

Specialist Report
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Chapter 3:

Wildlife: Migratory Birds including Raptors

All the parcels contain nesting and foraging habitat (i.e. forest, woodland, shrubland and desert) for a large array of migratory bird species. The Migratory Bird Treaty Act (MBTA) of 1918 was implemented for the protection of migratory birds. Unless permitted by regulations, the MBTA makes it unlawful to pursue, hunt, kill, capture, possess, buy, sell, purchase, or barter any migratory bird, including the feathers or other parts, nests, eggs, or migratory bird products. In addition to the MBTA, Executive Order 13186 sets forth the responsibilities of Federal agencies to further implement the provisions of the MBTA by integrating bird conservation principles and practices into agency activities and by ensuring that Federal actions evaluate the effects of actions and agency plans on migratory birds. The BLM has designated certain migratory birds as “BLM Sensitive” and has agreed to promote conservation and management of migratory birds that USFWS has designated as Birds of Conservation Concern (BCC). USFWS in 2008 identified each of the Bird Conservation Regions (BCRs) in the United States for the review and analysis of projects. The parcels are within BCR 16 (Southern Rockies/Colorado Plateau). The species list for BCR 16 have been reviewed and there is potential for several migratory bird species, currently designated as species of concern, to nest within the parcels, primarily between April and September. Additional discussion is contained in Table 3-4, “Wildlife: Special Status Species and their Associated Habitats”. In addition to the BLM Sensitive Species identified in Table 3-4, the BLM considers impacts to USFWS Birds of Conservation Concern.

Raptors including, but not limited to, the ferruginous hawk, golden eagle, bald eagle, peregrine falcon, prairie falcon, red-tailed hawk, Cooper’s hawk, sharp-shinned hawk, American kestrel, northern harrier, great horned owl, and other less common species utilize each of the habitat types within the proposed lease sale parcels and may be present year-round or seasonally. Nesting tends to be concentrated around cliffs, large trees, embankments, and other habitat features. Raptor management for the BLM is guided by Appendix A in the 2008 RMP (BLM 2008). These best management practices are BLM-specific recommendations for implementation of the U.S. Fish and Wildlife Service, Utah Field Office’s “Guidelines for Raptor Protection from Human and Land Use Disturbances”. The raptor guidelines were originally developed by the Fish and Wildlife Service in 1999 and were updated in 2002 based on recent court rulings, policy decisions, and Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds. The raptor guidelines were provided to BLM and other land-managing agencies to provide raptor management consistency while ensuring project compatibility with the ecological requirements of raptors. These best management practices include seasonal timing limitations, seasonal buffers and controlled surface measures to protect raptor species. Table 3-4, “Wildlife: Special Status Species and their Associated Habitats”

identifies BLM sensitive raptor species and USFWS BCC and their associated habitats within the proposed lease sale parcels. Burrowing owl and Mexican spotted owl are discussed more thoroughly in the Special Status Species or Threatened, Endangered or Candidate Animal Species Section.

Wildlife: Non-USFWS Designated

Big Game (Mule Deer, Elk, Pronghorn, Rocky Mountain Bighorn Sheep and Moose):

Mule deer, Rocky Mountain elk, and pronghorn are the primary big game species found within the parcels (Table 1-1; UDWR 2014 and UDWR 2015). Other wildlife species that are likely to occur in the project area include black bear, mountain lion, coyote, and bobcat, as well as a large variety of small mammals. Many of these species are habitat generalists and are not tightly restricted to specific habitat types.

Mule deer are considered the most widely distributed and abundant of all large mammal species in western North America. They occur in diverse habitats from moist, dense coniferous forests to dry, open plains and deserts, and alpine habitats (Hamlin and Mackie 1989). Because mule deer are able to adapt to such a variety of habitats, that they are able to utilize other areas in response to disturbance. Pronghorn are common in Utah but are typically less abundant in xeric habitats, preferring areas that average 12 to 15 inches of precipitation per year. Elk are common in the mountainous regions in Utah, they seasonal change in elevation from summer to winter areas to avoid deep snow.

Use typically occurs from spring to winter, when mule deer, elk and pronghorn utilize the proposed lease sale area for fawning and calving, foraging, thermal cover and escape cover. These species have an extremely variable diet and therefore live in a variety of habitats. They consume a combination of grasses, forbs, and shrubs. Food consumption and availability is also associated with the season of use. During winter, elk move to lower elevations where they are found most often on south facing slopes, primarily in P-J woodlands. Deer typically move down to lower elevation foothill areas. No known migration corridors are associated with the proposed lease sale parcels. Pronghorn typically inhabit grasslands and semi-desert shrub lands of the western and southwestern United States and are typically less abundant in xeric habitats, preferring areas that average 12 to 15 inches of precipitation per year. Some pronghorn make seasonal migrations between summer and winter habitats, but these migrations are often triggered by availability of succulent plants rather than weather conditions (Fitzgerald et al. 1994). Crucial elk and mule deer wintering, mule deer fawning and elk calving, pronghorn fawning and mule deer migration routes within the several of the parcels. These designations were made in the Vernal Field Office RMP (BLM 2008).

Crucial range provides unique habitat for mule deer, elk and pronghorn. The function of crucial winter and fawning ranges are to provide shelter and forage to big game, ensuring their survival during periods of significant winter and fawning/calving stress. Mule deer populations in the western U.S. have historically fluctuated due to environmental factors (e.g., drought, severe winters). Deer populations in eastern Utah have declined in recent years. Unusually high deer mortalities in the 1980s and 1990s are primarily attributed to the severe, 1983-1984 and 1992-1993 winters, and to a prolonged, seven-year drought between 1986 and 1992. These conditions decimated the fawn population as well as a large percentage of the adult deer population. A very

slow recovery of the deer population has occurred since that time. Fawn production and survival, which continued to be low through 1996, began to improve after 1996 with good forage and winter conditions. Recent drought is causing severe stress to mule deer, once again reducing their populations and limiting the forage on which they depend. However, these environmental factors are beyond human control. Factors within human control that affect the population of mule deer in the area include hunting, grazing, energy development, increased recreation, and predation.

A research study conducted in south-central Wyoming found migratory behavior of mule deer to vary with development intensity (Sawyer et al. 2012). The research suggested that mule deer could migrate through moderate levels of development without any noticeable effects on migratory behavior (Sawyer et al. 2012). However, in areas with more intensive development, animals often detoured from established routes, increased their rate of movement and reduced stopover use, and the overall use and width of migration routes decreased (Sawyer et al. 2012). It is important to understand how increasing energy development and other human disturbances influence ungulate migration through semi-permeable barriers (Sawyer et al. 2012). The existence of some behavioral changes suggests that certain levels of development, while still allowing connectivity between seasonal ranges, but may minimally reduce route functionality and other influence other subtle migratory behaviors (Sawyer et al. 2012).

Rocky Mountain Bighorn Sheep:

Native Rocky Mountain bighorn sheep were nearly extirpated during the pioneer settlement. Reintroduction efforts in Utah began in 1966. Currently, Utah has 12 distinct populations of Rocky Mountain and California bighorn sheep as a result of the transplant efforts (UDWR 2013). Bighorn sheep habitat is usually characterized by rugged terrain including steep slopes, gulches, canyons, talus cliffs, mountaintops, and river benches (Shackleton et al. 1999). Most populations of Rocky Mountain bighorn sheep seasonally migrate to winter and summer ranges (UDWR 2013).

Some of the issues and concerns that influence bighorn sheep populations include disease, predation, poaching, public land management, transplant success, competition for forage and space with wild and domestic animals, and habitat degradation or loss. The loss, degradation or fragmentation of bighorn habitat due to human disturbance, including mineral development, can reduce the quality and quantity of habitat thus corresponding to losses to bighorn populations (UDWR 2013, Deforge 1972, and Hamilton et al. 1982). In addition, increased human activity, due to access to the areas, may cause bighorn sheep to abandon certain habitats and possible increase stress for the animals, which may lead to disease problems in some populations (UDWR 2013, DeForge 1981, and Bunch et al. 1999).

