

CHAPTER 2 - ALTERNATIVES

Table of Contents

2.	ALTERNATIVES	2-4
2.1.	INTRODUCTION	2-4
2.2.	SCOPING.....	2-4
2.2.1.	Scoping Activities.....	2-4
2.2.1.1.	Notices	2-5
2.2.1.2.	Meetings.....	2-5
2.2.2.	Scoping Results.....	2-6
2.3.	ISSUES.....	2-6
2.3.1.	Initial Issue Categories.....	2-6
2.3.2.	Additional Issue Categories	2-7
2.3.3.	Discussion of Additional Issue Categories	2-7
2.3.3.1.	Access/Traffic	2-7
2.3.3.2.	Fire Hazards	2-7
2.3.3.3.	Geologic Hazards.....	2-7
2.3.3.4.	Spill Hazards	2-8
2.3.3.5.	Industrial Infrastructure	2-8
2.3.3.6.	Local Plans / Private Property.....	2-8
2.3.3.7.	Growth Inducement	2-8
2.3.3.8.	Noise	2-8
2.3.3.9.	Safety	2-8
2.3.3.10.	Ground Water.....	2-8
2.3.4.	Site Specific Concerns	2-8
2.3.4.1.	Special Geographic Concerns	2-9
2.3.4.2.	Requested No Leasing Areas	2-9
2.3.5.	Potentially Significant Issues.....	2-10
2.4.	ALTERNATIVES.....	2-10
2.4.1.	Initial List of Potential Alternatives.....	2-10

2.4.2.	Additional Alternatives Concepts Identified in Scoping	2-11
2.4.3.	Alternatives Scenarios Considered in Detail	2-11
2.4.3.1.	Reasonable Range of Alternative Scenarios	2-11
2.4.4.	Assumptions Common to All Alternatives	2-13
2.4.5.	Mitigation Measures Considered	2-13
2.4.5.1.	No Lease (NL)	2-13
2.4.5.2.	No Surface Occupancy (NSO).....	2-13
2.4.5.3.	Limited Surface Use (LSU)	2-13
2.4.5.4.	Timing Limitations (TL).....	2-13
2.4.5.5.	BLM Standard Lease Terms (SLT's)	2-14
2.4.5.6.	Information Notices (IN)	2-14
2.4.5.7.	Lease Stipulations and Los Padres Forest Plan Management Direction....	2-17
2.4.6.	Alternatives Not Considered in Detail.....	2-17
2.4.6.1.	Alternative Energy Sources and Energy Conservation.....	2-17
2.4.6.2.	Existing Producing Areas Only	2-17
2.4.6.3.	High Potential Areas Only	2-17
2.4.6.4.	No New Access.....	2-18
2.5.	<i>MODELING OF ALTERNATIVES CONSIDERED IN DETAIL</i>	2-18
2.5.1.	Identification and Analysis of Alternative 1	2-18
2.5.2.	Identification and Analysis of Alternative 2.....	2-19
2.5.3.	Identification and Analysis of Alternative 3.....	2-21
2.5.3.1.	Alternative 3 Stipulations	2-21
2.5.4.	Identification and Analysis of Alternative 4.....	2-25
2.5.4.1.	Alternative 4 Stipulations	2-27
2.5.5.	Identification and Analysis of Alternative 5.....	2-30
2.5.6.	Identification and Analysis of Alternatives 4a and 5a.....	2-32
2.6.	<i>COMPARISON OF ALTERNATIVE LEASING SCENARIOS</i>	2-34

List of Figures

FIGURE 2-1: PROCESS FOR IDENTIFYING, ANALYZING AND DOCUMENTING ALTERNATIVES 2-22
 FIGURE 2-2: LOCATION OF WATERSHEDS AND WATERSHED STIPULATIONS WITHIN OR ADJACENT TO SESPE
 OIL FIELD 2-23
 FIGURE 2-3: FOREST-WIDE COMPARISON OF LEASE DECISIONS BY ALTERNATIVE..... 2-35
 FIGURE 2-4: COMPARISON OF LEASE DECISIONS BY ALTERNATIVE FOR THE LEASE STUDY AREA 2-37

List of Tables

TABLE 2-1: ASSUMPTIONS COMMON TO ALL ALTERNATIVES 2-15
 TABLE 2-2: REASONABLY FORESEEABLE DEVELOPMENT FOR ALTERNATIVE 1 2-20
 TABLE 2-3: REASONABLY FORESEEABLE DEVELOPMENT FOR ALTERNATIVE 2 2-20
 TABLE 2-4: ACRES UNDER VARIOUS STIPULATIONS FOR ALTERNATIVE 3..... 2-26
 TABLE 2-5: REASONABLY FORESEEABLE DEVELOPMENT FOR ALTERNATIVE 3 2-26
 TABLE 2-6: STUDY AREA ACRES UNDER VARIOUS STIPULATIONS FOR ALTERNATIVE 4. 2-29
 TABLE 2-7: REASONABLY FORESEEABLE DEVELOPMENT FOR ALTERNATIVE 4 2-29
 TABLE 2-8: FORMATION OF ALTERNATIVE 5 2-30
 TABLE 2-9: STUDY AREA ACRES UNDER VARIOUS STIPULATIONS FOR ALTERNATIVE 5. 2-31
 TABLE 2-10: REASONABLY FORESEEABLE DEVELOPMENT FOR ALTERNATIVE 5 2-31
 TABLE 2-11: STUDY AREA ACRES UNDER VARIOUS STIPULATIONS FOR ALTERNATIVE 4A..... 2-32
 TABLE 2-12: REASONABLY FORESEEABLE DEVELOPMENT FOR ALTERNATIVE 4A..... 2-33
 TABLE 2-13: STUDY AREA ACRES UNDER VARIOUS STIPULATIONS FOR ALTERNATIVE 5A..... 2-33
 TABLE 2-14: REASONABLY FORESEEABLE DEVELOPMENT FOR ALTERNATIVE 5A..... 2-34
 TABLE 2-15: COMPARISON OF LEASE DECISIONS BY ALTERNATIVE FOREST-WIDE (ACRES) 2-34
 TABLE 2-16: COMPARISON OF LEASE DECISIONS BY ALTERNATIVE FOREST-WIDE (%) 2-35
 TABLE 2-17: COMPARISON OF LEASE DECISIONS BY ALTERNATIVE FOR LEASE STUDY AREA (ACRES) 2-36
 TABLE 2-18: COMPARISON OF LEASE DECISIONS BY ALTERNATIVE FOR LEASE STUDY AREA (%) 2-36
 TABLE 2-19: STUDY AREA ALLOCATIONS FOR ALTERNATIVE 1..... 2-38
 TABLE 2-20: STUDY AREA ALLOCATIONS FOR ALTERNATIVE 2..... 2-39
 TABLE 2-21: STUDY AREA ALLOCATIONS FOR ALTERNATIVE 3..... 2-40
 TABLE 2-22: STUDY AREA ALLOCATIONS FOR ALTERNATIVE 4..... 2-41
 TABLE 2-23: STUDY AREA ALLOCATIONS FOR ALTERNATIVE 4A..... 2-42
 TABLE 2-24: STUDY AREA ALLOCATIONS FOR ALTERNATIVE 5..... 2-43
 TABLE 2-25: STUDY AREA ALLOCATIONS FOR ALTERNATIVE 5A..... 2-44

2. ALTERNATIVES

2.1. INTRODUCTION

Early in the project, a scoping process was conducted to identify environmental issues and concerns held by other agencies, organizations, and the general public. Comments received were analyzed and summarized to represent the issues and concerns of the respondents. Based on and in response to the issues, the Forest Service developed a range of alternatives that meet the purpose and need for the project (as identified in Chapter 1). Each alternative specifies:

- (1) Which lands will and will not be administratively available for leasing, and
- (2) the lease stipulations that will be applied to those lands that would be leased.

This chapter describes the scoping process, the key issues and concerns identified during scoping, the development of alternatives, and each alternative and its projected reasonably foreseeable development. It also provides a comparison of the alternatives, including the no action alternative.

2.2. SCOPING

Soliciting comments from various federal, state, county, and local agencies, as well as interested organizations and individuals, is the first step in the EIS preparation process. The comments are used to obtain the most accurate and current environmental information and to incorporate public opinion into planning and decision-making. Scoping is an information gathering process open to the public and agencies early in the course of the EIS preparation process, and is required by NEPA in CEQ regulation 40 CFR 1501.7, 1501.6 and 1508.25. The purpose of the scoping process is not only to characterize significant environmental issues that warrant study or evaluation, but also to identify issues that are not significant so that the environmental analysis and EIS will remain focused. Scoping is not a single, isolated activity, but instead is an ongoing process throughout the preparation of the EIS.

2.2.1. Scoping Activities

The scoping activities and results are documented in a Scoping Report dated January 11, 1996. The Scoping Report is a part of the administrative record on file at the Los Padres National Forest Supervisor's Office in Goleta, CA. The scoping activities consisted of the following notices and meetings.

2.2.1.1. Notices

Notices for the project included an initial informational package; the Notice of Intent to produce an EIS; a news release and various project newsletters as described below:

2.2.1.1.1. Informational Package

In early September, 1995, an informational package was sent to 2,237 persons, organizations, and agencies on the Forest mailing list. The package consisted of: a letter from the Forest Supervisor; an informational packet providing project background; a description of the study; an initial list of issues and alternatives; and dates and locations for the meetings. The package also included a map showing areas of the Forest to be considered for leasing and oil and gas potential.

2.2.1.1.2. Notice of Intent

A Notice of Intent (NOI) to prepare an Environmental Impact Statement was published in the Federal Register on September 15, 1995.

2.2.1.1.3. News release

A news release was sent to 114 newspapers, radio stations, and television stations.

2.2.1.1.4. Newsletters

Newsletters reporting the progress of the analysis were sent to the project mailing list in December 1995, September 1996 and in October 1999.

2.2.1.2. Meetings

A series of five scoping meeting were held throughout the Los Padres National Forest area of influence in the communities of Frazier Park, King City, Arroyo Grande, Goleta, and Ventura, CA in late September and early October 1995.

The meeting covered the following topics:

- **Introduction**
 - * *Welcome, Purpose of the Meeting,*
 - * *Review of Agenda*
- **Overview of Project**
 - * *Purpose and Need for Decisions*
 - * *Potential for Oil and Gas*
 - * *Role of the BLM*
 - * *Decisions to be Made*
 - * *Schedule for Public Participation*
 - * *Lands to be Considered for Lease*
 - * *Environmental Analysis Process*
 - * *Issues to be Considered*
 - * *Preliminary Alternatives*
- **Questions and Answers**

2.2.2. Scoping Results

Eighty written responses were received as a result of the scoping activities. Alfred Clapham Environmental, Inc. (ACE), the project consultant, analyzed the content of the responses and reported the results to the Forest Service. ACE then met with the Forest Interdisciplinary Team (ID Team) for the project to discuss the results. The ID Team made recommendations to the Forest Supervisor regarding the scope of the study and EIS based on their expertise and the scoping input.

One of the most important tasks of scoping is to identify and focus the EIS on categories of potentially significant impacts and a reasonable range of alternatives. The ID Team, based on their knowledge of the Forest and previous Forest wide scoping efforts, established initial issue categories and alternatives. Additional issue categories were identified and the alternatives refined as a result of the responses received.

2.3. ISSUES

Respondents expressed concern regarding all of the initial issue categories listed below. Many respondents, as expected, were concerned about potentially significant impacts in the watershed, recreation, visual, and wildlife categories. Air quality was also a frequently mentioned issue category. The number of respondents mentioning each category as an issue area is shown in parenthesis.

2.3.1. Initial Issue Categories

- | | |
|---------------------------------------|--|
| 1) <i>Air Quality</i> (19) | 9) <i>Recreation - Primitive</i> (28) |
| 2) <i>Cumulative Impacts</i> (3) | 10) <i>Recreation - Wilderness</i> (17) |
| 3) <i>Heritage Resources</i> (9) | 11) <i>Socioeconomic</i> (4) |
| 4) <i>Local Impacts</i> (24) | 12) <i>Visual</i> (28) |
| 5) <i>Land Use / Forest Plan</i> (2) | 13) <i>Watershed</i> (33) |
| 6) <i>Oil and Gas</i> (2) | 14) <i>Wetlands/Riparian/Floodplain</i> (7) |
| 7) <i>Recreation - ORV / OHV</i> (9) | 15) <i>Wildlife/Flora/Habitat</i> (20) |
| 8) <i>Recreation - Developed</i> (28) | 16) <i>Wildlife/Threatened & Endangered Species</i> (20) |

2.3.2. Additional Issue Categories

Scoping respondents identified ten additional issue categories, listed below. The most frequently mentioned additional issue category was access and traffic, followed by noise and a number of safety/hazard related issues such as fire and risk of hazardous spills.

- | | |
|---|--|
| 1) <i>Access/Traffic (19)</i> | 6) <i>Local Plans / Private Property (4)</i> |
| 2) <i>Fire Hazards (10)</i> | 7) <i>Growth Inducement (1)</i> |
| 3) <i>Geologic Hazards (8)</i> | 8) <i>Noise (13)</i> |
| 4) <i>Spill Hazards (7)</i> | 9) <i>Safety (7)</i> |
| 5) <i>Industrial Infrastructure (1)</i> | 10) <i>Water/Ground Water (7)</i> |

2.3.3. Discussion of Additional Issue Categories

The following brief narratives explain the concerns associated with the additional issues.

2.3.3.1. Access/Traffic

There were 19 responses that suggested access to the oil and gas resources and resultant increase in traffic from exploration and development should be addressed. The access issue included concern over developing road access where none currently exists and the resultant direct and indirect impacts that the increased access might cause.

