UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

RECORD OF DECISION

OIL AND GAS MANAGEMENT PLAN
ENVIRONMENTAL IMPACT STATEMENT

Big Thicket National Preserve
Texas

The Department of the Interior, National Park Service, has prepared this Record of Decision (ROD) on the Oil and Gas Management Plan/Final Environmental Impact Statement for Big Thicket National Preserve (Preserve). This ROD includes a description of the background of the project, a statement of the decision made, mitigating measures/monitoring, synopses of other alternatives considered, the basis for the decision, findings on impairment of park resources and values, a description of the environmentally preferred alternative, and an overview of public and agency involvement in the decision-making process.

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. 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 (NHPA), the Endangered Species Act of 1973 (ESA), and other applicable federal laws.

BACKGROUND OF THE PROJECT

The purpose of the oil and gas management plan is to provide a comprehensive direction over the next 15 to 20 years to manage existing and anticipated oil and gas operations associated with the exercise of nonfederal oil and gas interests underlying the Preserve, and existing transpark oil and gas pipelines and activities in their associated rights-of-way, while protecting Preserve natural and cultural resources, visitor use values, and human health and safety, and preventing impairment to Preserve resources and values.

When the Preserve was created, the U.S. Government acquired surface ownership within the area, but either private entities or the State of Texas retained the subsurface mineral interests on these lands. Thus, the federal government does not own any of the subsurface oil and gas rights in the Preserve, yet the National Park Service is required by its laws, policies and regulations to protect the Preserve from any actions, including oil and gas operations, that may adversely impact or impair Preserve resources and values.

Through the NPS Organic Act (16 U.S.C. §§ 1 and 2-4) and individual park enabling statutes, Congress has authorized the Secretary of the Interior to regulate nonfederal oil and gas development in park units. The NPS's Nonfederal Oil and Gas Rights Regulations are published at Title 36 of the Code of Federal Regulations, Part 9, Subpart B (36 CFR Part 9B). The regulations provide the fundamental regulatory mechanism through which the NPS permits and regulates nonfederal oil and gas operations within units of the National Park System. As described in the purpose and scope section of the regulations (36 CFR § 9.30(a)), "these regulations are designed to

insure that activities undertaken pursuant to these rights 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. These regulations are not intended to result in the taking of a property interest, but rather to impose reasonable regulations on activities which involve and affect federally-owned lands."

The 36 CFR Part 9B regulations, in combination with laws, other regulations, NPS policies, executive orders, and applicable direction provided in park planning documents, form the Current Legal and Policy Requirements (CLPR) that provide fundamental direction and guidance that apply to all of the alternatives considered in the EIS. Current Legal and Policy Requirements are described in the FEIS, in Chapter 2, Part II, and in Appendices B and C. CLPR provide the minimum level of protection to specific areas and resources in the Preserve. These areas are recognized in the EIS as "Protected Areas" and form the basis of Alternative A, No Action/Current Management.

To analyze the potential impacts on the environment under each of the plan alternatives, the NPS prepared a Reasonably Foreseeable Development (RFD) scenario to predict the likely level of development needed to produce the remaining hydrocarbons in the Preserve (see FEIS, Chapter 2, pages 2-5 through 2-8). The RFD scenario is based on an U.S. Geological Survey estimate of remaining hydrocarbon resources which, in turn, is based on publicly-available drilling and production data (see FEIS, Appendix E). The RFD scenario assumes that based upon geophysical exploration over all of the Preserve, up to 40 new wells could be developed over the next 15-20 years to produce the oil and gas projected in the RFD scenario in Big Thicket National Preserve. Access roads, drilling pads, gathering lines and flowlines associated with the new wells would be constructed. Most of the new wells would be directionally drilled from surface locations outside the Preserve to reach bottomhole targets beneath the Preserve.

If all of the activities in the RFD scenario occur within the Preserve, there could be up to 706 acres of new surface disturbance comprising up to 465 acres associated with geophysical exploration and up to 241 acres associated with drilling and production operations. The total surface disturbance would not occur over the same time period because as some new operations are being developed, older wells would be plugged, abandoned, and reclaimed. In any case, future oil and gas exploration and development may not occur as predicted in the RFD scenario. The purpose of the RFD scenario is to provide a basis to compare alternatives and address cumulative effects; the actual level of exploration and development may be less or greater than projected in the RFD scenario.

In addition to the nonfederal oil and gas exploration and development projected in the RFD scenario, the EIS also considered transpark oil and gas pipeline activities within existing rights-of-way that occupy approximately 589 acres. Currently, there are 101 miles of pipelines within existing rights-of-way.

