct zones, resulting from different levels of flooding. Sycamore, tulip poplar, and sweetgum occur in the lower areas, while red maple, black gum, white pine, holly, and sourwood are found in higher areas. Cove hardwoods are found on the slopes of the gorge.
**Headquarters Area**

Located on TN 297 near the eastern boundary, this office complex is the National Area’s administrative center. It consists of a mix of structures, including houses acquired with the land and buildings constructed since establishment. A 20-acre parcel located east of the National Area was acquired during the land acquisition phase specifically for administrative purposes. However, the existing complex is believed sufficient and there are no plans for using the outlying parcel.

**O&W Railbed**

This railbed was once the rail link with Oneida that served logging and mining operations within what is now the National Area and ran as far west as Jamestown. With the general decline of the extractive industries in the area, the small communities and camps that grew up around the O&W disappeared. The railbed is potentially eligible for the National Register of Historic Places as a contributing industrial archeological resource. This resource includes the railbed cuts and fills. The graveled railbed currently supports passenger vehicle access from Verdun, near Oneida, to the bridge over the Big South Fork. Some vehicles are able to continue to the site of the bridge over North White Oak Creek. The portion from the eastern boundary to North White Oak Creek is within Scott County. The county has acquired and maintained a deeded interest in the former right-of-way. This interest is coupled with an implied dedicated easement in favor of the public to travel on the right-of-way to North White Oak Creek. Beyond this, the railbed lies in Fentress County and is considered legally abandoned. This portion is used as a trail. The entire railbed is within the legislative gorge and lies beside portions of—from east to west—Pine Creek, Big South Fork, and North White Oak Creek. The route was studied, as directed by Congress, for reestablishment of rail transportation or some alternative mode. Findings of studies by the US Army Corps of Engineers and by NPS indicated trail use was most appropriate. Currently known is the presence of a federally endangered mussel and a state-listed fish in North White Oak Creek, and there are state-listed plants and animals throughout the gorge. The condition of the railbed and its use has resulted in problems with erosion, water pollution, soil compaction, and vegetation damage. Scott County is planning some improvement of the portion from Verdun to the bridge over the Big South Fork.

**Airport/Confluence Road Area**

Confluence Road extends past the Scott County airport, through the wooded plateau ridge to a small parking area within the National Area used to access a trail leading to the confluence of the New River and Big South Fork. The road is graveled and there are no other facilities. Several rare plants occur in the area of the river access and the federally endangered Cumberland Rosemary may also.

**Burnt Mill Bridge**

Located on the Clear Fork tributary of the Big South Fork, the site remains a popular riverside area for shore fishing, wading, picnicking, boat access, and baptisms. The riverbank is lined with large sycamores, and large oaks are found throughout the site. Boulders in the streambed moderate rapids, and views to the bluffs above characterize the river in this section. Some lithic scattering is found in some areas of the site. A new bridge is being planned immediately downstream from the existing structure. This will result in some changes, but, overall, will enhance the public use area.

**Honey Creek State Natural Area**

Accessible by graveled road and trail, this 109-acre natural area was set aside in 1970 by the former landowner, Bowater, Inc., as a
Pocket Wilderness Recreation Area. In 1973 it was designated a State Natural Area by the Tennessee Division of Natural Heritage. The area was set aside primarily because of its rich forest communities that have been undisturbed for many years, as well as its numerous geological formations. The area is extremely scenic, with lush vegetation, streams, a waterfall, rock shelters, and picturesque views of the gorge and river. The area contains a high diversity of forest species, rockhouse species, and sandstone barrens species, including the Federally-threatened Virginia Spirea (Spirea virginiana) and possibly the Federally-threatened Cumberland Rosemary (Conradina verticillata). A parking area, information board, access ramp, and overlook are the only facilities.

**Mt. Helen Road Area**

This area located on the plateau north and east of Potter Branch is a mixed-oak community, with open areas from the prior ownership. Access has been by graveled road off Mt. Helen Road and use has been informal trail use.

**Joe Branch**

This area in the Clear Fork corridor is used for its horse and wagon trails, primitive camping, picnicking, and pond fishing. Access to the site is by four-wheel drive vehicle. The typical plateau vegetation in the area is thick and open areas are closing in.

**Rugby Area**

Short destination and loop trails lead from Rugby into the National Area along the Clear Fork. Certain trails date back to the time when Rugby was founded. The upland areas include mixed oak and pine forest as well as open areas. Near the river, there are ledges, rock shelters, seasonal waterfalls and springs characteristic of steep slopes leading to the river. The ravine vegetation consists of mountain laurel, rhododendron, holly, big leaf magnolia and hemlock. Archeological sites have been identified within the area.

**Brewster Bridge/Highway 52**

This site has been used over many years for river access and picnicking. The highway has been rerouted over a new high bridge spanning the gorge. The previous roadway and bridge remain. The small developed area is relatively narrow and wooded where not cleared for visitor use. Endangered mussels have been found in the vicinity of the old bridge.

**Peters Bridge**

Picnicking and river access are available at this crossing of the Clear Fork at the southernmost tip of the National Area. Primitive camping and shore fishing occur. The site is surrounded with thick vegetation, including hemlocks, mixed pine and oak and an understory of redbud, dogwood, mountain laurel, and rhododendron.

**Zenith**

This site is tightly confined by the gorge along North White Oak Creek. The gorge walls are steep, where rhododendron, holly, big leaf magnolia and American beech can be found. White and Virginia pine are found on the alluvial terraces, while tulip poplar, red maple, and sycamore can be found between the bluff and stream. Mine openings, tailings and foundations still remain from the ca. 1913 settlement built adjacent to the O&W Railroad. While not specifically developed, the area is popular for picnicking, water play, fishing and access for river floating due to the relatively difficult run to Leatherwood Ford. A gravel road provides vehicle access. This site is used by some to access the O&W railbed by fording the stream.
Darrow Ridge Area

Large portions of this extensive area in the southwest (including Tar Kiln Ridge) have only been acquired in the last few years. Logging and mining have occurred over the area, and the area has scattered oil and gas development activity with its associated wells, equipment, and access roads. Resource inventories have not yet been conducted but numerous natural attractions exist in this area, notably Laurel Fork (known locally as East Laurel) and its associated gorge. Horse riders and ATV users are the most prominent current users of the many old roads. Roads are generally in a degraded condition in need of rehabilitation for control of erosion and exotic plant invasion.
CHAPTER FIVE
ENVIRONMENTAL CONSEQUENCES

Introduction

The purpose of this chapter is to discuss impacts on the environment that may be brought about by actions in the various alternatives.

The National Environmental Policy Act (NEPA) requires that environmental documents discuss the environmental impacts of a proposed federal action, feasible alternatives to that action, and any adverse environmental effects that cannot be avoided if the proposed action is implemented. This section of the General Management Plan describes the potential environmental impacts of implementing each of the four alternatives on natural and cultural resources, the visitor experience, the socioeconomic environment, and National Area operations and facilities. These impacts provide a basis for comparing the advantages and disadvantages of the four alternatives.

In this chapter, impact topics are analyzed under the following headings:

- Natural resources
- Cultural resources
- Visitor use and experience
- Socioeconomic environment
- Operational efficiency

The first part of this chapter discusses the methodology the planning team used to identify impacts and includes definitions of terms. The alternatives are then analyzed with reference to the No-action Alternative (continue current management).

Analysis of the No-action Alternative identifies what resource conditions would be if no changes to facilities or park management occurred. This alternative reflects changes associated with the growth in regional population and increased visitor use that is anticipated during the next 15–20 years. The three action alternatives are then compared to the No-action Alternative to identify the incremental changes that would occur as a result of changes in park facilities and management. All impact topics are assessed for each alternative. The discussion of each alternative includes a description of the positive and negative effects of the alternative, a discussion of cumulative effects, if any, and a conclusion. The conclusion includes a discussion of whether, and to what extent, the alternative would impair park resources and values. For the analyses, the planning team considered the mitigation measures described in the action alternatives.

At the end of each alternative there is a discussion of energy requirements and conservation potential; unavoidable adverse impacts; irreversible and irretrievable commitments of resources; the relationship of short-term uses of the environment; and the maintenance and enhancement of long-term productivity. The impacts of each alternative are briefly summarized in a table at the end of Chapter 3.

The alternatives in this plan provide management directions on an area and facility basis. Because site-specific analyses were not undertaken and only typical situations considered, this environmental impact statement should be considered a programmatic analysis. Consistent with the National Environmental Policy Act and agency procedures, NPS will conduct additional environmental documentation before implementing site-specific actions. Where required by NPS policy, this documentation will include a Statement of Findings. In instances where specific actions already are accurately described by the programmatic treatment in this plan, that fact will be documented by NPS, with no separate environmental assessment or environmental impact statement prepared. This process would be
applied only to trail, trailhead, and road projects as described in the introductory text to the "Individual Proposals" discussion in chapter 3. This process would not be applied—meaning a separate NEPA document would be prepared—for projects involving first and second order development and visitor use sites. Separate NEPA analysis would also be conducted for any new all-terrain vehicle ("ATV") route in the ATV Planning Area.

Documentation of project coverage by this document would consist of the following steps. Pre-project surveys must determine that all aspects of the project are reflected, discussed, and analyzed in this document and that the conclusions included herein are fully applicable. Use of NPS' Environmental Screening Form (ref Director's Order 12) will specifically document that this analysis has been conducted. The form will be used to document the specific sections and page numbers of the GMP that apply.

Pre-project survey results that do not fully reflect the GMP discussion will also be documented. The dissimilar results will be the basis of the need to prepare a separate NEPA document. Specific exceptions, or "kick outs," would include, but not necessarily be limited to, the following:

- The presence or potential adverse effect on federal or state threatened or endangered species
- The presence or potential effect on cultural resources eligible or potentially eligible for listing in the National Register of Historic Places
- The project is highly controversial (Effort would be made to identify and involve, as appropriate, interested parties and gauge the degree of controversy over the project following consideration of reasonable alternatives and available mitigation. Information on projects determined eligible for coverage under this programmatic treatment would be made available to the public in a regular manner.)

**METHODOLOGY**

The planning team based the impact analysis and the conclusions in this part largely on a review of existing literature and park studies, information provided by experts within the National Park Service and other agencies, park staff insights and professional judgement.

The following section describes the methodology used for assessing impacts to natural resources, cultural resources, visitor use and experience, the socioeconomic environment, and National Area operations.

**Natural Resources**

**Impact Assessment**

The National Park Service is required to protect the natural abundance and diversity of all of the National Area's naturally occurring resources and communities. NEPA calls for an examination of the likely impacts of the alternatives on all components of affected ecosystems.

Proposed actions and management zoning under this plan were evaluated in terms of the context, intensity, and duration of the impacts, as defined below, and whether the impacts were considered beneficial or adverse to the natural environment. Generally, the methodology for natural resource impact assessments follows direction provided in the Council on Environmental Quality (CEQ) Regulations for Implementing The National Environmental Policy Act, Parts 1502 and 1508.
Geology, Physiography, and Soils. This analysis identified potential impacts to geologic, physiographic, and soil resources associated with the proposed actions and management zones in the various alternatives. The analysis concentrated primarily on the impacts associated with rehabilitation of National Area infrastructure, principally roads and trails. However, consideration was also given to the effects of continued oil and gas extraction, as well as the impacts of visitor use on topsoil, the gorge rim, and geologic features (such as arches and rock shelters). The ability to do a quantitative analysis is limited due to the prescriptive nature of the alternatives. Qualitative analysis relies substantially on professional judgment to reach reasonable conclusions as to context, intensity, and duration of potential impacts, and whether the impacts are considered to be beneficial or adverse to geological and soil resources. When possible, mitigation measures were incorporated into the plan to reduce adverse impacts.

Water Quality. The water quality analysis identified potential effects on surface water hydrology and water quality associated with the installation and rehabilitation of National Area infrastructure, principally roads and trails. The analysis also examined impacts from visitor use and the generation of non-point pollution, such as acid mine drainage and runoff from oil and gas extraction sites. The relationship of pollution sources to existing water quality in the National Area has not been sufficiently studied and modeled to quantitatively assess impacts. The limited amount of baseline information on the physical, chemical, and biological characteristics of park surface waters and groundwater makes it difficult to detect changes in water quality. Consequently, water quality impacts of the alternatives were assessed qualitatively.

Floodplains. The impact assessment for floodplains focuses on natural river processes and aquatic habitat. Flooding in the National Area occurs regularly, often several times a year (to various levels), and is exclusively precipitation-induced. Impacts were assessed using data derived from geographic information system (GIS) mapping and available floodplain maps of major development areas. The Floodplain Management Guidelines (NPS 1993) and the extent of alteration to natural river processes were used to define the intensity of impacts.

Wetlands. Wetland impacts were assessed by evaluating the alternatives in relation to wetland inventory maps and vegetation mapping. The magnitude of the resulting impacts on wetlands was determined based on the potential for wetland acreage loss and the size, integrity, and continuity with other wetlands.

Air Quality. The air quality impact assessment involved the identification and qualitative description of the types of actions under the plan that could affect air quality, corresponding emission sources and pollutants, and relative source strengths. Based on relative source strengths, a qualitative assessment was performed to assess the potential for higher pollutant emissions or concentrations, taking into account the frequency, magnitude, duration, location, and reversibility of the potential impact.

Vegetation. This analysis identified potential impacts to plant populations and vegetation communities resulting from the proposed actions and management zones in the various alternatives. The analysis concentrated on the impacts associated with the building and rehabilitation of National Area infrastructure, principally roads and trails. However, consideration was also given to the effects of continued oil and gas extraction, as well as impacts associated with visitor use of the National Area. The ability to do a quantitative analysis is limited due to the prescriptive nature of the alternatives. Qualitative
analysis relies substantially on professional judgment to reach reasonable conclusions as to context, intensity, and duration of potential impacts, and whether the impacts are considered to be beneficial or adverse to vegetation resources. When possible, mitigation measures were incorporated into the plan to reduce adverse impacts.

**Terrestrial and Aquatic Animal Life.** Impacts on terrestrial and aquatic animal life are closely related to the impacts on habitat. The evaluation considered whether the actions would be likely to displace some or all individuals of a species in the park or would result in loss or creation of habitat conditions needed for the viability of local or regional populations. Impacts associated with wildlife might include any change in roosting or foraging areas, food supply, protective cover, or distribution or abundance of species. Analysis was based on the assumptions listed below.

- The greater the size of a biotic community and the stronger its links to neighboring communities, the more valuable it is to the integrity and maintenance of biotic processes. Development limits the size of a community and fragments and disassociates communities from each other.
- The more developed areas become, the less valuable they are as wildlife habitat. New development would increase human presence and increase the potential for soil, vegetation, and wildlife disturbance. The potential for negative wildlife interactions (such as human injury from wildlife and the introduction of unnatural food sources) also would increase. The removal of development from an area would increase the value of habitat.
- Development and activities near sensitive habitat may adversely affect adjacent natural communities.
- Disturbance in or near hydrological features may reduce the productive capability associated with natural communities. Modifications that result in soil compactions, loss of riparian vegetation, and accelerated erosion and sediment transport influence important habitat characteristics such as substrate type, location, and cover. These physical aspects often determine the composition of vegetative and wildlife communities.
- Trails generally form barriers for many types of wildlife and fragment habitat.

**Endangered Species and other Listed Species of Concern (Special Status Species).** Through coordination with the U.S. Fish and Wildlife Service, the Tennessee Wildlife Resources Agency, and the Kentucky Department of Fish and Wildlife Resources, species of special concern were identified that are generally located in or near the park. In addition, National Area staff collected more specific information, such as the absence or presence of each species within National Area boundaries. Professional judgment was used to reach reasonable conclusions as to context, intensity, and duration of potential impacts to special status species, and whether the impacts would be likely to have an adverse effect on federally listed species within the meaning of section 7 of the Endangered Species Act. When possible, mitigation measures were incorporated into the plan to reduce potential adverse effect.

**Context**

This is the setting within which an impact is analyzed, such as an affected locality or region, affected commercial or cultural interests, or society as a whole. In this EIS, the intensity of impacts to natural resources is evaluated within a local context (i.e., project area) or regional context, as appropriate. The contribution of particular actions or management prescriptions to cumulative impacts is evaluated in a regional context.
Intensity

This evaluation used the approach for defining the intensity (or magnitude) of an impact presented in Director's Order 12: Conservation Planning, Environmental Impact Analysis and Decision-making (NPS 2001). Each impact was identified as negligible, minor, moderate, or major. Because this is a programmatic document, intensities are expressed qualitatively.

The definition of intensity varies by impact topic, as follows:

**Geology, Physiography, and Soils:**

- **Negligible** – The impact on soils and geological resources would not be measurable. Ecological processes would not be affected.
- **Minor** – An action would change a soil's profile in a relatively small area, but it would not necessarily decrease or increase the area's overall biological productivity and would not increase the potential for erosion of additional soil. For geological resources, impacts would be slightly detectable, but would not be expected to have an overall effect.
- **Moderate** – An action would result in a change in quantity or alteration of the topsoil, overall biological productivity in a small area, or the potential for erosion to remove small quantities of additional soil. For geological resources, impacts would be clearly detectable and could have an appreciable effect on resources.
- **Major** – An action would result in a change in the potential for erosion to remove large quantities of additional soil or cause alterations to topsoil and overall biological productivity in a relatively large area. For geological resources, impacts would be substantial, highly noticeable influences on the resources.

**Water Quality:**

- **Negligible** – An action would have no measurable or detectable effect on water quality or the timing and intensity of flows.
- **Minor** – An action would have measurable effects on water quality or the timing or intensity of flows. Water quality effects could include increased or decreased loads of sediment, debris, chemical or toxic substances, or pathogenic organisms.
- **Moderate** – An action would have clearly detectable effects on water quality or the timing or intensity of flows and potentially would affect organisms or natural ecological processes. Alternatively, an impact would be visible to visitors.
- **Major** – An action would have substantial effects on water quality or the timing or intensity of flows and potentially would affect organisms or natural ecological processes. Alternatively, an impact would be easily visible to visitors.

**Floodplains:**

- **Negligible** – Impacts would not occur within the regulatory floodplain as defined by the Floodplain Management guidelines (100-year or 500-year floodplain, depending on the type of action), or no measurable or perceptible change in the natural river processes or aquatic habitat would occur.
- **Minor** – Actions within the regulatory floodplain would potentially interfere with or improve river processes or aquatic habitat in a limited way or in a localized area. For example, stream bank manipulation that would protect development areas from flooding could result in minor adverse impacts to natural resources. Removing flood protection devices or small facilities could result in beneficial impacts to natural resources.
• **Moderate** – Actions within the regulatory floodplain would interfere with or enhance river processes or aquatic habitat in a substantial way or in a large area. Examples of moderate adverse impacts would include substantial modification of stream banks to protect roads in multiple locations or to protect large compounds such as Blue Heron.
• **Major** – An action would permanently alter or improve natural river processes or aquatic habitat. An example might include permanent hardening and/or relocation of a stream channel.

**Wetlands:**

• **Negligible** – No measurable or perceptible changes in wetland size, integrity, or continuity would occur.
• **Minor** – The impact would be measurable or perceptible, but slight. A small change in size, integrity or continuity could occur due to short-term indirect effects such as storm water related runoff. However, the overall viability of the resource would not be affected.
• **Moderate** – The impact would be sufficient to cause a measurable change in the size, integrity or continuity of the wetland or would result in a small, but permanent, loss or gain in wetland acreage.
• **Major** – The action would result in a measurable change in all three parameters (size, integrity, and continuity) or a permanent loss of large wetland areas. The impact would be substantial and highly noticeable.

**Air Quality:**

• **Negligible** – An action would have no measurable or detectable effect.
• **Minor** – An action would have a slight effect, causing a change in air emissions or visibility.
• **Moderate** – An impact would be clearly detectable and would cause an appreciable change in air emissions or visibility.
• **Major** – An action would cause a substantial, highly noticeable change in air emissions or visibility.

**Vegetation:**

• **Negligible** -- The impact on vegetation (individuals or communities) would not be measurable. Ecological processes would not be affected.
• **Minor** – The action would affect the abundance or distribution of individual in a localized area but would not affect the viability of local or regional populations.
• **Moderate** – The action would affect a local population sufficiently to cause a change in abundance or distribution, but it would not affect the viability of the regional population. Changes to localized ecological processes would be of limited extent.
• **Major** – The action would affect a regional or local population of a species sufficiently to cause a change in abundance or in distribution to the extent that the population would not be likely to return to its former level (adverse), or would return to a sustainable level (beneficial). Important ecological processes would be altered, and landscape-level changes would be expected.

**Terrestrial and Aquatic Animal Life:**

• **Negligible** – The impact would not be measurable on individuals, and the local populations would not be affected.
• **Minor** – An action would affect the abundance or distribution of individuals in a localized area but would not affect the viability of local or regional populations.
• **Moderate** – An action would affect a local population sufficiently to cause a minor change in abundance or distribution but would not affect the viability of the regional population.
• **Major** – An action would affect a regional or local population of a species sufficiently to cause a change in abundance or in distribution to the extent that the population would not be likely to return to its former level (adverse), or would return to a sustainable level (beneficial).

**Special Status Species**

For special status species, including federally listed species, the following impact intensities were used. These terms are used to comply with section 7 of the Endangered Species Act.

• **No effect** -- The alternative would have no effect on the special status species, including listed species.
• **Not likely to adversely affect** – The alternative would be expected to have an insignificant, discountable, or beneficial effect on the special status species, including listed species.
• ** Likely to adversely affect** – The alternative would be expected to directly or indirectly have an adverse effect on the special status species, including listed species. Actions that could be likely to adversely affect species would include direct or indirect mortality of individuals; the removal or damage of nesting, breeding, foraging, or roosting habitats; impacts on food sources; and disturbance of nests during the breeding season. For wildlife, removal of vegetation could adversely affect species if it increased their susceptibility to predation.

**Impact Type**

The alternatives were evaluated in terms of whether impacts would be beneficial or adverse to natural resources. In some cases, an alternative could result in both adverse and beneficial effects to natural resources. Beneficial impacts would help preserve, enhance, and restore the natural functioning of ecological systems in the National Area. Adverse impacts would deplete or degrade natural resources.

CEQ regulations and the National Park Service's Conservation Planning, Environmental Impact Analysis and Decision-making (Director's Order #12) call for a discussion of the appropriateness of mitigation, as well as an analysis of how effective the mitigation would be in reducing the intensity of a potential impact, e.g. reducing the intensity of an impact from major to moderate or minor. All of the alternatives in this plan assume that National Area managers would apply mitigation measures to minimize or avoid impacts. Increased visitor use would generate the need for additional monitoring and the mitigation of impacts. If appropriate mitigation measures were not applied, the potential for resource impacts would increase and the magnitude of those impacts would rise.

**Direct versus Indirect Impacts**

Direct effects would be caused by an action and would occur at the same time and place as the action. Indirect effects would be caused by the action and would be reasonably foreseeable but would occur later in time, at another place, or to another resource.

**Cultural Resources**

Impacts to archeological and cultural resources were identified and evaluated by (1) determining the area of potential impacts; (2) identifying cultural resources.
present in the area of potential impacts that were either listed in or eligible to be listed in the National Register of Historic Places; (3) identifying the type and extent of impacts; (4) applying the criteria of adverse effect to affected cultural resources either listed in or eligible to be listed in the National Register; and (5) considering ways to avoid, minimize or mitigate adverse impacts.

Impact Assessment

Impacts to cultural resources are described in terms of the context, intensity, duration, and type of impacts. This approach is consistent with the regulations of the Council on Environmental Quality (CEQ) that implement the National Environmental Policy Act (NEPA). These impact analyses are intended, however, to comply with the requirements of both NEPA and Section 106 of the National Historic Preservation Act (NHPA). Under regulations issued by the Advisory Council on Historic Preservation, a determination of either adverse effect or no adverse effect must also be made for affected, National Register eligible cultural resources. Accordingly, a Section 106 summary is included in the discussion of each alternative. The summary is intended to meet the requirements of section 106 and is an assessment of the effect of the undertaking (implementation of the alternative) on cultural resources, based upon the criterion of effect and criteria of adverse effect found in the Advisory Council’s regulations.

An adverse effect occurs whenever an impact alters, directly or indirectly, any characteristic of a cultural resource that qualifies it for inclusion in the National Register, e.g. diminishing the integrity of the resource’s location, design, setting, materials, workmanship, feeling, or association. Adverse effects also include reasonably foreseeable effects caused by an alternative that would occur later in time, be farther removed in distance or be cumulative (36 CFR Part 800.5, Assessment of Adverse Effects). A determination of no adverse effect means there is an effect, but the effect would not diminish in any way the characteristics of the cultural resource that qualify it for inclusion in the National Register.

Context

The intensity of impacts to cultural resources is evaluated within a local context (i.e., project area) or regional context, as appropriate. The contribution of particular actions or management prescriptions to cumulative impacts is evaluated in a regional context.

Intensity

- **Negligible** – Impact is barely perceptible and not measurable; confined to small areas or a single contributing element of a larger national register district or archeological site(s) with low data potential.
- **Minor** – Impact is perceptible and measurable; remains localized and confined to a single contributing element of a larger national register district or archeological site(s) with low to moderate data potential.
- **Moderate** – Impact is sufficient to cause a change in a character-defining feature; generally involves a single or small group of contributing elements or archeological site(s) with moderate to high data potential.
- **Major** – Impact results in substantial and highly noticeable change in character-defining features; involves a large group of contributing elements and/or individually important property or archeological site(s) with high to exceptional data potential.

Archeological and historical resources are typically considered eligible for inclusion in the National Register of Historic Places because of the information they have or may be likely to yield. Intensity of impacts to archeological and historical resources...
relates, additionally, to the importance of the information they contain and the extent of disturbance/degradation.

Ethnographic resources are considered eligible for inclusion in the national register when they are rooted in a community’s history and are important in maintaining the continuing cultural identity of the community and meet criteria for evaluation and integrity. Intensity of impacts to ethnographic resources may relate to access and use of, as well as changes to, traditionally important places.

**Duration**

Impacts that would occur within five years or less were classified as short-term effects. Long-term effects would last for more than five years.

**Impact Type**

The four alternatives were evaluated in terms of whether impacts would be beneficial or adverse to cultural resources. Beneficial impacts would help preserve and enhance those character-defining qualities that make a property significant under national register criteria. Adverse impacts would deplete or negatively alter these resources.

Mitigation would tend to reduce the negative impacts of a particular alternative. Any resultant reduction in intensity of impact due to mitigation, however, is an estimate of the effectiveness of mitigation under NEPA only. It does not suggest that the level of effect as defined by Section 106 is similarly reduced. Although adverse effects under Section 106 may be mitigated, the effect remains adverse.

**Direct versus Indirect Impacts**

Direct effects would be caused by an action and would occur at the same time and place as the action. Indirect effects would be caused by the action and would be reasonably foreseeable but would occur later in time, at another place, or to another resource.

**Visitor Use and Experience**

The visitor use and experience analysis evaluates the impact of the four alternatives on opportunities for visitors to experience the National Area and learn about and appreciate its many resources.

**Impact Assessment**

This analysis is conducted in terms of how the visitor experience might vary by applying the different management zones and management prescriptions in the alternatives. Analysis is qualitative rather than quantitative due to the conceptual nature of the alternatives. Consequently, professional judgment was used to reach reasonable conclusions as to the intensity and duration of potential impacts, as well as whether the impacts would be beneficial or adverse. The impact assessment focuses on four aspects of visitor experience, as follows:

**Diversity of Visitor Activities.**

The analysis of effects on visitor activities is based on whether there was a complete loss, addition, expansion, or a change in access to or availability of a recreational opportunity, and how the management zones would affect group and individual opportunities.

**Interpretation and Orientation.**

The analysis of interpretation and orientation is based on whether there would be a change in the availability of education programs resulting from management zone application or other actions.
Visitor Facilities and Services.

This analysis discusses impacts on access to visitor facilities and services provided by the National Park Service and commercial services as a result of application of the management zones and other actions.

Visitor Experience Values.

This analysis is based on whether there would be a change in opportunities for solitude, tranquility, challenge, adventure, and freedom to travel throughout the National Area.

Context

The intensity of impacts involving visitor use and experience is evaluated within a local context (i.e., project area) or regional context, as appropriate. The contribution of particular actions or management prescriptions to cumulative impacts is evaluated in a regional context.

Intensity

The intensity of the impact is based on whether the impact to visitor use and experience is negligible, minor, moderate, or major, as defined below:

- **Negligible** – A negligible effect would be a change that would not be perceptible or would be barely perceptible by most visitors.
- **Minor** – A slight change in a few visitors’ experiences, which would be noticeable but which would result in little detraction or improvement in the quality of the experience.
- **Moderate** – A moderate effect would be a change in a large number of visitors’ experiences that would result in a noticeable decrease or improvement in the quality of the experience. This would be indicated by a change in frustration level or inconvenience for a period of time.
- **Major** – A substantial improvement in many visitors’ experience or a severe drop in the quality of many peoples’ experience, such as the addition or elimination of a recreational opportunity or a permanent change in access to a popular area.

Duration

Impacts that would occur within five years or less were classified as short-term effects. Long-term effects would last for more than five years.

Impact Type

Impacts are evaluated in terms of whether they are beneficial or adverse to visitor experience. Beneficial impacts would include greater availability of recreational opportunities or educational programs, as well as other services and types of experiences. Adverse impacts would reduce access or availability to the four facets of visitor experience described above.

Direct versus Indirect Impacts

Direct effects would be caused by an action and would occur at the same time and place as the action. Indirect effects would be caused by the action and would be reasonably foreseeable but would occur later in time, at another place, or to another resource.

Socioeconomic Environment

The impact analysis evaluated the effect that park operations, tourism and recreation, and commercial services (concessions) would have on the local and regional economy under the four alternatives. The analysis of socioeconomic impacts was developed from a review of the local and regional conditions as they relate to the National Area. The potential for future
development and changes in visitor use patterns was considered.

Precise quantitative analysis of potential effects on socioeconomic conditions was not feasible due to the prescriptive nature of the plan. However, it is possible to estimate the effect of possible future actions using output from the Money Generation Model & Money Generation Model II (1992, 1999). Visitation levels have fluctuated in recent years, but are generally increasing. No specific analyses were made for projecting future visitation. A generally low rate of increase has been assumed. Under the model, each additional 1,000 visits would result in measurable benefits to the local and regional economies.

The National Area provides significant economic benefits to the local economy. The fiscal year 2002 operating budget for the National Area was approximately $3,600,000 (Total includes – Salaries: $2.9 million; Utilities: $75,000; Supplies: $150,000). Using the NPS Money Generation Model for determining economic impacts, it is estimated that the direct FY '02 spending of NPS, when combined with the expenditures of visitors to the National Area, had a combined economic impact on the local economy of between 10 and 16 million dollars.

Impact Assessment

Proposed actions and management zoning under this plan were evaluated in terms of the context, intensity, and duration of the socioeconomic impacts, and whether the impacts were considered to be beneficial or adverse.

Intensity

Intensity of impact on the socioeconomic environment is defined as follows:

- Negligible – The impact either would be undetectable or would have no discernable effect.
- Minor – The impact would be slightly detectable but would not have an overall effect.
- Moderate – The impact would be clearly detectable and could have an appreciable effect.
- Major – The impact would be substantial and have a highly positive (beneficial) or severely negative (adverse) effect. Such impacts could permanently alter the socioeconomic environment.

Duration

Impacts that would occur within five years or less were classified as short-term effects. Long-term effects would last for more than five years.

Impact Type

Impacts were evaluated in terms of whether the impact would be beneficial or adverse to the socioeconomic environment. Socioeconomic effects were recognized as beneficial if, for example, they would increase the employment base or enhance the experience of park visitors (such as by providing improved services). Adverse socioeconomic impacts would negatively alter social or economic conditions in the county or region.

Context

The intensity of impacts is evaluated within a local context (i.e., project area) or regional context, as appropriate. The contribution of particular actions or management prescriptions to cumulative impacts is evaluated in a regional context.
Direct versus Indirect Impacts

Direct effects would be caused by an action and would occur at the same time and place as the action. Indirect effects would be caused by the action and would be reasonably foreseeable but would occur later in time, at another place, or to another resource.

Operational Efficiency

For purposes of this analysis, operational efficiency refers to the adequacy of staffing levels and the quality and effectiveness of infrastructure used in the operation of the National Area in order to adequately protect and preserve vital resources and provide quality visitor experiences. Facilities analyzed include staff work areas, visitor orientation facilities, and administrative buildings used to support National Area operations. The presence and adequacy of water, sewer, electric, and telephone utilities was also analyzed. National Area staff knowledge was used to evaluate the impacts of each alternative based on the current description of National Area facilities and operational efficiency presented in the Affected Environment section of this document.

Impact Assessment

Proposed actions and management zones under this plan were evaluated in terms of the context, intensity, and duration of impacts on National Area operational efficiency, and whether such impacts were considered to be beneficial or adverse.

Context

The intensity of impacts to National Area operations and facilities is evaluated within a local context (i.e., project area) or regional context, as appropriate. The contribution of particular actions or management prescriptions to cumulative impacts is evaluated in a regional context.

Intensity

Intensity of impact on National Area operational efficiency is defined as follows:

- **Negligible** – The change may affect National Area operations, but would be so small as to have no measurable or perceptible consequences.
- **Minor** – The change would be slightly detectable but would not have an overall effect.
- **Moderate** – The change would be clearly detectable and could have an appreciable effect.
- **Major** – The change would have substantial influence on site operations and facilities and include impacts that would reduce the National Area’s ability to provide adequate services and facilities to visitors and staff.

Duration

Impacts that would occur within five years or less were classified as short-term effects. Long-term effects would last for more than five years.

Impact Type

Impacts are evaluated in terms of whether the impacts on site operations and facilities would be beneficial or adverse. Beneficial impacts would improve site operations and/or facilities. Adverse impacts would negatively affect site operations and/or facilities and could hinder the National Area’s ability to provide adequate facilities and services to visitors and staff.

Direct versus Indirect Impacts

Direct effects would be caused by an action and would occur at the same time and place as the action. Indirect effects would be caused by the action and would be reasonably foreseeable but would occur...
later in time, at another place, or to another resource.

CUMULATIVE IMPACTS

Regulations implementing NEPA issued by the CEQ require the assessment of cumulative impacts in the decision-making process for federal actions. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The cumulative impacts analyzed in this document consider the incremental effects of the No-action Alternative and each of the action alternatives in conjunction with past, current, and future actions at the National Area. Cumulative impacts were determined by combining the effects of a given alternative with other past, present, and reasonably foreseeable future actions. The impact analysis and conclusions are based on information available in the literature, data from NPS studies and records, and information provided by experts within the National Park Service and other agencies. Unless otherwise stated, all impacts are assumed to be direct and long-term. All of the impact analyses assume that mitigating measures will be applied at the time the alternative is implemented in order to minimize or avoid impacts. Mitigating measures are described in the “Alternatives, including the Preferred Alternative” chapter of this document.

IMPAIRMENT OF NATIONAL AREA RESOURCES OR VALUES

In addition to determining the environmental consequences of the Preferred and other alternatives, the 2001 NPS Management

Policies and Director's Order 12 require analysis of potential effects to determine if actions would impair National Area resources or values.

The fundamental purpose of the National Park System, as established by the Organic Act and reaffirmed by the General Authorities Act, is to conserve the resources and values of each unit of the system. NPS managers must always seek ways to avoid or minimize to the greatest degree practicable adverse impacts on unit resources and values. However, the laws do give NPS management discretion to allow impacts to unit resources and values when necessary and appropriate to fulfill the purposes of a unit, as long as the impact does not constitute impairment of the affected resources and values. Moreover, an impact is less likely to constitute an impairment if it is an unavoidable result, which cannot be further mitigated, of an action necessary to preserve or restore the integrity of unit resources or values.

Although Congress has given NPS management discretion to allow certain impacts within individual units, that discretion is limited by statutory requirement that the NPS must leave resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgement of the responsible NPS manager, would harm the integrity of unit resources or values, including opportunities that otherwise would be present for the enjoyment of those resources or values. Impairment may result from NPS activities in managing the unit, visitor activities, or activities undertaken by concessionaires, contractors, and others operating in the unit.

An impact to any unit resource or value may constitute impairment. However, an impact would more likely constitute impairment to the extent it affects a resource or value whose conservation is central to the unit's mission or critical to the unit's integrity.
To determine whether actions and management prescriptions involving National Area resources would result in impairment, each alternative was evaluated to determine if it had a major adverse effect on a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation of the National Area;
- key to the natural or cultural integrity of the National Area or to opportunities for enjoyment of the National Area; or
- identified as a goal in this General Management Plan or other relevant NPS planning documents.

TOPICS DISMISSED FROM FURTHER ANALYSIS

The following topics were dismissed from further analysis in this document, for the reasons indicated:

Socially or Economically Disadvantaged Populations. Executive Order 12898 ("Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations") requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. None of the alternatives considered in this document would result in any identifiable adverse health effects, and none of the impacts to the natural and physical environment would significantly and adversely affect any minority or low-income population or community. Therefore, environmental justice was dismissed as an impact topic.

Prime and Unique Agricultural Lands. Council on Environmental Quality regulations require that federal agencies assess the effects of their actions on farmland soils classified by the U.S. Natural Resource Conservation Service (NRCS) as prime or unique. According to NRCS, none of the soils in the project area are classified as prime or unique. Therefore, this topic was dismissed from further consideration in this document.

Indian Sacred Sites. Executive Order 130007 ("Indian Sacred Sites") requires all federal agencies to determine whether their proposed actions would restrict access to or ceremonial use of Indian sacred sites by Indian religious practitioners or adversely affect the integrity of such sacred sites. None of the alternatives considered in this document would restrict access to any sites sacred to American Indians or limit ceremonial use of any such sites. Components of the plan designed to achieve enhanced management of cultural resources and a reduction in illegal relic hunting would have an overall beneficial effect on any Indian sacred sites. Therefore, this topic was dismissed from further consideration in this document.

NO-ACTION ALTERNATIVE (Alternative C)

NATURAL RESOURCES

Geology, Physiography, and Soils

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

Analysis. Under the No-action Alternative, geographical, physiographical, and soil resources would be subject to current management practices and policies. No new programs would be undertaken to address threats to soil resources. These threats stem in large part from poorly designed and sited trails, many of which are
located on old, incised logging and mining roads. Moderate to major adverse impacts to soils in the form of extensive soil erosion and exposed bedrock would continue to occur on heavily used horse trails, especially in steep areas between the plateau and gorge bottom. Impacts would be exacerbated by a lack of adequate maintenance. Moderate adverse impacts would also continue to occur at creek crossings and horse fords along the river. In some areas, such as Station Camp, large sediment loads would continue to affect streams.

Visitor activities such as camping, hiking, climbing, OHV use, and horseback riding would increase slightly and continue to have localized effects on soils. Visitors would continue to overuse some facilities such as certain trails and also use inappropriately, and in some cases illegally, certain sensitive, readily accessible resources such as rock shelters and arches. In previously undisturbed areas, human trampling would result in vegetation loss followed by soil compaction and erosion. Social trails on sloping hillsides would act as channels for surface water runoff, resulting in soil erosion. OHV use would continue to cause erosion on steep areas and at stream crossings. Increased climbing activities on bluff faces would cause soil loss at the base and edges of cliffs.

NPS policy prohibits the surface mining of soil, gravel, or rock materials for any park operations purposes, including the building of roads or facilities. Most maintenance activities for existing access roads, trails, and developed sites would be limited to existing disturbed areas and would not likely involve blasting or other modification of bedrock geology. The potential impacts to geologic resources from road or facility maintenance or NPS operations would thus be negligible. In contrast, visitor activities have the potential to adversely impact sensitive geologic resources such as rock shelters, arches and chimneys. Under the No-action Alternative, these features would be subject to current management practices for sensitive geologic resources. Due to limited staffing and resources and the absence of express management prescriptions, adverse impacts would continue to occur. The impacts on these geologic features would be minor to moderate, long-term and adverse.

The nature and extent of soil compaction and erosion under the No-action Alternative would depend upon the amount, timing, type, and location of use. For example, soils are most susceptible to damage during spring when soils are water saturated and prone to disturbance. In some high-use areas, such as Bandy Creek, there would be moderate adverse impacts, as repeated trampling resulted in high plant mortality and increased erosion potential. In problem sites, the NPS staff would continue attempts to prevent and reduce impacts and to restore damaged sites. However, current efforts would not prevent or reduce all impacts under current visitation levels. Thus, increased impacts are expected as visitation increases.

In other locations of the National Area, there would be negligible to minor adverse impacts on soils as relatively few plants, in localized areas, would be affected by trampling and other disturbance. The potential for soil erosion in these areas would be negligible.

Increased parking by visitors in non-designated vegetated areas would cause loss of vegetation, which would contribute to soil erosion. Because these effects would be localized, the impacts would be negligible to minor.

**Cumulative Impacts.** Actions outside the park have resulted in, and would be likely to continue to result in, minor to major long-term adverse effects on soils in the vicinity of the National Area, such as the New River area and the Bear Creek watershed. In particular, logging, mining, oil and gas extraction, and commercial and housing
developments on lands outside the National Area boundary have had (and would continue to have) erosive effects on soils along the boundary.

In the long term, local planning efforts to manage and control growth, if implemented, could have a minor beneficial impact by providing additional protection to undisturbed soils. However, these efforts would not diminish the effects of development in the near term on localized areas.

Watershed restoration projects on national forest lands, including the decommissioning and revegetation of some roads, would reduce the potential for soil erosion. Because these actions would affect small, localized areas, their long-term beneficial effects would be minor.

Past projects undertaken within the National Area that would affect soils include installation and maintenance of roads, trails, and developed sites. Inadequate maintenance for these projects would continue to occur as a result of insufficient funding and staff. The result would be long-term, moderate to major impacts to soils in some locations.

When the effects of actions by others and other actions in the National Area are combined with impacts associated with this alternative, the cumulative impacts of all of these actions would likely be minor to major, long-term and adverse impacts on soils in the region, primarily because of the effects of oil and gas extraction, logging, and land development outside of the National Area.

The No-action Alternative would make a minor contribution to these cumulative impacts. This minimal contribution results from the relatively small areas of disturbed soils in the National Area, as well as NPS' commitment to ensuring the protection of soils and geologic resources as an integral component of the National Area.

**Conclusion.** Increased visitor activities mostly would result in localized, minor, long-term adverse impacts on soils and geologic resources, with moderate to major impacts in some high use areas and areas susceptible to severe erosion. Impacts would include increased soil compaction in some visitor use areas and exposed bedrock on various steep trail sections. There also probably would be minor to major long-term cumulative adverse impacts on soils and geologic resources in the region, primarily due to logging, mining, oil and gas extraction, and land development. This alternative's contribution to these cumulative impacts would be minor.

The No-action Alternative would perpetuate the above-mentioned conditions. As a result, this alternative would, over time, result in moderate to major, adverse impacts to certain geologic features, particularly the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would, over time, result in impairment to certain geologic, physiographic, and soil resources of the National Area.

**Water Quality**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

**Analysis.** The land uses in the watershed described in the Affected Environment section present serious problems for meeting required management for water quality. As a result, adverse impacts on water quality would continue under the No-
action Alternative, due to increases in levels of sediment, pollutants, and nutrients in the water. In addition, acid mine drainage from past mining activities inside and outside the National Area would continue to impair the water quality of some Area streams. These effects would be amplified by the impacts associated with increased visitor use of the National Area.

A number of roads and trails in the National Area do not presently meet accepted standards for facility design and location. These roads and trails are susceptible to greater rates of erosion than is typical for properly designed facilities of this type. The result is a reduction in water quality in Area streams due to excessive sedimentation. Under the No-action Alternative, present levels of sedimentation would continue, and possibly worsen, as poorly designed sections of road and trail continued to deteriorate. Moderate to major adverse impacts to water quality in the form of excessive sediment loads would continue to occur in the vicinity of heavily used horse trails, especially in steep areas between the plateau and gorge bottom. Major stream crossings such as Station Camp and Big Island would also be affected by excess sedimentation. Impacts would be exacerbated by a lack of adequate maintenance.

Visitor activities such as camping, hiking, OHV use, and horseback riding would increase slightly and would continue to have localized, indirect effects on water quality due to increased soil compaction, vegetation trampling, and consequent loss of vegetation in some areas. These effects would lead to greater erosion and the addition of sediment to adjacent waters. The nature and extent of soil compaction and vegetation damage, and therefore, of related impacts on water quality, would depend on the types of local soils, vegetation and topography, as well as the areal extent, duration, and intensity of use. On the whole, sedimentation effects generally would be slight in comparison to the natural sedimentation occurring as a result of runoff from precipitation and flood flows. Therefore, sedimentation-related impacts on water resources from visitor use would be negligible to minor. As noted above, however, areas adjacent to improperly sited and inadequately maintained roads and trails, could experience moderate to major impacts to water quality.

The increased use of unpaved roads could make these facilities more susceptible to surface erosion and runoff. Vehicle use along roads and in parking lots would continue to deposit petroleum products that could be washed into adjacent waters. Impacts would generally be minor due to mitigation techniques such as placement of sediment traps and/or biofiltration (vegetation filtration) along roadsides.

At present, oil and gas development is poorly regulated within the National Area and many wells are not in compliance with state and federal standards. Impacts to water quality appear to be minor for now, but increases in drilling activity (as is presently happening at nearby Obed Wild and Scenic River) could result in moderate to major adverse impacts if these operations are not better managed. Under the No-action Alternative, National Area staff would continue to lack adequate resources to oversee oil and gas operations and insure compliance with existing regulations. The potential for adverse impacts is magnified by the fact that many wells are located near the edge of the gorge. Poor compliance could result in impacts to water quality that are long-term, moderate to major, and adverse.

Improper disposal of untreated human waste in areas without toilet facilities currently causes minor water quality problems. Under the No-action Alternative, this problem would increase proportionately with increased human use of the area.
Cumulative Impacts. Actions outside the National Area would result in minor to major adverse effects on water quality due to increased loading of sediment, nutrients, chemical pollutants, and pathogens.

- Acid mine drainage would have moderate to major long-term adverse effects on water quality in some areas and continue to impair some streams in the National Area.
- Logging and timber harvesting would have moderate to major short-term adverse effects on water quality. These would result from sediment entering rivers and streams that originate outside the National Area.
- Runoff from existing and new developments in the area would have minor to moderate long-term adverse effects on water quality in rivers and streams originating outside the National Area.

In the long term, local planning efforts to manage and control growth, if implemented, could have a minor beneficial impact by providing additional protection for water quality and water resources. However, these efforts would not diminish the effects of development in the near term.

Watershed restoration projects on national forest lands, including the decommissioning and revegetation of some roads, would reduce the entry of sediments into local waters. This would affect small, localized areas and would have, overall, a moderate beneficial effect.

Past projects undertaken within the National Area that would affect water quality include installation and maintenance of roads, trails, and developed sites. Ongoing maintenance for these projects would have minor short-term adverse impacts on water quality resulting from small increases in sediment and other pollutants. Continued adherence to best management practices would ensure that the impacts were minor.

When the effects of actions by others and other actions in the National Area are combined with impacts associated with this alternative, the cumulative impacts would be moderate to major, long-term, and adverse in the region, primarily because of the effects of acid mine drainage, oil and gas extraction, logging, and land development outside of the National Area.

The No-action Alternative, viewed in a region-wide context, would make a minor contribution to these cumulative impacts. This minimal contribution results from the mandate of the National Park Service to protect resources within the National Area, as well as NPS' commitment to mitigate even minor water quality impacts through such measures as trail maintenance and rehabilitation.

Conclusion. Improperly sited and inadequately maintained roads and trails would continue to have a moderate to major impact on water quality within the National Area by increasing sediment loads in receiving streams. Increasing visitor use in the National Area would have a minor adverse impact on water resources and water quality by increasing levels of sediments, vehicle-related pollutants, and nutrients in rivers and streams. Most of these effects would be localized. Oil and gas development within and adjacent to the boundary of the National Area would increase the amount of disturbed area, thereby contributing increased sediment and polluted runoff to adjacent streams. Because of the inadequate regulatory control in place for these operations, the long-term adverse impacts of these operations on water quality, while presently minor, could increase over time as more wells are drilled within the National Area. There would be moderate to major, long-term and adverse cumulative impacts in the region, primarily because of pollutant loads in runoff associated with logging, oil and gas development, and land development outside the National Area. This alternative's contribution to these adverse cumulative
impacts would be minor, at least in the short term.

Existing conditions are causing major adverse impacts to water quality in certain portions of the National Area. The No-action Alternative would perpetuate these conditions. As a result, this alternative would result in major, long-term and adverse impacts to some water resources or values, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would result in continued impairment to some water resources in the National Area.

Floodplains

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two (“Required Management”) of this document.

Analysis. Under the No-action Alternative, impacts would be associated with the continued need to maintain existing roads, trails, parking areas, and stream crossings in the floodplain. These facilities are exempt from NPS policies on floodplain management (Director’s Order 77-2; NPS Floodplain Procedures Manual 77-2). No new developments would occur in regulatory floodplains under this alternative. Therefore, only negligible adverse impacts would occur under the No-action Alternative.

Cumulative Impacts. There are numerous projects on lands outside the National Area that could affect floodplains of the Big South Fork and its tributaries. Ongoing commercial logging, mining and oil and gas extraction activities and associated road developments have had moderate impacts on floodplains and river processes in the area. Permanent roads developed for access to logging, mining, and oil and gas extraction areas cross floodplains and have created permanent alterations that will continue to have adverse impacts on floodplain values. The No-action Alternative would not contribute to these cumulative impacts.

Conclusion. This alternative would result in negligible long-term adverse impacts on floodplain values throughout the National Area. Cumulative impacts would include moderate adverse long-term effects on floodplains because of actions outside the National Area. This alternative’s contribution to these impacts would be negligible.

This alternative would not result in major, adverse impacts to any floodplain resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the floodplain resources of the National Area.

Wetlands

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two (“Required Management”) of this document.

Analysis. No actions would be taken under this alternative that would directly affect wetlands. Existing practices that prevent indirect impacts on wetland areas would continue.
Cumulative Impacts. Wetlands on both public and private lands in the vicinity of the National Area have been modified by logging, mining, and other development. Although the Clean Water Act requires that long-term impacts on wetlands be mitigated through wetland restoration or the creation of replacement wetlands, there has been a moderate, long-term, adverse cumulative impact on wetlands in the region. The No-action Alternative would not contribute to this cumulative impact.

Conclusion. This alternative would not cause any new impacts on wetlands. Although there would be a moderate, long-term, adverse cumulative impact on wetlands in the region, this alternative would not contribute to this impact.

This alternative would not result in major, adverse impacts to any wetland resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the wetland resources of the National Area.

Air Quality

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

Analysis. Under the No-action Alternative, visitor use is expected to increase slightly, resulting in slight increases in vehicle miles traveled in the National Area and surrounding areas. The resulting increase in vehicular emissions, coupled with a slight increase in the number of campfires, would likely result in increased emissions of particulates, carbon monoxide, and volatile organic compounds.

Cumulative Impacts.

In the long term, local planning efforts to manage and control growth, if implemented, could have a minor beneficial impact by providing additional protection for air quality. However, these efforts would not diminish the effects of development in the near term.

Past projects undertaken within the park that would affect air resources include the use and maintenance of new and existing dirt roads. These actions would continue to have minor short-term adverse impacts on air quality resulting from small increases in dust and other pollutants. Continued adherence to best management practices would ensure that the impacts were minor.

When the effects of actions by others and other actions in the National Area are combined with impacts associated with this alternative, the cumulative effect of these actions would be a minor, long-term, and adverse impact on air quality, and a minor, long-term, and adverse impact on visibility in the region. These impacts would be primarily due to increased vehicular emissions and the effects of ongoing land development outside of the National Area. The No-action Alternative would make a minor contribution to these cumulative impacts.

Conclusion. The No-action Alternative would result in a negligible to minor impact on local air quality, due to slight increases in pollutants from vehicle exhaust and campfires. Cumulative impacts would include minor, long-term and adverse impacts on regional air quality, as well as minor, long-term and adverse impacts on regional visibility. This alternative’s contribution to these regional impacts would be negligible to minor.
This alternative would not result in major, adverse impacts to any air resource or value, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the air resources and values of the National Area.

Vegetation

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

Analysis. Throughout most of the National Area, increased visitor use associated with this alternative would result in negligible to minor long-term adverse impacts on vegetation. Moderate long-term adverse impacts would occur in high-use areas.

Visitor activities such as camping, hiking, OHV use, and horseback riding would increase slightly and continue to have localized effects on vegetation. ATV use would continue to destroy vegetation in areas where riders go around mud holes and downed trees, or create new unauthorized trails. Some trails would remain poorly located in relation to sensitive plant communities, and in other areas (e.g., rock shelters) social trails created by hikers and horseback riders would continue to impact vegetation. In undisturbed areas, human trampling would bend or break aboveground plant parts. Trampled vegetation makes a site easily recognizable as an informal (social) trail or campsite, often contributing to an increase in human use. Repeated use of these newly disturbed areas, as well as previously disturbed areas, would result in vegetation loss.

The nature and extent of vegetation loss under the No-action Alternative would depend upon the amount, timing, type, and location of use. For example, vegetation is most susceptible to damage during spring when plants are initiating growth. Many plant species are unable to generate new growth following repeated trampling, and vegetation loss occurs quickly. In high-use areas, this plant mortality would result in continued degradation even after recreational use ceased.

In some high-use areas such as Twin Arches, there would be moderate adverse impacts, as repeated trampling resulted in high plant mortality. In problem sites, the NPS staff would continue attempts to prevent and reduce impacts and to restore damaged sites. However, current efforts would not prevent or reduce all impacts under current visitation levels. Thus, increased impacts are expected as visitation increases.

In other areas of the National Area, there would be negligible to minor adverse impacts to vegetation as relatively few plants, in localized areas, would be affected.

A number of special plant habitats occur in the National Area, including rock shelters, cliff areas, and gravel/cobble bars along the river. These habitats harbor rare and unusual plant communities that are particularly susceptible to human impacts. Existing uses are impacting a number of these communities, especially at Station Camp and Big Island. Various plant species are being affected, including plants listed as threatened or endangered by state and federal authorities. Under the No-action Alternative, increased visitation and lack of protective efforts in some areas would continue to have adverse impacts on a number of rare, threatened and endangered plants.
Increased visitor use might help spread exotic (non-native) or noxious species as a result of seeds being carried into the National Area on vehicles, horses, clothing, maintenance equipment, and other materials. Impacts would range from minor to moderate, depending on the type of plant and where it was introduced. Moderate impacts would occur if a local population of a species or plant community were sufficiently affected to cause a change in its abundance or distribution.

Dust and pollutants from motor vehicles in the area would increase slightly and continue to affect vegetation adjacent to roadways by interfering with plant respiration and causing plant decline in leaves. Increased parking by visitors in vegetated areas would cause loss of vegetation, which might lead to invasion by noxious weed species. Because these effects would be localized, the impacts would be negligible to minor.

Cumulative Impacts. Actions outside the park have resulted in, and would be likely to continue to result in, minor to major long-term adverse effects on vegetation in the vicinity of the National Area, such as the Bear Creek watershed. In particular, logging, mining, oil and gas extraction, and commercial and housing development on land outside the National Area have had (and would continue to have) edge effects on vegetation along the boundary, such as changes in species composition due to clearing, windthrow, changes in light regime, and infestations of non-native plants and exotic pests.

In the long term, local planning efforts to manage and control growth, if implemented, could have a minor beneficial impact by providing additional protection for undisturbed vegetation. However, these efforts would not diminish the effects of development in the near term.

Watershed restoration projects on national forest lands, including the decommissioning and revegetation of some roads, would reduce the potential for invasion by exotic plants. Because these actions would affect small, localized areas, their long-term beneficial effects would be minor.

Past projects undertaken within the National Area that would affect vegetation include development and maintenance of roads, trails, and developed sites. Rehabilitation and maintenance of these facilities would continue to cause minor short-term adverse impacts on vegetation due to their limited scope, the use of best management practices to control vegetation disturbance during installation, and prompt revegetation after project completion.

When the effects of actions by others and other actions in the National Area are combined with impacts associated with this alternative, the cumulative impacts of all of these actions impacts on vegetation in the region would likely be minor to major, long-term and adverse, primarily because of the effects of acid mine drainage, oil and gas extraction, logging, and land development outside of the National Area.

The No-action Alternative would make a minor contribution to these cumulative impacts. This minimal contribution results from the relatively small areas of disturbed vegetation in the National Area, as well as NPS' commitment to ensuring the protection of vegetation as an integral component of the National Area.

Conclusion. Increased visitor activities would result in localized, minor, long-term, and adverse impacts on vegetation, with moderate impacts in some high use areas such as Bandy Creek, Twin Arches, and Blue Heron. Impacts would include trampled vegetation, loss of plants, and the spread of exotic species. There also probably would be minor to major long-term cumulative adverse impacts on vegetation in the region, primarily due to mining, logging, oil and gas extraction, and land development. This alternative's contribution
to these cumulative impacts would be minor.

Existing usage patterns may be causing major adverse impacts to vegetative resources in certain sensitive areas of the National Area. The No-action Alternative would perpetuate these conditions. As a result, this alternative could, over time, result in major, adverse impacts to some vegetation resources, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning documents. Therefore, the environmental impacts associated with this alternative could, over time, result in impairment to some vegetation resources in the National Area.

Terrestrial and Aquatic Animal Life

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two (“Required Management”) of this document.

Analysis. Under this alternative, a slight increase in visitor use would result in increased recreational activity, vehicular traffic, and development, with corresponding impacts to terrestrial and aquatic animal life.

Most visitor use is concentrated in the center of the National Area. Increased human presence in these areas would result in some additional disturbance to wildlife. However, because these areas are already heavily used, it is doubtful that slight increases in human activity would noticeably increase impact to wildlife and wildlife habitat in these areas. Wildlife sensitive to human use already avoid these areas, and animals that do inhabit such locations would be accustomed to human use and would not be further impacted by additional human usage. To the extent that wildlife was disturbed, it would be temporary and would not affect local or regional populations. Therefore, the impacts to wildlife, though adverse, would be negligible. On the other hand, increased access and visitation could affect fish populations in some small streams.

Increased use would result in a proportional increase in improper food storage by visitors. Food and garbage left out attracts wildlife, resulting in animals associating food with people and possibly causing human-wildlife conflicts. Some visitors would continue to feed wildlife, which would also condition wildlife to associate humans with food. Existing wildlife management practices, such as providing wildlife-resistant garbage cans and educating visitors, would continue to be implemented, resulting in negligible to minor impacts.

Slightly increased visitation levels may result in more hunting and fishing pressure in the National Area. All hunting and fishing activities are governed by regulations issued by the states of Tennessee and Kentucky. (Note: the National Area has the authority to develop its own hunting and fishing regulations in consultation with the states, and may do so at some future time.) Because the harvest limits set by existing regulations are based, in part, on anticipated hunting pressure, only negligible to minor impacts on local and regional populations would occur.

Wildlife are occasionally injured or killed by motor vehicles on park roads, and this impact might increase slightly with additional motor vehicle travel. These adverse impacts would be minor because they would affect individuals, not entire populations.

Cumulative Impacts. Outside the National Area, the conversion of wildlife habitat to commercial and residential development would continue to result in adverse effects
on wildlife and fish. In addition, land development would fragment remaining habitat, making it less suitable to support species that are sensitive to the presence of humans.

The effects of continued timber harvesting in areas with existing roads would be short-term, adverse, and minor to moderate. Animals would be displaced during harvesting operations, and land would have a diminished ability to support wildlife until vegetation was re-established. Thereafter, the creation of "edge" and early successional stages would improve the habitat for species that require this habitat, including such game species as deer and elk, while degrading the habitat of forest interior species such as certain types of neotropical migratory birds.

In the long term, local planning efforts to manage and control growth, if implemented, could have a minor beneficial impact by providing additional protection for wildlife habitat. However, these efforts would not diminish the effects of development in the near term.

Other actions taken by the National Park Service in the National Area, such as replacing bridges or rehabilitating roads and trails, could result in some loss of individuals or habitat. Effects during buildout would be minor, short-term, and adverse. Habitat restoration after completion would prevent long-term effects.

