

**CHAPTER 2**  
**ALTERNATIVES**

---

This chapter describes alternatives for oil and gas leasing in the Western Uinta Basin. It discusses how the alternatives were developed and then describes each of the alternatives and the reasonably foreseeable development scenario for each. This chapter also includes a comparison of the alternatives.

**2.1 ALTERNATIVE DEVELOPMENT**

**2.1.1 Issues and Concerns**

**2.1.1.1 Public Involvement**

The NEPA of 1969 provides for public involvement during the EIS process. Public involvement helps to identify pertinent issues and concerns to be considered when developing alternatives and conducting the analysis. The initial opportunity to comment on the project was called the scoping period.

A Notice of Intent to prepare an EIS was published in the *Federal Register* on July 1, 1992. This action initiated the 30-day scoping period. At the same time, the *Public Scoping Document* was mailed to all the parties on the project mailing list. Input was solicited from the federal, state, and local agencies, and interested individuals and organizations.

Subsequently, the Uinta and Ashley NFs conducted two public meetings in order to provide information and solicit further comments regarding the project. These meetings were held as follows:

Utah County Administrative Building	Provo, Utah	July 21, 1992
Central Utah Water Conservancy District Building	Duchesne, Utah	July 22, 1992

Public participation included 11 attendants of the meetings and 12 parties who provided written comments. In general, the comments ranged from encouraging the Forest Service to promote any oil and gas leasing and development in the entire area with minimal

stipulations, to the other end of the spectrum by opposing any form of oil and gas activities in order to preserve the unique natural resources of the area. Economic reasoning tended to be the primary source of support for oil and gas leasing.

#### **2.1.1.2 Issues and Concerns Identified During Public Scoping**

The Ashley and Uinta NFs reviewed, analyzed, and summarized the public comments received during the scoping period, and included Forest Service management concerns. From this information, the following pertinent issues and concerns were identified.

##### ***Issue 1: The socioeconomic effects of oil and gas leasing and subsequent activities***

The positive impacts that oil and gas exploration and development would have on local, state, and national economies were acknowledged. It was suggested that the proposed leasing would contribute on a local level through increased employment potential and tax revenues, and on a national level by helping to meet the growing demands for energy, and increasing independence from foreign energy resources. However, it was also suggested that potential oil and gas exploration and development is merely a temporary fix to the nation's energy problems. A request was made that a chart be included in the EIS showing the costs of administering the minerals programs and the financial contributions to local, state, and federal treasuries.

##### ***Issue 2: The effects of oil and gas leasing and subsequent activities on wildlife***

Concerns were expressed regarding the impacts of oil and gas exploration and development on the local wildlife populations and their habitat; particularly sage grouse strutting grounds, migratory species, raptor habitat and safety, critical big game winter and summer ranges, calving/fawning areas, old growth habitat, and riparian corridors.

##### ***Issue 3: The effects of oil and gas leasing and subsequent activities on recreational opportunities***

The concern was expressed that leasing and activities subsequent to leasing may impact aspects of the recreational resources available throughout the area and the facilities which support them. Specifically, impacts to the Avintaquin Campground, developed sites and related facilities such as water supplies, access roads, and existing or proposed trails were questioned. Additionally, there was concern over the effects of oil and gas leasing activities on semi-primitive non-motorized recreational opportunities.

***Issue 4: The effects of oil and gas leasing and subsequent activities on air and water resources***

Concerns were expressed regarding potential effects of oil and gas exploration and development activities (such as access, drilling, and petroleum transport) on air emissions, contamination of aquifers and surface water, increased erosion and associated gullyng, cumulative effects on water quality and aquatic habitat, watershed conditions, and subsequent effects on in-stream sediment sources such as stream bank stability. The concern about increased erosion and associated gullyng is related to potential road construction associated with oil and gas operation, which would involve channeling of surface runoff (road ditches and culverts) and possible acceleration of or re-activating gullies in the valley bottoms.

***Issue 5: The effects of oil and gas leasing and subsequent activities on the visual resources of the area***

The concern was raised regarding the effect of oil and gas activities on the established VQOs as identified in the Forest Plans. Additionally, comments were made in regards to the use of vegetation as a screen and paint for permanent structures in order to reduce the visual impacts of oil and gas activities.