During the scoping process and through public input received on the Draft EIS, the NPS interdisciplinary team identified resources and values that could be affected by nonfederal oil and gas operations. The resources identified as being particularly sensitive to potential adverse impacts from oil and gas operations, and/or are necessary to protect the legislated purposes of the Preserve, were designated as Special Management Areas (SMAs). These are listed in Table 1, along with a description of the basis for SMA designation. In addition, the NPS interdisciplinary team identified other topics of concern, such as the effect of planning decisions on nonfederal oil and gas development, to be evaluated in the Oil and Gas Management Plan/EIS. The team also developed

issue statements to define problems (or benefits) that might occur with oil and gas operations (see FEIS, Chapter 1, pages 1-19 through 1-21). The issue statements and SMAs were used in developing and evaluating alternatives. SMAs form the basis of Alternatives B and C.

Table 1. Basis for Proposed Designation of Special Management Areas (SMAs) in Big Thicket National Preserve under Alternatives B and C

RESOURCE/ VALUE	PROPOSED SPECIAL MANAGEMENT AREAS (SMA)	BASIS FOR SMA DESIGNATION
Floodplains	• **Riparian Corridors SMA** includes: -Floodplain Hardwood Forests -Floodplain Hardwood Pine Forests -SMA consists of complexes of these vegetation types, and up to 300' from banks of major streams where not defined by the above vegetation types	Riparian corridors are critical in maintaining the ecological integrity of the Preserve. Integral to preserving riparian corridors is the protection of floodplain functions and uses, plant and animal species diversity and composition, water quality, and other park resources and values in riparian areas which could be adversely impacted from oil and gas operations.
Vegetation	• **Ecological Research and Monitoring Plots SMA** includes: -fire monitoring plots -long-term monitoring plots • **Rare Vegetation Communities SMA** includes: -Upland Pine Forests -Beech-Magnolia-Loblolly Pine Forests -Sandhill Pine Forests -Old Growth Trees	Ecological research and monitoring plots have been established in the Preserve and are protected from potential impacts so that researchers can gain an understanding of the effects of fire suppression, wind throw, insect infestations, and other disturbances; to determine the nature and extent of global climatic change; to understand the effects of invasive exotic plant species; and to enable researchers to learn more about the trends in forest ecology such as recruitment and succession. Vegetation communities in the Preserve that are proposed for SMA designation are rare, are necessary to maintain the biodiversity in the Preserve, contain habitat for species of special concern, and could be adversely affected by oil and gas operations.
Wetlands	• **Rare Forested Wetland Communities SMA** includes: -Wetland Baygall Shrub Thickets -Swamp Cypress-Tupelo Forests -Wetland Pine Savannas -Old Growth Trees Ecological Research and Monitoring Plots SMA includes: -Royal Fern Bog Research Plot	Forested wetland communities are rare and/or unique in the Preserve and their integrity could be adversely affected by oil and gas operations. Public access in the Royal Fern Bog Research Plot is limited to NPS staff and researchers due to its unique character, rare occurrences of the regal fern, and long-term monitoring efforts occurring in the plot.
Visitor Use, Administrative and Other Use Areas	• **Visitor Use, Administrative and other Use Areas SMA** includes: -Day Use Areas (26 areas: boat ramps, picnic areas, parking areas) -Hiking Trails (9 trails) -Canoe Routes (Village Creek, Turkey Creek from Gore Store Road to Village Creek, Franklin Lake to Johns Lake, and Cook's Lake to Scatterman Lake Loop) -Administrative Areas (Big Thicket Visitor Information Station, Big Thicket Visitor Center, Maintenance and Meeting Facility, and Turkey Creek Ranch House) -Cemeteries (3)	Visitor experiences and values (enjoyment of plant and animal biodiversity, visual quality, natural quiet, night sky etc.) occurring in limited visitor use areas of the Preserve must be protected from all potential impacts, including oil and gas operations. Preserve facilities and private in-holdings within the Preserve, and human health and safety of park visitors and staff must also be protected from all activities occurring in the Preserve, including nonfederal oil and gas operations.