Table 1-1: Mule Deer, Pronghorn, Elk, Rocky Mountain Bighorn Sheep and Moose Crucial Habitats in Specified Proposed Lease Sale Parcels		
Species	Parcels Containing Crucial Fawning/Calving Habitat	Parcels Containing Crucial Winter Habitat
Mule Deer	169, 175, 177, 178, 179, 211, 227, 228, 229, 295, 296, 297, 298, 318, 320, 321, 356, 358 359, 382 and 383	100, 101, 102, 107, 108, 109, 110, 111, 112, 115, 117, 122, 124, 130,131,132,133,134,135,136, 139, 141, 162, 165, 167,175, 177, 178, 179, 211, 212, 213, 214, 217,218, 268, 272, 273, 274, 276, 381, 382, 383 and 384.
Elk	100, 169, 197, 198, 227, 228, 229, 295, 296, 298, 318, 319, 320, 321, 356, 358 and 359	100, 101,110, 111, 112, 115, 117, 122, 124, 132, 133, 134, 135, 136, 139, 141, 162, 165, 167,169, 197, 218, 226, 227, 228, 235, 274, 276, 298, 381, 382, 383 and 384.
Pronghorn	226, 227, 228, 381 and 383	
Rocky Mountain Bighorn Sheep	Crucial year-long habitat: UTU-78225	Crucial spring/fall habitat: 381
Moose	Crucial year-long habitat: 382,383,384	Crucial winter habitat: 381
Mule Deer Migration Corridors – Monument and McCook Ridges		
165, 167, 169, 197, and 295.		

Wildlife: Special Status Animal Species

BLM manages sensitive species in accordance with BLM Manual 6840 with the objective to initiate proactive conservation measures that reduce or eliminate threats to these species to minimize the likelihood of and need for listing of these species under the Endangered Species Act (ESA). Special status species are, collectively, the federally listed or proposed and BLM sensitive species, which include both Federal candidate species and delisted species within 5 years of delisting. There are 57 BLM Utah sensitive species, including 12 species under conservation agreement and 4 candidate species. Of these, 52 species occur or potentially occur within the proposed lease parcels. The Utah sensitive species lists also includes federally listed species. Available data sources were used to determine if the parcels fall within known habitat for BLM or UDWR sensitive species. After site-specific review, it has been determined that the Special Status Species listed in Table 1-2, “Wildlife: Special Status Species and their Associated Habitats” may occur within the project area or be affected by the Proposed Action.

Table 1-2: Wildlife: Special Status Species and their Associated Habitats					
Species	Status	Habitat Type	Associated Parcels	Associated Stipulations	Associated Lease Notices
MAMMALS					
Townsend's big-eared bat, Spotted bat, Allen's big-eared bat, Western red bat, Fringed myotis, Big free-tailed bat	BLM Sensitive Species Utah State Sensitive Species	These species potentially occur throughout Utah. Sixteen species of bat have been captured or detected in Uintah County in the Book Cliffs area. The only two bats that have not been detected or captured in the area are the Western red bat and Allen's big-eared bat. Habitat for these sensitive species are present within the proposed project areas.	All Parcels	None	UT-LN-49
Black-footed Ferret	Endangered	Black-footed ferrets have been introduced in to the wild in Coyote Basin and Snake John area in Uintah County. These ferrets are characterized as "non-essential experimental" populations (UDWR 2007). Black-footed ferrets utilize prairie dog burrows and prairie dogs for shelter, food and raising young.	BFF PMZ: 170,171,172,173,199,200,201, 202,203,204,205,206,207, 305, 337	UT-S-299	T&E-02
			Notice only: 175,176,177, 208, 309 (based off known important areas for BFF in coordination with USFWS and UDWR.)	None	T&E-02
White-tailed Prairie Dog	BLM Sensitive Species Utah State Sensitive Species	White-tailed prairie dogs require deep, well-drained soils for development of burrows. A majority the WTPD habitat occurs in semi-arid to arid areas with mixed stands of shrubs and grasses.	All Parcels	UT-S-218	UT-LN-25 UT-LN-49
			381 and 383	UT-S-219	UT-LN-49
Canada Lynx	Threatened	Preferred habitat of the Canada lynx is montane coniferous forests. The main source of food for Canada Lynx is snowshoe hare. Canada Lynx breed from late winter into early spring.	381, 382, 383, 384	None	T&E-10
BIRDS					
Yellow-billed Cuckoo	Threatened	Nesting habitat is classified as dense lowland riparian with dense sub-canopy or shrub layer	No parcels are influenced by the Proposed Critical Habitat.	None	T&E-31 UT-LN-45

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Species	Status	Habitat Type	Associated Parcels	Associated Stipulations	Associated Lease Notices
		near water. Overstory is usually cottonwoods. In Utah, they typically nest at low to mid-elevation (2500-6000 ft.).	Parcels influenced by potentially suitable habitat: 178, 179, 211		
			Potential habitat: 381 and 383	None	UT-LN-113 UT-LN-45
Greater Sage-Grouse	BLM Sensitive Species Utah State Sensitive Species	Breeds and nest in sagebrush dominate shrublands. Considered a sagebrush obligate species. Year-long resident of sagebrush steppe habitats.	See Appendix A	See Appendix A	See Appendix A
Grasshopper Sparrow	BLM Sensitive Species Utah State Sensitive Species USFWS Bird Of Conservation Concern	Typically nest in grassland type habitats.	All Parcels	None	UT-LN-45 UT-LN-49
Bobolink	BLM Sensitive Species Utah State Sensitive Species	Breeds, nests, and forages in wet meadow, wet grassland, and irrigated agricultural areas that tend to be associated with riparian or wetland areas.	All Parcels	None	UT-LN-45 UT-LN-49
Lewis' Woodpecker	BLM Sensitive Species Utah State Sensitive Species USFWS Bird Of Conservation Concern	The majority of the breeding habitat consists of open park-like ponderosa pine forests, but they are also found in mixed conifer, pinyon-juniper, riparian and oak woodlands. They have also been found in the fringes of pine and juniper stands, and deciduous forests, especially riparian cottonwoods. Wintering grounds are spread over a wide range of habitats.	All Parcels	None	UT-LN-45 UT-LN-49
Long-billed Curlew	BLM Sensitive Species Utah State Sensitive Species USFWS Bird Of	Typically nest in habitats that contain short grasses, a bare ground component, shade, and abundant vertebrate prey, usually in uncultivated rangelands and pastures.	All Parcels	None	UT-LN-45 UT-LN-49

Table 1-2: Wildlife: Special Status Species and their Associated Habitats					
Species	Status	Habitat Type	Associated Parcels	Associated Stipulations	Associated Lease Notices
	Conservation Concern				
American Three-toed Woodpecker	BLM Sensitive Species Utah State Sensitive Species	This species can be found in spruce, sub-alpine fir, Douglas fir, grand fir, ponderosa pine, tamarack, aspen and lodgepole pine forests. They nest in dead and live trees in excavated cavities.	All Parcels	None	UT-LN-45 UT-LN-49
RAPTORS					
Bald Eagle	BLM Sensitive Species Utah State Sensitive Species USFWS Bird Of Conservation Concern Bald and Golden Eagle Protection Act	Throughout the winter, bald eagles are typically found near rivers, lakes, and marshes where unfrozen, open water offers the opportunity to prey on fish and waterfowl. The Colorado and Green River corridors are well used by Utah's wintering bald eagles. There are also several known bald eagle nests in the Uinta Basin area.	381 and 383	UT-S-281 UT-S-420	UT-LN-37 UT-LN-44 UT-LN-107
Ferruginous Hawk	BLM Sensitive Species Utah State Sensitive Species USFWS Bird Of Conservation Concern	This species is known to occur in the Uinta Basin as a breeding and year-long resident. Within the Uinta Basin, the species is more associated with white-tailed prairie dog colonies and are used as the main prey base. During breeding, flat and rolling landscapes in grassland or shrub steppe is most often used. Nesting substrate can vary from trees and shrubs, cliffs, utility structures and ground outcrops.	All Parcels	UT-S-261 UT-S-325	UT-LN-44 UT-LN-49
			381 and 383	UT-S-264 UT-S-265 UT-S-420	UT-LN-44 UT-LN-49
Burrowing Owl	BLM Sensitive Species Utah State Sensitive Species USFWS Bird Of Conservation Concern	Nests in mammal burrows, usually that of prairie dogs, ground squirrel or badger. In the Uinta Basin, burrowing owls are typically associated with white-tailed prairie dog colonies.	All Parcels	UT-S-261 UT-S-325	UT-LN-44 UT-LN-49
			381 and 383	UT-S-264 UT-S-265	UT-LN-44 UT-LN-49 UT-LN-104