***Issue 6: The effects of restrictive stipulations and mitigation measures on oil and gas exploration and development***

The concern was raised that stipulations and mitigation measures developed as a result of the EIS or other lease related activities would result in restrictive federal regulations or decisions, which in turn may adversely affect the potential for existing or future oil and gas development. These concerns were expressed in terms of the negative effects of regulatory burdens, use of the "worst case development scenario" since it could artificially increase the projected level of impacts and thus unnecessary mitigations, and generally discouraging conclusions and lease stipulations which might result in the limitation or banning of oil and gas opportunities. It was suggested that the use of area-wide standards, operation guidelines, or the use of technology and other available resources to lessen the impact of oil and gas activities would be appropriate. Consideration of these factors was thought to be necessary in order to fairly and realistically forecast the potential effects.

***Issue 7: The effects of oil and gas leasing and subsequent activities on soils and geologic formations***

Concerns were expressed regarding the potential impact of oil and gas activities on unstable areas, including erosive soils, steep slopes, and geologic hazards, and the long-term soil productivity for soils with revegetation problems.

***Issue 8: The effects of oil and gas leasing and subsequent activities on transportation***

Concerns were raised regarding the effects of oil and gas exploration and development on existing transportation systems in terms of road density, maintenance costs, public access, and public safety. Concern was also expressed relative to new access into areas which have been closed to protect other resource values.

***Issue 9: The effects of oil and gas leasing and subsequent activities on threatened, endangered, and sensitive species***

Concerns were raised regarding the impacts of oil and gas leasing and subsequent activity on threatened, endangered, and sensitive species and their habitat, including plants and fish.

***Issue 10: The effects of oil and gas leasing and subsequent activities on vegetation***

Concern was expressed in regards to the impacts of oil and gas activities on riparian areas, particularly in regards to access in narrow canyon or V-shaped valley bottom types where activities would be confined. Another commentor expressed concern over limiting oil and gas exploration and development in these areas. Concern was brought up over possible impacts to bristlecone pine trees found in the area.

***Issue 11: The effects of oil and gas exploration and development on inventoried roadless areas***

The concern was expressed regarding the impacts of oil and gas activities on roadless areas identified during the RARE II process within the study area.

***Issue 12: The effects of oil and gas exploration and development on research natural areas***

Concern was raised over two candidate Research Natural Areas on the Ashley NF, currently undergoing review for formal designation.

***Issue 13: The effects of oil and gas exploration and development on other mineral resources and production***

Concern was raised over the possible effects of oil and gas development on other mineral development and exploration.

**2.1.1.3 Other Concerns to be Addressed in this EIS**

In addition to the 13 issues listed above, other concerns that did not generate an issue were brought forward during public scoping, but that will be or have been addressed during the analysis process. For example, one concern brought up during the public meetings suggested the proposed RFDS was unrealistic, and that the actual number of exploratory and development wells would likely be higher than projected due to the recent construction of a gas transmission line which will facilitate development of the Sowers Canyon field on the Ashley NF sooner than originally anticipated. In response, the Forest Service and BLM reevaluated the RFDS and changed the timeframe for anticipated development. This resulted in an increase in the number of development wells from nine to 30 within the planning period. Additional concerns are as follows:

***Scope of the EIS***

Many concerns were raised regarding the scope of the EIS. Several commentors requested inclusion in the EIS of all lands potentially available for leasing, despite the projected level of potential development or current interest by industry. However, other commentors felt it is not reasonable or meaningful to analyze an area as large as 500,000 acres for oil and gas leasing in a single EIS. A request was made to exclude the lands around the Strawberry Valley from leasing. Additionally, the use of a general approach was suggested, since site-specificity is not possible at this time.

Regarding the scope of this EIS, the Forest Supervisors decided to include all areas of high and moderate potential for oil and gas occurrence. Low potential areas were not included due to the limited interest and additional time and effort that would be needed for data collection. Figure 1-2 shows the areas of high and moderate potential for oil and gas occurrence.

Regarding the Strawberry Lands, as discussed in Section 1.2, the leasing authority for these lands resides with private entities, so no leasing decision will be made for them.

### ***Multiple Use of National Forest System Lands***

The concern was expressed that oil and gas exploration and development was not a multiple use of the land, but rather the dominant use of the land against which other resources are mitigated. Others, however, pointed out demonstrated compatibility between oil and gas exploration and development and other forest users.

### ***Roaded Recreation***

Concern was expressed over possible "no lease" or "no surface occupancy" stipulations in areas allocated to primitive or semi-primitive recreation. One commentor stated that roaded recreation is more in demand than primitive or semi-primitive forms of recreation.

