

**Biological Evaluation for the  
Cotton Draw Pipeline and Access  
Road Project,  
Eddy County, New Mexico**

Prepared for

**Bureau of Land Management  
Carlsbad Field Office**

On Behalf of

**Enterprise Field Services LLC**

Prepared by

**SWCA Environmental Consultants**

January 2016



**BIOLOGICAL EVALUATION FOR THE  
COTTON DRAW PIPELINE AND ACCESS ROAD PROJECT,  
EDDY COUNTY, NEW MEXICO**

Prepared for

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**LIST OF ACRONYMS AND ABBREVIATIONS**

°F	degrees Fahrenheit
amsl	above mean sea level
BE	biological evaluation
BISON-M	Biota Information System of New Mexico
BLM	Bureau of Land Management
BMP	best management practice
CFO	Carlsbad Field Office
EMNRD	New Mexico Energy, Minerals, and Natural Resources Department
Enterprise	Enterprise Field Services LLC
ESA	Endangered Species Act of 1973, as amended
GPS	global positioning system
IPA	Isolated Population Area
IPaC	Information for Planning and Conservation
LPC	lesser prairie-chicken
MBTA	Migratory Bird Treaty Act
NMDA	New Mexico Department of Agriculture
NMDGF	New Mexico Department of Game and Fish
NMPIF	New Mexico Partners in Flight
NMSA	New Mexico Statutes Annotated
project	Cotton Draw Pipeline and Access Road Project
RMPA	Resource Management Plan Amendment
SWCA	SWCA Environmental Consultants
SWReGAP	Southwest Regional Gap Analysis Project
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

# 1 INTRODUCTION

SWCA Environmental Consultants (SWCA) was retained by Enterprise Field Services LLC (Enterprise) to complete a biological evaluation (BE) for the proposed Cotton Draw Pipeline and Access Road Project (project) located in Eddy County, New Mexico (Figure 1.1 and Figure 1.2). The project is located on land managed by the Bureau of Land Management (BLM) Carlsbad Field Office (CFO). Features associated with the project would consist of an approximately 215-foot-long natural gas steel pipeline, one 0.25-acre associated aboveground facility, and one 1,200-foot-long permanent access road. Total surface disturbance would be 1.24 acres. The lead agency for this undertaking is the BLM CFO.

SWCA performed biological surveys of the project area on August 31, September 1, and December 16, 2015. This BE evaluates the potential effects of construction and operation of the project on federally listed species under the Endangered Species Act of 1973, as amended (ESA), as required for compliance with the BLM. Additionally, this BE evaluates the potential effects of construction and operation of the project on State of New Mexico threatened or endangered species listed under the New Mexico Wildlife Conservation Act (17-2-41 New Mexico Statutes Annotated [NMSA] 1978) and the state's Endangered Plant Species regulations (75-6-1 NMSA 1978), as well as BLM sensitive species. The scope of work for this BE includes the following:

- A review of the U.S. Fish and Wildlife Service (USFWS) online species list for Eddy County using the USFWS Information for Planning and Conservation System (IPaC) database;
- A review of the state special status species list for Eddy County using the New Mexico Department of Game and Fish (NMDGF) Biota Information System of New Mexico (BISON-M) and the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD) state endangered plant species list;
- A review of BLM sensitive species;
- Biological surveys of the project area; and
- An evaluation of the potential for the species listed in this BE to occur in the project area.

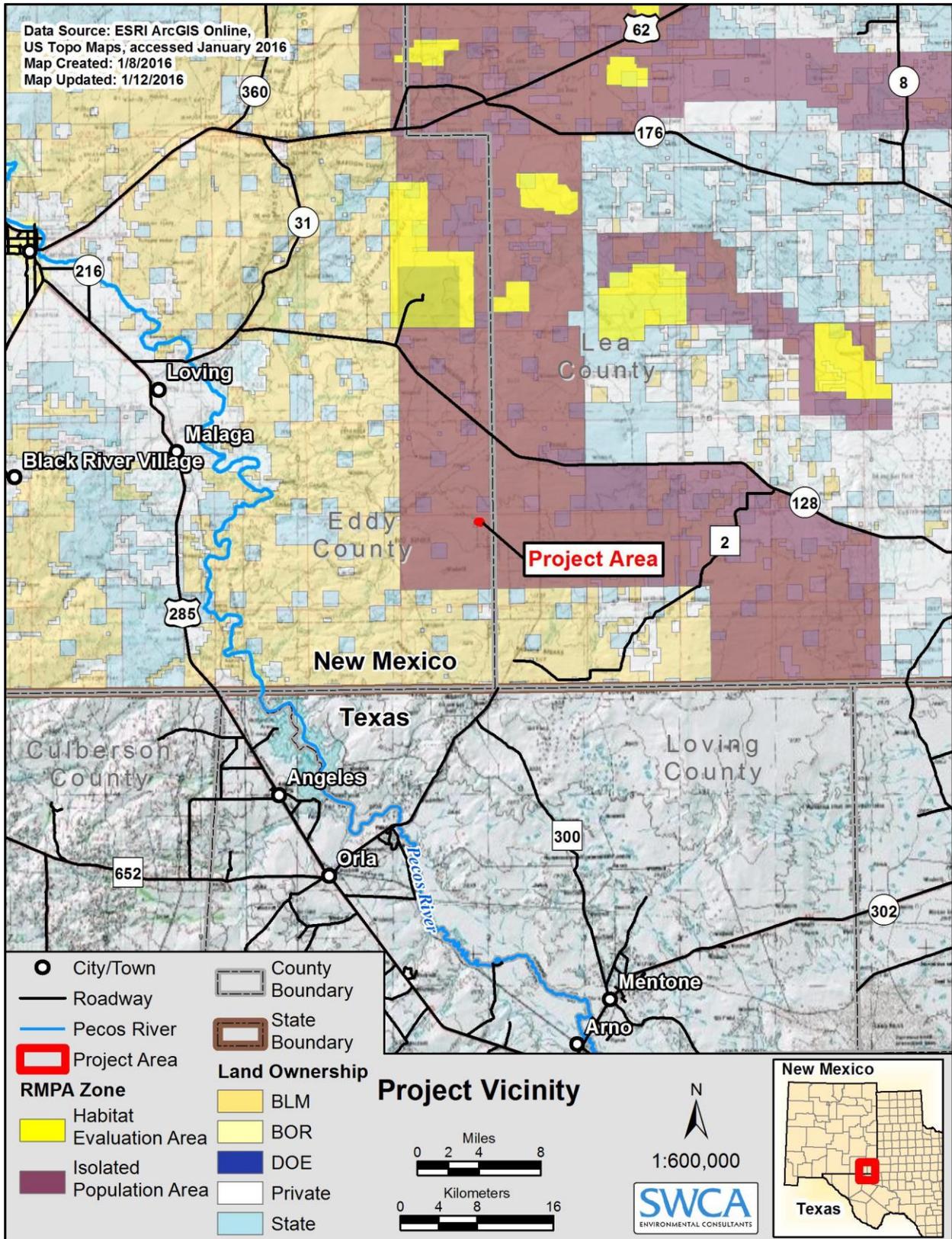


Figure 1.1. Project vicinity map.

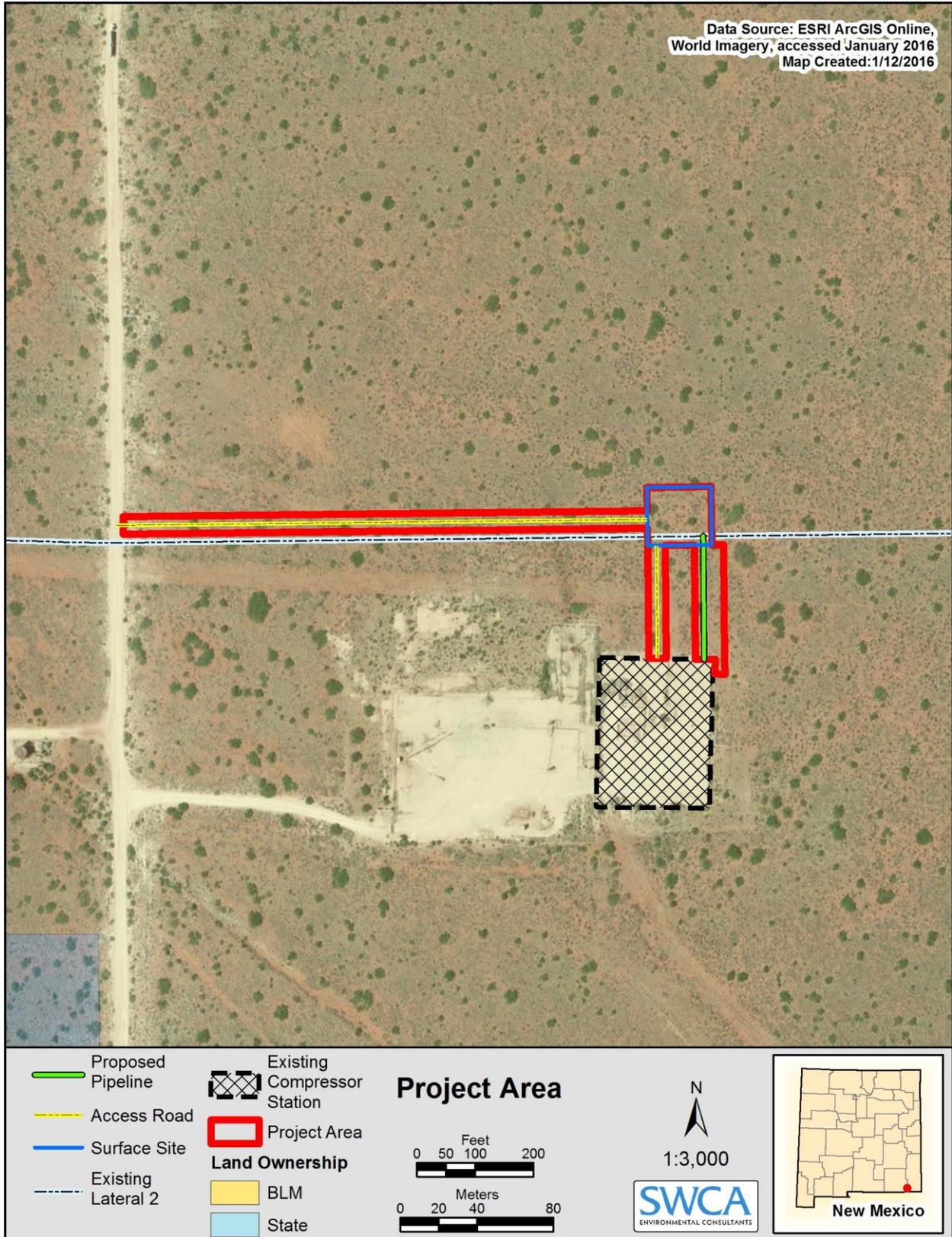


Figure 1.2. Project area map.

## **2 PROJECT DESCRIPTION**

The project is situated in Eddy County, approximately 23 miles southeast of Loving, New Mexico, and 11 miles north of the New Mexico-Texas state line. The project can be found in Sections 1, 2, 10, 11, and 12, Township 25 South, Range 31 East on the Big Sinks and Paduca Breaks Northwest U.S. Geological Survey (USGS) 7.5-minute quadrangles.

Enterprise is proposing to construct an 8-inch-diameter natural gas pipeline, one aboveground facility associated with the pipeline interconnect surface site, and one permanent access road. The project would result in 1.24 acres of surface disturbance; these surface impacts are described further in the environmental assessment (BLM 2016). The project features are briefly summarized below.