Respondents were concerned with access and traffic for several reasons. Some were concerned about the volumes of new traffic that might be generated along with resultant impacts in congestion, noise, and air quality. Others were concerned about any necessary new construction and re-construction and resultant direct impacts in acres disturbed, wildlife impacts, reduction of habitat, erosion and watershed impacts, and reduction of visual quality. Others were concerned with indirect impacts caused by vehicular access being provided where it did not exist.

2.3.3.2. Fire Hazards

Ten respondents expressed concern for increased fire risk due to oil and gas activities and increased access.

2.3.3.3. Geologic Hazards

Eight respondents expressed concern for geologic hazards and resultant impacts associated with oil and gas activities. The concern varied from seismic induced impacts to impacts caused by locating activities in areas of potential landslides.

2.3.3.4. Spill Hazards

Seven respondents expressed concerns regarding potential spills of hazardous materials in exploration, production and transportation.

2.3.3.5. Industrial Infrastructure

The County of Santa Barbara expressed concern about the availability of industrial facilities required to process and transport the products of additional oil and gas development.

2.3.3.6. Local Plans / Private Property

The counties of Kern, San Luis Obispo, and Santa Barbara and the Montecito Association all expressed concerns about impacts to local government plans. They also expressed concern, along with several individuals, regarding potential impacts to private property.

2.3.3.7. Growth Inducement

The County of Santa Barbara expressed concerns that new access and increased oil and gas industry activities may induce additional growth.

2.3.3.8. Noise

Thirteen respondents expressed concern regarding the noise impacts from oil and gas activities.

2.3.3.9. Safety

Seven respondents were concerned regarding safety associated with oil and gas activities. Well blowouts, transportation and general risk of spills were mentioned as issues.

2.3.3.10. Ground Water

Seven respondents expressed concern for impacts to groundwater, particularly related to spills and hazardous materials.

2.3.4. Site Specific Concerns

Many respondents expressed concerns regarding specific geographic areas. Others expressly requested no leasing be allowed in specific areas.

2.3.4.1. *Special Geographic Concerns*

Respondents expressed the following concerns regarding specific locations:

- A) *Increase in transport of hazardous materials adjacent to Lake Casitas and the Ventura River.*
- B) *Decline in production in Cuyama fields compared to “high potential” categorization.*
- C) *Impact on proposed Wagon Cave Research Natural Area.*
- D) *Wildlife migration corridor between Dick Smith and Sespe Wilderness areas and between Monterey and Santa Lucia Ranger Districts west of Highway 101.*
- E) *Community impacts on Frazier Park and Cuddy Valley.*
- F) *Sacred Native American concerns on Figueroa Mountain and in the San Rafael Range.*
- G) *Impact to “Indians” area on Monterey Ranger District south of Arroyo Seco.*
- H) *Impact to solitude in all Wildernesses.*
- I) *Wilderness values in following roadless areas:*

- | | |
|---------------------------|-----------------------------|
| 1) <i>Bear Canyon</i> | 10) <i>Juncal</i> |
| 2) <i>Bear Mountain</i> | 11) <i>Los Machos Hills</i> |
| 3) <i>Big Rocks</i> | 12) <i>Nordoff</i> |
| 4) <i>Black Butte</i> | 13) <i>Sawmill Badlands</i> |
| 5) <i>Condor Point</i> | 14) <i>Sespe Frazier</i> |
| 6) <i>Cuyama</i> | 15) <i>Spoor Canyon</i> |
| 7) <i>Dry Lakes</i> | 16) <i>Stanley Mountain</i> |
| 8) <i>Fox Mountain</i> | 17) <i>Tepusquet Peak</i> |
| 9) <i>Garcia Mountain</i> | 18) <i>White Ledge</i> |

2.3.4.2. *Requested No Leasing Areas*

Respondents requested no leasing be allowed in or around the following areas:

- | | |
|---|--|
| A) <i>Entire Los Padres National Forest</i> | P) <i>Santa Lucia Memorial Park</i> |
| B) <i>South Forest - Solvang to Lake Piru</i> | Q) <i>Ballinger Canyon</i> |
| C) <i>Figueroa Mountain</i> | R) <i>Rock Front</i> |
| D) <i>Tepusquet Peak</i> | S) <i>Kerry Canyon</i> |
| E) <i>Lopez Reservoir</i> | T) <i>Tinta Trail</i> |
| F) <i>Highway 33 south of crest</i> | U) <i>Montecito viewshed</i> |
| G) <i>Wheeler Gorge</i> | V) <i>Santa Barbara and Ventura County</i> |
| H) <i>Matilija Canyon</i> | W) <i>San Rafael Range</i> |
| I) <i>Matilija Creek</i> | X) <i>Sierra Madre Ridge</i> |
| J) <i>Teague Memorial Watershed</i> | Y) <i>South of Santa Ynez Mountains</i> |
| K) <i>Lake Casitas and watershed</i> | Z) <i>Lake Cachuma</i> |
| L) <i>Ojai Valley viewshed</i> | AA) <i>Senior Canyon</i> |
| M) <i>Pine Mountain</i> | BB) <i>“the Indian”</i> |
| N) <i>Arroyo Seco Watershed</i> | CC) <i>Monterey County</i> |
| O) <i>Upper San Antonio River</i> | |

2.3.5. Potentially Significant Issues

The initial list of issues was modified as a result of scoping to the following twelve issue categories:

Physical Environment

1. Air Quality
2. Watersheds, Wetlands & Riparian,

Biological Environment

3. Wildlife, Fisheries and Vegetation

Social Environment

4. Heritage Resources
5. Socioeconomic Impacts/Growth
6. Social Impacts
 - a. private property
 - b. local resident impacts
 - c. local community impacts
 - d. noise
7. Access and Traffic

8. Land and Resource Management Plans

- a. Forest Plan
- b. community plans

9. Oil & Gas Development

- a. constraints on development
- b. industrial infrastructure

10. Scenic Resources

11. Safety and Hazards

- a. fire
- b. geologic (landslides, earthquakes)
- c. spills (water/groundwater)

12. Recreation

- a. off road use
- b. developed sites
- c. primitive use
- d. wilderness areas
- e. roadless areas

2.4. ALTERNATIVES

The NEPA process was utilized to identify and refine alternative oil and gas leasing scenarios for LPNF. The Interdisciplinary (ID) Team for the project first identified the following list of potential alternative leasing scenarios. This list was presented in scoping meetings held in communities surrounding LPNF. The number in parenthesis following each alternative indicates the number of favorable scoping responses received regarding each alternative leasing scenario.

2.4.1. Initial List of Potential Alternatives

- *No New Leasing (38)*
- *Current Forest Plan Direction (0)*
- *Emphasize Biodiversity and Watershed (2)*
- *Emphasize Visual and Recreation (2)*
- *Emphasize All Resources (0)*
- *Emphasize Oil and Gas (13)*

The responses regarding alternatives were very polarized, with responses favoring no leasing over emphasizing oil and gas development by almost a three to one ratio (38 to 13). No

respondent indicated a desire to continue with the current Forest Plan direction or to emphasize all resources.

2.4.2. Additional Alternatives Concepts Identified in Scoping

Respondents suggested the following four additional concepts for alternatives.

- *Alternative Energy and Energy Conservation (5)*
- *Existing Producing Areas Only (1)*
- *High Potential Areas Only (1)*
- *No New Access (1)*

2.4.3. Alternatives Scenarios Considered in Detail

The following alternatives represent the reasonable range of possible oil and gas leasing scenarios for LPNF system lands that are legally available for lease consideration. Large maps of each alternative, except alternatives 1 and 2, are contained in the accompanying map packet. These alternatives are based on the initial list of alternatives identified by the ID Team, scoping input received, and the results of the interdisciplinary analysis of the alternatives. The geographically specific alternatives were developed, based on the objectives of each alternative leasing scenario, using the LPNF geographical Information system (GIS) database. GIS was used to estimate environmental sensitivity to oil and gas leasing, develop mitigating stipulations, and estimate Forest Plan compliance. The leasing alternatives vary from not allowing any new oil and gas leases through the maximum oil and gas leasing possible.

There are current oil and gas leases on LPNF lands, as shown on the alternative maps in the accompanying packet of maps. These leases are entitled to continue as long as they produce oil and/or gas and meet existing lease terms. For these reasons *the existing leases must be considered a part of all alternatives*.

2.4.3.1. Reasonable Range of Alternative Scenarios

The first step in identifying the reasonable range of leasing alternatives was to determine the bounds of the reasonable leasing scenarios.

2.4.3.1.1. Alternative 1 – No Action – No New Leasing

This alternative represents one bound of the range of alternatives that can be considered. It also represents the National Environmental Policy Act (NEPA) requirement to consider a “no action” alternative, which in this situation is considered to be continuing the current management situation. No new leasing is allowed under this alternative. Existing leases have an entitlement to continue as long as they are producing. Any leases not producing at the end of their lease term would be terminated. Alternative 1 serves as a basis of comparison for the other alternatives and is the minimum (no additional) amount of leasing that can be done.

2.4.3.1.2. Alternative 2 - Emphasize Oil & Gas Development

Alternative 2 represents the other end of the reasonable range of alternative leasing scenarios. This alternative represents the maximum amount of leasing that can be done, with the minimum amount of constraints upon the leases. Alternative 2 would allow leasing of all Los Padres National Forest System lands, not legally withdrawn from mineral entry, with BLM Standard Lease Terms as mitigation. Only Forest Service Information Notices interpreting BLM Standard Lease Terms for Los Padres National Forest application would be added to the Standard Lease Terms.

2.4.3.1.3. Alternative 3 - Meet Forest Plan Direction

This alternative was developed as a result of the analysis of Alternative 2. Alternative 3 answers the question, “What changes need to be made to Alternative 2 to bring it into compliance with the Los Padres National Forest Land and Resource Management Plan (Forest Plan)?” These changes take the form of added lease stipulations.

2.4.3.1.4. Alternative 4 - Emphasize Surface Resources

This alternative builds upon Alternative 3 adding further stipulations as mitigation measures to emphasize rehabilitation and enhancement of the surface resources and mitigation or avoidance of all identified potentially significant impacts.

2.4.3.1.5. Alternative 4a – Alternative 4 With Roadless Conservation Area Emphasis

Alternative 4a is Alternative 4 but with all inventoried roadless areas (IRAs) given a “no surface occupancy” (NSO) stipulation.

2.4.3.1.6. Alternative 5 – Combination of Alternatives 3 and 4

Inside High Oil and Gas Potential Areas (HOGPA’s) the Alternative 4 Biological lease terms would apply in addition to all other Alternative 3 lease terms. Alternative 4 lease terms are used outside of HOGPA’s. No Surface Occupancy (NSO) areas that are considered inaccessible by current drilling practices on LPNF are not leased under Alternative 5. This consists of areas that are otherwise in NSO areas and are more than a half-mile away from a location from which slant drilling under ground could occur.

2.4.3.1.7. Alternative 5a – Alternative 5 With Roadless Conservation Area Emphasis

Alternative 5a is Alternative 5 but with all inventoried roadless areas (IRA’s) given a No Surface Occupancy (NSO) stipulation. As with alternative 5, NSO areas that are considered inaccessible by current drilling practices on LPNF are not leased in Alternative 5a. Consequently significant portions of the IRA’s would not be leased and the remainder of the IRA’s accessible by slant drilling would have the NSO stipulation.

2.4.4. Assumptions Common to All Alternatives

Table 2-1 lists assumptions common to all alternatives. The analysis of environmental consequences presented in Chapter 4 is based upon these assumptions.

2.4.5. Mitigation Measures Considered

The U.S. Department of Interior, Bureau of Land Management (BLM), issues oil and gas leases for National Forest System lands. Since the actions being analyzed in this study are leasing alternatives rather than specific oil and gas exploration and/or development plans, mitigation measures take the form of a decision to lease or not lease specific lands, and the application of various lease terms and stipulations to specific land areas. In order to be effective, mitigation measures must be enforceable and thus are made a part of the oil and gas lease.

BLM's leasing form contains Standard Lease Terms (SLT's) for mitigating environmental impacts. In addition, the Forest Service may develop Information Notices to interpret applications of SLT's and special lease stipulations to further mitigate impacts. Lease stipulations include such measures as "No Surface Occupancy," "Limited Surface Use," or "Timing Limits." The leasing process and the types of various lease terms, briefly described below, are described in more detail in Appendices A and B.

2.4.5.1. No Lease (NL)

The Forest Supervisor can make a decision not to lease any portion of LPNF, not already leased, based on discretionary authority as the surface resource manager. Only lands which can reasonably be accessed will be leased.

2.4.5.2. No Surface Occupancy (NSO)

No Surface Occupancy stipulations prevent the use and occupancy of the surface for any ground disturbing oil and gas activities. Oil and gas resources could be accessed by directional drilling from nearby private lands or from NFS lands where surface occupancy is allowed.

2.4.5.3. Limited Surface Use (LSU)

Limited Surface Use stipulations constrain use and occupancy of the surface for oil and gas activities to assure a certain concern is met or impact is mitigated.

2.4.5.4. Timing Limitations (TL)

Timing Limitation stipulations specify no surface occupancy or limited surface occupancy or activity for a period of time greater than 60 days.

2.4.5.5. BLM Standard Lease Terms (SLT's)

The BLM lease form (BLM Form 3100-11) provides Standard Lease Terms to be used in leases for oil and gas development on federal lands. Section 6 of BLM lease form 3100-11 reads as follows:

Sec. 6. Conduct of operations—Lessee shall conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual and other resources, and to other land uses or users. Lessee shall take reasonable measures deemed necessary by lessor to accomplish the intent of this section. To the extent consistent with lease rights granted, such measures may include, but are not limited to modification to siting or design of facilities, timing of operations, and specifications of interim and final reclamation measures. Lessor reserves the right to continue existing uses and to authorize future uses upon or in the leased lands, including the approval of easements or rights-of-way. Such uses shall be conditioned so as to prevent unnecessary or unreasonable interference with rights of lessee.

