

National Park Service  
U.S. Department of the Interior

Final Internal Scoping Report  
July 2005 (Updated January 2006)



# **BIG SOUTH FORK NATIONAL RIVER AND RECREATION AREA/ OBED WILD AND SCENIC RIVER**

**OIL AND GAS MANAGEMENT PLAN/  
ENVIRONMENTAL IMPACT STATEMENT**





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# PURPOSE OF AND NEED FOR ACTION

As defined in the *DO #12 Handbook*, section 2.2:

*Purpose is a broad statement of goals and objectives that NPS intends to fulfill by taking action. . . . Objectives are a more specific statement of purpose, i.e., what must be accomplished in a large part for the addition to be considered a success.*

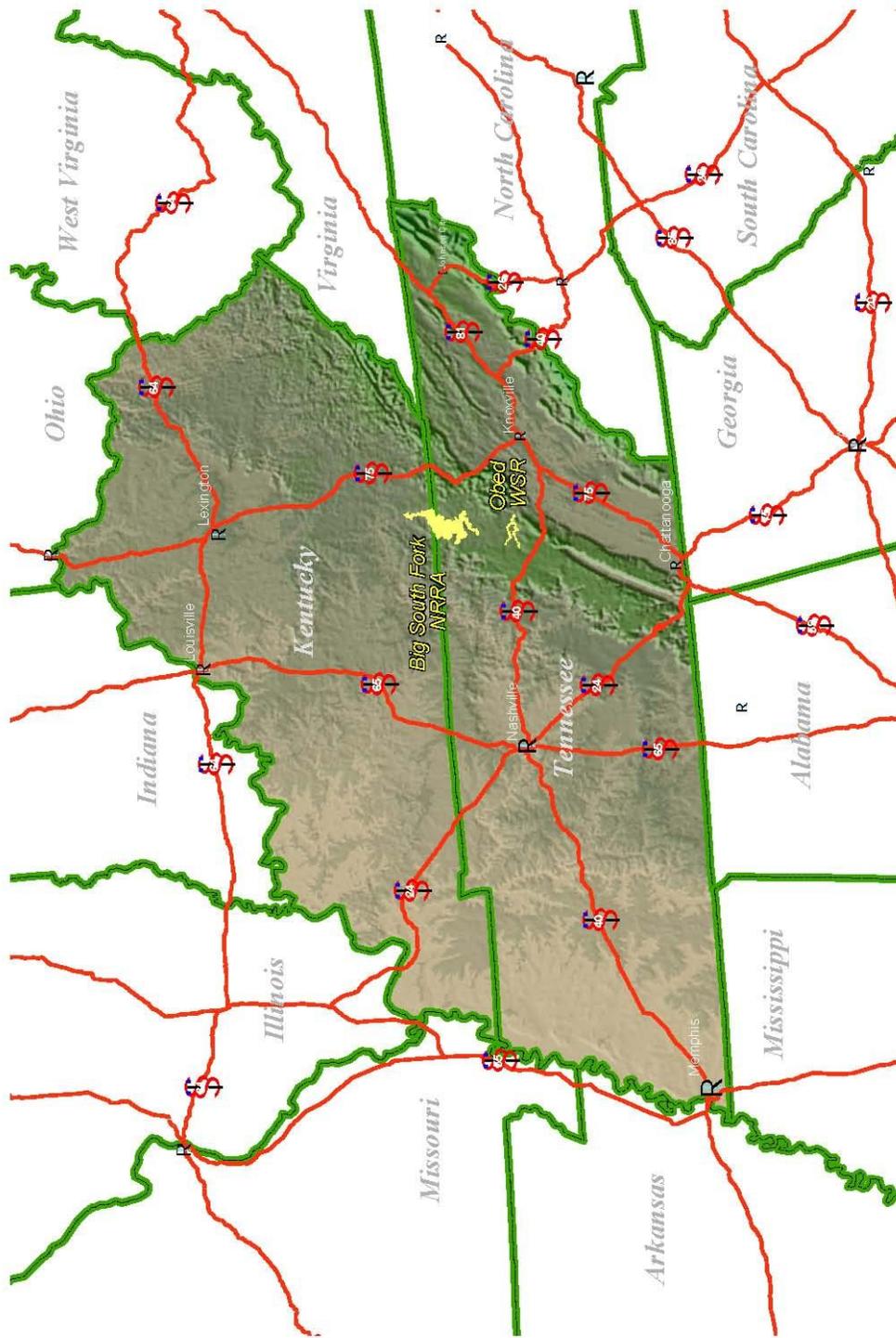
*Need is a discussion of existing conditions that need to be changed, problems that need to be remedied, decisions that need to be made, and policies or mandates that need to be implemented. . . . Need is why action is being taken at this time.*

## INTRODUCTION

There are more than 300 oil and gas wells within the Big South Fork National River and Recreation Area, and a much smaller number within the Obed Wild and Scenic River. In response to these operations, as well as the legislative provisions for continued oil and gas exploration and production, the National Park Service has begun a planning effort to develop an Oil and Gas Management Plan/Environmental Impact Statement (OGMP/EIS) for both units. The OGMP/EIS is intended to provide a comprehensive framework for managing the exploration, production, and transportation of nonfederal oil and gas, as well as the plugging and surface reclamation of well sites.

An internal scoping meeting was held from March 7 – 11, 2005 to discuss the management of nonfederal oil and gas operations at Big South Fork National River and Recreation Area and Obed Wild and Scenic River (see Figure 1 for a location map) and to identify the purpose, need, objectives, and preliminary alternatives for these NPS units. The internal scoping report summarizes the management strategies that were discussed and used to develop the purpose, need, and objectives for the OGMP/EIS, as well as the following preliminary alternatives:

1. Continue current management of nonfederal oil and gas operations (No Action Alternative).
2. Implement an OGMP that emphasizes maximum resource protection, while providing reasonable access to nonfederal oil and gas rights.
3. Implement an OGMP that provides a balanced approach between resource protection and access to nonfederal oil and gas rights.
4. Implement an OGMP that emphasizes maximum access to nonfederal oil and gas rights, while providing for resource protection required by current laws, regulations, and policies.



**Figure 1. Location Map for Big South Fork National River and Recreation Area – Obed Wild and Scenic River.**

## **PURPOSE OF AND NEED FOR ACTION**

The following purpose and need statements related to the management of nonfederal oil and gas operations at Big South Fork National River and Recreation Area and Obed Wild and Scenic River were developed with park staff at the internal scoping meeting.

### **PURPOSE**

The purpose of the Draft OGMP/EIS for Big South Fork National River and Recreation Area and Obed Wild and Scenic River is to analyze alternative approaches, clearly define a strategy, and provide guidance for the next 15-20 years to ensure that activities undertaken by owners and operators of private oil and gas rights are conducted in a manner that protects resources, visitor use and experience, and human health and safety.

### **NEED**

There are over 300 private oil and gas operations within Big South Fork National River and Recreation Area and Obed Wild and Scenic River. Many of the past and existing oil and gas operations in these NPS units are adversely impacting resources and values, human health and safety, and visitor use and experience; most are not in compliance with federal and state regulations, most notably, the National Park Service 36 CFR Part 9B Regulations. In addition, future oil and gas operations have the potential to damage park resources and values. The plan is needed to provide an efficient and effective strategy for park managers to ensure the units are protected for the enjoyment of future generations. There is also a need for park-specific guidance for the planning efforts of oil and gas owners and operators.

## **OBJECTIVES IN TAKING ACTION**

Objectives are “what must be achieved to a large degree for the action to be considered a success” (DO #12). All alternatives selected for detailed analysis must meet ALL objectives to a large degree, as well as resolve purpose and need for action. Objectives for managing oil and gas operations must be grounded in the enabling legislation, purpose, significance, and mission goals of Big South Fork National River and Recreation Area and Obed Wild and Scenic River, and must be compatible with direction and guidance provided by the general management plan for these NPS units.

The following objectives related to the management of nonfederal oil and gas operations at Big South Fork National River and Recreation Area and Obed Wild and Scenic River were developed with park staff at the internal scoping meeting:

### **General**

- Provide owners and operators of private oil and gas rights reasonable access for exploration, production, maintenance, and surface reclamation.
- Identify and protect resources from adverse impacts from oil and gas operations.

### **Water Resources**

- Protect and enhance water resources.

### **Threatened and Endangered Species**

- Protect species of management concern from oil and gas operations.
- Protect critical habitat from oil and gas operations.

### **Visitor Experience, Conflicts, and Safety**

- Prevent, minimize, or mitigate conflicts between oil and gas operations and visitor use.
- Protect human health and safety from oil and gas operations.

### **Cultural Resources**

- Protect cultural resources, including those on or eligible for listing on the National Register of Historic Places.

### **Park Management and Operations**

- Provide pertinent guidance to operators to facilitate planning and compliance with NPS regulations.
- Establish an efficient process under the National Environmental Policy Act of 1969 (NEPA) for plugging and reclaiming orphaned or exhausted oil and gas operations.

## **SCOPE OF THE ANALYSIS**

During the internal scoping meeting, it was explained that the OGMP for Big South Fork National River and Recreation Area and Obed Wild and Scenic River would be a programmatic management plan that establishes a general framework for managing nonfederal oil and gas operations. Although a Reasonably Foreseeable Development (RFD) scenario to project future oil and gas development in the units will be prepared as part of the OGMP, the plan by itself will not authorize any specific on-the-ground activities. The purpose of the RFD scenario is to provide a reasonable basis for analyzing the potential effects of oil and gas related operations in the NPS units among the alternatives presented in an EIS. The RFD scenario will estimate the remaining hydrocarbon resources in the Big South Fork National River and Recreation Area and Obed Wild and Scenic River, and will provide a projection of the type and level of activities that could occur to develop these resources. It is possible that some assumptions in the RFD could change, such as well spacing, the drilling success rate, and the number of wells (fewer or greater) required to develop the oil and gas resources underlying the park units. Any of these factors could result in a different development scenario than is ultimately presented by the National Park Service in the Draft OGMP/EIS.

The National Park Service will continue to authorize new oil and gas exploration and production by reviewing and approving operator-submitted Plans of Operations or special use permit applications. Before doing so, the National Park Service will conduct further analysis in accordance with the National Environmental Policy Act of 1969, the National Historic Preservation Act of 1966 (NHPA), the Endangered Species Act of 1973 (ESA), and other applicable federal laws.

The planning team also expressed the desire to have the scope of the OGMP/EIS include development of a standard methodology to facilitate the regulation of oil and gas well plugging and surface

reclamation operations at Big South Fork National River and Recreation Area and Obed Wild and Scenic River. The plan would include sufficient guidance to operators for plugging and reclaiming wells, and protocols for the NPS to use a “memo to file” when granting the authorization under certain circumstances (as opposed to the preparation of an environmental assessment or EIS). If the plugging or surface reclamation would trigger consultation under Section 7 of the ESA or Section 106 of the NHPA, then further compliance under NEPA would be required.

## **PARK PURPOSE AND SIGNIFICANCE**

*National park system units were established by Congress to fulfill specified purposes, based on each area’s unique and “significant” resources. A park’s purpose, as established by Congress, is the fundamental building block for its decisions to conserve resources while providing for “enjoyment of future generations.”*

*The following was explored with NPS staff: Why was the unit established as a park? What resources did Congress recognize as needing NPS protection? What purpose, mission, objectives must be fulfilled by each NPS unit? After an impact analysis is completed on the alternatives, the purpose of the park, as defined by its enabling legislation, will be revisited to ensure that the alternatives are consistent with the purpose.*

*The Strategic Plan and/or General Management Plan for the NPS units summarizes purpose and significance as well as broad mission goals for the future. These statements were reviewed with the NPS and are presented in this section.*

*In addition, the park’s enabling legislation, purpose, and management objectives are all linked to the impairment findings that are made in the NEPA process (see NPS Management Policies 2001, sec. 1.4.5).*

## **BIG SOUTH FORK NATIONAL RIVER AND RECREATION AREA**

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, approximately 70 highway miles northwest of Knoxville. The Big South Fork River begins within the unit, at the confluence of the New River and Clear Fork, and flows northward for a total of approximately 49 miles; it is a free-flowing river for approximately 37 of the 49 miles, until it is affected by the headwaters of Lake Cumberland (managed by the United States Army Corps of Engineers). The average annual flow of the river (from a United States Geological Survey gauge station near Stearns, Kentucky) is 1,760 cubic feet per second; the maximum discharge recorded at this location was 93,200 cubic feet per second, while the minimum was 11 cubic feet per second. The focal point of the Big South Fork National River and Recreation Area is the massive gorge with its sheer bluffs at the gorge rim towering over wooded talus slopes, and the naturally fluctuating river and its tributaries below. The gorge, as defined by the enabling legislation, represents roughly one-half of the total acreage in Big South Fork National River and Recreation Area. Generally speaking, the landscape is dominated by upland and ravine forest communities, although a wide variety of specialized habitats are supported on floodplains, in protected coves and ravines, on moist, north-facing slopes, and on sandstone glades (sandstone caprock with dry, shallow soils).