- **Pipeline:** The pipeline would start at the existing Cotton Draw compressor station located in Section 1, Township 25 South, Range 31 East and would terminate at Enterprise's newly constructed Lateral 2 pipeline located in the same section, township, and range. The pipeline would be a linear right-of-way approximately 215 feet long and 50 feet wide (0.24 acre), including 30 feet of permanent easement and 20 feet of temporary workspace.
- **Aboveground facility:** The 0.25-acre aboveground facility would be associated with the Lateral 2 pipeline interconnect surface site.
- **Access road:** The new access road would be 1,200 feet long and 30 feet wide (0.75 acre) and would be built to access the Cotton Draw compressor station.

Construction of the project would commence once the right-of-way grant is issued by the BLM CFO. Construction of the project would take approximately 1 month for completion.

### 3 METHODOLOGY

#### 3.1 SURVEY METHODOLOGY

SWCA biologists Joanna Franks and Ian Dolly conducted biological surveys of the project area on August 31, September 1, and December 16, 2015. During the biological surveys, a 200-foot-wide survey buffer was used for the survey area. Dominant plant communities and species were recorded, as were habitat features potentially important to federally listed, state-listed, and BLM special status species. Based on habitat types and features present, the project was evaluated for the potential presence of such species. Listed species' suitable habitat and observed individuals (if any) were entered into a global positioning system (GPS) log. Surrounding areas were inspected with binoculars for nests, raptors, or past signs of raptor use, and the presence of active and inactive bird nests and burrows was also recorded. The biological surveys noted general wildlife species present within and immediately surrounding the project area. Digital photographs are included as examples of the existing conditions at the project area and the most common vegetative types present (see Appendix A).

During the biological surveys, SWCA also investigated the presence of potential waters of the U.S. and special aquatic sites, including wetlands. Potential waters of the U.S. were identified by the presence of an ordinary high water mark (OHWM), defined bed and bank, or the three mandatory U.S. Army Corps of Engineers (USACE) wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology. The presence/absence of wetlands was identified in the field using routine on-site delineation methods according to the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a). Determination of wetland habitat type was based on the classification system developed by Cowardin et al. (1979). Other sources used to identify the presence/absence of wetlands include the *Pocket Guide to Hydric Soil Field Indicators, Version 7.0* (Wetland Training Institute, Inc. 2013). Wetland boundaries were delineated where hydrophytic vegetation, hydric soils, and hydrology were present. An area was determined to be a wetland if it displayed a positive indication of all three wetland criteria. Data at each site verifying a wetland were recorded on a USACE Wetland Determination Data Form for the Arid West Region.

The presence of playas or vegetated depressions subject to brief inundation were identified in the field pursuant to descriptions provided in the BLM CFO's Resource Management Plan Amendment (RMPA)/Record of Decision (BLM 1997) and pursuant to discussions with BLM staff (personal communication, telephone conversation with Steve Daly, Soil Conservationist, BLM, and Greg Everett, SWCA, on November 7, 2014). These features are of interest to the BLM and subject to protective measures due to their ability to serve as intermittent surface water sources for wildlife in otherwise arid habitats.

The presence/absence of lotic systems (e.g., creeks, rivers, arroyos, human-made ditches; collectively *streams*) were identified in the field using the methods outlined in the *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (USACE 2008b).

### 3.2 SPECIES COVERED IN THE EVALUATION OF POTENTIAL IMPACTS

The USFWS maintains lists of endangered, threatened, proposed, and candidate species known or thought to occur in each New Mexico county. The USFWS also designates critical habitat in the state for some listed species. Endangered and threatened species are protected under the ESA. The ESA specifically prohibits *take*, which means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct” to a listed species. Most avian species, with the exception of upland game birds and introduced species, also receive legal protection under the federal Migratory Bird Treaty Act (MBTA) (16 United States Code [USC] 703–712).

Under the New Mexico Wildlife Conservation Act (17-2-37 to 17-2-46 NMSA 1978), it is unlawful to take, possess, transport, export, process, sell or offer for sale, or ship any species of wildlife listed as threatened or endangered under the New Mexico Wildlife Conservation Act and any species listed as threatened or endangered under the ESA. Under the state’s Endangered Plant Species program (75-6-1 NMSA 1978), New Mexico State Forestry has the responsibility to promote the conservation of state-listed endangered plant species.

The special status species evaluated in this BE consist of 1) federally protected (endangered and threatened) species; 2) additional species listed by the USFWS as candidate and proposed species, and species under review (USFWS 2015); 3) state-listed endangered and threatened species (BISON-M 2015; EMNRD 2015); and 4) BLM special status species (BLM 2008). The distribution of critical habitat was examined using the USFWS (2015) IPaC database.

The potential for local species occurrence was based on 1) existing information on distribution and 2) qualitative comparisons of the habitat requirements of each species with vegetation communities, landscape features, and/or water quality conditions in the project area. Possible impacts to these species were evaluated based on reasonably foreseeable project-related activities and the local loss of habitat.

All of the special status species in Eddy County were first evaluated based on their potential to occur in the project area. The potential for occurrence of a species was identified using the following categories:

- *Known to occur*: The species was documented in the project area either during or prior to the biological surveys by a reliable observer.
- *May occur*: The project area is within the species’ historic or currently known range, and vegetation communities, soils, and water quality conditions, among other factors, resemble those known to be used by the species.
- *Unlikely to occur*: The project area is within the species’ historic or currently known range, but vegetation communities, soils, and water quality conditions, among other factors, do not resemble those known to be used by the species, or the project area is clearly outside the species’ currently known range.

Species with the potential to occur in the project area were then further evaluated for possible impacts from the project. However, effect determination categories are spelled out differently based on the exact legal status of a species and the mandates and responsibilities of the agency

tasked to manage or protect that species. Federally protected (i.e., threatened or endangered) species were assigned to one of three categories of possible effect, following USFWS guidelines (USFWS 1998a).

- *May affect, is likely to adversely affect*—This effect determination means that the proposed action would have an adverse effect on the species or its critical habitat. Any action that would result in “take” of an endangered or threatened species is considered an adverse effect. A combination of beneficial and adverse effects is still considered “likely to adversely affect,” even if the net effect is neutral or positive. Adverse effects are not considered discountable because they are expected to occur. In addition, the probability of occurrence must be extremely small to qualify as discountable effects. Likewise, an effect that can be detected in any way or that can be meaningfully articulated in a discussion of the results of the analysis is not insignificant; it is an adverse effect.
- *May affect, is not likely to adversely affect*—Under this effect determination, all effects to the species and its critical habitat are beneficial, insignificant, or discountable. Beneficial effects have contemporaneous positive effects without adverse effects to the species (for example, there cannot be “balancing,” so that the benefits of the action would outweigh the adverse effects). Insignificant effects relate to the size of the impact and should not reach the scale where take occurs. Discountable effects are considered extremely unlikely to occur. Based on best judgment, a person would not: 1) be able to meaningfully measure, detect, or evaluate insignificant effects or 2) expect discountable effects to occur. Determinations of “not likely to adversely affect, due to beneficial, insignificant, or discountable effects” require written concurrence from the USFWS.
- *No effect*—A determination of no effect means there are absolutely no effects to the species and its critical habitat, either positive or negative. It does not include small effects or effects that are unlikely to occur.

The ESA defines “take” to mean “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” “Harm” includes “significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.”

As directed by the USFWS, species proposed for listing were evaluated using the following effect determination categories.

- No effect.
- Not likely to jeopardize the continued existence of the species or result in the destruction or adverse modification of proposed critical habitat.
- Likely to jeopardize the continued existence of the species or result in the destruction or adverse modification of proposed critical habitat.

Jeopardy is in turn defined under the ESA as occurring when “an action is reasonably expected, directly or indirectly, to diminish a species’ numbers, reproduction, or distribution so that the likelihood of survival and recovery in the wild is appreciably reduced.”

Impact determinations for all other species (USFWS candidate, species under federal review, and state listed species that are not federally threatened or endangered) were evaluated for possible impacts as follows.

- *No impact*—the project would have no impact on a species if 1) the species is considered unlikely to occur (range, vegetation, etc., are inappropriate), and 2) the species or its sign was not observed during surveys of the project area.
- *Beneficial impact*—the project is likely to benefit the species, whether it is currently present or not, by creating or enhancing habitat elements known to be used by the species.
- *May impact individuals or habitat, but is not likely to result in a trend toward federal listing or loss of viability*—the project is not likely to adversely impact a species if 1) the species may occur but its presence has not been documented, and 2) project activities would not result in disturbance to areas or habitat elements known to be used by the species.
- *May impact individuals or habitat and is likely to result in a trend toward federal listing or loss of viability*—the project is likely to adversely impact a species if 1) the species is known to occur in the project area, and 2) project activities would disturb areas or habitat elements known to be used by the species or would directly affect an individual.

## 4 RESULTS

### 4.1 GENERAL CHARACTERISTICS

Elevation in the project area is 3,467 to 3,474 feet above mean sea level (amsl). The climate for the area, based on the climatic records for the nearest weather station (Ochoa, New Mexico: 296281), has an average annual maximum temperature of 77.6 degrees Fahrenheit (°F), with an average annual minimum temperature of 47.2°F. The average annual precipitation is 11.8 inches, with the majority occurring between May and October, while the average annual total snowfall is 2.3 inches, which largely occurs between November and February (Western Regional Climate Center 2015). During the biological surveys, the weather conditions were mostly sunny, calm, and cool (50°F).

### 4.2 SOILS

According to the Natural Resources Conservation Service (2015a), one mapped soil type is present within the project area: Berino complex, 0 to 3 percent slopes (map unit symbol: BB). This soil is not classified as prime farmland and is not a hydric soil. A description of this soil type is provided in Appendix B.

### 4.3 VEGETATION

The project area is located within the Chihuahuan Deserts – Chihuahuan Basins and Playas U.S. Environmental Protection Agency Level IV ecoregion (Griffith et al. 2006). Southwest Regional Gap Analysis Project (SWReGAP) data indicates that two land cover types are present within and surrounding the project area: Western Great Plains Sandhill Shrubland and Apacherian-Chihuahuan Mesquite Upland Scrub (USGS 2004). These land cover types are described in Sections 4.3.1 and 4.3.2.

During the biological surveys, one vegetative community was identified within the project area: mixed desert scrub. A very small sand sagebrush (*Artemisia filifolia*)-dominated area (approximately 100 × 200 feet) is located within the mixed desert scrub vegetation community. The area was so minimal in size that it did not constitute a separate vegetation community. The overall project area and surrounding landscape have been disturbed by existing oil and gas infrastructure and livestock grazing.

Vegetative cover within and surrounding the project area is approximately 40% to 60%. Plant species recorded during the surveys are listed in Table 4.1. No plant species identified during the biological surveys correspond to special status species listed by the USFWS, State of New Mexico, or BLM. Representative photographs of the project area are provided in Appendix A (Photographs A.1–A.4).

