



# Big South Fork National River and Recreation Area and Obed Wild and Scenic River

DRAFT NON-FEDERAL OIL AND GAS MANAGEMENT PLAN /  
ENVIRONMENTAL IMPACT STATEMENT

OEPC Control Number: DES 11-08

**UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE  
DRAFT NON-FEDERAL OIL AND GAS MANAGEMENT PLAN / ENVIRONMENTAL IMPACT  
STATEMENT**

**Big South Fork National River and Recreation Area / Obed Wild and Scenic River**

Lead Agency: National Park Service (NPS), U.S. Department of the Interior

This draft *Oil and Gas Management Plan / Environmental Impact Statement* (plan/EIS) was prepared for Big South Fork National River and Recreation Area (NRRA) and Obed Wild and Scenic River (WSR). At this time, while the National Park Service (NPS) has comprehensive regulations governing nonfederal oil and gas development in parks, the Service does not have a comprehensive plan guiding oil and gas activities within the parks and limited ability to proactively communicate and enforce applicable regulations. Operators may be uncertain of the requirements and areas of the parks having special resource values may not be clearly identified to operators or the public. Existing and future oil and gas operations in the parks have the potential to impact resources and values. Because of the proximity of the two units, and their similar attributes and issues relating to oil and gas operations (such as similar geography and other natural resource conditions), the NPS decided to develop a draft plan/EIS for both units together to assist in the effective regulation and management of non-federal oil and gas operations.

This plan/EIS evaluates the impacts of a range of alternatives, analyzes alternative approaches, clearly defines a strategy, and provides guidance to ensure that activities undertaken by owners and operators of private oil and gas rights, as well as activities undertaken by the NPS, are conducted in a manner that protects the resources, visitor use and experience, and human health and safety in the park units. The document presents and analyzes the potential impacts of three alternatives: current management (the no action alternative) and two action alternatives for managing non-federal oil and gas in these units. The plan/EIS analyzes impacts of these alternatives in detail for geology and soils; water resources; floodplains, wetlands; vegetation, wildlife and aquatic species, federally listed threatened and endangered species, species of special concern; cultural resources; soundscapes, visitor use and experience; and park management and operations. Upon conclusion of the plan/EIS and decision-making process, one of the alternatives would become the Oil and Gas Management Plan for the units and guide future actions for a period of 15 to 20 years. Alternative C is the environmentally preferred alternative and the NPS preferred alternative.

The review period for this document will end 60 days after publication of the U.S. Environmental Protection Agency Notice of Availability in the Federal Register. Comments will be accepted during the 60-day comment period electronically through the NPS Planning, Environment and Public Comment website listed below or in hard copy delivered by the U.S. Postal Service or other mail delivery service or hand-delivered to the address below. Comments will also be accepted during public meetings on the plan/EIS. Comments will not be accepted by fax, email, or in any other way than those specified above. Bulk comments in any format (hard copy or electronic) submitted on behalf of others will not be accepted. Before including your address, telephone number, electronic mail address, or other personal identifying information in your comments, you should be aware that your entire comment (including your personal identifying information) may be made publically available at any time. While you can ask us in your comments to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so. After public review, the document will be revised in response to public comments. A final version of the document will then be released, and a 30-day no-action period will follow. Following the 30-day period, the alternative or actions constituting the approved plan will be documented in a record of decision that will be signed by the Regional Director of the NPS Southeast Region.

For further information, visit <http://parkplanning.nps.gov/biso> or contact:

Superintendent  
Big South Fork National River and Recreation Area  
4564 Leatherwood Road  
Oneida, Tennessee 37841  
423-569-9778





## **Big South Fork National River and Recreation Area and Obed Wild and Scenic River**

# **DRAFT NON-FEDERAL OIL AND GAS MANAGEMENT PLAN / ENVIRONMENTAL IMPACT STATEMENT**

**2011**



# **EXECUTIVE SUMMARY**

## **PURPOSE AND NEED FOR THIS PLAN**

Big South Fork National River and Recreation Area (NRRA) encompasses approximately 125,000 acres on the Cumberland Plateau in Tennessee and Kentucky, approximately 70 highway miles northwest of Knoxville, Tennessee. The Obed Wild and Scenic River (WSR) encompasses approximately 5,056 acres in Morgan and Cumberland Counties in Tennessee on the Cumberland Plateau, approximately 20 to 30 miles south and west of the Big South Fork NRRA.