When the effects of actions by others and other actions in the National Area are combined with impacts associated with this alternative, the cumulative impacts of all of these actions would likely be minor to major, long-term and adverse, primarily because of the effects of acid mine drainage, oil and gas extraction, logging, and land development outside of the National Area.

The No-action Alternative would make a minor contribution to these cumulative impacts because the adverse impact within the National Area would be small and because of the large area of habitat loss or degradation that would occur outside of the National Area boundary.

**Conclusion.** Increased visitor activities associated with the No-action Alternative would cause negligible to minor long-term adverse impacts on wildlife. Impacts would be associated with increased visitor use displacing or disturbing wildlife, conditioning wildlife to associate humans with food, and injuring or killing wildlife in collisions with motor vehicles. Cumulative effects would include minor to major long-term adverse impacts, primarily due to habitat loss associated with oil and gas extraction, logging and land development outside the boundary. This alternative's contribution to these cumulative impacts would be minor.

This alternative would not result in major, adverse impacts to any terrestrial or aquatic wildlife resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the terrestrial or aquatic wildlife resources of the National Area.

**Special Status Species**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

**Analysis.** The No-action Alternative would likely result in continued negative impacts to special status species, including five species of mussels on the federal endangered species list. Increased use of
horse crossings at Station Camp and Big Island would likely result in continued mortality of individual special status mussels in these areas, thereby having a potential adverse effect on federally listed species. Other species of concern are aquatic species, including the duskytail darter, and plants listed as threatened or endangered by state and federal authorities. Increased use of existing trails would likely result in continued adverse impacts in some locations to sensitive vegetation communities and special status plant species.

Site-specific surveys would be conducted before implementing specific actions to determine if special status species existed in the project area. If any were located, the National Park Service would consult with the U.S. Fish and Wildlife Service and the states of Tennessee and Kentucky to determine mitigation measures to avoid or minimize adverse impacts on the species.

The potential impacts on most special status species from the implementation of the No-action Alternative would be associated with increased human use of the National Area and lack of enforcement capability.

**Cumulative Impacts.** Mining, oil and gas extraction, timber cutting, and development activities on privately owned lands outside the National Area are of particular concern because they would continue to result in the degradation of water quality, thereby affecting mussel populations.

Land development, mining, oil and gas extraction, and timber harvesting would continue to adversely affect special status species outside the National Area through such mechanisms as habitat loss, habitat degradation (for example, altered water temperature and flow) and increased sedimentation.

Other actions taken by the National Park Service in the National Area, such as replacing bridges or rehabilitating roads and trails, could result in some loss of individuals or habitat. Because the National Park Service would conduct pre-project surveys and implement mitigation, these actions would not be likely to have long-term adverse effects on any special-status species.

When the effects of actions by others and other actions in the National Area are combined with impacts associated with this alternative, the cumulative impacts of all of these actions would likely be an adverse effect on special-status species, primarily because of the impacts of acid mine drainage, oil and gas extraction, logging, and land development outside of the National Area. The No-action Alternative would make a negligible to minor contribution to this cumulative impact.

**Conclusion.** Continued human use, along with expected increases in visitor use of the National Area, would cause disturbance to individuals of special-status species. Impacts to mussels from horse crossings would continue to be addressed through the use of route-flagging, but long-term impacts from continuing individual mortality could occur.

For activities in other locations, specific survey, avoidance, and mitigation actions taken by the National Park Service would ensure that the No-action Alternative would minimize adverse impacts on any federally or state listed species.

The effects of actions by others and other actions in the National Area, when combined with the impacts of actions under this alternative, would be likely to adversely affect special status species. The No-action Alternative would contribute to this cumulative effect in the case of special status mussels.

Over the long term, the environmental impacts associated with this alternative...
could result in impairment to special status species of the National Area.

CULTURAL RESOURCES

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

Archeological Resources

Analysis. Under the No-action Alternative, archeological resources would continue to experience adverse impacts. At present, the National Area has had numerous archeological surveys done to identify and define the archeological resources that can be found within the boundary of the National Area. One of these surveys was a five-year survey designed to produce predictive models for archeological site locations in all of the National Area environmental zones. The other archeological surveys were site-specific project surveys at proposed development locations. These surveys and ongoing archeological site protection efforts indicate that, far and away, the greatest threat to archeological resources in the National Area is illegal relic collecting. Archeological site destruction through relic collecting is also occurring at an accelerated pace on most of the public lands surrounding the National Area (Daniel Boone National Forest, Scott State Forest, Picket State Forest, etc.).

Disturbance can also result from building and maintenance activities and unrestricted visitor access to areas of known sensitivity for archeological resources. Visitor access impacts can include disturbances caused by overflow parking along roadside and trailhead areas, the creation and use of social trails, and occasionally the use and maintenance of existing trails.

Some prehistoric archeological sites are known to be located near areas of high public use and visibility, such as rock shelters and arches. Some of these have sustained impacts from both natural and human caused erosion, a consequence of pedestrian and equestrian traffic on both designated and social trails. The increase in visitors anticipated under the No-action Alternative would continue the human-caused erosion of these sites or other known or unknown prehistoric sites.

NPS staff would continue established resource protection measures for the identification and treatment of archeological resources on a case-by-case basis. NPS would coordinate with the relevant State Historic Preservation Officer regarding appropriate response actions and mitigation measures. Where potential impacts are identified, possible mitigation could include, but not be limited to, avoidance and protection, data recovery (evaluated as an adverse impact that would be undertaken as a last resort), and educational outreach programs such as informative onsite tours and presentations.

Cumulative Impacts. Cumulative impacts on archeological resources are considered on a region-wide basis because prehistoric and historic activity in the Big South Fork region was not limited to the lands within the National Area boundary.

Actions outside the National Area include a variety of land disturbing activities, including mining, logging, oil and gas extraction, and development projects. Because of the large acreage involved, it is likely that numerous sites would continue to be impacted. If any of these actions require permits from state or federal agencies, recordation may be required. However, it is likely that many archeological resources will be destroyed without knowledge, causing an adverse effect.

Conclusion. Established resource protection measures for the identification and treatment of archeological resources would continue on a case-by-case basis.
More visitation, which could result in continuing erosion of some archeological sites, would have minor to moderate adverse effects. When actions external to the National Area are considered in conjunction with this alternative and other actions inside the National Area, there would be a major, long-term, and adverse cumulative effect on archeological resources, primarily because of development outside of the National Area that would impact sites without recordation. The No-Action Alternative would make a minor to moderate contribution to this adverse effect.

Over the long term, the environmental impacts associated with this alternative could result in impairment to archeological resources of the National Area, as archeological sites continue to succumb to weathering, neglect, and intensified human use.

**Ethnographic Resources**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

**Analysis.** After the National Area was established, acquisition of land by the federal government resulted in the relocation of families and individuals away from their traditional homesites. Relatives of many of these people still live in the surrounding area. However, the National Area’s enabling legislation resulted in the closure of most roads into the gorge. As a result, many local residents are prevented from having traditional motorized access to various sites of interest. Lack of use has resulted in the natural succession of many sites to forest.

The gorge will remain closed to most motorized access under all of the alternatives, in accordance with the dictates of the enabling legislation. Continued closure will result in moderate to major, long-term and adverse impacts to persons deprived of motorized access to traditional use sites. However, these impacts will not be attributable to the alternatives per se, but stem from legislative requirements.

Under the No-action Alternative, certain sites will continue to be preserved and interpreted for visitors, including the Oscar Blevins, Lora Blevins and John Litton farmsteads. Other traditional use sites are designated for continuing use, such as the Burnt Mill Bridge. In addition, oral histories will continue to be accumulated to document past residents’ observations and experiences.

**Cumulative Impacts.** Cumulative impacts on ethnographic resources are considered on a region-wide basis because historic activity in the Big South Fork region was not limited to the lands within the National Area boundary.

Actions outside the National Area include a variety of land disturbing activities, including mining, logging, oil and gas extraction, and development projects. Because of the large acreage involved, it is likely that many ethnographic resources have been and will continue to be destroyed, causing an adverse effect.

When other actions external to the National Area and on private land inside the boundary are considered in conjunction with this alternative, the cumulative impacts on ethnographic resources would be major, long-term, and adverse, primarily because of development outside of the National Area that would impact ethnographic resources. The National Area’s enabling legislation would continue to result in a moderate, long-term and adverse impact on ethnographic resources, primarily because of the large area within the gorge that would remain closed to motorized vehicles. The No-action Alternative would merely implement the closure requirement of the
legislation, but would not otherwise contribute to this adverse effect. In fact, the mitigating measures adopted by the National Area require avoidance and protection of ethnographic resources. Therefore, the No-action Alternative would be expected to preserve some ethnographic resources for the region.

**Conclusion.** Establishment of the National Area required closure of most of the gorge to motorized access, resulting in moderate to major, long-term and adverse impacts to ethnographic resources. However, various sites and ethnographic resources within the National Area are being actively used or protected and interpreted for visitors, and these activities would continue under the No-action Alternative. The impacts of these activities on ethnographic resources would be minor to moderate, long-term and beneficial.

**Historic Resources**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two (“Required Management”) of this document.

**Analysis.** Under the No-action Alternative, historical resources would continue to be stabilized and protected as required by law. However, no direction for future use and interpretation of these resources would be developed and their educational potential would go unrealized. Because no new studies of historical resources would be undertaken, the result would be a lack of data upon which to base decisions, thereby inhibiting the proper identification, treatment, and management of historic resources. In addition, there would be a continued deterioration and loss of the historic fabric as a result of natural deterioration and ongoing human interaction.

This alternative would not include any major new development or major changes that would affect historic resources. The National Area staff would continue to implement established resource protection measures for the treatment of historic resources on a case by case basis. Where appropriate, NPS would coordinate with the relevant State Historic Preservation Officer regarding response actions and mitigation measures. Treatment measures for historic resources would continue to conform to the *Secretary of the Interior’s Standards and Guidelines for the Treatment of Historic Properties*, 36 CFR section 68. However, as structures aged and more visitors to the National Area encountered historic structures, the potential would exist for increasing impacts.

**Cumulative Impacts.** Cumulative impacts on historic resources are considered on a region-wide basis because they extend beyond the National Area boundary.

Actions outside the National Area that could affect historic resources are the same as those identified for archeological resources. Specific impacts on historic resources outside the boundary are unknown. However, it is likely that numerous historic sites have been affected, and would continue to be adversely affected, because of the large acreages impacted by mining, logging, oil and gas extraction, and development projects. In instances where these actions are permitted by state or federal agencies, recordation may be required. However, it is likely that many historic resources have been and will continue to be destroyed without knowledge, resulting in an adverse effect.

Although region-wide impacts have had a cumulative adverse effect on historic resources, they have not directly affected the structures eligible for listing on the National Register or the four component landscapes identified by the NPS Cultural Landscapes Program.
When other actions external to the National Area are considered in conjunction with this alternative and other actions inside the National Area, the cumulative impacts on historic resources would be major, long-term, and adverse, primarily because of the effects of logging, mining, and land development outside the National Area. The contribution of the No-Action Alternative to this adverse effect would be minor to moderate. Despite the fact that ongoing preservation and maintenance of historic buildings and structures would continue, and even though this alternative would be expected to preserve some historic resources for the region, the rate of loss of historic resources in the National Area would be such as to make a minor to moderate contribution to adverse cumulative impacts in the region.

**Conclusion.** Adverse effects to historic resources would continue under the No-action Alternative. Regionwide development activities would continue to have a cumulative adverse effect on historic resources. The No-action Alternative would make a minor to moderate contribution to the regionwide cumulative adverse effect.

The environmental impacts associated with this alternative could result in impairment to historical resources of the National Area, as historic resources continue to succumb to weathering, neglect, and intensified human use.

**VISITOR USE AND EXPERIENCE**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

**Analysis.** Under the No-action Alternative, a variety of natural and cultural features would remain readily available for visitor use, including the river, canyon rim views, and certain historic sites. Many other features would likewise be available depending on visitor interests and abilities. However, access to locations in the National Area is a function of available roads and trails, which are located in areas and maintained in conditions that sometimes limit access to certain resources. These limitations on access would remain under the No-action Alternative.

As provided by the legislation establishing the National Area, access to game for hunting, trapping, and fishing would continue under joint federal and state management. However, motor vehicle access to many sites in the gorge would remain largely curtailed due to legislative restrictions.

In areas outside the gorge, OHV use would continue on various roads and trails customarily used for this type of recreation. Persons seeking this type of recreation would continue to have these opportunities, but conflicts with other users would persist, especially over such issues as noise and resource impacts.

Public education programs and exhibits would continue to be provided on- and off-site on a variety of resource-related subjects. General, informal outreach to the communities by National Area personnel would continue to assist in maintaining a dialogue concerning issues of mutual interest. However, in the absence of additional interpretive or outreach efforts, many segments of the public would be unaware of the nature and importance of Area resources, the public’s role in protecting these resources, and the reasons for certain management actions.

Visitors would continue to have access to concessioner services, especially at the Charit Creek Lodge and the Station Camp and Bandy Creek horse camps. However, the experiences concessioners could offer would be limited due to a lack of connections between existing horse trails
and gaps in the projected route of the John Muir Trail.

Uncrowded areas and solitude would remain widely available, but would diminish slightly over time as visitation levels increased. In addition, the difficulty of maintaining over 600 miles of roads and trails would continue, thereby contributing to a decline in visitor experience quality. Existing use-sharing of trails would continue, generating conflicts among user groups and resulting in further adverse impacts on the visitor experience.

Overall, the impact of this alternative on visitor use and experience would be minor, long-term, and adverse.

**Cumulative Impacts.** Development projects in the vicinity of the National Area could bring additional visitors to the general area. This could increase visitation to the National Area, especially during peak travel seasons. Cumulative impacts would be minor to moderate for visitors seeking an uncrowded, unconfined outdoor experience.

When the cumulative impacts of actions by others are combined with impacts associated with this alternative, there would be minor long-term cumulative adverse impacts on visitor use and experience.

**Conclusion.** The general character of the National Area would not change under the No-action Alternative. The No-action Alternative would continue to provide visitors an opportunity for solitary experiences, and for more social forms of recreation and experience as well. The existing levels of visitor facilities would be continued with no plans for expanded educational or research programs. As visitation levels increase, the quality and diversity of visitor experience would likely decrease over time. Conflicts among user groups would continue and could grow worse over time. Depending on location in the National Area and visitor preferences, this alternative would have minor to moderate, long-term and adverse effects on visitor use and experience.

**SOCIOECONOMIC ENVIRONMENT**

**Operation of the National Area**

**Analysis.** Under the No-action Alternative, the National Area would continue to be managed according to current policies. The No-action Alternative would not result in the development of major new facilities at the National Area or an increase in employment. Therefore, there would be no direct incremental increase in impact on the local and regional economy from operation of the National Area, over and above what currently exists. However, nearby communities would continue to experience direct benefits of expenditures by NPS for supplies and by individual NPS employee purchases. National Area employee salaries currently total approximately $2.9 million, which directly benefits the local economy. Impacts would thus be moderate, long-term, and beneficial.

**Cumulative Impacts.** The lands around the National Area, particularly those areas near Oneida and Jamestown, Tennessee and Whitley City, Kentucky, would be affected by continued regional growth. Development activities outside the boundary could result in more concentrated residential and commercial development near the National Area, and also stimulate growth in tourism. The effects of growth in the regional context could have both beneficial impacts, such as increased income and employment, and adverse impacts, such as increased cost of housing and greater levels of pollution and congestion. Overall, development in the region would be likely to have moderate to major adverse and beneficial socioeconomic effects on the regional economy.

The No-action Alternative would not result in significant increases in employment or expenditures in a regional context. Existing
economic impacts arising from operation of the National Area would continue, with slight increases possible. In a regional context, the impact of this alternative would be minor to moderate, long-term, and beneficial. Therefore, this alternative would make a minor to moderate contribution to cumulative impacts.

**Conclusion.** Under this alternative, socioeconomic impacts to the local area would reflect existing conditions and hence would be moderate, long-term, and beneficial. Although there would probably be moderate to major adverse and beneficial cumulative impacts on the economy from regional growth, the impact of essentially unchanged National Area operations on the regional economy would be minor to moderate under the No-action Alternative.

**Tourism and Recreation.**

**Analysis.** Under the No-action Alternative, people would continue to visit the region in increasing numbers, and indirect benefits would continue to occur from visitors’ spending for goods and services. Gateway communities would continue to experience positive cyclical increases in business related to tourism. The local tourism industry would depend in part on, and benefit from, visitors attracted to the National Area, and the National Area would continue to be an important attraction in the area. Regional governments, businesses, and organizations would continue to promote the National Area as a destination for outdoor-related recreation. However, the overall impact of the National Area on gateway communities or the regional area would not change importantly under this alternative, with modest increases in visitation likely resulting in modest increases in visitor expenditures in the gateway communities. Therefore, the No-action Alternative would likely continue to have a moderate beneficial impact on the local and regional tourism economy.

Disagreement exists as to the amount, or level, of benefits the region should be experiencing from tourism at this point in time. The numbers of visitors to the National Area predicted by a 1974 study have not materialized nor have the predicted benefits. Some believe this is because facility development in the National Area is not complete, and others believe this is because the communities have not responded to the opportunity by providing more services. In fact, a number of assumptions from the early study were not reflected by the National Area as authorized by Congress. Consequently, the National Area as authorized was significantly different from the 1974 study proposal. Regardless, the area remains largely unknown to many potential visitors, although this is changing, and will continue to change under the No-action Alternative.

Currently, the numbers of visitors coming to the National Area are coming with the expectations of certain conditions, facilities, and experiences. It is unknown how long these can continue to be offered at an acceptable level of quality. Thus, while this alternative assumes a slight increase in visitation in line with current trends, it is possible that present visitor numbers could decrease as National Area personnel find it increasingly difficult to provide visitor satisfaction. Should quality decline, visitation may also decline along with associated benefits to the economy.

**Cumulative Impacts.** The No-action Alternative would have a moderate effect on tourism to the region as a whole. Therefore, in a regional context this alternative would make a moderate, beneficial contribution to cumulative impacts.

**Conclusion.** The No-action Alternative would have a moderate, beneficial, and long-term effect on the National Area’s contribution to local tourism and recreation. In addition, it would continue to provide important economic benefits to the regional economy in the form of tourism.
expenditures. Therefore, it would have a moderate, beneficial, and long-term impact on the regional tourism economy.

Concessions

Analysis. The No-action Alternative would not result in important changes in management policies, plans, or actions. Concession contractors and other business permit holders would continue to experience increases, albeit small and seasonal, in business activity associated with normal tourism-related growth, resulting in a minor beneficial effect.

Cumulative Impacts. Recreation-related development in the vicinity of the National Area, such as the Daniel Boone National Forest could generate additional business for concessioners. This, in conjunction with the normal tourism-related growth at the National Area would have a minor beneficial cumulative impact.

Conclusion. The socioeconomic impacts on concessioners and other commercial businesses operating within and adjacent to the National Area would be positive but minor under the No-action Alternative. In light of the positive effect on overall recreational activity of other developments in the vicinity of the National Area, the cumulative effects would be minor and beneficial.

OPERATIONAL EFFICIENCY

Analysis. Under the No-action Alternative, the National Area would continue to be managed according to current policies. Only limited new buildings (such as a fire cache and an artifact/collections storage facility) or utility upgrades would be built. Continued use of existing administrative facilities would continue to have a minor to moderate adverse impact on operational efficiency. In particular, continued use of the Area's substandard collections-storage facility would limit the public's access to significant artifacts and would cause continued degradation of important resources. In addition, managing the National Area with existing levels of NPS staff could result in adverse impacts. Although current staff levels have achieved a certain level of efficiency, limitations exist that inhibit the National Area's ability to provide desired levels of resource protection and preservation, maintenance of existing facilities, and visitor services. Under the No-action Alternative, maintenance needs for deteriorating and improperly designed roads and trails would increase. Use of most roads and trails would continue to be unmanaged, making protection of resources difficult for National Area staff. Impacts resulting from intentional and unintentional damage to archeological resources would be likely to increase. Taken together, these conditions would have a minor to moderate, adverse impact on operational efficiency.

Cumulative Impacts. Growth and development in the vicinity of the National Area and in the region as a whole would have a minor to moderate, long-term and adverse impact on operational efficiency. The most important impact would be increased visitation to the National Area and adjacent public lands, which would further stretch the ability of NPS staff to protect, preserve, and interpret National Area resources, and place greater demands on existing facilities.

Conclusion. The No-action Alternative would result in no substantial change in operations of the National Area. Impacts to operational efficiency resulting from the retention of existing administrative buildings, work space, and visitor contact facilities would be negligible. However, at current staffing levels, operational efficiency in protecting visitors and park resources would be increasingly diminished. Thus, the No-action Alternative would result in impacts that are minor to moderate, long-term and adverse.
CONSISTENCY WITH THE PLANS OF OTHERS

Under the No-action Alternative, National Area management would continue as before and there would be no new impacts on the plans of surrounding communities or other Area neighbors. Community goals in the surrounding counties were identified during the preparation of comprehensive plans prepared in the 1980s. Generally, they include providing for beneficial interrelationships between work, living, and recreational areas, protecting natural resources for the use and enjoyment of present and future citizens and visitors, developing the area without spoiling the environment, and providing citizens with a high-quality environment for living, work, and leisure time activities. While some of those who have provided comments earlier disagree with various specific National Area management actions, the overall preservation and use of the National Area generally contribute to these goals, and this would not change under the No-action Alternative. Cooperation with adjacent publicly owned areas will continue to contribute to satisfactory relationships. Lack of resources and staff will continue to prevent greater cooperation with the town of Rugby, despite a desire for greater cooperation by both groups.

State recreation planning indicates the National Area contributes importantly to the supply of public recreation opportunities and to other, related goals. Among these are resource preservation and interpretation, provision of appropriate facilities, and long-term benefits to the economy. All of these are indicated by the National Area’s purposes as laid out by its legislation, and all would continue under the No-action Alternative.

National Area management would continue to coordinate with businesses providing visitor services and cooperate to achieve the objectives of all parties. In addition, various private land use and business ventures would continue to appear near and adjacent to the National Area whose objectives do not fully consider the Area’s management requirements.

IMPACTS ON ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

Private vehicles would continue to be the primary means of transportation to and through the National Area. There may be a gradual reduction in visitor, commuter employee, and concessioner gasoline consumption because of vehicles achieving better fuel economy as newer models replace older models over time, but this would be due to actions by entities other than NPS.

UNAVOIDABLE ADVERSE EFFECTS

Unavoidable adverse impacts are defined as impacts that cannot be fully mitigated or avoided. This alternative would result in minor to major adverse impacts on natural and cultural resources in some areas of the National Area due to human use. Staff and funding limitations would constrain the ability of the National Park Service to fully mitigate these impacts. Minor to major adverse impacts would result from exposure of visitors and employees to natural hazards associated with the gorge terrain, the cliff edges, and whitewater streams. Additional hazards having minor to major impacts on visitors and employees include contaminated mine drainage and oil and gas operations.

IRRETRIEVABLE OR IRREVERSIBLE COMMITMENTS OF RESOURCES

Under the No-action Alternative there could be permanent effects on National Area resources, particularly special status species and cultural resources. The result could be impairment of some National Area resources. There would be no irreversible commitments of resources.
RELATIONSHIP BETWEEN SHORT TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Under the No-action Alternative, the vast majority of the National Area would remain protected in its natural state and would maintain its long-term productivity, i.e., the ability to achieve its mission. No additional levels of action would be taken to manage visitor use. With increasing visitor use expected, there would be minor impacts on most natural resources in the National Area, with moderate impacts on soils and vegetation in some high use areas. Adverse impacts on the National Area’s natural and cultural resources, if not mitigated, could reduce the ability of these resources to contribute to the Area’s legislative mission in localized areas over time.

PREFERRED ALTERNATIVE
(Alternative D)

MANAGEMENT ZONES: General Impacts

Unlike the No-action Alternative, the Preferred Alternative divides the National Area into different management zones, with each zone having specified management prescriptions for the resources located within the zone. The seven management zones are: Natural Environment Recreation Zone, Sensitive Resource Protection Zone, First Order Development and Visitor Use Zone, Second Order Development and Visitor Use Zone, Access Zone, First Order Transportation Zone, and Second Order Transportation Zone. The application of these management zones to the National Area would provide area-specific management direction including an indication of the kinds and levels of allowable actions. For example, the Sensitive Resource Protection Zone provides specific direction with respect to cliff edges; cliff faces; rock shelters; arches and chimneys; cultural spaces; wetlands; rare, threatened or endangered species; rivers and streams; and special scenery.

Upon implementation of the zones, management would become more specifically focused on achieving and maintaining the desired conditions for each zone. Management of the zones would necessarily entail monitoring resource conditions and responding to changes as appropriate. Such an increased level of management would be viewed favorably by some and unfavorably by others. Overall, the specific management prescriptions associated with the various zones would have impacts to National Area resources and values that are long-term and beneficial.

Management prescriptions have been developed to provide specifically for various resources and uses. In general, users would see an increase in user-type designations on roads and trails. The intended result is higher overall levels of visitor satisfaction and resource protection. The increase in designations indicates a greater control over use, which could result in certain use types being redirected, concentrated, or reduced in certain areas. These changes would likely be viewed as undesirable by the affected previous users whose use patterns were changed. Such changes could result in reactions ranging from minor to major inconvenience. Other users would perceive long-term, beneficial impacts as a result of reduced conflict among user groups and improved resource conditions.

NATURAL RESOURCES

Geology, Physiography, and Soils

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS
actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

**Analysis.** Under the Preferred Alternative, visitor facilities would continue to consist primarily of a basic system of roads, trails, and access points. However, in contrast to the No-action Alternative, the Preferred Alternative includes a number of measures specifically designed to protect and conserve the National Area's geologic, physiographic, and soil resources. These measures include:

- improvement of various developed facility sites
- improvement of selected roads and trails
- designation of an official system of roads and trails, with specific types of use (e.g., hiking, horseback riding) assigned to particular roads and trails
- establishment of design and maintenance standards for individual roads/trails, varying by designated use
- identification and implementation of methods for trail/stream crossings that minimize soil erosion and sedimentation
- development of a protocol for assessing required maintenance for roads and trails
- development of a climbing management plan
- reclamation of disturbed lands in oil and gas extraction areas
- treatment of contaminated mine drainage and site restoration

Together, these measures would have a moderate to major, long-term, beneficial impact on soils and geologic resources.

Under the Preferred Alternative, additional funding and staffing would be available to address threats to soil resources. These threats stem in large part from poorly designed and sited trails, many of which are located on old, incised logging and mining roads. Moderate to major adverse impacts to soils in the form of extensive soil erosion and exposed bedrock have occurred in the past on heavily used horse trails, especially in steep areas between the plateau and gorge bottom. Under this alternative, impacts would be diminished by improved maintenance, and, where appropriate, major rehabilitation. To further reduce impacts, new trails would be constructed in accordance with new trail standards. These standards establish maximum trail widths, set target grades, and include preferred construction designs.

Moderate adverse impacts have also occurred at creek crossings and horse fords along the river, where large amounts of soil have been disturbed and released into the water column as sediment. Under the Preferred Alternative, studies would seek to identify methods for minimizing the impacts on soil resources at stream crossings.

Direct impacts from installation of visitor facilities would include surface compaction of soils. Site preparation could result in either removal or addition of earth, destroying soil structure. There would be an increase in sheet erosion and reduced water infiltration. These impacts would occur from facility development or rehabilitation and would be considered long term. Following development, use of the facilities would likely expand the area of soil compaction and root exposure generally around the facility and along nearby trails. These indirect impacts would also be considered long term, although unacceptable levels of impacts would be identified and corrected through visitor education, site hardening, and/or use management. Rehabilitation of impacted areas would occur where possible. Impacts associated with the building and rehabilitation of facilities would be negligible to moderate, long-term and adverse for soil resources.

NPS policy prohibits the surface mining of soil, gravel, or rock materials for any park operations purposes, including the building
of roads or facilities. Most modifications to access roads, trails, and developed sites would be limited to existing disturbed areas and would not likely involve blasting or other modification of bedrock geology. The potential impacts to geologic resources from road or facility development or NPS operations would thus be negligible. In contrast, visitor activities have the potential to adversely impact sensitive geologic resources such as rock shelters, arches and chimneys. Under the Preferred Alternative, these features would be placed in the Sensitive Resource Protection Zone and managed in accordance with prescriptions established for sensitive geologic resources. Adverse impacts may continue to occur, but would be less than under the No-action Alternative. The impacts on these geologic features would be negligible to minor, long-term and adverse.

The Preferred Alternative would likely result in increased visitation to the National Area as a result of improved facilities and increased opportunities for certain types of outdoor experiences. In particular, visitor activities such as camping, hiking, biking, climbing, and horseback riding would likely increase over levels anticipated by the No-action Alternative and would continue to have localized effects on soils. However, the use designations for particular roads and trails would decrease erosion by limiting activities to those uses the particular road/trail was designed to handle. For example, under this alternative, ATVs would only be allowed on multiple-use trails during big-game hunting season. In addition, an experimental trail for ATVs only could be sited in one of two ATV planning areas. (Additional routes could be designated later if monitoring were to indicate that such expanded use was consistent with protection of Area resources and values.)

Notwithstanding the use designations, visitors would continue to overuse some facilities such as certain trails and also use inappropriately, and in some cases illegally, certain sensitive, readily accessible resources such as rock shelters and arches. In previously undisturbed areas, human trampling would result in vegetation loss followed by soil compaction and erosion. Social trails on sloping hillsides would act as channels for surface water runoff, resulting in soil erosion. These negative impacts would be mitigated under the Preferred Alternative by focusing additional resources on monitoring and rehabilitation of disturbed areas, and, in some cases, relocation. The increased visitor use associated with this alternative would result in negligible to minor, long-term and adverse impacts on soils and geologic resources throughout much of the National Area.

In some high-use areas, such as Bandy Creek, there would be minor to moderate adverse impacts, as repeated trampling resulted in high plant mortality and increased erosion potential. Under the Preferred Alternative, NPS staff would devote additional resources to problem sites to prevent and reduce impacts and to restore damaged areas. However, these efforts would not prevent or reduce all impacts under the increased visitation levels anticipated under this alternative. Thus, minor to moderate long-term adverse impacts would likely occur in high-use areas.

In other, more remote locations in the National Area, there would be negligible to minor adverse impacts on soils under the Preferred Alternative, as relatively few plants, in localized areas, would be affected by trampling and other disturbance. The potential for soil erosion in these areas would not increase appreciably, even with increased visitation.

Increased parking by visitors in non-designated vegetated areas would cause loss of vegetation, which would contribute to soil erosion. Because these effects would be localized, the impacts would be negligible to minor.
Cumulative Impacts. Actions outside the park have resulted in, and would be likely to continue to result in, minor to major long-term adverse effects on soils in the vicinity of the National Area, such as the New River area and the Bear Creek watershed. In particular, logging, mining, oil and gas extraction, and commercial and housing developments on lands outside the National Area boundary have had (and would continue to have) erosive effects on soils along the boundary.

In the long term, local planning efforts to manage and control growth, if implemented, could have a minor beneficial impact by providing additional protection to undisturbed soils. However, these efforts would not diminish the effects of development in the near term on localized areas.

Watershed restoration projects on national forest lands, including the decommissioning and revegetation of some roads, would reduce the potential for soil erosion. Because these actions would affect small, localized areas, their long-term beneficial effects would be minor.

Past projects undertaken within the National Area that would affect soils include improperly located and/or unmaintained roads and trails that continue to erode. Rehabilitation and maintenance of these facilities under this alternative would result in reduction in erosion overall, although the actual work would cause minor short-term adverse impacts on soils. Impacts would be limited due to their limited scope, the use of best management practices to control soil loss during build-out, and prompt revegetation after project completion. Over the long term, however, maintenance generally would result in minor to moderate beneficial impacts.

When the effects of actions by others and other actions in the National Area are combined with impacts associated with this alternative, the cumulative impacts of these actions would likely be minor to major, long-term and adverse with respect to soils in the region, primarily because of the effects of acid mine drainage, oil and gas extraction, logging, and land development outside of the National Area.

The Preferred Alternative would make a minor contribution to these cumulative impacts. This minimal contribution results from the relatively small areas of disturbed soils in the National Area, as well as NPS’ commitment to ensuring the protection of soils and geologic resources as an integral component of the National Area.

Conclusion. Increased visitor activities under the Preferred Alternative would result in localized, minor, long-term, and adverse impacts on soils and geologic resources, with moderate impacts in some high use areas. Impacts would include increased soil compaction and erosion. These impacts would be minimized or prevented by the management prescriptions contained in the Preferred Alternative. In the region as a whole, there would likely be minor to major long-term cumulative adverse impacts on soils and geologic resources, primarily due to logging, mining, oil and gas extraction, and land development. This alternative’s contribution to these cumulative impacts would be minor.

This alternative would not result in major, adverse impacts to any geologic, physiographic, or soil resource or value, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the geologic, physiographic, and soil resources of the National Area.
Water Quality

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

Analysis. Under the Preferred Alternative, National Area personnel would continue or commence the following initiatives to protect and improve water quality:

- develop a watershed protection strategy through data collection, management improvements, and increased cooperation with others
- reclaim resources contaminated by mine drainage
- coordinate with surrounding communities concerning water needs
- improve the minerals management program by completing plans of operation for oil and gas sites, plugging abandoned wells, and reclaiming disturbed lands
- where necessary, rehabilitate roads, trails and developed sites so as to prevent runoff of sediment and contaminants into adjacent receiving streams

Together, these measures would have a moderate to major, long-term, beneficial impact on water quality. Nevertheless, minor to moderate, long-term and adverse impacts on water quality would continue, given that land uses in the watershed outside the National Area boundary would continue to contribute sediment, pollutants, and nutrients to tributary streams.

The treatment and reclamation of contaminated mine drainage sites would occur at various locations in the gorge. This work would involve multiple sites, would require heavy machinery, would result in permanent landscape change, and would need to be maintained in perpetuity. Work on this scale appears necessary to minimize or eliminate this long-standing water quality issue. The impacts on water quality are expected to be major, long-term and beneficial.

A number of roads and trails in the National Area do not presently meet accepted standards for facility design and location, especially those located in steep areas between the plateau and gorge bottom. These roads and trails are susceptible to greater rates of erosion than is typical for properly designed facilities of this type. The result is a reduction in water quality in Area streams due to excessive sedimentation. Under the Preferred Alternative, substandard roads and trails would be rehabilitated over time, resulting in a net decrease in sedimentation of the Big South Fork and its tributaries. New trails would be constructed in accordance with accepted trails standards, as set forth in the plan.

As a result of the improved access and rehabilitated roads and trails contemplated by the Preferred Alternative, visitor uses such as camping, hiking, climbing, biking, and horseback riding would likely increase more than they otherwise would under the No-action Alternative. These levels of visitor use would continue to have localized, indirect effects on water quality due to increased soil compaction, vegetation trampling, and consequent loss of vegetation in some areas. These effects would lead to greater erosion and the addition of sediment to adjacent waters. The nature and extent of soil compaction and vegetation damage, and consequent loss of vegetation in some areas. These effects would depend on the types of local soils, vegetation and topography, as well as the areal extent, duration, and intensity of use. However, sedimentation effects generally would be slight in comparison to the sedimentation occurring as a result of runoff from disturbed areas outside the National Area. Therefore, under this alternative sedimentation-related impacts on water resources from visitor use would be negligible to minor.
A number of development sites are adjacent to the Big South Fork River or other streams because they provide visitor access to and use of the waters within the National Area. Roads and trails that cross streams would contribute to stream turbidity during development periods and during certain maintenance activities. Standard mitigating measures such as silt screens, check dams, retention ponds, and other barriers would be used to minimize erosion and prevent short-term deterioration of water quality during any ground disturbance. All disturbed areas would be revegetated to prevent long-term impacts from any runoff. Monitoring of water quality would be an important management activity. Development-related impacts on water quality are thus anticipated to be negligible to minor, short-term and adverse.

The anticipated increase in use of unpaved roads by visitors under the Preferred Alternative could make these facilities more susceptible to surface erosion and runoff. Vehicle use along roads and in parking lots would continue to deposit petroleum products that could be washed into adjacent waters. Impacts would generally be minor due to mitigation techniques such as placement of sediment traps and and/or biofiltration (vegetation filtration) along roadsides.

At present, oil and gas development regulation is substandard. Within the National Area, many wells are not in compliance with state and federal standards. Impacts to water quality appear to be minor for now, but increases in drilling activity (as is presently happening at nearby Obed Wild and Scenic River) could result in moderate to major adverse impacts if these operations are not better managed. The potential for adverse impacts is magnified by the fact that many wells are located near the edge of the gorge. Poor compliance could result in impacts to water quality that are long-term, moderate to major, and adverse. Under the Preferred Alternative, National Area staff would implement a minerals management plan. The plan would include provisions for keeping current with oil and gas operational planning pursuant to 36 CFR 9B, reviewing site plans and permits for oil and gas sites, coordinating with various agencies, and investigating spills and other detrimental disturbances. In principle, impacts to oil and gas producers should be negligible since the plan would merely embody the requirements of existing law. However, those producers not currently in compliance could incur some expense in upgrading their operations. Impacts to water quality from improved enforcement would be moderate to major, long-term and beneficial.

Improper disposal of untreated human waste in areas without toilet facilities currently causes minor water quality problems. Under the Preferred Alternative, this problem would increase proportionately with increased human use of the area.

**Cumulative Impacts.** Actions outside the National Area would continue to result in moderate to major adverse effects on water quality due to increased loading of sediment, nutrients, chemical pollutants, and pathogens.

- Continued acid mine drainage would continue to have minor to moderate long-term adverse effects on water quality.
- Logging and timber harvesting would continue to have minor to moderate short-term adverse effects on water quality. These would result from sediment entering rivers and streams that originate outside the National Area.
- Runoff from existing and new developments in the area, including oil and gas extraction sites, would have minor to moderate long-term adverse effects on water quality in rivers and streams originating outside the National Area.

In the long term, local planning efforts to manage and control growth, if implemented,
could have a minor beneficial impact by providing additional protection for water quality and water resources. However, these efforts would not diminish the effects of development in the near term. Increased emphasis on enforcing existing water pollution laws could provide a substantial improvement to future water quality by, among other things, controlling siltation.

Watershed restoration projects on national forest lands, including the decommissioning and revegetation of some roads, would reduce the entry of sediments into local waters. This would affect small, localized areas and would have, overall, a moderate beneficial effect.

Past projects undertaken within the National Area that would affect water quality include improperly located and/or unmaintained roads and trails that continue to erode. Rehabilitation and maintenance of these facilities under this alternative would result in reduction in erosion overall, although the actual work would cause minor short-term adverse impacts on water quality resulting from small increases in sediment and other pollutants. Impacts would be limited due to their limited scope, the use of best management practices to control soil loss during development, and prompt revegetation after project completion. In addition, development of new erosion control techniques and rigorous implementation would help ensure that the short-term impacts were minor. Over the long term, maintenance generally would result in minor to moderate beneficial impacts on water quality.

When the effects of actions by others and other actions in the National Area are combined with impacts associated with the Preferred Alternative, the cumulative impacts would be moderate to major, long-term, and adverse in the region, primarily because of the effects of acid mine drainage, oil and gas extraction, logging, and land development outside of the National Area.

The Preferred Alternative would make a minor positive contribution to these cumulative impacts. This contribution results from the mandate of the National Park Service to protect resources within the National Area, as well as NPS' commitment to mitigate even minor water quality impacts through such measures as trail maintenance and rehabilitation.

**Conclusion.** Expected levels of visitor use under the Preferred Alternative would have a minor adverse impact on water quality by increasing levels of sediments, vehicle-related pollutants, and nutrients in rivers and streams. Most of these effects would be localized. Oil and gas development within the boundary of the National Area would increase the amount of disturbed area, possibly contributing increased sediment and polluted runoff to adjacent receiving streams. Because the Preferred Alternative prescribes enhanced management control for these operations, the impact of these operations on water quality would be localized, minor, short-term, and adverse. Overall, impacts on water quality would be minimized by the rehabilitation activities, use designations, and management zones and prescriptions contained in the Preferred Alternative. In some instances, water quality would be enhanced by these measures and the watershed protection strategies called for in this alternative. Although this alternative calls for the potential development of a number of new trails, appropriate development techniques and erosion control methods should result in minor impacts to water quality. The impacts of the Preferred Alternative on water quality would thus be minor to moderate, long-term, and beneficial as compared to the No-action Alternative. There would be major to moderate, long-term and adverse cumulative impacts in the region, primarily because of pollutant loads in runoff associated with logging and land development outside the National Area. The contribution of the Preferred Alternative to these adverse cumulative impacts would be negligible to minor.
Existing conditions are causing major adverse impacts to water quality in certain portions of the National Area. The Preferred Alternative would ameliorate some of these conditions. As a result, this alternative would not result in major, long-term, adverse impacts to any water resource or value, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in additional impairment to the water resources of the National Area.

**Floodplains**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

**Analysis.** Impacts from the Preferred Alternative would be associated with the development, rehabilitation and enhanced maintenance of access roads, trails, parking areas, and stream crossings present in the floodplain, all of which have negligible impacts on floodplain resources and functions and hence are exempt from NPS policies on floodplain management (Director's Order 77-2; NPS Floodplain Procedures Manual 77-2).

Streamside facility development would occur to a small extent within the 100-year floodplain; however, NPS has determined that water access facilities are acceptable uses of floodplains. These types of facilities must be in proximity to the water to provide needed visitor access and use. Facility design would consider the likelihood of flooding and would include appropriate visitor warnings.

**Cumulative Impacts.** Projects outside the National Area affect floodplains of the Big South Fork and its tributaries. Ongoing commercial logging, mining and oil and gas extraction activities and associated road developments have had moderate impacts on floodplains and river processes in the area. Permanent roads developed for access to logging, mining, and oil and gas extraction areas cross floodplains and have created permanent alterations that will continue to have adverse impacts on floodplain values. The Preferred Alternative would not contribute to these cumulative impacts.

**Conclusion.** This alternative would result in negligible long-term adverse impacts on floodplain values throughout the National Area. Cumulative impacts would include moderate adverse long-term effects on floodplains because of actions outside the National Area. This alternative's contribution to these impacts would be negligible.

This alternative would not result in major, adverse impacts to any floodplain resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the floodplain resources of the National Area.

**Wetlands**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.
Analysis. Streamside facility development would occur to a small extent within the 100-year floodplain. These types of facilities must be in proximity to the water to provide needed visitor access and use. When a specific development is determined, whether at a streamside location or elsewhere, a wetland impact determination would be made and an appropriate site selected. If appropriate, detailed analysis of potential impacts on wetlands would be provided in the environmental documentation prepared for each development project.

Trail development and use can and does parallel and cross streams and associated wetlands. Development and maintenance in wetlands is difficult and expensive. In this alternative, new trails in wetlands would be avoided where there are practical alternatives. If there are none, special building techniques would be used. Where existing trails in wetland areas need to be improved, or brought to standard, appropriate design would be used to minimize impacts.

Cumulative Impacts. Wetlands on both public and private lands in the vicinity of the National Area have been modified by logging, mining, and other development. Although the Clean Water Act requires that long-term impacts on wetlands be mitigated through wetland restoration or the creation of replacement wetlands, there has been a moderate, long-term, adverse cumulative impact on wetlands in the region. The Preferred Alternative would not contribute to this cumulative impact.

Conclusion. This alternative would cause negligible impacts on wetlands. Although there would be a moderate, long-term, adverse cumulative impact on wetlands in the region, the contribution of this alternative to this impact would be negligible.

This alternative would not result in major, adverse impacts to any wetland resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the wetland resources of the National Area.

Air Quality

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

Analysis. Under the Preferred Alternative, visitor use is expected to increase at a somewhat greater rate than under the No-action Alternative. As a result, the number of vehicle miles traveled in the National Area and surrounding areas should be greater under this alternative than under the No-action Alternative. The resulting increase in vehicular emissions, coupled with a slight increase in the number of campfires, would likely result in increased emissions of particulates, carbon monoxide, and volatile organic compounds. During any building activities, there would be a temporary increase in particulates (fugitive dust) and vehicle emissions where motorized equipment is used. Standard mitigation includes watering the disturbed areas. This would be a temporary condition and would not violate air quality standards.

Cumulative Impacts.

In the long term, local planning efforts to manage and control growth, if implemented, could have a minor beneficial impact by providing additional protection for air quality. However, these efforts would not diminish the effects of development in the near term.
Past projects undertaken within the park that would affect air resources include the use and maintenance of dirt roads. These actions would continue to have negligible to minor, short-term and adverse impacts on air quality resulting from small increases in dust and other pollutants. Designation of an official road system and rehabilitation of certain roads would help minimize impacts.

When the effects of actions by others and other actions in the National Area are combined with impacts associated with this alternative, the cumulative effect of these actions would be a minor, long-term, and adverse impact on air quality, and a minor, long-term, and adverse impact on visibility in the region. These impacts would be primarily due to increased vehicular emissions and the effects of ongoing land development outside of the National Area. The Preferred Alternative would make a minor contribution to these cumulative impacts.

Conclusion. The Preferred Alternative would result in a negligible to minor impact on local air quality, due to slight increases in pollutants from vehicle exhaust and campfires. Cumulative impacts would include minor, adverse impacts on regional air quality, as well as minor, adverse impacts on regional visibility. This alternative’s contribution to these regional impacts would be negligible to minor.

This alternative would not result in major, adverse impacts to any air resource or value, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the air resources and values of the National Area.

Vegetation

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

Analysis. Under the Preferred Alternative, a number of steps would be taken to enhance protection of vegetation at the National Area. These steps include:

- develop an inventory and monitoring program to identify plant species in the National Area
- monitor the health of specific plant populations as well as the various types of plant communities, with special emphasis on rare, threatened, and endangered plant species
- develop a field management program and plan to protect native biodiversity characteristic of this ecosystem
- rehabilitate roads, trails, and developed sites in order to diminish soil compaction and erosion and allow revegetation of disturbed areas
- limit the number of shared-use trails to insure that trails receive the type of usage they are designed to accommodate
- evaluate existing trails impacting rare, threatened or endangered plant species or unique habitats, and develop strategies to protect plant resources
- develop a climbing management plan
- complete oil and gas operations plans
- complete fire management plan

The impacts of these initiatives on vegetation in the National Area would be minor to moderate, long-term, and beneficial.

Unlike the other alternatives, the Preferred Alternative identifies specific boundaries for all development and visitor use zones. Specifying limits to future development would clarify the development-forest
interface and enhance the protection of vegetation. Thus, while development of the facilities contemplated by this alternative would result in the destruction of some vegetation, the implementation of zone boundaries would minimize that destruction, resulting in minor, long-term and beneficial impacts to the National Area as a whole. Similarly, completion of fire management planning would permit actions that promote the health and viability of the forest ecosystem. Achievement of desired resource conditions would be accelerated, resulting in moderate to major, long-term and beneficial impacts.

Oil and gas development would continue on the plateau as provided in the National Area’s enabling legislation. Associated activities include access road development, drilling, and interim petroleum storage. These activities can cause habitat fragmentation and possible introduction zones for non-native plant species. The required oil and gas operation plans, plus an overall strategy for managing impacts to vegetation as provided for in this alternative, would minimize resource damage and produce impacts that are minor to moderate, long-term and beneficial.

Visitor activities such as camping, hiking, climbing, biking, and horseback riding would increase more under this alternative than the No-action Alternative. In most areas, the impacts from these activities on vegetation would continue to be localized and minor. In undisturbed areas, human trampling would bend or break aboveground plant parts. Trampled vegetation makes a site easily recognizable as an informal (social) trail or campsite, often contributing to an increase in human use. Repeated use of these newly disturbed areas, as well as previously disturbed areas, would result in vegetation loss. In some high-use areas, such as Twin Arches, there could be moderate adverse impacts as repeated trampling resulted in high plant mortality. Under the Preferred Alternative, NPS staff would focus additional resources on problem sites in order to prevent and reduce impacts and restore vegetation. The impacts associated with these efforts would be minor to moderate, long-term and beneficial.

The nature and extent of vegetation loss under the Preferred Alternative would depend upon the amount, timing, type, and location of use. In high-use areas, degradation could continue even after recreational use ceased because many plant species are unable to generate new growth following trampling, and vegetation loss occurs quickly. In other areas of the National Area, there would be negligible to minor adverse impacts to vegetation as relatively few plants, in localized areas, would be affected.

A number of special plant habitats occur in the National Area, including rock shelters, cliff areas, and gravel/cobble bars along the river. These habitats harbor rare and unusual plant communities that are particularly susceptible to human impacts. Existing uses are impacting a number of these communities, especially at Station Camp and Big Island. Various plant species are being affected, including plants listed as threatened or endangered by state and federal authorities. In extremely sensitive plant communities, relatively minor impacts could adversely affect rare, threatened, or endangered plants. Given the important local and regional role played by the National Area in conserving rare, threatened, and endangered plants, active management will be required to protect and enhance species abundance and composition. Under the Preferred Alternative, these impacts would be assessed and appropriate management strategies would be developed and implemented.

Increased visitor use might also help spread exotic (non-native) or noxious species – from seeds carried into the National Area on vehicles, horses, clothing, maintenance equipment, and other materials. Impacts
would range from minor to moderate, depending on the type of plant and where it was introduced. Moderate impacts would occur if a local population of a native species or plant community were sufficiently affected to cause a change in its abundance or distribution. The inventory and monitoring program prescribed under this alternative would allow NPS personnel to identify problem areas and develop response strategies.

Under the Preferred Alternative, the use of OHVs in the National Area would continue, but usage would be limited to specific roads and trails designated for their use. By directing OHVs toward designated roads and trails and away from sensitive environments, damage to vegetation would be reduced, resulting in impacts that are minor to moderate, long-term and beneficial to the National Area as a whole. To the extent that users of OHVs were to leave the designated trails and create new routes or social trails, impacts to vegetation would be minor to major, long-term and adverse.

Dust and pollutants from motor vehicles in the area would increase slightly and continue to affect vegetation adjacent to roadways by interfering with plant respiration and causing plant decline. Increased parking by visitors in vegetated areas would cause loss of vegetation, which might lead to invasion by noxious weed species. Because these effects would be localized, the impacts would be negligible to minor.

**Cumulative Impacts.** Actions outside the park have resulted in, and would be likely to continue to result in, minor to major long-term adverse effects on vegetation in the vicinity of the National Area. In particular, logging, mining, oil and gas extraction, and commercial and housing development on land adjacent to the National Area — and on private lands inside the authorized boundary — have had (and would continue to have) edge effects on Area vegetation. These effects include changes in species composition due to clearing, windthrow, changes in light regime, and infestations of non-native plants exotic pests.

In the long term, local planning efforts to manage and control growth, if implemented, could have a minor beneficial impact by providing additional protection for undisturbed vegetation. However, these efforts would not diminish the effects of development in the near term.

Watershed restoration projects on national forest lands, including the decommissioning and revegetation of some roads, would reduce the potential for invasion by exotic plants. Because these actions would affect small, localized areas, their long-term beneficial effects on the National Area would be minor.

Past projects undertaken within the National Area that would affect vegetation include the building and maintenance of roads, trails, and developed sites. Rehabilitation and maintenance of these facilities would continue to cause minor, short-term and adverse impacts on vegetation due to limited project scope, the use of best management practices to control vegetation disturbance during development, and prompt revegetation after project completion.

When the effects of actions by others and other actions in the National Area are combined with impacts associated with the Preferred Alternative, the cumulative impacts of all of these actions on vegetation in the region would likely be minor to major, long-term and adverse, primarily because of the effects of acid mine drainage, oil and gas extraction, logging, and land development outside of the National Area.

The Preferred Alternative would make a negligible to minor contribution to these cumulative impacts. This minimal contribution results from the relatively small areas of disturbed vegetation in the National Area, as well as NPS’ commitment to
ensuring the protection of vegetation as an integral component of the National Area.

**Conclusion.** Increased visitor activities associated with this alternative mostly would result in localized, minor, long-term and adverse impacts on vegetation, with moderate to major impacts in some high use areas such as Bandy Creek, Twin Arches, and Blue Heron. Impacts would include trampled vegetation, loss of plants, and the spread of exotic species. These impacts would be minimized and in some cases offset by the rehabilitation activities, ecosystem restoration, and use of the management zones and prescriptions called for under this alternative. The impacts associated with these efforts would be minor to moderate, long-term and beneficial. In the regional context, there would continue to be minor to major long-term cumulative adverse impacts on vegetation, primarily due to mining, logging, fire management, oil and gas extraction, and land development. The contribution of this alternative to these cumulative impacts would be minor.

This alternative would not result in major, adverse impacts to any vegetation resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the vegetation resources of the National Area.

**Terrestrial and Aquatic Animal Life**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

**Analysis.** Under the Preferred Alternative, the National Area would take the following steps to protect and enhance terrestrial and aquatic animal resources:

- develop an inventory and monitoring program to identify life forms in the National Area and monitor the health of individual wildlife populations over time
- enhance biodiversity by introducing locally extirpated species, including black bear and various mussel species
- identify and implement method(s) of stream crossings that protect aquatic life, particularly mussels
- reduce habitat fragmentation by establishing a designated system of roads and trails for rehabilitation and periodic maintenance, allowing unofficial roads and trails to revegetate over time
- work with state wildlife agencies to achieve sustainable populations of fish and wildlife and reduce or eradicate exotic (non-native) species, such as feral pigs

The impacts of these initiatives on terrestrial and aquatic animal life in the National Area would be minor to moderate, long-term, and beneficial. In some instances, these initiatives could have impacts considered to be adverse as well, such as increased regulatory requirements attending the reintroduction of threatened or endangered species. As appropriate, the National Area will undertake separate compliance activities for individual initiatives.

Visitor uses such as camping, hiking, biking, and horseback riding would likely increase at a greater rate under the Preferred Alternative than the No-action Alternative. Impacts from these activities could include increased noise, vehicular traffic and habitat disturbance. The impacts of these activities under the Preferred Alternative would be adverse and would range from negligible to minor. These impacts would be offset in some cases by other aspects of the Preferred Alternative, such as efforts to
identify and implement the environmentally selected method for stream crossings. Increased trail access may also promote more hunting and fishing in some areas, with corresponding impacts on wildlife and fish populations and behavior.

Most visitor use is concentrated in the center of the National Area. Increased human presence in these areas would result in some additional disturbance to wildlife. However, because these areas are already heavily used, it is doubtful that slight increases in human activity would noticeably increase impact to wildlife and wildlife habitat in these areas. Wildlife sensitive to human use already avoid these areas, and animals that do inhabit such locations would be accustomed to human use and would not be further impacted by additional human usage. To the extent that wildlife was disturbed, the disturbance would be temporary and would not affect local or regional populations. Therefore, the impacts, though adverse, would be negligible.

Increased use would result in a proportional increase in improper food storage by visitors. Food and garbage left out attracts wildlife, resulting in animals associating food with people and possibly causing human-wildlife conflicts. Some visitors would continue to feed wildlife, which would also condition wildlife to associate humans with food. Existing wildlife management practices, such as providing wildlife-resistant garbage cans and educating visitors, would continue to be implemented, resulting in negligible to minor beneficial impacts.

Slightly increased visitation levels may result in more hunting, fishing, and trapping pressure in the National Area. Each of these activities is governed by regulations issued by the states of Tennessee and Kentucky. Because the take-limits set by these regulations are based, in part, on anticipated use levels, only negligible to minor impacts on local and regional populations would likely occur.

Wildlife are occasionally injured or killed by motor vehicles on park roads, and this impact might increase under the proposed alternative as a result of additional motor vehicle travel. These adverse impacts would be minor because they would affect individuals, not entire populations.

Cumulative Impacts. Outside the National Area, the conversion of wildlife habitat to commercial and residential development would continue to result in adverse effects on wildlife. In addition, land development would fragment remaining habitat, making it less suitable to support species that are sensitive to the presence of humans. Increased habitat fragmentation and increasing numbers of people moving into established wildlife habitat would make wildlife management more difficult, with area landowners requiring more assistance from state and federal personnel to manage nuisance wildlife.

The effects of continued timber harvesting in areas with existing roads would be short-term, adverse, and minor to moderate. Animals would be displaced during harvesting operations, and land would have a diminished ability to support wildlife until vegetation was re-established. Thereafter, the creation of “edge” and early successional stages would improve the habitat for species that require this habitat, including such game species as deer, elk, grouse, and rabbits, while degrading the habitat of forest interior species such as certain types of neotropical migratory birds.

In the long term, local planning efforts to manage and control growth, if implemented, could have a minor beneficial impact by providing additional protection for wildlife habitat. However, these efforts would not diminish the effects of development in the near term. Development would continue to bring pets into direct contact with wildlife, with pets actively preying on various
species in certain circumstances. There would also be an increase in non-native wildlife species as landowners continued to modify habitats. Development would also impact wildlife by limiting the extent to which public and private landowners could engage in prescribed burning to improve wildlife habitat.

Other actions taken by the National Park Service in the National Area, such as replacing bridges or rehabilitating roads and trails, could result in some loss of individuals or habitat. Effects resulting from these activities would be minor, short-term, and adverse. Habitat restoration after completion would prevent long-term effects.

When the effects of actions by others and other actions in the National Area are combined with impacts associated with the Preferred Alternative, the cumulative impacts of all of these actions would likely be minor to major, long-term and adverse, primarily because of the effects of acid mine drainage, oil and gas development, logging, and land development outside of the National Area.

The Preferred Alternative would make a minor contribution to these cumulative impacts because the adverse impact within the National Area would be small and because of the large area of habitat loss or degradation that would occur outside of the National Area boundary.

**Conclusion.** Increased visitor activities associated with the Preferred Alternative would cause negligible to minor, long-term and adverse impacts on fish and wildlife. Impacts would be associated with increased visitor use displacing or disturbing wildlife, conditioning wildlife to associate humans with food, and injuring or killing wildlife in collisions with motor vehicles. Increased trail access may result in increased take of certain species by hunters, fishers, and trappers, and will likely result in additional poaching as well. Other aspects of the Preferred Alternative, including development of an inventory and monitoring plan, reintroducing locally-extirpated species, and reducing habitat fragmentation, would result in minor to moderate, long-term and beneficial impacts to terrestrial and aquatic animal life. Cumulative effects would include minor to major long-term adverse impacts, primarily due to habitat loss associated with logging and land development outside the boundary. The contribution of the Preferred Alternative to these cumulative impacts would be minor.

This alternative would not result in major, adverse impacts to any terrestrial or aquatic wildlife resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the terrestrial or aquatic wildlife resources of the National Area.

**Special Status Species**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

**Analysis.** Under the Preferred Alternative, the National Area would commission inventory studies of special status species. These studies would augment existing information regarding the identity and locations of special status species, allowing Area staff to develop protection strategies for stabilizing and enhancing threatened populations. Of special concern are unique vegetation communities (e.g., certain communities found at rock shelters and gravel bars), as well as plant species listed as threatened or endangered by state and
federal authorities. Also of particular concern are special status aquatic species, including the duskytail darter, other special status fish species, and five species of mussels on the federal endangered species list. Those elements of the Preferred Alternative addressed to improving water quality would have beneficial impacts on these species as well.

Until protective measures have been selected and implemented, the increased visitation anticipated under the Preferred Alternative would likely result in continued adverse impacts to special status species, particularly mussels and some plants. Increased use of horse crossings at Station Camp and Big Island would likely result in continued mortality of individual special status mussels and unique plants in these areas, thereby having an impact on federally listed species. In the short term, NPS would continue to cooperate with the U.S. Fish and Wildlife Service in addressing horse crossings to eliminate or further minimize this impact.

To address this problem, NPS staff would supplement inventory studies with studies specifically designed to identify the best ways to minimize or eliminate the adverse impacts of facility development/maintenance and visitor use on special status species. In particular, studies would be commissioned to identify the best method(s) for trail/stream crossings that protect threatened and endangered species. In some areas trails would need to be relocated. The Preferred Alternative also calls for extensive monitoring to insure that the protective measures selected by the National Area are, in fact, enhancing the long-term viability of special status species.

In addition to the comprehensive studies described above, site-specific surveys would be conducted before implementing specific actions to determine if special status species existed in the project area. If any were located, the National Park Service would consult with the U.S. Fish and Wildlife Service and the states of Tennessee and Kentucky to determine mitigation measures to avoid or minimize adverse impacts on these species.