### ***Cultural Resources***

Concern was expressed that activities subsequent to leasing may affect significant cultural or historic resource sites existing within the study area.

### ***Existing Lease Rights***

One commentor requested specification in the EIS on how valid existing lease rights might be impacted by a new leasing decision. For example, potential conditions of approval for operations and other changes should be identified.

The alternatives were developed in response to issues raised during scoping and to ensure that a full range of leasing options was addressed for each sensitive resource area. The sensitive resource areas were identified based on issues raised during the scoping process and on the leasing matrices in the Ashley and Uinta NF Land and Resource Management Plans (Forest Plans). These include:

- Key wildlife habitats
- Sensitive visual resource areas (retention and partial retention)
- Geologic hazards
- Riparian and wetland areas
- Recreation (developed sites and semi-primitive non-motorized areas)
- Steep slopes and unstable or sensitive soils
- Research Natural Areas
- Roadless areas

Table 2-1 provides a more detailed listing of these sensitive resource areas.

The possible leasing options (see also Section 1.5.2 and Appendix A) include:

- No Lease (NL) - no new leases would be authorized
- No Surface Occupancy (NSO) - well sites, tank batteries, or similar facilities would not be allowed to occupy the surface of specified lands
- Controlled Surface Use (CSU) - use and occupancy would be allowed but restricted to mitigate effects on particular resources such as requiring operations to meet a visual quality objective
- Timing Limitations (TL) - activities would be restricted or prohibited during certain time periods
- Standard Lease Terms (SLT) - no special stipulations would be applied and operations would only be restricted by current environmental protection laws and the federal Onshore Oil and Gas Leasing orders

Lease Notices (LN) may also be used to identify specific concern(s) that may impact lease operations on a given lease. Lease Notices do not involve additional restrictions or requirements.

A full range of these leasing options was incorporated into the alternative development so that the comparison of alternatives would disclose what specific lease stipulations are necessary and justifiable in accordance with 36 CFR 228.102(c).

These leasing options for the various site specific resource areas were combined into a reasonable range of alternatives that respond to the issues for the entire analysis area. The No Lease Alternative (Alternative 1) and Standard Lease Terms Alternative (Alternative 5) define the possible range of alternatives. The Forest Plan Alternative (Alternative 3) represents the intent of the management direction contained in the Forest Plans as standards and guidelines. Once these three alternatives were identified, alternatives were developed to more specifically respond to the two categories of issues which relate to (1) protection of other resources, and (2) minimal restrictions on oil and gas exploration and development. Alternative 2 was developed in response to issues and comments related to special resource values other than oil and gas and the need to ensure their protection (Issues 2-5, 7, 9-10, Section 1.8). Alternative 4 was developed in response to issues and comments related to the need for oil and gas development and associated economic benefits, and the effects of restrictive stipulations and mitigation on oil and gas exploration and development (Issues 1 & 6 - Section 1.8).

### **2.1.2 Alternatives Considered but not Evaluated in Detail**

An alternative that applied NSO to all areas was considered but not carried forward in detail in this analysis. The leasing option analysis that evaluated each lease option for each specific resource area showed that NSO was not reasonable and justifiable for all areas. For those areas where it was reasonable, the NSO option was included for consideration in one of the other alternatives.

### **2.1.3 Alternatives Considered in Detail**

Five alternatives were considered in detail:

- Alternative 1: No Action/No Lease
- Alternative 2: Forest Plan Modification No. 1
- Alternative 3: Forest Plan Intent (Proposed Action)
- Alternative 4: Forest Plan Modification No. 2
- Alternative 5: Standard Lease Terms

Based on the analysis contained in this EIS, these alternatives may be implemented in whole or used in part to modify another alternative with respect to one or more of the specific resources/resource areas in the final decision.

Under all of the action alternatives (Alternatives 2-5), the NSO stipulation would apply to well sites and production facilities such as tank batteries and compressor stations. Forest Plan standards and guidelines would be used to determine the acceptability of access proposals as well as govern the design, placement and decisions related to any proposed roads or other linear facilities (pipelines and powerlines) that typically extend beyond the lease boundaries. This allows for consistent standards to be applied, whether located on or off lease.