**Table 4.1. Plant Species Observed during Biological Surveys**

Scientific Name	Common Name
<i>Artemisia filifolia</i>	Sand sagebrush
<i>Atriplex hymenelytra</i>	Desert holly
<i>Bouteloua eriopoda</i>	Black grama
<i>Bouteloua gracilis</i>	Blue grama
<i>Condalia ericoides</i>	Javelina bush
<i>Croton pottsii</i>	Leatherweed
<i>Croton texensis</i>	Texas croton
<i>Cylindropuntia leptocaulis</i>	Christmas cactus
<i>Echinocactus texensis</i>	Horse creeper
<i>Eragrostis lehmanniana</i>	Lehmann lovegrass
<i>Eriogonum annuum</i> *	Annual buckwheat
<i>Gutierrezia sarothrae</i> *	Broom snakeweed
<i>Helianthus annuus</i>	Common sunflower
<i>Larrea tridentate</i> *	Creosote bush
<i>Mentzelia laevicaulis</i>	Smoothstem blazingstar
<i>Opuntia polyacantha</i>	Plains pricklypear
<i>Prosopis glandulosa</i> *	Honey mesquite
<i>Quercus havardii</i>	Shinnery oak
<i>Salsola tragus</i>	Russian thistle
<i>Schizachyrium scoparium</i>	Little bluestem
<i>Solanum elaeagnifolium</i>	Silverleaf nightshade
<i>Sphaeralcea coccinea</i>	Scarlet globemallow
<i>Sporobolus cryptandrus</i>	Sand dropseed
<i>Yucca elata</i>	Plains yucca
<i>Yucca glauca</i>	Soapweed yucca
<i>Zinnia acerosa</i>	Desert zinnia

Note: Nomenclature follows the PLANTS Database (Natural Resources Conservation Service 2015b).

\*Refers to dominant species within corresponding vegetative community.

#### **4.3.1 S048: WESTERN GREAT PLAINS SANDHILL SHRUBLAND**

This land cover type is located within the south-central portion of the Western Great Plains, which occurs from the Nebraska Sandhills into central Texas. The characteristics of this land cover type include sparse to moderately dense woody vegetation communities dominated by sand sagebrush. The dominant vegetative species consist of sand bluestem (*Andropogon hallii*), little bluestem (*Schizachyrium scoparium*), sand dropseed (*Sporobolus cryptandrus*), giant sandreed (*Calamovilfa gigantea*), needle and thread (*Hesperostipa comata*), grama (*Bouteloua* sp.), soapweed yucca (*Yucca glauca*), honey mesquite (*Prosopis glandulosa*), skunkbush sumac (*Rhus trilobata*), Chickasaw plum (*Prunus angustifolia*), and shinnery oak (*Quercus havardii*) (USGS 2001).

#### **4.3.2 S058: APACHERIAN-CHIHUAHUAN MESQUITE UPLAND SCRUB**

This land cover type occurs in the foothills and piedmont of the Chihuahuan Desert, where the predominant vegetation community is upland shrublands and grassland-shrubland transition zones. This land cover type is dominated by honey mesquite, velvet mesquite (*Prosopis velutina*), and succulents. Other species could include viscid acacia (*Acacia neovernicosa*), whitethorn acacia (*A. constricta*), oneseed juniper (*Juniperus monosperma*), and redberry juniper (*J. coahuilensis*). Grass cover in this area is generally low (USGS 2001).

#### 4.4 NOXIOUS WEEDS

The Federal Noxious Weed Act of 1975 and Plant Protection Act of 2000 establish a federal program for controlling the spread of noxious weeds. Under the Plant Protection Act, noxious weeds are defined as “any plant or plant product that can directly or indirectly injure or cause damage to crops (including nursery stock or plant products), livestock, poultry, or other interests of agriculture, irrigation, navigation, the natural resources of the U.S., the public health, or the environment.” The U.S. Department of Agriculture (USDA) designates plants as noxious weeds to control, eradicate, and prevent the spread of these weeds. The USDA has designated 88 species as federally listed noxious weeds to be targeted for control or eradication (USDA 2010, 2012).

New Mexico’s Noxious Weed Management Act of 1998 directs the New Mexico Department of Agriculture (NMDA) to develop a noxious weed list and identify methods for control or eradication of these species. Under this act, noxious weeds are defined as “a plant species that is not indigenous to New Mexico and that has been targeted pursuant to the Noxious Weed Management Act for management or control because of its negative impact on the economy or the environment.” The NMDA has designated 37 species as state-listed noxious weeds to be targeted for control or eradication (NMDA 2009). The New Mexico noxious weed list is divided into the following three classes:

- Class A: These species are not present or have limited distribution in the state. Preventing new infestations of these species and eradicating existing infestations is the highest priority.
- Class B: These species are limited to portions of the state. In areas with severe infestations, management should be designed to contain the infestation and stop any further spread of the infestation.
- Class C: These species are widespread in the state. Management decisions for these species should be determined at the local level, based on feasibility of control and level of infestation.

No USDA- or NMDA-listed noxious weed species were observed within the surface disturbance areas associated with the project.

#### 4.5 WILDLIFE

The Chihuahuan Deserts – Chihuahuan Basins and Playas ecoregion (Griffith et al. 2006) provides habitat for a variety of wildlife species. SWCA biologists detected 12 birds and five mammals during the biological surveys (Table 4.2). One of these species, loggerhead shrike (*Lanius ludovicianus*), is special status species and is denoted in bold in Table 4.2.

**Table 4.2. Wildlife Detected during Biological Surveys of the Project Area**

Scientific Name	Common Name
<b>Birds</b>	
<i>Aimophila cassinii</i>	Cassin's sparrow
<i>Buteo swainsoni</i>	Swainson's hawk
<i>Campylorhynchus brunneicapillus</i>	Cactus wren
<i>Callipepla squamata</i>	Scaled quail
<i>Cardinalis sinuatus</i>	Pyrrhuloxia
<i>Carpodacus mexicanus</i>	House finch
<b><i>Lanius ludovicianus</i></b>	<b>Loggerhead shrike</b>
<i>Mimus polyglottos</i>	Northern mockingbird
<i>Spizella passerina</i>	Chipping sparrow
<i>Spizella pallida</i>	Clay-colored sparrow
<i>Zenaida asiatica</i>	White-winged dove
<i>Zenaida macroura</i>	Mourning dove
<b>Mammals</b>	
<i>Ammospermophilus</i>	Antelope ground squirrel
<i>Canis latrans</i>	Coyote
<i>Lepus californicus</i>	Black-tailed jackrabbit
<i>Odocoileus hemionus</i>	Mule deer
<i>Sylvilagus audubonii</i>	Desert cottontail

#### 4.6 SPECIAL AQUATIC SITES AND OTHER WATERS OF THE U.S.

The project area is located within the Red Hills Draw Watershed (Hydrologic Unit Codes 1307000101). The absence of special aquatic sites, playas, vegetated depressions, and other waters of the U.S. was confirmed by the biological surveys.

## **5 LIST OF SPECIAL STATUS SPECIES**

For the project area, the USFWS (2015) IPaC database lists five endangered species, five threatened species, one experimental population, non-essential species, and four candidate species (Table 5.1). Based on current distribution and habitat requirements, one of these species has the potential to occur in the project area: lesser prairie-chicken (*Tympanuchus pallidicinctus*; LPC). There is no mapped USFWS critical habitat within or adjacent to the project area (USFWS 2015).

For the project area, 54 other special status species are listed for Eddy County (Table 5.1). Based on their current distribution and habitat requirements, the following species have the potential to occur in the project area: burrowing owl (*Athene cunicularia hypugaea*), loggerhead shrike, painted bunting (*Passerina ciris*), and Texas horned lizard (*Phrynosoma cornutum*).

Species that have the potential to occur in the project area are discussed in detail in Sections 6 and 7 of this BE.

**Table 5.1. Special Status Species for Eddy County, New Mexico**

Common Name (Species Name)	Status*	Range or Habitat Requirements	Potential for Occurrence in Project Area	Determination of Effect
<b>Plants</b>				
Gypsum wild-buckwheat ( <i>Eriogonum gypsophilum</i> )	USFWS T NM E	Restricted to almost pure gypsum soil that is sparsely vegetated with other gypsophilous plants such as <i>Coldenia hispidissima</i> ( <i>Coldenia hispidissima</i> ), gypsum blazingstar ( <i>Mentzelia humilis</i> ), and southwestern ringstem ( <i>Anulocaulis leiosolenus</i> ); elevation 3,280–3,600 feet amsl. The three known locations are north of Carlsbad at Seven River Hills, south of Black River Village, and in the drainages of Ben Slaughter Draw and Hay Hollow.	Unlikely to occur in the project area due to lack of gypsum soils and sparsely vegetated areas with gypsophilous plants. Additionally, the project area is not in the known distribution area.	No effect
Kuenzler's hedgehog cactus ( <i>Echinocereus fendleri</i> var. <i>kuenzleri</i> )	USFWS E NM E	Primarily on gentle, gravelly to rocky slopes and benches on limestone or limy sandstone, in Great Plains grassland, oak woodland, or piñon-juniper woodland. Elevation 2,000–6,600 feet amsl.	Unlikely to occur in the project area due to lack of rocky slopes and benches.	No effect
Lee pincushion cactus ( <i>Coryphantha sneedii</i> var. <i>leei</i> )	USFWS T NM E	Primarily cracks in limestone in areas of broken terrain and steep slopes of Chihuahuan desert scrub; elevation 4,000–5,000 feet amsl.	Unlikely to occur in the project area due to lack of limestone outcrops.	No effect
Tharp's blue-star ( <i>Amsonia tharpii</i> )	NM E BLM Sensitive	Known from three distinct populations near Artesia and Carlsbad (Red Lake, Cedar Canyon, Ben Slaughter/Yeso Hills). Grows in soils with a limestone or gypsum component in rolling hills of Chihuahuan desert scrub communities; 3,100–3,500 feet amsl.	Unlikely to occur in the project area due to lack of limestone and gypsum components. The project area is outside the known species distribution area.	No impact
Scheer's beehive cactus ( <i>Coryphantha robustispina</i> var. <i>scheeri</i> )	NM E BLM Sensitive	Typically associated with gravelly or silty soil in desert grassland and Chihuahuan desert scrub. May also be found on rocky benches or bajadas on limestone or gypsum; the elevation range of this cactus is 3,300–3,600 feet amsl.	Unlikely to occur in the project area due to lack of limestone or gypsum soils.	No impact
Sneed pincushion cactus ( <i>Coryphantha sneedii</i> var. <i>sneedii</i> )	USFWS E NM E	Primarily cracks in limestone in areas of broken terrain and steep slopes. This subspecies is known to occur in Doña Ana County, New Mexico, and El Paso County, Texas. This species is known to occur from 3,390–5,900 feet amsl.	Unlikely to occur in the project area due to lack of limestone outcrops and steep slopes. Additionally, the subspecies <i>leei</i> is known from Eddy County, but the subspecies <i>sneedii</i> is not known to occur in Eddy County.	No effect
Shining coralroot ( <i>Hexalectris nitida</i> )	NM E	Found in deep canyons of oak thicket habitat in the Cornudas Mountains; elevation 4,300 feet amsl.	Unlikely to occur in the project area due to lack of deep canyons.	No impact
Wright's marsh thistle ( <i>Cirsium wrightii</i> )	USFWS C	Wet, alkaline soils in spring seeps and marshy edges of streams and ponds from 3,450–8,500 feet amsl.	Unlikely to occur in the project area due to lack of spring seeps and marshes along streams.	No impact
<b>Birds</b>				
Baird's sparrow ( <i>Ammodramus bairdii</i> )	NM T BLM Sensitive	This species is a winter resident in New Mexico. It has been found on Otero Mesa and in the Animas Valley and may occur in other areas of suitable winter habitat, particularly in the southeast portion of state. Generally prefers dense, extensive grasslands with few shrubs. Avoids heavily grazed areas.	Unlikely to occur in the project area due to lack of dense, extensive grasslands.	No impact
Bald eagle ( <i>Haliaeetus leucocephalus alascanus</i> )	NM T BLM Sensitive	Occurs in New Mexico year-round. Breeding is restricted to a few areas mainly in the northern part of the state along or near lakes. In migration and during winter months the species is found chiefly along or near rivers and streams and in grasslands associated with large prairie dog ( <i>Cynomys</i> sp.) colonies. Typically perches in mature trees.	Unlikely to occur in the project area due to lack of trees, prairie dog colonies, and water bodies.	No impact