As a result of these initiatives, the actions contemplated in this alternative would not adversely affect special status species in the National Area. Overall, impacts of this alternative on special status species would be long-term and beneficial.

**Cumulative Impacts.** Mining, timber cutting, and development activities on privately owned lands inside and outside the National Area are of particular concern because they would continue to result in the degradation of water quality, thereby affecting mussel populations.

Land development, mining, and timber harvesting would continue to adversely affect all of the special status species outside the National Area through such mechanisms as habitat loss, habitat degradation (for example, altered water temperature and flow) and increased sedimentation. In particular, these activities could result in major losses of unique plant communities and special status plant species on private lands. The National Area would thus continue to play a critical role in protecting the biodiversity of the Cumberland Plateau, an area having many special status species found nowhere else in the world. To the extent the National Park Service were successful under this alternative in protecting and enhancing unique communities and special status species, the cumulative adverse impacts on special status species region-wide would be reduced.

Other actions taken by the National Park Service in the National Area, such as replacing bridges or rehabilitating roads, trails, and developed sites could result in some loss of individuals changes in habitat. Because the National Park Service would conduct pre-project surveys and implement mitigation, these actions would not be likely...
to have long-term adverse effects on any special-status species.

When the effects of actions by others and other actions in the National Area are combined with impacts associated with the Preferred Alternative, the cumulative impacts of all of these actions would adversely affect special-status species, primarily because of the impacts of acid mine drainage, logging, oil and gas extraction, and land development outside of the National Area. The Preferred Alternative would make a negligible to minor contribution to these adverse cumulative impacts.

**Conclusion.** Continued human use, along with expected increases in visitor use of the National Area, would cause disturbance to individuals of special-status plant and animal species. In the short-term, impacts to mussels from horse crossings would continue to be addressed through the use of route-flagging. In the long-term, practical protective measures would be studied, implemented, and monitored in order to avoid adverse impacts to mussels and other special status species.

For activities in other locations, specific survey, avoidance, and mitigation actions taken by the National Park Service would ensure that the Preferred Alternative would minimize impacts on any federally or state listed species. The specialized zoning approach of the Preferred Alternative would provide greater awareness of special status species. In particular, the management prescriptions associated with the Sensitive Resource Protection Zone would focus increased management and planning efforts on special status species.

The effects of actions by others outside the National Area would be likely to adversely affect special status species. The Preferred Alternative, with its emphasis on research and monitoring, as well as habitat restoration and species re-introduction where feasible, would not contribute to this cumulative effect.

This alternative would not adversely affect any special status species found within the National Area. Therefore, the environmental impacts associated with this alternative would not result in impairment to special status species.

**CULTURAL RESOURCES**

**Archeological Resources**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

**Analysis.** Archeological resources would continue to be adversely impacted, but to a lesser extent than under the No-action Alternative. Impacts would result from illegal relic hunting, building and maintenance activities, and visitor use.

Under the Preferred Alternative, measures would be implemented to minimize looting, the single greatest threat to archeological resources. These measures could include increased backcountry patrols (as more staff is added), re-routing/building trails away from cliff lines, directing visitation toward certain high-risk areas (more eyes mean fewer opportunities to loot), and more effective interpretation of these important, but dwindling, resources.

Direct impacts from development would be partially offset by cultural resource studies of areas to be developed. Ground disturbance would have the potential to adversely impact archeological resources, although many development sites in the National Area have been previously disturbed. Prior testing to permit consideration of alternate development sites would be undertaken. If avoidance of
Impacts on important resources were not possible, mitigation measures would be developed in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation. Mitigation could include, but not be limited to, avoidance and protection, data recovery (evaluated as an adverse impact that would be undertaken as a last resort), and educational outreach programs such as informative onsite tours and presentations. If any unforeseen cultural resources were discovered, they would be documented and maintained according to NPS guidelines and standards. All actions that affect cultural resources would be in accordance with the Secretary of the Interior’s Standards for Archeology and Historic Preservation.

In the near term, completion of the archeological survey would be a high priority. In addition, the National Area would expand its cultural resource management program and new initiatives would be undertaken to better define and manage cultural landscapes containing archeological resources. Inventorying and classifying these sites and their features and determining their treatment would be an ongoing effort. As a result of these efforts, more archeological sites and isolated finds would be documented and protected. In addition, NPS would endeavor to enhance the management of National Area museum collections. Upgrading the Area’s substandard collections-storage facility would increase the public’s access to significant artifacts and would safeguard important resources in a manner consistent with accepted protection standards. Taken together, these actions would result in minor to moderate, long-term and beneficial impacts on known and newly-discovered archeological resources.

Disturbance can also result from unrestricted visitor access to areas of known sensitivity for archeological resources. Visitor access impacts can include disturbances caused by overflow parking along roadside and trailhead areas, the creation and use of social trails, and occasionally the use and maintenance of existing trails. Some known prehistoric archeological sites are located near areas of high public use and visibility, such as rock shelters and arches. Some of these have sustained impacts from both natural and human caused erosion, a consequence of pedestrian and equestrian traffic on both designated and social trails. Under the Preferred Alternative, all areas having known or suspected concentrations of archeological resources would be included in the Sensitive Resource Protection Zone. Appropriate management prescriptions would be implemented for protecting these resources from disturbance or destruction.

**Cumulative Impacts.** Cumulative impacts on archeological resources are considered on a region-wide basis because prehistoric and historic activity in the Big South Fork region was not limited to the lands within the National Area boundary.

Actions outside the National Area include a variety of land disturbing activities, including mining, logging, oil and gas extraction, development projects and artifact collecting. Because of the large acreage involved, it is likely that numerous sites would continue to be impacted. If any of these actions require permits from state or federal agencies, recordation may be required. However, it is likely that many archeological resources will be destroyed without knowledge, causing an adverse effect.

When other actions external to the National Area and on private land inside the boundary are considered in conjunction with this alternative, the cumulative impacts on archeological resources would be major, long-term, and adverse, primarily because development outside of the National Area that would impact sites without recordation. However, the Preferred Alternative would not contribute to this adverse effect. In fact, both the management zoning included in this alternative and the mitigating measures adopted by the National Area require
avoidance and protection of these resources. Therefore, the Preferred Alternative would be expected to preserve archeological resources for the region.

**Conclusion.** Under this alternative, a more systematic approach would be taken to the discovery, treatment, and protection of archeological resources than under the No-action Alternative. These efforts would complement established resource protection measures currently employed by National Area staff. The impacts to archeological resources from these measures would be minor to moderate, long-term and beneficial. More visitation, which could result in continuing erosion of some archeological sites, would have minor to moderate, long-term and adverse impacts to archeological resources that have not yet been identified or have not yet been the subject of treatment and protection measures. Known archeological resources as well as those that are newly discovered would be included in the Sensitive Resource Protection Zone and managed in accordance with prescriptions designed to maximize their long-term integrity. When actions external to the National Area are considered, there would be a major adverse cumulative effect on archeological resources in the region. The Preferred Alternative would make a negligible to minor contribution to this adverse effect.

This alternative would not result in major, adverse impacts to any archeological resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the archeological resources of the National Area.

**Ethnographic Resources**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

**Analysis.** After the National Area was established, acquisition of land by the federal government resulted in the relocation of families and individuals away from their traditional homesites. Relatives of many of these people still live in the surrounding area. However, the National Area's enabling legislation resulted in the closure of most roads into the gorge. As a result, many local residents are prevented from having traditional motorized access to various sites of interest. Lack of use has resulted in the natural succession of many sites to forest.

The gorge will remain closed to most motorized access under all of the alternatives, in accordance with the dictates of the enabling legislation. Continued closure will result in moderate to major, long-term and adverse impacts to persons deprived of motorized access to traditional use sites. However, these impacts will not be attributable to the alternatives per se, but stem from legislative requirements.

Under the Preferred Alternative, certain sites will continue to be preserved and interpreted for visitors, including the Oscar Blevins, Lora Blevins and John Litton farmsteads. Landscape studies would be commissioned to document and determine the preservation and interpretation objectives of these historic farmsteads. Other traditional use sites are designated for continuing use such as the Burnt Mill Bridge. In addition, oral histories will continue to be accumulated to document past residents' observations and experiences.

The Preferred Alternative would implement the identification and specific planning and
management of areas included in the Sensitive Resource Protection Zone, as well as additional studies to document additional ethnographic resources.

**Cumulative Impacts.** Cumulative impacts on ethnographic resources are considered on a region-wide basis because historic activity in the Big South Fork region was not limited to the lands within the National Area boundary.

Actions outside the National Area include a variety of land disturbing activities, including mining, logging, oil and gas extraction, and development projects. Because of the large acreage involved, it is likely that many ethnographic resources have been and will continue to be destroyed, causing an adverse effect.

When other actions external to the National Area and on private land inside the boundary are considered in conjunction with this alternative, the cumulative impacts on ethnographic resources would be major, long-term, and adverse, primarily because of development outside of the National Area that would impact ethnographic resources. The National Area's enabling legislation would continue to result in a moderate, long-term and adverse impact on access to ethnographic resources, primarily because of the large area within the gorge that would remain closed to motorized vehicles. The Preferred Alternative would merely implement the closure requirement of the legislation, but would not otherwise contribute to this adverse effect. In fact, both the management zoning included in this alternative and the mitigating measures adopted by the National Area require avoidance and protection of ethnographic resources. Therefore, the Preferred Alternative would be expected to preserve a number of ethnographic resources for the region.

**Conclusion.** Establishment of the National Area required closure of most of the gorge to motorized access, resulting in moderate to major, long-term and adverse impacts to ethnographic resources. However, various sites and ethnographic resources within the National Area are being actively used or protected and interpreted for visitors, and these activities would continue under the Preferred Alternative. The impacts of these activities on ethnographic resources would be minor to moderate, long-term and beneficial. The Preferred Alternative also calls for targeted studies and management actions for ethnographic resources, and these actions would have minor to moderate, long-term and beneficial impacts.

**Historic Resources**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

**Analysis.** Historical resources would continue to be adversely impacted, but to a lesser extent than under the No-action Alternative. The Preferred Alternative would not include any major new building projects or major changes that would affect historic resources. However, there would be a continued deterioration and loss of the historic fabric as a result of natural deterioration and ongoing human interaction. The Preferred Alternative calls for the performance of Historic Resource Studies of National Register-qualified structures, followed by stabilization/rehabilitation plans and guides to maintenance. In addition, the National Area would continue an ongoing effort to inventory and classify historic sites and their features and determine their treatment. Decisions would then be made based on specified criteria to preserve, rehabilitate, or restore particular historic resources. For these resources, existing protection measures would be enhanced to minimize adverse impacts associated with visitor use. For the rest, the toll of natural processes would be accepted after appropriate
As a result of these efforts, more historic sites would be documented and protected than would be possible under the No-action Alternative. The relevant State Historic Preservation Officer would be involved in the decision-making process, as well as the Advisory Council on Historic Preservation, as appropriate.

Throughout the National Area, mitigation measures would be employed to minimize the loss of historic resources. In situations where potential impacts are identified, possible mitigation could include, but not be limited to, avoidance and protection, data recovery (evaluated as an adverse impact that would be undertaken as a last resort), and educational outreach programs such as informative onsite tours and presentations.

Under this alternative, appropriate zone-specific management prescriptions would be implemented for protecting historic resources from disturbance or destruction, in addition to programmatic protection procedures. Increased visitation could result in physical wear and tear on structures, vandalism, and possible overuse of grounds. Efforts to minimize these effects would include careful determination of resources suitable for onsite interpretation to visitors, careful site selection for developments, visitor education, structured use of the site/resource by specific pathways or the use of guides. Adaptive uses, such as at Charit Creek lodge, would help preserve structures and other features. While historic fabric could be affected, prior Historic Structure Reports would document important elements. Monitoring of the resource conditions would be an important management function. Where appropriate, NPS would coordinate with the relevant State Historic Preservation Officer regarding response actions and mitigation measures. Treatment measures for historic resources would continue to conform to the Secretary of the Interior's Standards and Guidelines for the Treatment of Historic Properties, 36 CFR section 68.

As a result of the actions described above, the Preferred Alternative would result in minor to moderate, long-term and beneficial impacts on historic resources.

**Cumulative Impacts.** Cumulative impacts on historic resources are considered on a region-wide basis because they extend beyond the National Area boundary.

Actions outside the National Area that could affect historic resources are the same as those identified for archeological resources. Specific impacts on historic resources outside the boundary are unknown. However, it is likely that numerous historic sites have been affected, and would continue to be adversely affected, because of the large acreages impacted by mining, logging, oil and gas extraction, and development projects. In instances where these actions are permitted by state or federal agencies, recordation may be required. However, it is likely that many historic resources have been and will continue to be destroyed without knowledge, resulting in an adverse effect. Although region-wide impacts have had a cumulative adverse effect on historic resources, they have not directly affected the structures inside the National Area eligible for listing on the National Register or the four component landscapes identified by the NPS Cultural Landscapes Program.

When other actions external to the National Area are considered in conjunction with this alternative, the cumulative impacts on historic resources would be major, long-term, and adverse, primarily because of the effects of logging, mining, oil and gas extraction, and land development outside the National Area. However, the contribution of the Preferred Alternative to this adverse effect would be negligible. In fact, both the management zoning included in this alternative and the mitigating measures adopted by the National Area require avoidance and protection of these resources. Therefore, the Preferred
Alternative would be expected to preserve historical resources for the region.

**Conclusion.** Adverse effects to historic resources would continue under the Preferred Alternative, but to a lesser extent than under the No-action Alternative. Efforts would be undertaken to inventory, classify, and monitor historic resources. Decisions would be made based on specified criteria to preserve, rehabilitate, or restore certain historic resources. The remaining historic resources would continue to be impacted by natural processes, but these impacts would be mitigated in ways appropriate to the site. The result would be minor to moderate, long-term and beneficial impacts on historic resources. More visitation, which could result in continuing deterioration of some historical sites, would have minor to moderate, long-term and adverse impacts to historical resources that have not yet been the subject of treatment and protection measures. Regionwide development activities would continue to have a cumulative adverse effect on historic resources. The Preferred Alternative would make a negligible contribution to the regionwide cumulative adverse effect.

This alternative would not result in major, adverse impacts to any historic resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the historic resources of the National Area.

**VISITOR USE AND EXPERIENCE**

**Analysis.** Under the Preferred Alternative, a variety of natural and cultural features would remain readily available for visitor use, including the river, gorge rim views, and certain historic sites. Many other features would likewise be available depending on visitor interests and abilities. However, compared to the No-action Alternative, access to some of these features would significantly improve under this alternative. For the first time, developed facility sites would be available in the Darrow Ridge and Tar Kiln Ridge areas. Bicycle riders would have access to additional trails. The John Muir Trail would be completed, and a number of smaller trails would be built providing links to trails on adjacent public and private lands. For horseback riders, connections between existing trails would be built, including a link between Bear Creek Horse Camp and Station Camp Horse Camp, as well as better connections with Daniel Boone National Forest.

Under this alternative, the route of the old O&W railroad would provide continued passenger vehicle access to the O&W Bridge from the east. The former railbed would be improved sufficiently to insure the safety of visitors, and the National Area and Scott County would coordinate their efforts to achieve desired use and resource conditions. The O&W route west of North White Oak Creek has been determined to be abandoned. Accordingly, this portion of the former railbed would be a trail designated for foot, horse, and bike use, consistent with the recommendations of previous studies. This proposal would generally continue existing visitor uses (except that OHV use would be prohibited) and would protect resources by upgrading the old roadbed to minimize erosion and protect vegetation. Overall, the impacts would be minor to moderate, long-term and beneficial. However, the impacts could be viewed as adverse by those who wish to continue OHV use on the railbed, or who would like to see motorized access to continue on all of the railbed.

As provided by the legislation establishing the National Area, access to game for
hunting, trapping and fishing would continue under joint federal and state management. However, motor vehicle access to many sites in the gorge would remain largely curtailed due to legislative restrictions. In order to facilitate the removal of heavy game animals, the Preferred Alternative would authorize the use of ATVs on multiple use trails during big game (i.e., deer and wild boar) hunting season only. (Licensed and registered motor vehicles would be allowed on multiple use trails year-round, and hence could also be used for this purpose.)

Overall, OHV use would be more limited under this alternative than under the No-action Alternative. OHV use would be limited to designated routes on the plateau, in accordance with the National Area’s enabling legislation. For the most part, use of ATVs would be restricted to hunters only, as discussed above. However, an experimental general recreation trail for ATVs could be sited at the ATV Planning Area in the Darrow Ridge area. Additional recreational routes in the ATV Planning Area could be designated later if monitoring were to indicate that such expanded use was consistent with protection of Area resources and values.

Public education programs and exhibits would continue to be provided on- and off-site on a variety of resource-related subjects, as identified by a Comprehensive Interpretive Plan. Visitor contact/orientation stations would be located in several areas outside the National Area, allowing visitors to obtain information about the Area without having to drive to the central visitor center at Bandy Creek. This alternative would benefit public understanding over the long term as opportunities are continuously taken by National Area personnel to communicate elements of the alternative as well as required management. Overall visitor satisfaction would tend to increase since it would be clearer to them what to expect before arrival.

Visitors would continue to have access to concessioner services, including the Chant Creek Lodge, the Station Camp and Bear Creek horse camps, and the Bandy Creek Stables.

Uncrowded areas and solitude would remain widely available, but would diminish slightly over time as visitation levels increased. However, the establishment of a designated system of roads and trails would allow focused application of maintenance and rehabilitation efforts, thereby improving the quality of the visitor experience. Use-sharing of trails would be scaled back and in some cases eliminated, with the result that conflicts among user groups would diminish. The impacts from these efforts would be minor to moderate, long-term and beneficial for most visitors. However, use-restrictions on some roads and trails would constitute a long-term, minor to moderate, adverse impact for some visitors.

Cooperation with other entities in providing visitor orientation and information prior to arrival at the National Area would benefit visitor experiences by allowing greater planning and more efficient use of the National Area.

Overall, the impact of this alternative on visitor use and experience would be minor to moderate, long-term, and beneficial.

**Cumulative Impacts.** Development projects in the vicinity of the National Area could bring additional visitors to the general area. This could increase visitation to the National Area, especially during peak travel seasons. Cumulative impacts would be minor to moderate for visitors seeking an uncrowded, unconfined outdoor experience. On the other hand, the increased recreational opportunities provided under this alternative would allow for new experiences by visitors and dispersal of use away from more crowded areas.

When the cumulative impacts of actions by others are combined with impacts
associated with this alternative, there would be minor to moderate, long-term and beneficial cumulative impacts on visitor use and experience in the National Area.

**Conclusion.** Under the Preferred Alternative, the general character of the National Area would not change, but the designation of an official roads and trails system, and the focused devotion of resources to rehabilitation and maintenance of those facilities, would result in minor to moderate beneficial impacts on visitor use and experience. For the most part, the existing levels of visitor facilities would be continued, but additional trailheads and connector trails would be developed, providing visitors with additional opportunities and experiences. Conflicts among user groups would decline through more specific use-designation, monitoring, and adaptive management. In contrast to the No-action Alternative, expanded educational and outreach programs would be undertaken, resulting in increased knowledge and enjoyment of resources in the National Area. Impacts from the Preferred Alternative would be long-term, minor to moderate, and beneficial, depending on location in the National Area and visitor preferences.

**SOCIOECONOMIC ENVIRONMENT**

**Operation of the National Area**

**Analysis.** Under the Preferred Alternative, the National Park Service would undertake significant efforts to provide new trailheads and trail connectors, improve the condition of existing roads, trails and developed sites, and significantly increase monitoring of natural and cultural resources. The actions contemplated by the Preferred Alternative would require new expenditures, with the possibility of new local contracts and the acquisition of labor and supplies from local communities. In addition, nearby communities would continue to experience direct benefits of expenditures by NPS for supplies and by individual NPS employee purchases. National Area employee salaries currently total approximately $2.9 million, which directly benefits the local economy. The increased National Area staff associated with this alternative would increase the total salary amount being spent in the local economy. In short, the impact of National Area operations on the local economy under the Preferred Alternative would be moderate to major, long-term and beneficial.

**Cumulative Impacts.** The lands around the National Area, particularly those areas near Oneida and Jamestown, Tennessee and Whitley City, Kentucky, would be affected by continued regional growth. Development activities outside the boundary could result in more concentrated residential and commercial development near the National Area, and also stimulate growth in tourism. The effects of growth in the regional context could have both beneficial impacts, such as increased income and employment, and adverse impacts, such as increased cost of housing, greater levels of pollution and congestion, and adverse impacts on wildlife habitat. Overall, development in the region would be likely to have moderate to major adverse and beneficial socioeconomic effects on the regional economy.

The Preferred Alternative would have a small incremental effect on increased employment or expenditures in the regional context, and therefore the impact, when combined with current impacts, would be moderate and beneficial. Therefore, in a regional context this alternative would make a moderate contribution to incremental cumulative impacts.

**Conclusion.** Any socioeconomic impacts on the region that could be expected from Area operations under this alternative would be moderate in effect. Although there would probably be moderate to major adverse and beneficial cumulative impacts on the economy from regional growth, the impact
of National Area operations on the regional economy would be moderate under the Preferred Alternative. Impacts to the local economy would be more pronounced, with the Preferred Alternative having a moderate to major, beneficial impact on the local economy, assuming requested funding is made available to implement the Preferred Alternative.

**Tourism and Recreation.**

**Analysis.** The identification of long-term goals in this alternative will allow surrounding communities to better understand where the National Area is headed, allowing all parties to begin to work more in concert. Visitor patterns may change from current ones under this or any other alternative, but they would become more predictable since they would be based on a more clearly identified management direction. Businesses oriented to National Area visitors would be better able to align their expectations with National Area goals; and with limits placed on the kinds and levels of development within the National Area, the neighboring communities would better understand the role they could play in providing services. With realized expectations of businesses could come additional business ventures.

Under the Preferred Alternative, the National Area would be in a position to gain increasing visibility and become known to a wider range of potential visitors. Currently, visitors coming to the National Area are arriving with the expectations of certain conditions, facilities, and experiences. In contrast to the No-action Alternative, and to a greater extent than Alternatives A and B, the Preferred Alternative would better enable National Area personnel to meet these expectations by providing greater numbers and types of recreational opportunities, better maintained facilities, and enhanced protection for natural and cultural resources. Already, regional governments, businesses, and organizations are promoting the National Area as a destination for outdoor-related recreation. As the quality of the visitor experience is maintained or improved, these efforts would likely intensify, resulting in increased visitation and associated benefits to the economy.

Under the Preferred Alternative, gateway communities would continue to experience positive cyclical increases in business related to tourism. The local tourism industry would depend in part on, and benefit from, visitors attracted to the National Area, and the National Area would be an increasingly important attraction in the area. The impact of the National Area on gateway communities or the regional area could change appreciably under this alternative, with the increases in visitation anticipated under the Preferred Alternative likely resulting in proportionately greater visitor expenditures in gateway communities than would take place under the No-action Alternative. Moreover, it is anticipated that the recreational opportunities afforded by the Preferred Alternative will spur construction of additional residential subdivisions near the National Area serving retirees, second-home owners, and others. Therefore, the Preferred Alternative would likely have a moderate to major, long-term, indirect and beneficial impact on the growth of the local tourism economy.

**Cumulative Impacts.** The Preferred Alternative would cause a moderate increase in regional recreation opportunities, and, over the long term, conceivably could change trends in regional population or economic growth. Therefore, in a regional context this alternative would make a moderate contribution to cumulative impacts on the regional tourism economy.

**Conclusion.** By enhancing the attractiveness of the National Area and vicinity to potential visitors and future residents, the Preferred Alternative would likely have a moderate to major, long-term, indirect and beneficial impact on the growth of the local tourism economy. The intensity
of impacts will depend in large part on the level of funding available to implement the plan and the extent to which facilities called for in the Preferred Alternative attract additional residential development to the periphery of the National Area. This alternative would provide a moderate increase in regional recreation opportunities, with a moderate, beneficial impact on the regional tourism economy.

Concessions

Analysis. In contrast to the No-action Alternative and, to a lesser extent, Alternative A, the Preferred Alternative would improve opportunities for horseback riders. As a result, concession contractors and other business permit holders could experience greater increases in business activity under the Preferred Alternative than under either the No-action Alternative or Alternative A. However, increases would be slightly less than under Alternative B, which places more emphasis on recreation than any of the other alternatives. The impacts of the Preferred Alternative on concessioners and business permit holders would be minor to moderate, long-term and beneficial.

Cumulative Impacts. The Preferred Alternative could result in minor to moderate beneficial impacts to concessioners. These impacts, in conjunction with the normal tourism-related growth in the vicinity of the National Area, would have a minor to moderate, beneficial cumulative impact. The contribution of the Preferred Alternative to this beneficial impact would be minor to moderate.

Conclusion. The socioeconomic impacts on concessioners and other commercial businesses operating within and adjacent to the National Area would be positive but minor to moderate under the Preferred Alternative. In light of the positive effect on overall recreational activity of other developments in the vicinity of the National Area, the cumulative effects would be minor to moderate and beneficial.

OPERATIONAL EFFICIENCY

Analysis. Under the Preferred Alternative, the National Area would generally continue to use existing infrastructure, although some development of new facilities, such as trailheads and parking areas, would occur. In addition, development of a new collections-storage facility is proposed in order to provide public access to significant artifacts and allow protection of these resources in a manner consistent with accepted standards. Much of the National Area’s existing office space is presently located in aging houses acquired with the Area’s land base, and these structures would be replaced as they reach the end of their useful lives.

Continued use of existing administrative facilities would continue to have a negligible to minor adverse impact on operational efficiency. Occasional replacement of outdated facilities under this alternative would yield minor, long-term and beneficial impacts to operations. In contrast to the No-action Alternative, the Preferred Alternative calls for slightly increased levels of NPS staff. Although current staff levels have achieved a certain level of efficiency, the additional staff in the Preferred Alternative would enhance the National Area’s ability to provide desired levels of resource protection and preservation, maintenance of existing facilities, and visitor services. Under the Preferred Alternative, improperly designed and difficult-to-maintain roads and trails would be excluded from the National Area’s official roads and trails system. Visitor use would be limited to those roads and trails included in the official roads and trails system. The National Area would undertake substantial rehabilitation and possible relocation of officially-recognized roads and trails, thereby making protection of resources easier for National Area staff. The management prescriptions
associated with the various management zones would improve the ability of National Area staff to minimize damage to Area resources from visitor use and natural processes. Taken together, these conditions would have a minor to moderate, long-term and beneficial impact on operational efficiency.

Cumulative Impacts. Growth and development in the vicinity of the National Area and in the region as a whole would have a minor to moderate, long-term and adverse impact on operational efficiency. The most noticeable impact would be increased visitation to the National Area and adjacent public lands, which would further stretch the ability of NPS staff to protect, preserve, and interpret National Area resources, and place greater demands on existing facilities.

Conclusion. The Preferred Alternative would result in minor, beneficial changes in operations of the National Area. Although impacts to operational efficiency resulting from the retention of most of the existing administrative buildings, work space, and visitor contact facilities would, at least over the short term, be negligible, the proposed facility improvements, system designations, and increases in staffing levels would enhance operational efficiency, allowing National Area staff to provide improved protection for visitors and area resources. Thus, the Preferred Alternative would result in impacts that are minor to moderate, long-term and beneficial.

CONSISTENCY WITH THE PLANS OF OTHERS

The lack of clearer management direction for the National Area has likely hindered the ability of certain others to plan effectively. The more clearly stated goals of this alternative would help attain beneficial consistency among plans.

Under the Preferred Alternative, National Area management would change to enhance resource protection and improve recreational opportunities. There would be no new impacts on the plans of surrounding communities or other Area neighbors. Community goals in the surrounding counties generally include providing for beneficial interrelationships between work, living, and recreational areas, protecting natural resources for the use and enjoyment of present and future citizens and visitors, developing the area without spoiling the environment, and providing citizens with a high-quality environment for living, work, and leisure time activities. The overall preservation and use of the National Area generally contribute to these goals, and this would continue under the Preferred Alternative. Cooperation with adjacent publicly owned areas will continue to contribute to satisfactory relationships. Under the Preferred Alternative, greater emphasis will be placed on cooperation with the town of Rugby.

State recreation planning indicates the National Area contributes importantly to the supply of public recreation opportunities and to other, related goals. Significant among these are resource preservation and interpretation, provision of appropriate facilities, and long-term benefit to the economy. The Preferred Alternative, with its various management zones, would appear to provide the desired consistency with state recreation planning. Aside from the basic mandated purposes of the area, the gorge would receive the highest level of protection and the plateau would have potential for additional development, as described. In addition, sensitive natural and cultural resources would be placed in a Sensitive Resource Protection Zone, with corresponding management prescriptions. These arrangements would appear to be consistent with state and local goals as well.

National Area management would continue to coordinate with businesses that provide visitor services and cooperate to achieve
the objectives of all parties. Nevertheless, various private land use and business ventures would continue to appear near and adjacent to the National Area whose objectives do not fully consider the Area’s management requirements.

**IMPACTS ON ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL**

Private vehicles would continue to be the primary means of transportation to and through the National Area. There may be a gradual reduction in visitor, commuter employee, and concessioner gasoline consumption because of vehicles achieving better fuel economy as newer models replace older models over time, but this would be due to actions by entities other than NPS.

**UNAVOIDABLE ADVERSE EFFECTS**

Unavoidable adverse impacts are defined as impacts that cannot be fully mitigated or avoided. Adverse impacts attributable to this plan and NPS management would arise out of facility development, maintenance and use. Standard practice includes mitigation of all identified impacts. Law, policy, and standard procedures guide these detailed considerations.

Development at or near the river and its tributaries and road and trail development that crosses streams would likely result in increases in turbidity through runoff as previously mentioned. While temporary and localized, these impacts would be considered unavoidable because of the recreation purposes of the National Area and the fact that the focus of many visits is river use in some form. Additional hazards having minor to major impacts on visitors and employees include contaminated mine drainage and oil and gas operations.

Some adverse impact would likely be unavoidable to resources, including sensitive resources, because of visitor use. Even with increased visitor education, staffing and funding, the complexity of natural processes and the large number of cultural resources in the National Area would constrain the ability of the National Park Service to fully avoid or mitigate adverse impacts. Impacts would be expected to be minor in terms of overall loss, although there is a potential for this to be major if the loss involves nonrenewable historic or archeological resources.

Monitoring use and resource conditions would assist in avoiding or minimizing adverse impacts and, when coupled with appropriate management strategies, would generally promote sustainable conditions within the National Area. It is a legal requirement for NPS to address carrying capacity issues in general management planning. Based on this requirement, it is NPS policy to establish goals in general management plans for resource conditions and the visitor experience for all areas within the units it administers through the use of management zoning. More detailed quantification of use levels appropriate to those management goals and discussion of possible strategies that could be employed to manage use levels if necessary are then documented in later implementation planning.

The VERP planning process (Visitor Experience and Resource Protection) has been developed by the NPS to follow general management planning to complete the carrying capacity analysis. The VERP process can be conducted separately or incorporated into other implementation planning efforts. The process consists of four key elements: (1) an areawide management zoning scheme that defines visitor experience and resource condition goals for all locations (accomplished in the general management plan), (2) selection of indicators that can be monitored to ensure that the goals are being met, (3) a systematic monitoring program, and (4) standards for each monitored indicator that is expected to warn when conditions merit
management action. Ongoing research will refine indicators and standards that can be used to ensure provision of quality experiences while protecting National Area resources.

IRRETRIEVABLE OR IRREVERSIBLE COMMITMENTS OF RESOURCES

All facility development and use is considered essentially a permanent commitment of resources, although removal of facilities and site restoration has occurred and could still occur. New facilities would be developed on sites that have negligible resource value, which would be specifically considered during detailed implementation planning.

RELATIONSHIP BETWEEN SHORT TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The resource prescriptions included in the management units, along with required management, are intended to ensure the achievement and maintenance of the purposes for which the National Area was established. All use and development would occur in the context of sustainable resource conditions that, in turn, permit sustained levels of visitor use and satisfaction.

Under this alternative, the vast majority of the National Area would remain protected in its natural state and would maintain its long-term productivity, i.e., ability to achieve its mission. A number of new actions would be taken to manage visitor use, including the designation of an official system of roads and trails and focused devotion of resources to rehabilitation of roads, trails, and developed sites. With increasing visitor use expected, there would be minor impacts on most natural resources in the National Area, with moderate impacts on soils and vegetation in some high use areas.

Adverse impacts on the National Area's natural and cultural resources would be mitigated to enhance the ability of these resources to contribute to the National Area's legislative mission.

ALTERNATIVE A

MANAGEMENT ZONES

This alternative is intended to be the most rustic of the four alternatives. Like the Preferred Alternative, Alternative A divides the National Area into different management zones, with each zone having specified management prescriptions for the resources located within the zone. However, this alternative provides only three zones, as opposed to the much more specific zones called for in the Preferred Alternative. The three zones in Alternative A are: primitive recreation unit, enhanced recreation unit and backwoods recreation unit.

The application of these management zones to the National Area would provide area-specific management direction including an indication of the kinds and levels of allowable actions. The Primitive Recreation Unit has the lowest tolerance for degradation and specifies only necessary and minimal interference with natural processes. This prescription for the gorge would provide the highest level of protection for this area, which contains most of the sensitive natural resources. This protection, along with the lowest level of development, i.e., dispersed trails, would do the most to benefit natural systems.

The Enhanced Recreation Unit would be applied only to areas already partly developed. Any future development would necessarily require some land disturbance, but would be located and designed to avoid or minimize impacts. Generally, fairly sizable land areas were included within the
Enhanced Recreation Units to allow avoidance of sensitive resources and natural systems. Later planning and appropriate coordination would assure detailed consideration of these concerns.

In contrast to the Enhanced Recreation Units, the designated Backwoods Recreation Units would see less development. Most of these units would not change appreciably from current conditions. The kinds and levels of development that would occur would follow the unit prescription.

**NATURAL RESOURCES**

**Geology, Physiography, and Soils**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

**Analysis.** Under Alternative A, visitor facilities would continue to consist primarily of a basic system of roads, trails, and access points. However, fewer facilities would be built or included under this alternative than under the Preferred Alternative or Alternative B.

Direct impacts from development would include surface compaction of soils. Site preparation could result in either removal or addition of earth, destroying soil structure. There would be an increase in sheet erosion and reduced water infiltration. These impacts would occur from the development activity and would be considered long term. Following development, use of the facilities would likely expand the area of soil compaction and root exposure generally around the facility and along nearby trails. These indirect impacts would also be considered long term, although unacceptable levels of impacts would be identified and corrected through visitor education, site hardening, and/or use management. Rehabilitation of impacted areas would occur where possible. Impacts associated with development and rehabilitation of facilities would be negligible to moderate, long-term and adverse for soil resources.

Alternative A provides in general terms that the National Area will implement measures designed to protect and conserve the National Area’s geologic, physiographic, and soil resources. These measures are described with less specificity in Alternative A than in the Preferred Alternative. These measures would have a moderate to major, long-term, beneficial impact on soils and geologic resources.

NPS policy prohibits the surface mining of soil or rock materials for any park operations purposes, including the building of roads or facilities. Most modifications to access roads, trails, and developed sites would be limited to existing disturbed areas and would not likely involve blasting or other modification of bedrock geology. The potential impacts to geologic resources from road or facility development or NPS operations would thus be negligible. In contrast, visitor activities have the potential to adversely impact sensitive geologic resources such as rock shelters, arches and chimneys. Under Alternative A, these features would be managed in accordance with the management prescriptions established for the alternative’s three management zones. These resources would not be subject to the specialized zoning for sensitive resources found in the Preferred Alternative. The resulting adverse impacts would be greater than under the Preferred Alternative, but less than under the No-action Alternative. The overall impacts on these geologic features would be negligible to moderate, long-term and adverse.

Alternative A would likely result in some increase in visitation to the National Area, although not appreciably more than the
increase anticipated to occur under the No-action Alternative. Increases would occur as a result of improved and rehabilitated facilities, as well as increased opportunities for certain types of outdoor experiences. In particular, visitor activities such as camping, hiking, climbing, and horseback riding would likely increase over levels anticipated by the No-action Alternative and would continue to have localized effects on soils. Impacts on soils would be minimized via an upgraded program for maintaining and rehabilitating roads, trails, and developed sites. However, this alternative would not include the use-designations for particular roads and trails found in the Preferred Alternative. As a result, certain roads and trails would continue to be difficult to maintain and would continue to erode as they experienced inappropriate use.

Visitors would continue to overuse some facilities such as certain trails and also use inappropriately, and in some cases illegally, certain sensitive, readily accessible resources such as rock shelters and arches. In previously undisturbed areas, human trampling would result in vegetation loss followed by soil compaction and erosion. Social trails on sloping hillsides would act as channels for surface water runoff, resulting in soil erosion. These negative impacts would be mitigated under Alternative A by focusing additional resources on monitoring and rehabilitation of disturbed areas. The increased visitor use associated with this alternative would result in negligible to minor, long-term and adverse impacts on soils and geologic resources throughout much of the National Area.

In some high-use areas, such as Bandy Creek, there would be minor to moderate adverse impacts, as repeated trampling resulted in high plant mortality and increased erosion potential. Under Alternative A, NPS staff would devote additional resources to problem sites to prevent and reduce impacts and to restore damaged areas. However, these efforts would not prevent or reduce all impacts under the increased visitation levels anticipated under this alternative. Thus, minor to moderate long-term adverse impacts would likely occur in high-use areas.

In other, more remote areas of the National Area, there would be negligible to minor adverse impacts on soils under Alternative A, as relatively few plants, in localized areas, would be affected by trampling and other disturbance. The potential for soil erosion in these areas would not increase appreciably, even with increased visitation.

Increased parking by visitors in vegetated areas would cause loss of vegetation, which would contribute to soil erosion. Because these effects would be localized, the impacts would be negligible to minor.

**Cumulative Impacts.** Same as the Preferred Alternative.

**Conclusion.** Increased visitor activities under Alternative A would result in localized, minor, long-term, and adverse impacts on soils and geologic resources, with moderate impacts in some high use areas. Impacts would include increased soil compaction and erosion. However, these impacts would be minimized by the management prescriptions contained in Alternative A's three management zones. In the region as a whole, there would likely be minor to major long-term cumulative adverse impacts on soils and geologic resources, primarily due to logging, mining, oil and gas extraction, and land development. This alternative's contribution to these cumulative impacts would be minor.

This alternative would not result in major, adverse impacts to any geologic, physiographic, or soil resource or value, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a
goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the geologic, physiographic, and soil resources of the National Area.

Water Quality

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

Analysis. Alternative A provides in general terms that National Area personnel would continue or commence various initiatives to protect and improve water quality. These measures are described with less specificity in Alternative A than in the Preferred Alternative. Overall, these measures would have a moderate to major, long-term, beneficial impact on water quality. Nevertheless, minor to moderate, long-term adverse impacts on water quality would continue under Alternative A, given that land uses in the watershed outside the National Area boundary could continue to result in slight increases in levels of sediment, pollutants, and nutrients in the water.

As a result of the improved access and rehabilitated roads and trails contemplated by Alternative A, visitor uses such as camping, hiking, climbing, and horseback riding would likely increase somewhat more than they otherwise would under the No-action Alternative. These levels of visitor use would continue to have localized, indirect effects on water quality due to increased soil compaction, vegetation trampling, and consequent loss of vegetation in some areas. These effects would lead to greater erosion and the addition of sediment to adjacent waters. The nature and extent of soil compaction and vegetation damage, and therefore, of related impacts on water quality, would depend on the types of local soils, vegetation and topography, as well as the areal extent, duration, and intensity of use. However, sedimentation effects generally would be slight in comparison to the sedimentation occurring as a result of runoff from disturbed areas outside the National Area. Therefore, sedimentation-related impacts on water resources would be negligible to minor.

A number of development sites are adjacent to the Big South Fork River or other streams because they provide visitor access to and use of the waters within the National Area. Roads and trails that cross streams would also contribute to stream turbidity during development periods and during certain maintenance activities and use periods. Standard mitigating measures such as silt screens, check dams, retention ponds, and other barriers would be used to minimize erosion and prevent noticeable short-term deterioration of water quality during any ground disturbance. All disturbed areas would be revegetated to prevent long-term impacts from any runoff. Monitoring of water quality would be an important management activity. Development-related impacts on water quality are thus anticipated to be negligible to minor, short-term and adverse.

The increased use of unpaved roads under Alternative A could make these facilities more susceptible to surface erosion and runoff. Vehicle use along roads and in parking lots would continue to deposit petroleum products that could be washed into adjacent waters. Impacts would generally be minor due to mitigation techniques such as placement of sediment traps and/or biofiltration (vegetation filtration) along roadsides.

Improper disposal of untreated human waste in areas without toilet facilities currently causes minor water quality problems. Under Alternative A, this problem would increase proportionately with increased human use of the area.
Cumulative Impacts. Same as the Preferred Alternative.

Conclusion. Expected levels of visitor use under Alternative A would have a minor adverse impact on resources and water quality by slightly increasing levels of sediments, vehicle-related pollutants, and nutrients in rivers and streams. Most of these effects would be localized. Oil and gas development within the boundary of the National Area would increase the amount of disturbed area, possibly contributing increased sediment and polluted runoff to adjacent receiving streams. Because Alternative A prescribes, in general terms, enhanced management control for these operations, the impact of these operations on water quality would be localized, minor, short-term, and adverse. Overall, impacts on water quality would be minimized by the rehabilitation activities, management zones, and management prescriptions contained in Alternative A, although not to the same extent as would likely occur under the more comprehensive and detailed management prescriptions of the Preferred Alternative. In some instances, water quality would be enhanced by the measures called for in Alternative A. The impacts of Alternative A on water quality would thus be minor, long-term, and beneficial as compared to the No-action Alternative. There would be major to moderate, long-term and adverse cumulative impacts in the region, primarily because of pollutant loads in runoff associated with logging and land development outside the National Area. The contribution of Alternative A to these adverse cumulative impacts would be minor.

Existing conditions are causing major adverse impacts to water quality in certain portions of the National Area. Alternative A would ameliorate some of these conditions, but to a lesser extent than the Preferred Alternative. As a result, this alternative would not result in major, adverse impacts to any water resource or value, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in additional impairment to the water resources of the National Area.

Floodplains

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

Analysis. Alternative A would have negligible adverse impacts on floodplain values for the Big South Fork and its tributaries. These impacts would be associated with the development, rehabilitation and enhanced maintenance of access roads, trails, parking areas, and stream crossings present in the floodplain, all of which have negligible impacts on floodplain resources and functions and hence are exempt from NPS policies on floodplain management (Director's Order 77-2; NPS Floodplain Procedures Manual 77-2).

Streamside facility development would occur to some extent within the 100-year floodplain; however, as noted above, NPS has determined that water access facilities are acceptable uses of floodplains. These types of facilities must be in proximity to the water to provide needed visitor access and use. Facility design would consider the likelihood of flooding and would include appropriate visitor warnings.

Cumulative Impacts. Same as the Preferred Alternative.
Conclusion. This alternative would result in negligible long-term adverse impacts on floodplain values throughout the National Area. Cumulative impacts would include moderate adverse long-term effects on floodplains because of actions outside the National Area. This alternative's contribution to these impacts would be negligible.

This alternative would not result in major, adverse impacts to any floodplain resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the floodplain resources of the National Area.

Wetlands

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two (“Required Management”) of this document.

Analysis. Streamside facility development would occur to some extent within the 100-year floodplain. These types of facilities must be in proximity to the water to provide needed visitor access and use. When specific development is determined and sites selected, whether at a streamside location or elsewhere, a wetland impact determination would be made. If appropriate, detailed analysis of potential impacts on wetlands would be provided in the environmental documentation prepared for each development project.

Existing practices that prevent indirect impacts on wetland areas would continue.

Overall, impacts to wetland resources are expected to be negligible.

Cumulative Impacts. Same as the Preferred Alternative.

Conclusion. This alternative would cause negligible impacts on wetlands. Although there would be a moderate, long-term, adverse cumulative impact on wetlands in the region, the contribution of this alternative to this impact would be negligible.

This alternative would not result in major, adverse impacts to any wetland resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the wetland resources of the National Area.

Air Quality

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two (“Required Management”) of this document.

Analysis. Under Alternative A, visitor use is expected to increase at a somewhat greater rate than under the No-action Alternative, but less than under the other alternatives. As a result, the number of vehicle miles traveled in the National Area and surrounding areas should be greater under this alternative than under the No-action Alternative. The resulting increase in vehicular emissions, coupled with a slight increase in the number of campfires, would likely result in increased emissions of particulates, carbon monoxide, and volatile
organic compounds. Therefore, Alternative A would have a negligible to minor, long-term and adverse impact on air quality.

During development, there would be a temporary increase in particulates (fugitive dust) and vehicle emissions where motorized equipment is used. Standard mitigation includes watering the disturbed areas. This would be a temporary condition and would not violate air quality standards.

**Cumulative Impacts.** Same as the Preferred Alternative.

**Conclusion.** This alternative would result in a negligible to minor impact on local air quality, due to slight increases in pollutants from vehicle exhaust and campfires. Cumulative impacts would include minor, adverse impacts on regional air quality, as well as minor, adverse impacts on regional visibility. This alternative's contribution to these regional impacts would be negligible to minor.

This alternative would not result in major, adverse impacts to any air resource or value, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the air resources and values of the National Area.

**Vegetation**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two (“Required Management”) of this document.

**Analysis.** Alternative A provides in general terms that National Area personnel would continue or commence various initiatives to protect and restore native vegetation. These measures are described with less specificity in Alternative A than in the Preferred Alternative. The impacts of these initiatives on vegetation in the National Area would be minor to moderate, long-term, and beneficial.

Visitor uses such as camping, hiking, climbing, and horseback riding would increase less under this alternative than the other action alternatives. In most areas, the impacts from these activities on vegetation would continue to be localized and minor to moderate. In undisturbed areas, human trampling would bend or break aboveground plant parts. Trampled vegetation makes a site easily recognizable as an informal (social) trail or campsite, often causing human use to escalate. Repeated use of these newly disturbed areas, as well as previously disturbed areas, would result in vegetation loss. In some high-use areas, such as Twin Arches, there would be moderate adverse impacts, as repeated trampling resulted in high plant mortality. Under Alternative A, NPS staff would focus additional resources on problem sites in order to prevent and reduce impacts and restore vegetation. The impacts associated with these efforts would be minor to moderate, long-term and beneficial.

The nature and extent of vegetation loss under Alternative A would depend upon the amount, timing, type, and location of use. Fewer facilities would be built under this alternative than under the other action alternatives, thereby creating fewer areas where vegetation could be adversely affected by concentrated visitor usage.

In high-use areas, plant mortality would result in continued degradation even after recreational use ceased because many plant species are unable to generate new growth following trampling, and vegetation loss occurs quickly. In other areas of the
National Area, there would be negligible to minor adverse impacts to vegetation as relatively few plants, in localized areas, would be affected.

A number of special plant habitats occur in the National Area, including rock shelters, cliff areas, and gravel/cobble bars along the river. These habitats harbor rare and unusual plant communities that are particularly susceptible to human impacts. Existing uses are impacting a number of these communities, especially at Station Camp and Big Island. Various plant species are being affected, including plants listed as threatened or endangered by state and federal authorities. In extremely sensitive plant communities, relatively minor impacts could adversely affect rare, threatened, or endangered plants. Given the important local and regional role played by the National Area in conserving rare, threatened, and endangered plants, active management will be required to protect and enhance species abundance and composition. Under this alternative, these impacts would be assessed and appropriate management strategies would be developed and implemented.

Increased visitor use might also help spread exotic (non-native) or noxious species from seeds carried into the National Area on vehicles, horses, clothing, maintenance equipment, and other materials. Impacts would range from minor to moderate, depending on the type of plant and where it was introduced. Moderate impacts would occur if a local population of a species or plant community were sufficiently affected to cause a change in its abundance or distribution. The inventory and monitoring program prescribed under this alternative would allow NPS personnel to identify problem areas and develop response strategies.

The use of OHVs in the National Area would continue under Alternative A, but usage would be limited to specific trails appropriate for their use. By directing OHVs toward appropriate areas and away from sensitive environments, damage to vegetation would be greatly reduced, resulting in impacts that are minor to moderate, long-term and beneficial to the National Area as a whole. Impacts to the areas where OHV use is allowed would be minor to moderate, long-term, and adverse. To the extent that OHV users were to leave the designated trails and create new routes or social trails, impacts to vegetation would be minor to major, long-term and adverse.

Dust and pollutants from motor vehicles in the area would increase slightly and continue to affect vegetation adjacent to roadways by interfering with plant respiration and causing plant decline. Increased parking by visitors in vegetated areas would cause loss of vegetation, which might lead to invasion by noxious weed species. Because these effects would be localized and occur in previously disturbed areas, the impacts would be negligible to minor.

**Cumulative Impacts.** Same as the Preferred Alternative.

**Conclusion.** Increased visitor activities associated with this alternative mostly would result in localized, minor, long-term and adverse impacts on vegetation, with moderate to major impacts in some high use areas such as Bandy Creek, Twin Arches, and Blue Heron. Impacts would include trampled vegetation, loss of plants, and the spread of exotic species. These impacts would be minimized and in some cases offset by the rehabilitation activities, ecosystem restoration, and use of management zones and prescriptions called for under this alternative. The impacts associated with these efforts would be minor to moderate, long-term and beneficial. In the regional context, there would continue to be minor to major long-term cumulative adverse impacts on vegetation, primarily due to mining, logging, fire management, oil and gas extraction, and land development. The contribution of this
alternative to these cumulative impacts would be minor.

This alternative would not result in major, adverse impacts to any vegetation resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the vegetation resources of the National Area.

Terrestrial and Aquatic Animal Life

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

Analysis. Alternative A provides in general terms that National Area personnel would continue or commence various initiatives to protect and restore native species. These measures are described with less specificity in Alternative A than in the Preferred Alternative. The impacts of these initiatives on terrestrial and aquatic animal life in the National Area would be minor to moderate, long-term, and beneficial.

Visitor uses such as camping, hiking, and horseback riding would likely increase at a lesser rate under Alternative A than under the other action alternatives. Impacts from these activities could include increased noise, vehicular traffic and habitat disturbance. The impacts of these activities under Alternative A would be adverse and would range from negligible to moderate.

Most visitor use is concentrated in the center of the National Area. Increased human presence in these areas would result in some additional disturbance to wildlife. However, because these areas are already heavily used, it is doubtful that slight increases in human activity would noticeably increase impact to wildlife and wildlife habitat in these areas. Wildlife sensitive to human use already avoid these areas, and animals that do inhabit such locations would be accustomed to human use and would not be further impacted by additional human usage. To the extent that wildlife was disturbed, it would be temporary and would not affect local or regional populations. Therefore, the impacts in these areas, though adverse, would be negligible.

Increased use would result in a proportional increase in improper food storage by visitors. Food and garbage left out attracts wildlife, resulting in animals associating food with people and possibly causing human-wildlife conflicts. Some visitors would continue to feed wildlife, which would also condition wildlife to associate humans with food. Existing wildlife management practices, such as providing wildlife-resistant garbage cans and educating visitors, would continue to be implemented, resulting in negligible to minor beneficial impacts.

Increased visitation levels may result in more hunting pressure in the National Area. All hunting activities are governed by regulations issued by the states of Tennessee and Kentucky. Because the take-limits set by these regulations are based, in part, on anticipated hunting pressure, only negligible to minor impacts on local and regional populations would occur.

Wildlife are occasionally injured or killed by motor vehicles on park roads, and this impact might increase under Alternative A as a result of additional motor vehicles traveling to new and existing facilities. These adverse impacts would be minor because they would affect individuals, not entire populations.
**Cumulative Impacts.** Same as the Preferred Alternative.

**Conclusion.** Increased visitor activities associated with Alternative A would cause negligible to minor long-term adverse impacts on wildlife. Impacts would be associated with increased visitor use displacing or disturbing wildlife, conditioning wildlife to associate humans with food, and injuring or killing wildlife in collisions with motor vehicles. Impacts would be less under this alternative than the other action alternatives due to the relatively low levels of development contemplated by this alternative. Other aspects of this alternative, including additional research and resource management initiatives, would result in minor to moderate, long-term and beneficial impacts to terrestrial and aquatic animal life. Cumulative effects would include minor to major long-term adverse impacts, primarily due to habitat loss associated with logging and land development outside the boundary. The contribution of this alternative to these cumulative impacts would be minor.

This alternative would not result in major, adverse impacts to any terrestrial or aquatic wildlife resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the terrestrial or aquatic wildlife resources of the National Area.

**Special Status Species**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

**Analysis.** Under Alternative A, National Area staff would continue to develop protection strategies for stabilizing and enhancing threatened populations. Of special concern are unique vegetation communities (e.g., certain communities found at rock shelters and gravel bars), as well as plant species as listed threatened or endangered by state and federal authorities. Also of particular concern are special status aquatic species, including the duskytail darter, other special status fish species, and five species of mussels on the federal endangered species list. Those elements of this alternative addressed to improving water quality would have beneficial impacts on these species as well.

Until protective measures have been selected and implemented, the increased visitation anticipated under this alternative would likely result in continued adverse impacts to special status species, particularly mussels and some plants. Increased use of horse crossings at Station Camp and Big Island would likely result in continued mortality of individual special status mussels and unique plants in these areas, thereby having an impact on federally listed species.

To address this problem, NPS staff would supplement inventory studies with studies specifically designed to identify the best ways to minimize or eliminate the adverse impacts of facility development/maintenance and visitor use on special status species. In particular, studies would be commissioned to identify the best method(s) for trail/stream crossings that protect threatened and endangered species. In some areas, trails would need to be relocated. Monitoring would also occur to insure that the protective measures selected by the National Area are, in fact, enhancing the long-term viability of special status species.

In addition, site-specific surveys would be conducted before implementing specific actions to determine if special status species existed in the project area. If any...
were located, the National Park Service would consult with the U.S. Fish and Wildlife Service and the states of Tennessee and Kentucky to determine mitigation measures to avoid or minimize adverse impacts on these species.

As a result of these initiatives, the actions contemplated in this alternative would not adversely affect special status species in the National Area.

**Cumulative Impacts.** Same as the Preferred Alternative.

**Conclusion.** Continued human use, along with expected increases in visitor use of the National Area, would cause disturbance to individuals of special-status species, as well as continuing mortality to individuals of special status mussels. In the short-term, impacts to mussels caused by horse crossings would continue to be minimized through the use of route-flagging. In the long-term, practical protective measures would be studied, implemented, and monitored in order to avoid adverse impacts to mussels and other special status species.

For activities in other locations, the survey, avoidance, and mitigation actions taken by the National Park Service would ensure that this alternative would minimize impacts on any federally or state listed species. The management zones prescribed in Alternative A would provide greater awareness of special status species than would the No-action Alternative, but less than the Preferred Alternative.

The effects of actions by others outside the National Area, when combined with the impacts of actions under Alternative A, would be likely to adversely affect special status species. With its provisions for additional research and corrective actions, Alternative A would not contribute to this cumulative effect.

This alternative would not adversely affect any special status species found within the National Area. Therefore, the environmental impacts associated with this alternative would not result in impairment to special status species.

**CULTURAL RESOURCES**

**Archeological Resources**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

**Analysis.** Under Alternative A, archeological resources would continue to be adversely impacted, but to a lesser extent than under the No-action Alternative. Illegal relic hunting would continue, but efforts would be made to curtail this activity as staffing permitted. Direct impacts from development would be partially offset by cultural resource studies of areas to be developed. Ground disturbance would have the potential to adversely impact archeological resources, although many development sites in the National Area have been previously disturbed.

Prior testing to permit consideration of alternate development sites would be undertaken. If avoidance of impacts on important resources would not be possible, mitigation measures would be developed in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation. Mitigation could include, but not be limited to, avoidance and protection, data recovery (evaluated as an adverse impact that would be undertaken as a last resort), and educational outreach programs such as informative onsite tours and presentations. If any unforeseen cultural resources were discovered, they would be documented and maintained according to NPS guidelines and standards. All actions that affect cultural resources would be in accordance with the
Secretary of the Interior’s Standards for Archeology and Historic Preservation.

In the near term, the National Area would expand its cultural resource management program and new initiatives would be undertaken to better define and manage cultural landscapes containing archeological resources. This approach would entail a more systematic survey of archeological resources than is contemplated under the No-action Alternative. Inventorying and classifying these sites and their features and determining their treatment would be an ongoing effort. As a result of these efforts, more archeological sites and isolated finds would be documented and protected. In addition, NPS staff would endeavor to enhance the management of National Area museum collections. Upgrading the Area’s substandard collections-storage facility would increase the public’s access to significant artifacts and would safeguard important resources in a manner consistent with accepted protection standards. Taken together, these actions would result in minor to moderate, long-term and beneficial impacts on known and newly-discovered archeological resources.

Disturbance can also result from unrestricted visitor access to areas of known sensitivity for archeological resources. Visitor access impacts can include disturbances caused by overflow parking along roadside and trailhead areas, the creation and use of social trails, and occasionally the use and maintenance of existing trails. Some known and suspected prehistoric archeological sites are located near areas of high public use and visibility, such as rock shelters and arches. Some of these have sustained impacts from both natural and human caused erosion, a consequence of pedestrian and equestrian traffic on both designated and social trails. Under this alternative, all areas having known archeological resources would be protected in accordance with NPS policies, and any new facilities would be sited and built in such a way as to avoid or minimize impacts on archeological resources. Protection of archeological resources would be somewhat less systematic under this alternative than under the Preferred Alternative because this alternative does not establish a Sensitive Resource Protection Zone with corresponding management prescriptions.

Cumulative Impacts. Same as the Preferred Alternative.

Conclusion. Under this alternative, a somewhat more systematic approach would be taken to the discovery, treatment, and protection of archeological resources than under the No-action Alternative. These efforts would complement established resource protection measures currently employed by National Area staff. The impacts to archeological resources from these measures would be minor to moderate, long-term and beneficial. More visitation, which could result in continuing erosion of some archeological sites, would have minor to moderate, long-term and adverse impacts to archeological resources that have not yet been identified or have not yet been the subject of treatment and protection measures. When actions external to the National Area are considered in conjunction with this alternative and other actions inside the National Area, there would be a major adverse cumulative effect on archeological resources. This alternative would make a minor contribution to this adverse effect.

This alternative would not result in major, adverse impacts to any archeological resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the
archaeological resources of the National Area.

Ethnographic Resources

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two (“Required Management”) of this document.

Analysis. After the National Area was established, acquisition of land by the federal government resulted in the relocation of families and individuals away from their traditional homesites. Relatives of many of these people still live in the surrounding area. However, the National Area’s enabling legislation resulted in the closure of most roads into the gorge. As a result, many local residents are prevented from having traditional motorized access to various sites of interest. Lack of use has resulted in the natural succession of many sites to forest.

The gorge will remain closed to most motorized access under all of the alternatives, in accordance with the dictates of the enabling legislation. Continued closure will result in moderate to major, long-term and adverse impacts to persons deprived of motorized access to traditional use sites. However, these impacts will not be attributable to the alternatives per se, but stem from legislative requirements.

Under Alternative A, certain sites will continue to be preserved and interpreted for visitors, including the Oscar Blevins, Lora Blevins and John Litton farmsteads. Other traditional use sites are designated for continuing use, such as the Burnt Mill Bridge. In addition, oral histories will continue to be accumulated to document past residents’ observations and experiences.

Cumulative Impacts. Same as the Preferred Alternative.

Conclusion. Establishment of the National Area required closure of most of the gorge to motorized access, resulting in moderate to major, long-term and adverse impacts to ethnographic resources. However, various sites and ethnographic resources within the National Area are being actively used or protected and interpreted for visitors, and these activities would continue under Alternative A. The impacts of these activities on ethnographic resources would be minor to moderate, long-term and beneficial.

Historic Resources

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two (“Required Management”) of this document.

Analysis. Under Alternative A, historical resources would continue to be adversely impacted, but to a lesser extent than under the No-action Alternative. This alternative would likely result in a somewhat greater increase in visitation than the No-action Alternative, but a smaller increase than the other action alternatives. These levels of visitation could result in fewer adverse impacts to historical resources than would occur under the Preferred Alternative or Alternative B.