The enabling legislation for the Big South Fork NRRA prohibits oil and gas extraction and development within the park's designated gorge area, but allows for development in the adjacent areas outside the gorge. Currently, there are more than 300 oil and gas wells within the Big South Fork NRRA, although no new wells have been drilled in the Big South Fork NRRA since about 1990. Active oil and gas production at Big South Fork NRRA 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. Wells with an "inactive" status are candidates to become either actively producing wells or plugged and abandoned wells. Within the Obed WSR, oil and gas exploration is limited, by deed restrictions, to directional drilling from outside the boundary. However, there are seven oil and gas wells in Obed WSR, including two plugged and abandoned wells. The plugged and abandoned wells may be in need of additional surface reclamation, and three of the five other wells may have leases that have expired, and would thus be required to be plugged and abandoned under state regulations. All of the operations inside the park unit are subject to existing rights.

At this time, while the National Park Service (NPS) has comprehensive regulations governing nonfederal oil and gas development in parks, the Service does not have a comprehensive plan guiding oil and gas activities within the parks and limited ability to proactively communicate and enforce applicable regulations. Operators may be uncertain of the requirements and areas of the parks having special resource values are not clearly identified to operators or the public. Existing and future oil and gas operations in the parks have the potential to impact resources and values. Because of the proximity of the two units, and their similar attributes and issues relating to oil and gas operations (such as similar geography and other natural resource conditions), the NPS decided to develop a draft Oil and Gas Management Plan / Environmental Impact Statement (plan/EIS) for both units together to aid in the effective regulation and management of non-federal oil and gas operations.

### **Purpose of and Need for the Plan**

The purpose of the plan/EIS for Big South Fork NRRA and Obed WSR is to analyze alternative approaches, clearly define a strategy, and provide guidance to ensure that activities undertaken by owners and operators of private oil and gas rights, as well as activities undertaken by the NPS, are conducted in a manner that protects the resources, visitor use and experience, and human health and safety in the park units. This plan/EIS presents and analyzes the potential impacts of three alternatives: current management (the no action alternative) and two action alternatives for managing non-federal oil and gas in these units. Upon conclusion of the plan/EIS and decision-making process, one of the alternatives would become the Non-Federal Oil and Gas Management Plan for the units and guide future actions for a period of 15 to 20 years.

As noted, there are over 300 private oil and gas operations within Big South Fork NRRA and Obed WSR. 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 NPS 36 Code of Federal Regulations (CFR), Part 9 Subpart B (see appendix A). In addition, future oil and gas operations have the potential to damage park resources and values. The plan/EIS 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.

This is a programmatic management plan that establishes a general framework for managing oil and gas operations. By itself, it does not authorize any on-the-ground activities, but it does recognize existing operations. The reasonably foreseeable development scenario identified up to 25 wells that would be drilled in Big South Fork NRRA and Obed WSR in the next 15-20 years, and up to 125 wells that could be amended or serviced to restore or improve production. The NPS will authorize specific projects by reviewing and approving operator-submitted plans of operations or special use permit applications. Before doing so, the NPS will conduct further analysis in accordance with the National Environmental Policy Act of 1969 (NEPA), the National Historic Preservation Act of 1966, the Endangered Species Act of 1973, and other applicable federal laws.

## **PLANNING DIRECTION**

This draft plan/EIS has been prepared with guidance provided through special mandates and direction. These include the NPS Organic Act, the parks' establishing legislations, the Service's 36 CFR 9B regulations regulating non-federal oil and gas development, park planning documents, and a variety of existing laws, regulations and policies. These "Current Legal and Policy Requirements" are described in chapter 1, chapter 2 and appendix B.