The following statements are excerpts from enabling legislation (Water Resources Act of 1974, Public Law 93-251, §108) and *Final General Management Plan and Environmental Impact Statement* (February 2005) for the Big South Fork National River and Recreation Area.

### **Legislative Intent**

The Water Resources Development Act of 1974 states that the Big South Fork National River and Recreation Area was created:

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 recreation.

### **Purpose**

The purpose of Big South Fork National River and Recreation Area is stated clearly in its enabling legislation, and includes the following:

- To preserve and interpret the 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; and
- To provide healthful outdoor recreation for the enjoyment of the public and for the benefit of the regional economy (Big South Fork National River and Recreation Area 2005).

### **Significance**

The significance of the Big South Fork National River and Recreation Area is reflected in the following statements, as presented in the General Management Plan for the unit:

- 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.
- Extremely 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 educational opportunities (Big South Fork National River and Recreation Area 2005).

The Big South Fork River is also significant because it is considered an Outstanding National Resource Water, Tier III under the Clean Water Act. This designation indicates that water quality must be maintained and protected and only short-term changes may be permitted.

### **Mission Statement**

As stated in the *Final General Management Plan* (Big South Fork National River and Recreation Area 2005), the purpose and significance of the Big South Fork National River and Recreation Area have been translated into the following Mission Statement:

The Big South Fork NRRRA 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.

### **OBED WILD AND SCENIC RIVER**

The Obed Wild and Scenic River is located in Morgan and Cumberland Counties in eastern Tennessee on the Cumberland Plateau. The park encompasses approximately 5,056 acres and includes parts of the Obed River, Clear Creek, Daddy's Creek, and the Emory River. Totalling more than 45 miles of surface waters, these rivers and creeks have cut rugged gorges with bluffs as high as 500 feet above the whitewater. The average annual flow of the river (from a United States Geological Survey gauge station on the Obed River near Lancing, Tennessee) is 983 cubic feet per second; the maximum discharge recorded at this location was 105,000 cubic feet per second, while the minimum was less than 1 cubic foot per second. Water resources and riparian environments are the focal point of the Obed Wild and Scenic River; the quality of the water is considered to be among the best in Tennessee. The terrain of this NPS unit consists of flat to rolling uplands, deep river gorges, and a long line of cliffs. Generally speaking, the landscape is dominated by upland and ravine forest communities, although riparian shrub communities, as well as vegetation associated with sandstone glades, cliffs, and rockhouses, are also supported.

The following statements are excerpts taken from the Wild and Scenic Rivers Act, as well as the *Strategic Plan* (2005) for Obed Wild and Scenic River.

### **Legislative Intent**

The Wild and Scenic Rivers system was established to protect certain selected rivers of the United States, and their immediate environments, that possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values.

## **Purpose**

The purpose of this park service unit is to preserve and protect the Obed Wild and Scenic River System and the surrounding area in an essentially primitive condition, with unpolluted waters, for the benefit and enjoyment of present and future generations (Obed Wild and Scenic River 2005).

## **Significance**

The Obed Wild and Scenic River system is one of the last remaining wild rivers in the eastern United States where high stream gradients are intermingled with quiet, smooth flowing stretches. The system supports ecologically diverse plant and animal life including over two dozen state and federally listed endangered and threatened species and their associated critical habitats. It is designated as a Tier III Outstanding Natural Resource Water under the Clean Water Act due to its superior water quality, which supports diverse aquatic and riparian ecosystems (Obed Wild and Scenic River 2005). These clifflines produce much of the micro-habitat for threatenend and endangered plants and animals, and they were the selected zones of occupation for prehistoric inhabitants. Today, these clifflines are used as a national destination for climbing and rappelling.

The rivers provide outstanding recreational, educational, and inspirational opportunities for visitors to experience a vestige of primitive America in a unique river gorge environment. Falling steeply off the Cumberland Plateau through pristine narrow and deep gorges, the Obed River System provides remarkable scenic vistas. The river gorge encompasses unique Cumberland Plateau geology, including a collection of dramatic sandstones gorges, rock shelters, waterfalls, continuous bluffs, and natural arches (Obed Wild and Scenic River 2005). The Obed Wild and Scenic River also preserves a number of significant archeological sites.

## **Mission Statement**

Obed Wild and Scenic River is dedicated to preserving the free-flowing condition and the outstanding water quality of the Obed River Systems, while protecting its cultural and natural resources for the benefit and use of present and future generations (Obed Wild and Scenic River 2005).

# BACKGROUND

## NPS ORGANIC ACT AND MANAGEMENT POLICIES

In 1916, Congress exercised its power under the Property Clause of the United States Constitution (Article IV, Paragraph 3, Clause 2) and passed the NPS Organic Act (16 United States Code [U.S.C.] §1 et seq.). The Organic Act directed the NPS to “promote and regulate” units of the National Park System “to conserve the scenery and the natural and historic objects and the wild life therein to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations.” (16 U.S.C. §1) Congress reiterated this mandate in the General Authorities Act (16 U.S.C. §1a-1) by stating that the protection, management, and administration of such units “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, except as may have been or shall be directly and specifically provided by Congress.” Finally, Congress further authorized the Secretary of the Interior to “make and publish such rules and regulations as he may deem necessary or proper for the use of the parks...” (16 U.S.C. §3)

Despite these mandates, the Organic Act and its amendments afford the NPS latitude when making resource decisions that balance visitor recreation and resource preservation. By these acts, Congress “empowered [the National Park Service] with the authority to determine what uses of park resources are proper and what proportion of the parks resources are available for each use” (*Bicycle Trails Council of Marin v. Babbitt*, 82 F.3d 1445, 1453 (9th Cir. 1996)).

Yet, courts have consistently interpreted the Organic Act and its amendments to elevate resource conservation above visitor recreation. *Michigan United Conservation Clubs v. Lujan*, 949 F.2d 202, 206 (6th Cir. 1991) states, “Congress placed specific emphasis on conservation.” The *National Rifle Ass’n of America v. Potter*, 628 F.Supp. 903, 909 (D.D.C. 1986) states, “In the Organic Act Congress speaks of but a single purpose, namely, conservation.” The NPS *Management Policies* also recognize that resource conservation takes precedence over visitor recreation. The policy dictates “when there is a conflict between conserving resources and values and providing for enjoyment of them, conservation is to be predominant” (NPS *Management Policies 2001*, sec. 1.4.3).

Because conservation remains predominant, the NPS seeks to avoid or to minimize adverse impacts on park resources and values. The NPS also has discretion to allow negative impacts when necessary (NPS *Management Policies 2001*, sec. 1.4.3). While some actions and activities cause impacts, the NPS cannot allow an adverse impact that constitutes a resource impairment (*Management Policies*, sec. 1.4.3). The Organic Act prohibits actions that permanently impair park resources unless a law directly and specifically allows for the acts (16 U.S.C. §1 a-1). An action constitutes an impairment when its impacts “harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values” (*Management Policies*, sec. 1.4.4). To determine impairment, the NPS must evaluate “the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts” (*Management Policies*, sec. 1.4.4).

## OVERVIEW OF 9B REGULATIONS

The National Park Service (NPS), as an entity of the federal government, has the authority to regulate nonfederal oil and gas exploration and production in units of the National Park System, including the

Big South Fork National River and Recreation Area and Obed Wild and Scenic River. The authority to manage and protect federal property arises from the Property Clause of the United States Constitution, which provides that “Congress shall have Power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States...” (United States Constitution, Article IV, Paragraph 3, Clause 2). Congress’ power over federally owned lands is without limitations, and extends to conduct that occurs on or off federal land that affects federal lands. Courts have consistently upheld Congress’ broad delegation of authority to federal land managing agencies under the Property Clause in a variety of contexts.

Pursuant to the authority delegated in the NPS Organic Act at 16 U.S.C §3, the Secretary of the Interior promulgated regulations at 36 Code of Federal Regulations (CFR) Part 9, Subpart B (“9B regulations”) to provide a system-wide regulatory framework that governs the exercise of rights associated with nonfederal oil and gas interests in NPS units. The purposes of the regulations are to “insure that activities undertaken pursuant to [nonfederal oil and gas interests] are conducted in a manner consistent with the purposes for which the National Park System and each unit thereof were created, to prevent or minimize damage to the environment and other resource values, and to insure to the extent feasible that all units of the National Park System are left unimpaired for the enjoyment of future generations” (36 CFR §9.30(a)).

The 9B regulations fall within the broad scope of authority granted to the NPS from Congress under the NPS Organic Act, authority that includes the power to regulate conduct that occurs on or off federal land that may affect federal lands. The regulations are designed to control conduct associated with private mineral interests on federal land to avoid or minimize harm to park resources and values. Thus, the United States need not own the mineral interest beneath the parks to regulate rights associated with that interest that may affect the federally owned surface. However, the NPS limited the application of the 9B regulations to operations that require access on or through federally owned or controlled lands or waters to reach oil and gas rights in parks. “Operations” are broadly defined under the 9B regulations to include all activities associated with the exploration for and production of nonfederally owned or controlled oil and gas, from gathering basic information on site conditions before exploration to the transport of petroleum products (36 CFR §9.31(c)).

The critical component of the 9B regulations is the requirement that an operator submit and obtain NPS approval of a proposed Plan of Operations before commencing oil and gas exploration or production activities (36 CFR § 9.36). Such plans are essentially a prospective operator’s “blueprint” for conducting activities, including impact mitigation and site surface reclamation. Operators are responsible for preparing a Plan of Operations that addresses all information requirements applicable to the proposed operations. Operators must supply this information in sufficient detail to enable the NPS to effectively analyze the impacts of the proposed operations on the particular unit’s resources and values, and to determine whether to approve the proposed plan (36 CFR § 9.36(c)).

Section 9.32(e) of the 9B regulations governs operators that propose to develop their nonfederal oil and gas rights in any unit of the National Park System by directionally drilling a well from a surface location outside unit boundaries to a location under federally owned or controlled lands within a unit’s boundaries. Per § 9.32(e), an operator may obtain an exemption from the 9B regulations if the Regional Director is able to determine from available data that a proposed drilling operation under the park poses “*no significant threat of damage to park resources, both surface and subsurface, resulting from surface subsidence, fracture of geological formations with resultant fresh water aquifer [sic] contamination or natural gas escape or the like.*” It is limited in scope to those aspects of the directional drilling operation occurring within park boundaries. The regulations define operations as “*all functions, work and activities within a unit in connection with exploration for and development of oil and gas resources, the right to which is not owned by the United States...*” (36 CFR § 9.31(c)).

Operators seeking an exemption to the NPS 9B regulations must submit a § 9.32(e) Application for Directional Drilling.

It is important to note that existing transpark oil and gas pipelines and their rights-of-way lie outside the scope of the 9B regulations. Transpark oil and gas pipelines have their point of origin and end point outside parks, and are operated by persons or entities exercising rights not tied to the oil and gas ownership within the park boundary. As a result, they are not subject to the 9B regulations. If a nonfederal oil and gas operation in a park connects to such a pipeline via a flowline or gathering line, then that portion of the flowline or gathering line crossing the park would be subject to the 9B regulations, including the Plan of Operations requirement.

While most transpark oil and gas pipelines are not subject to the 9B regulations, they are either subject to federal Department of Transportation (DOT) regulations at 49 CFR Subtitle B, Chapter 1, Parts 190-199, state requirements/laws, and other applicable federal regulations. The DOT regulations govern safety and environmental protection considerations affiliated with interstate pipelines. Specifically, the DOT regulations cover testing, reporting, inspection, maintenance, corrosion control, and spill contingency plans of these pipelines. State regulations often mirror the federal requirements and govern intrastate pipelines.

With respect to activities within rights-of-way associated with transpark oil and gas pipelines, the National Park Service has existing regulatory authority to control those activities. The regulations are codified at 36 CFR Parts 1 and 5. They consist of general regulations controlling a variety of activities in parks. To the extent that a proposed activity in a right-of-way triggers the general regulations, a Special Use Permit must be obtained from the NPS before the conduct of the activity. Mowing and trimming vegetation, inspection or testing pipelines, and installing, shutting down or replacing pipelines, are common activities in pipeline rights-of-way requiring a Special Use Permit. Such activities are routine and provide for personal safety, leak or spill detection, and unencumbered response in the event of a spill or emergency.