Under this alternative, there would be a continued deterioration and loss of the historic fabric as a result of natural deterioration and ongoing human interaction. This alternative calls for an ongoing effort to inventory and classify historic sites and their features and determine their treatment. Decisions would then be made based on specified criteria to preserve, rehabilitate, or restore particular historic resources. For the rest, the toll of natural processes would be accepted after appropriate documentation. As a result of these efforts, more historical sites would be documented and protected than would be possible under the No-action Alternative.
Throughout the National Area, mitigation measures would be employed to minimize the loss of historic resources. In situations where potential impacts are identified, possible mitigation could include, but not be limited to, avoidance and protection, data recovery (evaluated as an adverse impact that would be undertaken as a last resort), and educational outreach programs such as informative onsite tours and presentations.

Under this alternative, appropriate management prescriptions would be implemented for protecting historic resources from disturbance or destruction. Increased visitation could result in physical wear and tear on structures, vandalism, and possible overuse of grounds. Efforts to minimize these effects would include careful determination of resources suitable for onsite interpretation to visitors, careful site selection for developments, visitor education, structured use of the site/resource by specific pathways or the use of guides. Adaptive uses, such as at Charit Creek lodge, would help preserve structures and other features. While historic fabric could be affected, prior Historic Structure Reports would document important elements. Monitoring of the resource conditions would be an important management function. Treatment measures for historic resources would continue to conform to the Secretary of the Interior’s Standards and Guidelines for the Treatment of Historic Properties, 36 CFR section 68. However, as structures aged and more visitors to the National Area encountered historic structures, the potential would exist for increasing impacts.

As a result of the actions described above, this alternative would result in minor to moderate, long-term and beneficial impacts to historic resources.

**Cumulative Impacts.** Same as the Preferred Alternative.

**Conclusion.** Adverse effects to historic resources would continue under this alternative, but to a lesser extent than under the No-action Alternative. Efforts would be undertaken to inventory, classify, and monitor historic resources. Decisions would be made based on specified criteria to preserve, rehabilitate, or restore certain historic resources. The remaining historic resources would continue to be impacted by natural processes, but these impacts would be mitigated in ways appropriate to the site. The result would be minor to moderate, long-term and beneficial impacts on historic resources. More visitation, which could result in continuing deterioration of some historical sites, would have minor to moderate, long-term and adverse impacts to historical resources that have not yet been the subject of treatment and protection measures. Regionwide development activities would continue to have a cumulative adverse effect on historic resources. This alternative would make a minor contribution to the regionwide cumulative adverse effect.

This alternative would not result in major, adverse impacts to any historic resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the historic resources of the National Area.

**VISITOR USE AND EXPERIENCE**

**Analysis.** Under this alternative, a variety of natural and cultural features would remain readily available for visitor use, including the river, gorge rim views, and certain historic sites. Many other features would likewise be available depending on visitor interests and abilities. Compared to the No-action Alternative, access to some of
these features would improve under this alternative, but no new major visitor facilities would be built. Of all the alternatives, Alternative A would place the least emphasis on visitor use. The enhanced recreation zone is smaller under this alternative than under Alternative B.

As provided by the legislation establishing the National Area, access to game for hunting, trapping, and fishing would continue under joint federal and state management. However, motor vehicle access to many sites in the gorge would remain largely curtailed due to legislative restrictions. To address this problem, access for hunters would continue to be available along designated access routes.

Public education programs and exhibits would continue to be provided on- and off-site on a variety of resource-related subjects. This alternative would benefit public understanding over the long term as opportunities are continuously taken by National Area personnel to communicate elements of the alternative as well as required management. Overall visitor satisfaction would tend to increase since it would be clearer to them what to expect before arrival.

Visitors would continue to have access to concessioner services, especially at the Chant Creek Lodge and the Station Camp and Bandy Creek horse camps.

Uncrowded areas and solitude would remain widely available, but would diminish slightly over time as visitation levels increased. Still, opportunities for this type of experience would be slightly greater under this alternative than under any of the other action alternatives. The establishment of a designated system of roads and trails would allow focused application of maintenance and rehabilitation efforts, thereby improving the quality of the visitor experience. The impacts from these efforts would be minor to moderate, long-term and beneficial for most visitors.

Overall, the impact of this alternative on visitor use and experience would be minor to moderate, long-term, and beneficial.

**Cumulative Impacts.** Same as the Preferred Alternative.

**Conclusion.** Under this alternative, the general character of the National Area would not change, but the designation of an official roads and trails system, and the focused devotion of resources to rehabilitation and maintenance of those facilities, would result in minor to moderate beneficial impacts on visitor use and experience. This alternative provides for the development of fewer visitor facilities than do the other action alternatives. Visitors would have more opportunities for solitary experiences under this alternative than under the other action alternatives, but opportunities for more social forms of recreation and experience would be available as well. In contrast to the No-action Alternative, expanded educational and outreach programs would be undertaken, resulting in increased knowledge and enjoyment of resources in the National Area. Impacts from this alternative would be long-term, minor to moderate, and beneficial, depending on location in the National Area and visitor preferences.

**SOCIOECONOMIC ENVIRONMENT**

**Operation of the National Area**

**Analysis.** Under Alternative A, the National Park Service would undertake to provide new trailheads and trail connectors, improve the condition of existing roads, trails and developed sites, and increase monitoring of natural and cultural resources. The actions contemplated by this alternative would require new expenditures for additional labor and supplies. However, somewhat less development is called for under this alternative than the other action alternatives, and the expenditures for labor
and supplies would be correspondingly smaller, resulting in fewer beneficial impacts to the local and regional economy. Nearby communities would continue to experience direct benefits of expenditures by NPS for supplies and by individual NPS employee purchases. National Area employee salaries currently total approximately $2.9 million, which directly benefits the local economy. The increased National Area staff associated with this alternative would increase the total salary amount being spent in the local economy. The impacts of all development and maintenance activities on the local economy would be moderate, long-term and beneficial.

**Cumulative Impacts.** Same as the Preferred Alternative

**Conclusion.** Any socioeconomic impacts on the region that could be expected under this alternative would be moderate in effect. Although there would probably be major adverse and beneficial cumulative impacts on the economy from regional growth, the impact of National Area operations on the regional economy would be moderate under this alternative. Impacts to the local economy would be somewhat more pronounced, with this alternative having a moderate to major, beneficial impact on the local economy.

**Tourism and Recreation.**

**Analysis.** The identification of long-term goals in this alternative will allow surrounding communities to better understand where the National Area is headed, allowing all parties to begin to work more in concert. Visitor patterns may change from current ones under this or any other alternative, but they would become more predictable since they would be based on a more clearly identified management direction. Businesses oriented to National Area visitors would be better able to align their expectations with National Area goals; and with limits placed on the kinds and levels of development within the National Area, the neighboring communities would better understand the role they could play in providing services. With realized expectations of businesses could come additional business ventures.

Under this alternative, the National Area would be in a position to gain increasing visibility and become known to a wider range of potential visitors. Currently, visitors coming to the National Area are arriving with the expectations of certain conditions, facilities, and experiences. In contrast to the No-action Alternative, but to a lesser extent than the other action alternatives, Alternative A would better enable National Area personnel to meet these expectations by providing greater numbers and types of recreational opportunities, better maintained facilities, and enhanced protection for natural and cultural resources. As the quality of the visitor experience is maintained or improved, visitation may also increase, along with associated benefits to the economy.

Under this alternative, gateway communities would continue to experience positive cyclical increases in business related to tourism. The local tourism industry would depend in part on, and benefit from, visitors attracted to the National Area, and the National Area would continue to be an important attraction in the area. The overall impact of the National Area on gateway communities or the regional area would not change appreciably under this alternative as compared to the No-action Alternative. Therefore, this alternative would likely have a moderate, long-term, indirect and beneficial impact on the growth of the local tourism economy.

**Cumulative Impacts.** Same as the No-action Alternative.

**Conclusion.** By enhancing the attractiveness of the National Area to potential visitors, this alternative would likely
have a moderate, long-term, indirect and beneficial impact on the local tourism economy. This alternative would have a moderate effect on tourism to the region as a whole. Therefore, this alternative would have a moderate, beneficial impact on the regional tourism economy.

Concessions

Analysis. Alternative A contemplates less visitor-use development than any of the other action alternatives. As a result, even with some increase in visitation, concession contractors and other business permit holders could experience smaller increases in business activity under this alternative than the other action alternatives. The impacts of Alternative A on concessioners would be minor, long-term and beneficial.

Cumulative Impacts. Alternative A could result in minor beneficial impacts to concessioners. These impacts, in conjunction with the normal tourism-related growth in the vicinity of the National Area, would have a minor beneficial cumulative impact. The contribution of Alternative A to this beneficial impact would be minor.

Conclusion. The socioeconomic impacts on concessioners and other commercial businesses operating within and adjacent to the National Area would be minor, long-term and beneficial under Alternative A. In light of the positive effect on overall recreational activity of other developments in the vicinity of the National Area, the cumulative effects would be minor and beneficial.

OPERATIONAL EFFICIENCY

Analysis. Under Alternative A, the National Area would generally continue to use existing infrastructure, although some development of new recreational facilities, such as trails and parking areas, would occur. In addition, development of a new collections-storage facility is proposed in order to provide public access to significant artifacts and allow protection of these resources in a manner consistent with accepted standards. Much of the National Area's existing office space is presently located in aging houses acquired with the Area's land base, and these structures would be replaced as they reach the end of their useful lives.

In contrast to the No-action Alternative, this alternative calls for slightly increased levels of NPS staff. Although current staff levels have achieved a certain level of efficiency, the additional staff in this alternative would enhance the National Area's ability to provide adequate levels of resource protection and preservation, maintenance of existing facilities, and visitor services. Under this alternative, maintenance needs would decrease as improperly designed and difficult-to-maintain roads and trails would be excluded from the National Area's official roads and trails system. Visitor use would be limited to those roads and trails included in the official roads and trails system. Substantial rehabilitation would take place for officially-recognized roads and trails, thereby making protection of resources easier for National Area staff. Taken together, these impacts would have a minor to moderate, long-term and beneficial impact on operational efficiency.

Cumulative Impacts. Same as under the Preferred Alternative

Conclusion. Alternative A would result in minor, beneficial changes in operations of the National Area. Although impacts to operational efficiency resulting from retention of most of the existing administrative buildings, work space, and visitor contact facilities would be negligible, the proposed increases in staffing levels would enhance operational efficiency, allowing National Area staff to provide improved protection for visitors and area resources. Thus, this alternative would result in impacts that are minor to moderate, long-term and beneficial.
CONSISTENCY WITH THE PLANS OF OTHERS

Under Alternative A, National Area management would provide fewer recreational opportunities than are available under the other action alternatives. As with the Preferred Alternative and Alternative B, and in contrast to the No-action Alternative, the clearer management direction provided by Alternative A would provide greater consistency with the plans of others. As a result, there would be no adverse impacts on the plans of surrounding communities or other Area neighbors. Community goals in the surrounding counties generally include providing for beneficial interrelationships between work, living, and recreational areas, protecting natural resources for the use and enjoyment of present and future citizens and visitors, developing the area without spoiling the environment, and providing citizens with a high-quality environment for living, work, and leisure time activities. The overall preservation and use of the National Area generally contribute to these goals, and this would continue under Alternative A. Cooperation with adjacent publicly owned areas will continue to contribute to satisfactory relationships. Under Alternative A, greater emphasis will be placed on cooperation with the town of Rugby.

State recreation planning indicates the National Area contributes importantly to the supply of public recreation opportunities and to other, related goals. Significant among these are resource preservation and interpretation, provision of appropriate facilities, and long-term benefit to the economy. Alternative A, with its management unit applications, would appear to provide the desired consistency with state recreation planning. Aside from the basic mandated purposes of the area, the gorge would receive the highest level of protection and the plateau would have potential for additional development. This arrangement would appear to be consistent with state and local goals as well.

National Area management would continue to coordinate with businesses that provide visitor services and to cooperate to achieve the objectives of all parties. Nevertheless, various private land use and business ventures would continue to appear near and adjacent to the National Area whose objectives do not fully consider the Area’s management requirements.

IMPACTS ON ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

Private vehicles would continue to be the primary means of transportation to and through the National Area. There may be a gradual reduction in visitor, commuter, employee, and concessioner gasoline consumption because of vehicles achieving better fuel economy as newer models replace older models over time.

UNAVOIDABLE ADVERSE EFFECTS

Unavoidable adverse impacts are defined as impacts that cannot be fully mitigated or avoided. Adverse impacts attributable to this plan and NPS management would arise out of facility development, maintenance, and use. Important adverse impacts should not have to occur since the management units include sufficient area for sensitive facility siting. Standard practice also includes mitigation of all identified impacts. Law, policy, and standard procedures guide these detailed considerations.

Development at or near the river and its tributaries and road and trail development that crosses streams would likely result in increases in turbidity through runoff as previously mentioned. While temporary and localized, these impacts would be considered unavoidable because of the recreation purposes of the National Area and the fact that the focus of many visits is river use in some form. Additional hazards having minor to major impacts on visitors
and employees include contaminated mine drainage and oil and gas operations.

Some adverse impact would likely be unavoidable to resources, including sensitive resources, because of visitor use. Even with increased staffing and funding, the complexity of natural processes and the large number of cultural resources in the National Area would constrain the ability of the National Park Service to fully mitigate adverse impacts. Impacts would be expected to be minor in terms of overall loss, although there is a potential for this to be major if the loss involves nonrenewable historic or archeological resources.

Monitoring use and resource conditions would assist in avoiding or minimizing adverse impacts and, when coupled with appropriate management strategies, would generally promote sustainable conditions within the National Area. It is a legal requirement for NPS to address carrying capacity issues in general management planning. Based on this requirement, it is NPS policy to establish goals in general management plans for resource conditions and the visitor experience for all areas within the units it administers through the use of management zoning. More detailed quantification of use levels appropriate to those management goals and discussion of possible strategies that could be employed to manage use levels if necessary are then documented in later implementation planning.

The VERP planning process (Visitor Experience and Resource Protection) has been developed by the NPS to follow general management planning to complete the carrying capacity analysis. The VERP process can be conducted separately or incorporated into other implementation planning efforts. The process consists of four key elements: (1) an areawide management zoning scheme that defines visitor experience and resource condition goals for all locations (accomplished in the general management plan), (2) selection of indicators that can be monitored to ensure that the goals are being met, (3) a systematic monitoring program, and (4) standards for each monitored indicator that is expected to warn when conditions merit management action. Ongoing research will identify meaningful indicators and standards that can be used to ensure provision of quality experiences while protecting National Area resources.

IRRETRIEVABLE OR IRREVERSIBLE COMMITMENTS OF RESOURCES

All facility development and use is considered essentially a permanent commitment of resources, although removal of facilities and site restoration has occurred and could still occur. New facilities would be developed on sites that have negligible resource value, which would be specifically considered during detailed implementation planning.

RELATIONSHIP BETWEEN SHORT TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The resource prescriptions included in the management units, along with required management, are intended to ensure the achievement and maintenance of the purposes for which the National Area was established. All use and development would occur in the context of sustainable resource conditions that, in turn, permit sustained levels of visitor use and satisfaction.

Under this alternative, the vast majority of the National Area would remain protected in its natural state and would maintain its long-term productivity, i.e., ability to achieve its mission. A number of new actions would be taken to manage visitor use, including the designation of an official system of roads and trails and focused devotion of resources to rehabilitation of roads, trails, and
developed sites. With increasing visitor use expected, there would be minor impacts on most natural resources in the National Area, with moderate impacts on soils and vegetation in some high use areas. Adverse impacts on the National Area's natural and cultural resources would be mitigated to enhance the ability of these resources to contribute to the National Area's legislative mission.

**ALTERNATIVE B**

**MANAGEMENT ZONES**

This alternative contemplates the most potential development of the four alternatives, with less of the plateau subject to use-limitations. The actual level of future development under this alternative would depend on future visitor use levels and funding capability. Alternative B divides the National Area into the same three management zones as Alternative A, namely, primitive recreation unit, enhanced recreation unit and backwoods recreation unit.

The application of these management zones to the National Area would provide area-specific management direction including an indication of the kinds and levels of allowable actions. The Primitive Recreation Unit has the lowest tolerance for degradation and specifies only necessary and minimal interference with natural processes. This prescription for the gorge would provide the highest level of protection for this area, which contains most of the sensitive natural resources. This protection, along with the lowest level of development, i.e., dispersed trails, would do the most to benefit natural systems.

The Enhanced Recreation Unit would be applied only to areas already partly developed. Any future development would necessarily require some land disturbance, but would be located and designed to avoid or minimize impacts. Generally, fairly sizable land areas were included within the Enhanced Recreation Units to allow avoidance of sensitive resources and natural systems. Later planning and appropriate coordination would assure detailed consideration of these concerns.

In contrast to the Enhanced Recreation Units, the designated Backwoods Recreation Units would see less development. Most of these units would not change appreciably from current conditions. The kinds and levels of development that would occur would follow the unit's management prescriptions.

**NATURAL RESOURCES**

**Geology, Physiography, and Soils**

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two (“Required Management”) of this document.

Analysis. Under Alternative B, visitor facilities would continue to consist primarily of a basic system of roads, trails, and access points. However, more facilities could be built under this alternative than under the Preferred Alternative or Alternative A.

Direct impacts from building activities would include surface compaction of soils. Site preparation could result in either removal or addition of earth, destroying soil structure. There would be an increase in sheet erosion and reduced water infiltration. These impacts would occur from the building activities and would be considered long term. Following development, use of the facilities would likely expand the area of soil compaction and root exposure generally around the facility and along nearby trails.
These indirect impacts would also be considered long-term, although unacceptable levels of impacts would be identified and corrected through visitor education, site hardening, and/or use management. Rehabilitation of impacted areas would occur where possible. Impacts associated with development and rehabilitation of facilities would be negligible to moderate, long-term and adverse for soil resources.

In contrast to the No-action Alternative, Alternative B provides in general terms that the National Area will implement measures designed to protect and conserve the National Area’s geologic, physiographic, and soil resources. These measures are described with less specificity in Alternative B than in the Preferred Alternative. If fully funded and implemented, these measures would have a moderate to major, long-term, beneficial impact on soils and geologic resources.

NPS policy prohibits the surface mining of soil, gravel, or rock materials for any park operations purposes, including the building of roads or facilities. Most modifications to access roads, trails, and developed sites would be limited to existing disturbed areas and would not likely involve blasting or other modification of bedrock geology. The potential impacts to geologic resources from road or facility development or NPS operations would thus be negligible. In contrast, visitor activities have the potential to adversely impact sensitive geologic resources such as rock shelters, arches and chimneys. Under Alternative B, these features would be managed in accordance with the management prescriptions established for the alternative’s three management zones. These resources would not be subject to the specialized zoning for sensitive resources found in the Preferred Alternative. The resulting adverse impacts would be greater than under the Preferred Alternative, but less than under the No-action Alternative. The overall impacts on these geologic features would be negligible to moderate, long-term and adverse.

Alternative B would likely result in more increases in visitation to the National Area than any of the other alternatives. Increases would occur as a result of improved facilities, new facilities, and increased opportunities for certain types of outdoor experiences. In particular, visitor activities such as camping, hiking, climbing, and horseback riding would likely increase over levels anticipated by the other alternatives and would continue to have localized effects on soils. Impacts on soils would be minimized via an upgraded program for maintaining and rehabilitating roads, trails, and developed sites. However, this alternative would not include the use-designations for particular roads and trails found in the Preferred Alternative. As a result, certain roads and trails would continue to be difficult to maintain and would continue to erode as they experienced inappropriate use.

Visitors would continue to overuse some facilities such as certain trails and also use inappropriately, and in some cases illegally, certain sensitive, readily accessible resources such as rock shelters and arches. In previously undisturbed areas, human trampling would result in vegetation loss followed by soil compaction and erosion. Social trails on sloping hillside would act as channels for surface water runoff, resulting in soil erosion. These negative impacts would be mitigated under Alternative B by focusing additional resources on monitoring and rehabilitation of disturbed areas. The increased visitor use associated with this alternative would result in negligible to moderate, long-term and adverse impacts on soils and geologic resources throughout much of the National Area.

In some high-use areas, such as Bandy Creek, there would be minor to moderate adverse impacts, as repeated trampling resulted in high plant mortality and increased erosion potential. Under
Alternative B, NPS staff would devote additional resources to problem sites to prevent and reduce impacts and to restore damaged areas. However, these efforts would not prevent or reduce all impacts under the increased visitation levels anticipated under this alternative. Thus, minor to moderate long-term adverse impacts would likely occur in high-use areas.

In other, more remote areas of the National Area, there would be negligible to minor adverse impacts on soils under Alternative B, as relatively few plants, in localized areas, would be affected by trampling and other disturbance. The potential for soil erosion in these areas would not increase appreciably, even with increased visitation.

Increased parking by visitors in vegetated areas would cause loss of vegetation, which would contribute to soil erosion. Because these effects would be localized and occur in previously disturbed areas, the impacts would be negligible to minor.

**Cumulative Impacts.** Same as the Preferred Alternative.

**Conclusion.** Increased visitor activities under Alternative B would result in localized, minor, long-term, and adverse impacts on soils and geologic resources, with moderate impacts in some high use areas. Impacts would include increased soil compaction and erosion. However, these impacts would be minimized by the management prescriptions contained in Alternative B’s three management zones. The result would be minor to moderate, long-term and beneficial impacts on soils and geologic resources. In the region as a whole, there would likely be minor to major long-term cumulative adverse impacts on soils and geologic resources, primarily due to logging, mining, oil and gas extraction, and land development. This alternative’s contribution to these cumulative impacts would be minor.

This alternative would not result in major, adverse impacts to any geologic, physiographic, or soil resource or value, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the geologic, physiographic, and soil resources of the National Area.

**Water Quality**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two (“Required Management”) of this document.

**Analysis.** Alternative B provides in general terms that National Area personnel would continue or commence various initiatives to protect and improve water quality. These measures are described with less specificity in Alternative B than in the Preferred Alternative. Overall, these measures would have a moderate to major, long-term, beneficial impact on water quality. Nevertheless, minor to moderate, long-term adverse impacts on water quality would continue under Alternative B, given that land uses in the watershed outside the National Area boundary would continue to result in slight increases in levels of sediment, pollutants, and nutrients in the water.

As a result of the improved access and rehabilitated roads and trails contemplated by Alternative B, visitor activities such as camping, hiking, climbing, and horseback riding would likely increase more than they otherwise would under the No-action Alternative. These levels of visitor use would continue to have localized, indirect
effects on water quality due to increased soil compaction, vegetation trampling, and consequent loss of vegetation in some areas. These effects would lead to greater erosion and the addition of sediment to adjacent waters. The nature and extent of soil compaction and vegetation damage, and therefore, of related impacts on water quality, would depend on the types of local soils, vegetation and topography, as well as the areal extent, duration, and intensity of use. However, sedimentation effects generally would be slight in comparison to the sedimentation occurring as a result of runoff from disturbed areas outside the National Area. Therefore, sedimentation-related impacts on water resources would be negligible to minor.

A number of development sites are adjacent to the Big South Fork River or other streams because they provide visitor access to and use of the waters within the National Area. Roads and trails that cross streams would also contribute to stream turbidity during development periods and during certain maintenance activities. Standard mitigating measures such as silt screens, check dams, retention ponds, and other barriers would be used to minimize erosion and prevent noticeable short-term deterioration of water quality during any ground disturbance. All disturbed areas would be revegetated to prevent long-term impacts from any runoff. Monitoring of water quality would be an important management activity. Development-related impacts on water quality are thus anticipated to be negligible to minor, short-term and adverse.

The increased use of unpaved roads under Alternative B could make these facilities more susceptible to surface erosion and runoff. Vehicle use along roads and in parking lots would continue to deposit petroleum products that could be washed into adjacent waters. Impacts would generally be minor due to mitigation techniques such as placement of sediment traps and and/or biofiltration (vegetation filtration) along roadsides.

Improper disposal of untreated human waste in areas without toilet facilities currently causes minor water quality problems. Under Alternative B, this problem would increase proportionately with increased human use of the area.

**Cumulative Impacts.** Same as the Preferred Alternative.

**Conclusion.** Expected levels of visitor use under Alternative B would have a minor adverse impact on resources and water quality by increasing levels of sediments, vehicle-related pollutants, and nutrients in rivers and streams. Most of these effects would be localized. Oil and gas development within the boundary of the National Area would increase the amount of disturbed area, possibly contributing increased sediment and polluted runoff to adjacent receiving streams. Because Alternative B prescribes, in general terms, enhanced management control for these operations, the impact of these operations on water quality would be localized, minor, short-term, and adverse. Overall, impacts on water quality would be minimized by the rehabilitation activities, management zones, and management prescriptions contained in Alternative B, although not to the same extent as would likely occur under the more comprehensive and detailed management prescriptions of the Preferred Alternative. In some instances, water quality would be enhanced by the measures called for in Alternative B. The impacts of Alternative B on water quality would thus be minor, long-term, and beneficial as compared to the No-action Alternative. There would be major to moderate, long-term and adverse cumulative impacts in the region, primarily because of pollutant loads in runoff associated with logging and land development outside the National Area. The contribution of Alternative B to these adverse cumulative impacts would be minor.

Existing conditions are causing major adverse impacts to water quality in certain
portions of the National Area. Alternative B would ameliorate some of these conditions, but to a lesser extent than the Preferred Alternative. As a result, this alternative would not result in major, adverse impacts to any water resource or value, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in additional impairment to the water resources of the National Area.

Floodplains

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two (“Required Management”) of this document.

Analysis. Alternative B would have negligible adverse impacts on floodplain values for the Big South Fork and its tributaries. These impacts would be associated with the development, rehabilitation and enhanced maintenance of access roads, trails, parking areas, and stream crossings in the floodplain, all of which have negligible impacts on floodplain resources and functions and hence are exempt from NPS policies on floodplain management (Director's Order 77-2; NPS Floodplain Procedures Manual 77-2).

Streamside facility development would occur to some extent within the 100-year floodplain; however, as noted above, NPS has determined that water access facilities are acceptable uses of floodplains. These types of facilities must be in proximity to the water to provide needed visitor access and use. Facility design would consider the likelihood of flooding and would include appropriate visitor warnings. More streamside development would occur under this alternative than under any of the others; however, the impacts to floodplain resources would be negligible.

Cumulative Impacts. Same as the Preferred Alternative.

Conclusion. This alternative would result in negligible long-term adverse impacts on floodplain values throughout the National Area. Cumulative impacts would include moderate adverse long-term effects on floodplains because of actions outside the National Area. This alternative's contribution to these impacts would be negligible.

This alternative would not result in major, adverse impacts to any floodplain resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the floodplain resources of the National Area.

Wetlands

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two (“Required Management”) of this document.

Analysis. Streamside facility development would occur to some extent within the 100-year floodplain. These types of facilities must be in proximity to the water to provide needed visitor access and use. When specific development is determined and sites selected, whether at a streamside location or elsewhere, a wetland impact
determination would be made. If appropriate, detailed analysis of potential impacts on wetlands would be provided in the environmental documentation prepared for each development project.

Existing practices that prevent indirect impacts on wetland areas would continue. Overall, impacts to wetland resources are expected to be negligible.

**Cumulative Impacts.** Same as the Preferred Alternative.

**Conclusion.** This alternative would not cause any impacts on wetlands. Although there would be a moderate, long-term, adverse cumulative impact on wetlands in the region, the contribution of this alternative to this impact would be negligible.

This alternative would not result in major, adverse impacts to any wetland resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the wetland resources of the National Area.

**Air Quality**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

**Analysis.** Under Alternative B, visitor use is expected to increase at a somewhat greater rate than under the other three alternatives. As a result, the number of vehicle miles traveled in the National Area and surrounding areas should be greater under this alternative than under the other alternatives. The resulting increase in vehicular emissions, coupled with a slight increase in the number of campfires, would likely result in increased emissions of particulates, carbon monoxide, and volatile organic compounds. Therefore, Alternative B would have a negligible to minor, log-term and adverse impact on air quality.

During development, there would be a temporary increase in particulates (fugitive dust) and vehicle emissions where motorized equipment is used. Standard mitigation includes watering the disturbed areas. This would be a temporary condition and would not violate air quality standards.

**Cumulative Impacts.** Same as the Preferred Alternative.

**Conclusion.** This alternative would result in a negligible to minor impact on local air quality, due to slight increases in pollutants from vehicle exhaust and campfires. Cumulative impacts would include minor, adverse impacts on regional air quality, as well as minor, adverse impacts on regional visibility. This alternative's contribution to these regional impacts would be negligible to minor.

This alternative would not result in major, adverse impacts to any air resource or value, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the air resources and values of the National Area.
Vegetation

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two (“Required Management”) of this document.

Analysis. Alternative B provides in general terms that National Area personnel would continue or commence various initiatives to protect and restore native vegetation. These measures are described with less specificity in Alternative B than in the Preferred Alternative. The impacts of these initiatives on vegetation in the National Area would be minor to moderate, long-term, and beneficial.

Visitor activities such as camping, hiking, climbing, and horseback riding would increase more under this alternative than the other alternatives. In most areas, the impacts from these activities on vegetation would continue to be localized and minor to moderate. In undisturbed areas, human trampling would bend or break aboveground plant parts. Trampled vegetation makes a site easily recognizable as an informal (social) trail or campsite, often causing human use to escalate. Repeated use of these newly disturbed areas, as well as previously disturbed areas, would result in vegetation loss. In some high-use areas, such as Twin Arches, there would be moderate adverse impacts, as repeated trampling resulted in high plant mortality. Under Alternative B, NPS staff would focus additional resources on problem sites in order to prevent and reduce impacts and restore vegetation. The impacts associated with these efforts would be minor to moderate, long-term and beneficial.

The nature and extent of vegetation loss under Alternative B would depend upon the amount, timing, type, and location of use. More facilities would be built under this alternative than the other alternatives, thereby creating more areas where vegetation could be adversely affected by concentrated visitor usage. In high-use areas, plant mortality would result in continued degradation even after recreational use ceased because many plant species are unable to generate new growth following trampling, and vegetation loss occurs quickly. In other areas of the National Area, there would be negligible to minor adverse impacts to vegetation as relatively few plants, in localized areas, would be affected.

A number of special plant habitats occur in the National Area, including rock shelters, cliff areas, and gravel/cobble bars along the river. These habitats harbor rare and unusual plant communities that are particularly susceptible to human impacts. Existing uses are impacting a number of these communities, especially at Station Camp and Big Island. Various plant species are being affected, including plants listed as threatened or endangered by state and federal authorities. In extremely sensitive plant communities, relatively minor impacts could adversely affect rare, threatened, or endangered plants. Given the important local and regional role played by the National Area in conserving rare, threatened, and endangered plants, active management will be required to protect and enhance species abundance and composition. Under this alternative, these impacts would be assessed and appropriate management strategies would be developed and implemented.

Increased visitor use might also help spread exotic (non-native) or noxious species from seeds carried into the National Area on vehicles, horses, clothing, maintenance equipment, and other materials. Impacts would range from minor to moderate, depending on the type of plant and where it was introduced. Moderate impacts would occur if a local population of a species or plant community were sufficiently affected to cause a change in its abundance or distribution. The inventory and monitoring program prescribed under this alternative would allow NPS personnel to identify...
problem areas and develop response strategies.

The use of OHVs in the National Area would continue under Alternative B, but usage would be limited to specific trails and designated areas appropriate for their use. By directing OHVs toward appropriate areas and away from sensitive environments, damage to vegetation would be greatly reduced, resulting in impacts that are minor to moderate, long-term and beneficial to the National Area as a whole. Impacts to the areas where OHV use is allowed would be minor to moderate, long-term, and adverse. To the extent that OHV users were to leave the designated trails and create new routes or social trails, impacts to vegetation would be minor to major, long-term and adverse.

Dust and pollutants from motor vehicles in the area would increase slightly and continue to affect vegetation adjacent to roadways by interfering with plant respiration and causing plant decline in leaves. Increased parking by visitors in vegetated areas would cause loss of vegetation, which might lead to invasion by noxious weed species. Because these effects would be localized, the impacts would be negligible to minor.

Cumulative Impacts. Same as the Preferred Alternative.

Conclusion. Increased visitor activities associated with Alternative B mostly would result in localized, minor, long-term and adverse impacts on vegetation, with moderate to major impacts in some high use areas such as Bandy Creek, Twin Arches, and Blue Heron. Impacts would include trampled vegetation, loss of plants, and the spread of exotic species. These impacts would be minimized and in some cases offset by the rehabilitation activities, ecosystem restoration, and use of management zones and prescriptions called for under this alternative. The impacts associated with these efforts would be minor to moderate, long-term and beneficial.

In the regional context, there would continue to be minor to major long-term cumulative adverse impacts on vegetation, primarily due to mining, logging, fire management, oil and gas extraction, and land development. The contribution of Alternative B to these cumulative impacts would be minor.

This alternative would not result in major, adverse impacts to any vegetation resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the vegetation resources of the National Area.

Terrestrial and Aquatic Animal Life

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two (“Required Management”) of this document.

Analysis. Alternative B provides in general terms that National Area personnel would continue or commence various initiatives to protect and restore native vegetation. These measures are described with less specificity in Alternative B than in the Preferred Alternative. The impacts of these initiatives on terrestrial and aquatic animal life in the National Area would be minor to moderate, long-term, and beneficial.

Visitor uses such as camping, hiking, and horseback riding would likely increase at a somewhat greater rate under Alternative B than under the other alternatives. Impacts from these activities could include increased noise, vehicular traffic and habitat
disturbance. The impacts of these activities under Alternative B would be adverse and would range from negligible to moderate.

Most visitor use is concentrated in the center of the National Area. Increased human presence in these areas would result in some additional disturbance to wildlife. However, because these areas are already heavily used, it is doubtful that slight increases in human activity would noticeably increase impact to wildlife and wildlife habitat in these areas. Wildlife sensitive to human use already avoid these areas, and animals that do inhabit such locations would be accustomed to human use and would not be further impacted by additional human usage. To the extent that wildlife was disturbed, it would be temporary and would not affect local or regional populations. Therefore, the impacts in these areas, though adverse, would be negligible. Minor to moderate impacts would occur at new development sites, where wildlife would experience new or increased disturbance from human visitation.

Increased use would result in a proportional increase in improper food storage by visitors. Food and garbage left out attracts wildlife, resulting in animals associating food with people and possibly causing human-wildlife conflicts. Some visitors would continue to feed wildlife, which would also condition wildlife to associate humans with food. Existing wildlife management practices, such as providing wildlife-resistant garbage cans and educating visitors, would continue to be implemented, resulting in negligible to minor beneficial impacts.

 Increased visitation levels may result in more hunting pressure in the National Area. All hunting activities are governed by regulations issued by the states of Tennessee and Kentucky. Because the take-limits set by these regulations are based, in part, on anticipated hunting pressure, only negligible to minor impacts on local and regional populations would occur.

Wildlife are occasionally injured or killed by motor vehicles on park roads, and this impact might increase under Alternative B as a result of additional motor vehicles traveling to new and existing facilities. These adverse impacts would be minor because they would affect individuals, not entire populations.

**Cumulative Impacts.** Same as the Preferred Alternative.

**Conclusion.** Increased visitor activities associated with Alternative B would cause negligible to minor long-term adverse impacts on wildlife. Impacts would be associated with increased visitor use displacing or disturbing wildlife, conditioning wildlife to associate humans with food, and injuring or killing wildlife in collisions with motor vehicles. Impacts would be greater under this alternative than any of the others due to the increased levels of development contemplated by this alternative. Other aspects of this alternative, including additional research and resource management initiatives, would result in minor to moderate, long-term and beneficial impacts to terrestrial and aquatic animal life. Cumulative effects would include minor to major long-term adverse impacts, primarily due to habitat loss associated with logging and land development outside the boundary. The contribution of this alternative to these cumulative impacts would be minor.

This alternative would not result in major, adverse impacts to any terrestrial or aquatic wildlife resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental
impacts associated with this alternative would not result in impairment to the terrestrial or aquatic wildlife resources of the National Area.

**Special Status Species**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

**Analysis.** Under Alternative B, National Area staff would continue to develop protection strategies for stabilizing and enhancing threatened populations. Of special concern are unique vegetation communities (e.g., certain communities found at rock shelters and gravel bars), as well as plant species listed as threatened or endangered by state and federal authorities. Also of particular concern are special status aquatic species, including the duskytail darter, other special status fish species, and five species of mussels on the federal endangered species list. Those elements of this alternative addressed to improving water quality would have beneficial impacts on these species as well.

Until protective measures have been selected and implemented, the increased visitation anticipated under this alternative would likely result in continued adverse impacts to special status species, particularly mussels and some plants. Increased use of horse crossings at Station Camp and Big Island would likely result in continued mortality of individual special status mussels and unique plants in these areas, thereby having an impact on federally listed species.

To address this problem, NPS staff would supplement inventory studies with studies specifically designed to identify the best ways to minimize or eliminate the adverse impacts of facility development/maintenance and visitor use on special status species. In particular, studies would be commissioned to identify the best method(s) for trail/stream crossings that protect threatened and endangered species. In some areas trails would need to be relocated. Monitoring would also occur to insure that the protective measures selected by the National Area are, in fact, enhancing the long-term viability of special status species.

In addition, site-specific surveys would be conducted before implementing specific actions to determine if special status species existed in the project area. If any were located, the National Park Service would consult with the U.S. Fish and Wildlife Service and the states of Tennessee and Kentucky to determine mitigation measures to avoid or minimize adverse impacts on these species.

As a result of these initiatives, the actions contemplated in this alternative would not adversely affect special status species in the National Area.

**Cumulative Impacts.** Same as the Preferred Alternative.

**Conclusion.** Continued human use, along with expected increases in visitor use of the National Area, would cause disturbance to individuals of special-status species, as well as continuing mortality to individuals of special status mussels. In the short-term, impacts to mussels caused by horse crossings would continue to be minimized through the use of route-flagging. In the long-term, practical protective measures would be studied, implemented, and monitored in order to avoid adverse impacts to mussels and other special status species.

For activities in other locations, the survey, avoidance, and mitigation actions taken by the National Park Service would ensure that this alternative would minimize impacts on any federally or state listed species. The management zones prescribed in Alternative B would provide greater awareness of special status species than
would the No-action Alternative, but less than the Preferred Alternative.

The effects of actions by others outside the National Area, when combined with the impacts of actions under Alternative B, would be likely to adversely affect special status species. With its provisions for additional research and corrective actions, Alternative B would not contribute to this cumulative effect.

This alternative would not adversely affect any special status species found within the National Area. Therefore, the environmental impacts associated with this alternative would not result in impairment to special status species.

CULTURAL RESOURCES

Archeological Resources

Applicable Laws and Policies. The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two (“Required Management”) of this document.

Analysis. Under Alternative B, archeological resources would continue to be adversely impacted, but to a lesser extent than under the No-action Alternative. Illegal relic hunting would continue, but efforts would be made to curtail this activity as staffing permitted. This alternative would likely result in more increases in visitation than the other alternatives due to the development of additional facilities. These levels of visitation could result in slightly reduced levels of illegal relic hunting.

Direct impacts from development would be partially offset by cultural resource studies of areas to be developed. Ground disturbance would have the potential to adversely impact archeological resources, although many development sites in the National Area have been previously disturbed. Prior testing to permit consideration of alternate development sites would be undertaken. If avoidance of impacts on important resources were not possible, mitigation measures would be developed in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation. Mitigation could include, but not be limited to, avoidance and protection, data recovery (evaluated as an adverse impact that would be undertaken as a last resort), and educational outreach programs such as informative onsite tours and presentations. If any unforeseen cultural resources were discovered, they would be documented and maintained according to NPS guidelines and standards. All actions that affect cultural resources would be in accordance with the Secretary of the Interior’s Standards for Archeology and Historic Preservation.

In the near term, the National Area would expand its cultural resource management program and new initiatives would be undertaken to better define and manage cultural landscapes containing archeological resources. This approach would entail a more systematic survey of archeological resources than is contemplated under the No-action Alternative. Inventorying and classifying these sites and their features and determining their treatment would be an ongoing effort. As a result of these efforts, more archeological sites and isolated finds would be documented and protected. In addition, NPS staff would endeavor to enhance the management of National Area museum collections. Upgrading the Area’s substandard collections-storage facility would increase the public’s access to significant artifacts and would safeguard important resources in a manner consistent with accepted protection standards. Taken together, these actions would result in minor to moderate, long-term and beneficial impacts on known and newly-discovered archeological resources.

Disturbance can also result from unrestricted visitor access to areas of
known sensitivity for archeological resources. Visitor access impacts can include disturbances caused by overflow parking along roadside and trailhead areas, the creation and use of social trails, and occasionally the use and maintenance of existing trails. Some known and suspected prehistoric archeological sites are located near areas of high public use and visibility, such as rock shelters and arches. Some of these have sustained impacts from both natural and human caused erosion, a consequence of pedestrian and equestrian traffic on both designated and social trails. Under this alternative, all areas having known archeological resources would be protected in accordance with NPS policies, and any new facilities would be sited and built in such a way as to avoid or minimize impacts on archeological resources. Protection of archeological resources would be somewhat less systematic under this alternative than under the Preferred Alternative because this alternative does not establish a Sensitive Resource Protection Zone with corresponding management prescriptions.

**Cumulative Impacts.** Same as the Preferred Alternative.

**Conclusion.** Under this alternative, a more systematic approach would be taken to the discovery, treatment, and protection of archeological resources than under the No-action Alternative. These efforts would complement established resource protection measures currently employed by National Area staff. The impacts to archeological resources from these measures would be minor to moderate, long-term and beneficial. More visitation, which could result in continuing erosion of some archeological sites, would have minor to moderate, long-term and adverse impacts to archeological resources that have not yet been identified or have not yet been the subject of treatment and protection measures. When actions external to the National Area are considered in conjunction with this alternative and other actions inside the National Area, there would be a major adverse cumulative effect on archeological resources. This alternative would make a minor contribution to this adverse effect.

This alternative would not result in major, adverse impacts to any archeological resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the archeological resources of the National Area.

**Ethnographic Resources**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

**Analysis.** After the National Area was established, acquisition of land by the federal government resulted in the relocation of families and individuals away from their traditional homesites. Relatives of many of these people still live in the surrounding area. However, the National Area’s enabling legislation resulted in the closure of most roads into the gorge. As a result, many local residents are prevented from having traditional motorized access to various sites of interest. Lack of use has resulted in the natural succession of many sites to forest.

The gorge will remain closed to most motorized access under all of the alternatives, in accordance with the dictates of the enabling legislation. Continued closure will result in moderate to major, long-term and adverse impacts to persons...
deprived of motorized access to traditional use sites. However, these impacts are not attributable to the alternatives per se, but stem from legislative requirements.

Under Alternative B, certain sites will continue to be preserved and interpreted for visitors, including the Oscar Blevins, Lora Blevins and John Litton farmsteads. Other traditional use sites are designated for continuing use, such as the Burnt Mill Bridge. In addition, oral histories will continue to be accumulated to document past residents' observations and experiences.

**Cumulative Impacts.** Same as the Preferred Alternative.

**Conclusion.** Establishment of the National Area required closure of most of the gorge to motorized access, resulting in moderate to major, long-term and adverse impacts to ethnographic resources. However, various sites and ethnographic resources within the National Area are being actively used or protected and interpreted for visitors, and these activities would continue under Alternative B. The impacts of these activities on ethnographic resources would be minor to moderate, long-term and beneficial.

**Historic Resources**

**Applicable Laws and Policies.** The laws, regulations, and policies that govern NPS actions with respect to this impact topic are presented in Chapter Two ("Required Management") of this document.

**Analysis.** Under Alternative B, historical resources would continue to be adversely impacted, but to a lesser extent than under the No-action Alternative. This alternative would likely result in a greater increase in visitation than would occur under the other alternatives due to the development of additional facilities. These levels of visitation could result in more adverse impacts to historical resources than would occur under the Preferred Alternative or Alternative A.

Under this alternative, there would be a continued deterioration and loss of the historic fabric as a result of natural deterioration and ongoing human interaction. This alternative calls for an ongoing effort to inventory and classify historic sites and their features and determine their treatment. Decisions would then be made based on specified criteria to preserve, rehabilitate, or restore particular historic resources. For the rest, the toll of natural processes would be accepted after appropriate documentation. As a result of these efforts, more historical sites would be documented and protected than would be possible under the No-action Alternative.

Throughout the National Area, mitigation measures would be employed to minimize the loss of historic resources. In situations where potential impacts are identified, possible mitigation could include, but not be limited to, avoidance and protection, data recovery (evaluated as an adverse impact that would be undertaken as a last resort), and educational outreach programs such as informative onsite tours and presentations.

Under this alternative, appropriate management prescriptions would be implemented for protecting historic resources from disturbance or destruction. Increased visitation could result in physical wear and tear on structures, vandalism, and possible overuse of grounds. Efforts to minimize these effects would include careful determination of resources suitable for onsite interpretation to visitors, careful site selection for developments, visitor education, structured use of the site/resource by specific pathways, or the use of guides. Adaptive uses, such as at Charit Creek lodge, would help preserve structures and other features. While historic fabric could be affected, prior Historic Structure Reports would document important elements. Monitoring of the
resource conditions would be an important management function. Treatment measures for historic resources would continue to conform to the Secretary of the Interior's Standards and Guidelines for the Treatment of Historic Properties, 36 CFR section 68. However, as structures aged and more visitors to the National Area encountered historic structures, the potential would exist for increasing impacts.

As a result of the actions described above, this alternative would result in minor to moderate, long-term and beneficial impacts to historic resources.

**Cumulative Impacts.** Same as the Preferred Alternative.

**Conclusion.** Adverse effects to historic resources would continue under this alternative, but to a lesser extent than under the No-action Alternative. Efforts would be undertaken to inventory, classify, and monitor historic resources. Decisions would be made based on specified criteria to preserve, rehabilitate, or restore certain historic resources. The remaining historic resources would continue to be impacted by natural processes, but these impacts would be mitigated in ways appropriate to the site. The result would be minor to moderate, long-term and beneficial impacts on historic resources. More visitation, which could result in continuing deterioration of some historical sites, would have minor to moderate, long-term and adverse impacts to historical resources that have not yet been the subject of treatment and protection measures. Regionwide development activities would continue to have a cumulative adverse effect on historic resources. This alternative would make a minor contribution to the regionwide cumulative adverse effect.

This alternative would not result in major, adverse impacts to any historic resource, the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, the environmental impacts associated with this alternative would not result in impairment to the historic resources of the National Area.

**VISITOR USE AND EXPERIENCE**

**Analysis.** Under this alternative, a variety of natural and cultural features would remain readily available for visitor use, including the river, gorge rim views, and certain historic sites. Many other features would likewise be available depending on visitor interests and abilities. However, compared to the No-action Alternative, access to some of these features would greatly improve under this alternative. Of all the alternatives, Alternative B would place the greatest emphasis on visitor use. The enhanced recreation zone is larger under this alternative than under Alternative A. In addition, more facilities would be built under Alternative B than any of the other alternatives.

As provided by the legislation establishing the National Area, access to game for hunting, trapping, and fishing would continue under joint federal and state management. However, motor vehicle access to many sites in the gorge would remain largely curtailed due to legislative restrictions. To address this problem, access for hunters would continue to be available along designated access routes.

Public education programs and exhibits would continue to be provided on- and off-site on a variety of resource-related subjects. This alternative would benefit public understanding over the long term as opportunities are continuously taken by National Area personnel to communicate elements of the alternative as well as required management. Overall visitor
satisfaction would tend to increase since it would be clearer to them what to expect before arrival.

Visitors would continue to have access to concessioner services, especially at the Charit Creek Lodge and the Station Camp and Bandy Creek horse camps.

Uncrowded areas and solitude would remain widely available, but would diminish slightly over time as visitation levels increased. However, the establishment of a designated system of roads and trails would allow focused application of maintenance and rehabilitation efforts, thereby improving the quality of the visitor experience. The impacts from these efforts would be minor to moderate, long-term and beneficial for most visitors.

Overall, the impact of this alternative on visitor use and experience would be minor to moderate, long-term and beneficial.

**Cumulative Impacts.** Same as the Preferred Alternative.

**Conclusion.** Under this alternative, the general character of the National Area would not change, but the designation of an official roads and trails system, and the focused devotion of resources to rehabilitation and maintenance of those facilities, would result in minor to moderate beneficial impacts on visitor use and experience. Should conditions warrant, this alternative provides for the development of more visitor facilities than would be possible under the other alternatives. Nevertheless, visitors would continue to have opportunities for solitary experiences, and for more social forms of recreation and experience as well. In contrast to the No-action Alternative, expanded educational and outreach programs would be undertaken, resulting in increased knowledge and enjoyment of resources in the National Area. Impacts from this alternative would be long-term, minor to moderate, and beneficial, depending on location in the National Area and visitor preferences.

**SOCIOECONOMIC ENVIRONMENT**

**Operation of the National Area**

**Analysis.** Under Alternative B, the National Park Service would undertake significant efforts to provide new trailheads and trail connectors, improve the condition of existing roads, trails and developed sites, and increase monitoring of natural and cultural resources. The actions contemplated by this alternative would require new expenditures for additional labor and supplies from local communities. More development is called for under this alternative than the other alternatives, and the expenditures for labor and supplies would be correspondingly greater, resulting in larger beneficial impacts to the local and regional economy. In addition, nearby communities would continue to experience direct benefits of expenditures by NPS for supplies and by individual NPS employee purchases. National Area employee salaries currently total approximately $2.9 million, which directly benefits the local economy. The increased National Area staff associated with this alternative would increase the total salary amount being spent in the local economy. The impacts of all additional development and maintenance activities on the local and regional economy would be moderate to major, long-term and beneficial.

**Cumulative Impacts.** Same as the Preferred Alternative

**Conclusion.** Any socioeconomic impacts on the region that could be expected under this alternative would be moderate in effect. Although there would probably be major adverse and beneficial cumulative impacts on the economy from regional growth, the impact of National Area operations on the regional economy would be moderate under this alternative. Impacts to the local
The economy would be somewhat more pronounced, with this alternative having a moderate to major, beneficial impact on the local economy.

Tourism and Recreation.

Analysis. The identification of long-term goals in this alternative will allow surrounding communities to better understand where the National Area is headed, allowing all parties to begin to work more in concert. Visitor patterns may change from current ones under this or any other alternative, but they would become more predictable since they would be based on a more clearly identified management direction. Businesses oriented to National Area visitors would be better able to align their expectations with National Area goals; and with limits placed on the kinds and levels of development within the National Area, the neighboring communities would better understand the role they could play in providing services. With realized expectations of businesses could come additional business ventures.

Under this alternative, the National Area would be in a position to gain increasing visibility and become known to a wider range of potential visitors. Currently, visitors coming to the National Area are arriving with expectations of certain conditions, facilities, and experiences. In contrast to the No-action Alternative, and to a greater extent than Alternative A (but less than the Preferred Alternative), this alternative would better enable National Area personnel to meet these expectations by providing greater numbers and types of recreational opportunities, better maintained facilities, and enhanced protection for natural and cultural resources. As the quality of the visitor experience is maintained or improved, visitation may also increase, along with associated benefits to the economy.

Under this alternative, gateway communities would continue to experience positive cyclical increases in business related to tourism. The local tourism industry would depend in part on, and benefit from, visitors attracted to the National Area, and the National Area would continue to be an important attraction in the area. The overall impact of the National Area on gateway communities or the regional area could change appreciably under this alternative, with the increases in visitation anticipated under Alternative B likely resulting in proportionately greater visitor expenditures in gateway communities than would take place under the other alternatives. As a result, this alternative would likely have a moderate to major, long-term, indirect and beneficial impact on the growth of the local tourism economy.

Cumulative Impacts. Same as the Preferred Alternative.

Conclusion. By enhancing the attractiveness of the National Area to potential visitors, this alternative would likely have a moderate to major, long-term, indirect and beneficial impact on the growth of the local tourism economy. This alternative would provide a moderate increase in regional recreation opportunities, with a moderate, beneficial impact on the regional tourism economy.

Concessions

Analysis. Alternative B contemplates more potential visitor-use development than any of the other alternatives. As a result of these developments and associated increases in visitation, concession contractors and other business permit holders could experience greater increases in business activity under this alternative than the other alternatives. The impacts of Alternative B on concessioners would be minor to moderate, long-term and beneficial.

Cumulative Impacts. Alternative B could result in minor to moderate beneficial impacts to concessioners. These impacts, in conjunction with the normal tourism-
related growth in the vicinity of the National Area, would have a minor to moderate beneficial cumulative impact. The contribution of Alternative B to this beneficial impact would be minor to moderate.

**Conclusion.** The socioeconomic impacts on concessioners and other commercial businesses operating within and adjacent to the National Area would be minor to moderate, long-term and beneficial under Alternative B. In light of the positive effect on overall recreational activity of other developments in the vicinity of the National Area, the cumulative effects would be minor to moderate and beneficial.

**OPERATIONAL EFFICIENCY**

**Analysis.** Under Alternative B, the National Area would generally continue to use existing infrastructure, although more development of new recreational facilities, such as trails, paved roads, overlooks, and parking areas, would occur under this alternative than under the other three alternatives. In addition, development of a new collections-storage facility is proposed in order to provide public access to significant artifacts and allow protection of these resources in a manner consistent with accepted standards. Much of the National Area's existing office space is presently located in aging houses acquired with the Area's land base, and these structures would be replaced as they reach the end of their useful lives.

Continued use of existing administrative facilities would continue to have a negligible to minor adverse impact on operational efficiency. Occasional replacement of outdated facilities under this alternative would yield minor, long-term and beneficial impacts to operations. In contrast to the No-action Alternative, this alternative calls for slightly increased levels of NPS staff. Although current staff levels have achieved a certain level of efficiency, the additional staff in this alternative would enhance the National Area's ability to provide adequate levels of resource protection and preservation, maintenance of existing facilities, and visitor services. Under this alternative, maintenance needs would decrease as improperly designed and difficult-to-maintain roads and trails would be excluded from the National Area's official roads and trails system. Visitor use would be limited to those roads and trails included in the official roads and trails system. Substantial rehabilitation would take place for officially-recognized roads and trails, thereby making protection of resources easier for National Area staff. Taken together, these impacts would have a minor to moderate, long-term and beneficial impact on operational efficiency.

**Cumulative Impacts.** Same as under the Preferred Alternative

**Conclusion.** Alternative B would result in minor, beneficial changes in operations of the National Area. Although impacts to operational efficiency resulting from retention of most of the existing administrative buildings, work space, and visitor contact facilities would be negligible, the proposed increases in staffing levels would enhance operational efficiency, allowing National Area staff to provide improved protection for visitors and area resources. Thus, this alternative would result in impacts that are minor to moderate, long-term and beneficial.

Operational efficiency under this alternative would not result in major, adverse impacts to a resource or value the conservation of which is (1) necessary to fulfill specific purposes identified in the establishing legislation of the National Area; (2) key to the natural or cultural integrity of the National Area or to opportunities for its use and enjoyment; or (3) identified as a goal in this plan or other relevant National Park Service planning document. Therefore, operational efficiency achieved under
Alternative B would not result in impairment to National Area resources or values.

CONSISTENCY WITH THE PLANS OF OTHERS

Under Alternative B, National Area management would provide more recreational opportunities than are available under the other alternatives. As with the Preferred Alternative and Alternative A, the clearer management direction provided by Alternative B would provide greater consistency with the plans of others. As a result, there would be no adverse impacts on the plans of surrounding communities or other Area neighbors. Community goals in the surrounding counties generally include providing for beneficial interrelationships between work, living, and recreational areas, protecting natural resources for the use and enjoyment of present and future citizens and visitors, developing the area without spoiling the environment, and providing citizens with a high-quality environment for living, work, and leisure time activities. The overall preservation and use of the National Area generally contribute to these goals, and this would continue under Alternative B. Cooperation with adjacent publicly owned areas will continue to contribute to satisfactory relationships. Under Alternative B, greater emphasis will be placed on cooperation with the town of Rugby.

State recreation planning indicates the National Area contributes importantly to the supply of public recreation opportunities and to other, related goals. Significant among these are resource preservation and interpretation, provision of appropriate facilities, and the long-term benefit to the economy. Alternative B, with its management unit applications, would appear to provide the desired consistency with state recreation planning. Aside from the basic mandated purposes of the area, the gorge would receive the highest level of protection and the plateau would have potential for additional development. This arrangement would appear to be consistent with state and local goals as well.

National Area management would continue to coordinate with businesses that provide visitor services and to cooperate to achieve the objectives of all parties. Nevertheless, various private land use and business ventures would continue to appear near and adjacent to the National Area whose objectives do not fully consider the Area's management requirements.

IMPACTS ON ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

Private vehicles would continue to be the primary means of transportation to and through the National Area. There may be a gradual reduction in visitor, commuter, employee, and concessioner gasoline consumption because of vehicles achieving better fuel economy as newer models replace older models over time.

UNAVOIDABLE ADVERSE EFFECTS

Unavoidable adverse impacts are defined as impacts that cannot be fully mitigated or avoided. Adverse impacts attributable to this plan and NPS management would arise out of facility development, maintenance, and use. Important adverse impacts should not have to occur since the management units include sufficient area for sensitive facility siting. Standard practice also includes mitigation of all identified impacts. Law, policy, and standard procedures guide these detailed considerations.

Development at or near the river and its tributaries and road and trail development that crosses streams would likely result in increases in turbidity through runoff as previously mentioned. While temporary and localized, these impacts would be considered unavoidable because of the recreation purposes of the National Area and the fact that the focus of many visits is
river use in some form. Additional hazards having minor to major impacts on visitors and employees include contaminated mine drainage and oil and gas operations.

Some adverse impact would likely be unavoidable to resources, including sensitive resources, because of visitor use. Even with increased staffing and funding, the complexity of natural processes and the large number of cultural resources in the National Area would constrain the ability of the National Park Service to fully mitigate adverse impacts. Impacts would be expected to be minor in terms of overall loss, although there is a potential for this to be major if the loss involves nonrenewable historic or archeological resources.

Monitoring use and resource conditions would assist in avoiding or minimizing adverse impacts and, when coupled with appropriate management strategies, would generally promote sustainable conditions within the National Area. It is a legal requirement for NPS to address carrying capacity issues in general management planning. Based on this requirement, it is NPS policy to establish goals in general management plans for resource conditions and the visitor experience for all areas within the units it administers through the use of management zoning. More detailed quantification of use levels appropriate to those management goals and discussion of possible strategies that could be employed to manage use levels if necessary are then documented in later implementation planning.

The VERP planning process (Visitor Experience and Resource Protection) has been developed by the NPS to follow general management planning to complete the carrying capacity analysis. The VERP process can be conducted separately or incorporated into other implementation planning efforts. The process consists of four key elements: (1) an areawide management zoning scheme that defines visitor experience and resource condition goals for all locations (accomplished in the general management plan), (2) selection of indicators that can be monitored to ensure that the goals are being met, (3) a systematic monitoring program, and (4) standards for each monitored indicator that is expected to warn when conditions merit management action. Ongoing research will identify meaningful indicators and standards that can be used to ensure provision of quality experiences while protecting National Area resources.

IRRETRIEVABLE OR IRREVERSIBLE COMMITMENTS OF RESOURCES

All facility development and use is considered essentially a permanent commitment of resources, although removal of facilities and site restoration has occurred and could still occur. New facilities would be developed on sites that have negligible resource value, which would be specifically considered during detailed implementation planning.

RELATIONSHIP BETWEEN SHORT TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The resource prescriptions included in the management units, along with required management, are intended to ensure the achievement and maintenance of the purposes for which the National Area was established. All use and development would occur in the context of sustainable resource conditions that, in turn, permit sustained levels of visitor use and satisfaction.

Under this alternative, the vast majority of the National Area would remain protected in its natural state and would maintain its long-term productivity, i.e., ability to achieve its mission. A number of new actions would be taken to manage visitor use, including the designation of an official system of roads
and trails and focused devotion of resources to rehabilitation of roads, trails, and developed sites. With increasing visitor use expected, there would be minor impacts on most natural resources in the National Area, with moderate impacts on soils and vegetation in some high use areas. Adverse impacts on the National Area’s natural and cultural resources would be mitigated to enhance the ability of these resources to contribute to the National Area’s legislative mission.
CHAPTER SIX

RESPONSE TO PUBLIC COMMENT
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Introduction

In January 2003, Big South Fork National River and Recreation Area released its Supplemental Draft General Management Plan and Environmental Impact Statement. A notice of availability was published in the Federal Register by the Environmental Protection Agency on February 14, 2003 (Volume 68, Number 31, Page 7536). Public review occurred from February 12, 2003 through May 15, 2003, a period of 92 days. A series of four open houses were held in March 2003 to take questions from the public and receive comments on the plan; these were held in Huntsville, Wartburg, and Allardt, Tennessee, and Whitley City, Kentucky.

