

**TABLE 2-1**  
**LEASE OPTIONS BY ALTERNATIVE**  
**Western Uinta Basin EIS**

Resource Component	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
<b>Watershed Resources</b>					
Geologic Hazards/Unstable Soils	NL	NSO	CSU	CSU	SLT
Steep Slopes	NL	NSO	NSO	CSU	SLT
Riparian/Wetlands > 40 acres	NL	NSO	CSU	CSU	SLT
<b>Wildlife:</b>					
Critical Sagegrouse Habitat	NL	NSO	TL	SLT	SLT
Critical Elk Winter Range	NL	TL	TL	TL	SLT
Critical Deer Winter Range	NL	TL	TL	CSU	SLT
Critical Elk Summer Range	NL	CSU	SLT	SLT	SLT
Critical Deer Summer Range	NL	CSU	TL	SLT	SLT
Critical Elk Calving Range	NL	TL	TL	SLT	SLT
Critical Elk Yearlong Range	NL	NSO	TL	CSU	SLT
Threatened and Endangered Species <sup>1</sup>	NL	LN	LN	LN	LN
Sensitive Species <sup>1</sup>	NL	CSU	CSU	CSU	SLT
Research Natural Areas	NL	NSO	NSO	NSO	SLT
Roadless Areas	NL	NSO	CSU	SLT	SLT
<b>Recreation</b>					
Developed Campgrounds <sup>2</sup>	NL	NSO	NSO	NSO	SLT
Semi-Primitive Non-Motorized	NL	CSU	CSU	SLT	SLT
<b>Visual Resources</b>					
Retention	NL	NSO	NSO	CSU	SLT
Partial Retention	NL	CSU	CSU	CSU	SLT
All Other Areas	NL	SLT	SLT	SLT	SLT

NL - No Lease

NSO - No Surface Occupancy

TL - Timing Limitation

CSU - Controlled Surface Use

SLT - Standard Lease Terms

LN - Lease Notice

<sup>1</sup> Not displayed on alternative maps but will be applied to all acres of potential habitat for sensitive species.

<sup>2</sup> Small specific sites not displayed on the alternative maps.

**TABLE 2-2**

**ACRES OF RESOURCE COMPONENT BY STIPULATION  
FOR ALTERNATIVE 1**

Resource Component	Acres by Stipulation			
	NL	NSO	SS <sup>1</sup>	SLT
<u>Watershed Resources</u>				
Geological Hazards/Unstable Soils	45,340	0	0	0
Steep Slopes	154,090	0	0	0
Riparian/Wetlands	6,010	0	0	0
<u>Wildlife Resources</u>				
Elk Yearlong Range	12,360	0	0	0
Elk Winter Range	174,970	0	0	0
Elk Summer Range	6,550	0	0	0
Elk Calving Range	18,010	0	0	0
Deer Winter Range	22,080	0	0	0
Deer Summer Range	35,430	0	0	0
Sage grouse Habitat	25,030	0	0	0
<u>Research Natural Areas</u>	1,590	0	0	0
<u>Roadless Areas</u>	165,430	0	0	0
<u>Recreation Resources</u>				
Semi-Primitive Non Motorized	123,030	0	0	0
<u>Visual Resources</u>				
Retention	12,360	0	0	0
Partial Retention	140,130	0	0	0

<sup>1</sup> SS - Special Stipulations; includes Controlled Surface Use and/or Timing Limitations.  
Table 2-1 shows which special stipulation is assigned to each resource component.

**TABLE 2-3**

**ACRES OF RESOURCE COMPONENT BY STIPULATION  
FOR ALTERNATIVE 2**

Resource Component	Acres by Stipulation			
	NL	NSO	SS <sup>1</sup>	SLT
<u>Watershed Resources</u>				
Geological Hazards/Unstable Soils	0	45,340	0	0
Steep Slopes	0	154,090	0	0
Riparian/Wetlands	0	6,010	0	0
<u>Wildlife Resources</u>				
Elk Yearlong Range	0	12,360	0	0
Elk Winter Range	0	139,140	35,830	0
Elk Summer Range	0	6,540	10	0
Elk Calving Range	0	14,130	3,880	0
Deer Winter Range	0	14,710	7,370	0
Deer Summer Range	0	30,120	5,310	0
Sage grouse Habitat	0	25,030	0	0
<u>Research Natural Areas</u>	0	1,590	0	0
<u>Roadless Areas</u>	0	165,430	0	0
<u>Recreation Resources</u>				
Semi-Primitive Non Motorized	0	109,000	14,020	0
<u>Visual Resources</u>				
Retention	0	12,360	0	0
Partial Retention	0	102,600	37,540	0

<sup>1</sup> SS - Special Stipulations; includes Controlled Surface Use and/or Timing Limitations.  
Table 2-1 shows which special stipulation is assigned to each resource component.