Also under all action alternatives, no buffer zone around developed recreation sites has been specified or included in the stipulation applied to the developed site. The rationale or intent is that the visual quality objective around these sites is typically retention or possibly partial retention and the stipulation applied to protect the visual resource will define and protect areas adjacent to these sites. This allows for more site specific application of stipulations than does assuming a quarter or half mile distance from the sites. No specific stipulations were applied to recreation trails, as SLT allow for modification in siting facilities. Relocation of a facility to a site up to 200 meters away from the original proposed site would avoid direct impacts to trails. Protection of visual resources would reduce indirect impacts.

Lease stipulations were not applied specifically to moose winter range. This habitat is composed of riparian and wetlands as mapped by the Utah Division of Wildlife Resources (available in the project files). Since riparian and wetlands are protected for their other resource values, it would be redundant to apply stipulations to the same areas based on the habitat they provide for moose.

The application of the CSU stipulation for sensitive species habitat is not displayed on the alternative maps (Figures 2-1 through 2-4) but would be applied to all acres leased. This is due to the fact that these habitats have not been mapped and currently unoccupied habitat may be occupied in the future.

Descriptions of the above mentioned alternatives and the reasonably foreseeable oil and gas activities that could be anticipated for each alternative are presented in the following section. The RFDS described in Appendix D is based on the potential for oil and gas occurrence, historical activity, and projected oil prices (economics). The scenario changes for each alternative depending on the lease stipulations or restrictions that would be applied to oil and gas activities.

Keep in mind that many of the resource areas discussed by alternative overlap each other, but the alternative description only addresses how a particular resource is treated within that alternative. The alternative maps (Figures 2-1 through 2-4) display the most restrictive stipulation identified for a specific area when the resource layers are overlain. For example, an area of key wildlife habitat that is assigned a TL may also be an area assigned NSO due to the presence of steep slopes within the wildlife habitat. The term "layers" refers to computerized maps containing specific types of information (in this case, the stipulations applied to certain lands under the different alternatives). Different layers can be overlain by computer using the computerized mapping system known as Geographic Information Systems or GIS.

THIS PAGE LEFT INTENTIONALLY BLANK

Slipsheet for Figure 2-1

Slipsheet for Figure 2-1 (concluded)

Slipsheet for Figure 2-2

Slipsheet for Figure 2-2 (concluded)

Slipsheet for Figure 2-3

Slipsheet for Figure 2-3 (concluded)

Slipsheet for Figure 2-4

Slipsheet for Figure 2-4 (concluded)

## **2.2 ALTERNATIVE DESCRIPTIONS**

### **2.2.1 Alternative 1 (No Action/No Lease)**

Alternative 1 is the No Action/No Lease alternative. Under this alternative, none of the federal mineral acres would be administratively available for oil and gas leasing (36 CFR 228.102 (d)). Since the lands would not be administratively available for leasing, there would be no leasing decision for specific lands (36 CFR 228.102(e)) to be made. However, existing leases would remain in effect until they terminate or expire. The Forest Plans would be amended to reflect that no leases would be issued for oil and gas activities on the federal minerals.

#### Reasonably Foreseeable Development Scenario

Under this alternative, no exploratory drilling would occur on the Uinta NF since nearly all of the previous leases have expired or terminated and no new leases would be issued.

Only one of the five exploratory wells would be drilled on the Ashley NF outside of the Sowers Canyon area. Again this is due to limited acres currently under lease and the fact that no new leases would be issued under this alternative.

There are some remaining leases within the Sowers Canyon area and these leases are capable of production and as such will not terminate or expire at the end of the primary lease term. It is estimated that 12 of the 30 development wells projected could be drilled under this alternative. The remaining 18 wells would not be drilled due to unleased acreage.

### **2.2.2 Alternative 2 (Forest Plans Modification No. 1)**

This alternative is designed to be more restrictive than the current Forest Plans in terms of providing additional protection for special resource values other than oil and gas. If this alternative is chosen, the Forest Plans would be amended to reflect the stipulations required by this alternative.

Under this alternative all of the federal minerals would be administratively available for leasing and would be leased with the following stipulations:

**Wildlife** Lease stipulations would be applied to specific wildlife habitats as indicated below. A NSO stipulation would preclude exploration and development activities from occurring within a particular habitat. A TL stipulation would preclude activities during the key period of use by wildlife. A CSU stipulation would restrict the number of concurrent operations (wells being drilled) at any given time.