Common Name (Species Name)	Status*	Range or Habitat Requirements	Potential for Occurrence in Project Area	Determination of Effect
Bell's vireo ( <i>Vireo bellii</i> )	NM T BLM Sensitive	In New Mexico, Bell's vireo occurs in the southern third of the state during the breeding season. The <i>medius</i> race is found in the Pecos Valley north to drainages west of Roswell, and in the Black River and Rattlesnake Springs areas south of Carlsbad. In New Mexico this species characteristically occurs in dense shrubland or woodland along lowland stream courses, with willows ( <i>Salix</i> sp.), mesquite ( <i>Prosopis</i> sp.), and seepwillows ( <i>Baccharis glutinosa</i> ). Its distribution during breeding is typically limited to riparian habitats.	Unlikely to occur in the project area due to lack of dense riparian vegetation and water.	No impact
Black tern ( <i>Chlidonias niger surinamensis</i> )	BLM Sensitive	Found in New Mexico only during migration and in association with wetland areas, lakes, and ponds.	Unlikely to occur in the project area due to lack of aquatic habitat.	No impact
Broad-billed hummingbird ( <i>Cynanthus latirostris</i> )	NM T	Occurs in riparian habitat or dense mesquite in canyons in southwestern New Mexico. Found in Guadalupe Canyon in Hidalgo County and rarely found in the Peloncillo Mountains.	Unlikely to occur in the project area due to lack of riparian habitat or dense mesquite in a canyon.	No impact
Brown pelican ( <i>Pelecanus occidentalis</i> )	NM E	Generally found in warm marine waters, rarely occurs inland, and feeds almost exclusively on fish. Only individuals seen in New Mexico were near water, and they may have been storm-driven birds that moved inland during duress.	Unlikely to occur in the project area due to lack of water bodies.	No impact
Burrowing owl ( <i>Athene cunicularia hypugaea</i> )	BLM Sensitive	Present mainly during the breeding season in the northern half of the state and present year-round in the southern half. Found in grasslands especially in association with prairie dog colonies, in desert scrub, and in agricultural and semi-urban environments. Depends on prairie dogs, rock squirrels ( <i>Otospermophilus variegatus</i> ), and other fossorial mammals for the availability of nest burrows.	May occur in the project area due to presence of suitable burrow.	See subsection below
Common black hawk ( <i>Buteogallus anthracinus</i> )	NM T	The southwestern United States is the northern extent of this species' range. Occurs in New Mexico almost exclusively during the breeding season and in migration. Breeding populations are known chiefly from the Gila River valley in the southwestern portion of the state and from along the Mimbres River and the Rio Hondo watershed. Strongly tied to cottonwood ( <i>Populus</i> sp.) gallery forests. In New Mexico, it is an uncommon summer resident and generally restricted to the mountainous riparian habitats of the San Francisco, Gila, and Mimbres River drainages.	Unlikely to occur in the project area due to lack of suitable riparian habitat along a major drainage.	No impact
Common ground-dove ( <i>Columbina passerina</i> )	NM E	Associated with shrubby riparian habitat or riparian woodland edges. Also occurs in desert scrub dominated by mesquite and pricklypear. Feeds exclusively on the ground, in sparsely vegetated areas.	Unlikely to occur in the project area due to lack of riparian habitat.	No impact
Ferruginous hawk ( <i>Buteo regalis</i> )	BLM Sensitive	Occurs year-round in New Mexico. During the breeding season it is present in grasslands, badlands, and along the ecotone between grasslands and piñon-juniper woodlands, especially in the vicinity of prairie dog towns. During the winter, ferruginous hawks are primarily associated with grasslands but may be found in other habitat types such as ponderosa pine ( <i>Pinus ponderosa</i> ) forest. Prairie dogs are important year-round in the diet of New Mexico's ferruginous hawks.	Unlikely to occur in the project area due to lack of grasslands, badlands, piñon-juniper woodlands, ponderosa pine forests, or prairie dog colonies.	No impact
Grasshopper sparrow ( <i>Ammodramus savannarum</i> )	BLM Sensitive	Found in grasslands and prairies with open patches of ground. It nests on the ground in a small cup-nest constructed out of grasses. Avoids areas with extensive stands of shrubs.	Unlikely to occur in the project area due to lack of grasslands and prairie habitat.	No impact

Common Name (Species Name)	Status*	Range or Habitat Requirements	Potential for Occurrence in Project Area	Determination of Effect
Gray vireo ( <i>Vireo vicinior</i> )	NM T	Strongly associated with piñon-juniper and scrub oak habitats. Distributed mainly across the western two-thirds of the state. Prefers gently sloped canyons, rock outcrops, ridge tops, and moderate scrub cover.	Unlikely to occur in the project area due to lack of piñon-juniper and scrub oak habitats located within gently sloped canyons, rock outcrops, or ridge tops.	No impact
Least tern ( <i>Sterna antillarum</i> )	USFWS E NM E	Migratory species occurring in North America during the breeding season, when it is associated with water (e.g., lakes, reservoirs, rivers). In New Mexico, breeding is restricted to the Pecos River basin. It is known to breed primarily at Bitter Lake National Wildlife Refuge in nearby Chaves County.	Unlikely to occur in the project area due to lack of water bodies.	No impact
Lesser prairie-chicken ( <i>Tympanuchus pallidicinctus</i> )	USFWS C BLM Sensitive	This species occurs in southeastern New Mexico primarily in shinnery oak or sand sagebrush ( <i>Artemisia filifolia</i> ) grasslands. Also occurs in shinnery oak-bluestem habitats dominated by sand bluestem, little bluestem, sand dropseed, threeawn ( <i>Aristida</i> sp.), and blue grama ( <i>Bouteloua gracilis</i> ).	The project area is located within the LPC Isolated Population Area (BLM 2008).	See subsection below
Loggerhead shrike ( <i>Lanius ludovicianus</i> )	BLM Sensitive	The loggerhead shrike is a year-round resident in New Mexico and is found throughout the state primarily in open country including grasslands, improved pastures, hayfields, shrub steppe, and desert scrub, as well as piñon-juniper woodland and woodland edges.	Known to occur within the project area. The species was observed during the biological surveys.	See subsection below
Lucifer hummingbird ( <i>Calothorax lucifer</i> )	NM T	Associated with rocky slopes or hillsides, and Chihuahuan desert vegetation. Nest sites are selected on slopes above rocky or wooded washes.	Unlikely to occur in the project area due to lack of rocky slopes or hill sides and washes.	No impact
Mexican spotted owl ( <i>Strix occidentalis lucida</i> )	USFWS T	Occupies mountainous areas and deep canyons incised within flat plateaus. Habitat consists typically of mixed-conifer, ponderosa pine ( <i>Pinus ponderosa</i> ), or ponderosa pine/Gambel oak ( <i>Quercus gambelii</i> ) forest. Prefers mesic, shaded environments such as canyon bottoms and mountainous riparian areas.	Unlikely to occur in the project area due to lack of mixed-conifer, ponderosa pine, and ponderosa pine/Gambel oak forest.	No effect
Neotropic cormorant ( <i>Phalacrocorax brasilianus</i> )	NM T	Associated with wetlands. Key requirements include areas of deep water for diving and elevated perches in trees, shrubs, and other structures for nesting, roosting, and drying plumage after feeding.	Unlikely to occur in the project area due to lack of water bodies.	No impact
Northern aplomado falcon ( <i>Falco femoralis septentrionalis</i> )	USFWS ENP NM E	Associated with semi-desert grasslands with scattered yuccas ( <i>Yucca</i> sp.), mesquite ( <i>Prosopis</i> sp.), and cacti. Naturally occurring populations are essentially restricted to the southern tier of New Mexico. Species has also been reintroduced on the Armendaris Ranch in Socorro and Sierra Counties and on lands administered by the BLM, White Sands Missile Range, and the New Mexico State Land Office beginning in 2006.	According to the BLM CFO, the species' range is not known to exist east of the Pecos River; therefore, this species is unlikely to occur in the project area.	No impact
Northern beardless-tyrannulet ( <i>Camptostoma imberbe</i> )	NM E	Northern boundary for the distribution of this species is in southern Arizona and southwestern New Mexico. Species breeds only in riparian areas of Guadalupe Canyon in southern Hidalgo County. Mesquite thickets and smaller trees are favored for feeding. Vulnerable to human disturbance, grazing, fire, and drought.	Unlikely to occur in the project area due to lack of riparian habitat.	No impact
Northern goshawk ( <i>Accipiter gentilis atricapillus</i> )	BLM Sensitive	Strongly associated with montane forests during breeding and in winter. Migrating populations typically follow forested ridges.	Unlikely to occur in the project area due to the lack of montane forests.	No impact
Painted bunting ( <i>Passerina ciris</i> )	BLM Sensitive	Painted buntings breed in dense brush, often adjacent to thick, grassy areas or woodland edges. During migration and winter they favor dense, weedy habitats, as well as the understory of semi-open forest.	May occur in the project area due to presence of scrub habitat.	See subsection below

Biological Evaluation for the Cotton Draw Pipeline and Access Road Project, Eddy County, New Mexico