Prior to disturbing the surface of the leased lands, lessee shall contact lessor to be apprised of procedures to be followed and modifications or reclamation measures that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of impact to other resources. Lessee may be required to complete minor inventories or short term special studies under guidelines provided by lessor. If in the conduct of operation, threatened or endangered species, objects of historic or scientific interest, or substantial unanticipated environmental effects are observed, lessee shall immediately contact lessor. Lessee shall cease any operations that would result in the destruction of such species or objects.

2.4.5.6. Information Notices (IN)

Information notices (IN) do not impose further restrictions on oil and gas activities. The purpose of an IN is to further clarify or specify how the conditions of the BLM Standard Lease Terms are to be applied in a particular situation. Information notices may be developed at any time as needed to clarify the application of SLT's.

The following scenic mitigation measures, in the form of an IN, were developed for protection of scenic resources. These measures fall within the definition of "reasonable measures" as explained in Section 6 of the Standard Lease Terms of BLM Form 3100-11, "Offer to Lease for Oil and Gas." These measures would be implemented under all alternatives.

TABLE 2-1: ASSUMPTIONS COMMON TO ALL ALTERNATIVES

Development Activity	Assumptions
Access road construction and operation	<ul style="list-style-type: none"> ▪ All access roads constructed for the project will be surfaced with native soil for their first year, then paved after one year. ▪ Access roads will be constructed at the rate of 1,000 ft/day. ▪ In a given prospect area, only one access road will be constructed at any one time. ▪ Vehicle speeds on the access roads will be 10 mph for trucks and 15 mph for automobiles. ▪ During both construction and operation, dirt access roads will be watered as needed to reduce fugitive dust emissions from vehicular travel. ▪ Roadway width will be 20 ft.
Well pad preparation	<ul style="list-style-type: none"> ▪ For each well pad, grading will take place over an 8-day period. Each day, land disturbance would be 1.6 acres. ▪ In a given prospect area, only one well pad will be constructed at any one time
Well drilling	<ul style="list-style-type: none"> ▪ For each well, drill rig installation would take place over a 2-day period. ▪ For each well, drilling will take place over a 23-day period. ▪ In a given prospect area, only one well will be drilled at any one time.
Well completion and installation of production equipment	<ul style="list-style-type: none"> ▪ For each well, well completion and installation of production equipment will take place over a 4-day period.
Production testing	<ul style="list-style-type: none"> ▪ At the Sespe oil field, the gas produced during production testing will be piped to a central production facility. At all other prospect areas, the gas will be flared on-site. ▪ Each production test will take place over a 37.5-day period. ▪ In a given prospect area, only one production test will be conducted at any one time.
Production facility construction and operation	<ul style="list-style-type: none"> ▪ Grading would take place over an 8-day period. Each day, land disturbance would be 1.6 acres. ▪ In a given prospect area, only one production facility will be constructed at any one time.
Pipeline construction	<ul style="list-style-type: none"> ▪ During pipeline construction, the trench width is 3 ft and the depth is 4.5 ft. ▪ Pipelines will be constructed at the rate of 333 ft/day. ▪ In a given prospect area, only one pipeline will be constructed at any one time. ▪ During pipeline construction, disturbed areas would be watered on a regular basis for dust control.
Electrical power line installation	<ul style="list-style-type: none"> ▪ Power lines would be constructed at the rate of 1,000 ft/day. ▪ In a given prospect area, only one power line will be constructed at any one time.
Well operation and maintenance	<ul style="list-style-type: none"> ▪ Well operation and maintenance lasts indefinitely. ▪ Electric well pumps would operate at 50 hp. ▪ For those well pumps converted to electric power, conversion would take place after one year of operation ▪ Emissions from power plants are conservatively assumed to occur in the same air basin as the well pumps consuming the electricity.
Well abandonment	<ul style="list-style-type: none"> ▪ In a given prospect area, only one well will be abandoned at any one time. Well abandonment would take place over a 2-day period. ▪ In a given prospect area, only one well will be converted to water injection at any one time. Well conversion to water injection would take place over a 1-day period
Land reclamation	<ul style="list-style-type: none"> ▪ Land reclamation would take place over a 5-day period for each well pad. Each day, land disturbance would be 1.6 acres. ▪ In a given prospect area, only one well pad will be reclaimed at any one time.

Under BLM Standard Lease Terms, the Government can require relocation of proposed operations up to 200 meters and prohibit surface disturbing operations up to 60 days in any lease year.

1. *Select color schemes for aboveground structures that blend with the surrounding landscape when viewed from distances of five-hundred (500') feet or more.*
2. *Keep height, size and numbers of structures to the minimum necessary for drilling and other operations.*
3. *Utilize topographic features and vegetative cover to screen structures and surface disturbing activities.*
4. *Keep disturbed areas to the minimum size necessary.*
5. *Utilize existing roads for access to drill sites where this could reduce scenic impacts. Plan any new road construction efficiently to minimize impact on scenic resources.*
6. *Employ the following measures for road and drill pad construction:*
 - a) Construct landform cuts and fills to blend with the surrounding topography through the use of slope rounding and other techniques such as those described in Agriculture Handbook 483, Roads.
 - b) Favor slopes under 30% for road locations.
 - c) Align roads to minimize scenic impacts, depending on topography and vegetation.
 - d) Limit roadway centerline gradients to a maximum of fifteen (15%) percent unless otherwise approved by the Forest Service.
7. *Follow natural vegetative edges, utilize free-form irregular lines and create feathered edges for vegetative clearings for roads, drill pads, electric lines, pipelines, and other facilities.*
8. *Dispose of all debris within disturbed areas immediately after site construction and concurrent with drilling and other operations.*
9. *The following work will be done during reclamation of the site:*
 - a) All junk, trash, etc., will be removed or buried at the direction of the Forest Service.
 - b) All holes will be filled and the disturbed areas graded to blend with the adjacent natural topography.
 - c) Topsoil stockpiled during site construction will be spread over the site and finish-graded prior to revegetation.
 - d) A tractor and disc may be required to prepare a proper seed-bed for revegetation.
 - e) Revegetate all disturbed areas with native plant materials and monitor vegetation to assure continued growth for a period of one year or one full growing season.
10. *The following timing periods apply for the attainment of Visual Quality Objectives (VQO).*
 - a) Retention VQO - to be achieved concurrent with the beginning of surface disturbing activities and be maintained throughout the duration of operations.
 - b) Partial Retention VQO - to be achieved within six-months of the beginning of surface disturbing activities and be maintained throughout the duration of operations.
 - c) Modification VQO - to be achieved within one-year of the beginning of surface disturbing activities and be maintained throughout the duration of operations.
 - d) Maximum Modification VQO - to be achieved within five-years of the beginning of surface disturbing activities and be maintained throughout the duration of operations.

The following information notice regarding fisheries would be applied to all alternatives.

Except for approved road crossings, no surface occupancy within 300 feet of anadromous and 150 feet of all fish-bearing perennial streams (Standard Lease Terms allow movement of facilities by up to 200 m.)

2.4.5.7. Lease Stipulations and Los Padres Forest Plan Management Direction

The LPNF Forest Plan (USFS 1988) provides guidelines intended to be considered by District Rangers in evaluating requests for specific oil and gas leases. The guidelines are contained in Appendix J of the Forest Plan. Those guidelines are interim direction for the evaluation of individual lease applications until this forest-wide analysis and EIS is completed. The decisions based on this EIS will determine which lands are recommended to be leased and thus will supersede the Forest Plan Appendix J Guidelines. The stipulations and notices listed in the Forest Plan were considered in this analysis.

2.4.6. Alternatives Not Considered in Detail

The following alternative leasing scenarios were suggested in scoping but are not considered in detail for the reasons given below:

2.4.6.1. Alternative Energy Sources and Energy Conservation

Five respondents suggested that alternative energy sources and energy conservation should be considered as an alternative to oil and gas development. Clearly not allowing any oil and gas leasing on the LPNF would be consistent with encouraging energy conservation and the use of alternative energy sources. The concept of alternative energy sources and energy conservation is embodied in Alternative 1, which would not allow any new oil and gas leases on LPNF.

2.4.6.2. Existing Producing Areas Only

One respondent suggested only considering leasing in those areas already producing oil and/or gas. This alternative leasing concept is also captured in Alternative 1.

2.4.6.3. High Potential Areas Only

One respondent suggested only considering leasing in those areas identified as having high potential for oil and gas resources. The Reasonably Foreseeable Development (RFD) (Appendix D) projections do not project any oil and gas development outside of HOGPA's. However, these projections were made based strictly on limited existing geologic data. Leasing only High Oil and Gas Potential Areas (HOGPA's) is not considered reasonable since it would unduly restrict leased lands based on limited data without further exploration. It is reasonable that lessees be allowed to explore these and other areas in more detail to substantiate or repudiate the RFD projection. Alternatives 5 and 5a partially incorporate this suggestion since greater environmental restrictions are imposed outside HOGPAs.

2.4.6.4. No New Access

One respondent suggested not providing any new access. This is assumed to mean no new roads for access to oil and gas resources. Such an alternative is not considered reasonable. Such an alternative could reduce impacts associated with new road construction by limiting leases to areas already having access. This alternative would be expected to result in restricting oil and gas development to existing lease areas where access exists, extremely close to the existing transportation system within other parts of the lease consideration area or require access without roads (foot, animals, or helicopter). Additional development on existing leases is covered specifically under Alternative 1 and is an inherent part of all alternatives since producing leases are allowed to continue. Any new development without new access would have to be immediately adjacent to existing roads. This could result in unmitigable significant impacts to scenic and recreational resources since it would be directly visible from the transportation system. Oil and gas development by foot or animal access isn't economically feasible nor is helicopter access economically feasible unless a much larger oil and gas resource is found than that which is reasonably foreseeable. For these reasons a *No New Access* alternative is considered to be addressed in Alternative 1.

2.5. MODELING OF ALTERNATIVES CONSIDERED IN DETAIL

The alternative leasing scenarios being considered in detail were developed by the LPNF Interdisciplinary Team (ID Team) for the project. The ID Team developed initial alternative leasing scenarios, which were presented at public meetings during scoping. The alternative scenarios were modified and finalized considering scoping feedback. The alternative leasing scenarios were then modeled and analyzed using the LPNF GIS database.

The flow chart in Figure 2-1 shows the process utilized to model and analyze alternative leasing scenarios considered in detail.

2.5.1. Identification and Analysis of Alternative 1

Under Alternative 1, development and extraction of oil and gas in any existing lease area could continue as long as the lease continues to produce. However, no additional LPNF system lands would be leased for either exploration or development of oil and gas resources. Non-producing leases would be terminated as they expire. Current lease stipulations and requirements of information notices would apply to these existing lease lands. New lease conditions for existing leases are only available through negotiations of existing lease terms. Additional oil and gas leases in the area could only be obtained on non-NFS lands. If such development occurred, it would be subject to the rules and regulations of the state and local governmental agency with jurisdiction.

A separate analysis of the Reasonably Foreseeable (oil and gas) Development (RFD) activities that would occur has been performed for alternatives 1 through 4. A summary of the RFD analysis is contained in the draft EIS Appendices. The RFD analysis estimates the number of new well pads, the number and type of new wells expected, the additional miles of roads and

pipelines, the resultant amount of surface acres disturbed initially and after rehabilitation of initial construction activity and the mean number of barrels of oil equivalent (BOE) expected to result from production of oil and natural gas. For the purpose of calculations, six thousand cubic feet (MCF) of gas equals one barrel of crude oil.

The results of the RFD analysis for Alternative 1 are displayed in Table 2-2. Note that the table projects additional development and does not include existing development.

Under Alternative 1, additional development is restricted to areas currently leased. The additional wells in the San Cayetano and Sespe HOGPA's are projected on existing well pads resulting in no additional surface disturbance.

2.5.2. Identification and Analysis of Alternative 2

Alternative 2 continues existing leases and, in addition, offers for lease all lands not withdrawn from mineral entry. In Alternative 2 only BLM Standard Lease Terms and FS Information Notices are available for mitigating potential impacts.

Alternative 2 would allow oil and gas leasing in all areas of LPNF except designated Wilderness, the Santa Ynez Watershed, and the Big Sur Coastal Zone, all of which are legally withdrawn from mineral entry. This area being considered for lease (966,867 acres) is referred to as the lease study area or lease consideration area. The withdrawn areas of National Forest System land on LPNF total 1,008,877 acres.

For Alternative 2, all of the lease study area would be offered for lease. Regulation of oil and gas lease development and operation would operate through application and oversight of BLM's Standard Lease Terms, with advisory information notices provided by the Forest Service. No additional Forest Service lease stipulations are included in this alternative. BLM's Standard Lease Terms (Section 6) provides that the "*lessee shall conduct operations in a manner that minimizes adverse impacts... [and] shall take reasonable measures deemed necessary by lessor to accomplish the intent of this section.*" Under current practice, this has been interpreted to include requirements of information notices and allowing for moving a proposed activity up to 200 meters or postponing a current activity up to 60 days within any year.

