

APPENDIX H. DISTURBANCES AND FRAGMENTATION OF WILDLIFE HABITAT

THIS PAGE INTENTIONALLY LEFT BLANK.

APPENDIX H. DISTURBANCES AND FRAGMENTATION OF WILDLIFE HABITAT

Table 1. Mineral Development Land Categorization Proposed in Mule Deer Overall Habitat

Oil and Gas Development	
Standard Stipulation	824,429 (44%)
Timing and Controlled Surface Use	777,539 (42%)
No Surface Occupancy	83,416 (4%)
No Leasing	177,376 (10%)
Other Minerals (Open)	
Mineral Material	389,668 (87%)
Phosphate	75,466 (83%)
Gilsonite	1,666 (98%)

Table 2. Mineral Development Land Categorization Proposed In Mule Deer Crucial Winter Range Habitat

Oil and Gas Development	
Standard Stipulation	28 (0.01%)
Timing and Controlled Surface Use	305,867 (82%)
No Surface Occupancy	10,272 (3%)
No Leasing	54,814 (15%)
Other Minerals (Open)	
Mineral Material	117,184 (85%)
Phosphate	58,384 (87%)
Gilsonite	258 (100%)

Table 3. Mineral Development Land Categorization Proposed in Mule Deer Migration Corridor Habitat

Oil and Gas Development	
Standard Stipulation	0 (0%)
Timing and Controlled Surface Use	47,091 (100%)
No Surface Occupancy	0 (0%)
No Leasing	0 (0%)
Other Minerals (Open)	
Mineral Material	0 (0%)
Phosphate	0 (0%)
Gilsonite	0 (0%)

Table 4. Mineral Development Land Categorization Proposed In Rocky Mountain Elk Overall Habitat

Oil and Gas Development	
Standard Stipulation	321,433 (28%)
Timing and Controlled Surface Use	586,641 (52%)
No Surface Occupancy	48,284 (4%)
No Leasing	178,614 (16%)
Other Minerals (Open)	
Mineral Material	224,303 (84%)
Phosphate	73,530 (85%)
Gilsonite	558 (98%)

Table 5. Mineral Development Land Categorization Proposed In Rocky Mountain Elk Crucial Winter Range Habitat

Oil and Gas Development	
Standard Stipulation	185 (0.1%)
Timing and Controlled Surface Use	269,022 (74%)
No Surface Occupancy	14,384 (4%)
No Leasing	82,042 (22%)
Other Minerals (Open)	
Mineral Material	56,094 (86%)
Phosphate	26,706 (91%)
Gilsonite	97 (100%)

Table 6. Mineral Development Land Categorization Proposed In Pronghorn Habitat

Oil and Gas Development	
Standard Stipulation	530,979 (69%)
Timing and Controlled Surface Use	195,420 (25%)
No Surface Occupancy	20,207 (3%)
No Leasing	21,923 (3%)
Other Minerals (Open)	
Mineral Material	168,851 (92%)
Phosphate	27,910 (87%)
Gilsonite	642 (97%)

Table 7. Mineral Development Land Categorization Proposed In Bighorn Sheep Habitat

Oil and Gas Development	
Standard Stipulation	93,023 (21%)
Timing and Controlled Surface Use	228,616 (53%)
No Surface Occupancy	32,740 (8%)
No Leasing	80,663 (19%)
Other Minerals (Open)	
Mineral Material	55,563 (85%)
Phosphate	10,574 (79%)
Gilsonite	504 (98%)

Table 8. Mineral Development Land Categorization Proposed In Moose Habitat

Oil and Gas Development	
Standard Stipulation	46,365 (41%)
Timing and Controlled Surface Use	29,070 (25%)
No Surface Occupancy	3,328 (3%)
No Leasing	35,261 (31%)
Other Minerals (Open)	
Mineral Material	24,715 (80%)
Phosphate	12,802 (90%)
Gilsonite	0 (0%)

Table 9. Mineral Development Land Categorization Proposed In Black Bear Habitat

Oil and Gas Development	
Standard Stipulation	60,254 (24%)
Timing and Controlled Surface Use	128,388 (52%)
No Surface Occupancy	11,429 (5%)
No Leasing	47,815 (19%)
Other Minerals (Open)	
Mineral Material	24,287 (83%)
Phosphate	4,972 (99.5%)
Gilsonite	0 (0%)

Table 10. Mineral Development Land Categorization Proposed In Ring-necked Pheasant Habitat

