

**A BIOLOGICAL SURVEY FOR PROPOSED
TEST DRILLING LOCATIONS AND ACCESS ROADS NEAR
LORDSBURG, HIDALGO COUNTY, NEW MEXICO**



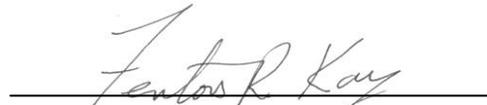
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1.0 ABSTRACT

On November 22-25, 2009, Zia Engineering & Environmental Consultants, LLC completed a biological survey on land administered by the Bureau of Land Management (BLM) in support of proposed test drilling locations and access roads to mud pits or sumps locations near Lordsburg, Hidalgo County, New Mexico. On April 20, 2010, additional surveys were conducted in support of alternative drill pads and access roads for reconnaissance areas B and E. The proposed project includes three drilling activities including 54 closed-spaced interval drilling locations, 11 reconnaissance drill locations, and approximately 9,800 feet (2,987 meters) of access roads to the drill locations. Approximately 200 acres (81 hectares) were surveyed. The evaluation was for the purpose of determining if the proposed action would impact species protected by the Endangered Species Act of 1973 or New Mexico State regulations or wetlands or jurisdictional waters of the United States. A concerted effort was made to determine the occurrence of night-blooming cereus (*Peniocereus greggii* var. *greggii*). The study was requested by Entrée Gold, Inc.

Threatened, endangered, or sensitive (TES) plant species were not observed in the survey areas. The proposed drilling and access roads would impact less than 100 acres (40.5 hectares) of montane grasslands and desert scrub of the Chihuahuan Desert. Of the TES species listed for Hidalgo County, the survey area appeared suitable for the following TES plant species: United States Fish and Wildlife Service (USFWS) species of concern, New Mexico endangered, and BLM sensitive Chihuahua scurf pea and night-blooming cereus and USFWS and New Mexico species of concern Orcutt pincushion cactus (*Escobaria orcuttii*). The project areas did not appear suitable for any other state or federally listed TES plant species for Hidalgo County (New Mexico Rare Plant Technical Council 1999 [NMRPTC]; USFWS 2009a).

TES wildlife species were not observed in the survey areas. Of the TES wildlife in Hidalgo County, the following may occur in the area: USFWS endangered and experimental population and New Mexico endangered aplomado falcon (*Falco femoralis septentrionalis*) and Mexican gray wolf (*Canis lupus baileyi*); New Mexico endangered, USFWS species of concern, and BLM sensitive gray-checked whiptail (*Aspidoscelis dixonii*); New Mexico endangered reticulate Gila monster (*Heloderma suspectum suspectum*), common ground-dove (*Columbina passerina pallescens*) and Arizona grasshopper sparrow (*Ammodramus savannarum ammodramus*); New Mexico threatened, USFWS species of concern, and BLM sensitive Baird's sparrow (*Ammodramus bairdii*); New Mexico threatened gray vireo (*Vireo vicinior*) and desert bighorn sheep (*Ovis canadensis mexicana*); USFWS species of concern and New Mexico and BLM sensitive pale Townsend's big-eared bat (*Corynorhinus townsendii pallescens*); USFWS species of concern and BLM sensitive burrowing owl (*Athene cunicularia hypugaea*); BLM sensitive Texas horned lizard (*Phrynosoma cornutum*) and ferruginous hawk (*Buteo regalis*); BLM and New Mexico sensitive loggerhead shrike (*Lanius ludovicianus excubitorides*), cave myotis bat (*Myotis velifer incautus*), fringed myotis bat (*M. thysanodes thysanodes*), long-legged myotis bat (*M. volans interior*), greater western mastiff bat (*Eumops perotis californicus*), western small-footed myotis bat (*M. ciliolabrum melanorhinus*), Yuma myotis bat (*M.*

yumanensis yumanensis); and New Mexico sensitive Botteri's sparrow (*Aimophila botterii arizonae*) and white-nosed coati (*Nasua narica*).

Designated critical habitat has been identified within Hidalgo County for the New Mexico ridgenose rattlesnake (*Crotalus willardi obscurus*), and is located 28 miles from the project areas. Critical habitat will not be impacted by the proposed action.

Impact to the known TES species from Hidalgo County is not anticipated. If these species were to enter the project area at the time of drilling, they would most likely avoid the area until drilling activities ceased. NMDGF has established guidelines for protection of wildlife during trenching operations (Appendix D). Entreé Gold, Inc. (2010) has proposed that the mud pits or sumps be surrounded by fencing and netting, and contain escape ramps. These measures would satisfy the requirements stated within the NMDGF trenching guidelines. The habitat in the survey area did not appear suitable for any state or federally listed endangered or threatened wildlife species that may occur in Hidalgo County (NMDGF 2010; USFWS 2010a) other than those listed above.