**TABLE 2-4**

**ACRES OF RESOURCE COMPONENT BY STIPULATION  
FOR ALTERNATIVE 3**

Resource Component	Acres by Stipulation			
	NL	NSO	SS <sup>1</sup>	SLT
<u>Watershed Resources</u>				
Geological Hazards/Unstable Soils	0	12,170	33,160	0
Steep Slopes	0	154,090	0	0
Riparian/Wetlands	0	290	5,730	0
<u>Wildlife Resources</u>				
Elk Yearlong Range	0	730	11,630	0
Elk Winter Range	0	82,110	92,860	0
Elk Summer Range	0	2,240	4,310	0
Elk Calving Range	0	4,270	13,740	0
Deer Winter Range	0	11,020	11,060	0
Deer Summer Range	0	15,700	19,730	0
Sage grouse Habitat	0	4,620	20,410	0
<u>Research Natural Areas</u>	0	1,590	0	0
<u>Roadless Areas</u>	0	62,800	102,630	0
<u>Recreation Resources</u>				
Semi-Primitive Non Motorized	0	49,280	73,750	0
<u>Visual Resources</u>				
Retention	0	12,360	0	0
Partial Retention	0	46,110	94,040	0

<sup>1</sup> SS - Special Stipulations; includes Controlled Surface Use and/or Timing Limitations.  
Table 2-1 shows which special stipulation is assigned to each resource component.

**TABLE 2-5**

**ACRES OF RESOURCE COMPONENT BY STIPULATION  
FOR ALTERNATIVE 4**

Resource Component	Acres by Stipulation			
	NL	NSO	SS <sup>1</sup>	SLT
<u>Watershed Resources</u>				
Geological Hazards/Unstable Soils	0	0	45,340	0
Steep Slopes	0	1,160	152,930	0
Riparian/Wetlands	0	0	6,010	0
<u>Wildlife Resources</u>				
Elk Yearlong Range	0	0	12,360	0
Elk Winter Range	0	1,600	172,710	660
Elk Summer Range	0	0	4,230	2,320
Elk Calving Range	0	0	4,710	13,300
Deer Winter Range	0	0	22,080	0
Deer Summer Range	0	130	34,840	450
Sage grouse Habitat	0	0	25,030	0
<u>Research Natural Areas</u>	0	1,590	0	0
<u>Roadless Areas</u>	0	1,280	150,950	13,200
<u>Recreation Resources</u>				
Semi-Primitive Non Motorized	0	310	83,090	39,630
<u>Visual Resources</u>				
Retention	0	0	12,360	0
Partial Retention	0	0	75,300	64,830

<sup>1</sup> SS - Special Stipulations; includes Controlled Surface Use and/or Timing Limitations.  
Table 2-1 shows which special stipulation is assigned to each resource component.

**TABLE 2-6**

**ACRES OF RESOURCE COMPONENT BY STIPULATION  
FOR ALTERNATIVE 5**

Resource Component	Acres by Stipulation			
	NL	NSO	SS <sup>1</sup>	SLT
<u>Watershed Resources</u>				
Geological Hazards/Unstable Soils	0	0	0	45,340
Steep Slopes	0	0	0	154,090
Riparian/Wetlands	0	0	0	6,010
<u>Wildlife Resources</u>				
Elk Yearlong Range	0	0	0	12,360
Elk Winter Range	0	0	0	174,970
Elk Summer Range	0	0	0	6,550
Elk Calving Range	0	0	0	18,010
Deer Winter Range	0	0	0	22,080
Deer Summer Range	0	0	0	35,430
Sage grouse Habitat	0	0	0	25,030
<u>Research Natural Areas</u>	0	0	0	1,590
<u>Roadless Areas</u>	0	0	0	165,430
<u>Recreation Resources</u>				
Semi-Primitive Non Motorized	0	0	0	123,030
<u>Visual Resources</u>				
Retention	0	0	0	12,360
Partial Retention	0	0	0	140,130

<sup>1</sup> SS - Special Stipulations; includes Controlled Surface Use and/or Timing Limitations.  
Table 2-1 shows which special stipulation is assigned to each resource component.

**TABLE 2-7**  
**TOTAL ACREAGE OF LEASING OPTIONS BY ALTERNATIVE**  
**Western Uinta Basin EIS**

Leasing Option	Alt. 1	Alt.2	Alt. 3	Alt. 4	Alt.5
No Lease	400,940	0	0	0	0
No Surface Occupancy	0	303,250	157,710	1,600	0
Special Stipulations <sup>1</sup>	0	74,610	220,160	279,810	0
Standard Lease Terms	0	23,060	23,060	119,530	400,940
Total <sup>2</sup>	400,940	400,920	400,930	400,940	400,940

<sup>1</sup> Special stipulations includes Controlled Surface Use and/or Timing Limitations.

<sup>2</sup> Small differences in acreages result from rounding errors.