Oil and Gas Development	
Standard Stipulation	26,251 (48%)
Timing and Controlled Surface Use	11,996 (22%)
No Surface Occupancy	16,116 (29%)
No Leasing	624 (1%)
Other Minerals (Open)	
Mineral Material	16,381 (66%)
Phosphate	887 (100%)
Gilsonite	0 (0%)

Table 11. Mineral Development Land Categorization Proposed In Rio Grande Turkey Habitat

Oil and Gas Development	
Standard Stipulation	88,683 (56%)
Timing and Controlled Surface Use	37,991 (24%)
No Surface Occupancy	9,625 (6%)
No Leasing	22,538 (14%)
Other Minerals (Open)	
Mineral Material	33,249 (87%)
Phosphate	65 (12%)
Gilsonite	167 (100%)

Table 12. Mineral Development Land Categorization Proposed In Blue Grouse Habitat

Oil and Gas Development	
Standard Stipulation	16,686 (7%)
Timing and Controlled Surface Use	158,930 (69%)
No Surface Occupancy	6,130 (3%)
No Leasing	49,400 (21%)
Other Minerals (Open)	
Mineral Material	4,977 (74%)
Phosphate	16,490 (72%)
Gilsonite	0 (0%)

Table 13. Mineral Development Land Categorization Proposed In Chukar Habitat

Oil and Gas Development	
Standard Stipulation	23,267 (17%)
Timing and Controlled Surface Use	43,147 (31%)
No Surface Occupancy	17,146 (12%)
No Leasing	55,981 (40%)
Other Minerals (Open)	
Mineral Material	22,498 (64%)
Phosphate	23,388 (65%)
Gilsonite	0 (0%)

Table 14. Mineral Development Land Categorization Proposed In Greater Sage-Grouse Wintering Habitat

Oil and Gas Development	
Standard Stipulation	98,067 (41%)
Timing and Controlled Surface Use	98,679 (42%)
No Surface Occupancy	4,832 (2%)
No Leasing	35,095 (15%)
Other Minerals (Open)	
Mineral Material	71,668 (87%)
Phosphate	16,100 (64%)
Gilsonite	148 (100%)

Table 15. Mineral Development Land Categorization Proposed In Greater Sage-grouse Brooding Habitat

Oil and Gas Development	
Standard Stipulation	288,942 (36%)
Timing and Controlled Surface Use	412,653 (51%)
No Surface Occupancy	21,092 (3%)
No Leasing	91,085 (11%)
Other Minerals (Open)	
Mineral Material	183,838 (88%)
Phosphate	50,184 (81%)
Gilsonite	456 (100%)

Table 16. Mineral Development Land Categorization Proposed In White-tailed Prairie Dog/Black-footed Ferret Habitat

Oil and Gas Development	
Standard Stipulation	104,308 (84%)
Timing and Controlled Surface Use	18,753 (15%)
No Surface Occupancy	1,083 (1%)
No Leasing	13 (0.01%)
Other Minerals (Open)	
Mineral Material	48,195 (99%)
Phosphate	0 (0%)
Gilsonite	93 (97%)

Table 17. Mineral Development Land Categorization Proposed In Mexican Spotted Owl (Canyon) Habitat

Oil and Gas Development	
Standard Stipulation	1,234 (11%)
Timing and Controlled Surface Use	2,335 (22%)
No Surface Occupancy	1,286 (12%)
No Leasing	6,002 (55%)
Other Minerals (Open)	
Mineral Material	97 (81%)
Phosphate	225 (68%)
Gilsonite	0 (0%)

Table 18. Mineral Development Land Categorization Proposed In Mexican Spotted Owl (Forest) Habitat

Oil and Gas Development	
Standard Stipulation	15,449 (39%)
Timing and Controlled Surface Use	10,944 (28%)
No Surface Occupancy	624 (2%)
No Leasing	12,410 (31%)
Other Minerals (Open)	
Mineral Material	4,634 (81%)
Phosphate	568 (88%)
Gilsonite	0 (0%)

Table 19. Mineral Development Land Categorization Proposed In Ferruginous Hawk Nesting Habitat¹

Oil and Gas Development	
Standard Stipulation	39,225 (77%)
Timing and Controlled Surface Use	11,037 (22%)
No Surface Occupancy	524 (1%)
No Leasing	42 (0.1%)
Other Minerals (Open)	
Mineral Material	15,862 (98%)
Phosphate	0 (0%)
Gilsonite	0 (0%)

¹ These calculations are to show an approximation of land management in the habitat type used by nesting ferruginous hawks. Calculations are based on areas associated within the ½ mile buffer around known active and inactive ferruginous hawk nests in the VPA. However, the areas within the ½ mile buffer zone for active and inactive ferruginous hawk nests will actually be managed under the special stipulations for raptors outlined in Chapter 4 of the PRMP.