Migratory birds are known to pass through and nest within and adjacent to the project area. If drilling occurs during the nesting season (March through September), pre-drilling surveys would be conducted for active nests within the project area. Any active nests found should be marked and avoided until young have successfully fledged and left the nest. If roadways and drill pads are constructed outside of the nesting season, drilling activities would be able to continue throughout the year without the need for any additional migratory bird surveys.

Neither wetlands nor jurisdictional waters, as defined by the USACE, were identified within the survey area.

New Mexico Class A, B, and C noxious weeds were not identified in the survey area.

2.0 INTRODUCTION

Upon request by Entrée Gold, Inc., Zia Engineering & Environmental Consultants, LLC (Zia) completed biological surveys on land administered by the Bureau of Land Management (BLM) in support of proposed test drilling, drill pads, and development of access roads by Entrée Gold, Inc. to possible exploration locations near Lordsburg, Hidalgo County, New Mexico. The proposed project includes three drilling activities including 54 closed-spaced interval drilling locations, 11 reconnaissance (Recon) drill locations, and approximately 9,800 feet (2,987 meters) of access roads to the drill locations (Recon Areas A through I). For consistency with the cultural resources survey, the biological team surveyed the area with a 100-foot (30.5-meter) buffer around the outside of the outermost close-space drill pad and access road to ensure complete coverage. Due to the close proximity of the close-spaced drill locations and access roads except for one, Zia opted to survey the entire close-spaced drilling area for biological resources. The surveyed areas consisted of approximately 200 acres (81 hectares [ha]). It is anticipated that less than 100 acres (40.5 ha) will be impacted by exploration activities and access roads. The project area falls within the following legal descriptions (Appendix A, Figures 1-2):

Table 1. Project Area Legal Descriptions

Area	Township	Range	Section	Quarter	Quarter	Quarter
Close-spaced Drill Locations and Drill Location 31	23S	18W	7	S ½	SE	SW
	23S	18W	7	S ½	SE	SE
	23S	18W	7	SE	SW	SW
	23S	18W	18	All	NW	NW
	23S	18W	18	All	NE	NW
	23S	18W	18	All	NW	NE
	23S	18W	18	NE	SW	NW
	23S	18W	18	All	SE	NW
	23S	18W	18	N ½	SW	NE
Recon Area A	23S	18W	18	SE	SE	SW
Recon Area B and access road	23S	18W	20	SE	SW	NW
	23S	18W	20	SW	SE	NW
Alternative B (surveyed 4-20-10)	23S	18W	20	SE	NW	NW
Recon Area C	23S	18W	19	SW	SE	NE
Recon Area D	23S	18W	20	SW	NW	SW
Recon Area E and access road	23S	18W	20	E ½	SE	NW
	23S	18W	20	NW	SW	NE
Alternative E (surveyed 4-20-10)	23S	18W	20	S ½	NE	NW
Recon Area F and access road	23S	18W	18	SW	NW	SE
Recon Area G	23S	19W	24	NW	SW	NW
Recon Area H and access road	23S	19W	25	NW	NE	NW
Recon Area I	23S	19W	24	NE	SW	NE

2.1 Purpose

The purpose of this assessment was to both provide a biological inventory of the project area and to determine if the project area contained species, sensitive habitats, or wetlands and jurisdictional waters protected by the following governing acts. In response to a request by BLM, the survey also included an intensive search for night-blooming cereus (*Peniocereus greggii greggii*), a BLM-sensitive, New Mexico endangered, and USFWS Species of Concern plant species.

Endangered Species Act of 1973, New Mexico Wildlife Conservation Act of 1978, and other agency regulations

Protection varies depending upon the state or federal listing status of each species. An endangered listing provides federal and/or state protection for any species in danger of extinction throughout all or a significant portion of their range. A threatened listing provides protection for species which are likely to become endangered within the foreseeable future through all or a significant portion of their range. Take of federally listed or state listed endangered or threatened species may result in fines and imprisonment if the action occurs without appropriate permits. Federal Species of Concern (SOC) are included for planning purposes only, and include taxa for which further information is needed to resolve their conservation status. Federal SOC are also often listed by the state or other agencies as Sensitive or SOC. Sensitive species are those for which an agency (New Mexico Game & Fish Department [NMDGF], Bureau of Land Management [BLM], USFWS) has conservation concerns and recommends avoidance of unnecessary impacts to the species on lands managed by that agency. Legal protection does not extend to SOC or sensitive species, but failure to consider those species in project planning may result in project delays. Protection is warranted only to keep the population from becoming legally listed as threatened or endangered. Extirpated species (by USFWS and NMDGF) are no longer known to occur in areas that they previously inhabited, but in some cases may actually occur or there is potential to re-establish them. Candidate species are those for which data has been presented to USFWS in support their being listed as threatened or endangered, but the process of listing has not yet gone to completion or is on hold for various reasons.