## **STATUS OF OIL AND GAS MANAGEMENT IN THE PARK UNITS**

### **BIG SOUTH FORK NATIONAL RIVER AND RECREATION AREA**

Large oil and gas fields are located adjacent to and extend into the boundary of Big South Fork National River and Recreation Area, primarily in the southern portions. According to the Big South Fork National River and Recreation Area *Final General Management Plan* (2005), in 1994, 82 percent of Tennessee's total oil production, and 60 percent of its total gas production, came from counties within the watershed of the Big South Fork River. In 1992, there were 788 producing oil wells and 529 producing gas wells in this watershed (Big South Fork National River and Recreation Area 2005).

When enabling legislation for the Big South Fork National River and Recreation Area was passed in 1974 (under the Water Resources Act of 1974 (Public Law 93-251; 16 U.S.C. §460ee), it contained two provisions relating to oil and gas activities within the NPS unit. At 16 U.S.C. Section 460ee(e)(2)(A), Congress stated, "Within the gorge area, no extraction of, or prospecting for minerals, petroleum products, or gas shall be permitted." However, recognizing the importance of oil and gas operations to the local economy, Congress stated (at 16 U.S.C. Section 460ee(e)(3)), "In adjacent areas...prospecting and drilling for petroleum products and natural gas shall be permitted in the adjacent area under such regulations as the Secretary [of the Army] or the Secretary of the Interior...may prescribe to minimize detrimental environmental impact, and 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."

The enabling legislation for the Big South Fork National River and Recreation Area prohibits oil and gas extraction and development within the gorge area, but allows for development in the adjacent areas. Currently, there are more than 300 oil and gas wells within Big South Fork National River and Recreation Area. Active oil and gas production at Big South Fork National River and Recreation Area occurs primarily in the south end of the unit, on both deferred properties (fee simple private property within the legislative boundary), as well as on property owned by the United States government. This includes a large, underground natural gas storage operation located in the New River drainage, within one of the largest oil and gas fields in Tennessee (Big South Fork National River and Recreation Area 2005). In addition, approximately 50 to 60 shut-in wells that need plugging occur on lands owned by the United States government. No new wells have been drilled in the Big South Fork National River and Recreation Area since about 1990 (Spradlin 2005).

Big South Fork National River and Recreation Area to manage oil and gas operations according to current legal and policy requirements, including the 9B regulations and regulations for special use permits (36 CFR Parts 1-5). It is important to keep in mind that NPS-specific regulations only apply to nonfederal oil and gas operations occurring within the boundaries of an NPS unit.

### **OBED WILD AND SCENIC RIVER**

The Obed Wild and Scenic River is located in an area where pockets of oil and gas occur at relatively shallow depths. Although there are no provisions related to oil and gas operations in the 1976 amendment to the Wild and Scenic Rivers Act that established the Obed Wild and Scenic River (16 U.S.C. 1274), the original act (Public Law 90-542, passed October 2, 1968) does discuss mining and mineral leasing laws. Section 9 of the Wild and Scenic Rivers Act provides for access to valid existing mineral rights “subject to such regulations as the Secretary of the Interior...may prescribe to effectuate the purposes of this Act,” but limits “right or title only to the mineral deposits and such rights only to the use of the surface and the surface resources as are reasonably required to carrying on prospecting or mining operations and are consistent with such regulations as may be prescribed by the Secretary of the Interior...” (Section 9(a)(i) and 9(a)(ii).

According to the *Water Resources Management Plan* (1998) for this unit, in 1997, there were 944 oil and gas wells in the Emory River Basin. Although oil and gas exploration in the Obed Wild and Scenic River watershed has declined, according to maps provided at the internal scoping meeting, there are approximately 71 oil and gas wells located within 1 mile of the Obed Wild and Scenic River; 44 of these are located less than a half-mile from the unit.

In 2002, an oil spill and subsequent fire occurred during the exploratory drilling for a well located adjacent to the boundary of the Obed Wild and Scenic River (the Howard/White Unit No.1 oil well). The *Howard/White Unit No. 1 Oil Spill Natural Resources Damage Assessment – Preassessment Phase Report* (April 2003), and a *Damage Assessment Study Plan* (September 2004), has been prepared to address impacts to natural resources within the Obed Wild and Scenic River as a result of the spill and fire. The *Natural Resources Damage Assessment – Preassessment Phase Report* was prepared after collecting ephemeral data that were necessary for determining the fate and effects of the spilled oil, reviewing the results and analyzing the data, compiling the administrative record, and determining that there is injury or potential injury to resources or services potentially affected. For the reasons discussed in these two documents, the Department of the Interior is proceeding with injury quantification and restoration planning to develop alternatives that will restore, replace, or acquire the equivalent of natural resources injured and/or natural resources lost as a result of this incident. The *Damage Assessment Study Plan* outlines the plan to collect the data necessary to conduct an injury assessment in accordance with the Oil Pollution Act (Obed Wild and Scenic River, 2004).

Within Obed Wild and Scenic River, oil and gas exploration is limited, by deed restrictions, to directional drilling from outside the boundary (Obed Wild and Scenic River 1993). However, there are approximately five active oil and gas wells in Obed Wild and Scenic River and two plugged wells. The plugged wells may be in need of additional surface reclamation, and only the well pad is inside the park boundary on one of the plugged wells. Three of the five active wells may have leases that have expired, and would thus be required to be plugged under state regulations. Two of these five wells are actively producing. All of the operations inside the park are subject to existing rights. Existing or new operations inside the park can only occur if based on rights that existed prior to acquisition; otherwise, these mineral rights may only be exercised through directional drilling.

At this time, oil and gas operations at Obed Wild and Scenic River are managed according to current legal and policy requirements, including the 9B regulations and regulations for special use permits (36 CFR Parts 1-5). NPS-specific regulations only apply to nonfederal oil and gas operations occurring within the boundaries of an NPS unit.

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# ISSUES AND IMPACT TOPICS

The issues related to oil and gas management at Big South Fork National River and Recreation Area and Obed Wild and Scenic River were identified with NPS staff during the internal scoping meeting. Portions of an Environmental Screening Form (ESF) were reviewed at that time to help determine the issues and to identify resources that could be affected by oil and gas management at these NPS units (see Appendix A). The issues raised represented existing concerns, as well as concerns that might arise during consideration and analysis of alternatives. Issues identified by the group were categorized into those needing more data, those for which impacts would be minor or less, and those that would require analysis as an impact topic in the OGMP/EIS. Initially, the issues were compiled as bulleted lists; subsequently, the lists were refined to the following issue statements for each of the resources on the ESF that may be affected and would be included as an impact topic in the EIS.

## GEOLOGIC RESOURCES

- Oil and gas activities (including off-road vehicle use; shothole drilling and detonation; and construction, maintenance, and use of roads, wellpads, production facilities, flowlines, and pipelines) could increase surface runoff; increase soil erosion, rutting, and compaction; and affect the permeability of soils (and other soil characteristics). Poorly maintained wellpads, roads, and other oil and gas operations are currently causing erosion, sedimentation, compaction, and loss of soil productivity.
- The release of hydrocarbons or other contaminating substances from vehicles, equipment, exploration and production operations, flowlines, pipelines, and/or accidental spills during transport could alter the soil's chemical and physical properties. Changes in soil properties could result from direct contact with contaminants or indirectly via runoff from contaminated areas. Poorly maintained wellpads, roads, and other oil and gas operations are currently causing soil contamination in localized areas.
- Use of truck-mounted drill rigs and water trucks could cause compaction and rutting of soils. Incorrect packing and detonation of shotholes can result in blowouts.

## GEOLOGIC HAZARDS

- Improperly sited, or poorly maintained or constructed access roads or pads could result in slope instability or failure.

(NOTE: discussions with NPS staff at the internal scoping meeting indicated that more data was needed regarding the effects of oil and gas operations on geologic hazards.)

## AIR QUALITY

- Construction of oil and gas facilities (roads, wellpads, production facilities, flowlines, and pipelines), vehicle use on and off paved roads, and exhaust from gasoline or diesel-powered vehicles and equipment will increase emissions of particulates, which can affect air quality, including visibility in the general vicinity of the park.
- Drilling, production, transport, and storage of hydrocarbons; the use of gasoline and diesel-powered engines; and maintenance activities such as herbicide use, emit various air pollutants including nitrogen oxides (NO<sub>x</sub>), volatile organic compounds (VOC), carbon monoxide (CO),

sulfur dioxide (SO<sub>2</sub>), particulates, and odors. Oil and gas wells can also emit hydrogen sulfide (H<sub>2</sub>S). These emissions could contribute to air quality degradation within the park and the region. Nitrogen oxides and VOCs are primary precursors to ozone formation, which can have damaging effects on vegetation and health of wildlife and humans.

## **SOUNDSCAPES**

- Introduced noise from well drilling, compressor stations, well servicing, construction and earth-moving activities, and truck traffic can adversely affect natural soundscapes.

## **WATER QUALITY/QUANTITY**

- The release of hydrocarbons, produced waters, and/or chemicals from vehicles and equipment, exploration and production operations, flowlines, and/or pipelines, could adversely affect water quality.
- Off-road vehicle use, removal or modification of vegetation, construction, and earth moving activities could increase soil erosion and sedimentation in surface waters. These activities could also alter surface or subsurface drainage patterns in the vicinity of operations, which could change stream flow characteristics.
- Oil and gas operations may create a demand for surface or groundwater or cause contamination of drinking water sources, which may be in conflict with the demand for available drinking water by nearby towns.

## **FLOODPLAINS OR WETLANDS**

- The siting, maintenance, and use of roads, wellpads, production facilities, and flowlines and pipelines in floodplains, or the release of hydrocarbons or other contaminants from these operations, could adversely affect floodplain and wetland functions, values and uses, including water quality; groundwater recharge or discharge; fish and wildlife habitat; maintenance of biodiversity; recreational opportunities; and natural beauty. For example, spills and leaks from the Howard White Unit #1 have caused impacts (e.g., soil and water contamination, harm to vegetation) to floodplains and/or wetlands at Obed Wild and Scenic River.
- In some cases there may be no practicable alternative to locating roads, wellpads, production facilities, and flowlines and pipelines in or across floodplains or wetlands. These activities could potentially harm life, property, and floodplain functions, values, and uses, as well as wetland functions and values (natural moderation of floods; sediment control; maintenance of water quality; groundwater recharge or discharge; habitat for fish and wildlife; maintenance of biodiversity; recreational opportunities; and natural beauty). For example, open drill holes and abandoned shut-in wells occur in floodplains at Big South Fork National River and Recreation Area, and some access road crossings occur in the gorge and across upland wetlands. These actions may cause some adverse effects to floodplains or wetlands.
- Reclamation of oil and gas sites (including re-establishing natural contours, surface and subsurface water flow, and natural vegetation communities, as well as controlling non-native vegetation) could restore floodplain and wetland functions and values.

## **RARE OR UNUSUAL VEGETATION**

- Operational impacts from oil and gas activities could adversely affect riparian areas and sandstone glades that support rare vegetation and some state listed species.
- The states of Tennessee and Kentucky have designated rare plant communities that could be adversely affected by oil and gas activities (**NOTE:** discussion with NPS staff during the internal scoping meeting indicated that more data is needed about the type and location of state-listed rare plant communities in the two NPS units).

## **SPECIES OF SPECIAL CONCERN OR THEIR HABITAT**

- Ongoing oil and gas operations, as well as future oil and gas operations, could adversely affect species of special concern or their habitat, including species federally listed under the Endangered Species Act. Where there is the potential for adverse effects on a species or its habitat, mitigation would be required by the NPS, in consultation with the U.S. Fish and Wildlife Service and the appropriate state wildlife agencies. Even with these protective measures in place, there is the potential for an incidental take of a listed species of special concern.
- Changes in hydrologic regime and sedimentation from oil and gas operations could adversely affect the habitat for aquatic species of special concern.
- Brine or hydrocarbon contamination, occurring either on-site or during transportation, has the potential to adversely affect species of special concern or their habitat.
- Reclamation of oil and gas sites could re-establish native vegetation communities and/or drainage patterns that support listed species of special concern.