The Role of Public Comment

The National Environmental Policy Act ("NEPA") requires that the National Park Service solicit public comment on draft plans for major proposed actions. Further, the National Park Service must "assess and consider [the resulting public] comments both individually and collectively." Public comments are viewed by the National Park Service as critical in helping park managers to shape responsible plans for our national parks that best meet the Service's mission the goals of NEPA, and the interests of the American public.

NEPA and NPS policy require that NPS provide a written response to all "substantive" comments. As defined in the National Park Service's NEPA guidance (Director's Order # 12) and based on Council of Environmental Quality Regulations, a substantive comment is one that:

- Questions, with reasonable basis, the accuracy of the information in the environmental impact statement
- Questions, with reasonable basis, the adequacy of the environmental analysis
- Presents reasonable alternatives other than those presented in the environmental impact statement
- Causes changes or revisions in the proposal

Nonsubstantive comments include those that simply state a position in favor of or against the proposed alternative, merely agree or disagree with National Park Service policy, or otherwise express an unsupported personal preference or opinion.

To "assess and consider" the public comments on the Supplemental Draft received between February 12, 2003 and May 15, 2003, all letters, e-mails, faxes, comment forms, and transcripts of public meeting testimony were read and analyzed by NPS staff from both the National Area and the Southeast Regional Office. During the process of identifying public concerns, all comments were treated equally—they were not weighted by organizational affiliation or other status of respondents, and it did not matter if an idea was expressed by dozens of people or a single person. Emphasis is on the content of a comment rather than who wrote it or the number of people who agree with it.

All substantive comments identified by the planning team are included in this section, whether submitted by one person or many people. The process is not one of counting votes, and no effort was made to tabulate the number of people for or against a certain aspect of the Supplemental Draft. The purpose of the NEPA process is to prepare a final General Management Plan/EIS for the National Area that meets the mission of the National Park Service and the National Area's enabling legislation and best serves all the people.
Due to space and budgetary constraints, NPS cannot print and respond individually to each letter containing substantive comments, apart from those submitted by governments and government agencies. Instead, we have developed a series of comment statements that incorporate all of the substantive comments received from the public during the public comment period. These comment statements are set forth below, together with NPS' response. Please note that each public comment statement reflects specific comments raised by one or more commenters. Also included are a number of non-substantive comments that were raised with some frequency by commenting groups or individuals. NPS has included responses to these nonsubstantive comments in order to clarify both the plan and the legal mandates that NPS is required to follow in managing the National Area.
Dear Superintendent Detring,

As County Executive of Fentress County, one of the major Tennessee counties comprising the Big South Fork National River and Recreation Area, I appreciate the opportunity to comment on the January 2003 Supplemental Draft General Management Plan and Environmental Impact Statement.

Fentress County, as you are aware, suffers from a lack of good employment opportunities for our citizens. We feel one of the major reasons for this project was to benefit our economically-depressed region. The legislation authorizing Big South Fork states, "The National Area shall be established and managed for the purposes of preserving and interpreting the scenic, biological, archeological, and historical resources of the river gorge and developing the natural recreational potential of the area for the enjoyment of the public and for the benefit of the economy of the region." So, not only was the Area established for these purposes, it is also required that the National Park Service manage the Area for these purposes, including benefiting the economy of the region. I feel the legislation is clear that Congress intended this to be active management.

And as such, it is important that a General Management Plan for Big South Fork provide a blueprint for the future. A blueprint for how the National Park Service intends to actively manage the Area to benefit the economy of the region.

Superintendent Detring, I do appreciate that the National Park Service must follow numerous pieces of legislation in operating Big South Fork. Preservation of scenic beauty is a necessity, as that is what draws tourists to our county.

But I am disappointed this Draft General Management Plan essentially says the NPS intends to fail at benefiting our economy. On page 142 of the draft, all the alternatives presented in this plan have "negligible to minor impacts to region." From my viewpoint, the National Area shall be established and managed for the purposes of preserving and interpreting the scenic, biological, archeological, and historical resources of the river gorge areas and developing the natural recreational potential of the area for the enjoyment of the public and for the benefit of the economy of the region.

Taken in context, this statement says that NPS must preserve and interpret resources and develop the natural recreational potential of the area for public enjoyment and for economic benefit. The GMP complies with this important mandate by proposing a system of management zones that provide for future recreational development and preservation and interpretation of resources. The GMP also outlines a system of roads and trails that provide the various users of the National Area – hikers, mountain bikers, equestrians, and drivers – ample recreational opportunities while protecting the values that make the area attractive to visitors.

To assist in planning, NPS completed a detailed economic analysis to quantify the benefits of the National Area to the economy of the region (Fentress, Scott, McCreary, Morgan, and Pickett Counties). With the aid of the Money Generation Model, developed by economists at Michigan State University, NPS determined:

- Wages, salaries, rents and profits generated by non-local tourists to the region generate about $7 - $13 million annually.
- The National Area pays its employees $2.9 million each year in salaries and benefits, much of which returns to the local economy.
- The National Area pays $75 thousand per year in utilities.
- The National Area buys $150 thousand in supplies locally each year.
- The National Area receives tens of thousands of dollars each year in special project funding that often returns to the local economy.

All told, the economic benefit to the region from National Area payroll, spending, and tourism totals $10 - $16 million annually.
Comments

the alternatives presented here are virtually identical, just minor variations of the same non-development theme. In fact, given the removal of motorized recreation from many areas, the new restrictions on horseback riding and bicycling, and the closing of old roads that provide access, it is doubtful the impacts of any of these plans is even positive to recreation and hence an overall negative to benefiting the economy of Fentress County.

The authorizing legislation speaks of preserving scenic beauty. It does not require that Big South Fork be converted to a state of "wilderness," such as through closing old roads that provide recreation access and allowing them to revegetate, as planned in this draft.

The citizens of our county certainly want to see the scenic beauty of the Big South Fork preserved. However, the key word here is see. To observe and protect the beauty of the Area, we must have trails, access, and sufficient development to showcase and protect this beauty. I do not believe the current range of alternatives can achieve this goal.

First and foremost, we must see visitation grow.

Therefore, my major comment on the draft is that the alternatives presented are far too narrow in range. The original concept of development of the Big South Fork is totally abandoned, and even a moderate level of development was rejected in this draft. This is simply not acceptable. My understanding of your regulations is that a full range of viable alternatives should have been considered and presented. The alternatives in this draft are really just a set of subalternatives, not a wide range of alternatives designed to allow the public to understand all the major issues involved in the future of Big South Fork.

And I think each alternative should be fully evaluated on all the project goals, not in-depth just on resource preservation. The alternatives must also receive substantial quantitative analysis of the impacts on recreation and benefiting the economy based on hard data and preferably modeling. We as a region and a nation should seek to maximize our utilization of this great resource. Therefore, we think the NPS must develop alternatives that attempt to maximize all the legislative requirements for the National Area.

We see our economic future of Fentress County as closely tied to BSF recreational opportunities and the manner in which BSF's outstanding natural features are presented and made available to the public. Even though Fentress County contains some of the most strikingly beautiful natural features in the entire Big South Fork National Area, these are not made readily available to the public.

A Fentress County businessperson, Mr. Robert Livingston, has shown me an outline for a development along Darrow Ridge that would showcase examples of what makes the Big South Fork area so special. We feel that presenting the best of Big South Fork in a short drive to all our tourists, especially those of limited mobility (the elderly, families with small children, and persons with varying degrees of physical handicap) is a great solution for benefiting the county while insuring these features are protected by suitable development. I respectfully ask that you formulate an alternative that presents the essential elements of Mr. Livingston's presentation to the Park Service in future versions of the plan.

Responses

In the Supplemental Draft GMP, these benefits were characterized as a "minor" impact to the local economy, a statement that has been misunderstood. That analysis simply looked at the relative difference in economic benefits between the various alternatives. The county and others have requested an analysis showing how the National Area currently affects the local economy combined with the additional benefit of the preferred alternative. Therefore, the GMP has been revised to show the overall net effect of the National Area on the local economy - both currently and after the implementation of the preferred alternative. The analysis indicates that the current benefits are substantial, as indicated above.

Moreover, an additional $3,900,000 in annual operating funds, over and above amounts spent to construct new facilities, would be needed to fully implement the Preferred Alternative. If forthcoming, this level of increased annual operating expenditures, when combined with higher levels of tourism that may occur as a result of implementing the Preferred Alternative, would result in a significant increase in annual economic benefits to the local and regional economy.

G2. Each of the alternatives contained in the GMP is based on a different concept of how the National Area should be managed. These concepts are in turn reflected in the management zones and prescriptions applied to specific parts of the National Area. The management zones constitute the essence of each alternative, because it is these zones that will govern what actions can, and cannot, be contemplated in subsequent planning efforts. The zone maps are the heart of each alternative.

The three alternatives in the GMP differ significantly in their approach to management zoning. For example, Alternative B would zone substantially more of the plateau area as "enhanced recreation unit" than would Alternative A. Alternative D differs from Alternatives A and B by creating an entirely different zoning system, consisting of seven separate zones and an ATV planning area. Each of the alternatives differs fundamentally in its approach to management of the National Area.

G3. Although a number of existing "social" trails are not included in the official system, their exclusion has been determined necessary, after careful consideration by park staff, due to unacceptable adverse resource impacts. Many stretches of trail at the National Area cross erosion-prone soils, enter streams, or traverse wetland areas. In determining whether to include individual trails in the official system, NPS had to balance visitor use against a mandate from Congress to protect resources at the National Area from adverse impacts.
The subject of management zones is a difficult one for us to comprehend. To our citizens, this seems mostly an internal tool for the Park Service. However, we do have a couple of comment on zones. If one examines a map of Big South Fork, there is an obvious fact we do not see presented in your discussion of zones. Sections of the National Area (to the northwest) are bordered by public lands, Pickett State Forest and Daniel Boone National Forest. To the south, especially Darrow Ridge and Mt Helen, the park is bordered by private land. Here, residential and commercial development related to Big South Fork is already taking place. It would seem desirable to us that these major differences in outside development potential be recognized in the zone system. Obviously, those sections of the National Area bordered by public lands will have different challenges in the future than those adjacent to growing residential development. Not recognizing the inevitability of development in these areas (especially Darrow Ridge, which is surrounded by developing residential neighborhoods oriented toward the park) is a major oversight. We respectfully request that zoning specifically address the differences in outside (private) development potential, as these regions will require a higher level of development and trail density to preserve natural features and a quality experience for visitors.

Another point is that only one of the alternatives presented in the draft has “detailed” zones. Then that alternative is selected as preferred because it is “detailed.” That seems like circular reasoning, or predetermining the outcome of the plan. If detailed zoning is a requirement (or highly desirable) it should be presented in more than one alternative. Perhaps one detailed zoning plan with a high level of development, contrasted with the present detailed plan with very little development. This would allow a much fairer presentation of alternatives.

Lastly, I want to mention the importance of the O&W Railbed along North White Oak Creek and Zenith. We are pleased to see these areas addressed in the plan. Improving the O&W by replacing the bridges and repairing the surface will provide a great opportunity to observe and enjoy the scenic beauty of North White Oak. The trail improvements would allow family bicycling and walking, pursuits that are now difficult due to the crossings and the poor surface, and would also allow horseback riders to have a better and safer experience than at present.

Zenith is not well-utilized now. A beautiful recreation area at Zenith will be significant addition to our county. We would like to see this area turned into an attractive stop for tourists, benefiting the southern area of the park.

We are convinced proper design, implementation, and maintenance of recreation facilities are paramount to the future of a successful Big South Fork. These efforts should combine to provide great access to the public in our county.

G4. The recreational opportunities provided by the plan are comparable to, and in some instances exceed, those provided by most other national park units in the Eastern United States. To the extent that lodges or other similar facilities are desired, NPS believes that it would be more beneficial to the economy of the local area if these were to be provided by local business people outside the National Area (as opposed to being controlled by concession contractors who, most likely, would be from a distant metropolitan area, with only a few minimum-wage jobs available to local residents). NPS agrees that economic modeling is important. As stated in Fentress County response G1, the economic impacts of the Preferred Alternative have been assessed using the Money Generation Model, which is a standard modeling tool used by NPS to gauge the likely economic impacts of planning proposals. The Money Generation Model indicates that the economic benefit to the region from National Area payroll, spending, and tourism totals almost $10-16 million annually.

G5. While preparing the Supplemental Draft GMP, NPS gave extensive consideration to land use plans and proposals in the surrounding region, including Mr. Livingston’s development plans for Darrow Ridge. Many of Mr. Livingston’s recommendations are reflected in the plan: the preferred alternative includes nine new proposed access zones (trailheads) in the Darrow Ridge vicinity, and it provides equestrian and/or hiking access to Wildcat Den, Hippy Cave (aka. Accordion Bluff), the Sawtooth area, Fiddler's arch, and the Tophat (aka. Flat Bottom Overlook). In addition, the GMP has been revised to reflect the following changes in the Darrow Ridge area:

- Little Cliff Trail - open to horses and bicycles
- Darrow Ridge Road (eastern portion), Christian Cemetery Road, Little Cliff Road (to gorge closure), and Upper Panther Branch Road – designated as multiple-use trails instead of roads to allow equestrian use
- Darrow Ridge Road (western portion) – road standard changed to “2-lane paved”
- John Hall Trailhead – designated for horses and hikers as a second access to the Darrow Ridge Horse Trail

There are some aspects of Mr. Livingston’s proposal, however, that are not necessary and appropriate for a high quality visitor experience. Additional development and facilities to the degree requested would impact sensitive resources and detract from the rustic character of the National Area.
While I could make numerous comments on the details of the draft, my position is that the range of alternatives presented is so narrow and the analysis of impacts on recreation and the economy so speculative that a new draft document must be formulated, with a more reasonable range of alternative directions for the future of Big South Fork. We also request that a strong effort be made to analyze and maximize the economic benefits of the Big South Fork through enhancing recreation. At an absolute minimum, at least one alternative must have a discernable positive effect on the economy of the region.

In closing, I would also like to point out there are many aspects of the draft that do benefit Fentress County, and thank you and your staff for formulating the new access points, which are vital, and the designation and future upgrading of the most-used customary trails in the Darrow Ridge region and the Laurel Creek area north of Leatherwood Ford Road. I realize that you are faced with a number of constituencies with widely varying views of the future of Big South Fork. It is a difficult position. As county executive, I appreciate that not everyone will be happy with the outcome of decisions. I want you to know that we appreciate you, a resident of Fentress County, and hope to work with you and your staff to provide a great future for the park.

We in Fentress County have been remiss in participating in the planning of Big South Fork in the past. I apologize for that. We intend to do better. In the future, I would like to offer myself as County Executive, our Chamber of Commerce head, Mr. Scott Sandman, and Mr. Robert Livingston, a leader in the business community, to be involved in the formulation of future park planning efforts.

Thank you for the opportunity to comment on this January 2003 Supplemental Draft GMP/EIS. We ask that you address the above concerns and include the additional alternatives and data we have requested in a revised draft GMP/EIS.

Sincerely,

[Signature]

John B. Mullinix
County Executive
Fentress County, Tennessee

Responses

G6. Zoning in NPS general management plans is driven principally by resource conditions (present conditions and desired future conditions) within the unit boundary. However, anticipated future demand for recreational facilities will affect zoning. In the case of Fentress County, the Preferred alternative includes 13 new proposed access zones (trailheads) along the boundary of the National Area – nine in the Darrow Ridge area alone – in an attempt to meet growing development pressures. No other section of the National Area contains as many new proposed access zones. The official roads and trails plan for this area is intended to include enough opportunities to simultaneously meet demand and direct usage to those areas most capable of sustaining recreational use over the long term. NPS believes that increasing trail density over what is included in the plan could create more resource damage, rather than less, and will adversely affect the visitor experience by diminishing the natural ambience and rustic character that draws visitors to the area.

G7. Each of the three action alternatives in the plan contains a similar amount of detail with respect to the fundamental elements of a general management plan, namely, management zones, desired future conditions, management prescriptions, and environmental consequences. The management zones for Alternatives A and B were carried forward from the February 2000 Draft GMP and incorporated by reference into the current document – their descriptions can be found in the Appendix. Alternative B contains a much higher level of development than the other alternatives. The Supplemental Draft GMP goes beyond the standard GMP format and includes a roads and trails plan. Each of the action alternatives contains a detailed proposal for a roads and trails system. The Preferred Alternative has been selected because its zoning system provides the greatest management guidance and resource protection.

G8. Please see responses to Fentress County comments G1, G4, and G7.

G9. NPS looks forward to working with the county in implementing the final plan and engaging in future management of the National Area.
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Office of County Executive
Scott County, Tennessee
Dwight E. Murphy
scottoexec@highland.net

April 22, 2003

Reed E. Detring
Superintendent
United States Department of the Interior
National Park Service
Big South Fork National River and Recreation Area
Obed Wild and Scenic River
4564 Leatherwood Road
Oneida, Tennessee 37841

Dear Superintendent Detring:

You will find enclosed resolutions numbers 17 and 18 that were adopted by the Scott County Board of Commissioners in their regular session on April 21, 2003. These resolutions should be treated as Scott County Government’s comments concerning the Draft General Management Plan.

As County Executive, I am greatly concerned about the lack of potential economic growth that the preferred alternative plan offers. It seems all of the plans forget that the original intent of the legislation was to stimulate economic growth for the area. Horse trails, ATV trails, hunting and other forms of recreation should be encouraged rather than discouraged by any alternative you adopt.

As a County, we stand totally opposed to any plan that would limit vehicular traffic on any portion of the O & W Railroad Bed that is in ownership of Scott County. It is our belief that this roadbed has great potential for future economic development. We also believe that the O & W offers access to the gorge area for the handicapped and senior citizens.

In closing, please include the two resolutions and this letter in the comment portion of your review. If you have any questions, please feel free to contact me at 423-663-2000.

Sincerely,

Dwight E. Murphy
Scott County Executive

Scott County (April 22, 2003)

G10. (Reader Note: the following comment response is the same as the response to Fentress County comment G1). The comment from Scott County states that the National Area is supposed to benefit the economy of the region. This statement reflects Section (e)(1) of the enabling legislation, which says,

The National Area shall be established and managed for the purposes of preserving and interpreting the scenic, biological, archeological, and historical resources of the river gorge areas and developing the natural recreational potential of the area for the enjoyment of the public and for the benefit of the economy of the region.

Taken in context, this statement says that NPS must preserve and interpret resources and develop the natural recreational potential of the area for public enjoyment and for economic benefit. The GMP complies with this important mandate by proposing a system of management zones that provide for future recreational development and preservation and interpretation of resources. The GMP also outlines a system of roads and trails that provide the various users of the National Area—hikers, mountain bikers, equestrians, and drivers—ample recreational opportunities while protecting the values that make the area attractive to visitors.

To assist in planning, NPS completed a detailed economic analysis to quantify the benefits of the National Area to the economy of the region (Fentress, Scott, McCreary, Morgan, and Pickett Counties). With the aid of the Money Generation Model, developed by economists at Michigan State University, NPS determined:

- Wages, salaries, rents and profits generated by non-local tourists to the region generate about $7 - $13 million annually.
- The National Area pays its employees $2.9 million each year in salaries and benefits, much of which returns to the local economy.
- The National Area pays $75 thousand per year in utilities.
- The National Area buys $150 thousand in supplies locally each year.
- The National Area receives tens of thousands of dollars each year in special project funding that often returns to the local economy.

All told, the economic benefit to the region from National Area payroll, spending, and tourism totals almost $10 - $16 million annually.
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Comments

RESOLUTION NO. 17

Whereas, the National Park Service has developed a Draft General Management Plan for the Big South Fork National River and Recreation Area.

And whereas, this plan addresses the future uses of the O & W Railroad bed in Scott County.

And whereas, Scott County has acquired and maintained a deed of easement in favor of the public to travel on the right-of-way, from the Eastern boundary of the National Area to a point that intersects North White Oak Creek.

And whereas, the O & W right-of-way is one of the few areas that is accessible for vehicular traffic to accommodate senior citizens and those citizens with disabilities and handicaps that wish to enjoy the Big South Fork National River and Recreation Area.

And whereas, the new management plan proposes that vehicular traffic would not be allowed west of the O & W Bridge.

And whereas, the area west of the O & W Bridge to the White Oak Creek Bridge abutment is one of the most scenic areas available in the park that can accommodate those citizens that are handicapped and have restricted mobility to walk, picnic or sight see in the gorge area.

And whereas, one of the Big South Fork National River and Recreation Area primary reasons for establishment was the economic development of the Counties inside its boundaries.

Now therefore be it resolved that County Executive Dwight E. Murphy and Board of Commissioners of Scott County go on record in being opposed to any plan that would limit vehicular traffic on any portion of the O & W Railroad bed from Oneida to the White Oak Bridge abutment or more nearly described as the entire portion of the O & W Railroad bed that lies inside the boundaries of the Scott County, Tennessee to the Fentress County line.

Further that the County Executive and Board of Commissioners believe such action to limit vehicular traffic in any portion of the O & W right-of-way in Scott County would discriminate against senior citizens and handicapped citizens that wish to enjoy the beauty of the gorge area.

Further that the County Executive and Board of Commissioners believes if such action to limit vehicular traffic is adopted it would also be economically detrimental to the welfare of Scott County and would be contrary to the intent of the legislation that established the Big South Fork National River and Recreation Area. The original legislation intentionally left this area open for vehicular traffic.

Further, that should a plan be initiated to prevent vehicular traffic on the O & W Railroad bed that the county attorney be authorized to take any and all necessary steps to prevent such action from occurring. This action would be taken to protect the rights of senior citizens and handicapped citizens as well as the economic well-being of Scott County.

Further, that certified copies of this resolution be forwarded to the entire Congressional Delegation for the states of Tennessee and Kentucky. Also that copies be sent to the Governors of Tennessee and Kentucky as well as the State Senator and Representative for Scott County.

Adopted on the 21st day of April 2003.

ATTEST:

Dwight E. Murphy, Scott County Executive

Patricia A. Phillips, Scott County Clerk

Motion by Slaven, second by Burke, to approve the above resolution as presented.


Voting NO: NONE

ABSENT: Ernest Phillips.

Motion Carried.

Responses

In the Supplemental Draft GMP, these benefits were characterized as a "minor" impact to the local economy, a statement that has been misunderstood. That analysis simply looked at the relative difference in economic benefits between the various alternatives. The county and others have requested an analysis showing how the National Area currently affects the local economy combined with the additional benefit of the preferred alternative. Therefore, the GMP has been revised to show the overall net effect of the National Area on the local economy - both currently and after the implementation of the preferred alternative. The analysis indicates that the current benefits are substantial, as indicated above.

Moreover, an additional $3,900,000 in annual operating funds, over and above amounts spent to construct new facilities, would be needed to fully implement the Preferred Alternative. If forthcoming, this level of increased annual operating expenditures, when combined with higher levels of tourism that may occur as a result of implementing the Preferred Alternative, would result in a significant increase in annual economic benefits to the local and regional economy.

G11. Please see response G12 below.

G12. NPS wishes to work in partnership with Scott County to provide recreational access to the O&W Bridge area. Thus, the GMP states that the O&W route will provide continued passenger vehicle access to the O&W Bridge from the east. There would be a parking, vehicle turnaround, and picnic area just east of the bridge, the details of which will be coordinated with Scott County. The terrain west of the bridge is not suitable for a vehicle turnaround. Accordingly, the O&W route west of the O&W bridge will be a trail designated for foot, horse, and bicycle use.
Comments

RESOLUTION NO. 18

Whereas, there is a new Draft General Management Plan for the Big South Fork National River and Recreation Area; and
Whereas, the Big South Fork National River and Recreation Area was created in part for the economic development of the area; and
Whereas, there are several sections of the Draft General Management Plan that would be counter productive to economic development for the area.

Now therefore be it resolved that County Executive Dwight Murphy and the Board of County Commissioners go on record in requesting the Park Service review these sections of the General Management Plan and revise them to make them more favorable for the economic development of the area.

G13. The Burke Cabin (Page 61) This section calls for the removal of the cabin and allow the site to reclaim itself. It is the belief of the Board of Commissioners that this cabin is historical significance for the area, and also serves as a rest stop for horse riders and it removal would serve no economic value and would be harmful to the area. We would propose the cabin be left standing and be maintained.

G14. Hurricane Ridge aka Big Woods. The General Management Plan proposes no trails for horses or hunting access to this huge area of the Park. The plan proposes taking the existing trails to "Hole in the Wall", O & W Overlook, and Devil Den and turning them over to the John Huir Hiking Trail. The Board of County Commissioners believes horse trails are one of the greatest economic benefits of the Big South Fork and this action will severely hurt the economy of the area and has the potential to economically damaging private individuals that have built facilities outside the Recreation Area. We propose that horse trails be a planned part of this area and that hunting be allowed and encouraged for the Big Woods section.

Further, the Board of Commissioners and County Executive believe the general management plan is flawed and contrary to the intent of the legislation. The intent of the draft plan is stated on page 294 under "Conclusions" that states: "The Preferred Alternative would likely have a minor, long-term, indirect and beneficial impact on the growth of the local tourism economy. However, this alternative would provide only a minor increase in regional recreation opportunities; therefore it would have negligible to minor beneficial impact on the regional tourism economy."

Further, it is the belief of the County Executive and Board of Commissioners that careful consideration to these concerns should be reviewed and that certified copies of this resolution be forwarded to the entire Congressional delegation for the states of Tennessee and Kentucky. Also that copies be sent to the Governors of Tennessee and Kentucky as well as the State Senator and Representative for Scott County.

Adopted on the 21st day of April 2003.

Dwight E. Murphy, Scott County Executive

ATTEST:
Patricia A. Phillips, Scott County Clerk

Motion by Burke, second by Russ, to approve the above Resolution as presented.


Voting NAY: NONE

ASSENT: Ernest Phillips.

Motion Carried.
Scott County (May 12, 2003)

G15. The Final GMP responds to the concerns raised by mountain bicyclists by adding shared-use opportunities on some of the lesser used hiking trails, and by expanding the number of trails that will be considered for bicyclists on a time-share basis if the Grand Gap Loop experiment is successful.

G16. Additional shared-use opportunities for bicyclists have been included in the final GMP. Under the final plan, all current biking opportunities in the Supplemental Draft GMP will remain in place. In addition, the final plan will:

- Allow bicycling on the existing connector trail from the National Forest Sheltowee Trace Tr. -> Divide Rd (development map 4: trails ST-35, JMT-51, and JMT-50). This short connector would enable bikers to ride the loop that includes Divide Road and the portion of the Sheltowee Trace Trail on the National Forest.

- Allow bicycling on Cat Ridge, Long Trail North, and the Kentucky Trail (development map 3: trails LTN16, KY-28, LTN-28, KY-39, KY-27, KY-71 and KY-26), so that cyclists could complete a circuit that includes Bald Knob – Hill Cemetery Road and Laurel Ridge Road. This loop would have a high degree of challenge and may need some physical modifications prior to being a fully functional bike circuit.

- Allow bicycling on Rock Creek Trailhead -> John Muir Trail -> John Muir Overlook -> Chestnut Ridge (development map 4: development site 4; trails 33, JMT-50, JMT-15, 3 and 4), to create a loop that includes Divide Rd. This route is already suitable for bicycle use.

- Add language to the GMP stating that if the Monday-Friday "experiment" is successful on Grand Gap Loop, NPS would consider allowing bikes on the following two trails, also on a Monday-Friday basis:
  - John Muir Trail (development map 7: trails 10 and JMT-20). This would allow a cycling loop that includes Alfred Smith Rd. -> John Muir Tr. -> Duncan Hollow Rd.
  - Angel Falls Trail (development map 7, trail 3; development map 8, trail 1).
Superintendent Reed Detring
Big South Fork NRRA
4564 Leatherwood Ford Road
Oneida, TN 37841

RE: EPA Review and Comments on
Big South Fork National River and Recreation Area
Draft Supplemental General Management Plan and
Environmental Impact Statement (DSEIS)
CEQ No. 030659

Dear Mr. Detring:

The U.S. Environmental Protection Agency (EPA) reviewed the subject Supplemental General Management Plan and Environmental Impact Statement (DSEIS) Pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA), and Section 309 of the Clean Air Act. The document provides information to educate the public regarding general and project-specific environmental impacts and analysis procedures, and follows the public review and disclosure aspects of the NEPA process. The purpose of this letter is to inform you of the results of our review.

The stated goals of the planning effort are to preserve park resources and to provide for visitor use. The DSEIS outlines a management plan to achieve these objectives. The alternative which is selected will guide the management and direction of Big South Fork NRRA over the next 15 to 20 years. Alternative D is identified as the proposed action, the NPS preferred alternative, and the environmentally preferred alternative. EPA concurs with the National Park Service’s plan for preserving park resources and providing for visitor use.

The scope of this proposed action appears to be within acceptable limits in order to achieve project objectives. Based on the information provided in this document, there appears to be no significant environmental impacts associated with the proposed project alternatives. The document received a rating of “LO” (Lack of Objections); that is, we did not identify any potential environmental impacts requiring substantive changes to the proposal.

The DSEIS states that existing conditions are causing major adverse impacts to water quality in certain parts of the National Area, and that the Preferred Alternative would improve some of these conditions. Expected levels of visitor use under the Preferred Alternative would have localized negligible or minor impacts on the environment. The plan for directed management

U.S. Environmental Protection Agency

G.17. Comment noted.
Comments

of visitor use and natural resource protection provides for monitoring use and resource conditions in order to avoid and/or minimize impacts. Our attached comments include areas which should be clarified in the FSEIS.

Thank you for the opportunity to comment on this DSEIS. If you have any questions or require technical assistance, you may contact Rasannna McConney, my staff at 404-562-9615.

Sincerely,

Heinz Mueller
Chief
Office of Environmental Assessment
Responses

G18. The GMP has been revised to include header rows within the tables that compare the alternatives.

G19. Efforts to educate visitors about resource protection will be covered in a future comprehensive interpretive plan. The need for this plan and some of its proposed components are discussed in chapter three under Visitor Education and Orientation.

G20. In chapter three of the GMP, the Cost Considerations section discusses the annual operating funds necessary to fully implement the preferred alternative. This funding level takes into consideration the additional law enforcement that will be necessary to implement the plan.

EPA Review and Comments on the Big South Fork National River and Recreation Area Draft Supplemental General Management Plan and Environmental Impact Statement (DSGMP and DSEIS)

Tables: Please label with headers (Alternative A, B, etc.) the subsequent pages of the tables regarding the comparison of the alternatives. This will aid reviewers in understanding the data presented.

Education and Communication: Please provide further information in the FSEIS regarding the planned measures to educate visitors regarding environmental resource protection and conservation at the NRRA.

Enforcement: Please clarify the staffing for enforcing the new management plan for the NRRA. When the new rules create more restrictions for visitors, (for example, ATV users), there may be a need for increased enforcement efforts.
Comments

United States Department of the Interior
FISH AND WILDLIFE SERVICE
446 Neel Street
Cookeville, TN 38501

May 15, 2003

Mr. Reed E. Detting, Superintendent
Big South Fork National
River and Recreation Area
4564 Leatherwood Road
Oneida, Tennessee 37841

Subject: Supplemental Draft General Management Plan (GMP) and Environmental Impact Statement (EIS), Big South Fork National River and Recreation Area (BSFNRA), Kentucky and Tennessee.

Dear Mr. Detting:

Fish and Wildlife Service personnel of the Kentucky and Tennessee Field Offices have reviewed the subject Supplemental Draft GMP/EIS. We believe that Alternative D, which the National Park Service (NPS) has designated as the preferred alternative, is generally an appropriate choice for implementation. However, we offer the following specific comments for further consideration.

The plan to permit off-highway vehicle (OHV) operation in the Darrow Ridge/Tar Kiln Ridge area exhibits significant potential for impacts to endangered freshwater mussels and fish. Any noticeable transport of sediments to perennial streams in this area may result in significant impacts to these federally listed aquatic species. Further, the subject GMP/EIS implies that some OHV crossings of intermittent and ephemeral channels would be allowed. The location of planned OHV use is rather sensitive in terms of the presence of endangered aquatic species. Crossings of defined stream channels would likely lead to impairment of freshwater mussel resources located downstream of such crossings. We have observed that OHV users tend to create their own trails, the locations of which generally are not based on stream management principles. Therefore, we recommend that you carefully evaluate any OHV use of the BSFNRA as a component of Alternative D or either of the other alternatives. Because of the challenges that the subject area offers regarding steep slopes and proximity to nearby sensitive aquatic resources, nearby areas that do not exhibit such characteristics may offer better recreational OHV user opportunities.

As described in the subject document, horse crossings at various points along the Big South Fork have recently resulted in documented impacts to endangered mussels. Although our agencies have coordinated on this issue, it continues to be a challenge. We believe that development of a long-term solution for these river crossings, in the most timely manner feasible, is necessary. We will gladly provide any assistance possible in aiding the NPS with its mussel protection and restoration efforts.

Responses

U.S. Fish and Wildlife Service

G21. Off-road vehicle usage within units of the national park system is guided by Executive Order 11644 (as amended); the Code of Federal Regulations, Chapter 36, part 4.10; and National Park Service Management Policies, section 8.2.3.1. These regulations and policies allow off-road vehicle use within the national park system, provided that routes and areas are designated through a special regulation and that the agency can demonstrate that the route does not cause adverse impacts on the area’s natural, cultural, scenic, and esthetic values. ATV use at Big South Fork NRRA is currently not in compliance with these regulations and policies; there is neither a special regulation to designate routes, nor has sufficient data been collected to make a determination regarding adverse impacts.

The GMP attempts to bring ATV usage into compliance with existing regulation and policy by designating areas within which specific ATV routes would be designated. Once the GMP is approved, the agency would seek a special regulation designating official route(s).

In addition, the National Park Service would monitor the effects of the ATV route(s) and usage. Executive Order 11644 states, “The respective agency head shall monitor the effects of the use of off-road vehicles... On the basis of the information gathered, they shall from time to time amend or rescind designations of areas or other actions taken pursuant to this order...” The National Park Service would monitor the designated route(s) and make a final determination concerning the appropriateness of recreational ATV use within Big South Fork NRRA.

NPS must have supportable data on which to make a defensible decision to either allow or disallow ATV activity. The plan as proposed would permit NPS to collect data in a way that will objectively demonstrate the compatibility of properly managed ATV use with the Service’s responsibility to protect the area’s natural, cultural, scenic, and esthetic values. The data will allow a more informed decision to permit ATV use or to further restrict or eliminate the use completely.

G22. As stated in the policy on horses and mussels in the GMP appendix, the current system of controlled horse crossings of the river has reduced the number of conflicts between horses and mussels, but does “not represent a long-term solution to the problem.” NPS agrees that a long-term solution to this challenging problem must be found, and we are actively working with the U.S. Fish and Wildlife Service to seek solutions. Options for reducing horse-mussel conflicts could include 1) construction of horse bridges over the river, 2) hardening of crossings in
It is important to note that expansion of the mussel community and its respective populations within the BSFNRRA would lessen the relative magnitude of impacts to mussels due to use of horse crossings and other human-related disturbances at sites supporting federally listed species.

Finally, the subject document described a general intent to maintain existing fields in their present condition. Several bird species that inhabit the Cumberland Plateau rely on early successional habitats, which likely occurred on the BSFNRRA property during early pre-settlement times. Strict maintenance of areas as either field or forested habitats would likely diminish the potential use of BSFNRRA by some bird species. Therefore, we recommend that you consider inclusion of early successional habitats in your management scheme. This would likely be most easily accomplished by simply allowing fields to naturally succeed or by using occasional disturbances (e.g., fire or mechanical clearing) to maintain these habitats.

Thank you for this opportunity to provide input for the GMP planning effort. We look forward to further coordination on specific issues as detailed planning for future projects continues. Please contact David Pelten of my staff at 931/528-6481 (ext. 204) if you have questions about these comments.

Sincerely,

[Signature]

Lee A. Barclay, Ph.D.
Field Supervisor

xc: Lee Andrews, FWS, Frankfort, KY

G23. NPS, working closely with multiple partners including the U.S. Fish and Wildlife Service, recently approved the plan for recovery of freshwater mussels in the free-flowing reach of the Big South Fork. This plan establishes the Big South Fork of the Cumberland River (within Big South Fork NRRA) as a nationally significant refugium for the maintenance and recovery of mussels that live and once existed in the area, including those that are federally listed. It is the hope of the NPS that these efforts will eventually lead to recovery and de-listing of endangered mussel species, which will have the net effect of reducing or eliminating the severity of impacts to mussel populations from human-related disturbances.

G24. The National Area is currently preparing a fields management plan that will be posted for public review and comment. NPS will be working with the U.S. Fish and Wildlife Service on this plan, and the issues they raise will be addressed through the planning process.
Comments

Effie Houston
05/07/03 04:10 PM EDT
Subject: Big South Fork National River & Recreation Area

--- Forwarded by Effie Houston/BISO/NPS on 05/07/03 04:10 PM ---

"Patricia E Riley"
<perlsey@usgs.gov>
05/07/03 02:38 PM AST
Subject: Big South Fork National River & Recreation Area

Hello,

USGS has reviewed the subject Draft EIS/General Management Plan and has no comments to offer.

Thanks.

Trish Riley
U.S. Geological Survey
423 National Center
Reston, VA 20192
703.648.6022

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U.S. Geological Survey

G.25. Comment noted.

U.S. Forest Service

G26. The comment refers to the Long Trail North on development maps 3 and 4. For the purposes of planning and database management, we cannot rename the trail at this time. Visitor use and understanding will be facilitated by renaming this as the Sheltowee Trace Trail, so the GMP has been revised to indicate that this trail will be renamed on park maps and signage after the GMP planning process is complete.
May 13, 2003

Superintendent
Big South Fork NRRA
4564 Leatherwood Road
Oneida, TN 37841

Dear Superintendent:

The Division of Natural Heritage (DNH) Tennessee Department of Environment and Conservation is pleased to have the opportunity to comment on the "Supplemental Draft Management Plan and Environmental Impact Statement (January, 2003). The DNH has significant interest in the management of the BSF NRRA because of DNH's responsibility for administering both the Tennessee Natural Areas Program (TNAP) and the Tennessee Rare Species Protection Program. Furthermore, the Natural Heritage Program in DNH is currently conducting inventory in the BSF NRRA for NatureServe under contract by the National Park Service (NPS). The Natural Heritage Program does statewide biological inventory which supports natural area and rare species protection.

Specifically, the management of BSF NRRA is of interest to DNH because the TNAP oversees the protection of Twin Arches Designated State Natural Area and Honey Creek Designated State Natural Area in the BSF NRRA and tracks the occurrence of numerous rare species in BSF NRRA including the federally endangered Cumberland rosemary, Cumberland sandwort, Virginia spiraea, and several mussel species. DNH is concerned about any potential impacts to designated state natural areas, rare species and their habitat.

In a broader context, DNH is concerned about how public lands are managed in Tennessee, especially those that can sustain ecosystem function at the landscape scale. The DNH recognizes the effort committed to developing this EIS and appreciates the thorough treatment given to uses and potential impacts. The DNH supports the National Park Service Preferred Alternative D, which allows for uses according to defined zones. In general, the Preferred Alternative D provides adequate management planning to protect the resources. The DNH however does have recommendations to improve the final management plan, observing omissions in the EIS that should be addressed.
Comments

Comments Regarding Rare Species Protection

G27. The Rare Species Protection Program concurs with the assessment of Environmental Consequences as related to Special Status Species (listed endangered or threatened state and federal species) for each of the General Management Plan Alternatives. The Preferred Alternative D provides greater protection to Special Status Species and their habitat (especially aquatic, gravel bar, and rock shelter communities). Providing that the NPS follows planning, consultation, mitigation, and management guidelines as outlined within the Special Status Species section for each Alternative, including the No-Action Alternative, no adverse affect on any Special Status Species would be likely. The DNH supports the implementation of inventory studies, including site-specific surveys, and management studies; development of protection strategies; continued consultation with USFWS; and implementation of monitoring to assess the impacts of management actions. The DNH would welcome the opportunity to consult with NPS on actions that may affect state and federal listed rare plant species, particularly Cumbetland rosemary, Cumberland sandwort, and Virginia spiraea.

Comments Regarding State Natural Areas

G28. In general, it appears that under Alternative D there is no development and impact to either Twin Arches or Honey Creek Designated State Areas, nor are there impacts to ecologically sensitive habitats such as gravel bars and “rock house communities.” In reviewing maps of specified locations in the EIS, it appears that no new trail development or access is planned for either Twin Arches or Honey Creek. Any trail development or new access to the state natural areas should be coordinated with TNAP. There is difficulty beyond specific point locations however in identifying management actions, since there are no natural area boundaries provided nor topographic features included on the maps. One criticism of the EIS is the general lack of discussion, consideration or recognition of the Designated State Natural Areas in BSFNRRA. The mission of the Tennessee Natural Areas Program should be provided with appropriate references to the Natural Areas Preservation Act of 1971 and the Rules for Natural Resource Areas. TNAP recommends that both documents be included in the NPS final management plan as an appendix. TNAP recommends that natural area management issues be addressed in the NPS final management plan and recommends that these issues be determined through a management planning process between NPS and TNAP. This should ultimately result in natural area management plans for both Honey Creek and Twin Arches.

The TNAP would welcome the opportunity to work with NPS to determine boundaries for both Twin Arches and Honey Creek in order to include those boundaries in all future NPS documents. A boundary for Twin Arches has recently been proposed by the State to NPS and the boundary for Honey Creek should approximate the original Boundary boundary for the natural area unless the State and NPS agree that a larger boundary should be delineated.

General Comments about the EIS

G29. DNH recommends that NPS reconsider the amount of trail development it is proposing for development, particularly the amount of planned horse trail extension. Excessive trail development poses problems that affect a wilderness experience that one may seek in visiting the BSFNRRA. Excessive trail development can also have negative ecological impact in fragmenting the resource, erosion, and being a conduit for invasive species. All trail development, particularly horse trails, should be recognized as potential sources for introduction of invasive exotic pest plant species. Horses are vectors for spreading invasive exotic plant propagules. Invasive grasses like microstegium thrive when disturbance occurs, and it frequently becomes established along new trail corridors. NPS should appropriate the required budget dollars to manage impacts caused by trail and other development. It is recommended by DNH that proposed trail development be reduced to minimize the ecological impacts and required mitigation.

Tennessee Department of Environment and Conservation, Division of Natural Heritage

G27. Comment noted. NPS appreciates the support and assistance from the Division of Natural Heritage in the management of rare species.

G28. As indicated in the GMP on the development and zone maps, NPS proposes no new developments (roads, utilities, or facilities) in either the Honey Creek or Twin Arches areas.

G29. Chapter 4, the affected environment, has been revised to include a discussion of the Honey Creek and Twin Arches State Natural Areas, and the zone maps have been revised to show these areas. NPS looks forward to working with the Division of Natural Heritage after the completion of the GMP process in the development of joint management plans for these areas.

G30. The proposed horse trail density and number of access points is consistent with the congressional mandate to manage the National Area in accordance with the national recreation area concept. NPS has no intention of constructing trails or access points that it cannot maintain or patrol adequately, or that will cause impairment of the resource. Each new trail proposal, rehabilitation, or realignment will be evaluated on a case-by-case basis, undergo an on-site survey by natural and cultural resource specialists, and receive an appropriate level of environmental compliance review and documentation (see Chapter 3 of the GMP). Thus, implementation of the plan will depend in large part on future funding, staffing levels, and potential environmental impacts. There is no guarantee that all of the trail proposals shown in the GMP will be funded and implemented over the life of the plan.

NPS agrees that trail corridors and certain types of uses can be vectors for the spread of invasive, exotic species. The GMP presents a comprehensive strategy for managing the National Area's roads and trails system that should help control the spread of these problematic plants by 1) eliminating undesignated “social” trails, 2) focusing recreational use on a specified, designated trail system, and 3) removing unauthorized trail uses by implementing a “closed unless marked open” system of recreational use.
In addition, the National Management Plan "Meeting the Invasive Species Challenge" issued by the National Invasive Species Council (2001) and Executive Order (EO) 13112 issued by President Clinton require that federal agencies manage invasive species and take all actions feasible to minimize introductions. It is recommended that discussion be given to exotic species impacts in the final management plan indicating that management and control strategies are under consideration and will be implemented. Neither the National Invasive Species Management Plan nor the EO are referenced in the EIS nor is there a discussion given to this serious ecological threat and management implications. It would appear that EO should be included in Chapter two "Required Management - The Institutional Framework." This chapter contains references to other pertinent EO's.

Summary
The DNH supports the National Park Service Preferred Alternative D and commends NPS for its effort and thoroughness in developing the EIS. The Preferred Alternative D adequately protects ecologically sensitive areas and rare species and/or allows for the required mitigation and management actions that will protect them. The DNH finds that no impacts to Designated State Natural Areas are evident in the EIS under Preferred Alternative D. The DNH recommends that discussion regarding Designated State Natural Areas be provided in the final management plan that addresses boundary delineation and management related matters. The DNH recommends that trail development be reduced, and that the invasive exotics species issues be addressed.

The DNH appreciates the opportunity to comment on the Supplemental Draft General Management Plan and EIS for the BSFNRE. If you have any need for further information or questions, please feel free to contact us.

Sincerely,
Brian Bowen, Administrator
Tennessee Natural Areas Program

c: Reggie Reeves, Director, Division of Natural Heritage
    David Lincicome, Rare Species Program Coordinator
    Roger McCoy, Natural Heritage Program Coordinator.

G31. The National Area has an on-going program researching the abundance and distribution of exotic plant species, and park staff is actively engaged in the removal of these species. A detailed discussion of exotic, invasive plant species is beyond the scope of the GMP, but NPS agrees this is a critically important issue. The plan has been revised to include a brief discussion of Executive Order 13112 on invasive species and to indicate that an Integrated Pest Management Plan and a Vegetation Management Plan will be prepared once the GMP planning process is complete.
Comments

Superintendent
Big South Fork NRRA
4564 Leatherwood Ford Road
Oneida, Tennessee 37841

Dear Sir:

The Kentucky State Nature Preserves Commission has reviewed the Supplemental Draft General Management Plan and Environmental Impact Statement (hereafter referred to as the EIS) for the Big South Fork National River and Recreation Area (BSFNRRA), Kentucky/Tennessee. The Commission supports the National Park Service's Preferred Alternative D, but we would like to emphasize several points.

1) The use of horse trails should be very carefully monitored to assure that use or overuse does not impact natural resources, especially aquatic resources and adjacent terrestrial populations of plants and animals. Of special concern are those portions of horse trails that cross or come in close proximity to the Big South Fork. The river contains mussel beds that support several species listed by the U.S. Fish and Wildlife Service. Horse trails that cross the river or come in close proximity to mussel beds should be re-routed to avoid impacts. Specific plans for monitoring trails for erosion and other signs of overuse should be incorporated into the final EIS. A related concern is the monitoring of exotic species that may be carried into the interior of the BSFNRRA by horses. Provisions for regular monitoring for exotic species along these trails should be incorporated into the final EIS.

2) Attached with this letter are copies of the latest list of Endangered, Threatened, Special Concern, and Historic Biota of Kentucky (KSNPC, 2000). Journal of the Kentucky Academy of Science 61:115-132 (October 2001 reprint) and the Kentucky Rare Plant Recognition Act. Both of these publications will likely serve as useful references for your staff regarding rare species on the NRRA.

Responses

Kentucky State Nature Preserves Commission

G32. Trail monitoring, and the development of indicators and standards for trail conditions, are beyond the scope of the GMP. The NPS has begun to study trail conditions and develop a trails monitoring program through contracted research conducted by Dr. Jeffrey Marion at Virginia Tech (Marion, 2004, draft report). In addition, the NPS has applied for funding to develop resource and social indicators and standards to be used in the management of backcountry resources, including trails.

As stated in the policy on horses and mussels in the GMP appendix, the current system of controlled horse crossings of the river has reduced the number of conflicts between horses and mussels, but does "not represent a long term solution to the problem." NPS agrees that a long-term solution to this challenging problem must be found, and we are actively working with the U.S. Fish and Wildlife Service to seek solutions. Options for reducing horse-mussel conflicts could include 1) construction of horse bridges over the river, 2) hardening of crossings in the river, 3) relocation of the horse crossings to a less sensitive location, 4) removal of horse crossings from the river, and 5) relocation of mussels to a more suitable location.

G33. As stated in the response to the Tennessee Division of Natural Heritage comment G31, the National Area has an on-going program researching the abundance and distribution of exotic plant species, and park staff is actively engaged in the removal of these species. A detailed discussion of exotic, invasive plant species is beyond the scope of the GMP, but the plan has been revised to indicate that an Integrated Pest Management Plan and a Vegetation Management Plan will be prepared once the GMP planning process is complete. These documents will provide the framework for the systematic and long-term monitoring, management, and removal of exotic plant species.
Letter regarding BSFNRA EIS
May 14, 2003
Page Two

3) Finally, a provision to permanently restrict OHV use to the currently designated OHV area and not be expanded into or allowed in other portions of the BSFNRA should be incorporated into the final EIS.

Thank you for the opportunity to comment on the EIS.

Cordially,

Donald S. Doty, Jr.
Executive Director

G 34. Under the Final GMP, all terrain vehicles (ATVs) will be allowed only on designated routes within the ATV planning area, and on multiple-use trails during big game season while actively hunting. Other types of off-highway vehicles (e.g., licensed four-wheel drives, licensed rail cars, and licensed dirt bikes), will be allowed on park roads and multiple-use trails.
May 12, 2003

Reed E. Detring, Superintendent
U. S. Dept. of Interior
National Park Service
Big South Fork NRRA
4564 Leatherwood Road
Oneida, TN 37841

Re: Draft General Management Plan and EIS

Dear Superintendent Detring:

Thank you for the opportunity to review and comment on the draft plan for the Big South Fork area. There are several issues discussed in the plan where the park and the Tennessee Division of Geology have a common interest. I hope we will continue to have the good working relationship we have shared in the past in our mutual efforts to minimize or resolve these issues.

There are three specific issues that the division would like to see addressed in more detail through mutual co-operation:

1) Despite the current situations we all face regarding limitations in funding and personnel, the division and the park should continue our co-operative efforts to manage the oil and gas well activity in the park and surrounding area. The well inventory project of 2000-2001, co-operative agreement No. 1443-CA-5130-98-002, provided the baseline data on oil and gas activity in the park area. The subsequent extension of this agreement to plug a leaking gas well, permit no. 5175, from the resultant priority list should serve as a pilot project for future remedial activities.

2) The detail given to hiking and horse trails should be applied to developing plans and procedures for oil and gas well access roads. With the participation of well operators, developing specific guidelines within the 36 CFR 9B regulations for re-entering and maintaining existing access roads to well sites in the park.

Tennessee Division of Geology

G35. Comment noted. NPS will continue its active partnership with the Tennessee Division of Geology in the management of oil and gas well activity in and around the National Area.

G36. Currently, many oil and gas well access routes are being used as routes by OHVs and horses where the public has access. This use is not always suitable because of safety, maintenance and resource issues. The recreational routes proposed in the plan that also are used by oil and gas operators have been identified as suitable for public use. Oil and gas well access roads, other than those designated for recreational use in the GMP, will not be open for recreational use. Oil and gas well operators have the legal authority to use the oil and gas roads, and under approved plans of operation, are responsible for maintaining these routes.

Details regarding specific (non-recreational) oil and gas well access roads are beyond the scope of the GMP. In 2004, the National Area began an oil and gas management plan that will address this and many other issues, including the approval of plans of operation.
The NPS would be pleased to provide the Tennessee Division of Geology with data and assistance in their mapping efforts.

3) The third issue concerns mapping and publishing the geology and mineral resources on the USGS 7-1/2 minute quadrangles covering the Big South Fork and adjacent areas. At present very little work has been done on this particular area of the Cumberland Plateau. Mapping the state at this scale is one of the division's mandated functions and there are plans for mapping the quadrangles covering this area in the future. The assistance and continued cooperation of park personnel would prove beneficial to the mission of both agencies.

Again, I thank you for giving the division the opportunity to comment at this time. If I can be future service, please advise.

Respectfully,

Michael L. Hoyal
Asst. State Geologist
In response to your request, received on Monday, March 3, 2003, we have reviewed the documents you submitted regarding your proposed undertaking. Our review of and comment on your proposed undertaking are among the requirements of Section 106 of the National Historic Preservation Act. This Act requires federal agencies or applicants for federal assistance to consult with the appropriate State Historic Preservation Office before they carry out their proposed undertakings. The Advisory Council on Historic Preservation has codified procedures for carrying out Section 106 review in 36 CFR 800. You may wish to familiarize yourself with these procedures (Federal Register, December 12, 2000, pages 77698-77739) if you are unsure about the Section 106 process. You may also find additional information concerning the Section 106 process and the Tennessee SHPO's documentation requirements at www.state.tn.us/tnheritement/hist/sec106.htm.

Based on available information, we find that the document as currently proposed meets the compliance requirements of 36CFR Part800 dealing with Section 106 review as mandated by the National Historic Preservation Act of 1966.

Therefore, this office has no objection to the implementation of the undertakings enumerated in the general management plan so long as this office is afforded appropriate opportunity to comment relative to issues having to do with is project. Should project plans change, please contact this office to determine what additional steps, if any, are required to comply with Section 106. Questions and comments may be directed to Joe Garrison (615)532-150-103. Your cooperation is appreciated.

Sincerely,

Herbert L. Harper
Executive Director and
Deputy State Historic Preservation Officer

Tennessee Historical Commission

G. 38. Comments noted.
Public Comments and National Park Service Responses  
(Received by the May 15, 2003 deadline)

PURPOSE AND NEED FOR THE PLAN  
REQUIRED MANAGEMENT – THE  
INSTITUTIONAL FRAMEWORK

P1. **Comment:** In the Supplemental Draft GMP, NPS ignores its responsibility to follow the authorizing legislation requiring healthful recreation and economic benefit. Rather than expand opportunities, the NPS has removed recreation from the recreation area. It appears biodiversity first, humans second policy would be implemented.

**Response:** The Preferred Alternative expands rather than restricts opportunities for recreational use of the National Area. For example, the official road and trail system contained in the Preferred Alternative would offer a number of new opportunities for various user groups, including bicyclists and equestrians. Overall, the Preferred Alternative includes a level of development that will have a significant beneficial impact on the local and regional economy. An additional $3,900,000 in annual operating funds would be needed to fully implement the Preferred Alternative. This funding level is over and above what would be required to construct the facilities called for in the Preferred Alternative. These expenditures (if forthcoming), when combined with the higher levels of tourism that would likely be generated by the Preferred Alternative, would result in a significant increase in annual economic benefits to the local and regional economy. The plan has been revised to clarify the economic benefits accruing from the Preferred Alternative.

Although a number of existing "social" trails are not included in the official system, their exclusion has been determined necessary, after careful consideration by park staff, due to the potential for unacceptable adverse resource impacts and the need for a designated trail system that can be readily managed and maintained. As a number of commenters on the draft pointed out, many stretches of trail at the National Area cross erosion-prone soils, enter streams, or traverse wetland areas. In determining whether to include individual trails in the official system, NPS had to balance visitor use against a mandate from Congress to protect resources at the National Area from adverse impacts.

The enabling legislation for the National Area states the National Area shall be established and managed for the purposes of preserving and interpreting the scenic, biological, archeological, and historical resources of the river gorge areas and developing the natural recreational potential of the area for the enjoyment of the public and for the benefit of the economy of the region.

This and related provisions in the enabling legislation reflect the overarching mandate of the National Park Service, as contained in the NPS Organic Act and NPS General Authorities Act. These acts require NPS to provide opportunities for public use and enjoyment of the units of the National Park System while leaving their resources unimpaired for future generations. The GMP adheres to the mandates in the Organic Act and enabling legislation by providing a level of recreation consistent with the national recreation area concept while still protecting the natural and cultural resources of the National Area. Under the plan, human use is not secondary, but can only take place at a level that will leave National Area resources unimpaired for the future.

The GMP makes clear that any trail not in the official system is considered closed and will not be maintained. All closed trails will be revegetated and rehabilitated to the extent that resources allow. The purpose of this provision is to prevent the proliferation of social pathways and unauthorized trails, to limit resource impacts, and to maintain only those trails that provide for sustainable recreational use. While some might consider this provision to constitute a reduction in recreational opportunities, NPS cannot allow the unauthorized construction and use of social trails to continue. Too often these trails are poorly designed and sited and consequently have unacceptable resource impacts. The proliferation of unauthorized trails also creates a network that is too large for NPS to monitor, maintain or patrol.

P2. **Comment:** The Fentress County business community has invested millions of dollars in recreation-related business and developments, based on the hope that one day Big South Fork facilities would truly reflect the high standard of a "national park." We wish to see visitation grow, rather than remain static as it has for the past 11 years. Visitations has never achieved the projected 2 million per year (immediately after construction), largely due to lack of developed access points and recreation facilities.
Response: The National Area, designated by Congress as a "national river and recreation area," is mandated to protect resources and provide for visitor use and enjoyment. Regarding recreation, it is the goal of the NPS to provide a high quality backcountry and rustic recreational experience within the ever-increasing population of the southeastern United States. The GMP preferred alternative details a system of seven zones designed to provide these recreational opportunities while still protecting the resources that make the National Area a special place to visit. The preferred alternative provides for hundreds of miles of recreational roads and trails; numerous visitor access points and trailheads; and visitor contact/information centers in Fentress, Scott, McCreary, and Morgan counties. To the extent that lodges or other similar facilities are desired, NPS believes that it would be more beneficial to the economy of the local area if these were to be provided by local business people outside the National Area (as opposed to being controlled by concession contractors who, most likely, would be from a distant metropolitan area, with only a few minimum-wage jobs available to local residents). The plan encourages the development of visitor facilities by local business people outside the National Area so tourism dollars remain in the surrounding communities. It also reaffirms partnerships to enhance the visitor experience and promote tourism. These efforts are intended to provide the highest quality recreational experience possible and may have the net benefit of increasing visitation and tourism to the National Area.

As noted in the comment, the numbers of visitors to the National Area predicted by a 1974 study have not materialized, nor have the anticipated benefits reached projected levels. However, it is important to note that a number of assumptions from the early study were not reflected by the National Area as ultimately authorized by Congress. The National Area as authorized was significantly different from the 1974 study proposal. This difference accounts in part for the fact that visitation has never reached the annual two million visitors cited in the comment. Nevertheless, for many years now the National Area has had a significant beneficial impact on the local and regional economy.

All told, the economic benefit to the region from National Area payroll, spending, and tourism totals $10 - $16 million annually. An additional $3,900,000 in annual operating funds, over and above amounts spent to construct new facilities, would be needed to fully implement the Preferred Alternative. If forthcoming, this level of increased annual operating expenditures, when combined with higher levels of tourism that may occur as a result of implementing the Preferred Alternative, would result in a significant increase in annual economic benefits to the local and regional economy.

ALTERNATIVES – INCLUDING THE PROPOSED ACTION

General

P3. Comment: The Supplemental Draft GMP does not provide a full range of alternatives, as required by 40 CFR 1502.14. Each is a slight variation of the other, with Alternative D (the preferred alternative) simply being the most detailed.

Response: Under NPS policy (Director's Order No. 2, "Park Planning"), the purpose of a general management plan is to set forth, in a broad overview, the types of resource conditions, visitor uses, and management actions that will best achieve the NPS' mandate to preserve resources unimpaired for the enjoyment of future generations. The GMP is intended to be the first phase of tiered planning and decision making, with subsequent detailed planning documents to be addressed to specific areas of concern (e.g., fire management, oil and gas management, development concepts, etc.). It should be noted that the GMP is not intended to contain detailed plans for development or specific implementation plans. Stated another way, the GMP for the National Area is not intended to resemble the Master Plan for Big South Fork (1981) prepared by the Corps of Engineers.

Each of the alternatives contained in the GMP is based on a different concept of how the National Area should be managed. These concepts are in turn reflected in the management zones and prescriptions applied to specific parts of the National Area. The management zones constitute the essence of each alternative, because it is these zones that will govern what actions can, and cannot, be contemplated in subsequent planning efforts and decision making. The zones are the heart of each alternative.