RESOURCE/ VALUE	PROPOSED SPECIAL MANAGEMENT AREAS (SMA)	BASIS FOR SMA DESIGNATION
	-Private residential home sites with use and occupancy terms (2 sites) • **Birding Hot Spots SMA** (8 areas) • **Hunting Areas SMA** (5 units) includes designated lands in: -Big Sandy Creek Unit -Beech Creek Unit -Lance Rosier Unit -Beaumont Unit -Neches Bottom and Jack Gore Baygall Unit	

DECISION (SELECTED ACTION)

Description of the Selected Action

This Record of Decision adopts and approves for immediate implementation Alternative B (Preferred Alternative). Big Thicket National Preserve identified Alternative B as the agency-preferred action that best satisfies the legislated purposes of the Preserve, as well as the objectives of the Oil and Gas Management Plan. In response to public comments and concerns, Alternative B has been slightly modified from the Preferred Alternative published in the Draft EIS. Table 2 summarizes the selected action.

Table 2. Summary of Alternative B (Preferred Alternative)

Note: For definitions and additional information, see footnotes at the end of this table. Also note that the acreage numbers provided are total acres for each SMA. Because these areas overlap, if the acreages were added together, they would exceed the total area of the Preserve.

IMPACT TOPICS	ALTERNATIVE B PREFERRED ALTERNATIVE
BIG THICKET NATIONAL PRESERVE - 88,132 Acres[1]	
OVERVIEW: Current Legal and Policy Requirements (CLPR[2]) are summarized for the 12 impact topics presented in this Plan/EIS. Special Management Areas (SMAs[3]) are formally designated under Alternatives B and C, and specific protection measures would be applied.	-Special Management Areas (SMAs) would be formally designated, and applying "No Surface Use" (NSU[3]) or "No Surface Use with Timing Stipulations" for nonfederal oil and gas operations would provide specific resource protection. -Current Legal and Policy Requirements (CLPR) would apply in all areas of the Preserve. -"No Surface Use" (NSU) or "NSU with Timing Stipulations" would be applied in all designated SMAs. -In all other areas of the Preserve not designated as a SMA, nonfederal oil and gas operations would be evaluated on a case-by-case basis, using Current Legal and Policy Requirements (CLPR).
1. NONFEDERAL OIL AND GAS DEVELOPMENT	-CLPR would apply throughout the Preserve with additional stipulations in all designated SMAs.
2. AIR QUALITY	-CLPR would result in applying mitigation measures to protect local and regional air quality and related values.
3. GEOLOGIC RESOURCES	-Nonfederal oil and gas operations could be permitted, based on CLPR.
4. WATER RESOURCES	-CLPR with 500' offset from perennial, intermittent, or ephemeral watercourses, unless specifically authorized by an approved plan of operations (36 CFR § 9.41(a)).

IMPACT TOPICS	ALTERNATIVE B PREFERRED ALTERNATIVE
5. FLOODPLAINS, Including Riparian Corridors SMA[7]	-Geophysical exploration could be permitted within the 100-year floodplain with 500' offset from perennial, intermittent, or ephemeral watercourses, unless specifically authorized by an approved plan of operations (36 CFR § 9.41(a)). Staging areas would not be permitted unless there is no practicable alternative, and vehicle use would not be permitted on or across saturated or flooded soils in hydrologic classes[8] "C" and "D" (DO 77-2). -Drilling and production pads would not be permitted within the 500-year floodplain unless there is no practicable alternative (documented in Statement of Findings (SOF) (DO 77-2)). NSU in Riparian Corridors SMA with exceptions. -Drilling and production access roads, pads, flowlines, and gathering lines would not be permitted in the 100-year floodplain unless there is no practicable alternative (DO 77-2). NSU in Riparian Corridors SMA with exceptions.
Riparian Corridors SMA includes: -Floodplain Hardwood Forests -Floodplain Hardwood Pine Forests -complexes of these vegetation types, and up to 300' from banks of major streams where not defined by the above vegetation types	Area: 25,539 acres/30% of analysis area Geophysical Exploration: CLPR, as described above. Drilling & Production: NSU, except drilling and production operations could be permitted adjacent to existing roadways, within previously disturbed areas, subject to CLPR. No new roads would be permitted. Associated flowlines and gathering lines could be located within previously disturbed areas.
6. VEGETATION, including Ecological Research and Monitoring Plots and Rare Vegetation Communities SMAs	-Nonfederal oil and gas operations could be permitted, based on CLPR, with additional stipulations in designated SMAs.
Ecological Research and Monitoring Plots SMA includes: -fire monitoring plots -long-term monitoring plots All monitoring plots:	Area: 3.6 acres/.004% of analysis area Geophysical Exploration: NSU with 50' offset for seismic shotholes. Area: 55 acres/1% of analysis area -NSU with 150' offset for seismic shotholes. Area: 74 acres/1% of analysis area Drilling & Production: NSU with 150' offset.
Rare Vegetation Communities SMA includes: -Upland Pine Forests -Beech-Magnolia-Loblolly Pine Forests -Sandhill Pine Forests -Old Growth Trees	Area: 2,948 acres/3.4% of analysis area Geophysical Exploration: CLPR. Drilling & Production: NSU.
7. WETLANDS, including Rare Forested Wetland Communities and Ecological Research and Monitoring Plots SMAs	-Geophysical exploration could be permitted under CLPR (DO 77-1); with no vehicle use permitted on or across saturated or flooded soils in hydrologic soil classes[8] "C" and "D". -Drilling and production operations (including access roads and placement of flowlines and gathering lines) would not be permitted in wetlands unless there is no practicable alternative (DO 77-1), with NSU in designated SMAs.
Rare Forested Wetland Communities SMA includes: -Wetland Baygall Shrub Thickets -Swamp Cypress-Tupelo Forests -Wetland Pine Savannas -Old Growth Trees	Area: 5,087 acres/6% of analysis area Geophysical Exploration: CLPR, as described above. Drilling & Production: NSU.
Ecological Research and Monitoring Plots SMA includes: -Royal Fern Bog Research Plot	Area: 191 acres/.2% of analysis area Geophysical Exploration: NSU with 150' offset. Drilling & Production: NSU with 150' offset.