**TABLE 2-8**  
**ACTIVITIES CAUSING GROUND DISTURBANCE**  
**Western Uinta Basin EIS**

	Alt. 1	Alt.2	Alt. 3	Alt. 4	Alt.5
<b>Uinta National Forest</b>					
Exploratory well pads	0	1	1	1	1
Miles light road construction	0	1	1	1	1
Miles heavy road construction	0	0.7	0.7	0.7	0.7
<b>Ashley National Forest Outside the Sowers Canyon Area</b>					
Exploratory well pads	1	2	3	5	5
Miles light road construction	0.8	1.6	2.4	4	4
Miles heavy road construction	0.4	0.8	1.2	2	2
<b>Sowers Canyon Area</b>					
Development well pads *	12	20	27	30	30
Miles light road construction	4.8	8	10.8	12	12
Miles heavy road construction	4.8	8	10.8	12	12
Miles of pipeline outside of road ROW	2.8	5	6.5	7.2	7.2

\* Equipment on the development well pad would include: a wellhead valve assembly and beam pumping unit, flowlines which connects the wellhead to an oil and gas separator or heater/treater unit, flowlines which connects the separator or heater/treater unit to two 500-barrel storage tanks, and flowline to a gathering pipeline.

**TABLE 2-9****ACRES DISTURBED BY ALTERNATIVE  
Western Uinta Basin EIS**

	Alt. 1	Alt.2	Alt. 3	Alt. 4	Alt.5
<b>Uinta National Forest</b>					
Acres disturbed by exploratory well pads	0	2	2	2	2
Acres disturbed by light road construction	0	2.40	2.40	2.40	2.40
Acres disturbed by heavy road construction	0	2.52	2.52	2.52	2.52
Total	0	6.92	6.92	6.92	6.92
<b>Ashley National Forest Outside the Sowers Canyon Area</b>					
Acres disturbed by exploratory well pads	2	4	6	10	10
Acres disturbed by light road construction	1.92	3.84	5.76	9.6	9.6
Acres disturbed by heavy road construction	1.44	2.88	8.64	7.2	7.2
Total	5.36	10.72	20.4	26.8	26.8
<b>Sowers Canyon Area</b>					
Acres disturbed by development well pads	24	40	54	60	60
Acres disturbed by light road construction	11.52	19.2	25.92	28.8	28.8
Acres disturbed by heavy road construction	17.28	28.8	38.88	43.2	43.2
Acres disturbed by gas pipeline outside of road disturbed areas	10.37	17.28	23.33	25.92	25.92
Total	63.17	105.28	142.13	157.92	157.92



**TABLE 2-10**

**COMPARISON OF ALTERNATIVES BY RESOURCE  
Western Uinta Basin EIS**

Resource Component	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
<b>Geology/Minerals</b>	Twelve (40%) of the development wells required for full field development of the Sowers Canyon area could be drilled, resulting in partial extraction of the oil and gas resource. Only one exploration well would be drilled outside the Sowers Canyon area; unless there was a discovery, this area would revert to NL after drilling.	Twenty (two-thirds) of the development wells required for full field development in the Sowers Canyon area would be drilled, resulting in substantial extraction of the oil and gas resource. Three exploratory wells would be drilled outside the Sowers Canyon area, but are not expected to result in a discovery or field development.	Twenty-seven (90%) of the development wells required for full field development in the Sowers Canyon area would be drilled, resulting in nearly full extraction of the oil and gas resource. Four exploratory wells would be drilled outside the Sowers Canyon area, but are not expected to result in a discovery or field development.	There would be full field development in the Sowers Canyon area, resulting in full extraction of the oil and gas resource. Six exploratory wells would be drilled outside the Sowers Canyon area, but are not expected to result in a discovery or field development.	There would be full field development in the Sowers Canyon area, resulting in full extraction of the oil and gas resource. Six exploratory wells would be drilled outside the Sowers Canyon area, but are not expected to result in a discovery or field development.
<b>Watershed Resources</b>					
<u>Geological Hazards/Unstable Soils</u>	Directly affected areas would include 5.4 acres on Ashley NF, and 3.0 acres in the Sowers Canyon area. Site-specific impacts and mitigations will have to be determined at the APD stage. Adverse effects such as accelerated erosion and mass wasting can be minimized by adherence to Forest Plan standards and guidelines, best management practices, use of FS Conditions of Approval for the APD, and avoidance of critical areas under SLT.	An NSO stipulation would preclude siting of well pads in areas of geologic hazards/unstable soils, but would not restrict construction of access roads and pipelines. The directly affected areas would be slightly larger than Alt 1, including 6.9 acres on Uinta NF, 10.7 acres on Ashley NF, and 5.0 acres in the Sowers Canyon area. Site-specific mitigations would have to be developed for roads and pipelines crossing areas of geologic hazards/unstable soils, similar to Alt. 1.	CSU stipulations would require that surface disturbing activities be located and designed to minimize adverse effects on unstable soils or areas subject to mass movement. Directly affected areas would be larger than Alt 1, including 6.9 acres on Uinta NF, 20.4 acres on Ashley NF, and 6.7 acres in the Sowers Canyon area. Site-specific mitigations or avoidance would be developed, in compliance with the CSU.	Impacts would be similar to Alt. 3, except that the area of direct effects would be slightly larger, including 6.9 acres on Uinta NF, 26.8 acres on Ashley NF, and 7.5 acres in the Sowers Canyon area.	The area of direct effects would be the same as Alt. 4. This alternative is the least restrictive, and offers the greatest potential for adverse impacts. Site-specific impacts and mitigations would have to be developed at the APD stage, similar to Alt. 1.