On May 31, 2006, the NPS published a Notice of Intent to Prepare an Oil and Gas Management Plan/Draft Environmental Impact Statement in the Federal Register. The publication of this notice was followed by the mailing of a Public Scoping brochure and four scoping open houses held in Jamestown, Tennessee on August 7, Huntsville, Tennessee on August 8, Oak Ridge, Tennessee on August 9, Whitesville, Kentucky on August 10. The general public, as well as federal, state, and local government agencies, were invited to identify issues and submit comments regarding the proposed planning effort to the NPS. The planning process continued through 2009, and a draft plan was completed in 2010. The consultation and coordination process is described in chapter 5. Based on internal and public scoping, the interdisciplinary team developed the following planning objectives and a list of resources and concerns to evaluate in this draft plan/EIS.

## **PLANNING OBJECTIVES**

### **GENERAL**

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

### **WATER RESOURCES**

- Protect and enhance water resources.



## **VEGETATION AND WILDLIFE, INCLUDING THREATENED AND ENDANGERED SPECIES**

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

## **CULTURAL RESOURCES**

- Protect cultural resources, including those on, or eligible for listing on, the National Register of Historic Places, from adverse impacts from oil and gas operations.

## **PARK MANAGEMENT AND OPERATIONS**

- Provide pertinent guidance to operators to facilitate planning and compliance with NPS regulations.
- Establish an efficient process under the NEPA for plugging wells and reclaiming well sites and access roads.

Resources and concerns evaluated in this draft plan/EIS include:

- Geology and Soils
- Water Resources
- Floodplains
- Wetlands
- Vegetation
- Wildlife and Aquatic Species
- Federally Listed Endangered and Threatened Species
- Species of Special Concern
- Soundscapes
- Cultural Resources
- Visitor Use and Experience
- Park Management and Operations

For each of the resources and concerns listed above, the interdisciplinary team identified the problems or benefits that might occur should oil and gas operations continue. Based on the evaluation of these resources and concerns, and public input received during scoping, the planning team also identified Special Management Areas (SMAs) to protect park resources and values that are most susceptible to adverse impacts from oil and gas operations. The issues and SMAs were used in developing and

evaluating alternatives. The issues are discussed in chapter 1. A description of the affected environment is in chapter 3.

## **PLAN ALTERNATIVES**

### **Forecast of Oil and Gas Activities**

The NPS developed a forecast of oil and gas activities that includes a reasonably foreseeable development (RFD) scenario for new development to project future oil and gas development in the parks and an estimate of future well plugging. The purpose of the forecast is to provide a reasonable basis for analyzing the potential effects of oil and gas related operations in the parks among the alternatives presented in this EIS. For Big South Fork NRRRA and Obed WSR, the forecast of oil and gas is primarily for plugging of existing wells, as opposed to new drilling and production.

For the RFD scenario, the U.S. Geological Survey (USGS) and the NPS worked together to estimate the remaining hydrocarbon resources in the parks and to develop a projection of the type and level of activities that could occur to develop these resources. The RFD drilling scenario presented in this plan is based on the collaborative work of the USGS and the NPS. Seismic and other proprietary data available only to oil and gas companies was not used in the preparation of the RFD scenario. It is possible that the well spacing may be different than is projected in the RFD scenario, the drilling success rate may deviate from the NPS projection, and it may take fewer or more wells to develop the oil and gas resources underlying the parks. Any of these factors could result in a different development scenario than is presented by the NPS in this draft plan/EIS.