Elk Yearlong Range	NSO
Elk Winter Range	TL November 15 to April 30
Elk Calving	TL May 1 to June 30
Elk Summer Range	CSU
Deer Winter Range	TL November 15 to April 30
Deer Summer Range	CSU
Critical Sage Grouse Habitat	NSO

**Threatened and Endangered Species** A LN would be attached to the lease to inform the lessee of the presence of threatened or endangered species or their habitat within the lease boundary. Protection of the species and habitat would be ensured through the Endangered Species Act (ESA) and Regulation 36 CFR 228.108(f), rather than with a lease stipulation.

**Sensitive Species** A CSU stipulation would be applied to leases that contain sensitive species or their habitats. This stipulation would be applied since sensitive species are not protected under the ESA, and would state that an on-the-ground survey be conducted when a drilling proposal is submitted. Any proposed operations would have to be located or conducted in such a manner as not to jeopardize the viability of the species.

Semi-Primitive Non-Motorized Recreation	A CSU stipulation would be applied to semi-primitive non-motorized (SPNM) recreation areas. The stipulation would require that operations be located and conducted so as to minimize the effects on SPNM areas, and would require extensive reclamation of the disturbed area.
Roadless Areas	A NSO stipulation would be applied to the remaining roadless areas that were identified in the 1983 Roadless Area update (available in the project files), as well as two areas in the Ashley NF with protected unroaded characteristics (see Figure 3-9 for location of these areas).
Developed Recreation Sites	A NSO stipulation would be applied to developed campgrounds and trailheads to preclude surface disturbing activities that would impact the site, facilities, and the recreational experience.
Wetlands/ Riparian/ Floodplains	A NSO stipulation would be applied to riparian and buffered stream areas that are 40 acres or larger in size. The intent is to protect areas less than 40 acres to the same degree but they would be protected under existing regulations (43 CFR 3101.1-2 and 36 CFR 228.108(j)) and not require a specific lease stipulation. Jurisdictional wetlands would be protected under Section 404 of the Clean Water Act.
Steep Slopes	A NSO stipulation would be applied to slopes of 35 percent or greater to minimize erosion hazards and to enable or ensure reclamation of the site.
Geologic Hazards/ Unstable Soils	A NSO stipulation would be applied to areas of unstable soils and areas of geologic hazard to preclude surface disturbing activities.
Retention VQO	A NSO stipulation would be applied to areas with a visual quality objective (VQO) of retention.

Partial Retention VQO	A CSU stipulation would be applied to areas with a VQO of partial retention. The stipulation would state that proposed activities within this area must be designed or located in such a manner as to meet that objective within one year.
RNAs	A NSO stipulation would be applied to the proposed Research Natural Areas (RNAs) to ensure that these areas would remain in their current state until a final determination is made relative to their RNA designation.

Reasonably Foreseeable Development Scenario

Under this alternative the projected one exploratory well on the Uinta NF would be foreseeable. Only two of the five projected exploratory wells on the Ashley NF outside of the Sowers Canyon area would be anticipated due the extensive areas of NSO under this alternative (see Figure 2-2). Industry would be discouraged from drilling exploratory wells since the likelihood of being able to develop a field, should one be found, would be greatly reduced.

In the Sowers Canyon area it is anticipated that 20 of the 30 projected development wells would be foreseeable. This is due to existing leases in the area. Approximately 35 percent of the area is available for surface occupancy under this alternative.

**2.2.3 Alternative 3: (Forest Plans Intent)**

This alternative is designed to reflect the management direction contained in the current Forest Plans. No amendments to the Forest Plans would be needed if this alternative is chosen.

Under this alternative all federal minerals within the analysis area would be administratively available for leasing, and would be leased with protective lease stipulations as described below:

Wildlife	A TL stipulation would be applied to leases within the critical habitat areas shown below. The TL stipulation would preclude initiating activities within these areas during the key periods of use by wildlife.
----------	--

Elk Yearlong Range	November 15 to June 30
Elk Winter Range	November 15 to April 30
Elk Calving	May 1 to June 30
Elk Summer Range	SLT
Deer Winter Range	November 15 to April 30
Deer Summer Range	May 15 to June 15
Critical Sage Grouse Habitat	April 1 to May 31

Threatened and Endangered Species

A LN would be attached to the lease to inform the lessee of the presence of threatened or endangered species or their habitat within the lease boundary. Protection of the species and habitat would be ensured through the ESA and Regulation 36 CFR 228.108(f), rather than with a lease stipulation.