**TABLE 2-10  
(Continued)**

Resource Component	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
<u>Steep Slopes</u>	Directly affected areas would include 5.4 acres on Ashley NF, and 14.8 acres in the Sowers Canyon area. Site-specific impacts and mitigations would have to be determined at the APD stage. Adverse effects such as accelerated erosion can be minimized by adherence to Forest Plan standards and guidelines, best management practices, use of FS Conditions of Approval for the APD, and avoidance of critical areas under SLT.	An NSO stipulation would preclude siting of well pads in areas of steep soils, but would not restrict access roads and pipelines. Directly affected areas would be slightly larger than Alt 1, including 6.9 acres on Uinta NF, 10.7 acres on Ashley NF, and 24.7 acres in the Sowers Canyon area. Site-specific mitigations would be developed for roads and pipelines on steep slopes, similar to Alt. 1.	Same as Alt. 2, except that a slightly larger area would be directly affected, including 6.9 acres on Uinta NF, 20.4 acres on Ashley NF, and 33.4 acres in the Sowers Canyon area.	A CSU stipulation would be applied to area of slopes >35%, requiring that facilities be located and designed to minimize impacts. The area of direct impact would be slightly larger than Alt. 3, including 6.9 acres on Uinta NF, 26.8 acres on Ashley NF, and 37.1 acres in the Sowers Canyon area. Site-specific mitigations or avoidance would be developed, in compliance with the CSU.	The area of direct effects would be the same as Alt. 4. This alternative is the least restrictive, and offers the greatest potential for adverse impacts. However, site-specific mitigation would have to be developed, as in Alt. 1.
<u>Stream Erosion, Soil Productivity, and Water Quality</u>	Site-specific impacts and mitigations need to be determined at the APD stage. Adverse effects such as streambank degradation and gullying can be minimized by adherence to Forest Plan standards and guidelines, best management practices, use of FS Conditions of Approval for the APD, and avoidance of critical areas under SLT.	The NSO stipulations for geologic hazards/unstable soils and steep slopes will provide significant protection against stream erosion from placement of well pads, but not roads and pipelines. Adverse effects of roads and pipelines would be addressed at the APD stage, similar to Alt. 1. The area of surface disturbance would be larger than Alt. 1.	NSO and CSU stipulations for geological hazards/unstable soils and for steep slopes will provide significant protection against stream erosion and for maintenance of water quality. Most areas of poor reclamation potential would only be covered by SLT. The area of surface disturbance would be larger than Alt 2. Adverse effects on areas of poor reclamation potential would have to be addressed at the APD stage, similar to Alt. 1.	CSU stipulations for geological hazards/unstable soils and for steep slopes will provide significant protection against stream erosion and for maintenance of water quality. Most areas of poor reclamation potential would only be covered by SLT. The area of surface disturbance would be larger than Alt 3. Adverse effects on areas of poor reclamation potential would have to be addressed at the APD stage, similar to Alt. 1.	The area of surface disturbance would be the same as Alt 4. This alternative is the least restrictive, and offers the greatest potential for adverse impacts. However, site-specific mitigation would have to be developed, as in Alt. 1.

**TABLE 2-10  
(Continued)**

Resource Component	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
<u>Wetlands/Riparian</u>	Minimal impacts are expected. Direct impacts can be avoided under SLT by movement of facilities up to 200 meters, and indirect impacts can be avoided by adherence to Forest plan standards and guidelines for construction.	Similar to Alt. 1. Larger wetlands (>40 acres) would be protected by NSO.	Similar to Alt 2. Larger wetlands (>40 acres) would be protected by CSU	Similar to Alt 2. Larger wetlands (>40 acres) would be protected by CSU	Minimal impacts are expected. Direct impacts can be avoided under SLT by movement of facilities up to 200 meters, and indirect impacts can be avoided by adherence to Forest plan standards and guidelines for construction.
<b>Wildlife and Fisheries</b>					
<u>Sage Grouse Habitat</u>	Minor amounts of habitat could be directly affected on Ashley NF and in the Sowers Canyon area on existing leases. The area of direct impacts would be 0.1% or less of available habitat. Indirect effects can be avoided by SLT, if locations of leks are known.	Same as Alt. 1, although a slightly larger area would be directly affected.	The area of direct habitat loss would be 0.2% of identified habitat on Ashley NF, and 0.3% of sage grouse habitat in the Sowers Canyon area. Indirect effects would be prevented by the TL stipulation.	Similar to Alt 3, with a slightly larger area of direct effect. Indirect effects can be avoided by SLT, if locations of leks are known.	Similar to Alt 3, with a slightly larger area of direct effect. Indirect effects can be avoided if locations of leks are known.