Common Name (Species Name)	Status*	Range or Habitat Requirements	Potential for Occurrence in Project Area	Determination of Effect
Peregrine falcon ( <i>Falco peregrinus</i> ; <i>F. p. tundrius</i> )	NM T	Found in New Mexico year-round. All nests in New Mexico are found on cliffs. In migration and during winter months New Mexico's peregrine falcons are typically associated with water and large wetlands.	Unlikely to occur in the project area due to the lack of water, large wetlands, and cliffs.	No impact
Piping plover ( <i>Charadrius melodus</i> )	USFWS T NM T	Occurs in New Mexico as a rare spring migrant along sandflats, sandy mudflats, or sandy beaches.	Unlikely to occur in the project area due to lack of sandflats, mudflats, or beaches.	No effect
Southwestern willow flycatcher ( <i>Empidonax traillii extimus</i> )	USFWS E NM E	In New Mexico, this species is known to breed only along the Gila River and Rio Grande. Associated with moist riparian areas throughout the year. Breeding habitat requirements vary by region. In migration, may be associated with willows ( <i>Salix</i> sp.) along ditches, cottonwood woodlands, and saltcedar ( <i>Tamarix</i> sp.) stands.	Unlikely to occur in the project area due to lack of riparian habitat.	No effect
Sprague's pipit ( <i>Anthus spragueii</i> )	USFWS C BLM Sensitive	Occurs in New Mexico only as a sporadic winter resident. Its distribution in the state is not well known, but includes the lower Pecos River valley, Otero Mesa, and the Animas Valley. It is associated with southern desert grasslands of the state. Species as a whole prefers dry, open grasslands.	This species was observed within a grassland area less than 1 mile away from the project during a biological survey conducted by SWCA for a different project. However, Sprague's pipits are unlikely to occur in the project area based on the absence of open, grassland habitat.	No impact
Thick-billed kingbird ( <i>Tyrannus crassirostris</i> )	NM E	Summer resident in extreme southwestern New Mexico, where it occupies riparian canyons with cottonwoods and Arizona sycamores ( <i>Platanus wrightii</i> ). Nests 30–65 feet high in Arizona sycamore, usually in a crotch near the tree trunk.	Unlikely to occur in the project area due to lack of riparian habitat.	No impact
Varied bunting ( <i>Passerina versicolor</i> )	NM T	This species is associated with desert canyons, thorn-scrub and riparian edge habitats within the extreme southern portion of New Mexico. A small breeding population has been located in canyons of Carlsbad Caverns National Park. Prefers nesting along washes or on slopes of dense shrubby vegetation.	Unlikely to occur in the project area due to lack of desert canyons, thorn-scrub and riparian edge habitats.	No impact
White-faced ibis ( <i>Plegadis chihi</i> )	BLM Sensitive	Uncommon in New Mexico, where it is found statewide during migration and as a (typically non-breeding) summer resident. Breeding recorded only at Tucumcari and at Stinking Lake in Rio Arriba County. Found in association with water. Generally seen in association with shoreline and marsh habitats adjacent to open water. Nesting colonies are located in shrubs and low trees or in dense standing reeds and tules near or in marshes. Forages along the water's edge or in fields.	Unlikely to occur in the project area due to lack of water bodies and marshes.	No impact
<b>Fish</b>				
Bigscale logperch (native population; <i>Percina macrolepida</i> )	NM T	Native to the Pecos River drainage, occurring mainly in and below Sumner Lake in De Baca County and between Lake McMillan (Eddy County) and the Texas state line. Smaller populations are found also near Santa Rosa, the Black River, and Willow Lake in Eddy County. Also introduced in Ute Lake in Quay County. The species' preferred habitat consists of strong, non-turbulent flows, but the species is also found in impoundments. Preferred substrate varies from silt to rubble on which the species spends much of its time resting.	Unlikely to occur in the project area due to lack of perennial water bodies.	No impact
Blue sucker ( <i>Cyprinostomus elongatus</i> )	NM E BLM Sensitive	Found in New Mexico in the Pecos River watershed downstream of Lake McMillan, including the lower Black River. It is absent in the Rio Grande where it occurred historically. Its primary habitat consists of deep river channels with runs and riffles. Also found in pools with moderate currents and in deep lakes.	Unlikely to occur in the project area due to lack of perennial water bodies.	No impact

Common Name (Species Name)	Status*	Range or Habitat Requirements	Potential for Occurrence in Project Area	Determination of Effect
Gray redhorse ( <i>Moxostoma congestum</i> )	NM E	Formerly occurred in the Rio Grande but now restricted to the Pecos River below Lake McMillan and to the Black River. In the Pecos River it is found mainly in Carlsbad Municipal Reservoir and at the confluence of the Pecos and Black Rivers (without being common at either location). Typical habitat consists of low-gradient streams with warm, usually clear waters. Adults most often occupy medium to large pools with cobble, gravel, silt, or sand bottoms. The young and juveniles tend to seek riffles and gravely runs and avoid densely vegetated areas.	Unlikely to occur in the project area due to lack of perennial water bodies.	No impact
Greenthroat darter ( <i>Etheostoma lepidum</i> )	NM T	Native to the Pecos River drainage of Chaves and Eddy Counties. Known to occur in particular at Blue Spring and its outflow stream, in the Pecos River between Lake McMillan and Avalon Reservoir, in the Rio Peñasco and Cottonwood Creek, and at Bitter Lake National Wildlife Refuge. Found in swift-flowing streams and springs, especially vegetated riffle areas with gravel and rubble substrates. Also occurs in clear ponded-water habitats including sinkholes and littoral areas of other lentic systems with wave action and aquatic vegetation rooted in a gravel substrate.	Unlikely to occur in the project area due to lack of perennial water bodies.	No impact
Headwater catfish ( <i>Ictalurus lupus</i> )	BLM Sensitive	Occurs in Texas, New Mexico, and Mexico. It is native to the Pecos drainage downstream of Sumner Reservoir and also occurs in the Middle Rio Grande Basin. Its habitat consists of clear temperate waters generally with a moderate gradient. Despite competition with the channel catfish ( <i>Ictalurus punctatus</i> ), has persisted in headwater streams and in fluctuating tailwaters of dams in the Pecos River.	Unlikely to occur in the project area due to lack of perennial water bodies.	No impact
Mexican tetra ( <i>Astyanax mexicanus</i> )	NM T	Species' distribution extends from eastern New Mexico and southern Texas southward along the Atlantic slope drainages of Mexico. In New Mexico restricted largely to Blue Spring and the Delaware River in Eddy County. Also found occasionally in the Pecos River below Lake McMillan. Occupies a variety of habitats but tends to school in pools and below swift areas in eddies. Found primarily in habitats with stenothermal flows (i.e., springs). Young-of-year present in shallow water near overhanging bank vegetation.	Unlikely to occur in the project area due to lack of perennial water bodies.	No impact
Pecos bluntnose shiner ( <i>Notropis simus pecosensis</i> )	USFWS T NM E	Still extant in the Pecos River from Fort Sumner to Artesia, although it has declined considerably in numbers since about 1950. Most common in main channel areas, with low-velocity water, depths of 7–12 inches, and a sandy substrate.	Unlikely to occur in the project area due to lack of perennial water bodies.	No effect
Pecos gambusia ( <i>Gambusia nobilis</i> )	USFWS E NM E	Endemic to the Pecos River Basin in southeastern New Mexico and western Texas. Natural populations still occur in New Mexico on the Bitter Lake National Wildlife Refuge and in the Salt Creek Wilderness Area (both in Chaves County), and in Blue Spring in Eddy County. Most common in heads and runs of springs, where it uses aquatic vegetation for refuge. Occupies ponds and gypsum sink holes on Bitter Lake National Wildlife Refuge and in Blue Spring, New Mexico. Associates in loose schools that spend much of the time near the surface. Inhabits shallow areas of alkaline waters with aquatic vegetation for cover.	Unlikely to occur in the project area due to lack of perennial water bodies.	No effect

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Pecos pupfish ( <i>Cyprinodon pecosensis</i> )	NM T	Occurs in saline springs and gypsum sinkholes at Bitter Lake National Wildlife Refuge and Bottomless Lakes State Park. Elsewhere, it is present irregularly in the Pecos River south from Bitter Lake and Bottomless Lakes south to the Texas state line and formerly in Laguna Grande in Eddy County. Typical habitat consists of saline springs and gypsum sinkholes; only rare in fresher water habitats including the main channel of the Pecos River. Found in backwater areas and side pools that lack sunfish or other predators. At Bitter Lake National Wildlife Refuge, numerous individuals were taken from waters in interstices of gravel from a pond drain with no surface flow.	Unlikely to occur in the project area due to lack of perennial water bodies.	No impact
Rio Grande shiner ( <i>Notropis jemezianus</i> )	BLM Sensitive	Occurs in the Rio Grande downstream of the confluence of the Rio Conchos but is extirpated from the Rio Grande in New Mexico. In the Pecos River in New Mexico, it currently persists from Old Fort State Park near Fort Sumner downstream to about Brantley Reservoir, including at Bitter Lake National Wildlife Refuge. Within occupied reaches of the Pecos River it is generally uncommon to rare. Rio Grande shiners occupy flowing water environment found large open rivers with laminar flows and a minimum of aquatic vegetation and larger streams with gravel, sand, or rubble bottoms.	Unlikely to occur in the project area due to lack of perennial water bodies.	No impact
<b>Mammals</b>				
Big free-tailed bat ( <i>Myctinomops macrotis</i> )	BLM Sensitive	This species is usually associated with high cliffs and rugged rock outcroppings, but it also roosts in buildings, under lava caves and sometimes tree holes. It is found in urban areas, agriculture, barren land, desert scrub, scrub-grassland, swamp and riparian scrub, juniper savannah, oak savannah, shortgrass plains, alkali sacaton grasslands, montane grassland, montane forest, evergreen forest, and marsh habitat.	Unlikely to occur in the project area due to lack of water source(s), which are associated with foraging habitat, and lack of roosting or breeding habitat (i.e., high cliffs, rock outcrops, caves, or trees).	No impact
Black-tailed prairie dog ( <i>Cynomys ludovicianus arizonensis</i> )	BLM Sensitive	Native to grasslands including short- and mixed-grass prairie, sagebrush steppe, and desert grasslands. Also known to occur in mesquite-creosote bush, grama-needlegrass, tarbush-creosote bush, and burrowgrass-cholla type habitats.	Unlikely to occur the in project area, which did not harbor any prairie dog colonies at the time of the biological surveys.	No impact
Cave myotis bat ( <i>Myotis velifer</i> )	BLM Sensitive	This species is found primarily at lower elevations occurring in shortgrass plains, scrub-grassland, Chihuahuan desert scrub, Sonoran desert scrub, Plains and Great Basin swamp and riparian scrub, pine-oak woodlands, and oak savannah. Inhabits caves in the limestone region of southeastern New Mexico, and it has also roosted in barn swallow ( <i>Hirundo rustica</i> ) nests. It is never more than a few miles from a water source, such as canals, tanks, or creeks.	Unlikely to occur in the project area due to lack of water source(s), which are associated with foraging habitat, and lack of roosting or breeding habitat (i.e., caves or barn swallow nests).	No impact
Fringed myotis bat ( <i>Myotis thysanodes thysanodes</i> )	BLM Sensitive	A mid-elevation bat that occurs primarily in piñon-oak woodlands and fir-pine forests where it uses caves, mines, and buildings as roost sites. Occasionally found in lowland chaparral habitat.	Unlikely to occur in the project area due to lack of water source(s), which are associated with foraging habitat, and lack of roosting or breeding habitat (i.e., caves, mines, and buildings).	No impact
Gray-footed chipmunk ( <i>Neotamias canipes canipes</i> )	BLM Sensitive	Mostly found in forested habitats such as piñon-juniper woodlands, but may also occur shrublands, and desert communities. It may occur in down and dead trees, dense stands of mixed timber, and on brushy hillsides, particularly in rock crevices.	Unlikely to occur in the project area due to lack of forested/woodland habitat, dead/downed trees, brushy hillsides, and rock crevices.	No impact