The three action alternatives in the GMP differ significantly in their approach to management zoning. For example, Alternative B would zone substantially more of the plateau area as "enhanced recreation unit" than would Alternative A. Alternative D differs from Alternatives A and B by creating an entirely different zoning system, consisting of seven separate zones and an ATV planning area. Each of the alternatives differs fundamentally in its approach to management of the National Area.

P4. Comment: Only about a 10% difference in cost of facilities exists between the alternatives, which is a very minor difference over a 20-year period. The GMP should include an alternative that elevates recreation facility development to a level consistent with the Corps of Engineers Master Plan for Big South Fork (1981), including the two lodges envisioned in the
the local area

the lodges to be constructed outside the National

consideration is that construction of the lodges is desired by local

facilities within the adjacent area so as to maximize

With respect to the two lodges, the enabling

development envisioned by the Corps Master Plan

deferred maintenance throughout the National Park

feasible to implement Given projected budgetary

management plan proposed alternative must be

the Supplemental Draft GMP. However use of the

figures for Alternative the Preferred Alternative in

impacts on the local economy over and above the

Preferred Alternative would have significant beneficial

As noted in the response to comment P2, the

the local area. Such an approach would have

that the construction of lodges is authorized, but not mandated. Assuming that the

the construction of lodges is desired by local

communities, NPS believes that the most feasible – and economically beneficial – approach would be for

local area and operated by private investors, preferably

Such an approach would have the greatest likelihood of benefiting the local economy in that it would maximize the amount of tourism income earned by local businesses and reinvested in the local area.

As noted in the response to comment P2, the Preferred Alternative would have significant beneficial impacts on the local economy, over and above the benefits already being realized today. The plan has been revised to clarify and highlight those beneficial impacts.

P5. Comment: A comparison of Alternatives A&B between the February 2000 Draft and the January 2003 Supplemental Draft reveals huge discrepancies. The text of the Supplemental Draft leads the public to believe that Alternatives A&B are included unchanged as they were presented in the February 2000 Draft. This is not the case. Many changes have been made, which appears to be reflected in the cost estimates for these alternatives. The cost estimate for Alternative A in the Supplemental Draft is $15.2 million less than the February Draft. The cost estimate for Alternative B is $28.1 million less. Please explain.

Response: The cost figures for alternatives A and B have changed between the 2000 Draft GMP and the 2003 Supplemental Draft GMP. Soon after releasing the 2000 Draft GMP, NPS adopted service-wide a new procedure for estimating costs in general management plans. This new, more accurate procedure was used to develop the projected cost figures for Alternative D, the Preferred Alternative in the Supplemental Draft GMP. However, use of the new procedure for Alternative D meant that the previous cost figures for alternatives A and B could not be compared with the new figures for alternative D, because the cost figures for alternatives A and B had been derived using different assumptions and methods. Therefore, in order to allow members of the public to do a meaningful comparison of the projected costs of the various alternatives, NPS recalculated the costs of alternatives A and B using the new method.

The concept that Alternatives A and B had not changed from the February 2000 Draft to the 2003 Supplemental Draft GMP applies to the zones, which indeed, did not change. Stated another way, the zones and zone prescriptions from the earlier draft were carried forward verbatim to the 2003 Supplemental Draft GMP and incorporated by reference.

There has been some confusion over the use of the word “Same” in the text pages that accompany each of the development maps in the Supplemental Draft. Because the preferred alternative of the 2003 draft included a great many more sites, roads, and trails than the previous draft, use of the word “Same” was intended to avoid clutter in the text by referring to the immediately preceding description of the preferred alternative. The single word “Same” was used as a time-saving choice over the phrase “Same as Preferred,” and was meant to be used only where the proposal in Alternative A and/or Alternative B was exactly the same as the preferred alternative.

P6. Comment: The GMP should apply the same zones to different broad visions of direction. That way the public could see the real effect of zoning. As presented, there appears to be no significant difference.

Response: The preparation of a general management plan entails the development of different alternatives (i.e., "broad visions of direction"). As noted in the response to comment P3, each alternative is characterized by its own configuration of individualized management zones. The zones will drive future management decisions. Therefore, repeating the same zones from alternative to alternative would defeat the purpose of planning. The various alternatives in the GMP differ significantly in the types of future decisions they would make possible. Again, it is the differences among the types and configurations of management zones that distinguish the various alternatives.

P7. Comment: The alternatives in the Supplemental Draft GMP should be carried to the same level of detail.

Response: Each of the three action alternatives in the plan contains a similar amount of detail with respect to the fundamental elements of a general management plan, namely, management zones, desired future conditions, management prescriptions, and environmental consequences. The Supplemental Draft GMP goes beyond the standard GMP format
and includes a roads and trails plan for each alternative. Each of the action alternatives contains a detailed proposal for a roads and trails system. This additional level of detail was requested by many of those who commented on the original Draft GMP. The NPS provided an integrated GMP/implementation plan because of strong public demand for specific information on roads and trails management. In essence, the GMP for the National Area is a combined general management plan and implementation plan for roads and trails. Other implementation plans for other management issues will be prepared as needed after the GMP is finalized and approved.

P8. **Comment:** The Supplemental Draft GMP states that “a sustained, moderate level of management effort would be anticipated in working towards” the desired conditions of the Natural Environment Recreation Zone. In contrast, “[m]anagement of resources and any visitor use within the [Sensitive Resource Protection Zone] would be intensive.” Without an intensive effort in the protection of recreation, NPS’ intensive efforts in the protection of resources will result in a loss of the recreational opportunities that Congress meant for people to enjoy.

**Response:** Congress intended that the National Area be managed with an emphasis on healthful outdoor recreation. The Preferred Alternative reflects such a management emphasis by increasing opportunities for various recreational activities, including, among others, bicycling and horseback riding. But while the plan would increase opportunities, it would do so only in a context of resource protection. By law and policy, NPS is required to expend the level of effort necessary to preserve unimpaired the resources for which the National Area was established.

P9. **Comment:** Alternative D presumes a level of funding for the National Area that is more than twice the current level. Achieving this level of funding is most unlikely. Each of the alternatives should be analyzed using the same funding level.

**Response:** The General Management Plan is, as its name denotes, a general long-range document that is meant to cover a 15- to 20-year time period. The particulars of implementing the plan will depend upon perceived needs over time, funding availability, personnel resources, and public support. Even if funding is not made available to accomplish everything in the Preferred Alternative, much that is unique to this alternative can still be implemented. Each of the alternatives reflects a different vision for managing the National Area, and each of these visions would entail a different funding level to implement. Analyzing each alternative at the current funding level would either mean (a) assuming that certain items in each alternative would never be implemented, or (b) limiting options to such an extent that the alternatives would not be sufficiently different from one another to constitute a valid range of alternatives.

P10. **Comment:** The alternatives in the GMP should be based on data from visitation studies, rather than the opinions of National Area staff. Visitor needs take a back seat in the plan to resource protection.

**Response:** The GMP is based upon a variety of supporting information, including public input, visitor statistics, natural resource studies, cultural resource surveys, comprehensive plans and land use plans from surrounding counties and communities, supporting data from the Corps of Engineers, environmental impact reports, Big South Fork guidebooks, and input from NPS subject-matter experts. Public input is described in the consultation and coordination section of the plan and the supporting documents are listed in the selected references. The GMP preferred alternative provides a high-quality visitor experience while protecting National Area resources.

P11. **Comment:** The plan should devote more attention to activities such as kayaking, swimming, wading, and fishing. Better put-ins and takeouts should be considered for the river, as well as a firing range.

**Response:** Details of the sort requested in the comment are not typically provided in general management plans, but are left to subsequent implementation plans. It is understood that water sports will be concentrated at waterside development zones, and zones where such activities could take place or originate are described in the plan. Details regarding put-ins and takeouts will be taken up at the implementation plan stage. The Final GMP states in Chapter 3 (map 8, site 2, “headquarters development area”) that NPS will evaluate opening the firing range to the public.

P12. **Comment:** Fentress county has some of the most beautiful natural and geologic features in the entire National Area, including Wildcat Den natural bridge, Accordion Bluff rock shelter, the South and North Sawtooth area, Fiddler’s Arch, and the confluence of Laurel Fork and Hatfield Creek bluffs. The Supplemental Draft GMP does not provide adequate visitor use facilities in Fentress County. For visitation to grow and benefits to accrue to the local economy, scenic attractions must be made accessible through development of an increased number of visitor facilities. More paved parking, sanitary facilities, water and paved paths (for handicapped persons) should be developed in at least the Sawtooth Overlook and Confluence Bluffs picnic areas. Parking,
trails, and related facilities suitable to all ages and abilities should be provided to the Laurel Fork features. The amount of parking provided in the proposed development zones at Darrow Ridge will be inadequate over a 20 year period. The plan should be revised to provide access to features in Fentress County, and should include development that will accommodate all ages, disabilities, and interests.

Response: Additional development and facilities to the degree described in the comment could impact sensitive resources, detract from the rustic character of the National Area, and are beyond the scope of what would conceivably be funded during the life of the GMP. The preferred alternative does, however, provide equestrian and/or hiking access to Wildcat Den, Hippy Cave (aka Accordion Bluff), the Sawtooth area, Fiddler’s arch, and the Tophat (aka Flat Bottom Overlook). As stated in the response to Fentress County comment #6, the preferred alternative includes 13 new proposed access zones (trailheads) in Fentress County along the boundary of the National Area — nine in the Darrow Ridge area alone — in an attempt to meet growing development pressures.

In addition, the GMP has been revised to reflect the following changes in the Darrow Ridge area:

- Little Cliff Trail — open to horses and bicycles
- Darrow Ridge Road (eastern portion), Christian Cemetery Road, Little Cliff Road (to gorge closure), and Upper Panther Branch Road — designated as multiple-use trails to allow equestrian use
- Darrow Ridge Road (western portion) — road standard changed to “2-lane paved”
- John Hall Trailhead — designated for horses and hikers as a second access to the Darrow Ridge Horse Trail

Management Zones

P13. Comment: The proposed management zones should recognize suitability for uses in a more regional context. The National Area is better suited for biking and horseback riding than Great Smoky Mountains National Park, and the Smokies are better suited for backpacking. The zones in the draft plan should reflect this difference in suitable uses.

Response: The management of each NPS unit is guided first and foremost by its enabling legislation, and secondarily by other applicable laws, regulations, and policy documents. Therefore, management zones for an individual park must be drawn with reference to the legal requirements and resource considerations applicable to the unit itself, rather than what uses may be taking place elsewhere in the region. In the case of the National Area, Congress has directed that the national recreation area concept shall apply. By definition, the national recreation area concept calls for a greater emphasis on recreation than is found in other types of park units, and that emphasis is reflected in the preferred alternative. The preferred alternative calls for more miles of trails per square mile (including more horse and bike trails) than is available in Great Smoky Mountains National Park. For example, Great Smoky Mountains National Park has 0.7 miles of horse trail per square mile, whereas the GMP for the National Area proposes 1.1 linear mile of trail available to horse use per square mile.

P14. Comment: The sensitive resource overlay should be continuous along the Big South Fork between Leatherwood Ford and Bear Creek and along Station Camp Creek and Laurel Fork of Station Camp. It should also extend farther up into Troublesome, Difficulty, Bandy, and Parch Corn creeks.

Response: The sensitive resource protection zone includes all of the areas identified in the comment. As stated on page 17 of the Supplemental Draft, “All natural, perennial watercourses and their riparian areas and floodplains would be included” in the sensitive resource protection zone. The sensitive resource overlay was created to highlight a concentration of sensitive resources within a given geographic area. While not every sensitive resource falls within the overlay, they still lie within the sensitive resource protection zone. The river between Leatherwood Ford and Bear creek is a good example of this.

P15. Comment: The Preferred Alternative should include an analysis of sites within the sensitive resource overlay that are currently highly developed or receive high visitation. The plan should single these sites out for analysis, and propose appropriate monitoring and mitigation actions.

Response: The comment calls for a level of detail and analysis that is beyond the scope of a general management plan. As set forth in the final plan, the sensitive resource zone sets forth desired future conditions and management prescriptions. To the extent that visitor usage results in a deviation from these desired future conditions, specific response actions can be designed and carried out at the implementation stage to address particular problems.

P16. Comment: The plan should make clear that the sensitive resource overlay areas indicated on the maps are not intended to be static and finite.

Response: The plan has been revised to indicate that the sensitive resource overlay areas can be adjusted in the future if additional sensitive resources (e.g., endangered species, archeological resources) are
identified that warrant an adjustment of the overlay areas.

**P17. Comment**: The National Park Service should not take any action that would remove or significantly alter any recreational opportunities based upon an arbitrary percentage of visitor dissatisfaction factors. Social standards and social indicators can be used improperly and should not be the basis of management action. NPS should do everything in its power to meet legislated mandates to provide recreation at a level commensurate with the national recreation area concept. Recreation should be NPS' primary resource management purpose.

**Response**: As noted previously, NPS is required by law to provide recreational opportunities at the National Area in a manner that will leave the area's resources unimpaired for future generations. The final plan does this by adhering to the national recreation area concept while assuring resource protection. Visitor dissatisfaction factors are not intended to be the sole basis of management action, but would merely point out potential problem areas that merit additional, independent investigation by NPS. Where appropriate, NPS would take action based on its own independent evaluation of a particular situation.

**Development Sites**

**P18. Comment**: The proposed number of parking spaces at parking areas is too small to accommodate likely future increases in equestrian usage. Each parking area for horseback riders should have a minimum of 12 spaces. In addition, parking needs to be increased for horse trailers, as many people are now pulling very long trailers and take up more room than previously. Access roads to existing trailheads need to be widened so horse trailers can pass each other.

**Response**: The final plan has been revised to take out references to a specific number of parking spaces at trailheads or other development zones. This level of detail will be included in the site plans for individual trailheads and parking areas. Addressing such detail in the site plans will allow NPS planners to deal appropriately with conditions as they exist at the time of development, rather than adhere to prescriptions that may have been drawn up years before and may no longer meet current needs. Due to funding constraints and concerns with respect to maintenance and resource protection, the design standards applicable to individual roadways will remain as described in the Supplemental Draft GMP.

**P19. Comment**: Why is the $330,000 developed campground at Mt. Helen Trailhead missing from Alternative B? Why has the $4.6 million development at Bear Creek Horse Camp disappeared? These developments were in the February 2000 draft and both should have been carried forward, based on the wording of the Supplemental Draft GMP.

**Response**: The intent of the wording of the Supplemental Draft GMP was to indicate that the heart of the 2000 draft – the management zones – was being carried forward to the Supplemental Draft. As noted in response to comments P3, P5, and P6, the fundamental components of the general management plan are the management zones and corresponding management prescriptions. Details regarding development are considered less important and in most instances are omitted from the GMP entirely and left for future implementation planning. In the present instance, the development at the Bear Creek Horse Camp was deliberately dropped from the Supplemental Draft GMP because it was determined that the Bear Creek area was not appropriate for a large-scale concession operation. It was also felt that both visitors and the local economy would reap greater benefits if necessary services were to be provided outside the National Area by local business people. As for the developed campground at Mt. Helen Trailhead, this potential new site was included in the Supplemental Draft GMP. Its description can be found on page 107 of that document.

**P20. Comment**: None of the horse trailhead facilities in Alternative D are described as having sanitary facilities. Staging areas for other activities have sanitary facilities. Why the different treatment? The draft states that improper disposal of untreated human waste in areas without toilet facilities currently causes minor water quality problems. Please cite the scientific study that shows where this is occurring.

**Response**: Inclusion of sanitary facilities at certain trailheads was meant to give an idea of the types of facilities that could be provided in those areas. It was not the intent to suggest that sanitary facilities would only be provided where specifically indicated. Needs for particular areas will be assessed at the site planning stage and sanitary facilities will be provided as appropriate. Discussions of water quality problems at areas without toilet facilities can be found in two documents cited in the Selected References. The two documents are cited as National Park Service (1997a) and National Park Service (1986).
P21. **Comment:** The plan should include a shelter along the tree line of the Appaloosa Field. Many groups currently use a collection of tarps and canopies for their ride briefings.

**Response:** The plan has been revised to indicate that the developed area at Bandy Creek may include a shelter at the Appaloosa Field.

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**Roads and Trails**

**General**

P22. **Comment:** The maps in the Supplemental Draft GMP contain errors.

**Response:** The maps have been revised to include corrections identified by persons commenting on the Supplemental Draft.

**Road system: general comments**

P23. **Comment:** The foot and bike trail classification standards at p. 276 should be strengthened. All foot and bike trails should have barricades that will prevent access by unauthorized users, i.e., motorized vehicles. Trail standards should include criteria for signage and blazing. Signs should reflect policy that all trails are closed to motorized vehicles unless posted open to them. Maintenance and monitoring standards should be established for each trail class.

**Response:** NPS believes that the issue alluded to in the comment is essentially a law enforcement issue and should be dealt with on a case-by-case basis. Rather than mandating that the National Area incur the expense of signing and gating all trails, the final plan allows the Superintendent to use his or her authority to gate those trails experiencing extensive amounts of unauthorized motorized use. Trail signage, blazing, and monitoring standards are outside the scope of the GMP. Trail maintenance standards are covered in the annual trail management scope of work in the appendix.

P24. **Comment:** The plan should provide more opportunities for use of four-wheel drive vehicles on two-track roads over fifty inches.

**Response:** Opportunities for this type of use are adequate, given that four wheel drive vehicles of the type indicated can use unimproved roads and multiple use trails throughout the National Area. Creating and maintaining additional trails specifically for this type of use would place a strain on the National Area's maintenance and law enforcement staffs and could result in unacceptable cumulative resource impacts.

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P25. **Comment:** The proposal to restrict oversize vehicles on Highway 297 may interfere with interstate commerce and curtail recreation.

**Response:** The proposal to evaluate the prohibition of oversize vehicles on Highway 297 is made for the purpose of protecting resources and increasing safety for all persons using this road, including visitors to the National Area. During the time that the planning process has been underway, there has been at least one fatality from an oversize vehicle traveling through the gorge on Highway 297, and numerous instances of resource and property damage. Any move to evaluate the prohibition of oversize vehicles on Highway 297 would be made in full consultation with state and local authorities having jurisdiction over this roadway. In addition, advice would be sought from legal counsel in order to avoid any unlawful restrictions on interstate commerce.

P26. **Comment:** "The authorizing legislation requires all other existing roads in the gorge to be maintained. So it would appear that all existing roads at the time of authorization must remain open to non-motorized use. Where is this discussed in the draft?"

**Response:** The National Area's enabling legislation states that "All other existing roads in the gorge area shall be maintained for nonmotorized traffic only, except that nothing in this section shall abrogate the right of ingress and egress of those who remain in occupancy under subsection (c)(2) of this section." 16 U.S.C. 460ee (e)(2)(D). The overarching purpose of the section in which this language appears is to limit impacts to the sensitive resources in the gorge. It does this by specifying the locations where NPS "may" construct or improve motorized access routes. In addition, subsection (e)(2)(E) specifically states that any maintenance activities "of roads and facilities in the gorge as permitted by [not as required by] this section shall be accomplished by the Secretary in a manner that will protect the declared values of this unique natural scenic resource." 16 U.S.C. 460ee (e)(2)(E). Therefore, the language cited in the comment does not require NPS to maintain all existing gorge roads in perpetuity for recreational pursuits. Rather, this language means that existing roads in the gorge, to the extent they are maintained for recreation, may only be used by non-motorized traffic.

P27. **Comment:** The Burnt Mill Bridge needs to be fixed and the road re-opened. The National Park Service should have no control over the bridge because the bridge is county-owned.

**Response:** The decision to close Burnt Mill Bridge was made by Scott County, which owns both the bridge and the approach road. The National Park Service has no control over the bridge and did not participate in the decision to close it. Responsibility...
for building a new bridge lies with Scott County and the Tennessee Department of Transportation.

Trail system: general comments

P28.  *Comment:* All trails that are not made part of the official system by the GMP should be expressly designated as "closed." Rather than simply abandon maintenance, NPS should subject these trails to a plan for systematic closure.

*Response:* In order to ensure that the status of all trails in the final GMP is clear, the plan has been revised to specifically state that all trails not part of the official system are designated as "closed." Where necessary to prevent resource damage, NPS will physically close trails and prepare a prescription for rehabilitating degraded trail sections. The National Area lacks the staff and funding to simultaneously maintain the official trail system and physically close all trails that are not part of the official system.

P29.  *Comment:* With nearly 300 miles of roads currently open to motor vehicles in the National Area, the plan should not open any additional roads, trails, or routes to motor vehicles. The mixing of motorized and non-motorized use on many trails is problematic, and may create safety issues.

*Response:* The roads and trails plan in the preferred alternative is predicated on multiple and shared use of many existing trails in order to accommodate diverse user groups and afford access to a variety of recreational opportunities. Under the preferred alternative, specified motor vehicles are allowed on both roads and multiple-use trails. Past experience at the National Area indicates that mixing motorized and non-motorized use on multiple-use trails has not created a safety problem. On those multiple-use trails where vehicular traffic is perceived to be moving too fast, the trail standard will be narrowed and speed reduction devices such as speed bumps and warning signs will be employed.

P30.  *Comment:* The Supplemental Draft GMP should be modified such that significant portions of the National Area would have lower trail densities and fewer access points than currently proposed. Access points would almost double (from 24 to 44) and trail mileage would increase by 32%. Horse trails would increase by 44%. Great Smoky Mountains National Park is over four times larger than the National Area, but has only 800 miles of trails, which is completely adequate. Excess access points are expensive to maintain and difficult to patrol adequately for illegal uses.

*Response:* The proposed trail density and number of access points is consistent with the congressional mandate to manage the National Area in accordance with the national recreation area concept. NPS has no intention of constructing trails or access points that it cannot maintain or patrol adequately, or that might cause impairment of the resource. Each new trail proposal, rehabilitation, or realignment will be evaluated on a case-by-case basis, undergo an on-site survey by natural and cultural resource specialists, and receive an appropriate level of environmental compliance review and documentation (see Chapter 3 of the GMP). Thus, implementation of the plan will depend in large part on future funding, staffing levels, and potential environmental impacts. There is no guarantee that all of the trail proposals shown in the GMP will be funded and implemented over the life of the plan.

P31.  *Comment:* NPS' efforts to accommodate various interests jointly have lead to a chaotic pattern of numerous access points feeding into the trail system. These access points will create rather than solve management problems. Most of the proposed new access points should be removed.

*Response:* It should be noted that in recent years a number of residential developments have been constructed adjacent to the National Area that take advantage of local recreational opportunities. We expect this trend to continue and perhaps accelerate in coming years. The proposed system of access points is designed to serve visitors from these areas as well as all other visitors to the National Area. As noted in chapter 3 of the GMP, all access points must be open to use by the general public. It is important to provide an adequate number of convenient access points to serve the visiting public. Otherwise, social trails may proliferate and resource degradation may increase.

P32.  *Comment:* The preferred alternative is deficient in that it fails to explain how the National Area will simultaneously increase trail construction and protect Area resources. Current budgets are inadequate to maintain the present system, especially those trails used by horses. It is unlikely that future funding increases will be sufficient to cover maintenance for an expanded system. How will the National Area meet its current maintenance needs if it attempts to build the new trails and facilities called for under Alternative D? How will the need for site restoration and resource monitoring be balanced against new construction projects?

*Response:* The final general management plan is, as its name implies, a general guidance document designed to cover management of the National Area over a 15 to 20 year period. The plan sets forth a
vision for managing the area given adequate funding and staffing levels to implement the particulars of the plan. However, there is no guarantee that specific projects in the plan will be built in the near future, or at all. Implementation of many details of the plan will depend on funding availability. As noted on page 9 of the Supplemental Draft GMP, NPS will only construct those projects that it has the resources to build and maintain.

P33. Comment: Shared use of trails should only be permitted where such use is safe for all visitors and will not adversely affect streams and other resources. Horses and motorized vehicles are not compatible with hikers in many circumstances.

Response: The preferred alternative calls for shared use only in those areas where experience indicates shared use is safe for all visitors. Similarly, every effort has been made to avoid siting any trails where their use could cause adverse impacts to National Area resources. Due to the nature of the local terrain, however, it has not been possible to site all trails away from waterways. It is understood that user conflicts sometimes occur between hikers and other user groups. We believe that these problems can be effectively managed by providing visitor education at trailheads and by providing hiking-only trails for those hikers who do not want to encounter horses, bicycles or vehicles.

P34. Comment: Horseback riders, hikers, and mountain bikers can share the same trails. User education at trailheads can forestall many user conflicts.

Response: It is true that all of these user groups, when informed of possible risks and proper trail etiquette, can use many of the same trails. At the same time, however, many members of the public have expressed the view that it is appropriate for each of these groups to have their own trails. The final plan thus provides both dedicated and shared-use trails.

P35. Comment: The proposed trail system lacks an overriding design. The plan should contain additional, or different, trails. (Proposed changes specified in various comments.) The proposal would delete "redundant" trails when such trails provide desirable loops and shorter trips. The lack of short loop trails makes single-day horse trips infeasible for weekend visitors, with adverse effects for the local economy. Various trail segments should be added to the system to create loops.

Response: The criteria used for including trails in the official trail system are set forth in chapter 3 of the GMP. A number of commenters made specific suggestions for adding trail segments to the final plan. Although each of the suggested trail segments had previously been considered by the planning team prior to release of the Supplemental Draft GMP, the team reconsidered all suggested trail segments in response to public comment. Some of the proposed additions had actually been included in the Supplemental Draft GMP, but under names that may have been unfamiliar to particular commenters (see, e.g., the Little Cliff – Christian Cemetery Trail and the Darrow Ridge Road – North White Oak Creek – Wildcat Den Trailhead). Other loops (or, more specifically, trail segments that would create a loop) had been intentionally excluded from the Supplemental Draft. These segments were reconsidered by the planning team, but they do not meet the selection criteria and have not been included. In particular, the planning team rejected trails on steep slopes, trails that would result in a proliferation of river crossings, or trails that otherwise would require disproportionate maintenance effort to prevent adverse resource impacts. The Watson Cemetery Trail is an example of a route that is not included in the official trail system due to adverse resource impacts.

P36. Comment: The existence of social trails is used as a justification to limit or control use. Yet the design of the trail system, with trails placed far from special features, virtually guarantees social trails. "And since the GMP proposes a hike anywhere policy, social trails are entirely legal and acceptable. But they are not. Which is it?"

Response: Few known special features in the National Area are excluded from trail access in the GMP. The concept in many locations is that one drives or rides a bicycle or horse near the special feature, then walks the remaining distance. This design limits resource damage and social impacts that can occur at the special feature. The few instances where a special feature does not include trail access were to protect the public or National Area resources. Ranger patrols will check for the beginnings of social trails and appropriate management actions will be taken to prevent their proliferation. Social trails are not acceptable and all social trails will be closed to the extent practicable. While it is true that hikers are not limited to designated routes under the GMP, this aspect of the plan merely recognizes that (a) foot traffic is extremely difficult to regulate, and (b) impacts from foot traffic are generally much less pronounced than equestrian and vehicular use, activities which involve more soil disturbance (see Marion, 2004, draft report). However, foot traffic on social trails does cause adverse impacts. Accordingly, the Superintendent can and will act to close and rehabilitate social trails as necessary.
foot travel would be allowed on both designated trails and off-trail so long as no adverse impacts to resources do not occur. The plan has been revised to clarify that off-trail as long as adverse impacts to resources do not occur. Hikers would be allowed to hike on unofficial and other "closed" trails that other user groups could not use. If NPS is establishing an official trail system, hikers should be restricted to designated trails. Restrictions should be placed on all off-trail activities, not just competitive events.

Response: As the comment notes, in some instances off-trail hiking can damage sensitive resources. When such impacts become evident or can reasonably be anticipated, the Superintendent has the authority to close specific areas to foot traffic. However, for the reasons noted in response to comment P36, the plan provides that hikers can go "off trail" as long as adverse impacts to resources do not occur. The plan has been revised to clarify that foot travel would be allowed on both designated trails and off-trail so long as no adverse impacts to resources were occurring. (Note: foot travel would be prohibited on those administratively closed trails that are undergoing active restoration/rehabilitation.) Restrictions are placed on off-trail competitive events because these activities have the clear potential for adverse impacts due to potentially large numbers of participants.

Comment: The GMP does not adequately address the environmental impacts of the "hike anywhere" policy. Off-trail hiking can damage sensitive resources. In addition, this policy is unfair to other user groups. Hikers would be allowed to hike on unofficial and other "closed" trails that other user groups could not use. If NPS is establishing an official trail system, hikers should be restricted to designated trails. Restrictions should be placed on all off-trail activities, not just competitive events.

Response: As the comment notes, in some instances off-trail hiking can damage sensitive resources. When such impacts become evident or can reasonably be anticipated, the Superintendent has the authority to close specific areas to foot traffic. However, for the reasons noted in response to comment P36, the plan provides that hikers can go "off trail" as long as adverse impacts to resources do not occur. The plan has been revised to clarify that foot travel would be allowed on both designated trails and off-trail so long as no adverse impacts to resources were occurring. (Note: foot travel would be prohibited on those administratively closed trails that are undergoing active restoration/rehabilitation.) Restrictions are placed on off-trail competitive events because these activities have the clear potential for adverse impacts due to potentially large numbers of participants.

Comment: The Supplemental Draft GMP continues the poor practice of using old roadbeds for multiple-use trails. Siting trails on old roadbeds results in soil erosion and high maintenance costs. The National Area should construct new, properly designed trails, which will wear better and be easier to maintain. Geomorphic processes are a greater determinant of trail degradation than types or levels of use. The vast majority of impacts take place at low levels of use. Additional levels of use cause few additional impacts. This renders inaccurate most of the impact analysis in the draft plan.

Response: Old roadbeds are indeed often unsuitable locations for trails. Old roadbeds are often too steep, deeply incised, poorly drained, and are a source of erosion. Unfortunately, many trails in the National Area in the past were built on old roadbeds. The plan, however, does not continue the practice of citing trails on old roadbeds. The trails on the development maps only represent conceptual corridors, not specific trail locations. The plan has been revised to state that old roadbeds are generally unsuitable locations for trails. All new trails will conform to the revised trail standards proposed in the Final GMP, which include slope and drainage configurations. The long-term goal for those trails currently existing on old roadbeds where resource damage is occurring is to relocate and rebuild the trail at an appropriate grade with the necessary drainage characteristics. The impact analysis addresses both geomorphic processes and use levels as contributing factors to environmental impacts. Studies commissioned by NPS indicate that impacts at the National Area increase with use levels.

Comment: The plan needs to provide more specifics regarding the nature and timing of monitoring activities with respect to trail conditions. Neither the trail standards nor maintenance scope in the Supplemental Draft have any parameters that would provide monitoring guidelines or actions to be taken when adverse conditions occur. What are the standards for restricting, rerouting, and closing a trail? What are the indicators that a trail does or does not have the ability to sustain the use that is occurring? NPS has not presented a cohesive, understandable trails protection program that embodies trail design, standards, monitoring, and maintenance.

Response: Trail monitoring and indicators and standards are beyond the scope of the GMP. The NPS has begun to study trail conditions and develop a trails monitoring program through contracted research conducted by Dr. Jeffrey Marion at Virginia Tech (Marion, 2004, draft report). In addition, the NPS has applied for funding to develop resource and social indicators and standards to be used in the management of backcountry resources, including trails.

Comment: The Supplemental Draft GMP calls for the continued use of outdated trail standards and maintenance methods. Sections of steep trail should be relocated and constructed with a small bulldozer, using a full-bench cut with reasonable grades (not exceeding 10% overall), and with sufficient trail outslope. Water bars should no longer be used. With proper construction methods, trail hardening would not be necessary. The large sums to be devoted to monitoring trail conditions would be better spent redesigning and reconstructing trails.

Response: The Road and Trail Classifications and Standards have been revised to reflect grade, full-bench construction, outslope, backslope, etc. As funding is secured to reconstruct and/or relocate trail sections, every effort will be made to comply with the new standards, within design limitations. Even with reconstruction or relocation, trail hardening and the use of drainage structures will still need to be used in the management of the National Area's trail system.
P41. **Comment:** The National Area should use bulldozers for trail construction within the Gorge. The enabling legislation allows motorized equipment in the gorge; preventing the use of motorized equipment in the gorge is inefficient and expensive. Great Smoky Mountains National Park uses a small trail dozer for construction.

**Response:** The use of motorized transportation is allowed in the gorge area for administration of the National Area. The use of bulldozers is one of the many options available for trail construction and maintenance and would be considered, taking into account the preservation of the scenic, biological, archeological and historical resources of the river gorge areas.

P42. **Comment:** The draft plan allows some use of crusher run stone for tread repair on trails. This practice should be prohibited. In the past, use of crusher run on long stretches of trail has resulted in the erosion of gravel into streams and the river. Prevention of erosion should be addressed via proper trail construction techniques with attention to decreasing grade through the use of switchbacks. With such techniques, trail hardening will be all but unnecessary.

**Response:** The Road and Trail Classifications and Standards have been revised to reflect the target grades necessary to reduce erosion and maintenance along our trail system. As funding becomes available, these target grades will be implemented, where practical, through reconstruction and relocation efforts. Trail hardening will continue to be necessary in some locations, regardless of grade. The National Area's Maintenance Division continues to explore alternatives such as the use of red dog geotextile fabric (to reduce the amount of material necessary to harden the surface) and different drainage structure designs.

P43. **Comment:** Use of motorized equipment should be prohibited under any circumstances in the gorge area, except for the occasional chainsaw and to maintain the road access authorized by the enabling legislation.

**Response:** The enabling legislation establishing the National Area prohibits motorized transportation with a number of exceptions, including for administrative use of the area. The legislation does not prohibit the use of motorized equipment, and there are circumstances in which the use of such equipment is necessary or desirable to accomplish management objectives in the gorge, as when conducting environmental restoration or pollution abatement activities.

P44. **Comment:** The GMP should include a cost-benefit analysis with respect to construction and maintenance of trail segments. A high-priced hiking trail that receives little use is not an efficient use of public funds.

**Response:** A cost-benefit analysis of the type called for in the comment is beyond the scope of the GMP. In developing the official trail system, the planning team has taken pains to include only trail segments that are likely to be used, can be built and maintained for a reasonable cost, and will allow outstanding recreational opportunities while protecting National Area resources.

P45. **Comment:** Trails designated for closure due to reroute should remain open to users until the rerouted trail is put into service. For example, on Map 10, the trails currently being used should not be removed for horse use until the replacement trail (trail 23) is built.

**Response:** As a general rule, trails designated for replacement can remain open until a replacement trail is built. However, when a given trail or trail section poses a safety issue, or is so degraded that resources are being adversely affected, the Superintendent has the discretion to institute a closure prior to construction of a replacement trail.

P46. **Comment:** The Burke Cabin should be retained as a destination point.

**Response:** The GMP has been revised to indicate that the Burke cabin will be studied to determine if it is a necessary and appropriate component of the recreational experience at the National Area.

P47. **Comment:** The designation of the Gentleman's Swimming Hole Trail Segment and Meeting Bend Trail as multiple use is inconsistent with National Register designation of Historic Rugby. The artery leaving the historic Laurel Dale Cemetery adjacent to the existing trailhead sign should be gated to allow foot traffic only for this entire loop. This segment is part of the cultural resources of Rugby protected by the National Register listing. The entire area of this loop trail should be designated a safety zone since there is extensive year round use of the area by visitors and residents.

**Response:** The plan has been revised to indicate that the Gentleman's Swimming Hole Trail (Segment B) and Meeting Bend Trail as multiple use is inconsistent with National Register designation of Historic Rugby. The artery leaving the historic Laurel Dale Cemetery adjacent to the existing trailhead sign should be gated to allow foot traffic only for this entire loop. This segment is part of the cultural resources of Rugby protected by the National Register listing. The entire area of this loop trail should be designated a safety zone since there is extensive year round use of the area by visitors and residents.
the written park policy and criteria for a safety zone, but NPS will consider designating a no-hunting zone within that portion of the Rugby National Historic District that lies within the National Area.

P48.  *Comment: The White Oak Bend Road (Map 11, Road 24) is designated for “road uses.” This road should be gated and designated for foot traffic only. This road is part of the original road/trail system of the Rugby town plan and as such is protected by the National Register listing. Further, this road begins in a residential neighborhood and is owned by Historic Rugby. The intent is to treat this road as a dead end cul-de-sac, with the roadway beyond to be gated. The area in the vicinity of this road should be treated as a safety zone.*

*Response:* The plan has been revised to indicate that White Oak Bend Road is designated for foot traffic only, with the exception that oil and gas well access is still needed for the operator(s). NPS will consider gating this trail as resources permit. The area around this trail cannot be designated as a safety zone because the location does not currently meet the written park policy and criteria for a safety zone, but NPS will consider designating a no-hunting zone within that portion of the Rugby National Historic District that lies within the National Area.

P49.  *Comment: The Brewster Bridge Campground (Map 11, Site 3) should be included in the Preferred Alternative. A demonstrated need for such a facility currently exists. Also, a visitor contact facility should be constructed on the south side of the National Area, either in Rugby or in the area near the new Highway 52 bridge.*

*Response:* Comment noted. NPS believes that the Preferred Alternative constitutes the best approach for providing visitor services to the National Area, when considered as a whole. The Brewster Bridge Campground is not included in the Preferred Alternative because the National Area wishes to encourage private entrepreneurial development outside the boundary of the park, with economic benefits accruing to local merchants and service providers. An NPS campground at Brewster Bridge would compete with, and possibly harm, the private campgrounds in the vicinity. Chapter 3 of the GMP states that the NPS would provide visitor information services in Rugby.

**Bicycle Trails**

P50.  *Comment: The Supplemental Draft GMP offers too few opportunities for bicyclists. Allowing bicyclists to share trails with hikers and other user groups expands opportunities for bicyclists without causing the environmental impacts that would follow from creating a dedicated trail system for bicycles. Mountain bikers need longer trails to justify traveling to the area.*

*Response:* Additional shared-use opportunities for bicyclists have been included in the final GMP. Under the final plan, all current biking opportunities in the Supplemental Draft GMP would remain in place. In addition, the final plan will:

- Allow bicycling on the existing connector trail from the National Forest Sheltowee Trace Tr. -> Divide Rd (development map 4: trails ST-35, JMT-51, and JMT-50). This short connector would enable bicyclists to ride the loop that includes Divide Road and the portion of the Sheltowee Trace Trail on the National Forest.

- Allow bicycling on Cat Ridge, Long Trail North, and the Kentucky Trail (development map 3: trails LTN16, KY-28, LTN-28, KY-39, KY-27, KY-71, and KY-26), so that cyclists could complete a circuit that includes Bald Knob – Hill Cemetery Road and Laurel Ridge Road. This loop would have a high degree of challenge and may need some physical modifications prior to being a fully functional bike circuit.

- Allow bicycling on Rock Creek Trailhead -> John Muir Trail -> John Muir Overlook -> Chestnut Ridge (development map 4: development site 4; trails 33, JMT-50, JMT-15, 3 and 4), to create a loop that includes Divide Rd. This route is already suitable for bicycle use.

- Add language to the GMP stating that if the Monday-Friday “experiment” is successful on Grand Gap Loop, NPS would consider allowing bikes on the following two trails, also on a Monday-Friday basis:
  - John Muir Trail (development map 7: trails 10 and JMT-20). This would allow a cycling loop that includes Alfred Smith Rd. -> John Muir Tr. -> Duncan Hollow Rd.
  - Angel Falls Trail (development map 7, trail 3; development map 8, trail 1).

P51.  *Comment: The plan should be revised to convert many/most of the trails into multiple use trails (i.e., hiking, biking, and horseback riding). Contrary to assertions in the Supplemental Draft GMP, conflicts between horses and bicycles are quite manageable.*

*Response:* In most instances conflicts between horses and bicycles are manageable. The final plan, like the Supplemental Draft GMP, provides that most horse trails would be open to horses, hikers, and mountain bikes (the reader should note that the tread surface on many horse trails is not considered...
suitable for hiking and biking). However, the planning team determined, based in large part on public input, that it would be desirable to have some horse trails that were dedicated solely to horses. It is unclear at this point what impacts, if any, allowing bicycle use on many/most hiking trails would have on National Area resources and the visitor experience. The experimental proposal for shared use on the Grand Gap Loop is designed to provide some answers to this question.

P52. **Comment**: By limiting bicyclists to weekdays, the Grand Gap Loop “experiment” appears designed to fail, because some riders will inevitably attempt to ride on weekends.

**Response**: The point of the time-share experiment is to determine whether bike usage on hiking trails would adversely affect National Area resources or the visitor experience of hikers. The presence of some bike riders on weekends would not, in itself, render the experiment a failure. However, any pervasive failure by bicyclists to honor the timing restrictions could adversely affect the visitor experience on what is primarily a hiking trail. Any such failure could potentially render the experiment a failure.

P53. **Comment**: If time sharing of trails is pursued, the amount of time allotted to bikers and hikers should be equitable. Bikers should have at least one weekend day to ride, since many riders, like hikers, have only weekends available.

**Response**: Time sharing on the Grand Gap Loop will be pursued on an experimental basis to determine whether bike usage on a trail specifically constructed for hikers can be accommodated without damaging the trail or causing adverse resource or social impacts. As an experiment, the proposal necessarily limits the periods that bicyclists can use this trail because the Grand Gap Loop is a popular weekend destination for hikers. Additional full-time bike riding opportunities have been added to the final plan in order to address concerns that the Supplemental Draft GMP provided too few opportunities for bicyclists.

**Hiking trails**

P54. **Comment**: The John Muir Trail is a legislated Tennessee State Scenic Trail. The Supplemental Draft GMP combines Segment I of the JMT with the River Trail West in order to alleviate degradation from horse traffic on this lowland area. Horse traffic should not be allowed on the JMT.

**Response**: Under Tennessee law, designated state scenic trails are generally restricted to foot traffic only. However, horses and bicycles can be used on segments of scenic trails where deemed appropriate by the State. The Supplemental Draft GMP was submitted to the State for review and comment and no objection has been received to routing horse traffic on Segment I of the JMT. NPS also believes that the legislative provision in question only applies to those portions of the JMT controlled by the State.

The cited section of the River Trail West is experiencing resource degradation. No feasible alternative, other than the JMT, exists in the vicinity to route the horse trail to avoid continued resource damage from sedimentation.

P55. **Comment**: The plan should keep bicycles off of Grand Gap Loop.

**Response**: Comment noted. NPS believes it is appropriate to conduct the Grand Gap Loop experiment in order to determine whether bicyclists can be afforded access to more scenic parts of the National Area without adversely affecting resources or the experiences of other visitors.

P56. **Comment**: The draft plan states that hiking trails will be constructed by hand. This is a very costly and slow method of trail construction. Machines should be used to perform such tasks.

**Response**: The plan has been revised to state that machines will be used in trail construction where appropriate.

P57. **Comment**: Traversing foot trails should be permitted in only a very small number of rock shelters.

**Response**: Under the final plan, rock shelters are included in the sensitive resource protection zone. Accordingly, trails will only be located in these areas to the extent that they can be built and maintained in a manner consistent with the management prescriptions for this type of sensitive resource.

**Horse trails**

P58. **Comment**: The draft GMP should include trails in the Big Woods/Hurricane Ridge area.

**Response**: The Supplemental Draft GMP includes an equestrian trail in the Big Woods/Hurricane Ridge area (Long Ridge Trail), but major portions of this trail were inadvertently omitted from Map 8. The final version of Map 8 has been corrected to show this trail. In addition, the GMP has been revised to include a multiple-use and horse trail on Hurricane Ridge with a spur to Jake's Hole.
from wet areas to the extent possible. New trails will be constructed to design standards that minimize impacts from horses.

Response: Please see response to comment P65. More miles of officially designated and maintained horse trails will be available under the Preferred Alternative than are currently available. The official trail system was developed by NPS staff using the criteria set forth in chapter 3, with extensive input from the public during public meetings, focus groups, and open houses. Existing trails that do not appear in the official system were deleted due to problems with maintenance, visitor safety, law enforcement issues, or adverse environmental impacts. Under the final GMP, visitor use will be restricted to the official trail system in order to enhance visitor safety, insure adequate maintenance, and prevent adverse effects to National Area resources.

The preferred alternative (Alternative D) provides 182 miles of designated horse trails, plus 49 miles of multiple use trails on which horses may ride for a total of 231 miles of trails available to equestrians. This equates to more than one linear mile of horse trail per square mile of the National Area. The NPS believes this amount of horse trails is sufficient for current and potential future equestrian use within the 15 to 20-year life of the GMP, while still protecting National Area resources.

P62. Comment: Keep hikers and horses separate.

Response: Comment noted. It is NPS’ experience at the National Area that hikers and horses can use the same trails without either user group endangering the other. Education of area visitors plays a key role in allowing horseback riders and hikers to use the same trails safely. Such educational efforts will continue under the final GMP. The preferred alternative also provides 141 miles of hiking-only trails for those visitors not wishing to encounter other user types.

P63. Comment: Horses should be kept out of all areas included in the Sensitive Resource Protection Zone, including wetlands and streams. Existing trails should be re-routed out of wetlands.

Response: Given the topography of the National Area, it is impossible to avoid stream crossings and wet areas altogether. Nevertheless, NPS intends to rehabilitate existing horse trails and construct any new trails in such a way as to minimize impacts to riparian areas and wetlands.

P64. Comment: The Supplemental Draft GMP requires all horseback riders to enter the National Area at trailheads that are part of the officially recognized and maintained trail system (p. 41). Riders would not be able to enter the National Area from private properties that adjoin the Area boundary, but would have to travel to an official trailhead. The plan should be changed to allow riders to enter the National Area from trails on private property.

Response: This portion of the plan remains unchanged from the Supplemental Draft GMP. NPS does not encourage or otherwise sanction the development of unofficial, social trails at any unit of the National Park System. Throughout the system, NPS requires all visitors to use official trailheads. To do otherwise would lead to a proliferation of feeder trails, with potentially significant impacts to soils, vegetation, and wildlife habitat, and possible impairment of these resources.
P65. Comment: The plan should not close any “courtesy” trails currently open to horses, such as the trail to “Eye of the Needle.” All unofficial trails that currently receive horse use should be made part of the official system and kept open. If maintenance is a concern, volunteers would gladly clear these trails and maintain them.

Response: The official trail system in the final GMP includes only those horse trails that are appropriate to the terrain (either before or after rehabilitation) and that can be adequately maintained given the staffing levels envisioned in the plan. Many of the “courtesy” trails in the National Area are social trails that were created without authorization and do not meet accepted design standards. Retaining all of these trails, as well as all other trails that currently receive horse use, would result in unacceptable environmental impacts and produce a trail system too large for NPS to maintain—whether or not volunteers are involved. NPS will actively recruit volunteers to help with maintenance of horse and other trails in the official system. However, even with volunteers, full implementation of the official trail system will only be possible with additional maintenance staff.

P66. Comment: The trail plan depicts eight public access points along trail alignments that connect to private lands. Two of these access points (Salt Pine Trailhead, Yellow Cliff Trailhead—Map 5) are to be provided by “other than NPS.” Why is there a different policy for these two access points than for the similar access points on Map 10 where it appears that NPS will provide the access? The GMP should address several questions: Will the trailheads be inside the National Area boundary or on private land? Will the trailheads need to be deeded to a public entity? What are the NPS design and maintenance requirements for these public access trailheads? What will the landowner be expected to give up or provide? Who will maintain these trailheads? Who will be liable for accidents or injuries at these access points?

Response: As noted in the plan, there may be instances in which it would be appropriate for landowners to cooperate in providing each other trail access across their lands to a point along the boundary where a public trailhead could be provided. With respect to ownership of trailheads, the plan no longer states that certain access points would definitely be provided by “other than NPS.” The intent of the final plan is only to indicate the location along the boundary where future access points might be constructed. Decisions about specific locations, e.g., whether the access point should be on federal land or private property, will be left for the site-planning stage. It is important to note that any trailhead that provides access to the official trail system, whether on public or private property, must be open to use by the general public. The other issues raised in the comment are not within the purview of the GMP and will likewise be addressed during site planning.

P67. Comment: With respect to the National Area trails served by the access points in the previous comment, will these trails be brought up to standard (e.g., rerouted on steep grades) before or after the coordination of the access trailheads? The upgrading of these trails should occur first in order to prevent further deterioration.

Response: NPS intends to bring the subject trails up to standard before new access trailheads are constructed. Constructing new access points first could result in accelerated adverse impacts.

P68. Comment: Organized riding events cannot get a permit to cross the Big South Fork because of concerns that such events will cause an unlawful “taking” of endangered species under Section 9 of the Endangered Species Act. However, the Fish and Wildlife Service in its January 1997 Rulemaking in the Federal Register states that “[FWS] also believes that certain other activities will not result in a section 9 violation. They include use of the river by boaters, anglers, and other existing recreational uses.” Horses were crossing the Big South Fork in 1997. Will organized rides be able to cross Big South Fork at Station Camp and No Business? Will equestrian event groups continue to be denied special use permits unless the activity avoids crossing the river?

Response: The FWS’ January 1997 Rulemaking identified various recreational activities such as boating and fishing that clearly pose no threat of a section 9 violation. Horse crossings do not fall within this category. In fact, FWS has specifically asked the National Park Service to mitigate the conflict between horses and mussels in order to avoid a “taking” under the Endangered Species Act. Chapter 3 of the GMP states that special consideration will be given to the river to protect endangered species during competitive events. No equestrian competitive event has ever been denied a special use permit; rather, they have been encouraged to seek alternatives to crossing the river. Under the GMP preferred alternative, it is possible that a permit would be denied, under some scenarios, if no alternative to crossing the river could be found.

P69. Comment: The stream crossing issue (impacts on mussels and water quality) must be resolved before any new horse trails are permitted.

Response: NPS will continue to work with the U.S. Fish and Wildlife Service to resolve the stream crossing issue as quickly as possible. No new horse
crossings that could affect threatened or endangered mussels will be built until this issue is resolved, barring unforeseen, exceptional circumstances. The NPS is working with the U.S. Fish and Wildlife Service to restore and enhance mussel populations in the hope that mussels will become more abundant and ultimately not threatened. In addition, the National Area is working with other federal, state, and local cooperators to protect and enhance water quality, which should also lead to improved mussel populations.

P70. **Comment:** Horses must be allowed to cross streams and be ridden in low-lying areas. Otherwise, none of the trails in the National Area could be used for horses, because all trails and access points require horses to cross a creek, stream, or river.

**Response:** It is true that the topography of the National Area is such that stream crossings are a necessity for horseback riders. The intent of the plan is to minimize stream crossings and the siting of trails in low-lying areas in order to avoid adverse environmental impacts.

P71. **Comment:** With respect to the Annual Trail Management Scope of Work (p. 291), normal-size bulldozers and dump trucks should have no place in the park except to work on roads. In the past, some horse trails were constructed as roads in order to accommodate these vehicles. In addition, switchbacks were not used often enough, primarily because bulldozers and dump trucks could not maneuver around them. No trail should be wide enough to accommodate normal-size bulldozers and dump trucks. Only small size vehicles should be used on the plateau surface.

**Response:** Various tools and equipment are listed in the Annual Trail Management Scope of Work, including bulldozers and dump trucks. Depending upon the classification of the trail, these pieces of equipment may be the most appropriate to perform the necessary maintenance in the most efficient manner. In maintaining the trail system, the National Area will place a premium on minimizing impacts while managing an efficient operation.

P72. **Comment:** To discourage use of larger vehicles, maximum tread width should be kept to six feet, not the maximum of eight feet cited for horse trails on p. 44.

**Response:** The plan has been revised to indicate that the cited trail widths are maximum widths. In most cases, the actual trail width will be narrower than the cited maximum based on amount of use. The maximum widths noted in the Road and Trail Classifications and Standards allow the National Area to construct and maintain a trail up to this width should the volume of use, type of use and long-term maintenance considerations warrant the maximum.

P73. **Comment:** The size and appearance standards for horse trails are not conducive to a backcountry experience. All six horse trail classes approximate small roads of the same size. Nothing bigger than a trail dozer (4 foot blade) and an ATV dump with a bed should be used for trail construction and maintenance.

**Response:** The Road and Trail Classifications and Standards have been revised to indicate that the widths are maximum widths and will allow the National Area to size the trails according to the volume of use, type of use and long-term maintenance considerations. Tools and equipment used to construct and maintain the trails will be those that are deemed the most appropriate to perform the necessary maintenance in the most efficient manner.

P74. **Comment:** Where horse trails are in the vicinity of rock shelters, hitching rails should be placed at a considerable distance from the entrance. Hitching rails should also be at a considerable distance from arches, chimneys, and cliff edges.

**Response:** The suggestions in the comment will be considered during future implementation planning.

**Multiple-use trails**

P75. **Comment:** The term “multiple-use trail” is deceptive, as is the “horse and hiking” designation. A multiple-use trail used by vehicles (and many of them are used by vehicles) is actually a road. A “horse and hiking” trail used by horses is a horse trail. These facilities do not provide a good hiking experience. Horses should be excluded wherever possible from hiking trails due to the potential for user conflicts and safety concerns for hikers and riders.

**Response:** Multiple-use trails are backcountry pathways intended for four-wheel drive vehicles, horses, bicycles, and hikers. In general, they are very rough and rustic and do not exhibit the characteristics of a park road. Admittedly, these trails will not provide an intimate hiking experience, so hikers seeking more solitude should travel one of the dedicated hiking trails.

There is no designation for “horse and hiking” trail. Rather, “hiking” trails are for hiking only; “horse” trails are for horses, with hiking and mountain biking allowed (in most cases).
P76. **Comment:** Use of OHVs and other motorized vehicles should be barred from multiple-use trails.

**Response:** The concept of the multiple-use trail is that of a backcountry pathway appropriate for four-wheel drive vehicles, horses, bicycles, and hikers, where the terrain and tread surface allows only very slow motorized travel.

P77. **Comment:** A number of roads exist in the National Area. More should be designated multiple-use and be opened to four-wheel drive vehicles.

**Response:** Four-wheel drive vehicles are allowed on all park roads and multiple-use trails. The NPS believes the GMP provides ample four-wheel drive opportunities in keeping with the recreation area concept, while still being protective of park resources.

### Seasonal Access Routes

P78. **Comment:** The preferred alternative creates a safety issue because it puts hunters and other users on the same trail (i.e., seasonal access routes) for two months out of the year. Since these routes are closed for most of the year, multiple user groups are likely to converge on these routes during the hunting season, thereby creating potential conflicts and unsafe conditions.

**Response:** The plan has been revised to eliminate the seasonal access route concept due to public opposition and anticipated difficulties in managing the routes. Some of the seasonal access routes have been eliminated; others have been combined with multiple use trails on which one may hike, bike, ride a horse, use a four-wheel drive vehicle, and, during big-game season while actively hunting, ride an ATV.

P79. **Comment:** The draft text states that closure of the seasonal access routes except in hunting season “should be beneficial to hunters since routes would not be traveled the rest of the year.” This statement is not scientific and the proposal has no proven benefit. The GMP should be revised to allow year round use of these trails by 4 wheel drive vehicles, ATVs, hikers, horses, mountain bikers, and hunters.

**Response:** See the response to comment P78. The plan has been revised to eliminate the seasonal access route concept.

P80. **Comment:** Permits should be required for motorized use of the seasonal access routes.

**Response:** Comment noted. At this time, the National Area is not proposing a permit system for any type of trail use, but nothing in this GMP precludes a permit system in the future if conditions warrant.

### Off-highway vehicle (OHV) Use

P81. **Comment:** Allowing OHV use on trails is inconsistent with legal mandates in the legislation that created the National Park Service. No experimental ATV trails should be constructed unless NPS has first made a finding of “no adverse effect” from this activity.

**Response:** Off-road vehicle usage within units of the national park system is guided by Executive Order 11644 (as amended); the Code of Federal Regulations, Chapter 36, part 4.10; and National Park Service Management Policies, section 8.2.3.1. These regulations and policies allow off-road vehicle use within the national park system, provided that routes and areas are designated through a special regulation and that the agency can demonstrate that the route does not cause adverse impacts on the area’s natural, cultural, scenic, and esthetic values. ATV use at Big South Fork NRRA is currently not in compliance with these regulations and policies; there is neither a special regulation to designate routes, nor has sufficient data been collected to make a determination regarding adverse impacts.

The GMP attempts to bring ATV usage into compliance with existing regulation and policy by designating areas within which specific ATV routes would be designated. Once the GMP is approved, the agency would seek a special regulation designating official route(s).

In addition, the National Park Service would monitor the effects of the ATV route(s) and usage. Executive Order 11644 states, “The respective agency head shall monitor the effects of the use of off-road vehicles.... On the basis of the information gathered, they shall from time to time amend or rescind designations of areas or other actions taken pursuant to this order...” The National Park Service would monitor the designated route(s) and make a final determination concerning the appropriateness of recreational ATV use within Big South Fork NRRA.

NPS must have supportable data on which to make a defensible decision to either allow or disallow ATV activity. The plan as proposed would permit NPS to collect data in a way that will objectively demonstrate the compatibility of properly managed ATV use with the Service’s responsibility to protect the area’s natural, cultural, scenic, and esthetic values. The data will allow a more informed decision to permit ATV use or to further restrict or eliminate the use completely.
P82. **Comment:** No ATV planning areas should be put in place at Darrow Ridge because National Area resources will be damaged and National Area staffing is inadequate to enforce use restrictions.

**Response:** Please see response to comment P81. Under the Final GMP, ATVs will be allowed for a trial period on designated routes in the ATV planning area. At the end of the trial period, NPS will evaluate impacts from ATV use, if any. Thereafter, ATV use will only be allowed on designated trails in the planning areas if it has been demonstrated that such use will not cause adverse impacts to the National Area’s natural and cultural resources.

P83. **Comment:** The plan should eliminate ATVs from all parts of the National Area, including the proposed seasonal access routes. ATVs are a source of noise and air pollution, damage soil and vegetation, and adversely affect many visitors’ use and enjoyment of the National Area.

**Response:** In recent years, there has been a growing demand for ATV trails by segments of the recreating public. Because Congress has directed NPS to manage the National Area in accordance with the national recreation area concept, NPS feels that it is appropriate to allow such use to the extent that this use is consistent with applicable regulations, executive orders, and bureau policies. The purpose of the ATV planning areas is to determine whether such usage can and should be allowed at the National Area given applicable legal requirements.

P84. **Comment:** The GMP should state explicitly that no additional all-terrain vehicle (ATV) planning areas will be identified administratively (i.e., without public review and comment) in the future. Within the proposed ATV planning areas, ATVs should be strictly limited to defined trails (not "routes"). Removal, and not merely expansion, of trails should be considered following evaluation of the ATV planning areas.

**Response:** The final plan has been revised and clarified per the comment.

P85. **Comment:** The plan should state explicitly that no additional ATV planning areas will be designated other than the two on Darrow Ridge. Within the ATV planning areas, vehicles should be strictly confined to designated trails.

**Response:** Please see response to comment P84.

P86. **Comment:** The plan must provide more opportunities for ATVs in order to comply with the requirement of the enabling legislation that NPS develop the natural recreational potential of the National Area.

**Response:** Please see the responses to comments P81 and P82. It is NPS policy for all units of the National Park System that the use of off-road vehicles is prohibited unless specifically authorized by a special regulation. Such special regulations may only be issued in cases where it can be shown that the proposed use will have “no adverse effect.”

P87. **Comment:** More of the National Area should be opened to ATVs. The proposed ATV planning areas at Darrow Ridge are too small to be attractive to out-of-town riders, especially if, as proposed, access to the O&W railroad is denied. With their small size, the ATV planning areas will quickly become damaged from overuse, and significant enforcement efforts will be required to keep ATVs off of the O&W. A serious proposal would entail several 50 and 75 mile loops in scenic areas, with campsites.

**Response:** As noted in response to comment P81, NPS is restricted by regulation and executive order from allowing ATV use except where it can be shown that such use will not result in adverse impacts to National Area resources. In the absence of specific data on impacts to local resources, NPS is not in a position to propose or evaluate loops on the scale described in the comment. If the trail in the initial ATV planning area shows that the likely level of use would be so intense as to result in adverse impacts, then NPS would use trail and/or visitor management techniques to eliminate the adverse impacts, up to and potentially including eliminating ATV use from the National Area (except on the multiple-use trails during big-game hunting season).