When the NPS acquired lands for Big South Fork NRRRA, it inherited a legacy of inactive non-federal oil and gas wells, many without responsible parties. The 2001 well inventory (TDEC 2001) identified 59 inactive wells at Big South Fork NRRRA that were considered candidates for plugging, of which over half had no responsible parties. Of these, 54 wells have been or will be plugged within the next few years mainly using funding received through the American Recovery and Reinvestment Act and NPS funding administered through a cooperative agreement with Tennessee Department of Environment and Conservation. However, the NPS and operators are expected to identify additional inactive wells as plugging candidates in the future, and the forecast of oil and gas activity for this plan estimates that about 50 additional wells will need to be plugged over the life of this plan. Additional details about the forecast can be found in chapter 2 of the plan/EIS.

## **SUMMARY OF PLAN ALTERNATIVES**

Three alternatives are presented in chapter 2. These alternatives were developed to meet the stated objectives of this draft plan/EIS to a large degree and provide a reasonable range of options to manage exploration, drilling, production and transportation of nonfederal oil and gas within the parks. The alternatives are described below.

### **ALTERNATIVE A: NO ACTION**

Alternative A—No Action is required by the NEPA and describes the continued management of oil and gas operations in the parks. The NPS would continue to work cooperatively with the state on regulations or enforcement, but would be somewhat limited in its ability to conduct inspections and monitoring of all operations on a regular basis and would defer to the state to notify operators about compliance issues. Compliance for plans of operations related to management of current operations and for new drilling and/or exploration would be conducted on a case-by-case basis in both park units with currently available

staff and funding sources. Restrictions and protected areas identified in the current legal and policy requirements (CLPRs) for each park unit (including the NPS 9B regulations) would be applied to new operations. Plugging and reclamation activities would be guided by the 9B or state regulations, as appropriate, and compliance for these operations would be conducted on a case-by-case basis in both park units.

### **ALTERNATIVE B: COMPREHENSIVE IMPLEMENTATION OF 9B REGULATIONS AND A NEW MANAGEMENT FRAMEWORK FOR PLUGGING AND RECLAMATION**

Under alternative B, the NPS would proactively pursue enforcement of the 9B regulations and plans of operations and provide clear communication with the public and operators about CLPRs, including the 9B regulations. For current operations, the NPS would continue to work cooperatively with the state on regulations or enforcement, but would conduct increased inspections and monitoring and identify sites that are found to be impacting, or threatening to impact, park resources beyond the operations area to bring these into compliance. New operations would be reviewed and permitted in accordance with the restrictions and protected areas described in the CLPRs, similar to alternative A. The park would use the oil and gas management planning process to proactively share information with the public about regulatory requirements, to seek out operators to ensure information is communicated clearly and effectively, and to focus staff resources on the implementation and compliance with the regulatory framework. Alternative B also includes a new management framework for efficiently completing compliance processes necessary for plugging and reclamation of wells, which would provide a method for evaluating the environmental compliance needs for future site-specific projects. Priority sites for plugging and reclamation would be identified using criteria developed for this plan/EIS.

### **ALTERNATIVE C: COMPREHENSIVE IMPLEMENTATION OF 9B REGULATIONS, NEW MANAGEMENT FRAMEWORK FOR PLUGGING AND RECLAMATION, AND ESTABLISHMENT OF SPECIAL MANAGEMENT AREAS**

Alternative C would implement the same type of more proactive management described in alternative B, including additional inspections and monitoring of current operations to bring them into compliance, as well as the permitting of new operations. However, under alternative C, “Special Management Areas” or SMAs have been designated to identify and protect those areas where park resources and values are particularly susceptible to adverse impacts from oil and gas development. Specific protections afforded by these SMAs are presented in Table 2; and these operating stipulations would be applied in the designated SMAs to protect the resources and values of the park units unless other mitigation measures were specifically authorized in an approved plan of operations. Similar to alternative B, the park would use the oil and gas management planning process to proactively share information with the public about regulatory requirements, to seek out operators to ensure information is communicated clearly and effectively, and to focus staff resources on the implementation and compliance with the regulatory framework. Alternative C also includes the new management framework for plugging and reclamation of wells as described under alternative B; and the designated SMAs would be considered in setting priorities for plugging and reclamation.