**TABLE 2-10  
(Continued)**

Resource Component	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
<u>Elk Winter Range</u>	<p>Minor amounts of habitat would be directly affected on Ashley NF (0.01% of available habitat) and in the Sowers Canyon area (0.1%) on existing leases. Indirect, disturbance related effects are likely to result in displacement of elk, loss of habitat effectiveness, and lower winter survival. The estimated area of indirect impacts is 996 acres (0.6% of elk winter range) on Ashley NF, and 8945 acres (18.6%) in the Sowers Canyon area. Indirect impacts would be greatest during construction, and much less during operation.</p>	<p>Minor amounts of habitat would be directly affected; the area of direct impacts would be 0.03% on Uinta NF, 0.01% of elk winter range on Ashley NF, and 0.2% of critical winter range in the Sowers Canyon area. Indirect, disturbance related effects are expected to be minimal because of the TL stipulation.</p>	<p>Similar to Alt 2, except that a slightly larger area of habitat would be directly affected.</p>	<p>Similar to Alts 2 and 3, except that a slightly larger area of habitat would be directly affected (0.03% of Ashley and Uinta NF, and 0.3% in the Sowers Canyon area).</p>	<p>The area of direct habitat loss would be the same as Alt. 4. Indirect, disturbance related effects are likely to result in displacement of elk, loss of habitat effectiveness, and lower winter survival. The estimated area of indirect impacts is 1,339 acres (5.3% of elk winter range) on Uinta NF, 5,085 acres (5.0 %) on Ashley NF, and 22,364 acres (46.4%) in the Sowers Canyon area. Indirect impacts would be greatest during construction, and much less during operation.</p>

**TABLE 2-10  
(Continued)**

Resource Component	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
<u>Mule Deer Winter Range</u>	Minor amounts of habitat would be directly affected on Ashley NF (0.05% of available habitat) and in the Sowers Canyon area (0.1%) on existing leases. Indirect, disturbance related effects are likely to result in displacement of deer, loss of habitat effectiveness, and lower winter survival. The estimated area of indirect impacts is 510 acres (5.1% of deer winter range) on Ashley NF, and 268 acres (9.2%) in the Sowers Canyon area. Indirect impacts would be greatest during construction and much less during operation.	Minor amounts of habitat would be directly affected; the area of direct impacts would be 0.03% on Uinta NF, 0.01% of elk winter range on Ashley NF, and 0.2% of critical winter range in the Sowers Canyon area. Indirect, disturbance related effects are expected to be minimal because of the TL stipulation.	Similar to Alt 2, except that a slightly larger area of habitat would be directly affected.	Similar to Alts 2 and 3, except that a slightly larger area of habitat would be directly affected (0.03% of Uinta NF, and 0.3% in Ashley NF and the Sowers Canyon area).	The area of direct habitat loss would be the same as Alt. 4. Indirect, disturbance related effects are likely to result in displacement of deer, loss of habitat effectiveness, and lower winter survival. The estimated area of indirect impacts is 670 acres (7.3% of mule deer winter range) on Uinta NF, 2550 acres (25.6 %) on Ashley NF, and 676 acres (23.1) in the Sowers Canyon area. Indirect impacts would be greatest during construction and much less during operation.
<u>Elk Summer Range</u>	No Effect.	6.9 acres of elk summer range would be directly impacted on Uinta NF, representing 0.1% of available habitat. Some reduction in habitat effectiveness is likely to occur from construction of roads and pipelines.	6.9 acres of elk summer range would be directly impacted on Uinta NF, representing 0.1% of available habitat. Some reduction in habitat effectiveness is likely to occur from construction of roads and pipelines.	6.9 acres of elk summer range would be directly impacted on Uinta NF, representing 0.1% of available habitat. Some reduction in habitat effectiveness is likely to occur from construction of roads and pipelines.	6.9 acres of elk summer range would be directly impacted on Uinta NF, representing 0.1% of available habitat. Some reduction in habitat effectiveness is likely to occur from construction of roads and pipelines.

**TABLE 2-10  
(Continued)**

Resource Component	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
<u>Mule Deer Summer and Fawning Range</u>	Minor amounts of habitat would be directly affected on Ashley NF (0.02% of available habitat) and in the Sowers Canyon area (0.1%) on existing leases. Short-term displacement of mule deer is likely to occur during construction.	Minor amounts of habitat would be directly affected; the area of direct impacts would be 0.04% of mule deer summer range on Ashley NF, and 0.2% of mule deer summer range in the Sowers Canyon area. Short-term displacement of mule deer is likely to occur during construction.	Minor amounts of habitat would be directly affected; the area of direct impacts would be 0.07% of mule deer summer range on Ashley NF, and 0.3% of mule deer summer range in the Sowers Canyon area. Short-term displacement of mule deer is likely to occur during construction. Indirect effects would be prevented during the fawning period by a TL stipulation.	The area of direct impacts would be slightly larger than Alt. 3, 0.9% of summer range on Ashley NF, and 0.3% of the Sowers Canyon area. Short-term displacement of mule deer is likely to occur during construction.	The area of direct impacts would be slightly larger than Alt. 3, 0.9% of summer range on Ashley NF, and 0.3% of the Sowers Canyon area. Short-term displacement of mule deer is likely to occur during construction.
<u>Elk Calving Range</u>	No impacts.	6.9 acres of elk calving range would be directly impacted on Uinta NF, representing 0.1% of available habitat. Indirect effects would be prevented by a TL stipulation.	6.9 acres of elk calving range would be directly impacted on Uinta NF, representing 0.1% of available habitat. Indirect effects would be prevented by a TL stipulation.	6.9 acres of elk calving range would be directly impacted on Uinta NF, representing 0.1% of available habitat. Indirect effects can be prevented under SLT by FS requesting a delay of activities by two months, which covers the calving season.	6.9 acres of elk calving range would be directly impacted on Uinta NF, representing 0.1% of available habitat. Indirect effects can be prevented under SLT by FS requesting a delay of activities by two months, which covers the calving season.