Table 1-2: Wildlife: Special Status Species and their Associated Habitats					
Species	Status	Habitat Type	Associated Parcels	Associated Stipulations	Associated Lease Notices
Mexican Spotted Owl	Threatened	In Utah, this species is found primarily in rocky canyons with mixed conifer or riparian components. Nests are located in caves or crevices in rocky canyons.	122, 124, 197,198, 214, 215, 223, 224, 226, 229, 298, 318, 319, 321, 356, 358, 359, and UTU-78225 (Not critical habitat, but potential habitat based on MSO models)	UT-S-261	UT-LN-44 T&E-06
Golden Eagle	USFWS Bird Of Conservation Concern Bald and Golden Eagle Protection Act	Throughout the summer, golden eagles are found in mountainous areas, canyons, shrub-land and grassland. During the winter they inhabit shrub-steppe vegetation, as well as wetlands, river systems and estuaries. Golden eagles are quite common to Uintah County. All parcels contain foraging and nesting habitat.	All Parcels	UT-S-261	UT-LN-40 UT-LN-44
			381 and 383	UT-S-264 UT-S-265 UT-S-420	UT-LN-40 UT-LN-44
Short-eared Owl	BLM Sensitive Species Utah State Sensitive Species	Inhabits and nests in arid grasslands, agricultural areas, marshes, and occasionally open woodlands. In Utah, cold desert shrub and sagebrush-rabbitbrush habitats are also utilized.	All Parcels	UT-S-261 UT-S-325	UT-LN-44 UT-LN-49
California Condor	Endangered	California condors prefer mountainous country at low and moderate elevations with rocky and brushy areas near cliffs. Colonies roost in snags, tall open-branched trees and cliffs. Nests usually consist of cliff cavities or caves and eggs are laid mainly in February or March. Currently, no condors have been observed in Northeastern Utah only southern Utah, except for a juvenile that passed through the area in summer of 2018.	None	None	None
Amphibians					
Western (Boreal) Toad	Conservation Agreement Species with a listing decision pending from USFWS	Found in a variety of habitats, including slow moving streams, wetlands, desert springs, ponds, lakes, meadows and woodlands.	All Parcels	None	UT-LN-49

Table 1-2: Wildlife: Special Status Species and their Associated Habitats					
Species	Status	Habitat Type	Associated Parcels	Associated Stipulations	Associated Lease Notices
Great Plains Toad	BLM Sensitive Species	Found in damp areas in open grasslands, deserts, semi-desert shrublands, open floodplains and farm fields.	All Parcels	None	UT-LN-49
Reptiles					
Smooth Green Snake	BLM Sensitive Species	Found in marshes, meadows, open woods, and stream edges.	All Parcels	None	UT-LN-49

White-tailed Prairie Dogs:

Most of the parcels are located within known habitat and existing colonies of white-tailed prairie dog (WTPD). WTPDs are listed as a sensitive species within the State of Utah and by BLM and in 2017 underwent a 12-month Endangered Species Act (ESA) review/finding with the USFWS. The USFWS found that the WTPD was not warranted for listing under the ESA. WTPDs are a rodent species that inhabit regions of eastern Utah and portions of Wyoming, Colorado, and Montana. In Utah, the WTPD can be found at approximately 1280-2438 m in elevation (Boschen 1986 and Cranney and Day 1994). They form colonies that are typically a few acres, but can range up to several hundred acres (Messmer et al. 1993). WTPD often colonize in irregular patterns over the landscape (Lupis et al. 2007). This irregular mosaic pattern of distribution makes accurate mapping of colony boundaries difficult, thus, accurate occupied habitat is hard to estimate, rather, suitable habitat is mapped using topographic features, substrate variation or the best estimate of the investigator (Seglund et al. 2004).

Populations of WTPD can fluctuate by more than 50% between consecutive years, which is likely due to vegetation quality and quantity and disease cycles (Menkens 1987 and Lupis et al. 2007). WTPD are mainly herbivorous and obtain most of their needed water from the plants they eat (Lupis et al. 2007). WTPDs can become water stressed during their active season, thus the presence of succulent vegetation may be crucial for prairie dogs to gain sufficient weight to guarantee winter survival and sustaining of WTPD populations (Beck 1994 and Lupis et al. 2007). Plague may also be another reason that colonies show such dramatic fluctuations in densities and shifts in occupied habitats (Seglund et al. 2004). Research on plague epizootics and its effects on WTPD decline and management are still on going and remain a critical question for future management in WTPD conservation (Seglund et al. 2004).

In Utah, WTPD colonies provide habitat for many other vertebrate species, such as burrowing owl and the experimental non-essential endangered black-footed ferret populations in Coyote Basin, Kennedy Wash, and Snake John complexes (Clark et al. 1982 and Seglund et al. 2004). WTPD also serve as a food source for multiple predators, such as ferruginous hawk, golden eagle and coyote. WTPD reproduction generally occurs in late February with young born in late April to early May and the juveniles emerging above ground around the beginning of late May and June (Seglund et al. 2004). WTPDs generally hibernate for 4 to 5 months during the winter and may aestivate during mid to late summer. However, in the Uinta Basin WTPD have been recorded to be active nearly any time of the year even during harsh winters (Hollister 1916, Tileston and Lechleitner 1966, Bakko and Brown 1967, Pizzimenti 1976, Harlow and Menkens 1986, B. Maxfield, UDWR, pers. comm. 2017). It has been observed that winter hibernation and summer aestivation timing patterns often varies with latitude and elevation (Hollister 1916, Tileston and Lechleitner 1966, Bakko and Brown 1967, Pizzimenti 1976, Harlow and Menkens 1986, Seglund et al. 2004).

Several of the limiting factors that were identified for WTPD populations in Utah are disease (i.e. sylvatic plague), changing plant communities and drought (i.e. cheatgrass), and human disturbance (i.e. oil and gas development, agricultural conversion and recreational shooting) (Seglund et al. 2004). Oil and gas development within the Vernal Field Office is extensive and has been identified as a threat to WTPDs in Utah (Seglund et al. 2004). Disturbance from potential development of the parcels will displace WTPD from burrows, foraging areas, reduce

prey species, influence predator species, and loss of habitat may occur. The majority of the parcels have or have high potential for WTPD habitat and active colonies.

Burrowing Owl:

Burrowing owls are considered by the USFWS to be a Bird of Conservation Concern at the national level and are considered a sensitive species by the BLM and the State of Utah. Burrowing owls occupy open grassland and prairies, as well as other open areas such as golf courses, cemeteries, and airports. They eat terrestrial invertebrates, as well as small vertebrates. Burrowing owls require a mammal burrow or natural cavity surrounded by sparse vegetation (Green 1993) and typically use mammal burrows as nests, though they will sometimes excavate their own nest burrow. In Utah, prairie dog burrows are the main source of nest sites for burrowing owls and in the Uinta Basin are highly associated with WTPD colonies; over 60 nests have been located in the Coyote Basin complex alone in the last several years (B. Maxfield, UDWR, pers. comm. 2017).

Most of the parcels are encompassed by or have high potential for suitable habitat or active white-tailed prairie dog colonies, which also provide abundant burrowing owl nesting habitat.

Wildlife: Threatened, Endangered, or Candidate Animal Species

Mexican Spotted Owl:

In 1993, the U.S. Fish and Wildlife Service (USFWS) listed the Mexican spotted owl (MSO) as threatened under the Endangered Species Act (ESA). The primary threats to its population in the U.S. have transitioned from timber harvest to an increased risk of stand-replacing wildland fire (USFWS 2012). The MSO occurs in forested mountains and canyon lands throughout the southwestern U.S. and Mexico and ranges from Utah, Colorado, Arizona, New Mexico, and the western portions of Texas south into several States of Mexico (Gutiérrez et al. 1995, Ward et al. 1995, USFWS 2012). MSO in Utah occupy steep and narrow canyons that are sparsely vegetated, with limited canopy cover and have never been documented nesting within a stick nest or in a dense canopy (Lewis 2014). Instead of using stick nests like the owls located in Arizona and New Mexico, the Utah owls nest inside caves or along sheltered canyon ledges (Willey 1998). Nesting generally occurs from March 1 to August 31. MSO are known to consume a variety of prey throughout their range (USFWS 2012). They commonly eat small to medium sized rodents such as woodrats, deer mice, pocket gophers, and voles, but they will also consume other prey such as bats, birds, reptiles, and arthropods (Ward and Block 1995).