Table 20. Habitat Fragments Created By Existing Roads And Pipelines On BLM Lands In The VPA And Road Effects Zones Associated With These Fragments

Vernal Planning Area								
Fragment Categories	All Fragments				Fragments 250 Acres or Greater			
	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development
Fragments created by roads or pipelines	4,485	383	99.6	86.6	736	2,194	93.6	85.6
Fragments outside the	2,849	492	81.2	85.4	696	1,891	76.3	84.2

Table 20. Habitat Fragments Created By Existing Roads And Pipelines On BLM Lands In The VPA And Road Effects Zones Associated With These Fragments

Vernal Planning Area								
Fragment Categories	All Fragments				Fragments 250 Acres or Greater			
	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development
660-foot road effects zone								
Fragments outside the 1,320-foot road effects zone	2,394	477	66.1	84.1	593	1,803	62.0	82.7
Fragments outside the 2,640-foot road effects zone	1,510	505	44.2	81.3	413	1,728	41.4	79.6

Table 21. Habitat Fragments Created By Existing Roads And Pipelines On BLM Lands In The Manila-Clay Basin RFD Area, And Road Effects Zones Associated With These Fragments

Fragment Categories	All Fragments				Fragments 250 Acres or Greater			
	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development
Fragments created by roads or pipelines	234	225	99.6	70.2	26	1,807	89.1	66.8
Fragments outside the 660-foot road effects zone	104	117	82.2	66.7	24	1,662	75.6	63.0
Fragments outside the 1,320-foot road effects zone	90	401	68.5	63.3	25	1,359	64.4	60.9
Fragments outside the 2,640-foot road effects zone	55	459	47.8	56.9	18	1,287	43.9	52.6

Table 22. Functional Habitat Loss Created By Proposed Roads And Pipelines On BLM Lands In The Manila-Clay Basin RFD Area

	Approved RMP
Road and Pipeline Densities (mi/mi ²)	1.48
Percent outside a Functional Habitat Loss - 660' zone	86%
Percent outside a Functional Habitat Loss - 1,320' zone	75%
Percent outside a Functional Habitat Loss - 2,640' zone	57%

Table 23. Habitat Fragments Created By Existing Roads And Pipelines On BLM Lands In The Tabiona-Ashley Valley RFD Area, And Road Effects Zones Associated With These Fragments

Fragment Categories	All Fragments				Fragments 250 Acres or Greater			
	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development
Fragments created by roads or pipelines	1,233	297	99.7	70.8	165	2,044	91.8	68.2
Fragments outside the 660-foot road effects zone	715	431	83.9	69.1	155	1,864	78.6	66.8
Fragments outside the 1,320-foot road effects zone	559	467	71.0	67.5	136	1,797	66.5	69.4
Fragments outside the 2,640-foot road effects zone	370	506	50.9	PRMP:64.3	102	1,714	47.6	PRMP:61.6

Table 24. Functional Habitat Loss Created By Proposed Roads And Pipelines On BLM Lands In The Tabiona-Ashley Valley RFD Area

	Approved RMP
Road and Pipeline Densities (mi/mi ²)	1.48
Percent outside a Functional Habitat Loss - 660' zone	88%
Percent outside a Functional Habitat Loss - 1,320' zone	79%
Percent outside a Functional Habitat Loss - 2,640' zone	63%

Tabiona-Ashley Valley RFD Area (367,419 acres)

Table 25. Habitat Fragments Created By Existing Roads And Pipelines On BLM Lands In The Altamont-Bluebell RFD Area, And Road Effects Zones Associated With These Fragments

Fragment Categories	All Fragments				Fragments 250 Acres or Greater			
	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development
Fragments created by roads or pipelines	64	224	99.7	98.7	10	1,280	89.0	96.7
Fragments outside the 660-foot road effects zone	45	266	83.4	98.9	9	1,172	73.3	98.7
Fragments outside the 1,320-foot road effects zone	35	287	69.8	99.3	9	1,003	62.8	99.1
Fragments outside the 2,640-foot road effects zone	32	218	48.5	100	8	805	44.8	100

Table 26. Functional Habitat Loss Created By Proposed Roads And Pipelines On BLM Lands In The Altamont-Bluebell RFD Area

	Approved RMP
Road and Pipeline Densities (mi/mi ²)	1.34
Percent outside a Functional Habitat Loss - 660' zone	85%
Percent outside a Functional Habitat Loss - 1,320' zone	72%
Percent outside a Functional Habitat Loss - 2,640' zone	51%