**TABLE 2-10  
(Continued)**

Resource Component	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
<u>Elk Yearlong Range</u>	<p>Minor areas of habitat would be directly affected, 0.1% of the Sowers Canyon area and 4.9% (5.4 acres) of the small area of habitat on Ashley NF on existing leases. Indirect, disturbance related effects are likely to result in displacement of elk, loss of habitat effectiveness, and lower winter survival. The estimated area of indirect impacts is 2243 acres (18.3% of elk yearlong range) in the Sowers Canyon area, and 110 acres (all of the habitat) on Ashley NF. Indirect impacts would be greatest during construction and much less during operation.</p>	<p>Minor areas of habitat would be directly affected, 0.2% of the Sowers Canyon area and 9.7% (10.7 acres) of the small area of habitat on Ashley NF. Indirect, disturbance related effects are likely to result in displacement of elk, loss of habitat effectiveness, and lower winter survival, through construction of roads and pipelines in the 20% of the area not protected by a winter range TL stipulation. The estimated area of indirect impacts is 450 acres (3.7% of elk yearlong range). The calving season would be protected by a combination of NSO in 80% of the area and SLT in the remaining 20%. Indirect impacts would be greatest during construction and much less during operation.</p>	<p>The area of direct habitat loss would be larger than Alt. 2, 0.3% of the Sowers Canyon area and 18.5% (20.4 acres) of the small area of habitat on Ashley NF. Indirect effects would be prevented by a TL stipulation covering both the winter and calving sensitive periods.</p>	<p>The area of direct habitat loss would be slightly larger than Alt. 3, 0.3% of the Sowers Canyon area and 24.4% of the limited area of yearlong habitat on Ashley NF. Indirect, disturbance related effects are likely to result in displacement of elk, loss of habitat effectiveness, and lower winter survival, through construction of roads and pipelines in the 20% of the area not protected by a winter range TL stipulation. The estimated area of indirect impacts is 450 acres (3.7% of elk yearlong range). The calving season could be protected by SLT. Indirect impacts would be greatest during construction and much less during operation.</p>	<p>The area of directly affected habitat would be the same as Alt. 4. Indirect, disturbance related effects are likely result in displacement of elk, loss of habitat effectiveness, and lower winter survival. The estimated area of indirect impacts is 5,608 acres (61.2% of elk yearlong range) in the Sowers Canyon area, and 110 acres (all of the habitat) on Ashley NF. The calving season could be protected by SLT. Indirect impacts would be greatest during construction and much less during operation.</p>

**TABLE 2-10  
(Continued)**

Resource Component	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
<u>Raptor Habitat</u>	There would be no impacts to raptors except on existing leases. SLT would provide partial protection for raptors on existing leases, unless specific stipulations apply. SLT would not cover the full nesting period, nor provide an adequate buffer to prevent nest abandonment. The amount of potential raptor habitat directly affected would be minor (0.01% of the area).	About 75% of the area would be NSO, but some adverse impacts could occur from construction of roads and pipelines even in NSO areas. SLT would provide partial protection for raptors, but would not cover the full nesting period, nor provide an adequate buffer to prevent nest abandonment. Elk winter range TL stipulations in much of the Sowers Canyon area and Ashley NF, combined with a two month delay under SLT, could protect most of all of the nesting season for individual nests, if their locations are known. The amount of raptor habitat directly affected would be slightly larger than Alt. 1 (about 0.02%).	Similar to Alt 2, except that about 40% of the area would be NSO, and the amount of raptor habitat directly affected would be slightly larger than Alt. 2.	Similar to Alt 3, except that only a small portion of the area would be NSO, and the amount of potential raptor habitat directly affected would be slightly larger than Alt. 3.	Similar to Alt 3, except that only a small portion of the area would be NSO, and the amount of potential raptor habitat directly affected would be slightly larger than Alt. 3.
<b>Threatened, Endangered and Sensitive Species</b>					
<u>Threatened and Endangered Species</u>	Adverse impacts are unlikely, and would be addressed under the Endangered Species Act.	Adverse impacts are unlikely, and would be addressed under the Endangered Species Act.	Adverse impacts are unlikely, and would be addressed under the Endangered Species Act.	Adverse impacts are unlikely, and would be addressed under the Endangered Species Act.	Adverse impacts are unlikely, and would be addressed under the Endangered Species Act.
<u>Candidate or Sensitive Species</u>	No or minor impacts are expected, because impacts to candidate or sensitive species would be assessed in a Biological Evaluation required by the FS, and project-specific mitigation developed by the FS.	Impacts are unlikely, since a CSU stipulation would require on-the-ground surveys and mitigation.	Impacts are unlikely, since a CSU stipulation would require on-the-ground surveys and mitigation.	Impacts are unlikely, since a CSU stipulation would require on-the-ground surveys and mitigation.	No or minor impacts are expected, because impacts to candidate or sensitive species would be assessed in a Biological Evaluation required by the FS, and project-specific mitigation developed by the FS.