## **UNIQUE OR IMPORTANT WILDLIFE OR WILDLIFE HABITAT**

During the internal scoping meeting, it was determined that the issues related to species of special concern also apply to unique or important wildlife or wildlife habitat. In addition to the issue statements noted above, the following issue statements were developed for this resource area:

- Oil and gas activities (including off-road vehicle use; shothole drilling and detonation; and construction, maintenance, and use of roads, wellpads, production facilities, flowlines, and pipelines) could adversely affect wildlife or wildlife habitat. These activities could increase predation in open areas; increase edge effects and habitat fragmentation; directly harm or kill wildlife; disrupt feeding, denning, or nesting; and increase public access and the associated potential for wildlife poaching.
- Releases of produced waters (brine) generated by oil and gas operations can create salt licks, which may affect the behavior of large mammals, such as black bear and elk.
- Noise from oil and gas operations could adversely affect important wildlife, such as migratory birds.

## **UNIQUE, ESSENTIAL OR IMPORTANT FISH OR FISH HABITAT**

During the internal scoping meeting, staff from Big South Fork National River and Recreation Area noted that two fish studies, one completed in 1977 and one completed recently, are available and may

provide additional information regarding issues related to unique, essential, or important fish or fish habitat.

It was also determined during the internal scoping meeting that the issues related to species of special concern also apply to unique, essential, or important fish or fish habitat. In addition to those issue statements noted previously, the following issue statement was developed for this resource topic:

- Oil spills into the rivers of the Big South Fork National River and Recreation Area and Obed Wild and Scenic River could adversely impact unique, essential, or important fish or fish habitat, including habitat for host fish that are important in the life cycle of special status mussels found in both NPS units.

### **INTRODUCE OR PROMOTE NON-NATIVE SPECIES**

- Disturbances and removal of native vegetation associated with oil and gas operations, vehicle use, and surface reclamation could lead to the unintentional spread and establishment of non-native species.

### **RECREATION RESOURCES, VISITOR EXPERIENCE, AESTHETIC RESOURCES**

- Oil and gas operations could pose a threat to human health and safety from a number of sources, including the use of roads by commercial vehicles (particularly vehicles with less maneuverability and visibility); hazardous equipment at wells and production facilities; flowline or pipeline failure, and release of gases from wells (hydrogen sulfide). The spill or release of hydrocarbons or other contaminants could be inhaled, absorbed, or ingested by human beings.
- Oil and gas operations could adversely affect air quality; alter scenic resources; increase background sound levels; and adversely affect water quality. These effects could limit or preclude visitor uses and experiences in certain areas of the parks and create conflicts between recreational users and operators.
- Safety issues arise with oil well pump jacks that are accessible to the public and are started/stopped by an automatic timer.

### **ARCHEOLOGICAL RESOURCES, PREHISTORIC/HISTORIC RESOURCES**

- Seismic lines, roads, flowlines, collection lines, and pipeline rights-of-way could increase access to unknown and undiscovered archeological or prehistoric/historic resources, and result in illegal activities such as vandalism, artifact collection, and excavation.
- Detonation of seismic explosives; the construction, rehabilitation, and/or use of roads, wellpads, production facilities, tank batteries, and flowlines and pipelines; and containment or cleanup of leaks and spills could alter the distribution, disturb, or destroy surface or buried archeological materials, and alter the condition of archeological or prehistoric/historic resources.
- Leaks and spills of hydrocarbons or other hazardous and contaminating substances from vehicles and equipment along access roads or from wellsites, production sites, or flowlines and pipelines could damage or destroy archeological or prehistoric/historic resources.

## CULTURAL LANDSCAPES

- Nine cultural landscapes, including the Ranse Boyatt cultural landscape that has an open well on it, may be adversely impacted by oil and gas operations.
- Odors, sounds, and visual intrusions from oil and gas operations may adversely affect cultural landscapes.

(NOTE: It was agreed during the internal scoping meeting that additional data were needed to see where there is an overlap of nonfederal mineral rights and cultural landscapes. It was also noted that the eligibility requirements for cultural landscapes should be reviewed to determine if there are other oil and gas-related activities that could impact these resources.)

## ETHNOGRAPHIC RESOURCES

Historically, there were two Federally recognized tribes associated with this area, the Shawnee and the Cherokee. Under the terms of the 1785 Treaty of Hopewell, the United States was given title to all of the territory in the southern half of the Cumberland River drainage (Connelly and Coulter, 1922). Cherokee territory was further reduced and the area of the Big South Fork was ceded away in 1790 under the terms of the Butler and Walton Treaty of Tellico. However, it was not until the third Treaty of Tellico in 1805 that most Cherokee acknowledged that Tribal rights had been ceded away (McBride and McBride, 2000). At present, there has been no evidence found for ethnographic interest in oil and gas resources in the National Area among Native American or other Traditional peoples despite four oral history projects and over 250 interviews. In addition, there are no known Native American ethnographic resources at Big South Fork National River and Recreation Area or Obed Wild and Scenic River that would be affected by oil and gas operations in these units (DesJean 2005).

However, one site, Gun Rock, located at the south end of Big South Fork National River and Recreation Area, is a local landmark important to the residents of the area. This rock, which has been carved with depictions of various guns over the years, is located near two gas wells (DesJean 2005). The presence of the gas wells provides access to Gun Rock, which could result in illegal activities such as vandalism.

## SOCIOECONOMICS

(NOTE: During the internal scoping meeting, the planning team discussed dismissing socioeconomics from detailed analysis. However, subsequent discussion revealed that, to adequately assess the impacts on socioeconomics, more research was needed to determine the extent to which local oil and gas operations contribute to the local and regional economies. Therefore, no issue statement has been developed at this time.)

Hydrocarbon exploration, drilling, or production inside Big South Fork National River and Recreation Area and Obed Wild and Scenic River would not be precluded by implementation of an OGMP. Oil and gas targets that could not be drilled from surface locations within the NPS units may be directionally drilled from surface locations outside the units. Any changes in the level of oil and gas exploration and production resulting from this plan would be minor compared to the overall activity in the region.

Discernible changes in revenue flow, salaries, unemployment rates, utilization of local goods and services, or conflicts with existing ways of life are not expected. As a result, the impact to the local and regional economies from implementing an OGMP at Big South Fork National River and Recreation Area and Obed Wild and Scenic River would likely be negligible.

## **URBAN QUALITY, GATEWAY COMMUNITIES**

(**NOTE:** At the internal scoping meeting, it was agreed that more data was needed regarding potential impacts to the historic/gateway community of Rugby, TN from oil and gas operations. Therefore, no issue statement has been developed at this time.)

## **LONG-TERM MANAGEMENT OF RESOURCES OR LAND/RESOURCE PRODUCTIVITY**

- Soil compaction and erosion could impact the long-term management of resources and/or land/resource productivity.
- Loss of productivity in forest habitats may result from the presence of roads, wellpads, and from leaks and spills associated with oil and gas operations.

## **ISSUES ELIMINATED FROM FURTHER CONSIDERATION**

Based on a review of the ESF during the internal scoping meeting (see Appendix A), several issues were recommended for elimination from further consideration as impact topics in the OGMP/EIS. The issues, and a brief statement for why they were eliminated from further consideration, include:

- **Stream Flow Characteristics** – Although oil spills and erosion/sedimentation from oil and gas operations could have an effect on stream flow characteristics, the group agreed that the effects would likely be localized and negligible.
- **Marine/Estuarine Resources** – These resources do not occur at Big South Fork National River and Recreation Area or Obed Wild and Scenic River.
- **Land Use** – Although oil and gas operations could result in a conversion of some land uses (e.g., drilling a well in an old hay field at Big South Fork National River and Recreation Area), these uses would be consistent with the legislative provisions for both NPS units. Other land use conflicts (e.g., potential noise impacts near visitor use areas) would be mitigated, and effects would be negligible.
- **Unique Ecosystems, Biosphere Reserves, and World Heritage Sites** – There are no Biosphere Reserves or World Heritage Sites within Big South Fork National River and Recreation Area or Obed Wild and Scenic River. Although the NPS units protect unique ecosystems (including free-flowing rivers) that support habitat for many species of management concern, impacts to these ecosystems would be considered elsewhere, such as when analyzing impacts to species of management concern or their habitat.
- **Museum Collections** – The Big South Fork National River and Recreation Area preserves the fifth largest museum collection in the Southeast Region; however, oil and gas operations would not affect this collection.
- **Environmental Justice** – Environmental Justice was eliminated because impacts that may result from oil and gas operations at Big South Fork National River and Recreation Area and Obed Wild and Scenic River would not disproportionately affect low-income, minority, or special-needs populations.

# ALTERNATIVES

*Preliminary alternatives, at a minimum, must meet objectives to a large degree while resolving purpose and need for action.*

See DO #12, sections 2.7, 4.5 (EIS), 5.3 (EA)

## **NO ACTION ALTERNATIVE (CONTINUE MANAGING OIL AND GAS OPERATIONS WITHOUT AN OIL AND GAS MANAGEMENT PLAN)**

Under this alternative, there would be no comprehensive framework for managing the exploration, production, and transportation of nonfederal oil and gas, as well as the plugging and surface reclamation of well sites. National Park Service staff would continue to manage oil and gas operations on a case-by-case basis, with operating stipulations applied during development and approval of an operators' Plan of Operations or during an enforcement action. Operators would not be provided: up front guidance regarding protection of NPS resources in these two units; requirements for oil and gas development; or the requirements for plugging and surface reclamation of well sites. Although not discussed in detail during the internal scoping meeting, the table on the following page presents elements of the No Action Alternative.

## **ACTION ALTERNATIVES**

In order to provide the basis for the development of preliminary alternatives, the internal scoping team conducted an exercise to list components of alternatives that could be proposed by various interest groups, including the federal government, oil and gas operators, environmental groups, and general park users. Following discussion of these components, three preliminary alternatives representing a range of interest from higher conservation of resources to higher levels of access were developed. Additional work will be needed to refine these preliminary alternatives. An alternatives development workshop is being planned for this OGMP/EIS. During this workshop, staff of Big South Fork National River and Recreation Area, Obed Wild and Scenic River, and other members of the interdisciplinary team will further define the no action alternative and the action alternatives, and will consider other alternatives as well. Through this process, and after soliciting input from the public, alternatives considered in detail, as well as alternatives considered but not analyzed further, will be identified for inclusion in the OGMP/EIS.

The following table provides a summary of each preliminary action alternative that was developed at the internal scoping meeting. The table is organized by components of each preliminary alternative that would apply to both existing and new operations, components that would apply to just existing operations, and components that would apply to just new operations.

**Table 1: Summary of Preliminary Concept Alternatives**

<b>NO ACTION ALTERNATIVE</b>	<b>ALTERNATIVE A – MAXIMUM PROTECTION</b>	<b>ALTERNATIVE B – MIX BETWEEN ACCESS AND PROTECTION</b>	<b>ALTERNATIVE C – MAXIMUM ACCESS</b>
<b><u>BOTH EXISTING AND NEW OPERATIONS</u></b>	<b><u>BOTH EXISTING AND NEW OPERATIONS</u></b>	<b><u>BOTH EXISTING AND NEW OPERATIONS</u></b>	<b><u>BOTH EXISTING AND NEW OPERATIONS</u></b>
The National Park Service would purchase mineral rights only from willing sellers that approach the agency.	The National Park Service would purchase all outstanding mineral rights from willing sellers throughout the park, possibly prioritized by Special Management Areas (SMAs). The National Park Service may actively seek purchases, if appropriate.	The National Park Service would purchase mineral rights only from willing sellers that approach the agency.	The National Park Service would purchase mineral rights only from willing sellers that approach the agency.
In the event a proposed operation cannot be sufficiently modified to prevent the impairment of park resources and values, the NPS may seek to extinguish the associated mineral right through acquisition, subject to the appropriation of funds from Congress. Where mitigation measures may substantially reduce the potential for adverse impacts to park resources and values, the acquisition of mineral rights would be dismissed from further consideration.	Same as No Action Alternative.	Same as No Action Alternative.	Same as No Action Alternative.
The National Park Service would bring operators into compliance with applicable laws and regulations.	Same as No Action Alternative.	Same as No Action Alternative.	Same as No Action Alternative.
Plugging and surface reclamation would meet NPS and state standards.	Plugging and surface reclamation would meet NPS and state standards, and sites would be reclaimed to preexisting natural conditions.	Same as No Action Alternative.	Same as No Action Alternative.
Requires minimum bonding.	Operators would demonstrate their financial capability to operate, including plugging and surface reclamation; requires maximum bonding allowed under the 9B regulations.  For non-9B operations, encourage liability insurance.	Same as Alternative A.	Requires minimum bonding.  For non-9B operations, encourage liability insurance.