In 2004, the USFWS designated approximately 8.6 million acres of critical habitat for the MSO on Federal lands in Arizona, Colorado, New Mexico, and Utah (69 FR 53181). There is no critical habitat for MSO in or within 0.5 miles of the proposed lease sale parcels. However, using available MSO suitability models several parcels have been identified as being in or within 0.5 miles of potentially suitable MSO habitat. Parcels; 122, 124, 197, 198, 214, 215, 223, 224, 226, 229, 298, 318, 319, 321, 356, 358, 359 and UTU-78225 are located within 0.5 miles of habitat that was identified as potential fair and good Mexican Spotted Owl (MSO) habitat units. This MSO habitat units were identified as potential habitat using updated MSO habitat suitability

models developed by Leah Lewis in 2014 for Utah (Lewis 2014). To see development assumptions for these parcels see Appendix F in the EA.

Black-Footed Ferret:

The black-footed ferret (BFF) was listed by the USFWS under the ESA as endangered in 1967 across its entire range. In the Uinta Basin, BFF have been introduced into the wild from captive breeding populations in to the Coyote Basin, Kennedy Wash and Snake John white-tailed prairie dog (WTPD) complexes. The introductions began in 1998 and continued into 2014. These BFF populations are characterized as “non-essential experimental” populations (63 *Federal Register* 52824) and are managed within the boundary of the Coyote Basin Primary Management Zone (PMZ) as described in the Black-footed Ferret Draft Recovery Plan (UFWS 2013), and the Northeastern Region Black-Footed Ferret Management Plan (UDWR 2007). BFF outside the BFF PMZ (including all of Duchesne and Uintah Counties) are still considered “non-essential experimental” populations. Avoidance and minimization measures for BFF outside the BFF PMZ that should be followed are included within the *Cooperative Plan for the Reintroduction and Management of Black-Footed Ferrets in Coyote Basin, Uintah County, Utah* published by the Utah Division of Wildlife Resources in September, 1996. These measures may be updated based on the best available scientific data as it becomes available.

The black-footed ferret is a highly specialized predator that depends mainly upon prairie dogs for survival. WTPD and BFF occur sympatrically and WTPD make up more than 90 percent of the BFFs diet, and WTPD burrows provide ferrets with suitable dens to raise their young, as well as shelter from predators and harsh weather. The WTPD are protected from hunting year-round in the Coyote Basin complex because they are a main source of food for the introduced population of BFF. The sensitive and critical period for BFF reproductive success is the period between breeding and the emergence of young from March 1 to July 15, thus developmental activities within the BFF Primary Management Zone Area maybe postponed until after this critical breeding time or even modified to reduce disturbance. Fifteen parcels (170,171,172,173,199, 200, 201, 202, 203, 204, 205, 206, 207, 305, and 337) fall within the BFF Primary Management Zone Area. Five parcels (175, 176, 177, 208, and 309) were identified outside the BFF PMZ area as important to BFF based on information from UDWR and USFWS. To see development assumptions for each parcel see Appendix F in the EA.

Yellow-Billed Cuckoo:

The western yellow-billed cuckoo (YBCU) is one of two subspecies of the yellow-billed cuckoo (UDWR 2003). It is approximately 31 cm (12 inches) in length. The bird is brownish above and white below, with rusty colored flight feathers. The upper mandible of the bill is black and the lower mandible is yellow. The underside of the tail has pairs of large white spots.

The yellow-billed cuckoo (YBCU) was listed as threatened in 2014 under the USFWS’s Endangered Species Act (ESA). The decline in YBCU populations is primarily due to the loss and degradation of riparian habitat (Haltermann et al. 2015). Loss and degradation of these riparian habitats is mainly due to habitat destruction, modification, long-term drought, climate

change, degradation due to alteration of hydrology (i.e. dams, water diversions, management of river flow that differs from the natural hydrology, channelization, etc.), and conversion of existing native habitats to monotypic stands of non-native vegetation (i.e. tamarisk and Russian olive trees) (Halterman et al. 2015). In 2014, USFWS proposed approximately 20,286 acres of critical habitat for YBCU in the Uinta Basin, to date the ruling on the proposed critical habitat in Utah has not been finalized. However, should the parcels be leased, any APDs that fall within 0.5 miles of proposed critical habitat will be consulted on with USFWS. Potentially suitable riparian YBCU habitat will also be evaluated for impacts to yellow-billed cuckoo during the APD stage. No parcels were identified within or near (within 0.5 miles) of Proposed Critical Habitat defined by USFWS. Three parcels (178, 179, and 211) were identified as within 0.5 miles of potentially suitable YBCU habitat (although this is not a limiting list) based off a habitat suitability model created by UDWR for UT BLM. To see development assumptions for each parcel see Appendix F in the EA. USFWS has produced guidelines for identifying and delineating suitable YBCU habitat in Utah (USFWS 2015).

Breeding YBCU are riparian obligates and nest in low to moderate elevation (2500-6000 ft.) riparian woodlands that are commonly associated with cottonwood-willow dominated vegetation cover with a dense sub-canopy or shrub layer (Halterman et al. 2015). Cuckoos may require large tracts (100 to 200 acres) of contiguous riparian habitat for nesting. Yellow-billed cuckoo nesting behavior may be closely tied to food abundance. In years of low food abundance, cuckoos may forego nesting; in years when the food supply is abundant, cuckoos may lay a large number of eggs and even parasitize the nests of other species (Nolan and Thompson 1975). Their primary prey base consists of large arthropods, small lizards, frogs, spiders and caterpillars along with a variety of other insects (Ehrlich et al. 1988, Halterman et al. 2015, Kaufmann 1996).

The current distribution of western YBCU in Utah is poorly understood and very little is known about YBCU nest site fidelity, young dispersal, and breeding site selection (Halterman et al. 2015). In the Uinta Basin, YBCU are late migrants and typically are not detected before mid-June (B. Maxfield, UDWR, pers. comm. 2017). All the of the YBCU survey or incidental detections in the Uinta Basin have occurred in the Green River Corridor, portions of the White River, Duchesne River, Carrant Creek and Lake Fork River (B. Maxfield, UDWR, pers. comm. 2017). YBCU can be difficult to detect because they are very inconspicuous typically when foraging for prey and nesting.

Canada Lynx:

The Canada lynx (lynx) was listed as threatened in 2000 under the USFWS's Endangered Species Act (ESA). The main reason for listing of the species was largely due to the lack of regulatory mechanisms on federal public lands. Federal land managers amended their management plans to implement conservation measures for the species. Conservation partnerships with many entities and land managers over the last 20 years has lead the USFWS announcing in, January 2018, that lynx may no longer warrant protection under the ESA, but this process to delist a species will take time. The initial decline/ threats to lynx included timber management, wildland fire management, recreation livestock grazing, other human development, tapping predator control, highways non-native species, and habitat fragmentation and degradation.

Lynx are relatively common in interior Canada and Alaska, but are much rarer in the contiguous U.S. The lynx is a forest-dwelling cat whose diet is mostly comprised of snowshoe hares. Landscapes with high densities of snowshoe hare are optimal for lynx reproduction, survival and population persistence. Lynx and snowshoe hares are strongly associated with damp, cool, boreal spruce-fir forests. Lynx populations are highly cyclic, largely due to the dramatic population swings of the snowshoe hare.

In Utah, there is currently no designated critical lynx habitat on BLM lands. However, the USFS does have Lynx Analysis Units (LAUs) in the Uinta Mountains within the Ashley National Forest LAU. The 2007 Northern Rockies Lynx Management Direction classified the Ashley National Forest as unoccupied lynx habitat and the 2013 Canada Lynx Conservation Assessment and Strategy classified the Ashley as periphery lynx habitat. Thus, the Ashley National Forest is unlikely to support a breeding female lynx and lynx are not known to occur in the Uinta Mountains (B. Christensen, USFS, pers. comm. 2018). Using GIS and the USFS Lynx habitat maps, there are four parcels nominated within or near to potential lynx habitat: 381, 382, 383, 384. To see development assumptions for each parcel see Appendix F in the EA.