TABLE 2-2: REASONABLY FORESEEABLE DEVELOPMENT FOR ALTERNATIVE 1

High Oil & Gas Potential Areas	Number of New Wells Estimated				Additional Amount of Surface Disturbance Estimated			Additional Acres of Surface Disturbance Estimated		Oil & Gas Expected
	Dry	Produce	Inject	Total	# of Pads	Roads (miles)	Pipelines (miles)	Initial (acres)	After Rehab.	Millions of BOE
Piedra Blanca	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
San Cayetano	0	1	0	1	0	0.0	0.0	0.0	0.0	0.1
Sespe	1	4	0	5	0	0.0	0.0	0.0	0.0	0.4
Rincon Creek	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
South Cuyama	2	12	2	16	2	1.0	1.0	8.3	7.3	6.0
La Brea Canyon	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Figueroa Mountain	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Lopez Canyon	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Monroe Swell	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Non-HOGPA Area	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Total	3	17	2	22	2	1.0	1.0	8.3	7.3	6.5

The level of oil and gas activity (anticipated numbers of wells, well pads, miles of new roads, and miles of new pipelines) is described in the Reasonable Foreseeable Development (RFD) scenario (see appendices of the EIS). A summary of RFD projections for Alternative 2 is shown in Table 2-3. Note again that this RFD table, as well as all RFD tables, only reflects future activities. The table does not include existing development on lands currently leased.

Even though the RFD predicts no development outside of the High Oil and Gas Potential Areas, this analysis assumes that oil and gas activities could occur anywhere within the Forest identified as being legally available for lease consideration.

TABLE 2-3: REASONABLY FORESEEABLE DEVELOPMENT FOR ALTERNATIVE 2

High Oil & Gas Potential Areas	Number of New Wells Estimated				Additional Amount of Surface Disturbance Estimated			Additional Acres of Surface Disturbance Estimated		Oil & Gas Expected
	Dry	Produce	Inject	Total	# of Pads	Roads (miles)	Pipelines (miles)	Initial (acres)	After Rehab.	Millions of BOE
Piedra Blanca	1	6	1	8	1	5.0	5.0	22.0	12.0	1.3
San Cayetano	4	32	3	39	6	4.0	4.0	38.4	16.0	26.7
Sespe	5	40	4	49	7	2.0	1.0	35.2	12.1	32.1
Rincon Creek	1	2	0	3	1	1.0	0.0	6.0	3.0	0.4
South Cuyama	2	35	4	41	6	3.0	3.0	35.3	14.0	28.3
La Brea Canyon	1	4	0	5	1	1.0	1.0	8.1	4.0	0.8
Figueroa Mountain	1	1	0	2	1	1.0	1.0	6.1	3.0	0.3
Lopez Canyon	1	1	0	2	1	1.0	1.0	6.1	3.0	0.3
Monroe Swell	1	1	0	2	1	1.0	1.0	6.1	3.0	0.0
Non-HOGPA Area	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Total	17	122	12	151	25	19.0	17.0	163.3	70.1	90.2

2.5.3. Identification and Analysis of Alternative 3

The objective of the Alternative 3 leasing scenario is to offer additional LPNF lands for leasing while meeting the requirements of the LPNF Forest Plan. Alternative 3 results from adding stipulations to Alternative 2 to assure the requirements of the Forest Plan are met. The ID Team utilized the LPNF GIS database to determine resource sensitivity to typical oil and gas development activities. Alternative 2 was then analyzed and stipulations were developed to assure compliance with the LPNF Forest Plan. Alternative 3 consists of Alternative 2 and the stipulations, shown below, developed to meet the Forest Plan. All of the lease study area would be offered for lease

2.5.3.1. Alternative 3 Stipulations

2.5.3.1.1. Watershed Resources Stipulations

2.5.3.1.1.1. No Surface Occupancy, (NSO) in areas of:

- *extremely unstable areas on slopes over 20 percent,*
- *active landslides,*
- *soils with very high erosion hazard ratings,*
- *slopes over 50%*
- *within Casitas Reservoir Watershed.*

2.5.3.1.1.2. Limited Surface Use (LSU)

- *Conduct WIN inventory and implement watershed projects in areas within or adjacent to Sespe Oil Field to correct identified soil erosion and water quality problems.*

The locations of these applicable watersheds within or adjacent to Sespe Oil Field, located approximately five miles north of Fillmore, CA, are shown in Figure 2-2. Applicable watersheds are:

<i>Region</i>	<i>Hydrologic Unit</i>	<i>Basin</i>	<i>Watershed #</i>
<i>400 – Los Angeles</i>	<i>403- Santa Clara (700)</i>	<i>403.31 Fillmore – (702)</i>	<i>702.01</i>
<i>400 – Los Angeles</i>	<i>403- Santa Clara (700)</i>	<i>403.31 Fillmore – (702)</i>	<i>702.02</i>
<i>400 – Los Angeles</i>	<i>403- Santa Clara (700)</i>	<i>403.32 Topatopa – (701)</i>	<i>701.44</i>
<i>400 – Los Angeles</i>	<i>403- Santa Clara (700)</i>	<i>403.32 Topatopa – (701)</i>	<i>701.45</i>
<i>400 – Los Angeles</i>	<i>403- Santa Clara (700)</i>	<i>403.32 Topatopa – (701)</i>	<i>701.46</i>

FIGURE 2-1: PROCESS FOR IDENTIFYING, ANALYZING AND DOCUMENTING ALTERNATIVES

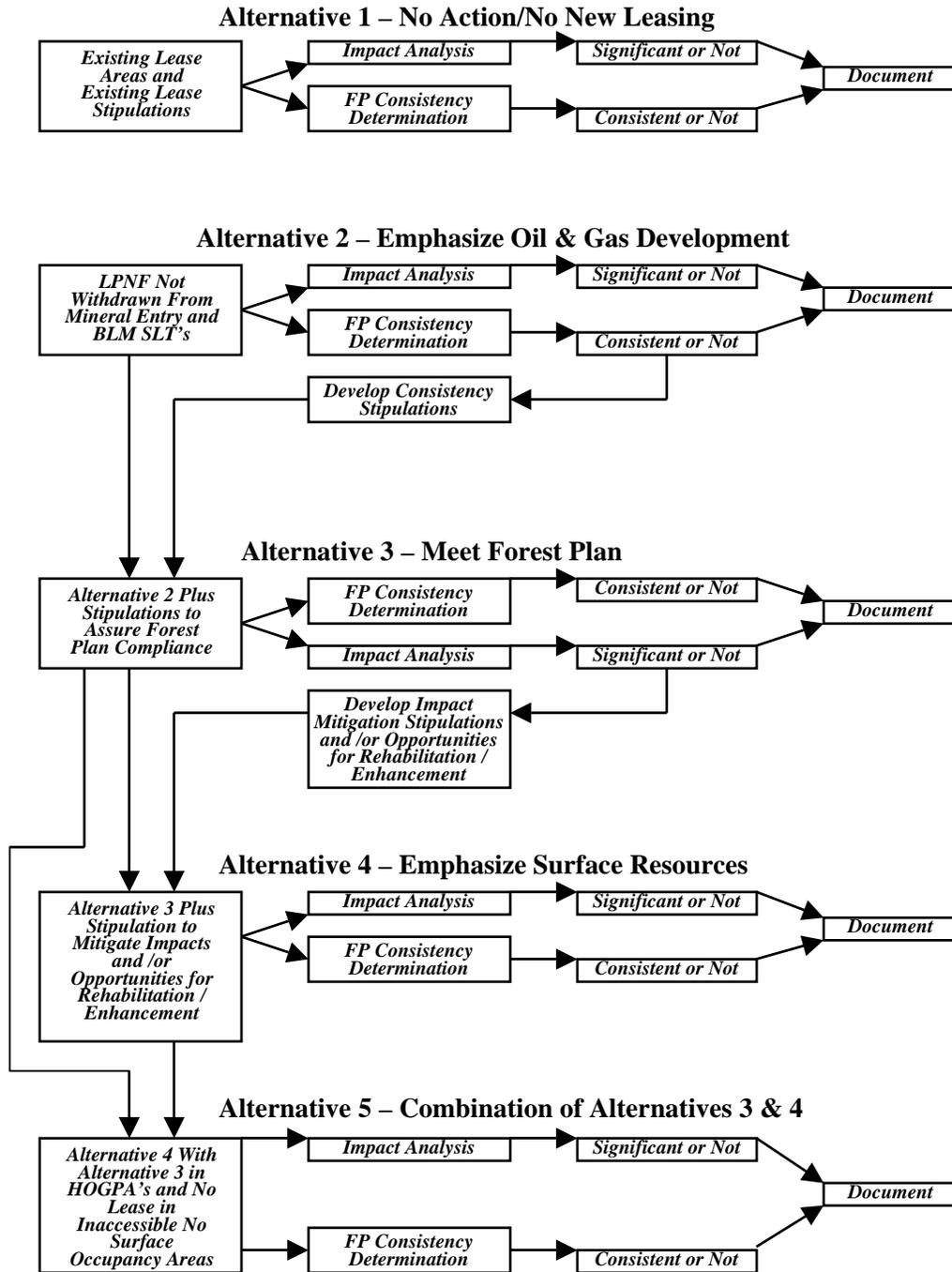
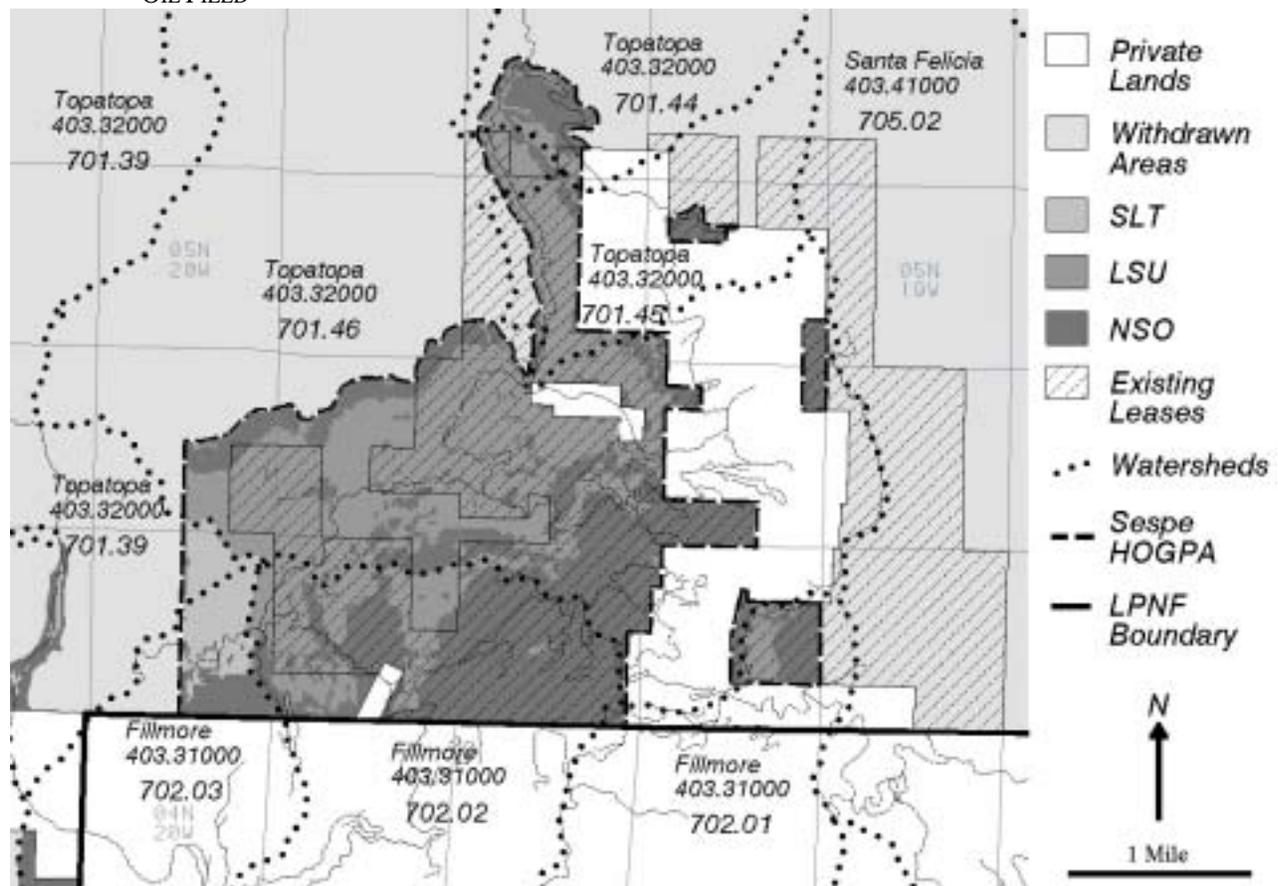


FIGURE 2-2: LOCATION OF WATERSHEDS AND WATERSHED STIPULATIONS WITHIN OR ADJACENT TO SESPE OIL FIELD



2.5.3.1.2. Biological Resource Stipulations

2.5.3.1.2.1. Limited Surface Use (LSU)

- Areas within critical habitat of the California condor. Consultation with USFWS may result in No Surface Occupancy (NSO) designation.
- peregrine falcon nesting habitat ranked A-C.
- grassland and sagebrush habitat in management areas within San Joaquin kit fox range.
- LSU and/or TL (up to NSO) in an alternative 25-acre core habitat area adjacent to occupied northern goshawk nesting sites. Survey and analysis are required which may result in mitigation up to no surface occupancy during nesting.
- LSU (up to NSO) in suitable habitats for Smith's blue butterfly following survey and occupancy confirmation
- Site specific surveys required on potential habitats of sensitive plant species. LSU (up to NSO) on sites determined to be occupied.
- NSO in all designated research natural areas and botanical areas.