IMPACT TOPICS	ALTERNATIVE B PREFERRED ALTERNATIVE
8. FISH AND WILDLIFE	-CLPR would result in applying mitigation measures to protect fish and wildlife and their habitat.
9. THREATENED AND ENDANGERED SPECIES	-CLRP would result in applying surface use and timing stipulations to protect threatened, endangered, and sensitive species and their habitat (ESA).
10. CULTURAL RESOURCES	-CLPR would result in applying operating stipulations in areas where cultural resources are identified during plan of operations development (NHPA and DO-28).
11. VISITOR USE, ADMINISTRATIVE & OTHER USE AREAS, Including designated visitor use and administrative areas SMAs. Visitor Use, Administrative, and other Use Areas SMA includes: -Day Use Areas (27 areas) includes: boat ramps, picnic areas, and parking areas -Hiking Trails (9 trails) -Canoe Routes (4) includes: Village Creek, Turkey Creek from Gore Store Road to Village Creek, Franklin Lake to Johns Lake, and Cook's Lake to Scatterman Lake Loop -Administrative Areas includes: Visitor Information Station, Big Thicket Maintenance and Meeting Facility, and Turkey Creek Ranch House -Cemeteries (3 sites) -Private Residences includes: 2 residential homesites with use and occupancy terms Birding Hot Spots SMA (8 areas) Hunting Areas SMA (5 units) includes designated lands in : -Big Sandy Creek Unit -Beech Creek Unit -Lance Rosier Unit -Beaumont Unit -Neches Bottom and Jack Gore Baygall Unit	-CLPR would result in NSU with 500' offset for all geophysical exploration, drilling, and production operations from any structure or facility (excluding roads) used for unit interpretation, public recreation or for administration of the unit, unless specifically authorized by an approved plan of operations (36 CFR § 9.41(a)). Geophysical Exploration: NSU with 500' offset, unless specifically authorized by an approved plan of operations. Drilling & Production: NSU with 1500' offset. Area: 3,092 acres/4% of analysis area Area: 13,681 acres/16% of analysis area Area: 5,528 acres/6% of analysis area Area: 313 acres/.4% of analysis area Area: 482 acres/.6% of analysis area Area: 255 acres/.3% of analysis area Area: 993 acres/1.1% of analysis area Geophysical Exploration: NSU from 3/1-5/30 & 9/1-11/30 with 500' offset, unless specifically authorized by an approved plan of operations. Drilling & Production: NSU with 1,500' offset. Area: 52,272 acres/61% of analysis area Geophysical Exploration: NSU from 10/1-1/15. Drilling & Production: CLPR.
12. ADJACENT LAND USES AND RESOURCES	-Nonfederal oil and gas operations could be permitted outside the Preserve, based on CLPR (36 CFR § 9.32(e)).

[1]88,132 acres – The total acreage within the legislated boundary of the Preserve is 98,735 acres. However, 88,132 acres is used for the analysis in the EIS because the NPS has not acquired 10,602 acres within the boundary of the Preserve. All percentage calculations in this table (and document) are based on the 88,132 acre figure.