Chapter 4:

Wildlife: Migratory Birds including Raptors

Impacts of No Action Alternative

The No Action alternative would not result in any potential impacts because the parcels would not be leased, and therefore, not developed.

Impacts of Proposed Action Alternative

The issuance of leases would not directly affect migratory birds and raptors on the nominated lease sale parcels. However, the issuance of leases does convey an expectation that construction and drilling could occur. Assuming development of the lease sale parcels, direct vegetation loss and modifications (permanent or temporary) attributed to development could influence nesting and foraging habitat utility, avian nesting densities and potential population (i.e. declines) overall. Although the response of migratory birds to disturbance is species specific, acreages of disturbance or the type of habitat modifications would largely determine the extent of the direct impacts to each species. Due to the high mobility of birds, the remaining distribution of larger tracts of habitat available for nesting and foraging, separated by tracts of unsuitable habitat are not anticipated to create a barrier to movement within or between habitat parcels. Although larger blocks of habitat without fragmentation, in general, would be expected to support a more abundant avian community, less optimal or fragmented habitats that adjoin or separate higher value habitats can generally be expected to be occupied by a full complement of associated species at lesser densities.

The ultimate fate of birds displaced by development activity is unknown, but it is likely that if disturbance occurs during the breeding season, suitable habitats will generally be at capacity and these displaced birds would need to occupy suboptimal, fragmented habitats and potentially travel farther distances to fulfill nesting and foraging functions. Theoretically, reproductive

success and recruitment could be markedly lower in these circumstances. However, there is no strong evidence to suggest that habitats vacated by birds that are less tolerant of disturbance would not regain much of their former function or utility once intense development activities subside. Avoidance behavior due to disturbance and intense development activities may result in nest failure (i.e. direct loss of nests, eggs, and nestlings), nest abandonment or even a lack of nest initiation. Conversely, avoidance behavior may temperate as the development activities subside, but residual effects of the development could remain due to access road use and servicing of the oil and gas wells after the initial development phase.

Studies have found that the nesting density of sagebrush-associated birds was reduced by 40-60 percent within 330 feet of roads accessing natural gas fields in Wyoming with as few as 10 vehicle trips per day (Inglefinger and Anderson 2004). Recent research also found in the Wyoming gas fields that there was a 10-20 percent decline in the abundance of certain sagebrush obligates (i.e., sage and Brewer's sparrow) in developed natural gas fields at well densities of 8/km² (Gilbert and Chalfoun 2011). To help mitigate these and other potential effects mentioned above that could be caused by the development of the parcels, mitigation from the BLM Vernal RMP (2008) and lease sale stipulations and notices for migratory birds and raptors will be applied to all parcels. Specific modifications to a surface plan of operation to mitigate for development effects would be addressed at the APD stage. Migratory bird and raptor surveys would be conducted and utilized prior to any surface disturbing activity. Application of the migratory bird and raptor lease notices would be adequate for the leasing stage to disclose potential restrictions to reduce oil and gas development impacts. Appropriate lease stipulations and notices have been included within the Proposed Action to protect migratory birds and raptors (Appendices A and Band Table 1-2). Project-specific impacts relating to future authorizations cannot be further analyzed until an exploration or development application is received and actual development scenarios and planning are known.

In addition to stipulations and notices, these mitigation measures may be applied in future mitigation (if an APD is submitted):

- Any ground-disturbing activities or vegetation treatments will be performed before migratory birds or raptors begin nesting or after all young have fledged to avoid take (January 1- September 31; depending on species).
- If activities must be scheduled to start during the migratory bird-breeding season a site-specific survey for nesting birds will be performed no more than 7-10 days prior to ground disturbing activities or vegetation treatments for migratory birds and during the nesting season for raptors. A qualified biologist should confirm that all young have fledged.
- If nesting birds are found during the survey, appropriate buffers will be established around the nest (100 ft. buffer for non-raptors and up to a 1-mile buffer for raptors). A raptor nesting timing stipulation will also apply for any proposed projects that contain active raptors nests within 0.5 to 1 mile of the project. Ground-disturbing activities within the buffer would be postponed until the birds have left the nest. If active nests were identified for any migratory birds or raptors, appropriate spatial and temporal buffers would be placed according to consultation with the BLM.

- The risk of avian collisions, electrocutions, and perch use of powerlines would be mitigated with specified design measures and features that conform to BLM accepted guidelines.
- Apply measures that would help avoid or minimize the risk of unintentional take of migratory birds attributable to fluid mineral development, such as preventing access to open pipe or tubing or closed-loop drilling.
- Avoid, reduce or minimize impacts of the development by refining design or location of a proposed APD where applicable.

Wildlife: Non-USFWS Designated

Impacts of No Action Alternative

The No Action alternative would not result in any potential impacts because the parcels would not be leased, and therefore, not developed.

Impacts of Proposed Action Alternative

Big Game (Mule Deer, Elk, Pronghorn, Rocky Mountain Bighorn Sheep and Moose):

The issuance of leases would not directly affect big game species or their habitats. However, the issuance of a lease does convey an expectation that oil and gas development could occur. Displacement from foraging areas and a loss of habitat may occur if the parcels are developed. A recent study published by Johnson et al. 2017, evaluated land-use changes using long-term data (>10 years) and mule deer demography information to quantify the impacts from residential and energy development to deer habitat and to correlate those changes with mule deer recruitment rates. Their results indicated that mule deer declining recruitment rates did correlate with expanding residential and energy development and also weather variables, particularly within deer winter ranges. They encourage federal land managers to minimize the spatial extent and density of wells and to avoid sensitive periods when scheduling drilling activities. Other studies have also reported an impact of higher densities of wells and roads, indicating that impacts begin to manifest on ungulates such as mule deer, pronghorn and elk when well densities begin to reach 0.1-0.4 wells per square kilometer and 0.18-1.05 linear kilometers of roads per square kilometer (Naugle 2011). In addition, the loss, degradation or fragmentation of bighorn habitat due to human disturbance, including mineral development, can reduce the quality and quantity of habitat thus corresponding to losses to bighorn populations (UDWR 2013, Deforge 1972, and Hamilton et al. 1982).

This direct loss of habitat could include additional fragmentation of habitat associated with disturbances from new roads and new and expanded well pads. New facilities and increased traffic could displace big game from habitats and migration routes in areas of increased human activity. Habitat could be lost due to avoidance behavior of the ungulates, which would exacerbate surface disturbance impacts. Although the utilization of some big game habitat would be diminished because of surface disturbances and displacement associated with the potential disturbance, the impacts of oil and gas development on ungulates are poorly understood. These impacts need to be studied further with more long-term data as there may be

a delayed impact of oil and gas on these ungulates, which may not be detected until many years later because of their life history traits (Naugle 2011). Stipulations, timing buffers and other mitigation measures would be assessed at the time an APD is submitted for development to protect sensitive periods for mule deer and elk (Table 1-3).

Future Mitigation (if an APD is submitted- Vernal RMP):

BLM RMP (2008) seasonal timing restrictions for deer and elk in crucial habitat:

- Mule Deer and Elk Crucial Wintering Range (WL-19): no surface disturbance from December 1 – April 30.
- Mule deer winter range (WL-20): within crucial deer winter range, no more than 10% of such habitat will be subject to surface disturbance and remain un-reclaimed at any given time.
- Mule Deer and Elk Fawning and Calving Season (WL-18): no surface disturbance from May 15- June 30.
- Deer Migration Corridors (WL-31): no surface disturbance from April 15-May 31 within McCook and Monument Ridge mule deer migration corridors.
- Antelope Flat “fawning ground” (WL-15): no surface disturbance from May 1 – June 30.
- The Lessee/Operator is given notice that the lands in this parcel contains habitat for Rocky Mountain bighorn sheep. Modifications to the surface use plan may be required in order to protect habitat from surface disturbing activities. These modifications may include such measures as timing restrictions to avoid surface use during the crucial lambing and rutting seasons. Measure may also include avoidance of certain areas such as water sources and talus slopes.