2.5.3.1.2.2. Timing Limits, TL

- *Timing limitations (TL) for designated nesting habitat of California spotted owl. This may result in NSO during nesting season (Mar. 1-Aug. 30)*

2.5.3.1.3. Recreation Stipulations

2.5.3.1.3.1. No Surface Occupancy, (NSO)

- *within one-half (1/2) mile of a developed recreation site.*
- *Areas designated "Semi-Primitive Non-Motorized" ROS class.*
- *All designated and study Wild & Scenic River corridors, specifically 1/4 mile from the high water line on either side of the river channel.*

2.5.3.1.3.2. Limited Surface Use (LSU)

- *Permitted density per square mile of any oil and/or gas facilities is limited, as shown in the following table, based on the Recreation Opportunity Spectrum (ROS) class in which the specific facility is proposed.*

Type of Facility	Recreation Opportunity Spectrum (ROS) Class					
	Urban	Rural	Roaded Natural	Semi-Primitive Motorized	Semi-Primitive Non-Motorized	Primitive
Number of Oil Wells	50	40	16	8	0	0
Number of Well Pads, Treatment Facilities, and/or Tank Farms	16	13	5	3	0	0
Miles of Roads	9	7	2.8	1.4	0	0
Miles of Pipelines	9	7	2.8	1.4	0	0

2.5.3.1.4. Scenic Stipulations

2.5.3.1.4.1. No Surface Occupancy, (NSO)

- *Where oil and gas activities would be visible and in the foreground (within 1/2 mile of sensitivity level one or two travelways, recreation areas, or waterbodies) and that have a "retention" or "partial retention" visual quality objective in the Forest Plan.*
- *Chamise-dominated chaparral, grassland, barren area, coastal-sage-scrub, or great basin sage seen as foreground and/or middleground (within 4 miles of travelways, recreation areas, or waterbodies) and that has a "retention" or "partial retention" visual quality objective in the Forest Plan.*
- *Chamise-dominated chaparral, grassland, barren area, coastal-sage-scrub, great basin sage, mixed north-slope chaparral, or pinyon juniper seen as foreground (within 1/2 mile of travelways, recreation areas, or waterbodies) and that has a "modification" visual quality objective in the Forest Plan.*
- *Slopes in excess of 55% gradient.*

2.5.3.1.4.2. Limited Surface Use, (LSU)

- *In any of the areas described in a., b., or c. below, as part of any lessee proposed plan or application that includes surface disturbance such as Surface Use Plans of Operations, SUPO's, Applications for Permit to Drill, (APD's), and Field Development Plans (FDP's), lessee shall provide Forest Service (FS) with computer generated, color, visual simulations superimposed onto color photography taken from key observation positions (KOPs) identified by FS. For project approval, the simulation must illustrate to FS that the proposed project is adequately designed and situated to meet the VQO's and/or that the existing landform and vegetation will screen the project as seen from the KOPs:*
 - a. *Areas seen as middleground or background, or seldom seen, with a Retention or Partial Retention Visual Quality Objective;*
 - b. *Areas where proposed project facilities will include linear features (such as roads or powerlines) within chamise-dominated-chaparral, grassland; or barren areas, coastal sage scrub, or great basin sage.*
 - c. *Areas with slopes between 35% and 55%.*

- *The Forest Supervisor will allow underachievement of the VQO's by one level under the following conditions. Rehabilitation activities may require NEPA analysis and documentation.*
 - a. *The area is not in landscape variety class A;*
 - b. *The resultant future scenic condition does not go below the minimum VQO specified for the applicable Management Area(s) in the Forest Plan;*
 - c. *The resultant future scenic condition does not constitute a significant impact;*
 - d. *The lessee submits and FS approves a Landscape Rehabilitation Plan to provide mitigation in the form of off-site landscape rehabilitation in area(s) specified by FS that are no smaller in total size than the proposed surface disturbance. If approved, the lessee must implement the landscape rehabilitation plan within six months of starting the surface disturbing activities proposed.*

Table 2-4 shows the number of acres under various types of stipulations for Alternative 3. This table and subsequent Table 2-6, 2-9, 2-11 & 2-13 **do not** include existing lease acres.

RFD projections for Alternative 3 are provided in Table 2-5. Note that the number of wells, estimated surface disturbance, and other data presented are considerably less than that projected for Alternative 2. This is due to the application of the Alternative 3 stipulations presented earlier in this chapter.

2.5.4. Identification and Analysis of Alternative 4

The objective of the Alternative 4 scenario is to offer additional LPNF lands for leasing while meeting the Forest Plan and further emphasizing surface resources. Alternative 4 would allow additional oil and gas leasing provided that it was consistent with the standard requirements and guidelines of the Forest Plan, mitigated or avoided potentially significant impacts and presented opportunities to rehabilitate existing adverse impact areas. All of the lease study area would be offered for lease.

Alternative 3 was analyzed and additional stipulations were developed to further protect surface resources and to provide off-site mitigation of existing impacts.

TABLE 2-4: ACRES UNDER VARIOUS STIPULATIONS FOR ALTERNATIVE 3

High Oil & Gas Potential Areas	No Surface Occupancy	Limited Surface Use	Both Limited Surface Use and Timing Limitations	Timing Limitations	Standard Lease Terms Only	Totals
Piedra Blanca	2758	34	0	0	23	2,815
San Cayetano	13,138	298	0	0	8	13,444
Sespe	11,777	1,002	0	0	103	12,882
Rincon Creek	6,770	1,610	272	136	264	9,052
South Cuyama	33,248	17,341	203	387	29,079	80,258
La Brea Canyon	6,877	1,568	0	0	828	9,273
Figueroa Mtn	7,900	274	562	1	8	8,745
Lopez Canyon	2,205	41	0	5	6	2,257
Monroe Swell	570	14	0	0	16	600
Total HOGPAs (acres) (percent of study area)	85,243 11.1%	22,182 2.9%	1,037 0.1%	529 0.1%	30,335 4.0%	139,326 18.2%
Non-HOGPA (acres) (percent of study area)	427,056 55.7%	104,750 13.7%	6,988 0.9%	978 0.1%	87,769 11.4%	627,541 81.8%
Total (acres) (percent of study area)	512,299 66.8%	126,932 16.6%	8,025 1.0%	1,507 0.2%	118,104 15.4%	766,867 100.0%

TABLE 2-5: REASONABLY FORESEEABLE DEVELOPMENT FOR ALTERNATIVE 3

High Oil & Gas Potential Areas	Number of New Wells Estimated				Additional Amount of Surface Disturbance Estimated			Additional Acres of Surface Disturbance Estimated		Oil & Gas Expected
	Dry	Produce	Inject	Total	# of Pads	Roads (miles)	Pipelines (miles)	Initial (acres)	After Rehab.	Millions of BOE
Piedra Blanca	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
San Cayetano	2	4	0	6	1	0.1	0.0	3.0	3.0	0.5
Sespe	3	10	1	14	3	1.0	1.0	14.5	8.5	2.5
Rincon Creek	1	1	0	2	1	0.0	0.0	3.0	3.0	0.1
South Cuyama	2	30	3	35	5	2.0	2.0	21.5	14.0	18.0
La Brea Canyon	0	2	1	3	1	0.0	0.0	3.0	3.0	0.1
Figueroa Mountain	0	1	0	1	0	0.0	0.0	0.0	0.0	0.1
Lopez Canyon	1	1	0	2	0	0.0	0.0	0.0	0.0	0.1
Monroe Swell	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Non-HOGPA Area	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Total	9	49	5	63	11	3.1	3.0	45.0	31.5	21.4

2.5.4.1. Alternative 4 Stipulations

2.5.4.1.1. Biological Resource Stipulations

These biological stipulations are in addition to Alternative 3 stipulations, which also apply where indicated to Alternative 4.

2.5.4.1.1.1. No Surface Occupancy, (NSO)

- *Except for approved road crossings, NSO within 300 feet of anadromous fish streams or within 150 feet of all fish-bearing perennial streams.*

2.5.4.1.1.2. Limited Surface Use, (LSU)

- *in peregrine falcon nesting habitat ranked A-D.*
- *for all designated nesting habitats (may result in NSO within ½ mile of sites). Timing limitations (TL) of NSO during nesting season (Mar. 1-Aug. 30) for designated nesting habitat of California spotted owl.*
- *LSU and TL (up to NSO) in two 25 acre alternative core habitat areas adjacent to known northern goshawk nesting sites.*

2.5.4.1.2. Recreation Resource Stipulations

These recreation stipulations are in addition to Alternative 3 stipulations which also apply where indicated to Alternative 4.

2.5.4.1.2.1. Limited Surface Use, (LSU)

- *For any new lease that is situated between one-half (1/2) mile and one (1) mile of any existing developed recreation site, the lessee shall rehabilitate/enhance existing recreation resource values and/or facilities. The lessee shall prepare a Developed Recreation Plan for the rehabilitation/enhancement of the recreation experiences at developed recreation sites, and shall submit the Plan to FS for approval prior to implementation. The lessee and FS shall negotiate recreation rehabilitation work to be done by the lessee. These rehabilitation/enhancement activities may require NEPA documents and must result in a minimum of no net loss of developed recreational opportunities as determined by FS.*
- *For any new lease that is within three (3) miles of any "Primitive" ROS class, the lessee shall prepare a Dispersed Recreation Plan for the rehabilitation/enhancement of the recreation experience at dispersed recreation areas, and shall submit the Plan to FS for approval prior to implementation. The lessee and FS shall negotiate recreation rehabilitation work to be done by the lessee. These activities may require NEPA documentation and must result in a minimum of no net loss of dispersed recreational opportunities as determined by FS.*

2.5.4.1.3. Scenic Resource Stipulations

2.5.4.1.3.1. Limited Surface Use, (LSU)

- *In any of the areas described in a., b., or c. below, as part of any lessee proposed plan or application that includes surface disturbance such as Surface Use Plans of Operations, SUPO's, Applications for Permit to Drill, (APD's), and Field Development Plans (FDP's), lessee shall provide FS with computer generated, color, visual simulations superimposed onto color photography taken from key observation positions (KOPs) identified by FS. For project approval, the simulation must illustrate to FS that the proposed project is adequately designed and situated to meet the VQO's and/or that the existing landform and vegetation will screen the project as seen from the KOPs:*
 - a) *Areas seen as middleground or background, or seldom seen, with a Retention or Partial Retention Visual Quality Objective;*
 - b) *Areas where proposed project facilities will include linear features (such as roads or powerlines) within chamise-dominated-chaparral, grassland; or barren areas, coastal sage scrub, or great basin sage.*
 - c) *Areas with slopes between 35% and 55%.*
- *In areas where the predicted future scenic conditions, assuming SLT's, meets, but does not exceed, the VQO's the following LSU stipulation shall apply. Rehabilitation activities may require NEPA analysis and documentation. In order to occupy the surface, the lessee must submit and FS must approve a Landscape Rehabilitation Plan to provide mitigation in the form of off-site landscape rehabilitation in area(s) specified by FS that are no smaller in total size than the proposed surface disturbance. If approved, the lessee must implement the landscape rehabilitation plan within six months of starting the surface disturbing activities proposed.*

2.5.4.1.3.2. No Surface Occupancy, (NSO)

- *Where oil and gas activities would be visible as foreground (within 1/2 mile of sensitivity level one or two travelways, recreation areas, or waterbodies) and that has a "retention" or "partial retention" visual quality objective in the Forest Plan.*
- *Chamise-dominated chaparral, grassland, barren area, coastal-sage-scrub, or great basin sage seen as foreground and/or middleground (within 4 miles of travelways, recreation areas, or waterbodies) and that has a "retention" or "partial retention" visual quality objective in the Forest Plan.*
- *Chamise-dominated chaparral, grassland, barren area, coastal-sage-scrub, great basin sage, mixed north-slope chaparral, or pinyon juniper seen as foreground (within 1/2 mile of travelways, recreation areas, or waterbodies) and that has a "modification" visual quality objective in the Forest Plan.*
- *Slopes in excess of 55% gradient.*
- *Where the scenic condition would be changed from non-human dominated to human dominated.*

These additional scenic stipulations and similar stipulations for other surface resources were applied to create Alternative 4. Table 2-6 shows the number of acres under various types of stipulations and lease terms for Alternative 4.

RFD projections for Alternative 4 are provided in Table 2-7. As could be expected by the more restrictive stipulations, development projections for Alternative 4 are somewhat less than for Alternative 3.

TABLE 2-6: STUDY AREA ACRES UNDER VARIOUS STIPULATIONS FOR ALTERNATIVE 4.

High Oil & Gas Potential Areas	No Surface Occupancy	Limited Surface Use	Limited Surface Use and Timing Limitations	Timing Limitations	Standard Lease Terms Only	Totals
Piedra Blanca	2758	57	0	0	0	2,815
San Cayetano	13,138	306	0	0	0	13,444
Sespe	11,971	911	0	0	0	12,882
Rincon Creek	6,770	1,808	411	0	63	9,052
South Cuyama	35,098	30,230	566	0	14,364	80,258
La Brea Canyon	6,989	2,013	0	0	271	9,273
Figueroa Mtn	7,988	272	482	0	3	8,745
Lopez Canyon	2,205	40	12	0	0	2,257
Monroe Swell	570	22	0	0	8	600
Total HOGPAs (acres) (percent of study area)	87,487 11.4%	35,659 4.6%	1,471 0.2%	0 0.0%	14,709 1.9%	139,326 18.2%
Non-HOGPA (acres) (percent of study area)	434,051 56.6%	152,360 19.9%	7,254 0.9%	21 0.0%	33,855 4.4%	627,541 81.8%
Total (acres) (percent of study area)	521,538 68.0%	188,019 24.5%	8,725 1.1%	21 0.0%	48,564 6.3%	766,867 100.0%

TABLE 2-7: REASONABLY FORESEEABLE DEVELOPMENT FOR ALTERNATIVE 4

High Oil & Gas Potential Areas	Number of New Wells Estimated				Additional Amount of Surface Disturbance Estimated			Additional Acres of Surface Disturbance Estimated		Oil & Gas Expected
	Dry	Produce	Inject	Total	# of Pads	Roads (miles)	Pipelines (miles)	Initial (acres)	After Rehab.	Millions of BOE
Piedra Blanca	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
San Cayetano	2	4	0	6	1	0.1	0.0	3.0	3.0	0.5
Sespe	3	10	1	14	3	1.0	1.0	14.5	8.5	2.5
Rincon Creek	1	1	0	2	1	0.0	0.0	3.0	3.0	0.1
South Cuyama	2	24	2	28	4	2.0	2.0	19.5	14.0	14.0
La Brea Canyon	0	2	1	3	1	0.0	0.0	3.0	3.0	0.1
Figueroa	0	1	0	1	0	0.0	0.0	0.0	0.0	0.1
Lopez Canyon	1	1	0	2	0	0.0	0.0	0.0	0.0	0.1
Monroe Swell	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Non-HOGPA	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Total	9	43	4	56	10	3.1	3.0	43.0	31.5	17.4

2.5.5. Identification and Analysis of Alternative 5

Land offered for lease under Alternative 5 would be under either the Alternative 3 terms with Alternative 4 biological lease terms or Alternative 4 terms depending on whether it was located in a HOGPA (Alternative 3 plus Alternative 4 biological terms) or non-HOGPA area (Alternative 4) as shown in Table 2-8. The intent is to discourage leasing activities where the oil and gas potential is lower and/or the environmental sensitivity is higher. This combination alternative offers the protection of Alternative 3 mitigating stipulations, as a minimum, where the oil and gas potential is high. Where the potential is high and biological sensitivity is high, Alternative 4 biological stipulations are applied along with Alternative 3 stipulations. Where the oil and gas potential is not high, the additional mitigating stipulations of Alternative 4 are added.