Altamont-Bluebell RFD Area (14,375 acres)

Table 27. Habitat Fragments Created By Existing Roads And Pipelines On BLM Lands In The Monument Butte-Red Wash RFD Area, And Road Effects Zones Associated With These Fragments

Fragment Categories	All Fragments				Fragments 250 Acres or Greater			
	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development
Fragments created by roads or pipelines	2,071	306	99.5	94.9	359	1,624	91.6	94.6
Fragments outside the 660-foot road effects zone	1,234	396	76.8	94.5	298	1,508	70.6	94.09
Fragments outside the 1,320-foot road effects zone	1,052	357	60.0	94.1	227	1,510	53.9	93.3
Fragments outside the 2,640-foot road effects zone	604	376	35.7	92.7	144	1,429	32.3	91.8

Table 28. Functional Habitat Loss Created By Proposed Roads And Pipelines On BLM Lands In The Monument Butte-Redwash RFD Area

	Approved RMP
Road and Pipeline Densities (mi/mi ²)	2.45
Percent outside a Functional Habitat Loss - 660' zone	78%
Percent outside a Functional Habitat Loss - 1,320' zone	61%
Percent outside a Functional Habitat Loss - 2,640' zone	39%

Monument Butte-Redwash RFD Area (636,185 acres)

Table 29. Habitat Fragments Created By Existing Roads And Pipelines On BLM Lands In The West Tavaputs Plateau RFD Area, And Road Effects Zones Associated With These Fragments

Fragment Categories	All Fragments				Fragments 250 Acres or Greater			
	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development
Fragments created by roads or pipelines	213	845	99.7	87.5	59	2,987	97.7	86.4
Fragments outside the 660-foot road effects zone	189	815	85.3	87.0	61	2,435	82.3	85.6
Fragments outside the 1,320-foot road effects zone	172	763	72.7	PRMP: 86.5	56	2,251	69.9	PRMP: 84.6
Fragments outside the 2,640-foot road effects zone	135	693	51.9	PRMP: 85.3	47	1,902	49.5	PRMP: 82.9

Table 30. Functional Habitat Loss Created By Proposed Roads And Pipelines On BLM Lands In The West Tavaputs Plateau RFD Area

	Approved RMP
Road and Pipeline Densities (mi/mi ²)	1.27
Percent outside a Functional Habitat Loss - 660' zone	86%
Percent outside a Functional Habitat Loss - 1,320' zone	74%
Percent outside a Functional Habitat Loss - 2,640' zone	53%

West Tavaputs Plateau RFD Area (180,467 acres)

Table 31. Habitat Fragments Created By Existing Roads And Pipelines On BLM Lands In The East Tavaputs Plateau RFD Area, And Road Effects Zones Associated With These Fragments

Fragment Categories	All Fragments				Fragments 250 Acres or Greater			
	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development	Number	Average Size (acres)	% of Total Area	% Open to Minerals Development
Fragments created by roads or pipelines	867	545	99.7	89.0	167	2,714	95.6	88.2
Fragments outside the 660-foot road effects zone	562	702	83.1	88.0	149	2,543	80.0	87.0
Fragments outside the 1,320-foot road effects zone	486	673	70.0	86.9	140	2,235	66.0	86.1
Fragments outside the 2,640-foot road effects zone	387	577	47.0	84.4	119	1,780	44.7	83.7

Table 32. Functional Habitat Loss Created By Proposed Roads And Pipelines On BLM Lands In The East Tavaputs Plateau RFD Area

	Approved RMP
Road and Pipeline Densities (mi/mi ²)	85.0
Percent outside a Functional Habitat Loss - 660' zone	90%
Percent outside a Functional Habitat Loss - 1,320' zone	82%
Percent outside a Functional Habitat Loss - 2,640' zone	66%

East Tavaputs Plateau RFD Area (474,288 acres)

WILDLIFE**Table 33. Migratory Birds Species On The USFWS Species Of Concern List, State Of Utah Special Status Species List, And The Partners In Flight High-Priority Bird Species List**