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Guadalupe pocket gopher ( <i>Thomomys bottae guadalupensis</i> )	BLM Sensitive	Found in sycamore, cottonwood, and rabbitbrush riparian communities in the Guadalupe Mountains of southeastern New Mexico and western Texas.	Unlikely to occur in the project area due to lack of riparian habitat. The project is outside the known range of the species.	No impact
Long-legged myotis bat ( <i>Myotis volans interior</i> )	BLM Sensitive	Primarily a forest species occurring in chaparral, alpine and subalpine grassland, coniferous forest, scrub-grassland, Chihuahuan desert scrub, swamp and riparian forests and scrub, saxicoline brush, oak savannah, and woodland, Mojave desert scrub, and upland Sonoran desert scrub. Also occurs along watercourses and in deserts.	Unlikely to occur in the project area due to lack of water source(s), which are associated with foraging habitat, and lack of roosting or breeding habitat (i.e., watercourses, riparian areas, swamps, alpine, subalpine, and forest habitat).	No impact
Pecos River muskrat ( <i>Ondatra zibethicus ripensia</i> )	BLM Sensitive	This species inhabits waterways that have a constant and fairly stable source of water with dense aquatic and emergent vegetation surrounded by terrestrial herbaceous vegetation. Common muskrats prefer sloughs, marshes, oxbow lakes, streams, levees, dikes, and small lakes and ponds. Common muskrats build lodges in or near water using marsh vegetation.	Unlikely to occur in the project area due to lack of perennial or intermittent drainage or wetlands.	No impact
Spotted bat ( <i>Euderma maculatum</i> )	NM T BLM Sensitive	In New Mexico, spotted bats have been taken in areas near cliffs, including piñon-juniper woodlands and from streams or water holes within ponderosa pine or mixed coniferous forest. It has also taken over cattle tanks in a meadow surrounded by mixed coniferous forest and near a ridge with cliffs and limestone outcroppings. The spotted bat is usually captured around a water source including desert pools or cattle tanks. It also may use rivers or desert washes as travel corridors.	Unlikely to occur in the project area due to lack of water source(s), which are associated with foraging habitat, and lack of roosting or breeding habitat (i.e., cliffs, piñon-juniper woodlands, and ponderosa pine or mixed coniferous forests).	No impact
Townsend's pale big-eared bat ( <i>Corynorhinus townsendii pallescens</i> )	BLM Sensitive	Found in a variety of xeric to mesic habitats: scrub-grassland, desert scrub, semidesert shrublands, chaparral, saxicoline brush, tundra, open montane forests, spruce-fir, mixed hardwood-conifer, and oak woodlands and forests. This species is strongly correlated to the availability of caves or cave-like habitat, but it also uses abandoned buildings and rock crevices on cliffs for roosting.	Unlikely to occur in the project area due to lack of water source(s), which are associated with foraging habitat, and lack of roosting or breeding habitat (i.e., caves, cave-like habitat, abandoned buildings, and rock cliffs).	No impact
Western small-footed myotis bat ( <i>Myotis ciliolabrum melanorhinus</i> )	BLM Sensitive	This species is widely distributed in the western United States, and found in many habitat types. Occurs in riparian wooded areas, bare rock/talus/cliffs, grassland and shrublands, and coniferous or mixed woodland areas. Generally inhabits desert, badland, chaparral, western coniferous forests and semiarid habitats, more mesic habitats in southern part of range. In New Mexico, the distribution of this species seems to be in the ponderosa pine zone, although they occur as low as desert and as high as the lower edges of the spruce-fir zone.	Unlikely to occur in the project area due to lack of water source(s), which are associated with foraging habitat, and lack of roosting or breeding habitat (i.e., coniferous habitat, riparian woodlands, bare rock and cliff areas, and grasslands).	No impact
Yuma myotis bat ( <i>Myotis yumanensis yumanensis</i> )	BLM Sensitive	Occurs in riparian communities, grasslands, semi-desert shrublands, mountain brush, woodlands, and desert habitats. It also occurs in arid canyon lands and Sonoran desert scrub. The species is associated with riparian areas and watercourses in the western United States. Roosts in caves, mines, cliffs, crevices, buildings, and swallow nests, including cliff swallows ( <i>Petrochelidon pyrrhonota</i> ).	Unlikely to occur in the project area due to lack of water source(s), which are associated with foraging habitat, and lack of roosting or breeding habitat (i.e., riparian and grassland habitat).	No impact
<b>Reptiles</b>				
Arid land ribbonsnake ( <i>Thamnophis proximus</i> )	NM T	The arid land ribbonsnake is found in west Texas and southeast New Mexico. This snake is found primarily around water sources such as rivers, ponds, and stock tanks. This snake feeds primarily on small frogs.	Unlikely to occur in the project area due to lack of suitable water sources.	No impact

Common Name (Species Name)	Status*	Range or Habitat Requirements	Potential for Occurrence in Project Area	Determination of Effect
Dunes sagebrush lizard ( <i>Sceloporus arenicolus</i> )	NM E BLM Sensitive	A habitat specialist native to the shinnery oak sand dune habitats extending from the San Juan Mesa in northeastern Chaves County, Roosevelt County, and through eastern Eddy and southern Lea Counties. This species has an extremely strong affinity for bowl-shaped depressions in active dune complexes referred to as sand dune blowouts, with a preference for relatively large blowouts and select microhabitat within a given blowout. Within their geographic range, the presence of this species is also associated with composition of the sand; they only occur at sites with relatively coarse sand.	Unlikely to occur in the project area due to lack of sand dunes and sand dune blowouts.	No impact
Gray-banded kingsnake ( <i>Lampropeltis alterna</i> )	NM E	This species is known from Eddy County and may occur in Otero and southwest Chaves Counties. Occurs in typical Chihuahuan desert habitat with abundant limestone outcroppings between 3,510 and 6,693 feet in elevation. Inhabits a variety of habitats, but found primarily in rocky desert hills at medium elevations. Habitat appears to be restricted to steep to precipitous hills and mountains between approximately 3,937–5,741 feet in elevation (below the juniper zone). This species could be expected to occur throughout the limestone broken rock-Lozier association in Otero, Eddy, and southwestern Chaves Counties in New Mexico.	Unlikely to occur in the project area due to lack of limestone outcrops in mid-elevation montane habitats.	No impact
Mottled rock rattlesnake ( <i>Crotalus lepidus lepidus</i> )	NM T	This subspecies of rattlesnake is known only from the southern Guadalupe Mountains in Eddy and possibly Otero Counties. Key habitat areas include Walnut and Gunsight Canyons and Carlsbad Caverns National Park. Rock rattlesnakes usually occur between 3,937 and 8,530 feet in elevation in New Mexico. This snake is found in a variety of habitats, including pine-oak forests, mesquite-grasslands, and rocky desert habitats. Is primarily a mountain dweller, but also occurs in bordering lowlands in some areas. This species favors areas of boulders and rocks including talus slopes with their abundant hiding places.	Unlikely to occur in the project area due to lack of mountain habitat.	No impact
Plain-bellied watersnake ( <i>Nerodia erythrogaster</i> )	NM E	In New Mexico this snake is known only from the lower Pecos Valley area (Eddy County), including along the Black River. The plain-bellied watersnake is a highly aquatic species, swimming and diving with ease, and seeking prey in water. Normally confined to areas of permanent water, it may wander short distances inland, especially in wet weather. The preferred habitat is ponds and streams, the latter including fairly large rivers. This snake often hides under rocks or other objects during the day and becomes active at night. The young tend to occupy areas of shallower, more dappled water than the adults, including in inlets of small streams.	Unlikely to occur in the project area due to lack of aquatic habitat.	No impact
Texas horned lizard ( <i>Phrynosoma cornutum</i> )	BLM Sensitive	Inhabits arid and semiarid areas in the southwestern United States, characterized by open country with little vegetation. These areas often consist of grasses interspersed with cacti, yucca, mesquite, and other assorted woody shrubs and trees. In New Mexico, the species is associated with <i>Yucca-Prosopis-Ephedra</i> and <i>Larrea-Acacia-Fouquieria</i> habitat associations often in playas or on bajadas and mountain foothills.	May occur in the project area due to presence of open mesquite vegetation community.	See subsection below

Common Name (Species Name)	Status*	Range or Habitat Requirements	Potential for Occurrence in Project Area	Determination of Effect
Rio Grande cooter ( <i>Pseudemys gorzugi</i> )	NM T	This turtle is confined to the Pecos River drainage, including the Pecos, Black, and Delaware Rivers below Brantley Dam in Eddy County. All of the rivers listed above constitute key habitat areas for the species. Primarily a stream species occurring from 2,953–3,610 feet, preferring waters with slow to moderate current, firm bottoms, and abundant aquatic vegetation. Also inhabits stock tanks, ponds, large ditches, and even brackish tidal marshes. In New Mexico, most records are from streams with relatively clear water and rocky or sandy bottoms. Nests of this species are located in sandy soil, usually within 100 feet of the water.	Unlikely to occur in the project area due to lack of aquatic habitat.	No impact
<b>Invertebrates</b>				
Ovate vertigo snail ( <i>Vertigo ovata</i> )	NM T	The only known population in New Mexico is found at and near Blue Spring south of Carlsbad in Eddy County. It occurs within a few meters of the brook issuing from Blue Spring, on damp soil under the shelter of dead tree branches. The species typically occur within close proximity of ponds, streams, and spring outflows; on living and dead vegetation, organic debris, and damp or muddy soils.	Unlikely to occur in the project area due to lack of aquatic habitat. Project is also not located near Blue Springs.	No impact
Pecos springsnail ( <i>Pyrgulopsis pecosensis</i> )	NM T BLM Sensitive	This species is endemic to southeastern New Mexico, known only from Blue and Castle Springs in Eddy County. It occurs on a mud and pebble substrate in its spring habitat, mainly along the edges of the water. Found on pebbles, gypsum silt, and to a lesser extent mud and submerged vegetation in a high volume spring and spring run and associated marsh. The water is gypsum rich.	Unlikely to occur in the project area due to lack of aquatic habitat. Project is also not located near Blue and Castle Springs	No impact
Texas hornshell ( <i>Popenaias popeii</i> )	USFWS C NM E	Appears to be confined to the Pecos River near Carlsbad, with former occurrences of this mussel in the North Spring River (Chaves County) and in the Black River (Eddy County). Associated with larger streams and a variety of substrates. Imbeds itself in softer bottoms, but lodges itself in cracks and crevices, where it is probably immobile.	Unlikely to occur in the project area due to lack of aquatic habitat.	No impact

\*Federal (USFWS) status: E = Endangered, T = Candidate, C = Candidate, ENEP = Experimental, Non-Essential. New Mexico State status: NM E: Endangered, NM T = Threatened.

Except where otherwise noted, range or habitat information for wildlife species is taken from the BISON-M website (BISON-M 2015), USFWS IPaC System (USFWS 2015), NatureServe (2015), and Carron (2010).

## 6 EFFECTS ANALYSIS

### 6.1 FEDERALLY THREATENED, ENDANGERED, CANDIDATE, AND PROPOSED SPECIES

For the project area, the USFWS (2015) IPaC database lists five endangered species, five threatened species, one experimental population, non-essential species, and four candidate species. Based on current distribution and habitat requirements, one of these species has the potential to occur in the project area: LPC. Species that are unlikely to occur in the project area are discussed in Table 5.1 and are not further evaluated in detail.

#### 6.1.1 LESSER PRAIRIE-CHICKEN

The USFWS has filed an appeal to reverse the September 2, 2015, court decision to remove the LPC from listing under the ESA (U.S. District Court, Western District of Texas 2015). The court of appeals decision could reverse the District Court decision, whereby the LPC would remain listed under the ESA as a threatened species. This species is currently being treated as a candidate species by the USFWS and is included in Table 5.1 pending the court of appeals decision and also because the LPC is a BLM sensitive species.

#### Status and Distribution

The LPC is a medium-sized grouse that occurs in scattered populations in the southern Great Plains (New Mexico Partners in Flight [NMPIF] 2015). It does not migrate (Bidwell et al. 2002). The range of LPCs has reduced by approximately 92% over the past century (Crawford 1980; NMPIF 2015). Current distribution is disjunctive, with a distinct gap between the southeastern Colorado, southwestern Kansas, western Oklahoma, eastern Texas panhandle population and the eastern New Mexico, western Texas population (NMPIF 2015). The species is estimated to occupy less than 50% of its historical range in New Mexico (Bailey and Williams 2000). In New Mexico, the primary populations occur in north Lea and south Roosevelt Counties, with sparse and scattered populations occurring in portions of northeastern Chaves, Curry, northern Roosevelt, eastern De Baca, and southern Quay Counties. In southern Lea County, the species is considered nearly extirpated, and in 2005, a single known lek was reported in this area (NMPIF 2015). Two additional leks were known to occur in southern Lea County as recently as 2009 (Southern Great Plains Crucial Habitat Assessment Tool 2013).