P88. **Comment:** Allowing more OHV use would encourage tourism and boost the local economy.

**Response:** Please see response to comments P80 and P83. As noted, the National Area will conduct a trial in the ATV Planning Area to determine whether this activity has adverse impacts on National Area resources. If no adverse impacts are identified, this activity may be expanded to other routes within the ATV planning area, after opportunities for public notice and comment.

P89. **Comment:** There is no evidence to support the claim that ATVs with their low pressure tires and low weight produce any more erosion or damage, when ridden properly, than much heavier horses.
Response: As noted previously, NPS is restricted by regulation and executive order from allowing ATV use except where it can be shown that such use will not result in adverse impacts to National Area resources. These restrictions apply to NPS regardless of the relative impacts of ATVs and horses. In any event, it is NPS' experience at the National Area that ATVs frequently produce significant resource damage when ridden improperly or in inappropriate areas, as they often have been in the past.

**O&W Railbed**

P90. **Comment:** The plan should prohibit motorized vehicles on the old railbed east of the O&W Bridge. Scott County may have not acquired all of the deeds necessary to perfect an implied dedicated easement along the railbed. However, even if it has, NPS has the authority to make a management decision about the use of the railbed inside the National Area.

Response: The Oneida and Western (O&W) railbed runs from the Verdun area of Oneida west and exits the National Area in Fentress County. The entire railbed is within the legislative gorge and lies beside portions of—from east to west—Pine Creek, Big South Fork, and North White Oak Creek. The portion from the eastern boundary of the National Area (Verdun area) to North White Oak Creek is within Scott County. Our legal research suggests that the county has acquired and maintained a deeded interest in this portion of the former right-of-way. This interest is coupled with an implied dedicated easement in favor of the public to travel on the right-of-way. Beyond North White Oak Creek, the railbed in Fentress County is considered legally abandoned.

Scott County has expressed a strong desire to keep motorized access available along those portions of the railbed covered by the easement. Therefore, because NPS wishes to work in partnership with Scott County to provide recreational access to the O&W Bridge area, the GMP proposes that the O&W route provide continued passenger vehicle access to the O&W Bridge from the east. Under the GMP preferred alternative, there would be a parking, vehicle turnaround, and picnic area just east of the bridge, the details of which will be coordinated with Scott County. The O&W route west of the bridge to trail connections near the western boundary of the National Area will be a trail designated for foot, horse, and bicycle use.

P91. **Comment:** The plan should allow motorized vehicles on the old railbed west of the O&W Bridge. Some of the best and most popular camping spots in the National Area are located west of the bridge. Closing the railbed to vehicular traffic, as proposed, would end traditional uses of the area by long-time residents and deny access to older visitors or persons with disabilities.

Response: The National Area's enabling legislation states that the Corps of Engineers' "...shall study the desirability and feasibility of reestablishing rail transportation on the abandoned O&W railbed or an alternative mode of transportation within the National Area upon the O&W railbed...". The route was studied, as directed by Congress, for reestablishment of rail transportation on some alternative mode. Findings of studies by the Corps of Engineers and by NPS indicate recreational trail use is most appropriate. In keeping with these studies, NPS believes that the railbed west of the O&W Bridge is not appropriate for motorized recreation. Accordingly, this section of the O&W railbed will be only open to horses, hikers, and bicycle riders under the final plan.

P92. **Comment:** The railbed west of the O&W Bridge should be closed to motorized vehicles. Ruts and erosion caused by off-highway vehicles impede use and enjoyment by bicyclists and other visitors.

Response: Please see response to comment P91. The railbed west of the O&W Bridge over the Big South Fork River would be a trail designated for foot, horse, and bicycle use. This use would be consistent with the results of Corps of Engineers and NPS studies. The route would be brought to a standard suitable for the intended trail uses.

P93. **Comment:** NPS should reconsider its plan to construct a parking area just east of the O&W Bridge. There is not room here for more that 2-3 cars without creating unacceptable resource damage. It might be better to place such an area back in the Pine Creek Gorge.

Response: No parking facilities will be constructed at the O&W Bridge without first consulting with Scott County and doing detailed site assessment work, including an assessment of environmental impacts. The area available for parking at the O&W Bridge is limited, but provides the only space existing along the proposed motorized portion of the O&W railbed that is suitable for a day-use area. The topography in the Pine Creek vicinity is steep and does not allow for the development of such an area.

P94. **Comment:** The trail west of the O&W Bridge (Segments B and C) should be limited to use as a biking and hiking trail, as recommended in the Corps of Engineers study. It should not be open to horses.

Response: As noted in the comment, studies conducted by the Corps of Engineers recommended that the O&W railbed be used as a trail for bicycles and hikers. Subsequent studies conducted by the NPS recommended the addition of recreational horse use. Portions of the railbed west of North White Oak Creek provide critical links in proposed equestrian
loop trails, and horseback riders value the experience of riding to the O&W bridge. NPS believes that the railbed can accommodate each of these permitted uses while maintaining a high-quality, rail-to-trail type experience for the visitor.

Land Ownership

Comment: The Preferred Alternative should emphasize the need to acquire the remaining private mineral tracts (approximately 20,000 acres) within the National Area boundary. The plan should include a more detailed discussion of intended management of those areas subject to potential development of mineral resources.

Response: The acquisition of interests in land is generally not within the scope of a general management plan. The acquisition of such interests, as well as the priorities for acquiring individual interests, is covered by a unit's Land Protection Plan. The National Area currently operates under an approved land protection plan that was prepared in 1992 and last updated in 1998. Under this plan, the acquisition of outstanding mineral rights in the National Area is a low priority because regulations that govern the extraction of oil and gas should adequately protect surface resources.

As a general rule, NPS does not devote limited land acquisition funds to the acquisition of mineral estates, unless directed to do so by a unit's enabling legislation, or where imminent resource threats exist. The legislation establishing the National Area does not require the acquisition of mineral rights throughout the entire National Area, but only in the gorge. In the "adjacent area," i.e., the plateau, sellers may retain mineral rights if they so choose, and a number have done so. NPS is obligated by the enabling legislation to allow mineral exploration and extraction on these reserved estates, subject to such regulations as will minimize detrimental environmental impacts.

The management of lands subject to outstanding mineral estates is covered by separate planning documents. In the case of the National Area, an Oil and Gas Management Plan will be prepared after approval of the final GMP.

AFFECTED ENVIRONMENT

Natural Resources

Endangered Species and Other Listed Species of Concern

Comment: We strongly disagree with any finding that impairment of mussel resources is not occurring. The current procedure of flagging specified crossings should not continue beyond the finalization of the GMP.

Response: The National Park Service will continue to work closely with the United States Fish and Wildlife Service (FWS) to achieve an approach to river and stream crossings that protects mussels and their habitat. For now, the flagging of specified crossings will continue, as approved by FWS. The route that is marked by the flagging has and will continue to be inspected by park staff and other federal and state biologists to insure that endangered mussels are removed from the riverbed in that location. Fortunately, the existing crossing is on bedrock and very little habitat exists for mussels. As long as recreational users stay within the designated corridor, the direct crushing impacts are mitigated. Education and enforcement of users is still necessary to insure compliance with the flagged corridor. The flagging of specified crossings will continue only until alternative protective measures, approved by FWS, can be implemented by the National Park Service. As stated in the Final GMP (see Appendix Horses and Mussels Policy Statement), water pollution, not recreational use of the river, is the cause of mussel population decline and endangerment.

Exotic species

Comment: The list of necessary plans for the National Area should be revised to include an exotic species control/eradication plan.

Response: The plan has been revised to include an exotic species management plan.
Other Activities

P98. **Comment:** The National Area should develop a Climbing Management Plan. National Area management should allow the bolting of some climbing routes.

**Response:** The specifics of climbing management are not typically dealt with by NPS in general management plans, but are addressed in a separate Climbing Management Plan. To assure consistency between plans, NPS will initiate a Climbing Management Plan at Big South Fork after approval of the final GMP. The Climbing Management Plan will address whether or not to allow the bolting of certain routes at the National Area.

OTHER TOPICS

Projected Costs

P99. **Comment:** The National Area has very high administrative costs per visitor, yet does not offer visitors well-maintained facilities or a high-quality experience. The Supplemental Draft GMP would double the existing budget of the National Area while yielding only a small increase in visitation. The GMP should detail how NPS intends to streamline operations at the National Area to bring costs per visitor in line with other NPS units.

**Response:** The budget of the National Area is smaller, on a per-acre basis, than many comparably sized parks in the national park system. In fiscal year 2004, the base budget for the National Area was approximately $29 per acre. Comparatively, the 2004 base budget for Mammoth Cave National Park was $106 per acre, the base budget for New River Gorge National River was $94 per acre, and for Delaware Water Gap National Recreation Area it was $116 per acre. One purpose of the GMP is to create, for the first time, an approved management plan in support of which the National Park Service can reasonably request increased operational funding, thereby improving the visitor experience.

The cost per visitor at NPS sites is often a function of the park’s proximity to cities and densely populated areas. Thus, parks in urban areas and parks that have, over time, become traditional tourist destinations tend to have higher visitation and, hence, lower cost per visitor numbers. Parks in more remote, rural areas, like Big South Fork, often have lower visitation and higher costs per visitor. It is hoped that the increased opportunities contained in the GMP will result in increased visitation for the National Area. Regardless of the impacts on visitation, NPS will continue to seek adequate funding to protect visitors and area resources, and provide a quality visitor experience.

Wilderness

P100. **Comment:** The National Area needs to complete a Wilderness Suitability Assessment.

**Response:** Completion of a Wilderness Suitability Assessment at the National Area is required by NPS policy. Section 6.2.1 of NPS’ Management Policies 2001 indicates that this wilderness suitability assessment was to have been completed by December 31, 2001. Due to resource limitations and other commitments, a wilderness suitability assessment has not been completed for the National Area.

The Supplemental Draft GMP includes a section entitled “Pre-assessment Wilderness Consideration” (p. 303-04), which is designed to guide management in its future assessment of wilderness suitability. This “Pre-assessment” has been carried forward to the Final General Management Plan in slightly revised form. It should be noted that the “no vehicle areas” on the map that accompanied the original pre-assessment were based on public vehicular use of National Area roads and trails. Private vehicle usage (as on oil and gas roads) does and will take place in many of these “no vehicle areas.” Thus, the “no vehicle areas” on the original map (see page 304 of the Supplemental Draft) were not intended to depict roadless areas. The actual amount of roadless area within the National Area is considerably smaller than is suggested by the original map. The Final General Management Plan includes a revised map that takes both public and private vehicular use into account when depicting “no vehicle areas.” Nevertheless, the “no vehicle areas” in the revised map are not necessarily roadless, and additional study of these areas is necessary.

NPS will initiate a wilderness suitability analysis for the National Area by October 1, 2006. The GMP will then be amended if necessary to reflect the outcome of the wilderness suitability assessment, as well as the subsequent wilderness study (if any). In the meantime, the preferred alternative does not envision any construction activity or any other alteration of the landscape that would prevent an area that otherwise qualifies as wilderness from being so designated in the future. The only potential conflict with wilderness comes from the siting of certain bike trails. Should it later be determined that an area that otherwise qualifies as wilderness contains a bicycle trail, that trail can be rerouted and an alternative bicycling opportunity provided. It is not the intention of the GMP to foreclose or limit any future wilderness designation via the Preferred Alternative.
Table 6.1


Received by May 15, 2003 deadline

The following groups submitted written comments on the Supplemental Draft GMP. Responses to comments can be found at the numbers set forth in column two below.

Groups

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Individuals

The following individuals submitted written comments on the Supplemental Draft GMP. Responses to comments can be found at the numbers set forth in column three below.

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<td>Wedekind, James</td>
<td>(no address)</td>
<td>P23, P85, P90</td>
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<td>White, Stephen</td>
<td>Clinton, TN</td>
<td>P50, P51</td>
</tr>
<tr>
<td>Whitehead, Karen R.</td>
<td>Maryville, TN</td>
<td>P1, P10, P17, P25, P35, P37,</td>
</tr>
</tbody>
</table>
Individuals Providing Comments to Court Reporter

The following individuals submitted comments on the Supplemental Draft GMP to the court reporter present at each public meeting. Responses to all comments recorded by the court reporter can be found at the numbers set forth in column two below.

Huntsville, TN

<table>
<thead>
<tr>
<th>Name</th>
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<tr>
<td>Harness, Edmond</td>
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<tr>
<td>Purdy, Debbie</td>
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<tr>
<td>Slaven, Letha</td>
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Wartburg, TN

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<td>Estes, Chuck</td>
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<td>Stroud, Roy</td>
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Whitley City, KY

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<tr>
<td>Cottongim, Jr., Laddie</td>
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<td>Wilt, Marshall</td>
<td>P83, P84, P30</td>
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Allardt, TN

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<td>Cooper, Randall</td>
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<td>Hyder, Freddy</td>
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<td>McCann, Joseph</td>
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<td>Reagan, Carolyn</td>
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<td>Rains, Ricky</td>
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<td>Reagan, Tom</td>
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<td>Roysden, Guy J.</td>
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<tr>
<td>Wagner, Reba</td>
<td>P86, P87</td>
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</table>
Comments Submitted to Congressman Lincoln Davis

Four letters were received from the office of U.S. Congressman Lincoln Davis forwarding constituent concerns on the following subjects. Responses to these concerns can be found in the text of this chapter at the numbers set forth below:

- Provide additional background information on roads and trails. (P3, P7)
- Research providing additional trails for motorized vehicles. (P86, P87)
- Provide additional opportunities for mountain bicycles. (P50)
- Provide further opportunities for economic development in Fentress County. (G1, G4, G5, P1, P2, P12)

List of Persons Signing Petitions (Legible Signatures)

Each of the following petitions was treated as a single comment:

**Keep the O&W Road Open**

(Please see response to comment P91)

Sheila Bales         Michelle Norris
Rhonda Crabtree      Elaine Payne
Buddy Daisy          Eva Payne
Heather Dolan        Tom Payne
Joey Duncan          Tom Phillips
Patti Duncan          Dale Posey
Agnes L. Henry       Whitney Posey
Susan Huff           David Reagan
Sheilia Kidd         Hope Reynolds
Angela T. King       Brandon Ryan
Barbara King         Todd Ryan
J.J. King            Rauson H. Smith
Kim King             Chris Stanley
Michelle King        Crystal Stanley
Darby Laxton         Jerica Stanley
G.A. Laxton          Ronald Thompson
Jimmy Laxton         Ann West
Nada Payne Laxton    Barbara Wright
Joe D. Lay           Barry Wilson
John C. Lay          Carmine Wilson
Linda Lay            Donald Wright
Kristi Matthews      (11 more illegible signatures)

**Provide additional access and facilities in Fentress County**

(Please see responses to comments P2, P12, P18, P58, P66, and P67)

Mack and Lynn Alexander  Mr. and Mrs. Clifford Chancey, Sr.
Rose Blosser            Mr. and Mrs. Clifford Chancey, Jr.
Mr. and Mrs. Ally Boyce  Jay Chancey and family
Mr. and Mrs. Ted Caldwell Mr. and Mrs. Ken Chancey
Mr. and Mrs. Brett Chancey Mr. and Mrs. Marc Chancey
Dear Superintendent Detring:

The General Management Plan should truly protect the superb natural environment and the visitor experience in the Big South Fork (BISO).

- Alternative D is superior to all others, but needs modification.
- The GMP should state explicitly that no additional OHV Planning Areas will be identified in the future. Within the Planning Areas, OHVs should be strictly limited to defined trails.
- Motorized vehicles should be barred from multi-use trails.
- Significant portion(s) of BISO should have lower trail densities and fewer accesses than proposed in the Draft GMP.
- The proposed increase in horse trails is disproportionate to other trails.
- Horses should be kept out of all the Sensitive Resource Protection Zones, including wetlands and streams.
- No motorized vehicles should be permitted on the O&W right-of-way west of the O&W Bridge. This would make an ideal trail for bicycles.

Sincerely,

Name:
Address:

Postcards Received

NPS received approximately 200 postcards containing the text set forth below. These postcards were collectively treated as a single comment. (Please see responses at P59, P63, P76, P84, and P92 above.)
Form Letters Received

NPS received approximately 92 form letters containing the text set forth below. These letters were collectively treated as a single comment. (Please see response at P100 above.)

Dear Superintendent Reed Detring:

Big South Fork NRRA is a unique park enjoyed by visitors from all over the country. Opportunities for solitude, escape, and recreation are among the many reasons that visitors flock there. Wildlife of all kinds is drawn to the area because of its remarkable natural resources.

Among those irreplaceable resources is wilderness. The Organic Act clearly directs the Park Service to conserve the scenery and natural and historic objects and the wildlife therein for future generations in such a manner as to leave them unimpaired. I urge you to address the wilderness issue fully within the General Management Plan as guided by the Organic Act, by NPS Management Policies 2001 and by the Director's Order #41.

These call for a complete and full wilderness assessment; no such assessment exists in the draft plan. Please do not sidestep the important question of wilderness. Offer the natural resources of Big South Fork, including wilderness, the protection they deserve.

Big South Fork belongs to all Americans, including those yet to come. The Big South Fork ecosystem deserves management that will ensure that it remains intact for future generations. Wilderness is an essential part of that management.

Thank you for the opportunity to comment.

Sincerely,
APPENDIX

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Big South Fork National River and Recreation Area was authorized by Section 108 of the Water Resources Act of 1974 (Public Law 93-251). The following insertion is a copy of that section, as amended.

From the U.S. Code Online via GPO Access

[TITLE 16--CONSERVATION

CHAPTER 1--NATIONAL PARKS, MILITARY PARKS, MONUMENTS, AND SEASHORES

SUBCHAPTER LXXXIX--BIG SOUTH FORK NATIONAL RIVER AND RECREATION AREA

Sec. 460ee. Establishment

(a) "Secretary" defined; statement of purposes; boundaries; acquisition of outside sites for administrative, visitor orientation, and recreation facilities

As used in this section the term "Secretary" shall mean the Secretary of the Army, acting through the Chief of Engineers. The Secretary, in accordance with the national recreation area concept included in the interagency report prepared pursuant to section 218 of the Flood Control Act of 1968 (Public Law 90-483) by the Corps of Engineers, the Department of the Interior, and the Department of Agriculture, as modified by this section, is authorized and directed to establish on the Big South Fork of the Cumberland River in Kentucky and Tennessee the Big South Fork National River and Recreation Area (hereafter in this section referred to as the "National Area") for the purposes of conserving and interpreting an area containing unique cultural, historic, geologic, fish and wildlife, archeologic, scenic, and recreational values, preserving as a natural, free-flowing stream the Big South Fork of the Cumberland River, major portions of its Clear Fork and New River stems, and portions of their various tributaries for the benefit and enjoyment of present and future generations, the preservation of the natural integrity of the scenic gorges and valleys, and the development of the area's potential for healthful outdoor recreation. The boundaries shall be as generally depicted on the drawing prepared by the Corps of Engineers and entitled "Big South Fork National River and Recreation Area" identified as map number BSF-NRRA(0)(A) and dated October 1972, which shall be on file and available for public inspection in the office of the District Engineer, U.S. Army Engineer District, Nashville, Tennessee. The Secretary may acquire sites at locations outside such boundaries, as he determines necessary, for administrative and visitor orientation facilities. The Secretary may also acquire a site outside such boundaries at or near the location of the historic Tabard Inn in Ruby, Tennessee, including such lands as he deems necessary, for the establishment of a lodge with recreational facilities as provided in subsection (e)(3) of this section.
(b) Transfer of responsibility for planning, acquisition, and development, and administrative jurisdiction to Secretary of the Interior; boundary revisions; acreage limitation

Effective upon November 15, 1990, responsibility for all planning, acquisition, and development, as well as administrative jurisdiction over all Federal lands, water, interests therein, and improvements thereon, within the National Area is hereby transferred to the Secretary of the Interior. The Secretary may complete all acquisition and development activities in progress on November 15, 1990, and the Secretary and the Secretary of the Interior may, by mutual agreement, provide for an orderly and phased assumption of responsibilities (including but not limited to land acquisition and the construction of necessary access roads, day-use facilities, campground facilities, lodges, and administrative buildings) and available funds by the Secretary of the Interior in furtherance of the purposes of this section. The Secretary of the Interior shall administer the National Area in accordance with sections 1, 2, 3, and 4 of this title, as amended and supplemented. The authorities set forth in this section which were available to the Secretary immediately prior to November 15, 1990, shall after November 15, 1990, be available to the Secretary of the Interior. In the administration of the National Area the Secretary may utilize such statutory authority available to him for the conservation and management of wildlife and natural resources as he deems appropriate to carry out the purposes of this section. The Secretary of the Interior may, after transfer to him, revise the boundaries from time to time, but the total acreage within such boundaries shall not exceed one hundred and twenty-five thousand acres. Following such transfer the authorities available to the Secretary in subsection (c) of this section shall likewise be available to the Secretary of the Interior.

(c) Acquisition of property; tracts; exchange and disposal of property; transfer from Federal agency to administrative jurisdiction of Secretary; residential property, right of use and occupancy; fair market value; transfer or assignment; lifetime residence of tenant or spouse; accrual of obligation or rental to United States; "improved property" defined; mineral rights

(1) Within the boundaries of the National Area, the Secretary may acquire lands and waters or interests therein by donation, purchase with donated or appropriated funds, or exchange or otherwise, except that lands (other than roads and rights-of-way for roads) owned by the States of Kentucky and Tennessee or any political subdivisions thereof which were in public ownership on October 22, 1976, may be acquired only by donation. When an individual tract of land is only partly within the boundaries of the National Area, the Secretary may acquire all of the tract by any of the above methods in order to avoid the payment of severance costs. Land so acquired outside of the boundaries of the National Area may be exchanged by the Secretary for non-Federal lands within the National Area boundaries, and any portion of the land not utilized for such exchanges may be disposed of in accordance with the provisions of the Federal Property and Administrative Services Act of 1949 (63 Stat. 377, 40 U.S.C. 471 et seq.), as amended. Notwithstanding any other provision of law, any Federal property within the boundaries of the National Area shall be transferred without consideration to the administrative jurisdiction of the Secretary for the purposes of this section.

(2) With the exception of property or any interest in property that the Secretary determines is necessary for purposes of administration, preservation, or public use, any owner or owners (hereafter in this section referred to as "owner") of improved property used solely for noncommercial residential purposes on the date of its acquisition by the Secretary may retain the right of use and occupancy of such property for such purposes for a term, as the owner may elect, ending either (A) upon the death of the owner or his spouse, whichever occurs later, or (B) not more than twenty-five years from the date of acquisition. The Secretary shall pay to the owner the fair market value of the property on the date of such acquisition, less the fair market value on such date of the term retained by the owner. Such right shall be subject to such terms and conditions as the Secretary deems appropriate to assure that the property is used in accordance with the purposes of this section; may be transferred or assigned; and may be terminated with respect to the entire property by the Secretary upon his determination that the property or any portion thereof has ceased to be used for noncommercial residential purposes, and upon tender to the holder of the right an amount equal to the fair market value, as of the date the tender, of that portion of the right which remains unexpired on the date of termination. Any person residing upon improved property, subject to the right of acquisition by the Secretary as a tenant or by the sufferance of the owner or owners of the property may be allowed to continue in such residence for the lifetime of such person or his spouse, whichever occurs later, subject to the same restrictions as applicable to owners residing upon such property and
provided that any obligation or rental incurred as consideration for such tenancy shall accrue during such term to the United States to be used in the administration of this section.

(3) As used in this section the term "improved property" means a detached year-round one-family dwelling which serves as the owner's permanent place of abode at the time of acquisition, and construction of which was begun before January 1, 1974, together with so much of the land on which the dwelling is situated, such land being in the same ownership as the dwelling, as the Secretary shall designate to be reasonably necessary for the enjoyment of the dwelling for the sole purpose of noncommercial residential use, except that the Secretary may exclude from any improved property any waters or land fronting thereon, together with so much of the land adjoining such waters or land as he deems necessary for public access thereto.

(4) In any case where the Secretary determines that underlying minerals are removable consistent with the provisions of subsection (3) of this section, the owner of the minerals underlying property acquired for the purposes of this section may retain such interest. The Secretary shall reserve the right to inspect and regulate the extraction of such minerals to insure that the values enumerated in subsection (a) of this section are not reduced and that the purposes declared in subsection (c)(1) of this section are not interfered with.

(d) Hunting, fishing, and trapping; rules and regulations after consultations with State agencies

The Secretary, and the Secretary of the Interior after jurisdiction over the National Area has been transferred to him under subsection (b) of this section, shall permit hunting, fishing, and trapping on lands and waters under his jurisdiction within the boundaries of the National Area in accordance with applicable Federal and State laws, except that he may designate zones where, and establish periods when, no hunting, fishing, or trapping shall be permitted for reasons of public safety, administration, fish or wildlife management, or public use and enjoyment. Except in emergencies, any rules and regulations of the Secretary or the Secretary of the Interior pursuant to this subsection shall be put into effect only after consultation with the appropriate State agency responsible for hunting, fishing, and trapping activities.

(e) Gorge areas division: restrictions, limited motorboat access, operation and maintenance of rail line, access routes, maintenance of roads for nonvehicular traffic, ingress and egress of residents, protection of values; adjacent areas division: restrictions, boundaries; Rugby area; Federal consultations with involved agencies respecting development and management of adjacent National Area; Blue Heron Mine community, restoration; rail and alternative transportation study; report to Congress

(i) The National Area shall be established and managed for the purposes of preserving and interpreting the scenic, biological, archeological, and historical resources of the river gorge areas and developing the natural recreational potential of the area for the enjoyment of the public and for the benefit of the economy of the region. The area within the boundary of the National Area shall be divided into two categories; namely, the gorge areas and adjacent areas as hereinafter defined.

(ii) Within the gorge area, no extraction of, or prospecting for, minerals, petroleum products, or gas shall be permitted. No timber shall be cut within the gorge area except for limited clearing necessary for establishment of day-use facilities, historical sites, primitive campgrounds, and access roads. No structures shall be constructed within the gorge area except for structures associated with the improvement of historical sites specified in paragraphs (5), (6), and (8), except for day-use facilities and primitive campgrounds along the primary and secondary access routes specified herein and within 500 feet of such roads, and except for primitive campgrounds accessible only by water or on foot. No motorized transportation shall be allowed in the gorge area except on designated access routes, existing routes for administration of the National Area, existing routes for access to cemeteries; except that motorboat access into the gorge area shall be permitted up to a point one-tenth of a mile downstream from Devils' Jumps and except for the continued operation and maintenance of the rail line currently operated and known as the K & T Railroad. The Secretary of the Interior shall impose limitations on the use of existing routes for access to cemeteries. The Secretary shall acquire such interest in the K & T Railroad right-of-way by easement as he deems necessary to protect the scenic, esthetic, and recreational values of the gorge area and the adjacent areas.
(B) Primary access routes into the gorge area may be constructed or improved upon the general route of the following designated roads: Tennessee Highway Numbered 52, FAS 2451 (Leatherwood Ford Road), the road into the Blue Heron Community, and Kentucky Highway Numbered 92.

(C) Secondary access roads in the gorge area may be constructed or improved upon the following routes: the roads from Smith Town, Kentucky, to Worley, Kentucky, the road crossing the Clear Fork at Burnt Mill Bridge, the road from Goad, Tennessee, to Zenith, Tennessee, the road from Co-Operative, Kentucky, to Kentucky Highway Numbered 92, the road entering the gorge across from the mouth of Alum Creek in Kentucky, the road crossing the Clear Fork at Peters Bridge, the road entering the gorge across from the mouth of Station Camp Creek.

(D) All other existing roads in the gorge area shall be maintained for nonmotorized traffic only, except that nothing in this section shall abrogate the right of ingress and egress of those who remain in occupancy under subsection (c)(1) of this section.

(E) Road improvement or maintenance and any construction of roads or facilities in the gorge area as permitted by this section shall be accomplished by the Secretary in a manner that will protect the declared values of this unique natural scenic resource.

(3) In adjacent areas: the removal of timber shall be permitted only where required for the development or maintenance of public use and for administrative sites and shall be accomplished with careful regard for scenic and environmental values; prospecting for minerals and the extraction of minerals from the adjacent areas shall be permitted only where the adit to any such mine can be located outside the boundary of the National Area; no surface mining or strip mining shall be permitted; prospecting and drilling for petroleum products and natural gas shall be permitted in the adjacent area under such regulations as the Secretary or the Secretary of the Interior, after jurisdiction over the national river and recreation area has been transferred to him under subsection (b) of this section, may prescribe to minimize detrimental environment impact, such regulations shall provide among other things for an area limitation for each such operation, zones where operations will not be permitted, and safeguards to prevent air and water pollution; no storage facilities for petroleum products or natural gas shall be located within the boundary of the National Area except as necessary and incidental to production; the Secretary is authorized to construct two lodges with recreational facilities within the adjacent areas so as to maximize and enhance public use and enjoyment of the National Area; construction of all roads and facilities in the adjacent areas shall be undertaken with careful regard for the maintenance of the scenic and esthetic values of the gorge area and the adjacent areas.

(4) The gorge area as set out in paragraphs (1) and (2) of this subsection shall consist of all lands and waters of the Big South Fork, Clear Fork, and New York River which lie between the gorge or valley rim on either side (where the rim is not clearly defined by topography, the gorge boundary shall be established at an elevation no lower than that of the nearest clearly demarked rim on the same side of the valley), and those portions of the main tributaries and streams in the watersheds of the Big South Fork, Clear Fork, and New River that lie within a gorge or valley rim on either side, except that no lands or waters north of Kentucky Highway Numbered 92 shall be included. The designated adjacent areas shall consist of the balance of the National Area.

(5) The Secretary, or the Secretary of the Interior, shall consult and cooperate with the Tennessee Historical Commission and the Rugby Restoration Association and with other involved agencies and associations, both public and private concerning the development and management of the National Area in the area adjacent to Rugby, Tennessee.

(6) The Secretary, or the Secretary of the Interior, after jurisdiction over the National Area has been transferred to him under subsection (b) of this section, shall provide for the restoration of the Blue Heron Mine community in a manner which will preserve and enhance the historical integrity of the community and will contribute to the public's understanding and enjoyment of its historical value. To that end the Secretary, or the Secretary of the Interior, after jurisdiction over the National Area has been transferred to him under subsection (b) of this section, may construct and improve structures within and may construct and improve a road into this community.

(7) The Secretary shall study the desirability and feasibility of reestablishing rail transportation on the abandoned O&W railbed or an alternative mode of transportation within the National Area upon the O&W roadbed, and shall report to Congress his recommendation with regard to development of this facility.

(8) Improvement of Chant Creek Lodge and historic structures.--The Secretary of the Interior may make improvements to the Chant Creek Lodge and associated facilities and to historic structures determined to be eligible for listing in the National Register of Historic Places. Such improvements shall be made in a manner consistent with the historic scene.
and the limited ability of the National Area to accommodate additional use and development. Improvements to the
Charit Creek Lodge and associated facilities shall be made within the approximately 30 acres of cleared land existing on
November 15, 1990, and within carrying capacity limitations determined by the National Park Service.

(f) Federal power and water resources projects; license and other restrictions; limitations inapplicable to external areas

The Federal Energy Regulatory Commission shall not license the construction of any dam, water conduit, reservoir,
powerhouse, transmission line, or other project works under the Federal Power Act (41 Stat. 1063) as amended (16 U.S.C.
791a et seq.), within or directly affecting the National Area and no department or agency of the United States shall assist
by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and
adverse effect on the values for which the National Area was established. Nothing contained in the preceding sentence
shall preclude licensing of, or assistance to, developments below or above the National Area or on any stream tributary
thereto which will not invade the National Area or unreasonably diminish the scenic, recreation, and fish and wildlife
values present in the area on March 7, 1974. No department or agency of the United States shall recommend
authorization of any water resources project that would have a direct and adverse effect on the values for which the
National Area was established, or request appropriations to begin construction of any such project, whether
heretofore or hereafter authorized, without advising the Secretary or the Secretary of the Interior, after jurisdiction over
the National Area has been transferred to him under subsection (b) of this section, in writing of its intention so to do at
least sixty days in advance, and without specifically reporting to the Congress in writing at the time it makes its
recommendations or request in what respect construction of such project would be in conflict with the purposes of this
section and would affect the National Area and the values to be protected under this section.

(g) Transportation facilities; study and establishment

The Secretary shall study transportation facilities in the region served by the National Area and shall establish
transportation facilities to enhance public access to the National Area. In this connection the Secretary is authorized to
acquire and maintain public roads, other than State highways, necessary to serve the public use facilities within the
National Area, and to establish and maintain, at Federal cost an interior and circulating road system sufficient to meet
the purposes of this section. Any existing public road, which at the time of its acquisition continues to be a necessary and
essential part of the county highway system, may, upon mutual agreement between the Secretary and the owner of such
road, be relocated outside of the National Area and if not so relocated such road shall be maintained at Federal expense
and kept open at all times for general travel purposes. Nothing in this subsection shall abrogate the right of egress and
ingress of those persons who may remain in occupancy under subsection (c) of this section. Nothing in this subsection
shall preclude the adjustment, relocation, reconstruction, or abandonment of State highways situated in the National
Area, with the concurrence of the agency having the custody of such highways upon entering into such arrangements as
the Secretary or the Secretary of the Interior, after jurisdiction over the National Area has been transferred to him under
subsection (b) of this section, deems appropriate and in the best interest of the general welfare.

(h) New River plan and programs; transmittal to Congress

In furtherance of the purpose of this subsection the Secretary in cooperation with the Secretary of Agriculture, the
heads of other Federal departments and agencies involved, and the State of Tennessee and its political subdivisions,
shall formulate a comprehensive plan for that portion of the New River that lies upstream from United States Highway
Numbered 27. Such plan shall include, among other things, programs to enhance the environment and conserve and
develop natural resources, and to minimize siltation and acid mine drainage. Such plan, with recommendations,
including those as to costs and administrative responsibilities, shall be completed and transmitted to the Congress within
one year from March 7, 1974.

(i) Water quality protection; interagency cooperation

The Secretary or the Secretary of the Interior, after jurisdiction over the National Area has been transferred to him
under subsection (b) of this subsection, shall consult and cooperate with other departments and agencies of the United
States and the States of Tennessee and Kentucky in the development of measures and programs to protect and enhance
water quality within the National Area and to insure that such programs for the protection and enhancement of water quality do not diminish other values that are to be protected under this section.

(j) Real and personal property tax losses; reimbursement; authorization of appropriations

(1) Until such time as the transfer of jurisdiction to the Secretary of the Interior authorized by subsection (b) of this section shall take place, for the purpose of financially assisting the States of Tennessee and Kentucky, McCreary County, Kentucky, and Scott, Morgan, Pickett, and Fentress Counties in Tennessee, because of losses which these jurisdictions will sustain by reason of the fact that certain lands and other property within their boundaries may be included within the National Area established by this section and thereafter will no longer be subject to real and personal property taxes levied or imposed by them, payments shall be made to them on an annual basis in an amount equal to those taxes levied or imposed on such property for the last taxable year immediately preceding March 7, 1974.

(2) For the purpose of enabling the Secretary to make such payments during the fiscal years ending June 30, 1975, June 30, 1976, June 30, 1977, June 30, 1978, and June 30, 1979, there are authorized to be appropriated such sums as may be necessary.

(k) Authorization of appropriations; prohibition of appropriation from Land and Water Conservation Fund

There are authorized to be appropriated $156,122,000 to carry out the provisions of this section, other than subsection (j) of this section. Costs for the National Area shall be provided in the same manner as costs for national recreation areas administered by the Secretary of the Interior through the National Park Service.


References in Text


The Federal Power Act, referred to in subsec. (f), is act June 10, 1920, ch. 285, 41 Stat. 1063, as amended, which is classified generally to chapter 12 (Sec. 791a et seq.) of this title. For complete classification of this Act to the Code, see section 791a of this title and Tables.

Codification


Amendments

1990--Subsec. (b). Pub. L. 101-561, Sec. 1(a), struck out par. (1) designation, substituted "Effective upon November 15, 1990, responsibility for all planning, acquisition, and development, as well as administrative jurisdiction over all Federal lands, water, interests therein, and improvements thereon, within the National Area is hereby transferred to the Secretary of the Interior. The Secretary may complete all acquisition and development activities in progress on November 15, 1990, and the Secretary and the Secretary of the Interior may, by mutual agreement, provide for an orderly and phased assumption of responsibilities (including but not limited to land acquisition and the construction of necessary access
roads, day-use facilities, campground facilities, lodges, and administrative buildings) and available funds by the Secretary of the Interior in furtherance of the purposes of this section. The Secretary of the Interior shall administer the National Area in accordance with sections 1, 2, 3, and 4 of this title, as amended and supplemented. The authorities set forth in this section which were available to the Secretary immediately prior to November 15, 1990, shall after November 15, 1990, be available to the Secretary of the Interior." for "The Secretary shall establish the National Area by publication of notice thereof in the Federal Register when he determines that the United States has acquired an acreage within the boundaries of the National Area that is efficiently administrable for the purposes of this section. After publication of notice, and after he has completed the construction of necessary access roads, day-use facilities, campground facilities, lodges, and administrative buildings, the Secretary shall transfer the jurisdiction of the National Area to the Secretary of the Interior who shall administer the National Area in accordance with sections 1, 2, 3, and 4 of this title, as amended and supplemented."; struck out at end of par. (1) "The Secretary may, prior to the transfer to the Secretary of the Interior, revise the boundaries from time to time, but the total acreage within such boundaries shall not exceed one hundred and twenty-five thousand acres."; and struck out par. (2) which read as follows: "The Secretary may by agreement with the Secretary of the Interior provide for interim management by the Department of the Interior, in accordance with the provisions of sections 1, 2, 3, and 4 of this title, as amended and supplemented, of any portion or portions of the project which constitute a logically and efficiently administrable area. The Secretary is authorized to transfer funds to the Department of the Interior for the costs of such interim management out of funds appropriated for the project."

Subsec. (e)(2)(A). Pub. L. 101-561, Sec. 1(b), substituted "No structures shall be constructed within the gorge area except for structures associated with the improvement of historical sites specified in paragraphs (5), (6), and (8), except for day-use facilities and primitive campgrounds along the primary and secondary access routes specified herein and within 500 feet of such roads, and except for primitive campgrounds accessible only by water or on foot. No motorized transportation shall be allowed in the gorge area except on designated access routes, existing routes for administration of the National Area, existing routes for access to cemeteries; except that motorboat access into the gorge area shall be permitted up to a point one-tenth of a mile downstream from Devil's Jumps and except for the continued operation and maintenance of the rail line currently operated and known as the K & T Railroad. The Secretary of the Interior shall impose limitations on the use of existing routes for access to cemeteries." for "No structures shall be constructed within the gorge except for reconstruction and improvement of the historical sites specified in paragraphs (5) and (6) of this subsection and except for necessary day-use facilities along the primary and secondary access routes specified herein and within five hundred feet of such roads, and except for primitive campgrounds accessible only by water or on foot. No motorized transportation shall be allowed in the gorge area except on designated access routes and except that motorboat access into the gorge area shall be permitted up to a point one-tenth of a mile downstream from Devil's Jumps; and except for the continued operation and maintenance of the rail line currently operated and known as the K & T Railroad.

Subsec. (e)(2)(D). Pub. L. 101-561, Sec. 1(c), substituted "nonmotorized" for "nonvehicular".

Subsec. (e)(8). Pub. L. 101-561, Sec. 1(d), added par. (8).

Subsec. (k). Pub. L. 101-561, Sec. 1(e), substituted "Costs for the National Area shall be provided in the same manner as costs for national recreation areas administered by the Secretary of the Interior through the National Park Service" for "No moneys shall be appropriated from the Land and Water Conservation Fund to carry out the purposes of this section".

1986--Subsec. (k). Pub. L. 99-662 substituted "$156,122,000" for "$103,522,000".

1976--Subsec. (a). Pub. L. 94-587, Sec. 184(a), provided for acquisition of outside sites for administrative, visitor orientation, and recreation facilities.

Subsec. (b). Pub. L. 94-587, Sec. 184(b), designated existing provisions as par. (1) and added par. (2).

Subsec. (c)(1). Pub. L. 94-587, Sec. 184(c), inserted "which were in public ownership on October 22, 1976," after "political subdivisions thereof".

Subsec. (e)(2)(A). Pub. L. 94-587, Sec. 184(d), provided for motorboat access into the gorge area, continued operation and maintenance of the rail line, and acquisition by the Secretary of an interest in the railroad easement for protection of scenic, esthetic, and recreational values of the gorge area and the adjacent areas.

Subsec. (e)(2)(C). Pub. L. 94-587, Sec. 184(e), authorized construction of a secondary access road upon the road entering the gorge across from the mouth of Station Camp Creek.

Subsec. (k). Pub. L. 94-587, Sec. 184(f), substituted "$103,522,000" for "$32,850,000".
Transfer of Functions

"Federal Energy Regulatory Commission" substituted for "Federal Power Commission" in subsec. (f) pursuant to Pub.L. 95-91, Sec. 402(a)(i)(A), which is classified to section 7172(a)(i)(A) of Title 42, The Public Health and Welfare. Federal Power Commission terminated and functions with regard to licenses and permits for dams, reservoirs, or other works for development and improvement of navigation and for development and utilization of power across, along, from, or in navigable waters under part I of Federal Power Act (16 U.S.C. 792 et seq.) transferred to Federal Energy Regulatory Commission by sections 7172(a)(i)(A) and 7293 of Title 42.
Chapter Three

ALTERNATIVES

Introduction

The purpose of this chapter is to present alternative approaches to the management of the National Area that would promote its stated purpose, maintain its significance, and that would be consistent with legislation and policy. This discussion includes

- how the NPS arrived at the final set of alternatives
- the concepts behind the alternatives
- the types of management units considered
- how the units are applied in the alternatives
- other alternatives considered
- cost considerations
- a summary comparison

The General Management Plan for the National Area would consist of one of the “action” alternatives, together with the elements of required management.

Development of Alternatives

Three preliminary alternatives were presented to the public in a newsletter and in meetings near the National Area. Considerations underlying these preliminary alternatives included the purpose of the National Area as stated in its establishing legislation, the National Area’s resources, the special directions Congress gave regarding management and the concerns of the public and NPS.

Discussion of the preliminary alternatives with the public resulted in eliminating one of the three from further analysis. Reasoning focused on the relatively high degree of development thought inappropriate for the National Area. This alternative is described briefly in the discussion of other alternatives considered.

Public comment also brought about changes in management units and how they were applied. The most natural type of management unit became focused on the gorge exclusively; and of the two management unit types that allowed the most use and development, one was eliminated and one was scaled back. These changes are also described in the discussion of other alternatives considered.

Alternative Concepts

The concept behind an alternative represents the basic idea of that alternative. It provides guidance for identifying management unit locations in the development of the alternatives and would provide a management perspective.

Alternative A Concept

The National Area would be known for offering rustic, off-the-beaten-track experiences in natural surroundings. Facilities and other conveniences would be available only in a small percentage of the National Area. Many visitors would be attracted to the individual challenge of the area, and many others would join guided float trips and pack trips.

Alternative B Concept

The National Area would be known for its variety of opportunities provided by a mix of facilities and natural environment. Facilities would be provided to provide for active and convenient participation in a variety of resource-compatible activities. Visitors would be largely attracted to the opportunities for recreation, which would include activities suitable in a primitive setting.

No-Action Alternative Concept

In contrast to Alternatives A and B, the No-Action alternative lacks a formally stated concept. Included by requirement, the “no-action” alternative is essentially a description of current conditions. It permits comparisons between existing conditions and the other alternatives.

Management Units

Management units are used to identify desired conditions for both resources and visitor experiences for
different areas. They also identify kinds and levels of management, visitor use and development that it would take to achieve the unit’s desired conditions. Units were identified that have a basis in the National Area’s purpose, legislation, resources, public interest and other concerns. The alternatives contain different applications of the management units in response to an alternative concept.

Management units do not identify specific sites or facilities, which according to NPS procedures are planned and evaluated in later studies when the need arises and funding is provided. It is important to point out that the General Management Plan by itself does not bring any additional funding to the National Area. Additional funding comes only through specific requests for specific purposes.

The three types of management units applied are described below.

**Primitive Recreation Unit**

**Desired resource conditions and setting**

Natural resources in this unit would be carefully protected from degradation. Generally, the unit would exhibit the free play of natural forces and there would be only necessary and minimal interference with natural ecosystem succession. Significant cultural resources would be preserved, including those listed or eligible for the National Register of Historic Places.

**Desired visitor experience**

Visitors would explore extensive natural areas in a primitive setting essentially free from conveniences and facilities. Visiting historical sites would be an objective for some and incidental for others. Visitors would access the unit by hiking, riding horses, or floating the river. Solitude and natural quiet would be important to the experience, and visitors would feel removed from the modern developed world. The experience would be one of independence, having a moderate to high challenge, and a need for some individual outdoor skills. A moderate to high time commitment would usually be involved.

**Kinds/levels of management**

A sustained management effort would be necessary to promote the long-term integrity of cultural resources and natural ecosystems. Monitoring resource conditions and taking corrective actions would be required since the tolerance for change is very low. Where practical and consistent with policy, efforts would be made to restore attributes of the resource or system to an identified pre-impact condition. Visitor safety awareness would be more intense because of the remoteness of much of the unit. A moderately high level of maintenance would be necessary for repairing and maintaining trails and cemetery and administrative access roads. Information and orientation would include preparing visitors for a primitive-type experience and would be provided to visitors prior to their arrival in this unit, such as at visitor contact stations and at parking area bulletin boards in adjacent units. Other interpretive services may be provided. Limitations on use may be appropriate at some point to protect resources and the visitor experience.

**Kinds/levels of visitor use**

River uses and trail uses would be the predominant activity types throughout the unit generally. Camping by backpack or packhorse would be available. Hunting would occur in season. Motor vehicles would not be permitted. Once away from points of congregation, visitors would experience little interaction with others outside of one’s own group.

**Kinds/levels of development**

Trails and necessary related structures, e.g., bridges, would be the only present-day recreation facilities provided in this unit. They would be modest in character, carefully blending resource protection and visitor experience objectives. High-density trail networks such as short loop systems would not be found in this unit. Trailheads would be located in adjacent units. Locations may be designated for primitive camping if necessary to protect resources.

**Backwoods Recreation Unit**

**Desired resource conditions and setting**

The unit would exhibit a predominantly natural condition and appearance. Minor changes would be accepted for the low level of development appropriate for this unit. Significant cultural resources would be preserved.

**Desired visitor experience**

Away from points of congregation, such as roads, parking areas, and trailheads, visitors would be in a natural setting free from most modern facilities and
conveniences. Most visitors would sense that they are in an “undeveloped” area and have left behind the familiar. Solitude and natural quiet would be available in most locations of this unit. There would be a broad range of challenge, physical exertion, and outdoor skill involved depending on one’s activity. A moderate time commitment would be typical. For many visitors, this unit would be the passageway to their destination, the gorge. Thus, the unit would serve as a transition zone preparing them for primitive experience.

Kinds/levels of management

A moderate to low level of management would be anticipated for achieving the desired conditions of resources and visitor experience. This would include taking any corrective actions and for providing visitor safety and resource protection. On-site orientation/information would occur at parking area bulletin boards.

Kinds/levels of visitor use

Trail uses would predominate. Motor vehicle use would be primarily for access to trails and secondarily for sightseeing and driving for pleasure. Road conditions may require high-clearance vehicles at certain times and locations. Off-road vehicle use would occur on designated routes that have specific destinations and purposes related to the resources of the National Area. Hunting would occur in season. Camping would be available at designated areas and may be managed through a permit system. Encounters with other visitors would not be unusual.

Kinds/levels of development

Roads would generally be unpaved and the minimum necessary for resource protection reasons. Parking and trailheads would be clearly marked and physically controlled. Trails would be of the connector and through-trail kinds and modest in character. Limited restroom facilities may be provided. All facilities would harmonize with the natural scene. Camping areas would be small and unimproved. Facility construction would avoid sensitive resources, involve the least possible modification of the facility site, and include measures to minimize impact on resources and the visitor experience.

Enhanced Recreation Unit

Desired resource conditions and setting

Resource conditions and appearance would be predominantly natural and basic processes would be intact. Changes to accommodate visitor and administrative needs would be accepted in areas environmentally suitable for development. Significant cultural resources would be preserved. Specific facility planning and mitigation would avoid sensitive resources and minimize impacts.

Desired visitor experience

Generally, the visitor experience in this unit would be made user-friendly by facility enhancements. Most visitors would use this unit as their entrance into and initial experience in the National Area. Visitors would have a feeling of being in a natural setting but provided with conveniences. There would be easy access to a number of points of interest. A large number of visitors would be participating in a wide range of activities. Compared to other units, this unit would offer visitors a fairly structured experience supported with specific facilities. Interaction with others would be common and expected, particularly at focal points, such as overlooks, campgrounds, information stations, river accesses, and trailheads. The background environment would offer some opportunities for experiences similar to the other unit types, such as hiking and horseback riding. Signs and other information sources would inform visitors of trails and other facilities. The necessary levels of exertion, skill and challenge would vary greatly, depending on the activity.

Kinds/levels of management

An intensive level of management would be required to minimize, mitigate, and monitor resource impacts and ensure visitor safety. Facilities would be concentrated within the unit at specific, selected locations, and management intensity would be greatest at these locations. On-site media for orientation and education, including most personal services, would be concentrated in this unit.

Kinds/levels of visitor use

Visitors would be participating in a wide range of resource-compatible activities. Different locations of this unit would be suitable for different uses. Driving/sightseeing, viewing from overlooks, hiking, horseback riding, river access, and camping would be predominant activities. Others would include bicycling, picnicking, nature and history learning, and ORV use on designated routes having specific resource-related destinations and purposes. Hunting would occur in season. The
<table>
<thead>
<tr>
<th>Resource conditions / setting</th>
<th>Primitive Recreation Unit</th>
<th>Backwoods Recreation Unit</th>
<th>Enhanced Recreation Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Essentially all natural; preserved cultural sites</td>
<td>Predominantly natural; preserved cultural sites</td>
<td>Natural setting modified for development; preserved cultural sites</td>
</tr>
<tr>
<td>Visitor experience orientation</td>
<td>Self-reliant resource based recreation with moderate to high level of personal challenge</td>
<td>Resource-based recreation with minimal level of conveniences</td>
<td>Resource-based recreation with user-friendly facilities</td>
</tr>
<tr>
<td>Principal activities</td>
<td>Hiking, horseback riding, river use, primitive camping</td>
<td>Hiking, horseback riding, river and lake use, primitive camping</td>
<td>Driving/sightseeing, hiking, horseback riding, river access, camping</td>
</tr>
<tr>
<td>Hunting</td>
<td>Yes - no vehicles</td>
<td>Yes - vehicles allowed on designated routes</td>
<td>Yes - vehicles allowed on designated routes</td>
</tr>
<tr>
<td>Visitor education, interpretation, orientation</td>
<td>Generally off-unit</td>
<td>On-and off-unit</td>
<td>On-unit; most personal services in this unit</td>
</tr>
<tr>
<td>Interaction/encounter rate with others</td>
<td>Very occasional; possibly none</td>
<td>Occasional; somewhat expected</td>
<td>Frequent; expected</td>
</tr>
<tr>
<td>Management effort to achieve and maintain unit conditions</td>
<td>Intensive; resource protection focus</td>
<td>Moderate; visitor management focus</td>
<td>Intensive; visitor management focus</td>
</tr>
<tr>
<td>General facility types</td>
<td>Trails, primitive camping areas</td>
<td>Trails, unpaved roads, primitive camping areas</td>
<td>Trails, paved roads, visitor information, overlooks, improved campgrounds</td>
</tr>
<tr>
<td>Trails</td>
<td>Dispersed network; modest, although portions may be hardened for resource protection</td>
<td>Connector trail; modest, although portions may be hardened for resource protection</td>
<td>Connector trails; short loop systems, convenient trail heads; may be built to sustain heavy use</td>
</tr>
<tr>
<td>Off-road motor vehicle use</td>
<td>None</td>
<td>Vehicles allowed on designated routes</td>
<td>Vehicles allowed on designated routes</td>
</tr>
<tr>
<td>Roads</td>
<td>One-lane, graveled; not for recreational use</td>
<td>Usually two-lane, graveled</td>
<td>Usually two-lane, paved</td>
</tr>
</tbody>
</table>

Table 1 – Comparison of Management Unit Highlights
probability of visitors encountering others would be moderate to high.

**Kinds/levels of development:**

With most of the National Area's facilities, this unit in its many locations would serve most visitors as a staging area for venturing into the other, less developed units. While paved and unpaved roads, and associated parking, would provide safe and efficient travel, they would not be intended for fast and convenient transportation. There may be paved walkways and improved overlooks. Trails would include short loop trails in some locations and may be built to heavy-use standards. Maximum size of new campgrounds would be similar to Blue Heron Campground, which has approximately 50 improved sites. Administrative support buildings/areas would be located in this unit. Infrastructure development would respond to visitor use needs and trends while remaining in harmony with the surrounding environment. Development other than trails and overlooks would be located a suitable and substantial distance from any boundary shared with the primitive recreation unit in order to minimize the potential effects of intrusive sights and sounds.

**Alternatives**

Alternatives A and B as well as the No-Action Alternative are discussed here. In the case of the National Area, the No-Action Alternative represents current management and resource conditions for comparison purposes. By itself, it is not an alternative that can be selected, or implemented, because it does not include the management unit approach required by NPS policy. A key purpose of this planning effort is to apply the management unit approach to the National Area, and this is reflected in Alternatives A and B.

This discussion includes maps of where the management units have been applied to the National Area for Alternatives A and B. The reasoning for the unit applications is presented, along with how this would relate to current conditions.

The No-Action alternative is discussed first.

**No-Action Alternative (Current Conditions)**

**Current Resource Conditions**

The National Area is generally recovering to a natural condition and setting, having endured extensive logging and mining. Old growth trees exist only in isolated groves in relatively inaccessible places. Nevertheless, the area's forested, rugged topography provides outstanding scenery, mainly focused in the gorge. The waters within the National Area are generally of good quality but still suffer from undesirable impacts by past and present land use practices inside and outside the area, including mining and forestry. Past uses of what is now the National Area provide many significant cultural resources. Most of the prehistoric sites have been looted. Many historic structures have been lost and vegetative succession is taking over the old landscapes.

**Current Visitor Experience**

Visitors generally drive to various destinations within the National Area, such as campgrounds, overlooks, and trailheads. From these, many visitors venture out on foot, horseback or canoe to experience the area. Many come in family or other groups and some come alone. Within the gorge, and away from the road access points, the experience is one of getting away from modern conveniences and enjoying the sights and sounds of a natural scene. On the plateau, it can be much like this also, except one is more aware of the potential for seeing or hearing familiar things. While some resources are readily available and interpreted to visitors, many others are in more remote locations and not easily accessed.

**Current Management**

As a rather new NPS area, the National Area is still in the process of achieving anything close to optimum levels of staffing, and as a consequence, the level of management needed and desired by the staff is considerably higher than what can be achieved. Much of National Area management is reacting to resource issues, attempting to understand and correct past and ongoing impacts to streams, sensitive species, and cultural resources. A significant effort is also being placed on managing visitor use in order to provide adequate opportunities and avoid and mitigate impacts on resources, including conducting needed compliance documentation. Attempting to maintain the very large facility inventory is a considerable effort and expense. Visitor protection is a constant challenge for the small staff, faced with increasing use and such a large area, much of it relatively inaccessible. The legislative provision for continuing oil and gas development on the plateau adds further complexity to attempts at effective and efficient management.
Other than general law and policy, National Area personnel are guided currently by the legislation, with its distinction between the gorge and the plateau, or the "adjacent area." A considerable effort is expended on implementing congressional direction regarding limitations on gorge use. A plan prepared by the US Army Corps of Engineers prior to NPS administration has been useful. Beyond the distinction between the gorge and the plateau, and the application of general NPS policy, National Area staff lacks approved guidance concerning where to direct use and development.

Current Use

Visitor use is naturally concentrated around transportation corridors and particularly points of interest that provide parking. Once outside their vehicles, visitors frequently walk to attractions, backpack, ride horses, float the river, fish, and hunt in season. Considerable use is made of the trails, which generally disperse use throughout the National Area. In places, the current trail network results in concentrations of people, or people and horses, which have adverse impacts on the trails and their immediate environments. Trail erosion has resulted in elevated stream sedimentation loads. Use also occurs on previously existing roads and trails that are not part of the National Area's officially designated system. Use of these routes, which includes some illegal uses, puts added strain on National Area personnel to effectively manage resources and provide for visitor safety.

Current Development

The gorge is essentially natural apart from the legislative road access routes. Away from these accesses, trails are the only visitor use facilities, other than the Charit Creek lodge. A few of the gorge accesses provide convenient visitor facilities beyond river access, and one, Blue Heron, offers a premier interpretive attraction. The plateau has the campgrounds, overlooks, trailheads and other parking, information stations, as well as roads and trails and administrative facilities. Private oil and gas facilities, e.g., pumps, tanks, and pipelines, are found in many areas, with concentrations in certain places. There are many roads and trails that existed prior to National Area establishment, built and used for a variety of reasons, including logging, which are not officially recognized by NPS. Pressures for additional trail development exist and have resulted in some questionable locations considering management effectiveness and resource protection. These have occurred without benefit of an internal trail policy. Roadwork has also occurred without such policy guidance, which has raised consistency questions. Discussions have occurred with the nearby communities concerning the types and levels of development that are appropriate within the National Area.

Alternative A

(Note: For a full description of both Alternatives A and B, the following general discussion needs to be combined with the list of selected development areas immediately following the discussion of Alternative B.)

**Primitive Recreation Unit Application** (Management for this and the other two units has been previously described.)

The primitive recreation management unit is the same as the "gorge" as defined by the legislation establishing the National Area, except for the gorge access routes also identified by the legislation. Congress specifically distinguished the gorge from the rest of the National Area and prescribed more protective measures for this area it referred to as a "unique natural scenic resource." The establishing legislation is clearly the basis for this management unit that contains most of the National Area's unique and sensitive resources. Since establishment, the gorge has been managed differently from the rest of the area and most nearby residents and many other visitors have come to understand this difference.

Away from the gorge access routes, the gorge is largely regaining a near-primitive condition. Large areas are recovering from the earlier effects of logging and mining. This general recovery of the landscape is entirely consistent in this unit. Cultural resources associated with stream valley homesteads are blending with the natural scene; however, there are significant structures and landscapes having integrity that warrant preservation and interpretation and whose specific management would be addressed in later plans. Any open fields not associated with these cultural resources would be allowed to naturally return to forest.

Some trails and roads that existed before establishment of the National Area are still being used as trails, but they are not part of the National Area's official trail system. Some of these are eroding and causing resource damage because they were located where topography, soils, drainage, or other factors are not suitable for trail
development. Where this is occurring, the area would be rehabilitated. Routes that would not be included as part of an official trail system would be closed and allowed to grow over. Exceptions may be made for historical routes eligible for the National Register—here and in the other management units. Additions, deletions, rehabilitation and other changes to the official trail network would be the subject of the Roads and Trails Management Plan under preparation. It is anticipated that some new trails or trail segments would be added to the system and certain segments that are causing problems would be deleted or changed.

In addition to the congressionally identified roads, there are other legal roads within the gorge, including county-owned rights-of-way, cemetery access and those necessary for administration. These routes will be addressed in the Roads and Trails Management Plan in the context of their location in the primitive recreation unit.

**Enhanced Recreation Unit Application**

In this alternative, the enhanced recreation management unit would be applied to areas of the plateau (the "adjacent area") around already existing developments. Six of the gorge access routes would also be included in this unit category. These are Highway 92, County Road 1363 near Yamacraw, the road to Blue Heron mine, Highway 297, Zenith road, and Highway 52.

The plateau in general, like the gorge, is recovering from past uses, particularly logging. This general vegetative recovery, including forest, open grassy woodlands, and native grassy openings, would be consistent in this unit. Fire management as a tool for managing vegetation to achieve desired conditions would be applied in this and other units as determined by special planning. Selected cultural resources in these areas are being preserved and made available for visitor enjoyment and education, such as the Oscar Blevins farmstead. Preserving and interpreting significant representative resources would be fully consistent in this unit. Some sites await decisions on their ultimate treatment, which will come with later planning, but additional opportunities for interpretation to visitors would further management objectives in this unit.