<b>NO ACTION ALTERNATIVE</b>	<b>ALTERNATIVE A – MAXIMUM PROTECTION</b>	<b>ALTERNATIVE B – MIX BETWEEN ACCESS AND PROTECTION</b>	<b>ALTERNATIVE C – MAXIMUM ACCESS</b>
Specific timeframes would be established for operators to demonstrate that a well is capable of production and would be based on state regulations. If these conditions are not met, the operator would be required to plug the well and reclaim the well site.	Same as No Action Alternative.	Same as No Action Alternative.	Same as No Action Alternative.
Responsible party information would be required from an operator for every well.	Same as No Action Alternative.	Same as No Action Alternative.	Same as No Action Alternative.
Oil and gas operations would cause no degradation of any streams.	Oil and gas operations would cause no degradation of any streams in the parks, and enhancement of water quality would be required, as appropriate.	Same as Alternative A.	Oil and gas operations would cause no degradation of any streams.
There would be no training required under this alternative.	Operators would be trained and certified for federal health/safety and environmental standards.	Same as Alternative A.	There would be no training required under this alternative.
Construction and siting of access roads would meet state BMPs.	No new roads in SMA's. The National Park Service may consolidate existing roads and require operators to upgrade them to sustainable conditions.  Abandoned roads reclaimed to preexisting conditions.  Construction and siting of access roads would meet state BMPs.	No new roads in SMA's. The National Park Service may consolidate existing roads and require operators to upgrade them to sustainable conditions.  Construction and siting of access roads would meet state BMPs.	Construction and siting of access roads would meet state BMPs.
There would be no notification or timing stipulations under this alternative.	NPS-required notification and timing stipulations for operator truck use would be determined.	There would be no notification or timing stipulations under this alternative.	There would be no notification or timing stipulations under this alternative.
<b><u>EXISTING OPERATIONS</u></b>	<b><u>EXISTING OPERATIONS</u></b>	<b><u>EXISTING OPERATIONS</u></b>	<b><u>EXISTING OPERATIONS</u></b>
The National Park Service shall identify those operations in compliance or those that are grandfathered (and therefore exempt from some provisions of the 9B regulations).	Same as No Action Alternative.	Same as No Action Alternative.	Operators shall identify those operations in compliance or those that are grandfathered (and therefore exempt from some provisions of the 9B regulations).

ALTERNATIVES

NO ACTION ALTERNATIVE	ALTERNATIVE A – MAXIMUM PROTECTION	ALTERNATIVE B – MIX BETWEEN ACCESS AND PROTECTION	ALTERNATIVE C – MAXIMUM ACCESS
Operators develop environmental information and plan of operations.	The National Park Service would develop environmental information with funds from operator; operator develops plan of operations.	The National Park Service would provide a streamlined compliance process; for example, the National Park Service would provide a template plan of operations and list of mitigation measures.	The National Park Service would provide a streamlined compliance process; for example, the National Park Service would provide a simple check-off sheet for use by operators during approval process.
Operations causing the most impacts would be cleaned up/brought into compliance first.	Operations causing the most impacts would be cleaned up and brought into compliance first, prioritized by SMAs.	Operations causing the most impacts would be cleaned up/brought into compliance first.	Operations causing the most impacts would be cleaned up/brought into compliance first.
Plugging would be prioritized by the existing threat to park resources and values.	Plugging would be prioritized by SMAs.	Same as Alternative A.	Same as Alternative A.
	Existing operations would meet all operating standards for maximum protection of the environment.	Existing operations needing some minimal operating standards; e.g., routine maintenance of access roads, pads, and equipment.	Same as Alternative B.
	Exempt operations would meet some minimum standard for protection of federal resources.	Same as Alternative A.	Same as Alternative A.
	The National Park Service would seek funds to plug orphan wells.	Same as Alternative A.	Same as Alternative A.
<b><u>SMAs – EXISTING OPERATIONS</u></b>	<b><u>SMAs – EXISTING OPERATIONS</u></b>	<b><u>SMAs – EXISTING OPERATIONS</u></b>	<b><u>SMAs – EXISTING OPERATIONS</u></b>
Regulatory boundary of gorge and National Park Service units used to prioritize plugging and compliance; only apply 9B minimum regulatory standards.	SMAs to be used to prioritize plugging and compliance; apply 9B regulatory standards.  NOTE: Possibly for alternative description: Access roads and pads for current operations comply with strict standards. Mitigation requirement to reestablish the natural environment (could be unique based on SMA).	SMAs to be used to prioritize plugging and compliance; apply 9B regulatory standards.	SMAs to be used to prioritize plugging and compliance; only apply 9B minimum regulatory standards.
<b><u>NEW OPERATIONS</u></b>	<b><u>NEW OPERATIONS</u></b>	<b><u>NEW OPERATIONS</u></b>	<b><u>NEW OPERATIONS</u></b>
Operator would be responsible for policing roads.	National Park Service would enforce the authorized use of oil and gas roads, i.e. they would prevent 4-wheel drive and off-highway vehicles (OHVs) from using oil and gas access roads.	Same as Alternative A.	Operator would be responsible for policing roads.

NO ACTION ALTERNATIVE	ALTERNATIVE A – MAXIMUM PROTECTION	ALTERNATIVE B – MIX BETWEEN ACCESS AND PROTECTION	ALTERNATIVE C – MAXIMUM ACCESS
No restrictions on driving on multiple use trails.	Access to wells must be on designated oil and gas roads; no driving on multiple use trails except as needed to access operations.	Same as Alternative A.	No restrictions on driving on multiple use trails.
No new surface use for drilling near gorge boundary.	No new surface use for drilling near SMAs; where feasible, directional drilling from outside boundary would be used to access minerals inside the park.	No new surface use for drilling near SMAs; where feasible, directional drilling from outside boundary would be used to access minerals inside the park.	No surface use stipulations for drilling near SMAs
<b><u>SMAs – NEW OPERATIONS</u></b>	<b><u>SMAs – NEW OPERATIONS</u></b>	<b><u>SMAs – NEW OPERATIONS</u></b>	<b><u>SMAs – NEW OPERATIONS</u></b>
Unlikely that SMAs would be designated, and if so, they would be based on legislative requirements, such as those that established the protected gorge at Big South Fork National River and Recreation Area.	Formally designate SMAs and prescribe operating stipulations: no surface use (this might preclude oil or gas drilling, thus there would be a high priority for acquisition of large SMAs); no use of seismic operations for exploration.	Same as Alternative A.  NOTE: Need to define and measure setbacks; i.e., topography (lateral versus horizontal).	Unlikely that SMAs would be designated, and if so, they would be based on legislative requirements, such as those that established the protected gorge at Big South Fork National River and Recreation Area.  NOTE: Need to define and measure setbacks; i.e., topography (lateral versus horizontal).
Unlikely that SMAs would be designated.	Establish SMA setbacks; e.g., zones or setback areas near the gorge rim, cultural landscapes, and sensitive resources.  NOTE: Need to define and measure setbacks; i.e., topography (lateral versus horizontal).	Same as Alternative A.	No provisions for setbacks would be established under this alternative.
Unlikely that SMAs would be designated.	Include all SMAs that group came up with (see below), with increased setbacks; move cliff edges to new Geohazard SMA	Definitely include visitor use/administrative areas and cemeteries as SMAs. All other SMAs would be evaluated on a case-by-case basis.  The National Park Service would implement timing and some geographic restrictions for seismic activities, depending on type of activity.  The National Park Service would implement geographic restrictions for drilling.  Setbacks from SMAs may be smaller than under Alternative A.	SMAs with no or limited setbacks would be established; however, there would be no requirements for setbacks above and beyond state regulations or the NPS 9B regulations.

The above table noted the designation of SMAs for each alternative. Generally, SMAs represent important natural and cultural resources or visitor use areas that are particularly susceptible to oil and gas operations. The following list of SMAs for Big South Fork National River and Recreation Area and Obed Wild and Scenic River was developed during the internal scoping meeting:

- **Big South Fork National River and Recreation Area**
  - Visitor use areas – minimum 500-foot setback
    - Campgrounds
    - Trails
    - Park administrative areas and visitor centers
    - Safety zones (non-hunting areas)
    - Experimental OHV area
  - Cultural sites – case-by-case setbacks based on consultation
    - Archeological sites
    - Prehistoric/historic resources (probably 1,500-foot setback)
    - Cultural landscapes (probably 1,500-foot setback)
  - Cemeteries (setbacks established on a case-by-case basis)
  - Unique geologic features – appropriate setbacks
    - Sandstone arches
    - Chimneys
    - Rock shelters
    - Cliff edges
  - Geohazards
    - Cliff edges
  - Unique vegetation – appropriate setbacks
    - Sandstone glades
    - Riparian areas
    - Cliff edges
    - Rock shelters
    - Long-term monitoring plots
    - State-designated rare plant communities
    - Upland seeps
  - Unique aquatic habitat (setbacks established on a case-by-case basis)
  - 303(d) Waters (additional data needed)
- **All of Obed Wild and Scenic River**

# THE AFFECTED ENVIRONMENT

*Note that only the “issues” of relevance identified in the purpose and need chapter need to track in the affected environment; note that DO #12 now says (in accordance with the National Parks Omnibus Management Act of 1988) that if information critical to decision-making is lacking, then the action should be modified to eliminate that portion of the action where impacts are uncertain. In the affected environment section, state clearly what information is available, where conflicts exist in the data/interpretation, and what information is lacking.*

*See DO #12 Handbook, sections 2.8, 4.4, and 4.5 (unavailable information and use of technical and scientific analysis in decision-making).*

Prior to and during the internal scoping meeting, Big South Fork National River and Recreation Area and Obed Wild and Scenic River staff noted some general resources that would assist in the development of the Affected Environment section of the environmental assessment. During the meeting, staff from both NPS units also gave presentations on the resources of each unit. The following are some highlights from those presentations:

## **Big South Fork National River and Recreation Area**

- Generally, Big South Fork National River and Recreation Area is located on the downstream end of a very large watershed.
- Volumetrically, the New River and Clear Fork are very similar in size.
- The rivers within the NPS unit move most swiftly in spring and winter, and visitor uses such as rafting follow the high flows.
- The Twin Arches in Big South Fork National River and Recreation Area are the largest sandstone arches east of the Mississippi.
- Arches and shelters at Big South Fork National River and Recreation Area are significant as archeological sites and require NPS protection.
- Big South Fork National River and Recreation Area encompasses several homesteads – three cultural landscapes have cabins as contributing features.
- Big South Fork National River and Recreation Area is a “backcountry” park – you need to get out and hike to really experience the park.
- Part of the Bandy Creek Visitor Center was a boat house that the USACE built. A full service camping facility, with volleyball courts and a swimming pool, is located in the Bandy Creek area. The park is currently adjusting some of the pads in the campground to better accommodate RVs.

- Horseback riding is very popular and concessionaire-operated activities are available through the Bandy Creek Stables.
- There is a train station in Big South Fork National River and Recreation Area for the KT Railroad (a privately held entity), which uses the original railroad grade.
- Any access to the river results in development in a floodplain, and must be in compliance with applicable regulations and NPS policies.
- Bicycle access is provided at Big South Fork National River and Recreation Area – the National Park Service allows some time-sharing on trails as part of the *Final General Management Plan* (2005).
- Scott State Forest is found in the middle of Big South Fork National River and Recreation Area; it is viewed as a seed source research area, and is not managed as a typical logging resource.
- There are over 100 fields in Big South Fork National River and Recreation Area for which the park staff is developing a management plan. The options for managing these fields include prescribed burning to restore native vegetation; management as part of a cultural landscape (e.g., mowing and burning); and possibly improvements for camping.
- Hunting is allowed at Big South Fork National River and Recreation Area, with small game (squirrel), raccoon, and deer being the most popular game species hunted. The big game season lasts from October to the end of December. The National Park Service extends the wild boar season beyond existing deer and big game seasons (from January to the end of February) to help control this non-native species.
- OHV use, horse-back riding, and stream-crossings are creating erosion issues at Big South Fork National River and Recreation Area.
- The majority of the oil and gas development in Big South Fork National River and Recreation Area is located in the south end of park.
- There are a large number of federally-listed and state-listed species in Big South Fork National River and Recreation Area, including: 80 vascular and nonvascular plants; 10 fish; 11 mussels and mollusks; one insect; one crustacean; three amphibians; three reptiles; 10 mammals; and five birds.
- Disturbances upstream in the watershed are an issue for Big South Fork National River and Recreation Area, especially: bad slope failures associated with mines that have occurred within the last 5-10 years; logging/clearcutting; strip mining; and deep mining.
- Sedimentation from mining and timber harvesting has created sediment loads of 460,000 tons per day during storm events.
- The whole river within Big South Fork National River and Recreation Area is designated as critical habitat for 11 federally-listed and state-listed mussels and mollusks.