Alternative 5 would offer less land for lease. BLM staff reviewed alternatives 1 through 4 and commented that some of the NSO lands in alternatives 3 and 4 may not be accessible and that it is BLM policy not to offer land for lease that can't be reasonably accessed. Oil and gas resources below land leased with no surface occupancy (NSO) stipulations are sometimes accessed by slant drilling from drill pads located on land outside the NSO area. The assumed limit of current technology for slant drilling is 1/2 mile on LPNF. Consequently, land more than 1/2 mile within NSO areas or more than 1/2 mile from accessible private land within NSO areas is not offered for lease in Alternative 5.

TABLE 2-8: FORMATION OF ALTERNATIVE 5

<i>Oil and Gas Potential</i>	High	Not High
<i>Alternative Scenario to Apply</i>	Alternative 3 + Alternative 4 Biological terms	Alternative 4

The GIS database was utilized to produce Alternative 5. Alternative 4 was first modified to include Alternative 3 non-biological lease terms within the HOGPA's. An analysis was then performed to determine what parts of areas with NSO stipulations could not be accessed by typical slant drilling methods. NSO areas that were determined not to be accessible were allocated to No Lease (NL).

Table 2-9 shows the number of acres under various types of stipulations and lease terms for Alternative 5.

RFD projections for Alternative 5 are shown in Table 2-10 and are the same as Alternative 3. Oil and gas development is only reasonably foreseeable in HOGPA's. The stipulations for Alternative 5 within HOGPA's are the same as Alternative 3 except for biological terms. The difference in biological terms between Alternatives 3 and 4 do not affect the RFD projections. Consequently, the RFD projections for Alternatives 5 and 3 are the same.

TABLE 2-9: STUDY AREA ACRES UNDER VARIOUS STIPULATIONS FOR ALTERNATIVE 5.

High Oil & Gas Potential Areas	No Lease	No Surface Occupancy	Limited Surface Use	Limited Surface Use and Timing Limitations	Timing Limitations	Standard Lease Terms Only	Totals
Piedra Blanca	1,994	765	33			23	2,815
San Cayetano	4,793	8,310	336			5	13,444
Sespe	3,065	8,701	1,020			96	12,882
Rincon Creek	971	5,892	1,541	391		257	9,052
South Cuyama	3,516	29,787	17,618	587	0	28,750	80,258
La Brea Canyon	251	6,624	1,571			827	9,273
Figueroa Mtn	1,425	6,509	273	533		5	8,745
Lopez Canyon		2,187	53	11		6	2,257
Monroe Swell		570	14			16	600
Total HOGPAs (acres) (percent of study area)	16,015 2.1%	69,345 9.0%	22,459 2.9%	1,522 0.2%	0 0.0%	29,985 3.9%	139,326 18.2%
Non-HOGPA (acres) (percent of study area)	116,716 15.2%	317,335 41.4%	152,360 19.9%	7,254 0.9%	21 < 0.1%	33,855 4.4%	627,541 81.8%
Total (acres) (percent of study area)	132,731 17.3%	386,680 50.4%	174,819 22.8%	8,776 1.1%	21 < 0.1%	63,840 8.3%	766,867 100.0%

TABLE 2-10: REASONABLY FORESEEABLE DEVELOPMENT FOR ALTERNATIVE 5

High Oil & Gas Potential Areas	Number of New Wells Estimated				Additional Amount of Surface Disturbance Estimated			Additional Acres of Surface Disturbance Estimated		Oil & Gas Expected
	Dry	Produce	Inject	Total	# of Pads	Roads (miles)	Pipelines (miles)	Initial (acres)	After Rehab.	Millions of BOE
Piedra Blanca	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
San Cayetano	2	4	0	6	1	0.1	0.0	3.0	3.0	0.5
Sespe	3	10	1	14	3	1.0	1.0	14.5	8.5	2.5
Rincon Creek	1	1	0	2	1	0.0	0.0	3.0	3.0	0.1
South Cuyama	2	30	3	35	5	2.0	2.0	21.5	14.0	18.0
La Brea Canyon	0	2	1	3	1	0.0	0.0	3.0	3.0	0.1
Figueroa Mountain	0	1	0	1	0	0.0	0.0	0.0	0.0	0.1
Lopez Canyon	1	1	0	2	0	0.0	0.0	0.0	0.0	0.1
Monroe Swell	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Non-HOGPA Area	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Total	9	49	5	63	11	3.1	3.0	45.0	31.5	21.4

2.5.6. Identification and Analysis of Alternatives 4a and 5a

Alternatives 4a and 5a were added to give emphasis to the inventoried roadless areas (IRA's) of LPNF and provide consistency with the Roadless Area Conservation Rule issued on January 12, 2001. As their names imply, these alternatives build upon alternatives 4 and 5. In both alternatives the IRA's are given the protection of the No Surface Occupancy (NSO) stipulation. In Alternative 5, all NSO areas that could not be accessed by slant drilling under the NSO area from outside the NSO area are not leased. Consequently, any land more than ½ mile within an IRA or more than ½ mile from an accessible island of private land within an IRA is not offered for lease in Alternative 5a.

Tables 2-11 through 2-14 show the RFD projections and the number of acres under various types of stipulations and lease terms for alternatives 4a and 5a. The RFD projections for alternatives 4a and 5a are the same.

The RFD for Alternatives 4a and 5a assume access to the South Cuyama HOGPA from adjacent private lands for almost all of the 14 million barrels projected. This access is speculative but felt to be reasonably foreseeable given the history of similar slant drilling access to National Forest System land on the LPNF. Under existing leases oil and gas resources under the Sespe Wilderness are accessed by slant drilling from adjacent private land.

TABLE 2-11: STUDY AREA ACRES UNDER VARIOUS STIPULATIONS FOR ALTERNATIVE 4A

High Oil & Gas Potential Areas	No Surface Occupancy	Limited Surface Use	Limited Surface Use and Timing Limitations	Timing Limitations	Standard Lease Terms Only	Totals
Piedra Blanca	2,805	10	0	0	0	2,815
San Cayetano	13,386	58	0	0	0	13,444
Sespe	12,012	870	0	0	0	12,882
Rincon Creek	7,765	1,060	178	0	49	9,052
South Cuyama	77,326	2,116	175	0	641	80,258
La Brea Canyon	8,551	588	0	0	134	9,273
Figueroa Mtn	8,034	228	482	0	1	8,745
Lopez Canyon	2,213	42	2	0	0	2,257
Monroe Swell	570	22	0	0	8	600
Total HOGPAs (acres) (percent of study area)	132,662 17.3%	4,994 0.7%	837 0.1%	0 0.0%	833 0.1%	139,326 18.2%
Non-HOGPA (acres) (percent of study area)	570,629 74.4%	42,874 5.6%	2,722 0.4%	7 < 0.1%	11,309 1.5%	627,541 81.8%
Total (acres) (percent of study area)	703,291 91.7%	47,868 6.2%	3,559 0.5%	7 < 0.1%	12,142 1.6%	766,867 100.0%

TABLE 2-12: REASONABLY FORESEEABLE DEVELOPMENT FOR ALTERNATIVE 4A

High Oil & Gas Potential Areas	Number of New Wells Estimated				Additional Amount Surface Disturbance Estimated			Additional Acres of Surface Disturbance Estimated		Oil & Gas Expected
	Dry	Produce	Inject	Total	# of Pads	Roads (miles)	Pipelines (miles)	Initial	After Rehab	Millions of BOE
Piedra Blanca	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
San Cayetano	2	4	0	6	1	0.0	0.0	3.0	3.0	0.5
Sespe	3	10	1	14	3	1.0	1.0	14.5	8.5	2.5
Rincon Creek	1	1	0	2	1	0.0	0.0	3.0	3.0	0.1
South Cuyama	1	4	0	5	1	0.0	1.0	3.0	3.0	14.0
La Brea Canyon	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Figueroa Mountain	0	1	0	1	0	0.0	0.0	0.0	0.0	0.1
Lopez Canyon	1	1	0	2	0	0.0	0.0	0.0	0.0	0.1
Monroe Swell	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Non-HOGPA Area	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Total	8	21	1	30	6	1.0	2.0	23.5	17.5	17.3

TABLE 2-13: STUDY AREA ACRES UNDER VARIOUS STIPULATIONS FOR ALTERNATIVE 5A.

High Oil & Gas Potential Areas	No Lease	No Surface Occupancy	Limited Surface Use	Both Limited Surface Use and Timing Limitations	Timing Limitations	Standard Lease Terms Only	Totals
Piedra Blanca	2,084	722	8	0	0	1	2,815
San Cayetano	5,061	8,334	47	0	0	2	13,444
Sespe	3,117	8,762	908	0	0	95	12,882
Rincon Creek	1,514	6,284	864	179	0	211	9,052
South Cuyama	46,331	30,702	1,703	183	0	1,339	80,258
La Brea Canyon	2,683	5,834	421	0	0	335	9,273
Figueroa Mtn	1,511	6,474	226	533	0	1	8,745
Lopez Canyon	0	2,188	52	11	0	6	2,257
Monroe Swell	0	570	14	0	0	16	600
Total HOGPAs (acres)	62,301	69,870	4,243	906	0	2,006	139,326
(percent of study area)	8.1%	9.1%	0.6%	0.1%	0.0%	0.3%	18.2%
Non-HOGPA (acres)	261,474	309,155	42,874	2,722	7	11,309	627,541
(percent of study area)	34.1%	40.3%	5.6%	0.4%	< 0.1%	1.5%	81.8%
Total (acres)	323,775	379,025	47,117	3,628	7	13,315	766,867
(percent of study area)	42.2%	49.4%	6.1%	0.5%	< 0.1%	1.7%	100.0%

TABLE 2-14: REASONABLY FORESEEABLE DEVELOPMENT FOR ALTERNATIVE 5A

High Oil & Gas Potential Areas	Number of New Wells Estimated				Additional Amount Surface Disturbance Estimated			Additional Acres of Surface Disturbance Estimated		Oil & Gas Expected
	Dry	Produce	Inject	Total	# of Pads	Roads (miles)	Pipelines (miles)	Initial	After Rehab.	Millions of BOE
Piedra Blanca	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
San Cayetano	2	4	0	6	1	0.0	0.0	3.0	3.0	0.5
Sespe	3	10	1	14	3	1.0	1.0	14.5	8.5	2.5
Rincon Creek	1	1	0	2	1	0.0	0.0	3.0	3.0	0.1
South Cuyama	1	4	0	5	1	0.0	1.0	3.0	3.0	14.0
La Brea Canyon	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Figuroa Mountain	0	1	0	1	0	0.0	0.0	0.0	0.0	0.1
Lopez Canyon	1	1	0	2	0	0.0	0.0	0.0	0.0	0.1
Monroe Swell	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Non-HOGPA Area	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Total	8	21	1	30	6	1.0	2.0	23.5	17.5	17.3

2.6. COMPARISON OF ALTERNATIVE LEASING SCENARIOS

The alternative leasing scenarios vary by:

- Amount and location of land offered for lease and
- location where various stipulations would be applied.

Table 2-15 shows the acreage of LPNF that would not be offered for lease and the acreage under each type of stipulation for the lands that would be offered for lease for each alternative. Table 2-16 shows the same information displayed by percent of LPNF. Figure 2-3 shows the same information in a three dimensional bar chart.

TABLE 2-15: COMPARISON OF LEASE DECISIONS BY ALTERNATIVE FOREST-WIDE (ACRES)

Alternative Leasing Scenario	Lease Decision and Terms/Stipulations (acres)					
	No New Leases ¹	No Surface Occupancy	Limited Surface Use	Limited Surface Use & Timing Limits	Timing Limits	Standard Lease Terms
1	1,775,744	0	0	0	0	0
2	1,008,877	0	0	0	0	766,867
3	1,008,877	512,299	126,932	8,025	1,507	118,104
4	1,008,877	521,538	188,019	8,725	21	48,564
4a	1,008,877	703,291	47,868	3,559	7	12,142
5	1,141,608	386,680	174,819	8,776	21	63,840
5a	1,332,652	379,025	47,117	3,628	7	13,315

TABLE 2-16: COMPARISON OF LEASE DECISIONS BY ALTERNATIVE FOREST-WIDE (%)

Alternative Leasing Scenario	Lease Decision and Terms/Stipulations (percent)					
	No New Leases	No Surface Occupancy	Limited Surface Use	Limited Surface Use & Timing Limits	Timing Limits	Standard Lease Terms
1 ¹	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2	56.8%	0.0%	0.0%	0.0%	0.0%	43.2%
3	56.8%	28.8%	7.1%	0.5%	0.1%	6.7%
4	56.8%	29.4%	10.6%	0.5%	< 0.1%	2.7%
4a	56.8%	39.6%	2.7%	0.2%	< 0.1%	0.7%
5	64.3%	21.8%	9.8%	0.5%	< 0.1%	3.6%
5a	75.0%	21.3%	2.7%	0.2%	< 0.1%	0.7%

¹ Existing leases allowed to continue as long as they are producing and following existing lease terms.