Table 1-3: Mule Deer, Elk, Pronghorn, and Rocky Mountain Bighorn Sheep Stipulations and Notices	
Stipulation or Notice	Parcels Containing Crucial Habitat
UT-S-226: Timing Limitation- Antelope Fawning Areas Within Antelope Flat	226, 227, 228
UT-S-251: Mule Deer Migration Corridor	165, 167, 169, 197, 295
UT-S-230: Timing Limitation Mule Deer and Elk Winter Habitat	100, 101, 102, 107, 108, 109, 110, 111, 112, 115, 117, 122, 124, 130, 131, 132, 133, 134, 135, 136, 139, 141, 162, 165, 167, 169, 175, 179, 197, 211, 212, 213, 214, 217, 218, 226, 227, 228, 268, 272, 273, 274, 276, 298, 382, 384, UTU-78225

UT-S-231: Controlled Surface Use Mule Deer Winter Range	100, 101, 102, 107, 108, 109, 110, 111, 112, 115, 117, 122, 124, 130, 131,132,133,134,135,136, 139, 141, 162, 165, 167, 178, 179, 211, 212, 213, 214, 217, 218, 268, 272, 273, 274, 276, 382, 384, UTU-78225
UT-S-235: Timing Limitation- Deer Winter Range	381 and 383
UT-S-236: Timing Limitation-Crucial Mule Deer Winter Range	381 and 383
UT-S-247: Timing Limitation Elk Calving and Deer Fawning Habitat	169, 175, 177, 178, 179, 197, 198, 211, 227, 228, 229, 295, 296, 298, 318, 319, 320, 321, 356, 358, 359, 382
UT-LN-02: Deer and Elk Winter Range	100, 101, 102, 107, 108, 109, 110, 111, 112, 115, 117, 122, 124, 130, 131, 132, 133, 134, 135, 136, 139, 141, 162, 165, 167, 169, 175, 179, 197, 211, 212, 213, 214, 217, 218, 226, 227, 228, 268, 272, 273, 274, 276, 298, 382, 384, UTU-78225
UT-LN-05: Crucial Moose Calving Habitat	383 (Need lease notices for 382 and 384- year-long crucial habitat)
UT-LN-09: Crucial Elk Calving and Deer Fawning Habitat	383
UT-LN-11: Deer and Elk Calving/Fawning Habitat	169, 175, 177, 178, 179, 197, 198, 211, 227, 228, 229, 295, 296, 298, 318, 319, 320, 321, 356, 358, 359, 382
UT-LN-14: Pronghorn Fawning Habitat	381 and 383
UT-LN-16: Pronghorn Fawning Habitat	106, 108, 109, 129, 170, 171, 172, 173, 175, 176, 177, 179, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 226, 227, 228, 229, 261, 262, 271, 278, 305, 309, 337, 382, 384
UT-LN-20: Rocky Mountain Bighorn Sheep	UTU-78225 and 383
UT-LN-24: Crucial Winter Moose Habitat	381 and 383 (Need lease notices for 382 and 384 year-long crucial habitat)

Wildlife: Special Status Animal Species

Impacts of No Action Alternative

The No Action alternative would not result in any potential impacts because the parcels would not be leased, and therefore, not developed.

Impacts of Proposed Action Alternative

The issuance of leases would not directly affect special status species or habitat. However, the issuance of a lease does convey an expectation that oil and gas development could occur. Chapter 3 identifies species and habitats, which could be potentially impacted through future actions on leased parcels. Project-specific impacts relating to future authorizations cannot be analyzed until an application for development is received, however it is assumed to include the direct loss and fragmentation of habitat upon construction of a well pad with its associated road and pipeline. In addition to the direct loss and fragmentation of habitat associated with a future Proposed Action, noise disturbances and increased traffic levels could temporarily displace wildlife species. Refer to Table 1-4, “Special Status Species and Potential Impacts” for a brief summary of anticipated impacts should development occur and refer to Appendices A and C, for a description of the lease stipulations and notices.

Table 1-4: Special Status Species and Potential Impacts.	
Species	Potential Impacts
MAMMALS	
Towsend's big-eared bat, Spotted bat, Allen's big-eared bat, Western red bat, Fringed myotis, Big free-tailed bat	Construction of roads and well pads could result in the loss of foraging habitat, making it less suitable for bats. As traffic volumes and/or project-related activities increase, adjacent habitat may be avoided due to human presence, noise, and the potential influx of invasive weeds.
BIRDS	
Grasshopper Sparrow, Bobolink, Lewis' Woodpecker, Brewer's Sparrow, Cassin's finch Pinyon Jay, Juniper Titmouse, Veery, American Bittern, Gray Vireo, Long-billed Curlew, American Three-toes Woodpecker	Potential future development impacts could result in a loss of habitat for migratory birds. Direct impacts to nesting and breeding migratory birds may occur, depending on the time of construction and drilling. If development occurs in the spring, during nesting season for most migratory birds, the impacts would be greater than if development occurred between late summer and late winter. Impacts to birds during the spring could include nest abandonment, reproductive failure, displacement, avoidance and destruction of nests, eggs and nestlings. Mitigation measures would apply.
RAPTORS	
Bald Eagle, Ferruginous Hawk, Northern Goshawk, Short-eared Owl, Flammulated Owl, Peregrine Falcon, Golden Eagle, Prairie Falcon	Potential effects of future proposed disturbance on raptor species include: 1) increased indirect impacts including poaching and collisions with vehicles), 2) direct loss or degradation of potential nesting and foraging habitats from construction and drilling, 3) indirect disturbance from human activity including harassment, displacement, and noise). Mitigation measures would apply.
Reptiles and Amphibians	

Western (Boreal) Toad, Great Plains Toad and Smooth Green Snake	Potential effects of future proposed disturbance on reptiles and amphibians could include destruction of habitat, mortality due to increased roads and infrastructure, and increase human activities could pollute or destroy habitat.
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White-tailed Prairie Dogs:

In most parcels, there is high potential for active WTPD colonies to be present. Future development could pass through these WTPD colonies and habitat, thus displacement from foraging areas and loss of habitat could occur. WTPDs have been petitioned for listing several times under the ESA. Many threats have been cited for WTPD such as oil and gas development, urbanization, agricultural conversion, altered fire regimes, disease, shooting and poisoning, and inadequate regulatory mechanisms. In 2010, the USFWS found the WTPD listing was not warranted, but in 2014, the U.S. Federal Court overruled this finding stating that the USFWS did not look at historical range and cumulative impacts regarding regulatory mechanisms for oil and gas development. Thus, the listing of the WTPD was reviewed by USFWS in a 12-month finding and was found not warranted for listing under the ESA.

WTPD are found in Northeastern Utah where an extensive amount of oil and gas development has and will happen. Approximately 45% of the predicted habitat for WTPD is found within identified oil and gas fields (Hersey et al. 2017). Research has previously indicated that oil and gas development has impacted other species cohabiting the WTPD range including sage grouse (Walker et al. 2007, Naugle et. al 2011, Holloran et al. 2015), pronghorn (Beckmann et al. 2012), mule deer (Sawyer et al. 2006), and other sagebrush obligate passerine bird species (Ingelfinger and Anderson 2004, Gilbert and Chalfoun 2011, Hethcoat and Chalfoun 2015, and Hersey et al. 2017). Hersey et al. 2017 did find WTPD occupancy declining closer to wells potentially due to direct habitat loss and direct disturbance. However, they also observed that sites with greater numbers of wells were more likely to be colonized perhaps due to disturbed soils and associated vegetation, which may serve as an attractant. Hersey et al. 2017 concluded that the study showed that WTPDs persisted on the landscape with no notable decline in occupancy over the last decade even with a higher amount of oil and gas development.

To protect WTPD habitat, the Vernal BLM field office RMP contains controlled surface use stipulations for oil and gas leasing within active prairie dog colonies (Table 1-5). The WTPD colonies that fall within the Black-footed Ferret Primary Management Zone also have more protection than those that fall outside these designated BFF management areas. In some areas, oil and gas development has continued with no obvious effects on prairie dogs, however, there may be a distance or density threshold were development might affect populations (Hersey et al. 2007). The issuance of leases would not directly influence WTPD or its habitat. However, the issuance of a lease does convey an expectation that oil and gas development could occur.

Future Mitigation (if an APD is submitted- Vernal RMP):

- The location may be moved 200 m from the original spot in order to reduce impacts to WTPD habitat.