- Many acres of disturbance from previous mining operations in Kentucky present issues. There were approximately 120 mine openings in the park, and they have been surveyed for bats; some have been gated, and most have been closed.
- Near Bear Creek, acid mine drainage has impaired water quality. Mussel diversity increases from the south end of Big South Fork National River and Recreation Area to Station Camp. Then, from Station Camp to Bear Creek, the river provides some of the greatest aquatic biodiversity in the Cumberland Plateau. However, this drastically drops off in the last 6 to 8 miles of the park unit, as the river enters Lake Cumberland. Lake Cumberland is the largest man-made lake east of the Mississippi; however, flood control operations cause backwater effects that adversely impact mussels.
- There is a water intake on the New River, so whenever water issues are raised, they include both water quantity and quality. The town of Huntsville has the water intake on the New River, and if they remove water during low flow conditions, it can impact the aquatic habitat. The town of Oneida is also proposing to pipe water out of the river from within the park.

### **Obed Wild and Scenic River**

- Obed Wild and Scenic River is an outstanding example of a sandstone gorge with high bluffs.
- Obed Wild and Scenic River protects a very narrow strip of land, and has little to no setback from outside influences.
- Obed Wild and Scenic River supports four threatened, two endangered, and 28 state-listed species.
- The whole length of Obed Wild and Scenic River has been designated as critical habitat for spotfin chub and listed mussels.
- All watersheds outside of the park are adversely affected by strip mining, ozone, and acid rain.
- There have been changes in water quality and quantity with the construction of more than 3,500 impoundments within the Obed Wild and Scenic River watershed. Most are 1-acre “mom and pop” impoundments, but their cumulative impact is currently unknown.
- The Crossville sewage treatment plant discharges treated effluent to OBRI, and, in the summer, sometimes 80 percent of flows originate from the sewage treatment plant.
- Oil and gas and acid mine drainage are two of the biggest concerns at Obed Wild and Scenic River.
- There are approximately five active oil and gas wells in Obed Wild and Scenic River and two plugged wells. The plugged wells may be in need of additional surface reclamation, and only the well pad is inside the park boundary on one of the plugged wells. Three of the five active wells may have leases that have expired, and would thus be required to be plugged under state regulations. Two of these five wells are actively producing. All of the operations inside the park are subject to existing rights. Existing or new operations inside the park can only occur if based on rights that existed prior to acquisition; otherwise, these mineral rights may only be exercised through directional drilling.

Big South Fork National River and Recreation Area and Obed Wild and Scenic River provided or described various management documents and reports prepared for the units, including the following (**NOTE:** references for documents cited in this list are provided in the Selected Bibliography of this internal scoping report.):

### **General/Background Information**

*General Management Plan* (both Big South Fork National River and Recreation Area [2005] and Obed Wild and Scenic River [1995])

*Strategic Plan* (Obed Wild and Scenic River, 2005)

*Statement for Management – Basic Operations Statement* (Big South Fork National River and Recreation Area, 1993)

*Land Protection Plan* (both Big South Fork National River and Recreation Area [1992] and Obed Wild and Scenic River [1986])

*Development Plan and Stream Classification* (Obed Wild and Scenic River, 1978)

### **Water Resources**

*Water Resources Management Plan* (both Big South Fork National River and Recreation Area [1997] and Obed Wild and Scenic River [1998])

*A water quality assessment of coal mining effects on the Obed Wild and Scenic River* (Abbott, 1979)

*Effects of coal and oil mining activities and sewage effluents on the aquatic fauna: water quality survey of the Obed Wild and Scenic River, Tennessee* (Abbott, 1982)

*Baseline Water Quality Inventory and Analysis – Obed Wild and Scenic River* (NPS-Water Resources Division, 2000)

### **Cultural Resources**

*General Management Plan* (both Big South Fork National River and Recreation Area [2005] and Obed Wild and Scenic River [1995])

*Archeological Reconnaissance of the Obed Wild and Scenic River* (Thomson, 1979)

### **Wildlife and Aquatic Fauna**

*Resource Management Plan* (both Big South Fork National River and Recreation Area [1996] and Obed Wild and Scenic River [1993])

*Effects of coal and oil mining activities and sewage effluents on the aquatic fauna: water quality survey of the Obed Wild and Scenic River, Tennessee* (Abbott, 1982)

1977 and Recently Completed Fish Surveys (references to be provided in OGMP/EIS)

### **Threatened and Endangered Species**

Recovery Plan for Cumberland rosemary (*Conradrina verticillata*) (USFWS, 1996)

Recovery Plan, Duskytail Darter (*Etheostoma* [*Catonotus*] sp.) (USFWS, 1994)

Recovery Plan for Cumberland Elktoe (*Alasmidonta atropurpurea*), Oyster Mussel (*Epioblasma capsaeformis*), Cumberlandian Combshell (*Epioblasma brevidens*), Purple

Bean (*Villosa perpurpurea*), and Rough Rabbitsfoot (*Quadrula cylindrical strigillata*) (USFWS, 2004)

Virginia Spiraea (*Spiraea virginiana* Britton) Recovery Plan (USFWS 1992)

Threatened and endangered species for which critical habitat has been designated will be identified in the OGMP/EIS.

**Vegetation**

*Final Report – Vegetation, Endangered and Threatened Plants, Critical Plant Habitats and Vascular Flora of the Obed Wild and Scenic River* (Schmalzer and DeSelm, 1982)

**Visitor Use**

Park visitation statistics (Obed Wild and Scenic River, 1993 - 2003)

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## ENVIRONMENTAL CONSEQUENCES

*Important changes have been made in the way the National Park Service analyzes, describes, and documents (formats) its NEPA analysis. It is a process mandated by DO #12 (see sec. 4.5 (g)).*

*The context, duration and intensity of impacts, including cumulative impacts, must be defined with the best available data. The following is an example of the threshold criteria for water quality impacts:*

*Negligible: Impacts are chemical, physical, or biological effects that would not be detectable, would be well below water quality standards or criteria, and would be within historical or desired water quality conditions.*

*Minor: Impacts (chemical, physical, or biological effects) would be detectable but would be well below water quality standards or criteria and within historical or desired water quality conditions.*

*Moderate: Impacts (chemical, physical, or biological effects) would be detectable but would be at or below water quality standards or criteria; however, historical baseline or desired water quality conditions would be altered on a short-term basis.*

*Major: Impacts (chemical, physical, or biological effects) would be detectable and would be frequently altered from the historical baseline or desired water quality conditions; and/or chemical, physical, or biological water quality standards or criteria would be slightly and singularly exceeded on a short-term basis.*

*Impairment: Impacts are chemical, physical, or biological effects that would be detectable and that would be substantially and frequently altered from the historical baseline or desired water quality conditions and/or water quality standards, or criteria would be exceeded several times on a short-term and temporary basis. In addition, these adverse, major impacts to park resources and values would contribute to deterioration of the park's water quality and aquatic resources to the extent that the park's purpose could not be fulfilled as established in its enabling legislation; affect resources key to the park's natural or cultural integrity or opportunities for enjoyment; or affect the resource whose conservation is identified as a goal in the park's general management plan or other park planning documents.*

Impact methodologies were discussed only generally during the internal scoping meeting for the OGMP/EIS. No specific discussions regarding context, duration, or intensity of impacts for this planning effort occurred, but will be covered in future discussions and at the alternatives development meeting. There was some general discussion regarding what level of impact would constitute an impairment of NPS resources, but nothing specific to the OGMP/EIS.

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# CUMULATIVE IMPACTS SCENARIO

## (RELATED PLANS, POLICIES, AND ACTIONS)

During the internal scoping meeting, the National Park Service identified plans, policies, and actions at the federal, state, and local level that may contribute to cumulative effects when considered with any of the action alternatives discussed previously, or that may affect decisions for oil and gas management. This included existing and future plans at Big South Fork National River and Recreation Area and Obed Wild and Scenic River.

The following NPS plans were identified as potentially contributing to cumulative effects or affecting decisions for oil and gas management:

- Big South Fork National River and Recreation Area *Final General Management Plan* (May 2005)
- Big South Fork National River and Recreation Area *Statement for Management – Basic Operations Statement* (1993)
- Big South Fork National River and Recreation Area *Water Resources Management Plan* (September 1997)
- Big South Fork National River and Recreation Area *Land Protection Plan – 1998 Update* (1998)
- Big South Fork National River and Recreation Area *Resource Management Plan* (June 1996)
- Obed Wild and Scenic River *General Management Plan and Development Concept Plan* (June 1995)
- Obed Wild and Scenic River *Strategic Plan* (October 2005)
- Obed Wild and Scenic River *Water Resources Management Plan* (1998)
- Obed Wild and Scenic River *Resource Management Plan* (1993)
- Obed Wild and Scenic River *Land Protection Plan* (as amended, 1986)
- Obed Wild and Scenic River *Climbing Management Plan* (July 2002)
- Obed Wild and Scenic River *Development Plan and Stream Classification* (August 1978)

The states of Kentucky and Tennessee both have oil and gas regulations that may affect oil and gas management at Big South Fork National River and Recreation Area. These regulations are found in the Kentucky Revised Statutes, Chapter 353, Kentucky Administrative Regulations, Title 805, and in the State of Tennessee State Oil and Gas Board “General Rules and Regulations for Oil and Gas Exploration and Exploitation.”

During the internal scoping meeting, Big South Fork National River and Recreation Area staff provided information regarding actions in the vicinity of both NPS units that have the potential to contribute to cumulative impacts. A detailed table of past, present, and reasonably foreseeable future actions is provided on the following pages.

**Table 2. Cumulative Impact Scenario**

Impact Topic	Area of Analysis	Past	Present	Future Actions (20 years)
<b>Air Quality</b>	Airshed (define; need info, possibly from state)	<ul style="list-style-type: none"> <li>Proximity to Knox and Cumberland counties, as well as Interstates 75 and 40, and the pollution generated by these sources (OBRI).</li> </ul>	<ul style="list-style-type: none"> <li>Construction, use, and maintenance of new and existing dirt roads</li> <li>Vehicular emissions (including OHVs)</li> <li>Emissions from oil and gas operations adjacent to park</li> <li>Park activities including prescribed burning, campground fires</li> <li>Logging and timber harvesting</li> <li>Industrial activities, such as hardwood flooring, manufacturing, and sawmills</li> <li>Coal mining</li> <li>Agricultural activities</li> <li>Power plants</li> <li>Home heating systems (wood burning, coal burning)</li> <li>Coal bed methane drilling</li> <li>Proximity to Knox and Cumberland counties, as well as Interstates 75 and 40, and the pollution generated by these sources (OBRI).</li> </ul>	<ul style="list-style-type: none"> <li>Local planning efforts to manage and control growth (beneficial)</li> <li>New power plants?</li> <li>Coal bed methane drilling</li> <li>Proximity to Knox and Cumberland counties, as well as Interstates 75 and 40, and the pollution generated by these sources (OBRI).</li> </ul>
<b>Soundscapes</b>	The parks and a 1,500-foot setback outside of parks.	<ul style="list-style-type: none"> <li>Linearity of OBRI contributes to impacts on soundscape because activities outside the boundary can be heard throughout the park.</li> </ul>	<ul style="list-style-type: none"> <li>Construction, use, and maintenance of new and existing dirt roads</li> <li>Vehicular traffic including OHV use, gravel hauling</li> <li>Oil and gas operations adjacent to park</li> <li>Park maintenance activities</li> <li>Visitor uses, such as hunting</li> <li>Logging and timber harvesting</li> <li>Industrial activities, such as hardwood flooring, manufacturing, and sawmills</li> <li>Coal mining</li> <li>Agricultural activities</li> </ul>	<ul style="list-style-type: none"> <li>Linearity of OBRI contributes to impacts on soundscape because activities outside the boundary can be heard throughout the park.</li> </ul>