**TABLE 2-10  
(Continued)**

Resource Component	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
<b>Air Quality</b>	Minor and local adverse effects from fugitive dust and vehicle emissions would occur, especially in the Sowers Canyon area. Class II standards would not be exceeded.	Impacts would be similar to Alt. 1, but the area of affect would be larger because of increased numbers of wells and miles of roads.	Impacts would be similar to Alts. 1 and 2, but the area of affect would be larger because of increased numbers of wells and miles of roads.	Impacts would be similar to Alts. 1-3, but the area of affect would be larger because of increased numbers of wells and miles of roads.	Impacts would be similar to Alts. 1-3, but the area of affect would be larger because of increased numbers of wells and miles of roads.
<b>Research Natural Areas</b>	One exploration well on the Ashley NF outside the Sowers Canyon area could be in a candidate RNA; if so, it would directly affect 5.4 acres, and would likely disqualify the area as an RNA. Due to the expiration of most old leases, it is highly unlikely that any RNA would be affected.	The NSO designation would prevent placement of well pads in candidate RNAs. Forest Plan standards would not allow disturbance from roads and pipelines within RNAs.	The NSO designation would prevent placement of well pads in candidate RNAs.	The NSO designation would prevent placement of well pads in candidate RNAs.	Up to 5 exploration wells could be placed in candidate RNAs, resulting in direct effects of up to 26.8 acres. The presence of well pads, roads and pipelines are likely to disqualify these areas for RNA designation.
<b>Roadless Areas</b>	This alternative would provide the most protection to the roadless resource. Impacts to roadless areas could occur to areas with existing leases - after these leases expire no additional leases would be issued. 5.4 acres of roadless area could be effected under this alternative.	No impacts to roadless areas from well sites or production facilities. Possibility of 11.6 acres of disturbance within roadless areas from road reconstruction/construction associated with oil and gas exploration activities.	Effects to roadless areas would be reduced by a CSU stipulation, but impacts could result in a loss of the roadless character where oil and gas activity occurs. Impacts could occur on 6.9 acres on the Uinta NF and 20.4 acres on the Ashley NF.	Impacts to roadless areas and the associated attributes of natural integrity and appearance, solitude, primitive recreation and manageability/boundaries could affect 6.9 acres on the Uinta NF and 26.8 acres on the Ashley NF.	Same as Alternative 4

**TABLE 2-10  
(Continued)**

Resource Component	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
<b>Recreation</b>	<p>No impacts to developed recreation sites from new oil and gas leasing activity. One developed site in the Ashley NF could experience indirect visual impacts from one exploratory well predicted to be drilled in the Ashley NF under existing leases. Approximately 5.4 acres of SPNM land could be directly impacted by exploratory activity (short-term impacts) on the Ashley NF. 5.2 acres in the Sowers Canyon area could be directly impacted by development activity (long-term impacts). Additional acres of SPNM could be impacted by a reclassification of SPNM lands within a .5 mile buffer of new roads.</p> <p>This indirect impact could potentially affect 1,019 and 750 acres on the Ashley NF, outside Sowers Canyon and in the Sowers Canyon area, respectively.</p>	<p>No direct impacts to developed recreation sites. Short-term, indirect visual impacts to recreation sites from exploratory activity (6.9 acres on the Uinta NF, 10.7 acres on the Ashley NF). SPNM lands could receive short-term, direct impacts from exploratory activity on 6.9 acres on the Uinta NF and 10.7 acres on the Ashley NF, outside Sowers Canyon area. 8.6 acres in the Sowers Canyon area could receive direct, longterm impacts from well development activity.</p> <p>Indirect impacts could potentially affect 1,339, 2,038 and 1,251 acres on the Uinta NF, Ashley NF, outside Sowers, and in the Sowers Canyon area, respectively.</p>	<p>Same as Alternative 2, except that the possible acres of disturbance in the Ashley NF, outside Sowers Canyon area, is 20.4 acres and 11.6 acres in the Sowers Canyon area.</p> <p>Indirect impacts could potentially affect 1,339, 3,057 and 1,689 acres on the Uinta NF, Ashley NF, outside Sowers, and in the Sowers Canyon area, respectively.</p>	<p>No direct impacts to developed recreation sites. Short-term, indirect impacts to recreation sites from exploratory activity (6.9 acres on the Uinta NF and 26.8 acres on the Ashley NF). SPNM lands could receive short-term, direct impacts from exploratory activity on 6.9 acres on the Uinta NF and 26.8 acres on the Ashley NF. 12.9 acres in Sowers Canyon area could receive direct, long-term impacts from well development activity.</p> <p>Indirect impacts could occur on 1,339, 5,095 and 1,877 acres on the Uinta NF, Ashley NF, outside Sowers, and in the Sowers Canyon area, respectively.</p>	<p>SLT stipulation could prevent any direct impacts to developed recreation sites. Short-term, indirect impacts from 6.9 acres of disturbance on the Uinta NF and 26.8 acres on the Ashley NF. Impacts to SPNM the same as Alternative 4</p>