FIGURE 2-3: FOREST-WIDE COMPARISON OF LEASE DECISIONS BY ALTERNATIVE

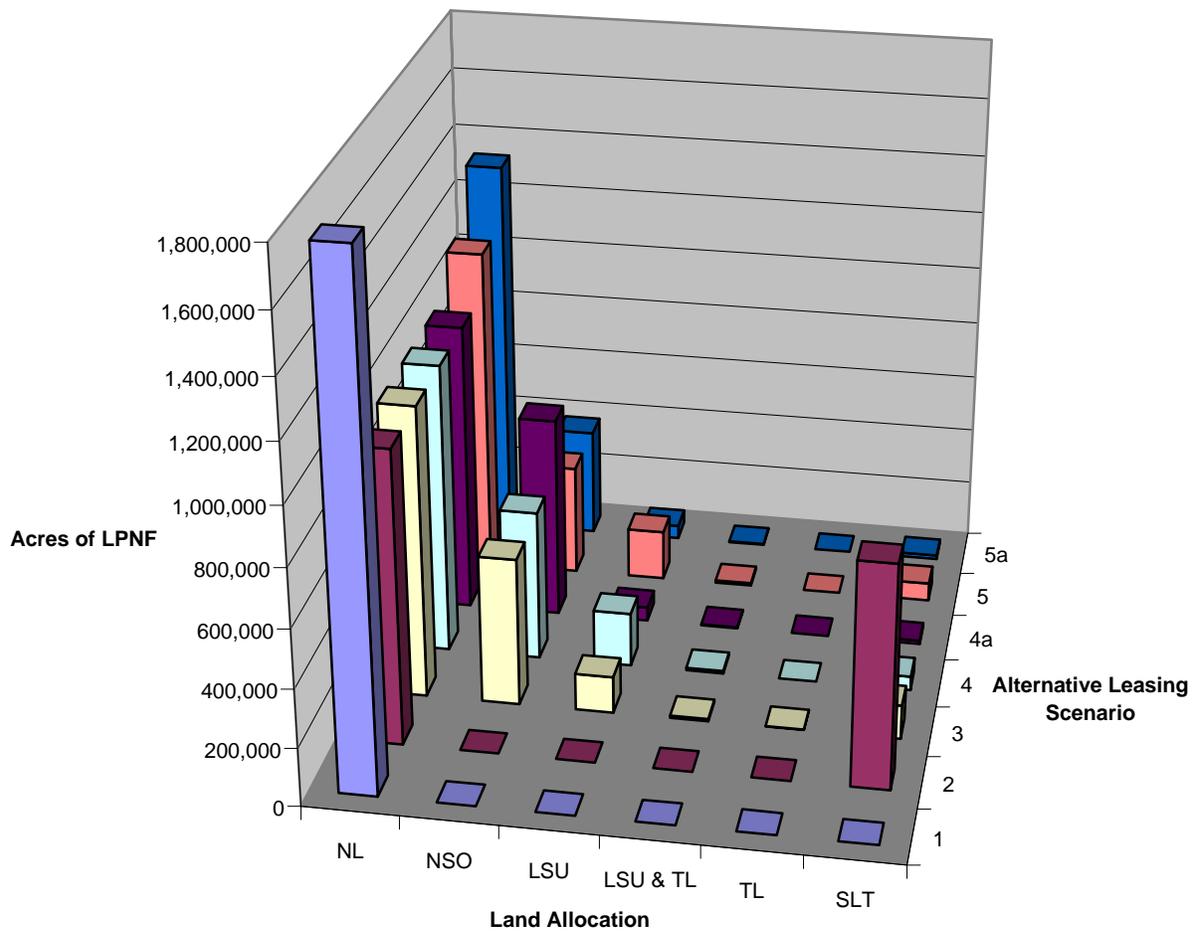


Table 2-17 shows the acreage of the lease study area that would not be offered for lease and the acreage under each type of stipulation for the lands that would be offered for lease for each alternative. Table 2-18 shows the same information displayed by percent of LPNF. Figure 2-4 shows the same information in a three-dimensional bar chart.

TABLE 2-17: COMPARISON OF LEASE DECISIONS BY ALTERNATIVE FOR LEASE STUDY AREA (ACRES)

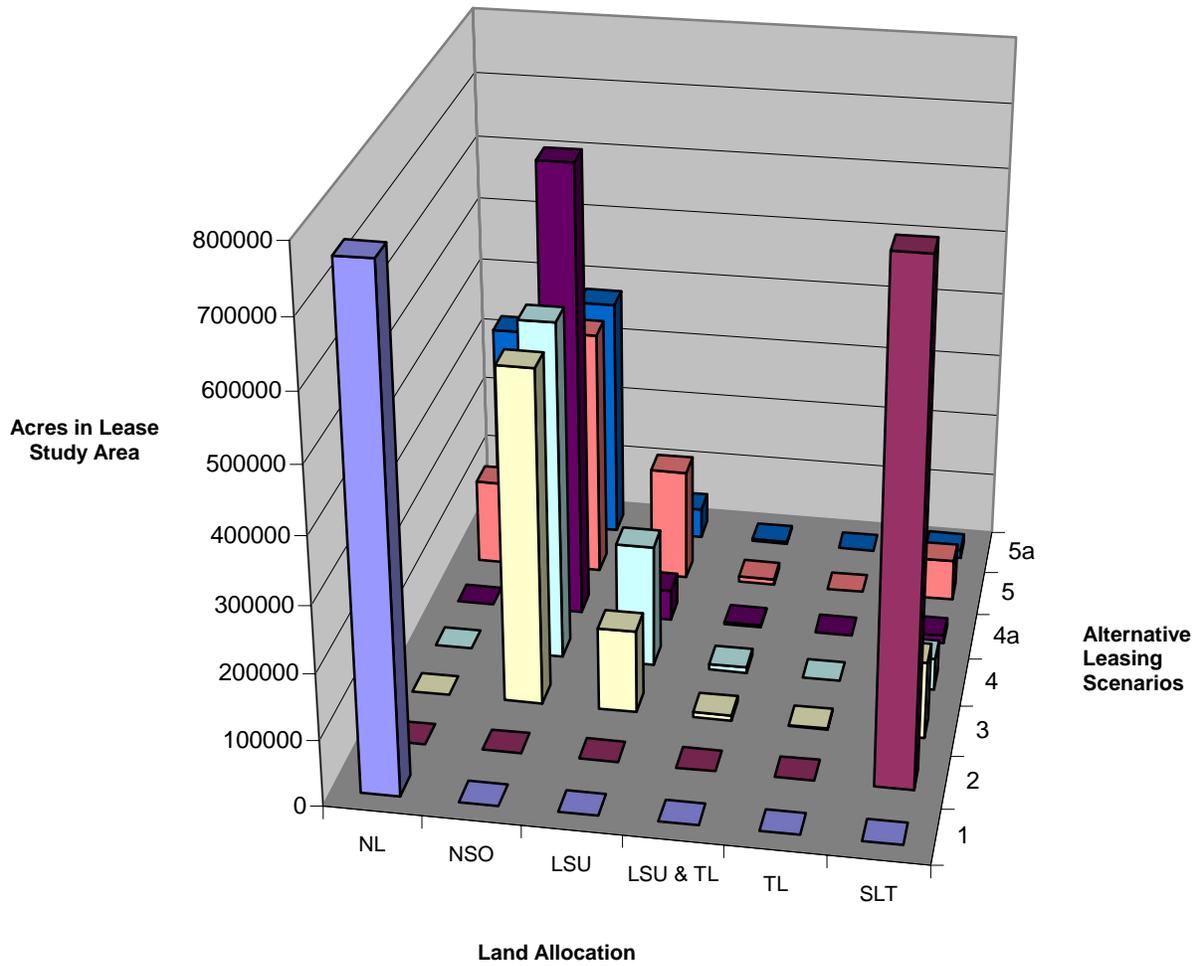
Alternative Leasing Scenario	Lease Decision and Terms/Stipulations (acres)					
	<i>No New Leases</i> ¹	<i>No Surface Occupancy</i>	<i>Limited Surface Use</i>	<i>Limited Surface Use & Timing Limits</i>	<i>Timing Limits</i>	<i>Standard Lease Terms</i>
1	766,867	0	0	0	0	0
2	0	0	0	0	0	766,867
3	0	512,299	126,932	8,025	1,507	118,104
4	0	521,538	188,019	8,725	21	48,564
4a	0	703,291	47,868	3,559	7	12,142
5	132,731	386,680	174,819	8,776	21	63,840
5a	323,775	379,025	47,117	3,628	7	13,315

TABLE 2-18: COMPARISON OF LEASE DECISIONS BY ALTERNATIVE FOR LEASE STUDY AREA (%)

Alternative Leasing Scenario	Lease Decision and Terms/Stipulations (percent)					
	<i>No New Leases</i>	<i>No Surface Occupancy</i>	<i>Limited Surface Use</i>	<i>Limited Surface Use & Timing Limits</i>	<i>Timing Limits</i>	<i>Standard Lease Terms</i>
1 ¹	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
3	0.0%	66.8%	16.6%	1.0%	0.2%	15.4%
4	0.0%	68.0%	24.5%	1.1%	< 0.1%	6.3%
4a	0.0%	91.7%	6.2%	0.5%	< 0.1%	1.6%
5	17.3%	50.4%	22.8%	1.1%	< 0.1%	8.3%
5a	42.2%	49.4%	6.1%	0.5%	< 0.1%	1.7%

¹ Existing leases allowed to continue as long as they are producing and following existing lease terms.

FIGURE 2-4: COMPARISON OF LEASE DECISIONS BY ALTERNATIVE FOR THE LEASE STUDY AREA



Tables 2-19 through 2-25 show the acres and percent of the HOGPA's and the non-HOGPA area that are allocated to No New Leases, various stipulations or standard lease terms for each of the alternatives being considered.

TABLE 2-19: STUDY AREA ALLOCATIONS FOR ALTERNATIVE 1.

Portion of Study Area	No New Lease	No Surface Occupancy	Limited Surface Use	Limited Surface Use and Timing Limitations	Timing Limitations	Standard Lease Terms	Totals
Piedra Blanca (acres)	2,815	0	0	0	0	0	2,815
(percent of HOGPA)	100%	0%	0%	0%	0%	0%	100%
San Cayetano (acres)	13,444	0	0	0	0	0	13,444
(percent of HOGPA)	100%	0%	0%	0%	0%	0%	100%
Sespe (acres)	12,882	0	0	0	0	0	12,882
(percent of HOGPA)	100%	0%	0%	0%	0%	0%	100%
Rincon Creek (acres)	9,052	0	0	0	0	0	9,052
(percent of HOGPA)	100%	0%	0%	0%	0%	0%	100%
South Cuyama (acres)	80,258	0	0	0	0	0	80,258
(percent of HOGPA)	100%	0%	0%	0%	0%	0%	100%
La Brea Canyon (acres)	9,273	0	0	0	0	0	9,273
(percent of HOGPA)	100%	0%	0%	0%	0%	0%	100%
Figueroa Mtn (acres)	8,745	0	0	0	0	0	8,745
(percent of HOGPA)	100%	0%	0%	0%	0%	0%	100%
Lopez Canyon (acres)	2,257	0	0	0	0	0	2,257
(percent of HOGPA)	100%	0%	0%	0%	0%	0%	100%
Monroe Swell (acres)	600	0	0	0	0	0	600
(percent of HOGPA)	100%	0%	0%	0%	0%	0%	100%
Total HOGPAs (acres)	139,326	0	0	0	0	0	139,326
(percent of study area)	100%	0%	0%	0%	0%	0%	100%
Non-HOGPA (acres)	627,541	0	0	0	0	0	627,541
(percent of Non-HOGPA)	100%	0%	0%	0%	0%	0%	100%
Study Area (acres)	766,867	0	0	0	0	0	766,867
(percent of Study Area)	100%	0%	0%	0%	0%	0%	100%

TABLE 2-20: STUDY AREA ALLOCATIONS FOR ALTERNATIVE 2.