Sensitive Species

A CSU stipulation would be applied to leases that contain sensitive species or their habitats. This stipulation would be applied since sensitive species are not protected under the ESA, and would state that an on-the-ground survey be conducted when a drilling proposal is submitted and any proposed operations would have to be located or conducted in such a manner as not to jeopardize the viability of the species.

Roadless Areas

A CSU stipulation would be applied to the remaining roadless areas that were identified in the 1983 Roadless Area update (available from the project file), as well as two areas in the Ashley NF with protected unroaded characteristics (see Figure 3-9 for location of these areas). This stipulation would identify operations within these areas that would require special operating practices and extensive reclamation standards in order to minimize the effect on the roadless characteristics of the area.

Semi-Primitive Non-Motorized Recreation	A CSU stipulation would be applied to SPNM areas. The stipulation would be worded similar to that mentioned for Roadless Areas.
Developed Recreation	A NSO stipulation would be applied to developed campgrounds and trailheads to preclude surface disturbing activities that would impact the site, facilities, and the recreational experience.
Wetlands/Riparian/Floodplains	A CSU stipulation would be applied to riparian and buffered stream areas that are larger than 40 acres. The stipulation would require careful siting of facilities and operating practices to minimize adverse effects on these sensitive areas. Mitigation of effects on areas less than 40 acres would be provided by standard lease terms which allows sites to be moved 200 meters (43 CFR 3101.1-2). Jurisdictional wetlands would be protected under Section 404 of the Clean Water Act.
Steep Slopes	A NSO stipulation would be applied to slopes of 35 percent or greater to minimize erosion hazards and to enable or ensure reclamation of the site.
Geologic Hazards/Unstable Soils	A CSU stipulation would be applied to areas of unstable soils and areas of geologic hazard. The stipulation would require that surface disturbing activities be located and designed to minimize the effects on unstable soils (36 CFR 228.108(j)).
Retention VQO	A NSO stipulation would be applied to areas with a VQO of retention.
Partial Retention VQO	A CSU stipulation would be applied to areas with a VQO of partial retention. The stipulation would state that proposed activities within this area must be designed or located in such a manner as to meet that objective within one year.

RNAs            A NSO stipulation would be applied to ensure that these areas would remain in their current state until a final determination is made relative to their RNA designation.

#### Reasonably Foreseeable Development Scenario

The one exploratory well on the Uinta NF would be foreseeable under this alternative. It is anticipated that three of the projected five exploratory wells on the Ashley NF outside of the Sowers Canyon area would be foreseeable, although, depending on the specific location, a well may need to be directionally drilled due to the blocks of NSO associated with this alternative. Since the technical aspects of directional drilling would be limited by the relatively shallow depth of primary targets, portions of the blocks of NSO areas would not be able to be explored.

Within the Sowers Canyon area, it is anticipated that 27 of the projected 30 development wells would be reasonably foreseeable. Three of the wells would be precluded due to the NSO stipulation and some of the others would need to be carefully located in order to space the wells for effective recovery while still avoiding areas of NSO.

#### **2.2.4 Alternative 4 (Forest Plans Modification No. 2)**

This alternative is designed to be less restrictive than the current Forest Plans in terms of oil and gas development while providing some degree of protection to other resource values. The Forest Plans would be amended to reflect the stipulations required by this alternative if chosen.

Under this alternative all federal minerals within the analysis area would be administratively available for leasing and would be leased with protective lease stipulations as described below:

Wildlife            Lease stipulations would be applied to specific wildlife habitats as indicated below. A TL stipulation would preclude activities during the key period of use by wildlife. A CSU stipulation would restrict the number of concurrent operations (wells being drilled) at any given time.

Elk Yearlong Range	CSU
Elk Winter Range	TL November 15 to April 30
Elk Calving	SLT
Elk Summer Range	SLT
Deer Winter Range	CSU
Deer Summer Range	SLT
Critical Sage Grouse Habitat	SLT

Threatened and Endangered Species  
 A LN would be attached to the lease to inform the lessee of the presence of threatened and endangered species or their habitat within the lease boundary. Protection of the species and habitat would be ensured through the ESA and Regulation 36 CFR 228.108(f) rather than with a lease stipulation.

Sensitive Species  
 A CSU stipulation would be applied to leases that contain sensitive species or their habitats. This stipulation would be applied since sensitive species are not protected under the ESA, and would state that an on-the-ground survey be conducted when a drilling proposal is submitted and any proposed operations would have to be located or conducted in such a manner as not to jeopardize the viability of the species.