**TABLE 2-10  
(Continued)**

Resource Component	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
<b>Visual Resources</b>	No impacts from new oil and gas leasing activity. 5.4 acres of either Retention or Partial Retention VQO lands in the Ashley N-F could receive impacts from existing leases. There are no Retention or Partial Retention lands within Sowers Canyon area.	No impacts in Retention VQO from well sites or production facilities. 11.6 acres of disturbance possible in Retention VQO from access roads. 17.6 acres of disturbance possible to Partial Retention lands in the Uinta and Ashley NFs.	No impacts to Retention VQO from well sites or production facilities. 11.6 acres of disturbance possible from access roads in Retention VQO. 27.3 acres of disturbance to Partial Retention VQO lands in the Uinta and Ashley NFs.	6.9 acres of disturbance in either Retention or Partial Retention VQO lands in the Uinta NF and 26.8 acres of disturbance to Retention or Partial Retention in the Ashley NF, outside Sowers Canyon area.	Same as Alternative 4
<b>Cultural Resources</b>	Impacts are least likely under Alternative 1, however no direct impacts to cultural resources are anticipated since significant resources are protected under the NHPA. Indirect impacts related to increased access and degradation of the sensory environment could still occur.	Direct impacts to cultural resources are not anticipated because cultural resources are protected under the NHPA. Indirect impacts related to increased access and degradation of the sensory environment could still occur.	Direct impacts to cultural resources are not anticipated because cultural resources are protected under the NHPA. Indirect impacts related to increased access and degradation of the sensory environment could still occur.	Direct impacts to cultural resources are not anticipated because cultural resources are protected under the NHPA. Indirect impacts related to increased access and degradation of the sensory environment could still occur.	Direct impacts to cultural resources are not anticipated because cultural resources are protected under the NHPA. Indirect impacts related to increased access and degradation of the sensory environment could still occur.
<b>Transportation</b>	Any impacts to major highways under Alternative 1 are expected to be minor. The forest and county road system would be expanded and 32.2 acres of disturbance would occur for reconstruction/construction of these roads.	Any impacts to major highways (such as increased traffic or road degradation) are expected to be minor. The forest and county road system would be expanded and 59.6 acres of disturbance would occur for reconstruction/construction of these roads.	Any impacts to major highways (such as increased traffic or road degradation) are expected to be minor. The forest and county road system would be expanded and 79.8 acres of disturbance would occur for reconstruction/construction of these roads.	The potential for impacts to major highways is greatest under Alternatives 4 and 5. Potential impacts include increased traffic and degradation of roadways. The forest and county road system would experience the greatest expansion of any of the alternatives and 93.7 acres of disturbance would occur for reconstruction/construction of these roads.	The potential for impacts to major highways is greatest under Alternatives 4 and 5. Potential impacts include increased traffic and degradation of roadways. The forest and county road system would experience the greatest expansion of any of the alternatives and 93.7 acres of disturbance would occur for reconstruction/construction of these roads.

**TABLE 2-10  
(Continued)**

Resource Component	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
<b>Socioeconomics</b>	Population, employment, and income impacts are expected to be minor. As a result, impacts to housing and local government facilities and services would also be minor. Some increase in revenue for affected counties and communities would occur.	Like Alternative 1, population, employment, and income impacts are expected to be minor, resulting in minor impacts to housing and local government facilities and services. Affected counties and communities could receive additional revenue, probably slightly more than under Alternative 1.	Like Alternatives 1 and 2, population, employment, and income impacts are expected to be minor, resulting in minor impacts to housing and local government facilities and services. Affected counties and communities could receive additional revenue, probably slightly more than under Alternatives 1 and 2.	Impacts to population, employment, and income would be greatest under Alternatives 4 and 5, however, would still be relatively minor. Impacts to housing and local government facilities and services would be related to any increase in population. Revenue to counties and communities would be greatest under Alternatives 4 and 5.	Impacts to population, employment, and income would be greatest under Alternatives 4 and 5, however, would still be relatively minor. Impacts to housing and local government facilities and services would be related to any increase in population. Revenue to counties and communities would be greatest under Alternatives 4 and 5.