Scattered throughout the plateau are numerous open spaces that represent historic fields no longer in use. Some are succeeding to forest while others are maintained for various reasons. A Cultural Landscape Report is needed that assesses their historic significance and addresses management issues. Retention of these fields would be appropriate when related to visitor use needs and interpretation of cultural resource associations.

As in the gorge, there are old roads and trails on the plateau that are not part of officially designated networks. These routes do not receive maintenance and, in places, contribute to resource damage. Some routes would likely be included in the designated trail system if they satisfy criteria for inclusion, which would be identified in future trails planning. Such criteria would include consideration of location, contribution to the larger trail network, avoidance of sensitive resources, and impacts—positive and negative—on visitors. Those routes not meeting the criteria would be closed to further use.

Some of the designated areas are considerably larger than the development that currently exists. This is intended to allow for carefully planned expansion consistent with the alternative and management unit direction. The areas are not meant to be completely developed. Rather, they would offer a large enough area to permit the evaluation of alternative locations of needed future facilities.

**Backwoods Recreation Unit Application**

This management unit would include the remaining areas of the plateau ("adjacent area") not designated as enhanced recreation unit. These areas would be located throughout the National Area and in many of the larger areas would offer significant recreation opportunity for activities not dependent on facility conveniences. This unit would also include the remaining five gorge accesses, i.e., Peter's Bridge, Burnt Mill Bridge, Station Camp, Worley, and Alum Ford. (Alum Ford is not within the gorge as defined by Congress but is mentioned in the legislation.)

A general vegetative recovery, including forest, open grassy woodlands, and native grassy openings, would be consistent in this unit. As in the enhanced recreation unit, open spaces representing historic fields are succeeding to forest or are maintained for various purposes. A Cultural Landscape Report and resulting management decisions covering the issue of historic fields for the enhanced recreation unit would address the issue in this unit as well.

Extensive changes would appear unnecessary in order to achieve desired conditions.
Consistent with the unit also would be the preservation and interpretation of significant cultural resources as may be identified in future investigations. As in the other two units, there are old roads and trails on the plateau that are not part of officially designated networks. Changes to the existing roads and trails would be likely when the new official networks are identified during later facility planning as mentioned under the enhanced recreation unit.

Oil and gas well concentrations are found mainly in this unit and mostly in the southern part of the National Area. The oil and gas inventory underway by the National Area will identify safety and resource issues surrounding these facilities and allow management to determine how these areas can be made as compatible as possible with management unit objectives.

**Alternative B**

Alternative B applies the same three management units discussed under Alternative A in many of the same areas. However, an important difference between Alternatives A and B is that a larger portion of the plateau ("adjacent area") would be designated enhanced recreation unit. Eight gorge accesses would also be designated enhanced recreation unit and include Alum Ford, Highway 92, County Road 1363 near Yamacraw, Blue Heron road, Station Camp road, Highway 297, Zenith road, and Highway 52.

The backwoods recreation unit would be the remaining area of the plateau. The remaining three gorge accesses would also be designated backwoods recreation unit and are Peter's Bridge, Burnt Mill Bridge, and Worley. As in Alternative A, the primitive recreation unit would be the legislatively defined gorge.

Enhanced recreation unit locations would be focused around existing development, as in Alternative A, and would also be in areas considered suitable for potential future use and development. Suitability factors included accessibility to roads, past and present recreation and other uses, proximity to existing or expected development outside the National Area, and reasonable extensions of internal development areas.

**Application of Alternatives A and B to Selected Areas**

The following indicates reasonably foreseeable development-oriented actions in various locations of the National Area over the next 15 years. Listed actions would be subject to more detailed planning and environmental analysis prior to implementation. This would allow consideration of relevant future conditions, engineering feasibility, and environmental acceptability.

**Yamacraw area**

Both alternatives: Continue present uses for picnicking and hiking/sightseeing; improve entrance road.

**Alum Ford**

Alternative A: Continue boat access and primitive camping.

Alternative B: Continue boat access, improve/expand boat ramp and parking, upgrade/expand camping opportunity, new picnic area.

**Yamacraw/Highway 92**

Both alternatives: Improve existing boat access, improve picnic area on east side of river.

**Worley**

Both alternatives: Continue river access, improve parking and picnicking opportunity.

**Blue Heron**

Both alternatives: Continue preservation and interpretation of mine and town site, continue sightseeing train opportunity, continue overlook opportunities on both sides of river, continue road access to Barthell, continue campground.

**Bear Creek area**

Both alternatives: Improve road access (coordinate with county, pave one-way/one-lane loop, two-way/two-lane to horse camp spur), continue equestrian camping, trailheads, overlook, new connector horse/hiking trail, plus...

Alternative A: Expand equestrian camping, improvements to other existing facilities.

Alternative B: Same as A, plus developed family campground and associated loop and connecting trails, camp store, interpretive media, picnic area.
Little Bill Slaven Road/trailhead
Both alternatives: Continue trailhead access.

Station Camp area
Alternative A: Expand equestrian camping, improve road to river with pullouts.
Alternative B: Same as A, plus pave circulation roads, pave road to river for passenger vehicles only, new picnic area near river.

Roads and trails (generally)
Both alternatives: Generally continue road and trail access subject to review of existing routes according to criteria addressing resource protection, visitor experience of users and other visitors, visitor protection and safety, and maintenance capability. Specific uses would occur only on routes designated for those uses as identified in the roads and trails plan. That plan also would identify maintenance standards as well as construction standards for any proposed new trails.

Divide Road to intersection with Bell Farm Road, and Twin Arches Road
Alternative A: Selected safety improvements, rehabilitate existing trailheads.
Alternative B: Same as A, plus improve entire length to higher standard including paving.

Charit Creek Lodge
Both alternatives: Continue existing uses; allow improvements within a determined ecological and recreational carrying capacity and consistent with the historic scene—pursuant to National Area legislation—and a commercial use plan.

Bandy Creek/Highway 297 area west of river
Both alternatives: Continue campgrounds, stable, day uses, visitor contact, trails/trailheads, historic preservation/interpretation, administrative functions, access roads; add developed picnic area(s), new loop trails/trailheads, and overlooks, plus...
Alternative A: New visitor center.
Alternative B: New visitor center having more educational and office space.

Leatherwood Ford and Highway 297 area east of river
Both alternatives: Continue river access and associated facilities, trails/trailheads, and administrative functions; new overlook and approach road/parking and new museum storage facility.

O&W railbed
Both alternatives: East of O&W bridge—Continue passenger vehicle access on county right-of-way; minor improvements to roadbed for visitor safety and resource protection, improve trailheads and river access, evaluate and mitigate resource impacts. West of O&W bridge—identify appropriate uses in roads and trails plan, evaluate and address existing and potential resource impacts.

Airport Road/confluence area
Alternative A: Improve river access trail, improve approach road (coordinate with county), improve parking.
Alternative B: Same as A, plus new overlook and picnic area.

River craft launch sites outside National Area (Highway 27/New River and Highway 52/White Oak Creek)
Both alternatives: Continue river access; coordinate improvements with Tennessee Departments of Transportation and Conservation.

Burnt Mill Bridge
Both alternatives: Continue river access.

Honey Creek Overlook
Both alternatives: Continue access to overlook and trails.

Mt. Helen Road area
Alternative A: New primitive camping area, trailhead, and multiple-use trails.
Alternative B: Same as A, except developed campground.

Areas of oil & gas wells (generally)
Both alternatives: Through applicable regulations and surveys such as the oil and gas inventory, address...
needs for resource protection and appropriate visitor uses while maintaining legal mineral rights.

**Clear Creek corridor**

Both alternatives: Extend John Muir hiking trail to Peters Bridge.

**Joe Branch**

Alternative A: Continue picnicking and existing uses.

Alternative B: Same as A, plus trail development.

**Rugby area**

Both alternatives: Continue trail access and coordination on interpretation; add hiking trail linkage to extension of John Muir trail, new developed family campground and associated loop trail system, new district office/administrative functions.

**Brewster Bridge/Highway 52**

Both alternatives: Continue river access; improve picnicking.

**Peters Bridge**

Both alternatives: Continue river access and picnicking; improve parking for river access and Muir trail trailhead.

**Zenith**

Both alternatives: Continue access; address safety and resource protection needs, improve crossing of Ice Camp Branch, plus...

Alternative A: Interpretation of townsite, small picnic area.

Alternative B: Expanded interpretation of townsite, interpretive trail, picnic area.

**Darrow Ridge area**

Alternative A: Address needed improvements to selected existing road access, new trailhead, and trails.

Alternative B: Same as A, plus additional trails, trailheads, and overlooks.

**Visitor contact outside of National Area**

Both alternatives: Continue contact at Stearns (consider partnership with Forest Service); investigate potential partnerships in Huntsville and Jamestown areas.

**Cost Considerations**

Costs associated with the above development-related actions would be incurred according to specific needs and fund availability. Total construction cost for all identified Alternative A actions is approximately $20,200,000. Total cost for the Alternative B actions would approximate $34,500,000. These figures do not include certain other costs related to additional existing road rehabilitation projects, oil and gas area rehabilitation, and other trail projects that may be identified in later planning. Costs of various needed visitor and resource surveys and studies are also not included. These would be identified in other program documents. These undefined costs are not related to any one alternative; for example, the repair of the road to Blue Heron mine, which would be included in either alternative. The total construction costs by alternative are shown by site in the appendix.

Total recurring administration costs would be increased with either alternative. Costs associated with Alternative A would be approximately $4,743,000. Alternative B costs would approximate $4,976,000. Currently identified equipment needs total $623,000 for Alternative A and $693,000 for Alternative B.

Traditional means to implement the selected alternative involve funding through congressional appropriations. Grants could supplement normal funding. Additional assistance from partnership programs and volunteer efforts would be encouraged. Greater clarity and understanding of management goals should lead to broadening the opportunity for partnerships and volunteers, and the expansion of the roles and number of partners could augment donations of supplies, material, equipment, and research to the National Area.

**Other Alternatives Considered**

**Destination Alternative Concept**

This was one of three preliminary alternatives considered by the NPS planning team and presented to the public. Its distinctive feature was the base camp management unit, which would allow the development of modern
facilities and conveniences, including lodges and large improved campgrounds. These units would be destinations in themselves set amidst the natural backdrop of the National Area. Only a few who commented thought this type of development was desirable. Most wanted to retain the naturalness of the National Area and allow these types of facilities to be provided by the private sector in surrounding communities. Even if thought desirable, such a high development level would be very difficult if not impossible for NPS to implement in view of the cost.

Other Management Unit Alternatives

Besides the base camp unit mentioned above, there was a change made in another management unit type and a change made in the application of all the units.

A high opportunity unit was used in the preliminary alternatives presentation. This unit would allow a fairly high degree of use and development that those who commented generally believed was inappropriate to the character of the National Area or was being provided in too many places. While some others saw the unit as acceptable, the unit was deleted from further consideration and the enhanced recreation unit was added, which still would provide conveniences but not to the same degree.

A significant change was also made in the application of the remaining units. The primitive recreation unit was applied to only the gorge as Congress defined it. Congress had already indicated the gorge should be managed essentially as a primitive area, and most that commented understood and accepted this. With this application of the primitive recreation unit, the other units were applied only to the plateau, or the “adjacent area” as also defined in the legislation.

Other Concerns

Some who commented wanted NPS to allow motor vehicles in the gorge so they could reach areas used prior to National Area establishment. If this were legally permissible, it would have set up the possibility of different management units. However, Congress specifically prohibited motor vehicles in the gorge for recreation except in designated access corridors.

Some people have said that the plan prepared by the US Army Corps of Engineers should be followed. Indeed, this plan was followed for the development of many of the current facilities. It contains a great deal of information and has been very useful for certain issues. It likely will continue to be referenced as specific issues are evaluated. However, the plan is almost 20 years old and there is a need to revisit basic issues of resource management and visitor use and to do this in the NPS planning framework.

The subject of designating wilderness was raised during early public involvement. Evaluating the suitability of some of the National Area for wilderness is beyond the scope of this broad-framework general management plan. On one hand, there is some question of having designated wilderness in a National Recreation Area even though the area is also a National River. On the other hand, it could be said there is sufficient area just
The summary tables that follow include various elements of the alternatives and their environmental consequences. These tables are not to be relied upon apart from the discussions in the text. The full discussion of the consequences is found in the consequences section. A comparison of the three management units was provided previously.

<table>
<thead>
<tr>
<th>Element</th>
<th>No Action Included for comparison purposes only</th>
<th>Alternative A</th>
<th>Alternative B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept</td>
<td>No formal concept. Current management</td>
<td>Rustic and natural. Conveniences available in selected areas</td>
<td>Variety of recreation opportunities. Conveniences available in many areas</td>
</tr>
<tr>
<td>Management Units applied</td>
<td>Gorge and plateau, per legislation</td>
<td>Primitive recreation, backwoods recreation, and enhanced recreation</td>
<td>Primitive recreation, backwoods recreation, and enhanced recreation</td>
</tr>
<tr>
<td>Primitive Recreation Unit application</td>
<td>N/A</td>
<td>Legislatively defined gorge</td>
<td>Legislatively defined gorge</td>
</tr>
<tr>
<td>Backwoods Recreation Unit application</td>
<td>N/A</td>
<td>75% of plateau</td>
<td>65% of plateau</td>
</tr>
<tr>
<td>Enhanced Recreation Unit application</td>
<td>N/A</td>
<td>20% of plateau. Scott SF = 5% of plateau</td>
<td>30% of plateau. Scott SF = 5% of plateau</td>
</tr>
<tr>
<td>Potential for additional development and use?</td>
<td>Yes, essentially undefined</td>
<td>Yes, defined by management unit</td>
<td>Yes, defined by management unit. More than &quot;A&quot;</td>
</tr>
<tr>
<td>Distribution of additional development and use</td>
<td>Case-by-case, based on gorge/plateau division</td>
<td>Guided by management units</td>
<td>Guided by management units</td>
</tr>
<tr>
<td>Development and use limits</td>
<td>Addressed by legislation only</td>
<td>Addressed by legislation and management unit prescriptions</td>
<td>Addressed by legislation and management unit prescriptions</td>
</tr>
</tbody>
</table>

Table 2 – Summary of Alternative Elements
<table>
<thead>
<tr>
<th>Consequences on</th>
<th>No Action</th>
<th>Alternative A</th>
<th>Alternative B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long term integrity of natural systems</td>
<td>Resources threatened by uses inside and outside National Area. Specific projects provide benefits</td>
<td>Still threatened, but greater potential benefit from more focused strategic management</td>
<td>Still threatened and higher levels of use and specific impact, but more strategic management would benefit natural system integrity</td>
</tr>
<tr>
<td>Long term integrity of cultural systems</td>
<td>Resources threatened. Specific projects provide benefits</td>
<td>Still threatened, but greater potential benefit from more focused strategic management</td>
<td>Still threatened and higher levels of use and specific impact, but more strategic management would benefit natural system integrity</td>
</tr>
<tr>
<td>Visitor experience and access to National Area resources</td>
<td>Adequate to many key resources but quality is being compromised</td>
<td>Enhancement through comprehensive strategies; additional development in several areas but considered rustic as a whole</td>
<td>Enhancement through comprehensive strategies; additional development in several areas (more than &quot;A&quot;); more emphasis on recreation activity</td>
</tr>
<tr>
<td>Public understanding of National Area resources and management</td>
<td>Growing understanding, but significant misunderstandings and disagreements remain</td>
<td>Higher potential for understanding through better definition of area management</td>
<td>Same as &quot;A&quot;</td>
</tr>
<tr>
<td>Economic contribution to the surrounding region</td>
<td>Some benefits, but less than communities expect</td>
<td>More sustainable levels of visitors / benefits through more realistic expectations coming from sharing of more focused long term goals</td>
<td>Same as &quot;A&quot;, but higher potential</td>
</tr>
<tr>
<td>Consistency with the plans of others</td>
<td>Continuing confusion, except in some specific instances</td>
<td>Clearer direction would provide greater consistency. Alternative is generally consistent with known goals</td>
<td>Same as &quot;A&quot;</td>
</tr>
<tr>
<td>Development sites</td>
<td>No additional development (status quo)</td>
<td>Development actions would potentially have minor direct and indirect effects on soils, vegetation, wildlife, water quality, air quality and cultural resources.</td>
<td>Same as &quot;A&quot;, but potentially more area affected by facility development</td>
</tr>
</tbody>
</table>

Table 3 – Summary of Alternative Consequences
CONSULTATION AND COORDINATION

Public Involvement

This material summarizes and supplements the information in Chapter One, which discussed the planning process.

The mailing list of elected officials, agencies, organizations, and individuals contains approximately 500 entries.

Newsletters were used to explain the planning process, discuss various influences on that process, announce public meetings, report back to the public, and provide opportunity for comment.

Letters were sent to interested officials, agencies, and organizations announcing the planning effort and requesting issues to be included. Agencies included the Fish and Wildlife Service, USD1, and the State Historic Preservation Officers for Kentucky and Tennessee.

National Area staff has maintained regular contacts with local community organizations.

A total of 20 meetings for the general public were held in as many as nine local and regional locations. Four additional meetings were held in March 2003 after release of the Supplemental Draft GMP. The latter meetings were held in Huntsville, TN, Wartburg, TN, Allardt, TN, and Whitley City, KY.

The University of Kentucky, under contract, provided public comment from local persons who typically do not attend government sponsored public meetings.

Three focus groups were formed, and, in a total of nine meetings, provided input on a variety of topics, including desirable characteristics of a road and trail system for the National Area.

Comments received as a result of the newsletters and meetings included a wide variety of topics. The following list is a representative sample of comments.

Natural and Cultural Resource Related Comments:

- Plan should address how to maintain water quality. (Water quality issues are included, addressed in proposed zoning and road/trail standards, and are a part of Required Management. Specific projects and studies are identified and more specifically addressed in the Water Resources Management Plan.)
- Some of the tributary streams are seriously polluted. (See comment above.)
- Need more monitoring of the New River. (See comment above.)
- Apply principles of ecosystem management. (This subject is included in both Required Management and in the proposed zoning strategy and would also be part of the Resources Management Plan.)
- Should restore native plant species. (Included in the proposal, addressed in Required Management, and would be part of the Resources Management Plan.)
- Hunting is good for the ecosystem and no artificial enhancements are necessary. (Addressed in Required Management and would be part of the Resources Management Plan.)
- Restore the grassy woodlands. (Same as above)
- Identify the existing and potential resource threats and the level of risk. (Addressed in Chapter 4, Affected Environment, and in Chapter 5, Environmental Consequences.)
- Is there a need for boundary expansion to better protect resources? (No related issues raised during planning.)
Considered and not included in proposal.)

- Need to restore historic resources in some form in No Business, Station Camp, and Parch Corn areas for interpretation. *(Addressed in Required Management and in zoning for cultural landscapes. Specific actions will be the subject of later detailed studies)*

- Preserve areas of natural quiet and solitude. *(Addressed in zoning and in road/trail planning)*

- Show how resources would remain unimpaired for future generations. *(Generally addressed in Required Management and also more specifically in zoning and in road and trail standards. Would be specifically considered during implementation planning)*

- Need to identify resource carrying capacity and not just continue to allow use to increase. *(Addressed by zone management prescriptions in a qualitative manner, including identification of indicators and standards for monitoring, and would be a consideration in implementation planning)*

- Wilderness qualities should be enhanced and a portion of the area evaluated for designation. *(The selection of zone types considered providing for the availability of natural conditions and solitude. The zone management prescriptions address the desired resource conditions and visitor experience. An analysis was undertaken that resulted in a map, also in the appendix, that illustrates areas that should be studied when specific analyses concerning wilderness are undertaken)*

Visitor Use Related Comments:

- Need more interpretation and programs in the south end. *(Addressed generally in alternatives, in identification of proposed satellite contact stations, and would be a specific subject for the Comprehensive Interpretive Plan)*

- Should have more access and facilities. *(Addressed specifically by the alternatives)*

- Should not have any more large campgrounds. *(Addressed specifically by the alternatives)*

- Need to complete the trail connections between the south end and the rest of the area. *(Addressed specifically by the alternatives)*

- Need standards for trails. *(Included in the plan)*

- Overnight lodging should be available. *(Addressed specifically by the alternatives; none additional in proposal)*

- Let the private sector provide lodging. *(Addressed specifically by the alternatives)*

- More of a certain type of use/facility (or less). *(Addressed specifically by the alternatives)*

- Have more cultural sites available to the public. *(Addressed by zoning and development planning and would be a specific subject for interpretive planning and cultural resource studies)*

- Improve the O&W railbed for autos (or close it). *(Addressed specifically in the plan)*

- A theme park should be developed. *(The direction provided by the establishing legislation and other laws and policy would not allow such development within the National Area)*

- A museum should be provided. *(Museum collection management has been considered in the plan and would be considered in detail in the future)*

- Why plan for more facilities when the NPS can't maintain what it has and the country has such a budget deficit? *(The alternatives include the kinds and levels of development appropriate for the various zones considering the*
legislative purpose of the National Area and existing and expected use. Overall, there would be no change in the scale of development, although identified gaps would be filled in a conservative manner. The National Area requests funding for development and operations as a part of the budget process, which is subject to agency and congressional priorities.)

**Recipients of the Supplemental Draft Plan/Environmental Impact Statement**

**Federal Agencies:**

Advisory Council on Historic Preservation
US Army Corps of Engineers, Nashville District
US Environmental Protection Agency
US Fish and Wildlife Service
US Forest Service, Daniel Boone National Forest

**State and Local Agencies:**

State of Kentucky
- Department of Agriculture
- Division of Forestry
- Department of Fish and Wildlife Resources
- Department of Natural Resources
- Department of Parks
- Kentucky Environmental Quality Commission
- Kentucky Heritage Council
- Kentucky Nature Preserves Commission
- Kentucky Resources Council

State of Tennessee
- Department of Agriculture
- Department of Economic and Community Development
- Department of Environment and Conservation Environmental Policy Office
- Division of Air Pollution Control
- Division of Natural Heritage
- Division of Recreation Services
- Division of Water Pollution Control

Division of Wild and Scenic Rivers and State Parks
- Tennessee Historical Commission
- Department of Transportation
- Tennessee Wildlife Resources Agency
- Pickett State Park
- Pickett State Forest
- Scott State Forest
- Kentucky Farm Bureau
- McCreary County Farm Bureau
- Wayne County Farm Bureau
- Tennessee Farm Bureau
- Fentress County Farm Bureau
- Morgan County Farm Bureau
- Pickett County Farm Bureau
- Scott County Farm Bureau
- Fentress County Agricultural Extension Service
- McCreary County Agricultural Extension Service
- Morgan County Agricultural Extension Service
- Pickett County Agricultural Extension Service
- Scott County Agricultural Extension Service
- Wayne County Agricultural Extension Service
- University of Kentucky Wildlife Extension Service
- East Tennessee Development District
- Upper Cumberland Development District

**Organizations:**

Appalachian Bike Club
Appaloosa Horse Club
Big South Fork Bicycle Club
Big South Fork Hiking Club
Big South Fork Saddle Club
Big South Fork Trail Riders Association
Bluegrass Wildwater Association
Camper and Hikers Association
Chattanooga Arabian Horse Club
East Tennessee Development District
East Tennessee Whitewater Association
Eastern Professional River Outfitters
Elizabethton Trail Riders
Family Campers & RVers
Fentress County Chamber of Commerce
Friends of the Big South Fork NRRA, Inc.
Hill and Valley Saddle Club
Historic Rugby
Kentucky Horse Council
Knoxville Arabian Horse Club
Lake Cumberland Area Development District
Lakeview Hills Saddle Club
Laurel County Hiking Club
McCreary County Chamber of Commerce
McCreary County Horse Club
McCreary County Sportsmen
National Parks and Conservation Association
National Trail Ride Association
Paso Fino Association
Pickett County Chamber of Commerce
Pleasure Walking Horse Association of Tennessee
Ridge Riders
Save Our Cumberland Mountains
Scott County Chamber of Commerce
Sierra Club, Harvey Broome Group
Sierra Club, Tennessee Chapter
Sierra Club, Upper Cumberland Group
Smoky Mountain Trail Riders
Southern Kentucky Tourism Development Association
Tennessee Citizens for Wilderness Planning
Tennessee Conservation League
Tennessee Eastman Hiking Club
Tennessee Horse Council
Tennessee Nature Conservancy
Tennessee Scenic Rivers Association
Tennessee Trails and Field Trials Association
Tennessee Trails Association
Tennessee Valley Canoe Club
The Wilderness Society
Upper Cumberland Tourism Association
Upper Cumberland Development District
Woodford County Saddle Club

**Individuals:**

The list of individuals is lengthy and is on file at the National Area.
CULTURAL RESOURCE CONSULTATION REQUIREMENTS

The following consultation requirements are subject to section 106 of the National Historic Preservation Act of 1966, as amended. After the final plan is approved, NPS will negotiate a park-specific programmatic agreement with the State Historic Preservation Officers in Kentucky and Tennessee and the Advisory Council on Historic Preservation, as recommended by the 1994 Programmatic Agreement between the National Park Service, The Advisory Council on Historic Preservation, and the National Council of State Historic Preservation Officers. The latter document guides NPS compliance with section 106 of the National Historic Preservation Act of 1966, as amended. The chart below includes most of the categories of management actions proposed. Other, specific actions may require consultation.

<table>
<thead>
<tr>
<th>ALTERNATIVE MANAGEMENT PRESCRIPTIONS</th>
<th>CONSULTATION REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possible actions include:</td>
<td></td>
</tr>
<tr>
<td>• Archeological surveying preceding any new construction and/or ground disturbance</td>
<td>Programmatic Exclusion IV.B.4</td>
</tr>
<tr>
<td>• Alignment, design, and construction of new trails or trail segments</td>
<td>SHPO/ACHP review required</td>
</tr>
<tr>
<td>• Resurfacing/repair of present National Area trails or former road traces as new trails</td>
<td>Programmatic Exclusion IV.B.6</td>
</tr>
<tr>
<td>• Maintaining National Area trails</td>
<td>Programmatic Exclusion B.IV.A.6 for maintaining existing trails</td>
</tr>
<tr>
<td>• Developing formal trailheads or access sites with parking and signage</td>
<td>SHPO/ACHP review required for new construction</td>
</tr>
<tr>
<td>• Installing comfort stations</td>
<td>SHPO/ACHP review required for new construction of comfort stations</td>
</tr>
<tr>
<td>• Constructing any other facilities</td>
<td>SHPO/ACHP review required for new construction</td>
</tr>
<tr>
<td>• Plans and studies</td>
<td>SHPO/ACHP review required</td>
</tr>
</tbody>
</table>
FOCUS GROUP COMMENT SUMMARY

Following is a summary of the results of a series of two meetings held in three locations in May and June of 2000. The subject discussed was “What are the characteristics of a good road and trail system?”

Representatives were invited from the different user groups, environmental organizations, and local communities, including county executives.

FOCUS GROUP COMMENT SUMMARY on “What are the characteristics of a good road/trail system?”

General

>Planning/design:

1. Avoid—or be especially designed for—sensitive resource/habitat areas
2. Provide “exclusive use” opportunities for each user group (for optimum visitor experience) somewhere in BISO
3. Minimize multiple use of trails
4. Coordinate system with outside systems and land uses (but don’t promote continuation of poor planning decisions on the part of others)
5. Link points of interest
6. Provide choices—destinations, time commitment, skill level/challenge
7. Provide emergency exit routes
8. Each road/trail needs to have a clear purpose
9. Trailheads could be many (dispersed) or few (concentrated) (i.e., different concepts) — “dispersed” offers more options and spreads potential benefits to nearby businesses; “concentrated” offers more efficiency in patrolling for security, safety, and maintenance...also contributes to higher impact in converging trail system, but could design accordingly
10. Roads and trails together could be thought of as one system getting visitors where they want to go
11. Provide scenic opportunities
12. System needs proper erosion control measures
13. System should not need heavy equipment for construction/maintenance
14. System should be science based—not just on public opinion
15. System should have specific capacity limits
16. System should be only what is maintainable
17. System should be buffered from streams
18. No additional motorized access to/near gorge rim to maintain remoteness between Burnt Mill and Blue Heron
19. Trailheads should be on NPS land and accessed by county roads
20. Where possible, trails should offer access to adjacent/nearby businesses
21. Need opportunities for families, i.e., low skill levels
22. Concentrations of visitors, e.g., Bandy Ck., results in high use/impact on surrounding trails/roads
23. Hiking-only trails also provide experiences for wildlife observation, photography, nature study
24. Road system needs to provide different experiences/choices
25. Roads need to be decent enough for typical personal auto travel, alotho not necessarily paved
26. “Driving back roads” is a desired experience for some people, but they should be well-maintained
27. Road & trail system should be environmentally sound
28. System should be well-drained and easily maintained
29. Park should decide if shared trails are appropriate or not and either promote or discourage
30. Graveled treads are not good for hikers and bikers
31. Similar use areas should be connected to allow greater opportunities
32. Hunting is a safety issue...could restrict hunting to certain areas and/or restrict other uses during hunting season
33. Accesses should be coordinated with outside interests
34. All uses, except ATV riders, need some solitude and opportunity to hear only natural sounds
Operations:

1. Maintenance is essential to prevent undesirable conditions.
2. Don’t close trails without adequate information (horses sometimes mis-blamed for impacts).
3. Deal with visitor interaction in literature and on trailhead signs.
4. Dispense information on sensitive areas where and when appropriate (could be seasonal, etc., not just something “permanent”).
5. Deal with user conflicts with policies and communication.
6. Use proper erosion control.
7. Need good signs from outside road net and good signs/directions to trailheads.
8. Interpretation/education should be dynamic. It’s too static; quickly gets old looking; gets ignored. Should change when there’s something different/new to point out and if needed to redirect visitors.
9. System should be well-marked and mapped.
10. Park should communicate regularly with all user groups on conditions, closures, scheduled maintenance, volunteer opportunities, etc.
11. Need safe/secure parking areas.
12. Water quality considerations should be considered on all management actions.
13. Mileage markers along trails would assist in SAR.
14. Trails/roads should have KY/TN markers at state line for hunters…or have consistent regs for whole park.
15. Trails should be clearly marked for allowable uses (less negative).
16. Skill levels should be clearly communicated in literature and at trailheads.
17. Waste management for all uses is a concern.

Hiking

Planning/design: (D = desired; A = acceptable)

1. D – experience solitude/natural quiet/peace/calm
2. D – experience beauty/scenery/variety
3. D – witness creative efforts of others who created the trail experience, e.g., fine, subtle workmanship
4. D – narrow, wandering pathway providing some challenge to body/mind
5. D – features (rewards) along the way
6. D – No contact with ATVs. ATVs degrade experience beyond personal contact, e.g., spook wildlife away from corridor, trail tread problems
7. D – avoid blind curves on shared trails
8. A – some contact with mountain bikes, but in short segments: shared segments should not be “advanced” mtn. bike sections, which might promote speed, acrobatics, etc.
9. A – some contact with horses, but in short segments…tread and waste issues
10. more opportunities for walkers/strollers who aren’t serious hikers…more for handicapped
11. information available in various forms and places, e.g., visitor centers, trailheads,…

>Operations:

- Post trail user information and etiquette at trailheads.

Mountain Biking

Planning/design:

1. D – loops/connections/options
2. D – not overused/crowded
3. D – scenic; connections (spurs) to overlooks
4. D – hard-packed, smooth tread
5. D – single-track, < 3’ wide
6. D – medium grades
7. D – no deep sand
8. D – on shared trails: wider, no blind curves, not an “advanced” section, drainage and maintenance more important
9. D – more areas of park available
10. D – some availability from campgrounds
11. D – connection to Rugby
12. D – proximity to showers
13. D – variety of lengths and challenges
14. A – OK to share with hikers and horses, but only short distances
15. Old logging roads can be good (ride between ruts).

>Operations:

1. Well-marked(mapped)
2. Limit group size
3. Fix problems quickly…Maintenance!
4. Users help with construction/maint.
5. Volunteers can patrol…provide info, first aid, etc.
6. Publicize/post trail etiquette
Horse Riding

>Planning/design:

1. D - single or double track (BISO should be about 50/50)
2. D - single track should be wide enough for passing without leaving trail tread
3. D - soft enough tread to prevent stone bruises and prevent slipping..."ideal" tread is "soft" (dirt) and level (no ruts), but hardening OK for heavy use and needed drainage
4. D - no sharing with ATVs
5. D - rest stops along trails
6. D - water needed along trails
7. D - design for efficient maintenance (6 foot dozer OK)
8. D - a "network" of destinations, experiences, and lengths
9. A - could share a trailhead with other user types but disperse
10. A - no real conflicts except with ATVs...ATV users can't hear others and blind curves are potential accident sites
11. A - mountain bikers OK but can spook horses since bikes are quiet

>Operations:

1. Need good signs and maps with mileage
2. Maintenance is critical, especially on steeper sections
3. Maintenance for equestrians requires special methods
4. Need etiquette posted at trailheads
5. Need 10'-12' vertical clearance

ORVs

>Planning/design:

1. D - loops/connections out from and return to staging area
2. D - lengths should be 10-60 miles; dense loops OK—routes could be within 100' of one another
3. D - large staging area (gravel), preferably dedicated use because of impact on other users
4. D - variable width trails (cleared width):
   - 32" - 36" motor bikes
   - 50" - 60" ATVs
   - 70" - 100" other, incl. 4WD
5. D - exit routes for emergencies
6. D - various challenge levels
7. A - staging area could be "primitive"
8. D - for better-class riding area, staging area should include camping, dumpster, portable toilets
9. D - most desirable would add potable water source, bath house, and shelter
10. D - no shared use with hikers
11. A - shared use with horses OK, but should be time-separated

>Operations:

1. routes should be marked/numbered, with maps
2. education/etiquette info at staging areas
3. maintenance is critical
4. speed limits on all trails; lower on shared trails
5. clearly inform all users of shared routes/sections through materials at visitor centers, signs at trailheads and trail intersections

Boating

>Planning/design:

1. D - trails between river and parking areas need to be easily negotiable carrying a boat, e.g., tread material suitable for bare feet and not too steep
2. D - natural view of river/bluffs/rim, e.g., no visible parking areas (screening OK), rim trails, overlooks (rim should have no-development buffer zone)
3. D - no more river accesses
4. D - feeling of remoteness
5. D - primitive campsites (6-8 sites) in 1 or 2 locations below L'wood Ford needed along river to promote camping in acceptable places
6. A - compatible with most non-motorized uses

>Operations:

1. Maps/displays at parking areas of river classifications, warnings, descriptions
2. Manage for high water quality
ROAD AND TRAIL CLASSIFICATIONS AND STANDARDS

Road and trail standards are used to guide the attainment and maintenance of desired resource conditions and visitor experiences. The specific standard selected for a certain route is based on the designated uses, the management objectives for the surrounding area, and cost.

Use designations and standards may not always appear to be consistent. For example, a trail designated and signed for horse use may also occasionally be needed for vehicle access to an oil and gas well. In such a case, the “public use designation” would be as a horse trail, but the physical standard applied must be sufficient for vehicles. Therefore, the standard would reflect a “road” use, while the general public use would be as a “trail.” The discussion of each road and trail in this plan indicates both designation and standard.

ROADS

Roads are also classified by function. Classes and their definitions are from Park Road Standards, National Park Service, 1984. Road standards are guided by Park Road Standards but are developed specifically for application in the National Area.

CLASS 1 – Principal park roads or through roads: Roads that provide the main access routes or that are through roads, for example, TN 297, TN 52, and KY 92

- Standard A – Relatively high traffic volume
  - Two paved 12-feet travel lanes
  - 2-feet paved shoulders
  - 45-feet cleared right-of-way; 20-feet cleared height
  - 1:4 fore slope and 1:2 back slope, except where rock prohibits grading
  - 1-foot deep ditches, except flat bottom ditches, which will be 2-feet deep

- Standard B – Moderate traffic volume
  - 18- to 22-feet road width; paved or gravel (adequate for two vehicles to pass)
  - 2-feet paved or gravel shoulders
  - 30-feet cleared right-of-way; 20-feet cleared height
  - Slopes and ditches same as A

CLASS 2 – Connector roads: Roads that provide access within a park to areas of scenic, scientific, recreational, or cultural interest, such as overlooks, campgrounds, etc.

- Standard A – Moderate-to-high traffic volume, including campers, horse trailers
  - 22-feet road width; paved or gravel (adequate for oncoming vehicles to pass)
  - 2-feet paved or gravel shoulders
  - 35-feet cleared right-of-way; 20-feet cleared height
  - Slopes and ditches same as Class 1

- Standard B – Moderate traffic volume, and may be used by trucks
  - 16- to 18-feet road width; paved or gravel (oncoming vehicles would have to slow and may have to use shoulder to ensure safety)
  - 1-foot paved or gravel shoulders
  - 30-feet cleared right-of-way; 20-feet cleared height
  - Slopes and ditches same as Class 1
CLASS 3 – Special purpose roads: Roads that provide circulation within public use areas (Development Zones), such as campgrounds

- Standard A – Two-way, low speed, high volume traffic; including trailers, campers
  - 20-feet paved or gravel road
  - No shoulders
  - 22-feet cleared right-of-way; 20-feet cleared height
  - Normally no slopes and ditches

- Standard B – One-way, low speed, high volume traffic; including trailers, campers
  - 12-feet paved or gravel road
  - No shoulders
  - 14-feet cleared right-of-way; 20-feet cleared height
  - Normally no slopes and ditches

CLASS 4 – Primitive roads: Low traffic volume roads that provide access to remote or undeveloped areas

- Standard
  - No specific design standard; mostly old roads
  - Maximum 8-feet cleared right-of-way; 10-feet cleared height
  - Monitoring for maintenance needs and resource/safety issues

CLASS 5 – Administrative roads: Roads intended mainly for administrative purposes but are normally open to public use also

- Standard A
  - Two 11-feet lanes; paved or gravel
  - 2-feet shoulders
  - 35-feet cleared right-of-way; 20-feet cleared height
  - Slopes and ditches same as Class 1

- Standard B
  - 10- to 12-feet gravel or dirt road
  - No shoulder
  - 12- to 14-feet cleared right-of-way; 10-feet cleared height
  - Normally no slopes and ditches
  - May be gated

CLASS 6 – Administrative roads: Roads intended for administrative purposes that are normally closed to public use

- Standard
  - Same as 2C

TRAILS

The following standards shall apply to new construction and to major rehabilitation of existing trails. These are target standards and every attempt will be made to meet them; however, site conditions may not allow for strict compliance in every case. Existing trails may not currently meet these standards, but will be rehabilitated, upgraded, or re-routed to meet these standards as funding and staffing permit. Existing trails causing immediate environmental damage will receive the top priority for rehabilitation.

The standards for specific trail types are typically expressed in terms of maximum widths. Trails can and should be narrower
in more remote areas and in areas within the Sensitive Resource Protection Zone. Where the decision is made to maintain a trail on a former roadbed, it need not necessarily be maintained to road width.

GENERAL STANDARDS:

- Outslope on trails should be between 5 and 10%.
- Grade or slope of the trail will vary according to type of use. The target grade will be between 3% and 10% for all trails. For hiking trails, grades up to 18% will be allowed for distances up to 25 feet. For horse trails, grades up to 25% will be allowed for distances up to 50 feet. In cases where the grade exceeds 10%, efforts will be made to control drainage and erosion using drainage dips, water bars, steps and other structures.
- Although Full Bench construction is preferred, Partial Bench construction may be utilized wherever deemed necessary during the design process.
- Backslope will be determined as a part of the design and will depend upon the existing soil conditions. The backslope will vary from near vertical for rocky areas to 1:2 for areas where the soil has little cohesion.

HORSE TRAILS

LEVEL 1 (H-1): Major trails with heavy use, typically around development areas (e.g., connector trails for Bandy Creek Stables and Station Camp and Bear Creek Horse Camps)

- Maximum 8-feet trail tread; hardened surface
- Maximum 4-feet clearance each side; 10-feet cleared height
- Liberal use of structures, e.g., bridges, earth/gravel water bars
- For slope information, see General Standards

LEVEL 2 (H-2): Major trails with frequent high levels of use (e.g., Pilot - Wines Loop and Cumberland Valley Loop)

- Maximum 8-feet trail tread; hardened surface
- Maximum 4-feet clearance each side; 10-feet cleared height
- Some structures
- For slope information, see General Standards

LEVEL 3 (H-3): Trails with medium to heavy use, often with seasonal peaks; usually on flatter areas with fewer stream crossings (e.g., Jack’s Ridge Loop)

- Maximum 6-feet trail tread; hardened surface or dirt
- Maximum 3-feet clearance each side; 10-feet cleared height
- Structures as needed
- For slope information, see General Standards

LEVEL 4 (H-4): Extra-wide trails capable of use by horse drawn wagons (e.g., Gobbler’s Knob Trail)

- Maximum 10-feet trail tread; hardened surface
- Maximum 4-feet clearance each side; up to 12-feet cleared height
- For slope information, see General Standards

LEVEL 5 (H-5): Trails supporting moderate to heavy use, mostly in the backcountry. Considered the standard for most new trails

- Maximum 6-feet trail tread; hardened surface
- Maximum 3-feet clearance each side; 10-feet cleared height
✓ Structures on all stream crossings
✓ For slope information, see General Standards

LEVEL 6 (H-6): Trails in the backcountry that are mostly lightly used and follow old roadbeds

✓ Old roadbed serves as trail tread; maximum 8-feet wide, dirt surface
✓ No specific standard width or cleared area in order to retain character
✓ Monitored for safety deficiencies and resource impacts; maintenance as needed
✓ For slope information, see General Standards

LEVEL 2 (F-2): Trails moderately to heavily used (e.g., Oscar Blevins Farm Loop)

✓ Maximum 30-inch trail tread on constructed sections; other portions on old roads; hardened surface where needed
✓ Where trail utilizes old roadbeds, Maximum 8-feet trail tread width
✓ Maximum 3-feet clearance each side; 8-feet cleared height
✓ Some structures
✓ For slope information, see General Standards

FOOT TRAILS

LEVEL 1 (F-1): Heavily used major trails (e.g., Yahoo Falls Trail)

✓ Maximum 30-inch trail tread; hardened surface where needed
✓ Maximum 3-feet clearance each side; 8-feet cleared height
✓ Liberal use of structures
✓ For slope information, see General Standards

LEVEL 3 (F-3): Trails moderately used in more backcountry settings (e.g., Laurel Fork Creek Trail)

✓ Maximum 2-feet trail tread
✓ Maximum 2-feet clearance each side; 8-feet cleared height
✓ Some structures
✓ For slope information, see General Standards

LEVEL 1A (F-1A): Heavily used shorter trails (e.g., Blue Heron overlook trail, Mine 18 trails). These trails experience heavy use due to their proximity to developed areas or because they are short trails that are useable by most visitors.

✓ Maximum 6-feet trail tread; paved
✓ Maximum 3-feet clearance each side; 8-feet cleared height
✓ For slope information, see General Standards

LEVEL 4 (F-4): Mainly long-distance trails with varying use levels depending on location and season (e.g., John Muir Trail, Sheltowee Trace)

✓ Maximum 30-inch trail tread where constructed; some portions on old roads
✓ Where trail utilizes old roadbeds, Maximum 8-feet trail tread width
✓ Maximum 2-feet clearance each side; maximum 8-feet cleared height
✓ Liberal use of permanent structures

LEVEL 1B (F-1B): Trails accessible to the physically challenged
BICYCLE TRAILS

As used here, the bicycle trail standard (B) refers to those trails, or trail segments, that are constructed for and used exclusively by mountain bikes. Where bikes are allowed on hiking trails, the standard applied would be within the maximum hiking standard. Bicycles are also allowed on public roads and horse trails, unless specifically disallowed.

- "Single track" trails only
- Maximum 3-feet trail tread; dirt (avoid gravel and sand)
- Maximum 1-foot clearance each side; 8-feet cleared height
- For slope information, see General Standards

MULTIPLE-USE TRAILS

Multiple-use trails (MU) provide for use by horses and motor vehicles on the same route. The trail is designed for slow vehicle traffic.

- 10-feet maximum tread width; can be a hardened surface
- Maximum 2-feet clearance each side; 12-feet cleared height
- Shoulders and drainage as needed
- For slope information, see General Standards
- Speed reduction devices and warning signs as necessary to slow vehicle traffic

ALL-TERRAIN VEHICLE (ATV) TRAILS

ATV usage would be allowed on multiple-use trails (during big game season only, by licensed hunters) and on specifically designated trail(s) in the ATV Planning Area. For purposes of this plan, an ATV is defined as a licensed or unlicensed three- or four-wheeled motorized vehicle that has a seat/saddle a rider straddles and handlebars for steering. The following standards would apply to any trail(s) specifically constructed for ATV use in the ATV Planning Area:

- Maximum 5-feet tread width; dirt
- No extra side clearance; 6-feet cleared height
- Drainage as needed
- For slope information, see General Standards
STANDARD ILLUSTRATIONS

The following series of photographs attempts to illustrate the variety of road and trail standards referenced in this document. While only one photograph is used for each standard, the standards allow for a range in dimensions. It is intended that the character of the standard be illustrated.

**Roads**

Class 1A

Class 1B
Class 2A

Class 2
Class 6

Trails

Horse: H1
Horse: H6

Foot: F1
Multiple-Use

ATV

(None illustrated. None on National Area currently designed for this use.)
Purpose: Each year, regular and routine trail system management is required on all designated horse, hiking, biking, and multiple-use trails through the park. Regular and routine trail system management will consist of clearing and brushing encroaching vegetation and blowdowns; cleaning and repairing drainage structures; repair of stairs, bridges, and other typical trail structures; tread repair; and repair or replacement of signs and blazes.

In the long run, regular and routine trail management preserves natural and cultural resources, is cost effective, and can keep our designated trails safe for the visitors that use them. Lack of trail system management will eventually lead to increased resource degradation, maintenance costs, and visitor accident rates. Note: During calendar years 1999-2002, Big South Fork National River and Recreation Area recorded 22 accidents along our trails that can be attributed to a lack of trail system management.

Safety: Safety will take precedence over all other considerations. No trail management or conservation work is worth risking the well-being of the Area’s Trail Management Team. Given time, resources and ingenuity, every task realized in trail management can be accomplished with minimal risk to the Area’s Trail Management Team.

Tools and Equipment: Hand tools such as loppers; weed whips; weed eaters; leaf blowers; Pulaski; McLeod; brush, pole & chain saws; shovels; picks; mattocks; etc., will be used to conduct trail management activities. Powered equipment such as all-terrain vehicles, mules, bulldozers, skid-steer loaders, backhoes, dump trucks, pickup trucks, mowers, etc., will also be used. Motorized equipment will not be allowed in the gorge without prior approval.

Clearing & Brushing Vegetation & Blowdowns: The goal of this scope is to restore the clearances specified for a trail corridor in the Road and Trail Classifications and Standards section of this plan. The “door technique” will be utilized to determine the areas to be cleared. To clarify, your door is as wide and high as needed for a desired right-of-way. As you walk down the trail, you have your door in front of you acting as a shield looking for branches or brush that touch the door. These are items that will be cleared.

Deciding what to remove and what to leave is best done when we take into account the psychology of the trail user. Hikers, horses and bicyclists tend to travel on the outside portion of the tread, keeping a cushion of distance between themselves and the backslope. As a result, on some trails, we may want to remove brush only on the up-slope side of the trail so that users stay more to the center of the trail. User behavior also may mean we leave the vegetation untouched. Removing brush too far back can open a corridor that will entice users to travel side-by-side, thereby widening compacted tread. By leaving the vegetation untouched we can encourage single file travel.

With this information in mind, set forth below are tasks that the trails management team will undertake in each year as funding and staffing allow.

1. Branches, brush and vegetation extending into the trail corridor will be cut flush with the parent trunk, branch or stem, leaving no stub that could create bothersome and
sometimes dangerous snags for packs and clothing.

2. Brushing in open grassy areas and along trails will be accomplished by using power mowers, bush hogs, etc., except where prohibited. Brushing will be in accordance with the Trail Classifications and Standards.

3. Small trees and shrubs within the trail will be grubbed or graded out to prevent tripping and holes will be filled.

4. Any downed trees lying on or over a trail will be removed unless it is a very large tree, in which case, just the portion lying across the trail will be removed.

5. Hazardous trees, i.e., all dead or dying trees that have a possibility of falling across the trail, will be felled by chain saw, cutting the stump as close as possible to the ground. In the event that the felled tree blocks the trail, it will be removed as indicated above. Since the dead trees are often home to many forest animals, the team will only remove them if they present an immediate danger to travelers.

Cleaning and Repairing Drainage Structures: Timely cleaning and replacement of drainage structures helps to prevent large scale soil erosion. Natural soil is one thing that cannot be replaced on a trail. If trail drainage structures are not maintained properly, the results will be cumulatively disastrous for the trail and natural and cultural resources on, around, and below the trail.

The physics involved in drainages are simple. Trails are a perfect place for water to travel, unimpeded, downhill. Water seeks the path of least resistance, and it finds much less resistance moving down a trail than moving down a slope in the woods where duff, roots, rocks, etc., obstruct and slow down its journey. Moving down the trail, water gathers speed and as more water joins in, a destructive torrent is formed that washes away precious soils and tread material. Exemplary trail management involves continual cleaning, maintenance, replacement, and protection of all drainage structures on a trail.

With this information in mind, below are tasks that the trail management team will perform each year as funding and staffing allow.

1. Water bars will be cleaned and repaired.
2. Deposited material that prevents water bars from draining will be recovered by back dragging with a bulldozer, backhoe or by hand.
3. Log water bars will be inspected for deterioration and replaced if needed, without disturbing any soil cover that was previously undisturbed by installation.
4. Usable material will be recovered from drainage areas from failed water bars or poor drainage and will be deposited back into trail tread without disturbing intact soils. Small logs will be installed in drainage areas caused by failed water bars to create a stop for silt run off and to ease recovery of usable materials in the future.
5. New water bars will be added where needed after consultation with and approval from the Resources Management Team.
6. Mulch will be applied to areas that are new or have been reworked.
Stair, Bridge, and Other Typical Structure Repair: Load bearing structures made of wood must be maintained and inspected frequently for signs of decay or other deterioration to keep them in a safe, passable condition. Evidence of rot may require the dismantling and reconstruction of a bridge, stair, puncheon, etc.

With this information in mind, below are the tasks that the trails management team will perform each year, as funding and staffing allow.

1. Load bearing structures will be inspected annually for deterioration.
2. Unsafe structure(s) will be replaced. If replacement is deferred, an alternative trail route may be provided after consultation with and approval from the Resources Management Team.
3. Remove organic material, which holds moisture and causes decay, from surfaces.
4. Turn over planks to extend their useful life.
5. Drive nails or spikes flush so they will not trip hikers.
6. Reshape the approaches by crowning the tread and smoothing out the transition to help with drainage and to keep from tripping hikers.

Tread Repair: Tread is the actual travel surface of the trail. Tread is constructed and maintained to support the designed use of the trail. Most trail construction and maintenance revolves around making sure solid, obstacle free tread is established and enough protection is provided to keep it in place.

Most of our trails suffer from “Tread Creep,” which consists of tread surfaces that have been eroded and compacted by travel along the lower edge. Tread creep also exposes roots and bedrock and sometimes leads to social trails. Tread Creep needs to be contained or the trails will eventually become very difficult or dangerous to travel.

What causes trail creep? Most horses, two-wheeled traffic, and hikers have a natural tendency to walk on the outside edges of side-hill trails. Sloughing makes the edge the flattest part to walk. As the tread moves downhill it also narrows, resulting in more traffic traveling closer to the outer edge, exacerbating the problem. Other causes are constructing a trail that is too narrow or with outslope that is too steep.

The trail management team’s job is to bring the trail back uphill and keep it there. With that in mind, below are tasks that the trails management team will perform each year, as funding and staffing allow.

1. Tread will be restored to the original design condition. Large Stationary objects or guide structures, as they become available, e.g. logs, rocks, etc., will be left close to the downhill edge of the trail, which will keep horses, bicycles and hikers toward the center of the trail. These guide structures will be no taller than 1 foot.
2. Tread maintenance will be accomplished by using hand tools, tractors with blade or rake, bulldozer, ATV’s, dump trucks, etc., (except where prohibited).
3. Crusher run stone or red dog will be used to stabilize mud stands or high erosion areas.
4. Any roots protruding into the trail tread will be removed.
5. After grading trails, any troughs that are left will be raked down so water will drain to the down-slope side.
6. Any disturbed area outside the tread will be mulched to prevent erosion.

Sign and Blaze Repair or Replacement:

1. All signs damaged or weathered so that they no longer serve the intended purpose will be repaired or replaced.
2. Blazes will be replaced or refurbished as needed.

Reference Material:


Horses and Mussels Policy Statement
Big South Fork National River and Recreation Area
June 2004

Existing Situation

Many mussel species have been extirpated from the Big South Fork of the Cumberland River, and others have been driven to near extinction. The cause of mussel decline in the river is poor water quality that has resulted from human activities. Contaminated mine drainage and siltation and pollution from adjacent land use practices contribute to this degraded water quality.

Another factor that negatively impacts mussels in the Big South Fork is the recreational use of horses which sometimes results in the crushing of mussels. Horses and horseback riders cross the river at two designated areas: Station Camp and Big Island. These areas are also inhabited by five species of federally endangered mussels. National Park Service and U.S. Fish and Wildlife Service biologists have collected direct evidence that horses sometimes crush these mussels with their hooves while crossing the river. While not believed to be a direct cause of mussel population decline, the crushing of mussels by horses was raised as a concern by the U.S. Fish and Wildlife Service. The National Park Service was asked to mitigate the conflict to avoid a “take” under the Endangered Species Act.

To mitigate the impact of horses on mussels, the National Park Service has implemented controlled crossings at Station Camp and Big Island, as recommended by the U.S. Fish and Wildlife Service. White flags in the river mark a preferred pathway for horses and signs explain the route horses must follow and why. These controlled crossings have reduced the number of conflicts between horses and mussels, but they do not represent a long-term solution to the problem.

The National Park Service is seeking funding to study options and alternatives for reducing horse-mussel conflicts in the Big South Fork. These options could include 1) construction of horse bridges over the river, 2) hardening of crossings in the river, 3) relocation of the horse crossings to a less sensitive location, 4) removal of horse crossings from the river, and 5) relocation of mussels to a more suitable location.

The National Park Service, working closely with multiple partners including the U.S. Fish and Wildlife Service, recently approved the plan for recovery of freshwater mussels in the free-flowing reach of the Big South Fork. This plan establishes the Big South Fork of the Cumberland River (within Big South Fork NRRA) as a nationally significant refugium for the maintenance and recovery of mussels that live and once existed in the area, including those that are federally listed. It is the hope of the National Park Service that these efforts will eventually lead to recovery and de-listing of endangered mussel species, which will have the net effect of reducing or eliminating the severity of impacts to mussel populations from human-related disturbances.

1 Horses are also known to cross at other “undesignated” areas.
COUNTY ROADS

The following county road maps show the roads within the National Area the several counties have included on their road inventories. Various arrangements exist regarding maintenance. The National Area boundary is distinguishable on the maps.

- McCreary County, KY
- Scott County, TN
- Fentress County, TN
- Morgan County, TN
- Pickett County, TN
GENERAL HIGHWAY MAP

PIKETT COUNTY

TENNESSEE

PREPARED BY THE

TENNESSEE DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING AND DEVELOPMENT
PLANNING DIVISION
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

SCALE

1 2 3 4 MILES

1983

396

Big South Fork Final General Management Plan and Environmental Impact Statement
Completion of a Wilderness Suitability Assessment at the National Area is required by NPS policy. Section 6.2.1 of NPS’ Management Policies 2001 indicates that this wilderness suitability assessment was to have been completed by December 31, 2001. Due to resource limitations and other commitments, a wilderness suitability assessment has not yet been completed for the National Area.

In order to guide management’s future assessment of wilderness suitability, an automated analysis of “no-vehicle-use areas” was performed. Using the data collected on roads and trails included in the proposal, as well as existing data on known oil and gas roads, the following map has been produced showing areas where no vehicles are used either by the public or private operators of oil and gas wells.

The map displays “areas” and “corridors.” Vehicular use occurs along corridors, i.e., on roads or trails. Private vehicle usage (as on oil and gas roads) does and will take place on roads that are not open to the public. For the analysis, a 0.1-mile buffer was assigned on each side of roads and trails where vehicles would be used in the preferred alternative. Running the program according to selected criteria, areas of no-vehicle-use appeared having a minimum of 1000 acres of contiguous area. Three size categories of no-vehicle-use areas are shown on the map on the following page.

It should be emphasized that the “no-vehicle-use areas” on the map were generated based on known public and private vehicular use of National Area roads and trails. Nevertheless, the “no-vehicle-use areas” in the revised map are not necessarily roadless. Additional roads and other man-made features may exist in these areas that are not presently included in NPS data layers. Additional study of these no-vehicle-use areas is necessary to determine their suitability for designation as wilderness.

NPS will endeavor to have funding in place by October 1, 2006 to initiate a wilderness suitability analysis for the National Area. Thereafter, the General Management Plan will be amended if necessary to reflect the outcome of the wilderness suitability assessment, as well as the subsequent wilderness study (if any). In the meantime, the preferred alternative does not envision any construction activity or any other alteration of the landscape that would prevent an area that otherwise qualifies as wilderness from being so designated in the future. The only potential conflict with wilderness comes from the siting of certain bike trails. Should it later be determined that an area that otherwise qualifies as wilderness contains a bicycle trail, that trail can be rerouted and an alternative bicycling opportunity provided. It is not the intention of this General Management Plan to foreclose or limit any future wilderness designation via the Preferred Alternative.
Pre-Assessment Analysis for Wilderness Suitability

NO VEHICLE AREAS
- 1000 - 2999 Acres
- 3000 - 4999 Acres
- >5000 Acres

EXCLUDED AREAS
- Non Federal Land
- Federal Land
PREPARERS AND CONTRIBUTORS

Special acknowledgement is deserved for the team assembled by National Area management to assist in the extended task of collecting information on roads and trails for this General Management Plan. All of them have been at the National Area for many years and some lived in the local area before the National Area’s establishment. In alphabetical order, they are Tom DesJean, Howard Duncan, Robert Emmott, Tim Grooms, Wally Linder, and Lester Marcum.

Ron Cornelius made an equally special contribution by his steady and very able handling of the large data management aspect of the effort.

Superintendent Reed Detring saw sufficient importance in this plan to dedicate his and his staff’s time over many months to its completion.

The following list identifies in alphabetical order the NPS personnel most involved with the completion of this General Management Plan. All National Area personnel contributed through reviews and significant suggestions. Personnel contributing to the previous draft published in February 2000 include additional names and are listed in that document.

Steve Bakaletz, Wildlife Biologist, Big South Fork NRRA

Tom Blount, Chief of Resource Management, Big South Fork NRRA

Ron Cornelius, GIS Specialist, Big South Fork NRRA

Tom DesJean, Archeologist, Big South Fork NRRA

Reed Detring, Superintendent, Big South Fork NRRA

Robert Emmott, former Resource Management Specialist, Big South Fork NRRA

John Fischer, Park Planner, Southeast Support Office, Lead Project Planner

Frank Graham, Chief Ranger, Big South Fork NRRA

Effie Houston, Secretary, Big South Fork NRRA

Mark Kinzer, Environmental Protection Specialist, Southeast Regional Office

Wally Linder, Trails Supervisor, Big South Fork NRRA

Leslie Morgan-Smith, Wildlife Biologist, Big South Fork NRRA

Steve Seven, Chief of Interpretation, Big South Fork NRRA

Etta Spradlin, Biological Science Technician, Big South Fork NRRA

Paul Stoehr, Assistant Superintendent, Big South Fork NRRA

Chris Stubbs, Community Planner, Big South Fork NRRA

This document is dedicated to all National Area personnel, who now have the long-term task of implementation.

Special mention is deserved for Jeanne Richardson, former employee, who compiled and prepared an early version of a road and trail plan, which served as an invaluable reference.
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In addition to the publications and reports listed below, special acknowledgement is due the contributions of the staff of Big South Fork National River and Recreation Area, who provided information on resources, visitor use, and management of the National Area through interviews, meetings, and conversations.


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