Table 1-5: Lease sale stipulations and notices that will help to minimize impacts to white-tailed prairie dogs and their associated habitat.

Species	Applicable Stipulations	Applicable Lease Notices	Parcels
White-tailed prairie dog	UT-S-218	UT-LN-49 and UT-LN-25	All Parcels
White-tailed prairie dog	UT-S-219	UT-LN-49	Parcels 381 and 383
Black-footed ferret	UT-S-299	T&E- 02	BFF PMZ: 170,171, 172, 173,199, 200, 201, 202, 203, 204, 205, 206, 207, 305 and 337 Other: 175, 176, 177, 208, and 309

Burrowing Owl:

The issuance of leases would not directly impact burrowing owl or its habitat. However, the issuance of a lease does convey an expectation that oil and gas development could occur. White-tailed prairie dog colonies that are present in the lease sale parcels provide plentiful burrowing owl nesting habitat in the Uinta Basin. Displacement from foraging areas, reduction of prey species, disruption in nesting success, and loss of habitat may occur if future development is implemented. Relatively little is known about the effects of habitat alteration on burrowing owl, although plowing, reseeding and other disturbances in breeding areas have been shown to negatively impact burrowing owls (Rich 1986, Haug et al. 1993). Threats to burrowing owl mainly include habitat destruction and degradation, agricultural development, pesticides, and efforts to eradicate WTPD. Because the burrowing owl is highly associated with WTPD colonies in the Uinta Basin, protections afforded the WTPD and Black-footed Ferret, who are also associated with WTPD colonies, would be afforded to the burrowing owl in addition to seasonal timing buffers and spatial buffers. Also, refer to table 1-2 for specific notices and stipulations that apply to parcels affected by burrowing owl habitat.

Future Mitigation (if an APD is submitted-Vernal RMP):

Pre-construction pedestrian surveys would be necessary for all proposed disturbance activity in this EA to identify existing and potential burrowing owl nests and burrowing owl signs within 0.25 mile of the project, if construction occurred before August 31. If potential nests or signs are observed, an appropriate spatial and temporal buffer may be applied, restricting construction from March 1 through August 31 within 0.25 mile of nests. If a BLM biologist or BLM approved biologist agrees to monitor whether the nests are active and if active, to observe when the young have fledged the nest and are no longer utilizing the area, the proposed project may be implemented earlier than the August 31 timing restriction. Authorization and restrictions of the proposed actions will be reevaluated as new data are gathered.

Nesting and Breeding Spatial and Season Buffer: no surface disturbance within 0.25 miles of a nest, March 1- August 31.

Wildlife: Threatened, Endangered, or Candidate Animal Species

Impacts of No Action Alternative

The No Action alternative would not result in any potential impacts because the parcels would not be leased, and therefore, not developed.

Impacts of Proposed Action Alternative

The following Endangered Species Act (ESA) related stipulation (in accordance with BLM Handbook 3120-1-competitive Leases (P) (H-3120) p. 35) would be applied to all parcels:

The lease may now and hereafter contain plants, animals, and their habitats determined to be special status species. The BLM may recommend modifications to exploration and development proposals to further its conservation and management objectives to avoid BLM approved activity that will contribute to a need to list such a species or their habitat. The BLM may require modification to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. The BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligation under requirements of the Endangered Species Act as amended, 16 U. S. C. § 1531 *et seq.* including completion of any required procedure for conference or consultation.

Mexican Spotted Owl:

Direct impacts to MSO if development of the lease sale parcels occurred could consist of habitat loss and degradation, disturbance of breeding and nesting birds, nest abandonment, loss of nest, eggs and nestlings, and loss of prey and their habitats. Associated visual and noise disturbance may adversely affect the behavior of the burrowing owl during breeding, nesting, roosting, and foraging efforts. If a future proposed action (during the APD stage) has the potential to affect MSO, which not only includes physical harm but modification or degradation to the habitat that may result in impairment of behavioral patterns, then USFWS Section 7 Consultation will need to occur (USFWS 2004). Oil and gas leasing and development were identified as potential threats to MSO in the MSO Colorado Plateau Recovery Unit, which encompasses the lease sale parcel areas in the Uinta Basin (USFWS 2004). The issuance of a lease does convey an expectation that oil and gas development could occur. Stipulations, mitigation and restrictions may apply to future APD applications that fall in or within 0.5 miles of parcel 122, 124, 197, 198, 214, 226, 229, 298, 318, 319, 321, 356, 358, 359 and UTU-78225. Also, refer to table 1-2 for specific notices and stipulations that apply to parcels affected by MSO potential habitat.

Future Mitigation (if an APD is submitted-Vernal RMP):

- No surface disturbance during the nesting and breeding season: Spatial buffer: 0.5 miles and Seasonal Timings: March 1- August 31.
- Two years of MSO surveys are required by USFWS in MSO habitat before any development can be implemented.
- Consultation would be required with the USFWS.

Black-footed Ferret:

These BFF populations are characterized as “non-essential experimental” populations (63 *Federal Register* 52824) and are managed within the boundary of the Coyote Basin Black-footed Ferret-Primary Management Zone Area (PMZ) as described in the Black-footed Ferret Draft Recovery Plan (UFWS 2013), and the Northeastern Region Black-footed Ferret Management Plan (UDWR 2007). The current management and protections for reintroduced BFF and their WTPD prey base is outlined in “A Cooperative Plan for Black-footed Ferret Reintroduction and Management”. BFF outside the BFF PMZ (including all of Duchesne and Uintah Counties) are still considered “non-essential experimental” populations. Avoidance and minimization measures for BFF outside the BFF PMZ that should be followed are included within the *Cooperative Plan for the Reintroduction and Management of Black-footed Ferrets in Coyote Basin, Uintah County, Utah* published by the Utah Division of Wildlife Resources in September, 1996. These measures may be updated based on the best available scientific data as it becomes available. The issuance of leases would not directly affect BFF or their habitat. However, the issuance of a lease does convey an expectation that oil and gas development could occur. Timing limitations and other mitigation measures would be imposed through Conditions of Approval when site-specific monitoring information indicates that direct impacts on BFF would result. These management measures continue to be considered adequate to achieve BFF recovery objectives, which include timing limitations and location refinements that are designed to avoid direct mortality of BFF and WTPD and avoid adverse habitat modifications. Site-specific mitigation measures would be developed at the APD stage that include seasonal activity restrictions and facility location or design criteria that minimizes or avoids adverse impacts to BFF and WTPD, particularly during the reproductive period. Fifteen parcels (170,171,172,173,199, 200, 201, 202, 203, 204, 205, 206, 207, 305, and 337) fall within the BFF Primary Management Zone Area. Five parcels (175,176, 177, 208 and 309) were identified outside the BFF PMZ area as important to BFF based on information from UDWR and USFWS. Also, refer to table 1-2 for specific notices and stipulations that apply to parcels encompassed by BFF areas.

Future Mitigation (if an APD is submitted- Vernal RMP):

Within the Black-footed Ferret- Primary Management Zone Area:

- Activities involving the development or construction of temporary or permanent surface disturbances will be prohibited within 1/8 mile boundaries of known ranges of female ferrets during the “critical” period from May 1 thru July 15.
- Whenever possible, surface disturbance will avoid prairie dog habitat.
- New powerlines constructed through the BFF Primary Management Zones will need to be raptor proof.
- Management activities within the PMZ would be conducted with the objective of maintaining at least 10,000 acres of prairie dog colonies. According to the Service and the UDWR, a minimum of 8,000 acres is acceptable as long as the ferret habitat rating (the number of ferret families the habitat can support) does not fall below 50% of the 1989 levels. Whenever possible, such activities would avoid prairie dog habitat. Otherwise, activities would be designed to affect the smallest area possible and/or those areas with the lowest prairie dog densities. The creation of additional prairie dog habitat (e.g. burning vegetation and drilling

new holes, etc.) would be required only if the disturbance or development reduces the prairie dog acreage below the 8,000 acre threshold.