#### Habitat Characteristics

The LPC occurs in scattered populations in short-grass and mixed grass prairies, shinnery oak (*Quercus havardii*) grasslands, and sand sagebrush grasslands of the southern Great Plains. In New Mexico, LPC habitat consists of vegetation communities dominated by shinnery oak and several species of bluestem (*Andropogon* sp.), grama, and dropseed (*Sporobolus* sp.) grasses. In ungrazed or lightly grazed areas, native tallgrass species such as sand bluestem (*Andropogon hallii*) may grow higher than the relatively low shinnery oak canopy (NMPIF 2015).

In general, nesting habitat for LPC typically consists of low shrub cover and high grass and forb cover, interspersed with patches of short vegetation. Nesting habitat in New Mexico has been observed in areas of shinnery oak–tallgrass habitat where patches containing the most sand

bluestem in a 10-foot-diameter area occur around the nest, with sand bluestem clumps serving as nesting cover. LPCs avoid nesting in mesquite and shortgrass-dominated areas where sand bluestem is absent (Davis et al. 1979; Riley et al. 1992; Davis et al. 2008). Although tall grasses are crucial for nesting cover, shrub cover is also a crucial component of good LPC nesting habitat in New Mexico. Successful nest sites in Chaves County were located in patches where vegetation was roughly 65% grasses and 30% shinnery oak (NMPIF 2015).

The LPC's diet consists of insects, seeds, and green leafy material (Bidwell et al. 2002). Males congregate for displays on leks, or gobbling grounds, in open areas where grass is short during the spring. At these lek sites males gather in groups and perform mating displays for female LPCs (NMPIF 2015). Most hens visiting the leks mate with dominant males that hold central territories of the leks. After mating, the hen selects a nest site on the ground in areas with few predators (e.g., away from water) and usually within 1 mile of the lek. Clutch size is typically 11 to 14, and incubation lasts 23 to 28 days. The hen moves her brood away from the nest within hours of hatching. The brood is moved into areas of early-stage plant succession, where insects are abundant (NMPIF 2015). The brood remains with the hen for 8 to 10 weeks before dispersing (Bidwell et al. 2002).

### **Conservation Threats**

The main threat to the species consists of habitat loss and fragmentation due to agricultural land conversion, livestock grazing, and oil and gas development (Woodward et al. 2001; Fuhlendorf et al. 2002; Hunt and Best 2004; USFWS 2010).

In New Mexico, livestock grazing is the predominant land use across the species' range, which plays a major role in determining habitat quality (NMPIF 2015). Landscapes in which more than 37% of native rangeland has been lost may be incapable of supporting LPCs. Populations have declined in areas with only 20% rangeland conversion (Taylor and Guthrie 1980; USFWS 1998b). Grazing can result in insufficient residual grass cover for successful nesting and it can lower recruitment by reducing the availability of good nesting and brood-rearing habitat. These effects could cause population declines (USFWS 1998b; Bidwell et al. 2002; Jamison et al. 2002). Improper or excessive use of herbicides in LPC habitat that is used to control shinnery oak and improve livestock forage may result in the loss of an important source of food and protective cover for LPCs (Giesen 1998; Bidwell et al. 2002).

In some areas of New Mexico, the spread of mesquite or other drought-tolerant shrubs has altered or reduced habitats preferred by LPC (NMPIF 2015).

Oil development may play a role in the previous abandonment of a number of historically active lek sites in the Carlsbad area. Preliminary data over a 2-year period showed that inactive lek sites were exposed to higher ambient sound levels than active sites (Hunt and Best 2002). The study also reported that a significantly higher number of operating wells are located within 1 mile of inactive than active lek sites (NMPIF 2015).

A growing body of evidence suggests that LPCs actively avoid areas of human activity, noise, and proximity to vertical elements (such as trees or power poles), particularly during nesting (Robel et al. 2004; NMPIF 2015). Predation on nests, chicks, and adult birds is by far the largest source of mortality for this species (NMPIF 2015). The introduction of trees, power lines, or other vertical

structures into prairie habitats provides hunting perches for raptors and may indirectly increase raptor predation on LPCs (Bidwell et al. 2002). Fences and power lines may also be a significant cause of direct mortality by collision (Bidwell et al. 2002).

### **Effects Analysis and Effects Determination**

The project area lies within the LPC Isolated Population Area (IPA), a Special Status Species RMPA zoning area established by the BLM for LPC (BLM 2008). Conservation measures and other protective criteria have been developed for activities within the IPA and other RMPA zoning areas, which include following best management practices (BMPs) for construction, revegetation, and operations and maintenance (BLM 2008). Stipulations for activities in the LPC management area outlined in the RMPA include:

1. Timing and noise restrictions will be applied to prevent disruption of mating and nesting activities. All energy exploration and development activities will be prohibited from 3:00 to 9:00 a.m. during March 1 to June 15.
2. Exceptions to these timing requirements will be considered in emergency situations such as mechanical failures. Potential drill rig loss, drill rig scheduling, or the potential loss of a lease are not emergency situations. Exceptions will not be granted after March 15, or during the March 1 to 15 period if the BLM determines, on the basis of biological data or other relevant facts or circumstances, that the granting of an exception would disrupt LPC booming activity during the breeding season. Requests for exceptions on a non-emergency basis may also be considered, for the period of March 1 to June 15, but these exceptions will not be granted if the BLM determines that there is LPC habitat, LPC sightings, historic leks and or active leks within 1.5 miles of the proposed location, or any combination of the above mentioned criteria.

The project would result in the disturbance of up to 1.24 acres within the IPA.

Neither LPCs nor signs of this species (e.g., feathers, scat, tracks) were observed in the project area during the biological surveys. The project area does not contain suitable nesting or foraging habitat for the LPC. Shinnery oak and sand sagebrush in the project area is sparse, and there is a high density of shrubby vegetation. Photographs depicting habitat overviews are provided in Appendix A (Photographs A.1–A.4). Additionally, the habitat within and surrounding the project area has been disturbed by existing oil and gas infrastructure. As a result, individual LPCs are unlikely to occur in the area.

No long-term impacts to the LPC or its habitat are anticipated from the project. The project would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species. It is anticipated that the BLM may grant an exception to the timing and noise restrictions upon approval of the ROW grant.

## **6.2 OTHER CONSERVATION SENSITIVE SPECIES**

Other conservation sensitive species with the potential to occur in the project area are discussed in detail in this section. Species that are unlikely to occur in the project area are discussed in Table 5.1 and are not evaluated in detail in this section.

The project would result in the disturbance of up to 1.24 acres of habitat for the species described in Sections 6.2.1 through 6.2.4.

### **6.2.1 BURROWING OWL**

#### **Status and Distribution**

The burrowing owl is a BLM sensitive species and is also protected under the MBTA. The breeding range for this species is southern Canada, western United States, and Central America. During the non-breeding season, this owl species can be found in California, New Mexico, Arizona, and Central America (NatureServe 2015). In New Mexico, the majority of burrowing owls are migratory; however, some owls (mostly males) will over-winter in southern New Mexico (NMDGF 2007). The arrival time on breeding grounds in New Mexico is typically mid to late March until October (NMDGF 2007; Desmond 2010).

#### **Habitat Characteristics**

Burrowing owls are primarily associated with grasslands; however, other open habitats are used by the owl in New Mexico as elsewhere: desert scrub, savannahs, arroyos, agricultural lands, and urban and disturbed areas. Burrowing owls occupy burrows excavated by other mammals, which in New Mexico typically consist of black-tailed prairie dogs (*Cynomys ludovicianus*), Gunnison's prairie dogs (*C. gunnisoni*), American badgers (*Taxidea taxus*), ground squirrels (*Spermophilus* sp.), rock squirrels (*S. variegatus*), foxes (*Vulpes* sp.), and coyotes (*Canis latrans*) (NMDGF 2007; Desmond 2010).

#### **Conservation Threats**

In North America, the primary threats to burrowing owls consist of habitat loss and degradation from agricultural and urban land conversions and the control and extermination of burrowing mammals. In addition, the decline of top predators, such as coyotes, has increased small predator populations, such as foxes and badgers, which could be increasing predation on burrowing owls (NatureServe 2015).

#### **Effects Analysis**

During the biological surveys, no prairie dog (*Cynomys* sp.) colonies or burrowing owls were identified. One potentially suitable nest burrow was identified within the project and survey area. Evidence of previous burrowing owl use was not identified at the burrow entrance.

If feasible, vegetation removal associated with the project should occur outside the breeding season (March–October [NMDGF 2007]). Any vegetation removal during the breeding season would be preceded by a pre-construction nesting survey up to 2 weeks prior to vegetation removal to establish the occupancy status of the potentially suitable nesting burrow detected within the project area. If the burrow is active, a 200-meter avoidance radius would be established around the active nest site until the young have fledged. These pre-construction nest surveys should be conducted in accordance with the BLM CFO's burrowing owl survey guidance and recommendations. With the use of this mitigation, the project may impact habitat, but is not likely to result in a trend toward federal listing or loss of viability for this species.

### **6.2.2 *LOGGERHEAD SHRIKE***

#### **Status and Distribution**

The loggerhead shrike is a BLM sensitive species and is also protected under the MBTA. The species is a year-round resident of the southern half of the United States from California to the Carolinas, south of the Pacific slope and into the interior highlands of Mexico. Summer breeding populations extend into the northern United States, in the Midwest, and into south-central Canada (NMPIF 2015).

#### **Habitat Characteristics**

In New Mexico, loggerhead shrikes are usually associated with open country that contains short vegetation, with a preference for widely spaced shrubs and low trees interspersed with grasses, forbs, and bare ground. Breeding territories are often characterized by the presence of isolated trees and large shrubs, with dense, thorny shrubs being preferred for nesting and foraging. In desert areas, tall yucca stems are used as hunting perches. Presence of shrubs is critical to loggerhead shrike habitat where the species has access to thorns or barbed wire in which to impale its prey (NMPIF 2015).

#### **Conservation Threats**

The loggerhead shrike's long-term decline is not understood. The lack of knowledge on this species' decline has left it vulnerable and in need of careful monitoring (NMPIF 2015).

#### **Effects Analysis**

Suitable habitat is present within the project area for loggerhead shrikes. During the biological surveys, loggerhead shrikes were observed within the project area, but no nests indicative of the species were observed. If vegetation removal is scheduled to occur during the migratory bird breeding season (March 1–August 31), a nest survey would be conducted up to 2 weeks prior to vegetation removal and avoidance buffers around any occupied nests would be established (distances to be specified by the BLM CFO) until the young have fledged.

Due to the mobility of adult birds, it is unlikely that adult birds would be directly harmed by the project. Noise and visual disturbances associated with project construction could temporarily deter this species from utilizing the project area and immediate adjacent lands. Therefore, project impacts would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

### **6.2.3 *PAINTED BUNTING***

#### **Status and Distribution**

The painted bunting is a BLM sensitive species and is also protected under the MBTA. This bird species winters in northern Mexico and Central America and breeds in the southwestern United States from May through September (NMPIF 2015).

## **Habitat Characteristics**

Painted bunting habitat consists of open riparian and shrub areas. In New Mexico, this bunting species inhabits riparian areas and the surrounding grass and shrub habitats, with nesting taking place in open mesquite and other desert shrublands. Painted buntings may also utilize shelter belts and hedgerows adjacent to open fields and mesquite grasslands and orchards during the nesting season (NMPIF 2015).

## **Conservation Threats**

The painted bunting's long-term decline is not understood. The lack of knowledge on this species' decline has left it vulnerable and in need of careful monitoring (NMPIF 2015).