Common Name	Scientific Name	USFWS Species of Concern	State of Utah Special Status Species	Partners in Flight High-Priority Bird Species	Primary Breeding Habitat	Secondary Breeding Habitat	Winter Habitat
American Avocet	<i>Recurvirostra americana</i>	X		X	Wetland	Playa	Migrant
American White Pelican	<i>Pelecanus erythrorhynchos</i>		X	X	Water	Wetland	Migrant
Black-Chinned Sparrow	<i>Spizella atrogularis</i>	X			Low Desert Scrub	High Desert Scrub	Migrant
Black-necked Stilt	<i>Himantopus mexicanus</i>			X	Wetland	Playa	Migrant
Black-throated Gray Warbler	<i>Dendroica nigrescens</i>	X		X	Pinyon-Juniper	Mountain Shrub	Migrant
Bobolink	<i>Dolichonyx oryzivorus</i>		X	X	Wet Meadow	Agriculture	Migrant
Brewer's Sparrow	<i>Spizella breweri</i>	X		X	Shrub-steppe	High Desert Scrub	Migrant
Broad-tailed Hummingbird	<i>Selasphorus platycercus</i>			X	Lowland riparian	Mountain Riparian	Migrant
Ferruginous Hawk	<i>Buteo regalis</i>	X	X	X	Pinyon-Juniper	Shrub-steppe	Grassland
Flammulated Owl	<i>Otus flammeolus</i>	X			Ponderosa Pine	Sub-Alpine Conifer	Migrant
Gambel's Quail	<i>Callipepla gambelii</i>			X	Low Desert Scrub	Lowland riparian	Low Desert Scrub
Golden Eagle	<i>Aquila chrysaetos</i>	X			Cliff	High Desert Scrub	High Desert Scrub
Grey Vireo	<i>Vireo vicinior</i>	X		X	Pinyon-Juniper	Northern Oak	Migrant
Greater sage-Grouse	<i>Centrocercus urophasianus</i>	X	X	X	Shrub-steppe	Shrub-steppe	Shrub-steppe
Lewis' Woodpecker	<i>Melanerpes lewis</i>	X	X	X	Ponderosa Pine	Lowland riparian	Northern Oak

Table 33. Migratory Birds Species On The USFWS Species Of Concern List, State Of Utah Special Status Species List, And The Partners In Flight High-Priority Bird Species List

Common Name	Scientific Name	USFWS Species of Concern	State of Utah Special Status Species	Partners in Flight High-Priority Bird Species	Primary Breeding Habitat	Secondary Breeding Habitat	Winter Habitat
Loggerhead Shrike	<i>Lanius ludovicianus</i>	X			High Desert Scrub	Pinyon-Juniper	High Desert Scrub
Long-billed Curlew	<i>Numenius americanus</i>	X	X	X	Grassland	Agriculture	Migrant
Mountain Plover	<i>Charadrius montanus</i>	X		X	High Desert Scrub	High Desert Scrub	Migrant
Northern Harrier	<i>Circus cyaneus</i>	X			Wet Meadow	High Desert Scrub	Agriculture
Peregrine Falcon	<i>Falco peregrinus</i>	X			Cliff	Lowland riparian	Wetland
Pinyon Jay	<i>Gymnorhinus cyanocephalus</i>	X			Pinyon-Juniper	Ponderosa Pine	Pinyon-Juniper
Prairie Falcon	<i>Falco mexicanus</i>	X			Cliff	High Desert Scrub	Agriculture
Pygmy Nuthatch	<i>Sitta pygmaea</i>	X			Ponderosa Pine	Aspen	Ponderosa Pine
Red-naped Sapsucker	<i>Sphyrapicus nuchalis</i>	X			Aspen	Mixed Conifer	Mountain Riparian
Sage Sparrow	<i>Amphispiza belli</i>	X		X	Shrub-steppe	High Desert Scrub	Low Desert Scrub
Snowy plover	<i>Charadrius alexandrinus</i>	X			Playa	Playa	Migrant
Swainson's Hawk	<i>Buteo swainsoni</i>	X			Agriculture	Aspen	Migrant
Three-toed Woodpecker	<i>Picoides tridactylus</i>		X	X	Sub-Alpine Conifer	Lodgepole Pine	Sub-Alpine Conifer
Virginia's Warbler	<i>Vermivora virginiae</i>	X		X	Northern Oak	Pinyon-Juniper	Migrant
Williamson Sapsucker	<i>Sphyrapicus thyroideus</i>	X			Sub-Alpine Conifer	Aspen	Migrant
Wilson's Phalarope	<i>Phalaropus tricolor</i>	X			Wetland	Water	Migrant

Table 33. Migratory Birds Species On The USFWS Species Of Concern List, State Of Utah Special Status Species List, And The Partners In Flight High-Priority Bird Species List

Common Name	Scientific Name	USFWS Species of Concern	State of Utah Special Status Species	Partners in Flight High-Priority Bird Species	Primary Breeding Habitat	Secondary Breeding Habitat	Winter Habitat
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	X	X	X	Lowland riparian	Agriculture	Migrant