[2]CLPR = "Current Legal and Policy Requirements" – Nonfederal oil and gas operations could be permitted under "Current Legal and Policy Requirements" which include federal and state laws, regulations, federal executive orders, NPS policies, and applicable direction provided in park planning documents.

[3]Modification of any SMA stipulation may be considered 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 the SMA. Some of the SMAs overlap so the total SMA acreage will be greater than the total area of the Preserve. For example, overlap occurs between the Ecological Research and Monitoring Plots

SMA and the Rare Vegetation Communities SMA, since some plots are located within the rare vegetation communities. A breakdown of SMAs by Preserve Unit is presented along with the SMA maps in Tables 2.6 through 2.16, and Figures 2.7 through 2.17.

[4]NSU = "No Surface Use" – Access across the surface or use of the surface for nonfederal oil and gas operations would be limited or not permitted in SMAs. Operations include, but are not limited to: gathering information for development of a plan of operations; geophysical exploration; construction or use of roads or other means of access; construction or use of drilling pads and well pads, well completion and production; use of production equipment and facilities; well servicing and workover operations, construction or use of flowlines and gathering lines; transport or processing of petroleum products; and inspection, monitoring or maintenance of wells and equipment. Under this constraint, operators may produce and develop the oil and gas resources beneath the Preserve by directionally drilling from sites outside the NSU area. NSU is also used with an offset or distance stipulation, or timing stipulation. For example, the "NSU with 150' offset," as applied to the Royal Fern Bog Research Plot, means to completely avoid (i.e., no surface access and No Surface Use) the plot itself, and offset operations 150 feet from the perimeter of the plot. Similarly, the "NSU from 10/1-1/15" stipulation for hunting areas means that geophysical exploration would not be permitted (i.e., no surface access and No Surface Use) in designated hunting areas during the Preserve's hunting season, typically from October 1 through January 15, inclusive.

[5]Geophysical Exploration primarily consists of 3-D seismic operations and typically involves selective cutting of vegetation along source and receiver lines, drilling shot holes along source lines, placing explosives at the bottom of each shot hole, placing cables and other recording equipment along receiver lines, and detonating explosives.

[6]Drilling & Production includes construction or use of roads or other means of access; construction or use of drilling pads and well pads; drilling for oil and gas; well completion; use of production equipment and facilities; well servicing and workover operations, construction or use of flowlines and gathering lines; transport or processing of petroleum products; and inspection, monitoring or maintenance of wells and equipment.

[7]Riparian Corridors SMA is defined as consisting of two distinct biological communities: the bottomland hardwood forest community located on the floodplain terrace adjacent to major streams; and the aquatic community present within the stream. Two vegetation types, Floodplain Hardwood Forests and Floodplain Hardwood Pine Forests, best represent bottomland hardwood forests located on floodplain terraces adjacent to major streams. In addition, complexes (or extensive intermingling) of these vegetation types define the riparian corridor. Where the riparian corridor is not defined by these vegetation types, or complexes of these types, the corridor width is defined as up to 300 feet from the banks of major streams, whichever area is greater. Where operations are permitted in this SMA, appropriate mitigation measures must be taken to floodproof or elevate the site to minimize structural and environmental risks associated with flooding.

[8]Hydrologic soil classes – In general, soils in hydrologic soil classes "C" and "D" are clayey textured, are found in floodplains and wetlands, have a high water table, and over 50 percent of these soils are occasionally to frequently flooded.

Mitigating Measures / Monitoring

The NPS will implement the resource protection, mitigation, and monitoring measures found in the selected Alternative B, which also includes the recommended mitigation measures described under Current Legal and Policy Requirements (see FEIS, Chapter 2, Part II; and Appendix C). The operating stipulations applied in Alternative B to Special Management Areas provide specific mitigation measures that result in avoiding or minimizing potential adverse impacts from nonfederal oil and gas operations. In some SMAs where certain types of nonfederal oil and gas operations may be permitted, nonfederal oil and gas operations may be allowed through the application of Current Legal and Policy Requirements.

Under Current Legal and Policy Requirements, before new nonfederal oil and gas operations may occur, an operator must submit and obtain NPS approval of a proposed Plan of Operations (36 CFR § 9.36). Such plans are essentially a prospective operator's "blueprint" for conducting operations, including impact mitigation and site reclamation. Operators are responsible for preparing a Plan of Operations that addresses all information requirements applicable to 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 parks' resources and values, and to determine whether to approve the proposed plan (36 CFR § 9.36(c)). The final location for each well site, production facility, access road, flowline, or other facility will be determined following a site specific environmental document in accordance with the NPS's NEPA policy (Director's Order 12).