Portion of Study Area	No New Lease	No Surface Occupancy	Limited Surface Use	Limited Surface Use and Timing Limitations	Timing Limitations	Standard Lease Terms	Totals
Piedra Blanca (acres)	0	0	0	0	0	2,815	2,815
(percent of HOGPA)	0%	0%	0%	0%	0%	100%	100%
San Cayetano (acres)	0	0	0	0	0	13,444	13,444
(percent of HOGPA)	0%	0%	0%	0%	0%	100%	100%
Sespe (acres)	0	0	0	0	0	12,882	12,882
(percent of HOGPA)	0%	0%	0%	0%	0%	100%	100%
Rincon Creek (acres)	0	0	0	0	0	9,052	9,052
(percent of HOGPA)	0%	0%	0%	0%	0%	100%	100%
South Cuyama (acres)	0	0	0	0	0	80,258	80,258
(percent of HOGPA)	0%	0%	0%	0%	0%	100%	100%
La Brea Canyon (acres)	0	0	0	0	0	9,273	9,273
(percent of HOGPA)	0%	0%	0%	0%	0%	100%	100%
Figueroa Mtn (acres)	0	0	0	0	0	8,745	8,745
(percent of HOGPA)	0%	0%	0%	0%	0%	100%	100%
Lopez Canyon (acres)	0	0	0	0	0	2,257	2,257
(percent of HOGPA)	0%	0%	0%	0%	0%	100%	100%
Monroe Swell (acres)	0	0	0	0	0	600	600
(percent of HOGPA)	0%	0%	0%	0%	0%	100%	100%
Total HOGPAs (acres)	0	0	0	0	0	139,326	139,326
(percent of study area)	0%	0%	0%	0%	0%	100%	100%
Non-HOGPA (acres)	0	0	0	0	0	627,541	627,541
(percent of Non-HOGPA)	0%	0%	0%	0%	0%	100%	100%
Study Area (acres)	0	0	0	0	0	766,867	766,867
(percent of Study Area)	0%	0%	0%	0%	0%	100%	100%

TABLE 2-21: STUDY AREA ALLOCATIONS FOR ALTERNATIVE 3.

Portion of Study Area	No New Lease	No Surface Occupancy	Limited Surface Use	Limited Surface Use and Timing Limitations	Timing Limitations	Standard Lease Terms	Totals
Piedra Blanca (acres)	0	2,758	34	0	0	23	2,815
(percent of HOGPA)	0.0%	98.0%	1.2%	0.0%	0.0%	0.8%	100.0%
San Cayetano (acres)	0	13,138	298	0	0	8	13,444
(percent of HOGPA)	0.0%	97.7%	2.2%	0.0%	0.0%	0.1%	100.0%
Sespe (acres)	0	11,777	1,002	0	0	103	12,882
(percent of HOGPA)	0.0%	91.4%	7.8%	0.0%	0.0%	0.8%	100.0%
Rincon Creek (acres)	0	6,770	1,610	272	136	264	9,052
(percent of HOGPA)	0.0%	74.8%	17.8%	3.0%	1.5%	2.9%	100.0%
South Cuyama (acres)	0	33,248	17,341	203	387	29,079	80,258
(percent of HOGPA)	0.0%	41.4%	21.6%	0.3%	0.5%	36.2%	100.0%
La Brea Canyon (acres)	0	6,877	1,568	0	0	828	9,273
(percent of HOGPA)	0.0%	74.2%	16.9%	0.0%	0.0%	8.9%	100.0%
Figueroa Mtn (acres)	0	7,900	274	562	1	8	8,745
(percent of HOGPA)	0.0%	90.3%	3.1%	6.4%	<0.1%	0.1%	100.0%
Lopez Canyon (acres)	0	2,205	41	0	5	6	2,257
(percent of HOGPA)	0.0%	97.7%	1.8%	0.0%	0.2%	0.3%	100.0%
Monroe Swell (acres)	0	570	14	0	0	16	600
(percent of HOGPA)	0.0%	95.0%	2.3%	0.0%	0.0%	2.7%	100.0%
Total HOGPAs (acres)	0	85,243	22,182	1,037	529	30,335	139,326
(percent of study area)	0.0%	61.2%	15.9%	0.7%	0.4%	21.8%	100.0%
Non-HOGPA (acres)	0	427,056	104,750	6,988	978	87,769	627,541
(percent of Non-HOGPA)	0%	68%	17%	1%	0%	14%	100%
Study Area (acres)	0	512,299	126,932	8,025	1,507	118,104	766,867
(percent of Study Area)	0.0%	66.8%	16.6%	1.0%	0.2%	15.4%	100.0%

TABLE 2-22: STUDY AREA ALLOCATIONS FOR ALTERNATIVE 4.

Portion of Study Area	No New Lease	No Surface Occupancy	Limited Surface Use	Limited Surface Use and Timing Limitations	Timing Limitations	Standard Lease Terms	Totals
Piedra Blanca (acres)	0	2,758	57	0	0	0	2,815
(percent of HOGPA)	0.0%	98.0%	2.0%	0.0%	0.0%	0.0%	100.0%
San Cayetano (acres)	0	13,138	306	0	0	0	13,444
(percent of HOGPA)	0.0%	97.7%	2.3%	0.0%	0.0%	0.0%	100.0%
Sespe (acres)	0	11,971	911	0	0	0	12,882
(percent of HOGPA)	0.0%	92.9%	7.1%	0.0%	0.0%	0.0%	100.0%
Rincon Creek (acres)	0	6,770	1,808	411	0	63	9,052
(percent of HOGPA)	0.0%	74.8%	20.0%	4.5%	0.0%	0.7%	100.0%
South Cuyama (acres)	0	35,098	30,230	566	0	14,364	80,258
(percent of HOGPA)	0.0%	43.7%	37.7%	0.7%	0.0%	17.9%	100.0%
La Brea Canyon (acres)	0	6,989	2,013	0	0	271	9,273
(percent of HOGPA)	0.0%	75.4%	21.7%	0.0%	0.0%	2.9%	100.0%
Figueroa Mtn (acres)	0	7,988	272	482	0	3	8,745
(percent of HOGPA)	0.0%	91.3%	3.1%	5.5%	0.0%	0.0%	100.0%
Lopez Canyon (acres)	0	2,205	40	12	0	0	2,257
(percent of HOGPA)	0.0%	97.7%	1.8%	0.5%	0.0%	0.0%	100.0%
Monroe Swell (acres)	0	570	22	0	0	8	600
(percent of HOGPA)	0.0%	95.0%	3.7%	0.0%	0.0%	1.3%	100.0%
Total HOGPAs (acres)	0	87,487	35,659	1,471	0	14,709	139,326
(percent of study area)	0.0%	62.8%	25.6%	1.1%	0.0%	10.6%	100.0%
Non-HOGPA (acres)	0	434,051	152,360	7,254	21	33,855	627,541
(percent of Non-HOGPA)	0%	69%	24%	1%	<0.1%	5%	100%
Study Area (acres)	0	521,538	188,019	8,725	21	48,564	766,867
(percent of Study Area)	0.0%	68.0%	24.5%	1.1%	<0.1%	6.3%	100.0%

TABLE 2-23: STUDY AREA ALLOCATIONS FOR ALTERNATIVE 4A.

Portion of Study Area	No New Lease	No Surface Occupancy	Limited Surface Use	Limited Surface Use and Timing Limitations	Timing Limitations	Standard Lease Terms	Totals
Piedra Blanca (acres)	0	2,805	10	0	0	0	2,815
(percent of HOGPA)	0.0%	99.6%	0.4%	0.0%	0.0%	0.0%	100.0%
San Cayetano (acres)	0	13,386	58	0	0	0	13,444
(percent of HOGPA)	0.0%	99.6%	0.4%	0.0%	0.0%	0.0%	100.0%
Sespe (acres)	0	12,012	870	0	0	0	12,882
(percent of HOGPA)	0.0%	93.2%	6.8%	0.0%	0.0%	0.0%	100.0%
Rincon Creek (acres)	0	7,765	1,060	178	0	49	9,052
(percent of HOGPA)	0.0%	85.8%	11.7%	2.0%	0.0%	0.5%	100.0%
South Cuyama (acres)	0	77,326	2,116	175	0	641	80,258
(percent of HOGPA)	0.0%	96.3%	2.6%	0.2%	0.0%	0.8%	100.0%
La Brea Canyon (acres)	0	8,551	588	0	0	134	9,273
(percent of HOGPA)	0.0%	92.2%	6.3%	0.0%	0.0%	1.4%	100.0%
Figueroa Mtn (acres)	0	8,034	228	482	0	1	8,745
(percent of HOGPA)	0.0%	91.9%	2.6%	5.5%	0.0%	<0.1%	100.0%
Lopez Canyon (acres)	0	2,213	42	2	0	0	2,257
(percent of HOGPA)	0.0%	98.1%	1.9%	0.1%	0.0%	0.0%	100.0%
Monroe Swell (acres)	0	570	22	0	0	8	600
(percent of HOGPA)	0.0%	95.0%	3.7%	0.0%	0.0%	1.3%	100.0%
Total HOGPAs (acres)	0	132,662	4,994	837	0	833	139,326
(percent of study area)	0.0%	95.2%	3.6%	0.6%	0.0%	0.6%	100.0%
Non-HOGPA (acres)	0	570,629	42,874	2,722	7	11,309	627,541
(percent of Non-HOGPA)	0%	91%	7%	0%	<0.1%	2%	100%
Study Area (acres)	0	703,291	47,868	3,559	7	12,142	766,867
(percent of Study Area)	0.0%	91.7%	6.2%	0.5%	<0.1%	1.6%	100.0%

TABLE 2-24: STUDY AREA ALLOCATIONS FOR ALTERNATIVE 5.

Portion of Study Area	No New Lease	No Surface Occupancy	Limited Surface Use	Limited Surface Use and Timing Limitations	Timing Limitations	Standard Lease Terms	Totals
Piedra Blanca (acres)	1,994	765	33	0	0	23	2,815
(percent of HOGPA)	70.8%	27.2%	1.2%	0.0%	0.0%	0.8%	100.0%
San Cayetano (acres)	4,793	8,310	336	0	0	5	13,444
(percent of HOGPA)	35.7%	61.8%	2.5%	0.0%	0.0%	<0.1%	100.0%
Sespe (acres)	3,065	8,701	1,020	0	0	96	12,882
(percent of HOGPA)	23.8%	67.5%	7.9%	0.0%	0.0%	0.7%	100.0%
Rincon Creek (acres)	971	5,892	1,541	391	0	257	9,052
(percent of HOGPA)	10.7%	65.1%	17.0%	4.3%	0.0%	2.8%	100.0%
South Cuyama (acres)	3,516	29,787	17,618	587	0	28,750	80,258
(percent of HOGPA)	4.4%	37.1%	22.0%	0.7%	0.0%	35.8%	100.0%
La Brea Canyon (acres)	251	6,624	1,571	0	0	827	9,273
(percent of HOGPA)	2.7%	71.4%	16.9%	0.0%	0.0%	8.9%	100.0%
Figueroa Mtn (acres)	1,425	6,509	273	533	0	5	8,745
(percent of HOGPA)	16.3%	74.4%	3.1%	6.1%	0.0%	0.1%	100.0%
Lopez Canyon (acres)	0	2,187	53	11	0	6	2,257
(percent of HOGPA)	0.0%	96.9%	2.3%	0.5%	0.0%	0.3%	100.0%
Monroe Swell (acres)	0	570	14	0	0	16	600
(percent of HOGPA)	0.0%	95.0%	2.3%	0.0%	0.0%	2.7%	100.0%
Total HOGPAs (acres)	16,015	69,345	22,459	1,522	0	29,985	139,326
(percent of study area)	11.5%	49.8%	16.1%	1.1%	0.0%	21.5%	100.0%
Non-HOGPA (acres)	116,716	317,335	152,360	7,254	21	33,855	627,541
(percent of Non-HOGPA)	19%	51%	24%	1%	<0.1%	5%	100%
Study Area (acres)	132,731	386,680	174,819	8,776	21	63,840	766,867
(percent of Study Area)	17.3%	50.4%	22.8%	1.1%	<0.1%	8.3%	100.0%

TABLE 2-25: STUDY AREA ALLOCATIONS FOR ALTERNATIVE 5A.

Portion of Study Area	No New Lease	No Surface Occupancy	Limited Surface Use	Limited Surface Use and Timing Limitations	Timing Limitations	Standard Lease Terms	Totals
Piedra Blanca (acres)	2,084	722	8	0	0	1	2,815
(percent of HOGPA)	74.0%	25.6%	0.3%	0.0%	0.0%	<0.1%	100.0%
San Cayetano (acres)	5,061	8,334	47	0	0	2	13,444
(percent of HOGPA)	37.6%	62.0%	0.3%	0.0%	0.0%	<0.1%	100.0%
Sespe (acres)	3,117	8,762	908	0	0	95	12,882
(percent of HOGPA)	24.2%	68.0%	7.0%	0.0%	0.0%	0.7%	100.0%
Rincon Creek (acres)	1,514	6284	864	179	0	211	9,052
(percent of HOGPA)	16.7%	69.4%	9.5%	2.0%	0.0%	2.3%	100.0%
South Cuyama (acres)	46,331	30,702	1,703	183	0	1,339	80,258
(percent of HOGPA)	57.7%	38.3%	2.1%	0.2%	0.0%	1.7%	100.0%
La Brea Canyon (acres)	2,683	5,834	421	0	0	335	9,273
(percent of HOGPA)	28.9%	62.9%	4.5%	0.0%	0.0%	3.6%	100.0%
Figueroa Mtn (acres)	1,511	6,474	226	533	0	1	8,745
(percent of HOGPA)	17.3%	74.0%	2.6%	6.1%	0.0%	<0.1%	100.0%
Lopez Canyon (acres)	0	2,188	52	11	0	6	2,257
(percent of HOGPA)	0.0%	96.9%	2.3%	0.5%	0.0%	0.3%	100.0%
Monroe Swell (acres)	0	570	14	0	0	16	600
(percent of HOGPA)	0.0%	95.0%	2.3%	0.0%	0.0%	2.7%	100.0%
Total HOGPAs (acres)	62,301	69,870	4,243	906	0	2,006	139,326
(percent of study area)	44.7%	50.1%	3.0%	0.7%	0.0%	1.4%	100.0%
Non-HOGPA (acres)	261,474	309,155	42,874	2,722	7	11,309	627,541
(percent of Non-HOGPA)	42%	49%	7%	0%	<0.1%	2%	100%
Study Area (acres)	323,775	379,025	47,117	3,628	7	13,315	766,867
(percent of Study Area)	42.2%	49.4%	6.1%	0.5%	<0.1%	1.7%	100.0%