Impact Topic	Area of Analysis	Past	Present	Future Actions (20 years)
			<ul style="list-style-type: none"> <li>• Big South Fork Scenic Raceway?</li> <li>• Airport/air traffic</li> <li>• Linearity of OBRI contributes to impacts on soundscape because activities outside the boundary can be heard throughout the park.</li> </ul>	
<b>Lightscaapes</b>	The parks and a 1,500-foot setback outside of parks.		<ul style="list-style-type: none"> <li>• Vehicular traffic</li> <li>• Oil and gas drilling adjacent to park</li> <li>• Bear Creek Industrial Park</li> <li>• Residential development</li> <li>• Big South Fork Scenic Raceway</li> </ul>	<ul style="list-style-type: none"> <li>• Growth of Bear Creek Industrial park (including tournament fields)</li> <li>• Residential development</li> </ul>
<b>Geology/Soils Geohazards</b>	Big South Fork of Cumberland watershed, Emory River Watershed	<ul style="list-style-type: none"> <li>• Abandoned mines (acid mine drainage, landslides)</li> <li>• Old logging and agricultural operations</li> <li>• Abandoned wellsites and oil and gas access roads</li> <li>• Leaks and spills of contaminating and hazardous substances from past oil and gas development in and adjacent to park</li> </ul>	<ul style="list-style-type: none"> <li>• Construction, use, and maintenance of new and existing dirt roads and oil and gas wellpads; leaks and spills of contaminating and hazardous substances from oil and gas development, and blowouts during drilling, in and adjacent to park</li> <li>• Park maintenance activities, including installation and maintenance of roads, trails, and developed sites</li> <li>• Park prescribed fire program</li> <li>• Visitor uses, such as climbing, OHV use, horseback riding, and mountain biking</li> <li>• Logging and timber harvesting</li> <li>• Coal mining</li> <li>• Agricultural activities</li> <li>• Commercial and/or residential development</li> <li>• Development, use, and maintenance of county and state roads</li> <li>• /Unauthorized rock gathering.</li> </ul>	<ul style="list-style-type: none"> <li>• Local planning efforts to manage and control growth (beneficial)</li> <li>• Development, use, and maintenance of county and state roads (bypass around Rugby)</li> <li>• Future coal mining and surface reclamation</li> <li>• Expansion of railroad</li> </ul>

Impact Topic	Area of Analysis	Past	Present	Future Actions (20 years)
<b>Water Resources/ Wetlands/ Floodplains</b>	Watersheds	<ul style="list-style-type: none"> <li>• Abandoned mines (acid mine drainage)</li> <li>• Old logging and agricultural operations</li> <li>• Erosion from abandoned wellsites and oil and gas access roads</li> <li>• Leaks and spills of contaminating and hazardous substances from past oil and gas developments, including pipelines, in and adjacent to park</li> <li>• Pine beetle infestation</li> </ul>	<ul style="list-style-type: none"> <li>• Construction, use, and maintenance of new and existing dirt roads and oil and gas wellpads; leaks and spills of contaminating and hazardous substances from oil and gas development, and blowouts during drilling, in and adjacent to park</li> <li>• Oil and gas development</li> <li>• Park maintenance activities, including installation and maintenance of roads, trails, and developed sites</li> <li>• Combustion of fossil fuels contributing to acidity of fossil fuels</li> <li>• Park prescribed fire program</li> <li>• Visitor uses, such as OHV use, kayaking, and swimming</li> <li>• Logging and timber harvesting</li> <li>• Coal mining</li> <li>• Agricultural activities</li> <li>• Park, commercial, and/or residential development and maintenance (salt, brine)</li> <li>• Trail maintenance</li> <li>• Equestrian activities</li> <li>• Industrial discharges (see BISO WRMP)</li> <li>• Non-point runoff from industrial and construction sites, roads</li> <li>• Municipal, industrial, and/or park water use and treatment</li> <li>• Impoundments</li> <li>• Motor boat use downstream</li> <li>• Septic tanks</li> <li>• Sand and gravel mining</li> <li>• Herbicide uses (atrazine)</li> </ul>	<ul style="list-style-type: none"> <li>• Oneida/Jamestown plans to collect water from Big South Fork</li> <li>• Potential for coal bed methane development and withdrawal or disposal of water</li> <li>• Development and implementation of water quality standards as per 303(d) program (beneficial)</li> <li>• Local planning efforts to manage and control growth (beneficial)</li> </ul>

Impact Topic	Area of Analysis	Past	Present	Future Actions (20 years)
<b>Vegetation/ Non-native Species</b>	The parks and a 1,500-foot setback outside of parks	<ul style="list-style-type: none"> <li>• Abandoned mines (acid mine drainage)</li> <li>• Old logging, including clear-cutting, and agricultural operations</li> <li>• Abandoned wellsites and oil and gas access roads create disturbances susceptible to invasion of non-native species.</li> <li>• Leaks and spills of contaminating and hazardous substances from past oil and gas development in and adjacent to park</li> <li>• Pine beetle infestation</li> </ul>	<ul style="list-style-type: none"> <li>• Construction, use, and maintenance of new and existing dirt roads and oil and gas wellpads; leaks and spills of contaminating and hazardous substances from oil and gas development, and blowouts during drilling, in and adjacent to park</li> <li>• Park maintenance activities, including installation and maintenance of roads, trails, and developed sites, field management</li> <li>• Park prescribed fire program</li> <li>• Visitor uses, such as OHV use</li> <li>• Logging and timber harvesting</li> <li>• Coal mining</li> <li>• Agricultural activities</li> <li>• Commercial and/or residential development</li> <li>• Exotic species control in and adjacent to park</li> </ul>	<ul style="list-style-type: none"> <li>• Replanting and surface reclamation of logging sites (beneficial)</li> <li>• Prescribed fire program</li> <li>• Spread of exotics from adjacent lands</li> <li>• Exotic species control in and adjacent to park</li> <li>• Local planning efforts to manage and control growth (beneficial)</li> </ul>
<b>Wildlife</b>	The parks and 1 to 5 miles around perimeter.	<ul style="list-style-type: none"> <li>• Abandoned mines (acid mine drainage)</li> <li>• Old logging, including clear-cutting, and agricultural operations</li> <li>• Abandoned wellsites and oil and gas access roads fragment wildlife habitat.</li> <li>• Leaks and spills of contaminating and hazardous substances from past oil and gas development, and pipelines in and adjacent to park</li> <li>• Habitat loss and fragmentation</li> <li>• Pine beetle infestation</li> <li>• Overhunting/poaching</li> <li>• Introduction of exotic species, including wildlife</li> </ul>	<ul style="list-style-type: none"> <li>• Construction, use, and maintenance of new and existing dirt roads and oil and gas wellpads; leaks and spills of contaminating and hazardous substances from oil and gas development, and blowouts during drilling, in and adjacent to park</li> <li>• Park maintenance activities, including installation and maintenance of roads, trails, and developed sites</li> <li>• Park prescribed fire program</li> <li>• Visitor uses, such as OHV use</li> <li>• Logging and timber harvesting</li> <li>• Coal mining</li> </ul>	<ul style="list-style-type: none"> <li>• Replanting and surface reclamation of logging sites (beneficial)</li> <li>• Prescribed fire program</li> <li>• Spread of exotics from adjacent lands</li> <li>• Exotic species control in park (beneficial)</li> <li>• Habitat loss and fragmentation</li> <li>• Local planning efforts to manage and control growth (beneficial)</li> <li>• Vehicular collisions</li> <li>• Harassment</li> <li>• Wildlife management</li> </ul>

Impact Topic	Area of Analysis	Past	Present	Future Actions (20 years)
			<ul style="list-style-type: none"> <li>• Agricultural activities</li> <li>• Commercial and/or residential development</li> <li>• Exotic species control in park (beneficial)</li> <li>• Hunting and trapping</li> <li>• Poaching</li> <li>• Collisions</li> <li>• Harassment</li> </ul>	
<b>Fish and Aquatic Species</b>	Watersheds	See water.	See water.	See water.
<b>Species of Management Concern</b>	Watersheds	<ul style="list-style-type: none"> <li>• See water, wildlife, vegetation.</li> </ul>	<ul style="list-style-type: none"> <li>• See water, wildlife, vegetation.</li> </ul>	<ul style="list-style-type: none"> <li>• See water, wildlife, vegetation.</li> <li>• U.S. Fish and Wildlife Service Recovery plans for threatened and/or endangered species (beneficial)</li> <li>• Section 7(a)(1) of ESA park program (beneficial)</li> <li>• Local planning efforts to manage and control growth (beneficial)</li> </ul>
<b>Cultural Resources</b>	Regional?	<ul style="list-style-type: none"> <li>• Abandoned mines</li> <li>• Old logging and agricultural operations</li> <li>• Abandoned wellsites and oil and gas access roads provide unauthorized access to cultural resources.</li> <li>• Leaks and spills of contaminating and hazardous substances from past oil and gas development in and adjacent to park</li> <li>• Vandalism</li> </ul>	<ul style="list-style-type: none"> <li>• Earth-moving activities associated with construction and maintenance of new and existing dirt roads and oil and gas wellpads; leaks and spills of contaminating and hazardous substances from oil and gas development, and blowouts during drilling, in and adjacent to park</li> <li>• Drilling and production operations</li> <li>• Park maintenance activities, including installation and maintenance of roads, trails, and developed sites</li> <li>• Park prescribed fire program</li> </ul>	<ul style="list-style-type: none"> <li>• Local planning efforts to manage and control growth (beneficial)</li> <li>• Vandalism</li> </ul>

Impact Topic	Area of Analysis	Past	Present	Future Actions (20 years)
			<ul style="list-style-type: none"> <li>• Visitor uses, such as OHV use</li> <li>• Logging and timber harvesting</li> <li>• Coal mining</li> <li>• Agricultural activities</li> <li>• Commercial and/or residential development</li> <li>• Vandalism</li> </ul>	
<b>Visitor Use and Experience/ Human Health and Safety/ Recreation</b>	The parks and a 1,500-foot setback outside of parks	<ul style="list-style-type: none"> <li>• Abandoned mines (acid mine drainage)</li> <li>• Old logging and agricultural operations</li> <li>• The presence of abandoned wellsites and oil and gas access roads result in conditions that may adversely affect visitor use and experience, human health and safety, and recreation.</li> <li>• Leaks and spills of contaminating and hazardous substances from past oil and gas development in and adjacent to park.</li> </ul>	<ul style="list-style-type: none"> <li>• Construction and maintenance of new and existing dirt roads and oil and gas wellpads; leaks and spills of contaminating and hazardous substances from oil and gas development, and blowouts during drilling, in and adjacent to park</li> <li>• Oil and gas developments in proximity to recreational sites, such as the Howard/White Unit No.1 oil well on the boundary of OBRI.</li> <li>• Park maintenance activities, including installation and maintenance of roads, trails, and developed sites</li> <li>• Park prescribed fire program</li> <li>• Visitor uses, such as OHV use</li> <li>• Logging and timber harvesting</li> <li>• Coal mining</li> <li>• Agricultural activities</li> <li>• Commercial, industrial, and/or residential development</li> <li>• Hunting, trapping, and fishing</li> </ul>	<ul style="list-style-type: none"> <li>• Local planning efforts to manage and control growth (beneficial)</li> <li>• Increased visitation?</li> </ul>
<b>Park Operations</b>	The parks	<ul style="list-style-type: none"> <li>• Abandoned mines</li> </ul>	<ul style="list-style-type: none"> <li>• Oil and gas operations</li> <li>• Visitor uses, such as OHV use</li> </ul>	<ul style="list-style-type: none"> <li>• Increased visitation?</li> <li>• Local planning efforts to manage and control growth (beneficial)</li> <li>• Abandoned mine surface reclamation</li> </ul>

Impact Topic	Area of Analysis	Past	Present	Future Actions (20 years)
<b>Socio-economics/ Local and Regional Economies</b>	Regional		<ul style="list-style-type: none"> <li>• Oil and gas operations</li> <li>• Visitor use</li> </ul>	<ul style="list-style-type: none"> <li>• Increased visitation (beneficial)?</li> <li>• Local planning efforts to manage and control growth</li> </ul>
<b>Adjacent Land Owners, Resources, and Uses/ Gateway Communities</b>	The parks and a 1500-foot setback outside of parks.	<ul style="list-style-type: none"> <li>• Abandoned mines (acid mine drainage)</li> <li>• Old logging and agricultural operations</li> <li>• Abandoned wellsites and oil and gas access roads create conflicts.</li> <li>• Leaks and spills of contaminating and hazardous substances from past oil and gas development in and adjacent to park</li> </ul>	<ul style="list-style-type: none"> <li>• Construction, use, and maintenance of new and existing dirt roads and oil and gas wellpads; leaks and spills of contaminating and hazardous substances from oil and gas development, and blowouts during drilling in and adjacent to park</li> <li>• Park maintenance activities, including installation and maintenance of roads, trails, and developed sites</li> <li>• Park prescribed fire program</li> <li>• Visitor uses, such as OHV use</li> <li>• Logging and timber harvesting</li> <li>• Coal mining</li> <li>• Agricultural activities</li> <li>• Commercial and/or residential development</li> </ul>	<ul style="list-style-type: none"> <li>• Local planning efforts to manage and control growth (beneficial)</li> <li>• Bypass road around Rugby</li> </ul>

# PUBLIC PARTICIPATION, CONSULTATION, AND COMMUNICATION

Public participation and coordination strategies were discussed at the internal scoping meeting. Informing the local public and oil and gas operators about the development of the OGMP/EIS would be an important part of public participation. Based on experience from past OGMP/EIS planning efforts, there will likely be national interest regarding the OGMP for Big South Fork National River and Recreation Area and Obed Wild and Scenic River; therefore, the National Park Service should also work to inform interest groups that operate nation-wide of the planning effort.