Through the development and evaluation of individual Plans of Operations, the NPS, along with interested state and federal agencies, and through public involvement, will scope environmental issues and develop mitigation measures necessary to avoid or minimize potential adverse impacts. Approval of the Plan of Operations is conditioned upon submission of a performance bond to guarantee compliance with the plan. Operators are required to name a sole point of contact in their Plans of Operations. The Preserve will continue to routinely monitor and inspect nonfederal oil and gas operations to ensure compliance with approved plans of operations. In addition, the NPS will continue to require operators to include a description of how the operator or its contractors will perform routine monitoring and inspection of operations, including construction and maintenance of roads, pads, and pipelines, and reclamation operations, so that the NPS may determine when satisfactory reclamation of operations sites have been achieved. Monitoring inspections conducted by the NPS will be based upon the parameters identified in Plans of Operations. NPS and the operator's personnel will conduct monitoring inspections of operations to ensure that the mitigation measures specified in the Plan of Operations are implemented. Mitigation measures also may include: reclaiming and closing roads and wellpads to restore fish and wildlife habitat; reducing the extent of surface disturbance associated with wellpads or access roads (to the extent permitted by safety standards); and maximizing reclamation and restoration success on disturbed lands to improve wildlife habitat wherever reasonably possible.

OTHER ALTERNATIVES CONSIDERED

Three alternatives are evaluated in the EIS. Analysis of the No Action Alternative (Alternative A) provides a benchmark of existing environmental impacts against which the decision-maker can compare the environmental effects from Alternatives B (Preferred) and C (Maximum Resource Protection). The three alternatives are summarized in Table 3, below.

Table 3. Summary of the Alternatives
(Acreage totals exclude overlapping areas for each Protected Area/SMA.)

Big Thicket National Preserve		Total Area: 88,132 Acres	
ALTERNATIVES	PROTECTED AREAS under ALTERNATIVE A	SMAs under ALTERNATIVE B	SMAs under ALTERNATIVE C
Total Area with Operating Stipulations[1]	56,538 acres[2]	<75,293 acres[3]	75,293 acres
GEOPHYSICAL EXPLORATION OPERATIONS – NO SURFACE USE			
Total area	7,462 acres[2]	11,512 acres	39,657 acres
Designated Areas	Fire Monitoring Plots with no offset Long-term Monitoring Plots with no offset Royal Fern Bog Research Plot w/no offset Visitor Use, Administrative and Other Use Areas with 500'offset[1] Waterways with 500' offset[1]	Fire Monitoring Plots with 50' offset Long-term Monitoring Plots with 150' offset Royal Fern Bog Research Plot with150' offset Visitor Use, Administrative and Other Use Areas with 500' offset[1] Waterways with 500' offset[1]	Fire Monitoring Plots with 50' offset Long-term Monitoring Plots with 150' offset Royal Fern Bog Research Plot with 150' offset Visitor Use, Administrative and Other Use Areas with 500'offset[1] Waterways with 500' offset[1] Riparian Corridors Rare Vegetation Communities Rare Forested Wetland Communities

GEOPHYSICAL EXPLORATION OPERATIONS – TIMING STIPULATIONS			
Total area	52,272 acres[2]	52,272 acres	52,272 acres
Designated Areas	Birding Hot Spots with 500' offset[1] (3/1-5/30 and 9/1-11/30) Hunting Areas (10/1-1/15)	Birding Hot Spots with 500' offset[1] (3/1-5/30 and 9/1-11/30) Hunting Areas (10/1-1/15)	Birding Hot Spots with 500' offset[1] (3/1-5/30 and 9/1-11/30) Hunting Areas (10/1-1/15)
DRILLING AND PRODUCTION OPERATIONS – NO SURFACE USE			
Total area	7,493 acres[2]	<46,273[3]	46,273 acres
Designated Areas	Fire Monitoring Plots with no offset Long-term Monitoring Plots with no offset Royal Fern Bog Research Plot with no offset Visitor Use, Administrative and Other Use Areas with 500' offset[1] Birding Hot Spots with 500' offset[1] Waterways with 500' offset[1]	Fire Monitoring Plots with 150' offset Long-term Monitoring Plots with 150' offset Royal Fern Bog Research Plot with 150' offset Visitor use, Administrative and Other Use Areas with 1500' offset Birding Hot Spots with 1500' offset Waterways with 500' offset[1] Riparian Corridors[3] Rare Vegetation Communities Rare Forested Wetland Communities	Fire Monitoring Plots with 150' offset Long-term Monitoring Plots with 150' offset Royal Fern Bog Research Plot with 150' offset Visitor Use, Administrative and Other Use Areas with 1500' offset Birding Hot Spots with 1500' offset Waterways with 500' offset[1] Riparian Corridors Rare Vegetation Communities Rare Forested Wetland Communities