## **Effects Analysis**

There is suitable habitat throughout the general region that could be utilized by this species. This species could occur in the project area during migration and breeding seasons; no painted buntings were observed during the biological surveys. If vegetation removal is scheduled to occur during the migratory bird breeding season (March 1–August 31), a nest survey would be conducted up to 2 weeks prior to vegetation removal and avoidance buffers around any occupied nests would be established (distances to be specified by the BLM CFO) until the young have fledged.

Due to the mobility of adult birds, it is unlikely that adult birds would be directly harmed by the project. Noise and visual disturbances associated with project construction could temporarily deter this species from utilizing the project area and immediate adjacent lands. Therefore, project impacts would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

### ***6.2.4 TEXAS HORNED LIZARD***

#### **Status and Distribution**

The Texas horned lizard is a BLM sensitive species. This species occurs from the south-central United States to northern Mexico; the species' distribution encompasses most of Texas and Oklahoma, significant portions of Kansas and New Mexico, and southeastern Colorado and southeastern Arizona (Sherbrooke 2003; Stebbins 2003; Dixon 2013).

#### **Habitat Characteristics**

The Texas horned lizard inhabits arid and semiarid regions characterized by open vegetation communities and a variety of soils ranging from sandy to rocky soils at elevations from sea level to 6,900 feet amsl (Degenhardt et al. 1996; Sherbrooke 2003; Stebbins 2003; Dixon 2013). Open vegetation communities occupied by this lizard species typically includes grass, cactus, and scattered brush or scrubby trees (Degenhardt et al. 1996; Jones and Lovich 2009; BISON-M 2015). Texas horned lizards are active throughout the daytime; however, most activity takes place in the morning or late afternoon. When disturbed, their escape response is frequently to nearby vegetation or they will run away to an open area, stop, and remain motionless or cryptic (Degenhardt et al. 1996; Jones and Lovich 2009; Stebbins 2003).

## **Conservation Threats**

The primary threats to Texas horned lizards are fire ants (*Solenopsis* sp.), insecticides, loss of habitat, and over collection (BISON-M 2015; NatureServe 2015).

## **Effects Analysis**

The project area contains suitable habitat for this species; however, no Texas horned lizards were observed during the biological surveys. If Texas horned lizards are present in the project area during construction, they could avoid disturbance by moving to adjacent habitat. The project is not likely to adversely impact this species as long as the animals themselves are not intentionally harassed by construction crews. Prior to construction, all construction personnel would be instructed to avoid intentionally harassing all animals.

The NMDGF trenching guidelines (NMDGF 2003) should be followed to avoid accidental entrapment and mortality of Texas horned lizards (Appendix C). If it is not possible to avoid leaving trenches open overnight, escape ramps should be built in accordance with the guidelines. Prior to backfilling, a biological monitor should inspect the open trenches and any wildlife species found therein should be removed and relocated.

The project may impact individuals or habitat, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

## **6.3 MIGRATORY BIRD TREATY ACT**

Most bird species are protected by the MBTA. The MBTA implements various treaties and conventions between the United States and other countries for the protection of migratory birds. Under the MBTA, unless permitted by regulations, it is unlawful to 1) pursue, hunt, take, capture, or kill; 2) attempt to take, capture, or kill; and 3) possess, offer to or sell, barter, purchase, deliver, or cause to be shipped, exported, imported, transported, carried, or received any migratory bird, part, nest, egg, or product, manufactured or not. USFWS regulations broadly define *take* under MBTA to mean “pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect.” Under the MBTA, take does not include habitat loss or alteration.

During SWCA’s biological surveys, 12 bird species were observed or heard (see Table 4.2). Passerine nests used during a previous nesting season were identified within the project area (see Photograph A.5 in Appendix A). None were occupied at the time of the survey.

Up to 1.24 acres of suitable nesting habitat would be impacted by the project. If vegetation-clearing activities were to occur during the migratory bird nesting season (March 1–August 31), a pre-construction migratory bird nest survey would take place up to 2 week prior to vegetation removal within the project area. If active nests are located during the survey, avoidance buffers (as determined by the BLM CFO) would be established around occupied nests until the birds have fledged.

#### **6.4 BALD AND GOLDEN EAGLE PROTECTION ACT**

Bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) are protected under the MBTA and the Bald and Golden Eagle Protection Act (USFWS 2014a, 2014b). Bald eagles are found typically in association with water and nest and breed from October to July throughout the state. Golden eagles nest primarily on rock ledges or cliffs and occasionally in large trees at elevations ranging from 4,000 to 10,000 feet amsl. Golden eagles are typically found in mountainous regions of open country, prairies, arctic and alpine tundra, open wooded areas, and barren areas. Both bald and golden eagles are carnivores. Bald eagles prey on fish but also on mammals, especially prairie dogs. Golden eagles feed mainly on small mammals, as well as invertebrates, carrion, and other wildlife (Stahlecker and Walker 2010; BISON-M 2015).

No bald or golden eagles were observed during the biological surveys. Bald eagles are unlikely to occur in the project area due to the lack of water, trees, and preferred prey. Golden eagles could occur in the project area, especially outside the breeding season when they can perch on utility poles far from cliffs and other rugged terrain. The project is not anticipated to cause take of individual bald or golden eagles, their nests, or eggs.

## **7 CONCLUSION AND MITIGATION RECOMMENDATIONS**

### **7.1 FEDERALLY THREATENED, ENDANGERED, CANDIDATE, AND PROPOSED SPECIES**

One federal candidate species listed by the USFWS (2015) IPaC database has the potential to occur in the project area: LPC. The project area is located within the LPC IPA; however, the species is unlikely to occur in the project area because suitable nesting and foraging habitat is marginal. Mitigation measures for this species are described in Section 6.1.1. Therefore, it is unlikely that LPCs would be directly harmed by the Proposed Action.

### **7.2 OTHER CONSERVATION SENSITIVE SPECIES**

No State of New Mexico-listed species have the potential to occur in the project area, but four BLM CFO special status species do: burrowing owl, loggerhead shrike, painted bunting, and Texas horned lizard. The project would result in the disturbance of up to 1.24 acres of habitat for these sensitive species. A summary of species-specific effects and mitigation measures are provided here.

- **Burrowing owl:** During the biological surveys, no burrowing owls were identified within the project area. A potentially suitable nesting burrow is present within the project area. If construction takes place during the burrowing owl breeding-nesting season (March–October), a nest survey would be conducted up to 2 weeks prior to vegetation removal to establish the occupancy status of the potentially suitable nesting burrow. If the burrow is active, a 200-meter avoidance radius would be established around the active nest site until the young have fledged. These pre-construction nest surveys should be conducted in accordance with the BLM CFO’s burrowing owl survey guidance and recommendations. Therefore, it is unlikely that burrowing owls would be directly harmed by the project.
- **Loggerhead shrike and painted bunting:** During the biological surveys, loggerhead shrikes and no painted buntings were identified within the project area. Suitable nesting habitat is present for these bird species within the project area. If construction takes place during the breeding-nesting season (March 1–August 31), a nest survey would be conducted up to 2 weeks prior to vegetation removal and avoidance buffers around any occupied nests would be established (distances to be specified by the BLM CFO) until the young have fledged. Therefore, it is unlikely that these two bird species would be directly harmed by the project.

**Texas horned lizard:** During the biological surveys, no Texas horned lizards were identified within the project area. Suitable habitat is present within the project area. Prior to construction, all construction personnel would be instructed to avoid intentionally harassing all animals. The BMPs on pipeline burial (NMDGF 2003) should be followed in order to prevent accidental mortality resulting from entrapment. The pipeline burial BMPs are provided in Appendix C.

### **7.3 MIGRATORY BIRD TREATY ACT**

In general, no major or long-term effects on migratory birds are anticipated from the implementation of the project. Incidental mortality or displacement of migratory bird species is

possible on a local scale due to construction disturbance. However, many birds in the local area would move into adjacent habitats in response to habitat loss. Adult migratory birds would not likely be directly harmed by the project because of their mobility and ability to avoid areas of human activity.

As described in Section 6.3, nests were identified during the biological surveys. If feasible, vegetation removal associated with the project should occur outside the migratory bird breeding season (March 1–August 31). Any vegetation removal during the breeding bird season would be preceded by pre-construction nesting surveys up to 2 weeks prior to vegetation removal to identify any occupied nests and establish avoidance buffers until the young have fledged. As a result of the pre-construction nesting survey, no eggs, nestlings, or active nests are anticipated to be directly harmed by the project between March 1 and August 31.

Additionally, because of the abundance of similar habitat in the surrounding area, the impact to the bird populations that would utilize that habitat type within the project area would be low.

#### **7.4 BALD AND GOLDEN EAGLE PROTECTION ACT**

Activities in the project area are not expected to impact bald and golden eagles. Because the project area lacks suitable nesting habitat, the project is not anticipated to cause take of individual bald or golden eagles, their nests, or eggs. Adult eagles would not likely be directly harmed by the project because of their mobility and ability to avoid areas of human activity.

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**APPENDIX A.  
PHOTOGRAPHS**

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**Photograph A.1. Habitat overview facing north.**



**Photograph A.2. Habitat overview facing east.**



**Photograph A.3. View of sand sagebrush area facing east.**



**Photograph A.4. View of disturbed area within the project area, facing south.**



**Photograph A.5. View of typical passerine nest in the project area.**

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**APPENDIX B.  
PROJECT AREA SOILS**

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**BB – Berino complex, 0 to 3 percent slopes**

Berino soils make up 60% of the map unit, and Pajarito soils make up 25% of the map unit. The parent material for this map unit is mixed alluvium and/or eolian sands. The depth to a restrictive feature is more than 80 inches. This soil is well drained. The runoff classification for this soil is very low to low, and the capacity of the most limiting layer to transmit water is moderately high to high. The available water storage profile is moderate (about 8.0 inches). The frequency of flooding and ponding is none. The depth to water table is more than 80 inches. The maximum calcium carbonate equivalent is 40%. This soil is not classified as farmland of statewide importance, and it is non-irrigated land capability subclass 7e. This component is not a hydric soil. This map unit is typically associated with fan piedmont, interdunes, dunes, and plains landforms within loamy sand ecological sites from 3,000 to 4,200 feet amsl.

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**APPENDIX C.  
NMDGF PIPELINE BURIAL BMPS**

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## **TRENCHING GUIDELINES**

### **NEW MEXICO DEPARTMENT OF GAME AND FISH**

September 2003

Open trenches and ditches can trap small mammals, amphibians and reptiles and can cause injury to large mammals. Periods of highest activity for many of these species include nighttime, summer months and wet weather. Implementing the following recommendations can minimize loss of wildlife.

- Keep trenching and back-filling crews close together, to minimize the amount of open trenches at any given time.
- Trench during the cooler months (October – March). However, there may be exceptions (e.g., critical wintering areas) that need to be assessed on a site-specific basis.
- Avoid leaving trenches open overnight. Where trenches cannot be back-filled immediately, escape ramps should be constructed at least every 90 meters. Escape ramps can be short lateral trenches or wooden planks sloping to the surface. The slope should be less than 45 degrees (1:1). Trenches that have been left open overnight should be inspected and animals removed prior to backfilling, especially where endangered species occur.

On a statewide basis there are numerous threatened, endangered or sensitive species potentially at risk by trenching operations. Project initiators should seek county species list to evaluate potential impact of projects. Risk to these species depends upon a wide variety of conditions at the trenching site, such as trench depth, side slope, soil characteristics, season, and precipitation events.