Yellow-Billed Cuckoo:

The issuance of leases would not directly affect YBCU or their proposed critical or suitable habitat. However, the issuance of a lease does convey an expectation that oil and gas development could occur. Nesting YBCU, especially during the nest building and pair formation stages can be very sensitive to disturbance (Halterman et al. 2015). Very little research has been done on development impacts on the YBCU; however, any development within suitable riparian zones for YBCU could adversely affect YBCU. YBCU may be affected by developmental disturbance such as noise, increased traffic, loss and degradation of habitat and exposure to contaminants. If these disturbances were to take place during the breeding/nesting season, potential effects could include 1) direct loss of nests, eggs and nestlings 2) indirect disturbance from human activity during the breeding/nesting season can cause nest abandonment and 3) reduction and/or fragmentation of nesting and foraging habitat 4) avoidance of the affected area by YBCU. By following the mitigation measures and stipulations applied during the APD process, impacts could be minimized or completely negated. YBCU habitat will also be evaluated for impacts to yellow-billed cuckoo during the APD stage. . No parcels were identified within or near (within 0.5 miles) of Proposed Critical Habitat defined by USFWS. Three parcels (178, 179, and 211) were identified as within 0.5 miles of potentially suitable YBCU habitat (although this is not a limiting list) based off a habitat suitability model created by UDWR for UT BLM. Also, refer to table 1-2 for specific notices and stipulations that apply to parcels affected by proposed critical and potentially suitable habitat.

Future Mitigation (if an APD is submitted):

- No surface disturbance during the nesting and breeding season: Spatial buffer: 0.5 miles and Seasonal Timings: June 1- August 31.
- Surveys within 0.5 mile of an area proposed for development that is considered suitable or proposed YBCU critical habitat.
- Noise mitigation may be required.
- Consultation would be required with the USFWS.
- YBCU surveys maybe required if the area being developed is considered suitable YBCU or proposed critical YBCU habitat.

Canada Lynx:

The issuance of leases would not directly affect lynx or their potentially suitable habitat. However, the issuance of a lease does convey an expectation that oil and gas development could occur. In Utah, there is currently no designated critical lynx habitat on BLM lands. However, the USFS does have Lynx Analysis Units (LAUs) in the Uinta Mountains core habitat within the Ashley National Forest LAU. Using GIS and the USFS Lynx habitat maps there are four parcels nominated within or near to potential lynx habitat: 381, 382, 383, 384. To see development assumptions for each parcel see Appendix F in the EA. The Canada Lynx Conservation Assessment and Strategy (Ruidiger 2000), states that the development of wells can impact lynx habitat. The development of roads to access the facilities or area for exploration and development may result in easier access of remote areas by trappers and other predators

increasing trapping pressure and competition for prey (Ruediger 2000). Disturbance and alteration of habitat from development may also lead to the introduction of non-native invasive plant species and degradation and fragmentation of lynx habitat, thus leading to impacts on native biodiversity, movements and dispersal of lynx, and increased human-caused mortality to lynx (Ruediger 2000). Refer to table 1-2 for specific notices that apply to parcels affected by potentially suitable habitat.

Future Mitigation (if an APD is submitted):

- Surveys will be required prior to operations unless species occupancy and distribution information is complete and available.
- Based on data and information gathered in item 1, lease activities within, or in proximity to, occupied lynx habitats will require monitoring throughout the duration of the project.
- Avoid all surface disturbing actions within occupied denning habitat.
- Avoid construction and surface disturbing actions in proximity to potential denning habitat during the breeding season (mid-April to July).
- Activities involved with routine maintenance and operation will only occur during daytime hours, when lynx are least active.
- Where technically and economically feasible, wells will be remotely monitored within lynx habitat.
- Limit disturbance to and within suitable habitat by staying on approved access routes.
- Limit new access routes created by the project.
- Dirt and gravel roads traversing lynx habitat should not be paved or otherwise upgraded (e.g., straightening of curves, widening of roadway etc.) in a manner that is likely to lead to significant increases in traffic volume, traffic speed, increased width of the cleared ROW, or would foreseeably contribute to development or increases in human activity in lynx habitat.
- Minimize impacts to habitats that support lynx prey.
- Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and to minimize or eliminate drilling in suitable lynx habitat.

Cumulative Impacts:

Wildlife: Migratory Birds including Raptors

The cumulative impact area for migratory birds and raptors is the Vernal Field Office planning area (7,325,500 acres). Cumulative impacts are incorporated by reference to sections 3.19.1.11, 3.19.1.12, and 4.22.12 in the VFO RMP (BLM 2008b). Past, present and future uses and impacts of the cumulative impact area may include oil and gas development, realty actions, urbanization, continued agricultural activities and increased recreational impacts. Cumulative impacts include loss of migratory bird breeding and foraging habitat, habitat fragmentation, and disruption or alteration of seasonal migration routes. Birds who avoid nesting within the immediate area of the project would have available habitat within the remaining intact cumulative impact area. Leasing and ensuing development of one or more of these lease parcels is

likely to contribute to a sustained reduction in the overall abundance of most affected species through direct and indirect impacts, but it would not be expected to increase cumulative effects to levels that would compromise the viability of any migratory bird population or the use of broader intact landscapes within or near the cumulative impact area. The Proposed Action would contribute to these cumulative impacts by making the 96 parcels available for lease sale and mineral development; with the potential for future surface disturbance should the leases be developed. The No Action alternative would not result in an accumulation of impacts

Wildlife: Non-USFWS Designated

Big Game (Mule Deer, Pronghorn, Elk and Rocky Mountain Bighorn Sheep):

The cumulative impact area for elk, pronghorn and mule deer will be the Vernal Planning Area. Cumulative impacts are incorporated by reference to sections 3.19.1 and 4.22.12 in the VFO RMP (BLM 2008b). Cumulative impacts include loss of habitat for wildlife habitat fragmentation, and disruption or alteration of seasonal migration routes. The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights or realty actions (for example, pipeline or road rights of way) or the continuation of agricultural activities. The Proposed Action would contribute to these cumulative impacts by making the parcels available for mineral development; with the potential for future surface disturbance should the leases be developed. The No Action alternative would not contribute any cumulative impacts.

Wildlife: Special Status Animal Species

White-tailed Prairie Dog, Burrowing Owl and Black-footed Ferret:

The CIAA for special status animal species is the Vernal Field Office. Cumulative impacts are incorporated by reference to 4.22.10 in the VFO RMP (BLM 2008b). Current and future uses and impacts of the cumulative impact area may include oil and gas development, urbanization and increased recreational impacts. Future development could result in a loss of WTPD, burrowing owl and BFF habitat. The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights or realty actions (for example, pipeline or road rights of way) or the continuation of agricultural activities. As cumulative activities occur, adjacent habitats may be avoided due to human presence. Cumulative activities could also alter potential prairie dogs habitat, making it less suitable for the establishment of colonies, thus affecting burrowing owl and BFF. Habitat quality for these species can also be degraded by the introduction of noxious and invasive weeds. Weed invasions may lead to a decrease in the amount of native perennials and bare ground, thereby degrading habitat for WTPD by decreasing visibility, forage quality, and burrow development that affects both burrowing owl and BFF. However, weed control efforts would minimize the spread of noxious and invasive weeds. Past, present, and future land uses have reduced and will likely continue to reduce the quality and quantity of habitats for wildlife species. Habitat alteration occurring throughout the range of these species would potentially reduce the ability of such species to recover. Cumulative impacts include habitat fragmentation,

loss of prey species, increased predation, and loss of breeding habitat. The No Action alternative would not result in an accumulation of impacts.

Wildlife: Threatened, Endangered, or Candidate Animal Species

Mexican Spotted Owl, Yellow-billed Cuckoo and Canada Lynx:

The cumulative impact area for threatened, endangered, candidate species is the Vernal Planning Area. Cumulative impacts are incorporated by reference to section 4.22.12 in the VFO RMP (BLM 2008b). Cumulative impacts include loss of habitat for wildlife, habitat fragmentation, and disruption or alteration of seasonal migration routes. The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights or realty actions (for example, pipeline or road rights of way) or the continuation of agricultural activities. The Proposed Action would contribute to these cumulative impacts by allowing the proposed lease sale parcels, available for lease sale and mineral development, with the potential for future surface disturbance should the leases be developed. The No Action alternative would not contribute any cumulative impacts.

* Black-footed ferrets were included in the cumulative impacts with white-tailed prairie dog and burrowing owl (Special Status Species section) as they are sympatric species in the Uinta Basin.

* YBCU are being informally consulted on with USFWS for this lease sale.

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