[1]Nonfederal oil and gas operations may not be conducted within 500' from perennial, intermittent, or ephemeral watercourses, or within 500' of any structure or facility (excluding roads) used for unit interpretation, public recreation or for administration of the unit, unless specifically authorized by an approved plan of operations, as per CLPR at 36 CFR § 9.41(a). The area covered by this operating stipulation from waterways has not been mapped and will be determined on a case-by-case basis during project scoping and the preparation of a Plan of Operations.

[2]The Protected Areas denoted under Alternative A are not formally designated as SMAs, but the "No Surface Use" and "Timing Stipulations" have been applied on a case-by-case basis.

[3]The Riparian Corridor SMA under Alternative B would be NSU, except drilling and production could be permitted adjacent to existing roadways and within previously disturbed areas, subject to CLPR (including NPS Floodplain Management Guidelines and 36 CFR § 9.41(a)). No new roads would be permitted. Associated flowlines and gathering lines could be located within previously disturbed areas, with a minimum 500' offset from perennial, intermittent, or ephemeral watercourses, unless specifically authorized by an approved plan of operations.

BASIS FOR DECISION

Alternative B is selected for implementation over the environmentally preferred Alternative C because, after careful consideration of public comments throughout the planning process, including comments on the draft EIS, the selected action best accomplishes the legislated purposes of Big Thicket National Preserve and balances the statutory mission of the NPS to provide long-term protection to the Preserve's resources and significance, while allowing for the exercise of rights to oil and gas not owned by the United States. The selected Alternative B also best meets the objectives of the Oil and Gas Management Plan / Final Environmental Impact Statement to:

- Identify Preserve resources and values susceptible to adverse impacts from oil and gas operations.
- Establish performance standards and impact mitigation measures for oil and gas operations to protect and prevent impairment to Preserve resources and values from adverse impacts from oil and gas operations.
- Establish performance standards and impact mitigation measures for oil and gas operations to avoid or minimize impacts from oil and gas operations on visitor use and enjoyment, and human health and safety.

- Provide holders of oil and gas rights reasonable access for exploration and development.
- Provide pertinent information to oil and gas operators to facilitate planning and compliance with NPS and other applicable regulations.

The mitigating measures applied through specific operating stipulations for each SMA under Alternative B will increase protection to SMAs over baseline conditions (No Action Alternative A), so that potential adverse impacts are either avoided or reduced to acceptable limits; but will provide less protection than is provided under Alternative C. Alternative C would restrict access for geophysical exploration and drilling and production operations in all SMAs, which may limit an operator's ability to conduct operations in the Preserve. Therefore, the NPS has decided that Alternative B best accomplishes identified planning objectives, with the fewest environmental impacts.

FINDINGS ON IMPAIRMENT OF PARK RESOURCES AND VALUES

The National Park Service may not allow the impairment of park resources and values unless directly and specifically provided for by legislation or proclamation establishing the park. Impairment that is prohibited by the NPS Organic Act and the General Authorities Act is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. In determining whether an impairment would occur, park managers examine the duration, severity and magnitude of the impact; the resources and values affected; and direct, indirect, and cumulative effects of the action. According to NPS policy, "An impact would be more likely to constitute an impairment to the extent that it affects a resource or value whose conservation is: a) Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; b) Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or c) Identified as a goal in the park's general management plan or other relevant NPS planning documents."

The National Park Service's nonimpairment policy does not prohibit all impacts to park resources and values. The National Park Service has the discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, so long as the impacts do not constitute an impairment. Moreover, an impact is less likely to constitute an impairment if it is an unavoidable result, which cannot be further mitigated, of an action necessary to preserve or restore the integrity of park resources or values.