Table ES.1 is a summary of protected areas per CLPRs and per SMAs (alternative C only) under each alternative.

**TABLE ES.1. PROTECTED AREAS INCLUDING SMAs AND OPERATING STIPULATIONS<sup>1</sup>**

	<b>Alternative A: No Action</b>	<b>Alternative B: Comprehensive Implementation of 9B Regulations and a New Management Framework for Plugging and Reclamation</b>	<b>Alternative C: Comprehensive Implementation of 9B Regulations, a New Management Framework for Plugging and Reclamation, and Establishment of Special Management Areas (SMAs)</b>
Protected Areas Per CLPRs	<p><b>Big South Fork NRRRA Designated Gorge:</b></p> <ul style="list-style-type: none"> <li>• Exploration, drilling, and production prohibited</li> </ul> <p><b>Big South Fork NRRRA Long-term monitoring plots<sup>2</sup>:</b></p> <ul style="list-style-type: none"> <li>• Avoid impacts; address in plans of operations</li> </ul> <p><b>Obed WSR Deed Restrictions:</b></p> <ul style="list-style-type: none"> <li>• Some deed restrictions require No Surface Use prohibiting exploration, drilling, and production on federal lands<sup>2</sup></li> </ul> <p><b>Visitor Use, Administrative, and Other Use Areas with 500-foot Setback Per 9Bs:</b></p> <ul style="list-style-type: none"> <li>• No Surface Use (exploration, drilling, and production)</li> </ul> <p><b>Waterways with 500-foot Setback Per 9Bs:</b></p> <ul style="list-style-type: none"> <li>• No Surface Use (exploration, drilling, and production)</li> </ul>	Same as alternative A.	Same as alternative A.
Special Management Areas	Not applicable	Not applicable	<p><b><u>Big South Fork NRRRA</u>—the following would be protected as noted unless other mitigation that protects SMA resources and values is included and authorized in an approved plan of operations.</b></p> <p><b>Sensitive Geomorphic Feature SMA with 500-foot setback:</b></p> <ul style="list-style-type: none"> <li>• No Surface Use (exploration, drilling, and production)</li> </ul> <p><b>Cliff Edge SMA with 100-foot setback):</b></p> <ul style="list-style-type: none"> <li>• No Surface Use (exploration, drilling, and production)</li> <li>• Drilling would only be allowed during dry periods</li> </ul>

**TABLE ES.1. PROTECTED AREAS INCLUDING SMAs AND OPERATING STIPULATIONS<sup>1</sup>**

	Alternative A: No Action	Alternative B: Comprehensive Implementation of 9B Regulations and a New Management Framework for Plugging and Reclamation	Alternative C: Comprehensive Implementation of 9B Regulations, a New Management Framework for Plugging and Reclamation, and Establishment of Special Management Areas (SMAs)
			<p><b>Managed Field SMA with 100-foot setback:</b></p> <ul style="list-style-type: none"> <li>• No Surface Use (exploration, drilling, and production)</li> <li>• Setback only applies to drilling and production</li> </ul> <p><b>SMAs with Setbacks for Visitor Use/ Administrative Areas, and Trails:</b></p> <ul style="list-style-type: none"> <li>• Visitor Use and Administrative Areas: <ul style="list-style-type: none"> <li>– 500-foot setback for geophysical exploration</li> <li>– 1,500-foot setback for drilling and production</li> </ul> </li> <li>• Trails: <ul style="list-style-type: none"> <li>– 300 foot setback for all operations</li> </ul> </li> <li>• All: <ul style="list-style-type: none"> <li>– No Surface Use (exploration, drilling, and production) in SMA or setbacks</li> <li>– All operations would be limited during high visitor use or visitation periods (generally April through October)</li> <li>– Drilling would only be allowed during dry periods</li> </ul> </li> </ul> <p><b>Cultural Landscapes and Cemetery SMA:</b></p> <ul style="list-style-type: none"> <li>• 100-foot setback from cemeteries for all operations</li> <li>• 1,500-foot setback from cultural landscapes for all operations</li> <li>• No Surface Use (exploration, drilling, and production) in SMA or setbacks</li> <li>• All operations would be limited during high visitor use or visitation periods (generally April through October)</li> <li>• Drilling would only be allowed during dry periods</li> </ul> <p><b>State Natural Area SMA:</b></p> <ul style="list-style-type: none"> <li>• No Surface Use (exploration, drilling, and production) would be allowed in state natural areas</li> </ul>