Roadless Areas  
 SLT

Semi-Primitive Non-

Motorized

Recreation

Developed Recreation  
 A NSO stipulation would be applied to developed campgrounds and trailheads to preclude surface disturbing activities that would impact the site, facilities, and the recreational experience.

Wetlands/ Riparian/ Floodplains	A CSU stipulation would be applied to riparian and buffered stream areas that are larger than 40 acres. The stipulation would require careful siting of facilities and operating practices to minimize adverse effects on these sensitive areas. Mitigation of effects on areas less than 40 acres would be provided by standard lease terms which allows sites to be moved 200 meters (43 CFR 3101.1-2). Jurisdictional wetlands would be protected under Section 404 of the Clean Water Act.
Steep Slopes	A CSU stipulation would be applied to slopes of 35 percent or greater and require that activities be located and designed to ensure that the disturbed area can be reclaimed and slope stability maintained (36 CFR 228.108(g)(3) and (j)).
Geologic Hazards/ Unstable Soils	A CSU stipulation would be applied to areas of unstable soils and areas of geologic hazard. The stipulation would require that surface disturbing activities be located and designed to minimize the effects on unstable soils (36 CFR 228.108(i)).
Retention VQO	A CSU stipulation would be applied to areas with a VQO of retention. The stipulation would state that proposed activities within this area must be designed or located in such a manner as to meet that objective within one year.
Partial Retention VQO	A CSU stipulation would be applied to areas with a VQO of partial retention. The stipulation would state that proposed activities within this area must be designed or located in such a manner as to meet that objective within one year.
RNAs	A NSO stipulation would be applied to the proposed RNAs to ensure that these areas would remain in their current state until a final determination is made relative to their RNA designation.

### Reasonably Foreseeable Development Scenario

Under this alternative the full projected RFDS is reasonably foreseeable and consists of one exploratory well on the Uinta NF, five exploratory wells on the Ashley NF outside the Sowers Canyon area, and 30 development wells within the Sowers Canyon area.

Operations and required mitigation measures would be required, depending on the specific location involved, which would increase the cost to the operator.

### **2.2.5 Alternative 5 (Standard Lease Terms)**

Alternative 5 is the least restrictive alternative in terms of oil and gas development. Under this alternative all of the federal minerals within the analysis area would be administratively available for leasing and would be leased with Standard Lease Terms (no special stipulations). Mitigation of impacts on other resources would be based on existing laws and their implementing regulations, such as the Endangered Species Act, the Archeological Resource Protection Act, the Clean Water Act, and Clean Air Act. For resources which are not protected by law, mitigation would be based on the Standard Lease Terms and 43 CFR 3101.1-2. Forty three CFR 3101.1-2 provides clarification of "reasonable mitigation measures" as used in Section 6 of the Standard Lease Terms form (see Appendix A), specifically the delaying activities for up to 60 days, or moving a well location up to 200 meters. The Forest Plans would be amended if this alternative is chosen.

#### Reasonably Foreseeable Development Scenario

Under this alternative the full projected RFDS is reasonably foreseeable and consists of one exploratory well on the Uinta NF, five exploratory wells on the Ashley NF outside the Sowers Canyon area, and 30 development wells within the Sowers Canyon area.

## **2.3 COMPARISON OF ALTERNATIVES**

This section presents a comparison of various aspects of the five alternatives. Table 2-1 summarizes the leasing options by alternative as discussed in detail above in Section 2.2. Tables 2-2 through 2-6 show the total acreage for each leasing options for the five alternatives. Table 2-7 compares the acreage of lease options by alternative; Table 2-8 lists the activities causing ground disturbance by alternative, based on the RFDS described in Appendix D. Table 2-9 compares the acreage of disturbance by alternative. Table 2-10 compares the impacts of the alternatives by sensitive resource component. This comparison is based on the analysis of environmental impacts of each alternative conducted in Chapter 4. Further detail can be found in Chapter 4.

Slipsheet for Table 2-1

Slipsheet for Table 2-2

Slipsheet for Table 2-3

Slipsheet for Table 2-4

Slipsheet for Table 2-5

Slipsheet for Table 2-6

Slipsheet for Table 2-7 and Table 2-8

Slipsheet for Table 2-9

Slipsheet for Table 2-10