The mailing list developed during the general management planning effort for Big South Fork National River and Recreation Area would be used as the basis for the mailing list for the OGMP/EIS. In addition, during the internal scoping meeting, the planning team identified a list of interest groups that should be included on the mailing list for the OGMP/EIS, as follows:

- U.S. Fish and Wildlife Service
- U.S. Forest Service
- U.S. Geological Survey
- Office of Surface Mining
- U.S. Environmental Protection Agency
- TN/KY Wildlife Management Agencies
- TN/KY Natural Heritage Programs
- TN/KY State Historic Preservation Offices
- TN Department of Forestry
- Tennessee Division of Water Pollution Control (Knoxville and Cookeville Offices)
- KY Department of Water
- State permitting agencies
- Tennessee Oil and Gas Association
- Kentucky Oil and Gas Association
- Tennessee Valley Association
- County/municipal governments (Oneida and Wartburg, TN; Whitley City, KY) and chamber of commerce
- Utility districts
- Mineral rights owners
- Oil and gas operators/groups
- National Coal Corporation
- Environmental groups
  - Sierra Club
  - Tennessee Citizens for Wilderness Protection
  - National Parks Conservation Association
  - Save Our Cumberland Mountains
  - The Nature Conservancy
- Recreation-based clubs (e.g., paddling, hunting, OHV groups)
- Other friends groups
- Congressional delegations
- Universities/researchers

Regarding the means or processes that might be used to involve the public, the internal scoping team identified open houses, workshops, and brochures as the preferred methods. It was also agreed that at least two public meetings would be required, one in Kentucky and at least one in Tennessee. Because of the interest likely to arise in local communities surrounding the NPS units, as well as in cities like Knoxville and possibly even Nashville, it was suggested that several meetings in various cities and communities may be needed to inform the public and gather input for the OGMP/EIS. It was generally accepted that public scoping and meetings were not likely to begin until Fiscal Year 2006, as several projects must be undertaken to ensure that all pertinent data are available (e.g., a plant survey and oil and gas roads inventory at Big South Fork National River and Recreation Area).

Consultation requirements were briefly discussed during the internal scoping meeting as well. As required, the National Park Service will coordinate with federal, state, and local agencies, and formal letters will be sent to the State Historic Preservation Office (in both Kentucky and Tennessee) and the United States Fish and Wildlife Service. The group discussed the need for formal consultation under Section 7 of the Endangered Species Act; however, on previous OGMP/EIS planning efforts, coordination with the United States Fish and Wildlife Service has been limited to informal consultation involving requests for species lists and technical review of the OGMP/EIS. This is because the OGMP/EIS would not specifically authorize any “on the ground activities,” and because subsequent NEPA documentation associated with Plans of Operations would involve formal consultation, if necessary.

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**Appendix A – Environmental Screening Form from the Internal Scoping Meeting for the Big South Fork National River and Recreation Area/Obed Wild and Scenic River Oil and Gas Management Plan/Environmental Impact Statement**

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**ENVIRONMENTAL SCREENING FORM (ESF)  
(Revised June 2004, per DM)**

*This form should be attached to all NEPA documents sent to the regional director's office for signature. Sections A and B should be filled out by the project initiator (may be coupled with other park project initiation forms). Sections C, D, E, and G are to be completed by the interdisciplinary team members. While you may modify this form to fit your needs, you must ensure that the form includes information detailed below and must have your modifications reviewed and approved by the regional environmental coordinator. To access this form and other compliance project information, go to <http://pepc.nps.gov>.*

**A. PROJECT INFORMATION**

Park Name Big South Fork NRR/Obed WSR Project/PMIS Number \_\_\_\_\_

Project Type (Check):     Cyclic                       Cultural Cyclic                       Repair/Rehab                       ONPS  
                                   NRPP                                       CRPP                                       FLHP  
                                   Line Item                                       Fee Demo                                       Concession Reimbursable  
                                   Other (specify) \_\_\_\_\_

Project Location \_\_\_\_\_

Project Originator/Coordinator \_\_\_\_\_

Project Title Oil and Gas Management Plan/Environmental Impact Statement

Contract # \_\_\_\_\_ Contractor Name \_\_\_\_\_

Administrative Record Location \_\_\_\_\_

Administrative Record Contact \_\_\_\_\_

**B. PROJECT DESCRIPTION/LOCATION** *(To begin the statutory compliance file, attach to this form, maps, site visit notes, agency consultation, data, reports, categorical exclusion form (if relevant), or other relevant materials.)*

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Preliminary drawings attached?  Yes  No                      Background info attached?  Yes  No

Date form initiated \_\_\_\_\_                      Anticipated compliance completion date \_\_\_\_\_

Projected advertisement/Day labor start \_\_\_\_\_                      Projected construction start \_\_\_\_\_

Is project a hot topic (controversial or sensitive issues that should be brought to attention of Regional Director)?  
 Yes  No

**C. RESOURCE EFFECTS TO CONSIDER** *(Please see section F, Instructions for Determining Appropriate NEPA Pathway, prior to completing this section. Also use the process described in DO-12, 2.9 and 2.10; 3.5(G) to (G)(5) and 5.4(F) to help determine the context, duration, and intensity of effects on resources.)*

	Identify potential effects to the following physical, natural, or cultural resources	No Effect	Negligible Effects	Minor Effects	Exceeds Minor Effects	Data Needed to Determine
1	Geological resources – soils, bedrock, streambeds, etc.				X	
2	From geohazards				X	
3	Air quality					Yes
4	Soundscapes				X	
5	Water quality or quantity				X	
6	Streamflow characteristics		X			
7	Marine or estuarine resources	X				
8	Floodplains or wetlands				X	
9	Land use, including occupancy, income, values, ownership, type of use		X			
10	Rare or unusual vegetation – old growth timber, riparian, alpine				X	
11	Species of special concern (plant or animal; state or federal listed or proposed for listing) of their habitat				X	
12	Unique ecosystems, biosphere reserves, World Heritage Sites		X			
13	Unique or important wildlife or wildlife habitat				X	
14	Unique, essential or important fish or fish habitat				X	
15	Introduce or promote non-native species (plant or animal)				X	
16	Recreation resources, including supply, demand, visitation, activities, etc.				X	
17	Visitor experience, aesthetic resources				X	
18	Archeological resources				X	Survey needed at Obed
19	Prehistoric/historic structures				X	
20	Cultural landscapes				X	
21	Ethnographic resources					Yes; needs more research
22	Museum collections (objects, specimens, and archival and manuscript collections)	X				
23	Socioeconomics, including employment, occupation, income changes, tax base, infrastructure		X			
24	Minority and low income populations, ethnography, size, migration patterns, etc.	X				
25	Energy resources	X				
26	Other agency or tribal use plans or policies		X			
27	Resource, including energy, conservation potential, sustainability	X				
28	Urban quality, gateway communities,				X	Data needed regarding

	Identify potential effects to the following physical, natural, or cultural resources	No Effect	Negligible Effects	Minor Effects	Exceeds Minor Effects	Data Needed to Determine
	etc.					effects on Rugby, TN.
29	Long-term management of resources or land/resource productivity				X	
30	Other important environmental resources (e.g., geothermal, paleontological resources)?	X				

Comments \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**D. MANDATORY CRITERIA**

Mandatory Criteria: If implemented, would the proposal:	Yes	No	Comment or Data Needed to Determine
A. Have significant impacts on public health or safety?	X		
B. Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation, or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); and other ecologically significant or critical areas?	X		
C. Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources (NEPA section 102(2)(E))?	X		
D. Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks?	X		
E. Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects?	X		
F. Have a direct relationship to other actions with individually insignificant, but cumulatively significant, environmental effects?	X		
G. Have significant impacts on properties listed or eligible for listing on the National Register of Historic Places, as determined by either the bureau or office?			Data needed on overlap of private mineral rights and cultural landscapes
H. Have significant impacts on species listed or proposed to be listed on the List of Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species?	X		
I. Violate a federal law, or a state, local, or tribal law or requirement imposed for the protection of the environment?	X		Only in the case of the no action alternative
J. Have a disproportionately high and adverse effect on low income or minority populations (Executive Order 12898)?		X	
K. Limit access to and ceremonial use of Indian sacred sites on federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (Executive Order 13007)?		X	
L. Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112)?	X		

For the purposes of interpreting these procedures within the NPS, any action that has the potential to violate the NPS Organic Act by impairing park resources or values would constitute an action that triggers the DOI exception for actions that threaten to violate a federal law for protection of the environment.

**E. OTHER INFORMATION** *(Please answer the following questions/provide requested information.)*

Are personnel preparing this form familiar with the site?  Yes  No

Did personnel visit site?  Yes  No *(If yes, attach meeting notes re: when site visit took place, who attended, etc.)*

Is the project in an approved plan such as a General Management Plan or an Implementation Plan with an accompanying NEPA document?  Yes  No If so, plan name \_\_\_\_\_

Is the project still consistent with the approved plan?  Yes  No

*(If no, you may need to prepare plan/EA or EIS.)*

Is the environmental document accurate and up-to-date?  Yes  No

*(If no, you may need to prepare plan/EA or EIS.)*

FONSI  ROD  *(Check one)* Date approved \_\_\_\_\_

Are there any interested or affected agencies or parties?  Yes  No

Did you make a diligent effort to contact them?  Yes  No  NA

Has consultation with all affected agencies or tribes been completed?  Yes  No  NA *(If yes, attach additional pages re: consultations, including the name, dates, and a summary of comments from other agencies or tribal contacts.)*

Are there any connected, cumulative, or similar actions as part of the proposed action (e.g., other development projects in area or identified in GMP, adequate/available utilities to accomplish project)?  Yes  No *(If yes, attach additional pages detailing the other actions.)*

**F. INSTRUCTIONS FOR DETERMINING APPROPRIATE NEPA PATHWAY**

First, always check DO-12, section 3.2, "Process to Follow," in determining whether the action is categorically excluded from additional NEPA analyses. Other sections within DO-12, including sections 2.9 and 2.10; 3.5; 4.5(G) and (G)(5); and 5.4(F), should also be consulted in determining the appropriate NEPA pathway. Complete the following tasks: conduct a site visit or ensure that staff is familiar with the site's specifics; consult with affected agencies, and/or tribes, and interested public; and complete this environmental screening form.

If your action is described in DO-12, section 3.3, "CEs for Which No Formal Documentation is Necessary," follow the instructions indicated in that section.

If your action is not described in DO-12, section 3.3, and IS described in section 3.4, AND you checked YES or identified "data needed to determine" impacts in any block in section D (Mandatory Criteria), this is an indication that there is potential for significant impacts to the human environment, therefore you must prepare an EA or EIS or supply missing information to determine context, duration, and intensity of impacts.

If your action is described in section 3.4 and NO is checked for all boxes in section D (Mandatory Criteria), AND there are either no effects or **all** of the potential effects identified in Section C (Resource Effects to Consider) are no more than minor intensity, usually there is no potential for significant impacts and an EA or EIS is not required. If, however, during internal scoping and further investigation, resource effects still remain unknown, or are at the minor to moderate level of intensity, and the potential for significant impacts may be likely, an EA or EIS is required.

In all cases, data collected to determine the appropriate NEPA pathway must be included in the administrative record.

**G. INTERDISCIPLINARY TEAM SIGNATORIES** *(All interdisciplinary team members must sign.) By signing this form, you affirm the following: you have either completed a site visit or are familiar with the specifics of the site; you have consulted with affected agencies and tribes; and you, to the best of your knowledge, have answered the questions posed in the checklist correctly.*

Interdisciplinary Team Leader Name	Discipline/Field of Expertise	Date
Technical Specialists Names	Discipline/Field of Expertise	Date

**H. SUPERVISORY SIGNATORY**

*Based on the environmental impact information contained in the statutory compliance files and in this environmental screening form, environmental documentation for the subject project is complete. If the project involves hot topics or sensitive issues, I have briefed the deputy or regional director.*

Recommended:

Compliance Specialist	Telephone Number	Date

Approved:

Superintendent	Telephone Number	Date

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