**TABLE ES.1. PROTECTED AREAS INCLUDING SMAs AND OPERATING STIPULATIONS<sup>1</sup>**

	<b>Alternative A: No Action</b>	<b>Alternative B: Comprehensive Implementation of 9B Regulations and a New Management Framework for Plugging and Reclamation</b>	<b>Alternative C: Comprehensive Implementation of 9B Regulations, a New Management Framework for Plugging and Reclamation, and Establishment of Special Management Areas (SMAs)</b>
			<p><b>Special Scenery SMA<sup>2</sup>:</b></p> <ul style="list-style-type: none"> <li>• Geophysical exploration would be allowed at any time</li> <li>• Drilling activities limited during high visitor use periods (generally April through October)</li> <li>• Requires viewshed analysis for production activities. This would be a GIS analysis that would allow park managers to determine if the site lies within a viewshed that is visually sensitive to changes in the landscape. If so, the proposed location would become part of the Special Scenery SMA.</li> </ul> <p><b><u>Obed WSR</u></b></p> <p><b>Obed WSR SMA:</b></p> <ul style="list-style-type: none"> <li>• No Surface Use (exploration, drilling, and production) would be allowed on any of the federal property within the boundaries of the Obed WSR (per existing deed restriction)</li> </ul>

<sup>1</sup>Operating stipulations may be modified if an operator can demonstrate that new technology or site-specific information (such as engineering, geological, biological, or other information or studies) would meet the goals of protecting resources, values, and uses in protected areas or SMAs. Setbacks for visitor use, administrative, and other use areas and waterways would be applied, unless other measures are specifically authorized by an approved plan of operations, as per 36 CFR 9.41(a). There may be surface use allowed if mitigations are approved in a plan of operations. However, while an approved plan of operations could relax SMA restrictions, it would not supersede applicable statutes such as gorge restrictions and deed restrictions.

<sup>2</sup>The area covered by this protected area/SMA has not been mapped and would be determined on a case-by-case basis during scoping and preparation of a plan of operations for specific projects.

Under any alternative:

- The level of development theorized in the forecast of oil and gas activities summarized above, would be the same under all three alternatives.
- If a drilling operation is not permitted in a protected/SMA, the operator could directionally drill a well from a surface location outside the area, or the operator could commit to measures that would mitigate for impacts to the specific resources and values of the SMA. If these are approved and authorized in an approved plan of operations, operations could proceed within SMA boundaries.
- In all areas of the park, CLPRs would be applied and could result in the discovery of previously unknown, important cultural resources, species of special concern, and other resource areas in which No Surface Use, timing stipulations, and other mitigation measures could be applied. The term “Current Legal and Policy Requirements” as used in the description of alternatives means application of all pertinent federal and state laws, regulations, policies, and direction governing oil and gas operations conducted in the park. These include NPS regulations at 36 CFR 9B, which require operators to use technology and methods least damaging to park resources (i.e., performance standards and implementation strategies) while ensuring the protection of human health and safety. The CLPRs are described in “Appendix A: 9B Regulations and Application of the Regulations” and “Appendix B: Summary of Non-federal Oil and Gas Operations Legal and Policy Mandates.”