After analyzing the environmental impacts described in the FEIS and public comments received, the National Park Service has determined that implementation of the preferred alternative (Alternative B) will not constitute an impairment to the resources and values of Big Thicket National Preserve. The actions comprising the preferred alternative are intended to protect the Preserve' natural and cultural resources, and provide for high-quality visitor experiences, while providing holders of oil and gas rights reasonable access for exploration and development. With the mitigation and other protective measures included as part of Alternative B, the preferred alternative would have negligible to moderate adverse impacts on such resources as air quality, geologic resources, cultural resources, wetlands and water resources, floodplains, vegetation, fish and wildlife, and threatened and endangered species. While the alternative would have some adverse effects on visitor experiences, most of these impacts would be localized, negligible, and short-term in nature. From an overall, Preserve-wide perspective, no major adverse impacts to the Preserve's resources or the range of visitor experiences would be expected, assuming successful implementation of the protective measures included in the alternative. No irreversible commitments of resources would be expected other than the depletion of subsurface hydrocarbon resources and possible unavoidable, minor loss

of cultural resources from surface disturbance resulting from resource surveys or drilling operations. However, none of the impacts of this alternative would adversely affect resources or values to a degree that would prevent the National Park Service from fulfilling the purposes of the Preserve, threaten the natural integrity of the Preserve, or eliminate opportunities for people to enjoy the Preserve.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The environmental preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act of 1969 (NEPA), which is guided by the Council on Environmental Quality (CEQ). The CEQ provides direction that "the environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101: (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations; (2) assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings; (3) attain the widest range of beneficial uses of the environment without degradations, risk to health or safety, or other undesirable and unintended consequences; (4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety, of individual choice; (5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and (6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources."

Alternative C is the environmentally preferred alternative. Alternative C prescribes "No Surface Use" for geophysical operations, in addition to drilling and production operations in all SMA's. Therefore, Alternative C would result in the least damage to the biological and physical environment and best protects, preserves, and enhances the historic, cultural, and natural resources in Big Thicket National Preserve. Of the three alternatives, Alternative C would best promote the policies that are expressed in NEPA's Section 101.

PUBLIC AND AGENCY INVOLVEMENT

The notice of intent (NOI) to prepare this EIS was published in the Federal Register on November 16, 1998. The NOI indicated availability of a public scoping newsletter, from which comments were accepted until January 17, 1999. NPS mailed the public scoping newsletter to over 350 individuals, organizations, and government agencies. The newsletter announced the beginning of the EIS scoping period and the location, date, and time of a scoping open house. The NOI provided the public an opportunity to request additional scoping meetings; however, none were requested. The NPS hosted an open house in Beaumont, Texas, on December 3, 1998. Thirty-five members of the public attended. Three participants represented state and federal agencies; ten participants represented environmental groups; six participants were adjacent landowners and residents; and 16 participants represented various oil and gas companies, mineral interests, and consulting firms. In response to publishing the NOI, hosting the scoping open house, and distributing the Public Scoping Newsletter, 16 comment letters were received, and 8 individuals asked to be added to the mailing list. All comments received were considered in the EIS. The Scoping with the Public and Governmental Agencies and Identifying Resources and Concerns, and Collecting Data sections in Chapter 1 of the FEIS describe the issues and concerns raised. The Scoping Analysis section in Chapter 5 of the FEIS sorts the responses into categories.

In December 2004, the NPS released the Draft Oil and Gas Management Plan/EIS for a 60-day public review period which was subsequently extended 30 days ending on March 10, 2005. Notices of Availability of the Draft Plan/EIS were published in the Federal Register by the U. S. Environmental

Protection Agency (December 10, 2004), and the NPS (December 13, 2004). The NPS received 71 comment letters on the Draft Plan/EIS: 2 from Federal agencies; 2 from State agencies (one was a no comment response); 7 from mineral interest holders and operators; 1 from a group of environmental interests; and 59 form letters. The comment letters are reprinted in the FEIS on pages 5-12 to 5-119. The National Park Service's responses to substantive comments are also provided.

The NPS released the Final Oil and Gas Management Plan/EIS for a 30-day no action period on December 15, 2005. Notices of Availability were published in the *Federal Register* by the U.S. Environmental Protection Agency (December 16, 2005), and the NPS (December 28, 2005).

CONCLUSION

All practicable means to avoid or minimize environmental harm that could result from implementation of the selected action have been identified and incorporated into the selected action. Because there would be no major adverse impacts to resources whose conservation is (1) necessary to fulfill specific purposes in the establishing legislation for Big Thicket National Preserve; (2) key to the natural or cultural integrity of the Preserve or to opportunities for enjoyment of the preserve; or (3) identified as a goal in relevant National Park Service planning documents, there would be no impairment of the Preserve's resources or values. After a review of these effects, the alternative selected for implementation will not impair Preserve resources or values and will not violate the NPS Organic Act.

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National Park Service

2/3/06
Date