Alternative C is the NPS’s preferred alternative and is also the environmentally preferred alternative. Both alternatives B and C were developed to provide consistent oversight of oil and gas operations and ensure protection of park resources and values. The formal designation of SMAs and operating stipulations in alternative C would reduce the level of potential impact or impairment to resources and values particularly susceptible to adverse impacts from oil and gas operations. The implementation of a proactive and comprehensive oil and gas management plan under any of the action alternatives would provide more certainty to oil and gas operators and consistent application of CLPRs. The formal designation of SMAs and operating stipulations under alternative C would provide better assurance for the protection of park resources and values from potential impairment from nonfederal oil and gas operations.

## **ENVIRONMENTAL CONSEQUENCES**

The full impact analysis is in “Chapter 4: Environmental Consequences.” A complete summary of impacts of the alternatives can be found in chapter 2, “Table 10. Summary of Environmental Consequences.” For all of the alternatives in this draft plan/EIS, impacts from operations in the park would not reach the level of impairment of park resources and values.

Under all three alternatives, impacts from geophysical exploration and new drilling/production are similar because the limited level of exploration and new well development projected under each alternative would be the same as theorized under the forecast and RFD scenario. The key difference between the alternatives and their potential impacts is the impacts of existing operations, especially with regard to well plugging and site restoration, and where impacts could occur. Under alternative A, CLPRs would preclude new operations in protected areas unless otherwise approved in a plan of operations, but existing operations would continue to have adverse effects until operators were found through state or self reporting and brought into compliance with the regulations.

Under alternative B, impacts from new operations would be similar to those under alternative A, but existing operations would be brought under compliance sooner, and well plugging and reclamation would



proceed more efficiently, resulting in benefits to resources. Alternative C would have similar effects but add another layer of protection for additional resource areas formally designated as SMAs, where the No Surface Use stipulations in these areas and designated offsets would reduce operations from occurring in an increasingly larger acreage of the park, unless additional mitigation measures to reduce impacts are authorized in approved plans of operations. Alternative C would likely reduce operations in the greatest area of the park, and it is likely that some wells would be directionally drilled to develop hydrocarbons underlying the park and to avoid impacts.

Impairment findings are included in appendix E for the preferred alternative, although each alternative was examined for the potential for impairment. Under all three alternatives, impairment to park resources and values would not occur because current laws, regulations, and policies preclude park resource managers from authorizing nonfederal oil and gas operations that would impair park resources and values.

## **THE NEXT STEP**

The public review and comment period for this draft plan/EIS will be for 60 days. Written comments on the draft plan/EIS will be fully considered and evaluated in preparing the Final Oil and Gas Management Plan/Environmental Impact Statement. A final plan/EIS will then be issued, which will be approved by the NPS after a minimum 30-day no-action period. The final plan/EIS will include agency and organization letters and responses to all substantive comments.

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Appendix N: Tribal Consultation Letters and Responses

## Acronyms

ARD	Air Resources Division
ARRA	American Recovery and Reinvestment Act
ATV	all-terrain vehicle
BCF	billion cubic feet
BLM	Bureau of Land Management
BNGL	barrels of natural gas liquids
BO	barrels of oil
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second
CLPRs	current legal and policy requirements
CWA	Clean Water Act
dba	A-weighted decibel scale
EA	environmental assessment
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FTE	full time employee
GMP	general management plan
LRMP	Land and Resource Management Plan
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOx	nitrogen oxides
NPS	National Park Service
NRHP	National Register of Historic Places
NRRA	National River and Recreation Area
NVCS	National Vegetation Classification System
ONRW	Outstanding National Resource Water
ORV	off-road vehicle
plan/EIS	Oil and Gas Management Plan / Environmental Impact Statement
PSD	prevention of significant deterioration
PSRPA	Park System Resource Protection Act
RFD	reasonably foreseeable development

SMA	Special Management Area
SO <sub>2</sub>	sulfur dioxide
SPCC	Spill Prevention, Control, and Countermeasures
TDEC	Tennessee Department of Environment and Conservation
TMDL	total maximum daily load
TWRA	Tennessee Wildlife Resources Agency
USC	United States Code
USDA	U.S. Department of Agriculture
USFS	United States Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	volatile organic compound
WSR	Wild and Scenic River