Migratory Bird Treaty Act of 1918

Section 703 of the Migratory Bird Treaty Act (MBTA) states, "Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or eggs of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof, included in the terms of the conventions between the

United States and Great Britain for the protection of migratory birds concluded August 16, 1916 (39 Stat. 1702), the United States and the United Mexican States for the protection of migratory birds and game mammals concluded February 7, 1936, the United States and the Government of Japan for the protection of migratory birds and birds in danger of extinction, and their environment concluded March 4, 1972 and the convention between the United States and the Union of Soviet Socialist Republics for the conservation of migratory birds and their environments concluded November 19, 1976.”

Clean Water Act (CWA)

The CWA provides for protection of wetlands and jurisdictional waters of the United States by the U.S. Army Corps of Engineers (USACE) and the Environmental Protection Agency (EPA) as defined in sections 404 and 401.

Noxious Weed Act of 1963

Under the New Mexico Territorial Laws Chapter 76 Article 7, the Noxious Weed Act of 1963 maintains how noxious weeds are to be managed throughout the state. Noxious weeds within New Mexico are distinguished within a class ranking system where Class A are those species currently not present or having a limited distribution in the state, Class B are those species limited to portions of the state, and Class C are those species that are widespread throughout the state. Management decisions differ between the classes and range from eradication to prevention to control. The New Mexico Department of Agriculture (NMDA) will provide best management practices if consulted.

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3.0 METHODS

Zia personnel, Leah R. Markiewitz, Gill Sorg, Victor Gibbs, and Victoria Brown, completed a 100-percent pedestrian survey of the project site and assessed potential impacts to the natural environment on November 22-25, 2009. Additional surveys were conducted on April 20, 2010 for alternatives to reconnaissance areas B and E. The previously surveyed areas B and E contained culturally sensitive resources, and new locations were identified. Tom Watkins, Exploration Manager (Americas), with Entrée Gold Inc. met the survey team in the field, and alterations were made to the predetermined alternative reconnaissance area E roadway to avoid another cultural site that was located in the alternative’s planned roadway. Alternative reconnaissance area B did not require any additional alterations while out in the field. Data locations were collected using a Garmin handheld GPS unit with 3-meter precision, and photographs were taken with a 5.1 megapixel digital camera. Leah R. Markiewitz completed the report with contributions from Jennifer K. Hyre, Robert Deitner, and Fenton R. Kay.

3.1 Identification of Plant and Wildlife Species

Transect surveys were used during the pedestrian survey to visually assess conditions throughout the entire project parcel. All plant and wildlife species encountered during the surveys were identified, and it was noted how often the species was observed. Consequent to the field surveys, species lists were compiled for use within this report and a qualitative estimate of abundance (Table 2) or frequency of species occurrence in the project area (Tables 4 and 5) was developed. Available information and input from BLM suggested that the area had a high potential for the occurrence of night-blooming cereus. A special effort was made to locate the cactus during the surveys.

Table 2: Qualitative Estimate of Species Abundance

Category	Plants	Wildlife
Abundant	Present in large numbers over most or all of the project area	Species or sign seen in great numbers throughout the entire project area.
Common	Easily found in most of the project area, or in high numbers in select areas	Species or sign easily found in most of the project area, or in the right habitat.
Uncommon	Present in isolated patches or small numbers	Species or sign present occasionally in the right habitat
Rare	1 or 2 individuals present.	Species sighted only once; is expected to inhabit area only very briefly; or is suspected only in a very limited area.

The investigations also included a survey for noxious weeds as designated by the NMDA and U.S. Department of Agriculture (USDA), and an evaluation of potential impacts to nesting birds protected under the MBTA. Observations of birds, nests, and potentially suitable nesting habitat were noted during the field surveys.

3.2 Identification of Listed Species

For this report, federal and state lists of threatened, endangered, and sensitive wildlife and plant species in Hidalgo County were examined (USFWS 2009a, NMDGF 2010; NMRPTC 1999). Locations of designated critical habitat for specific listed species was also examined (USFWS 2009c). The habitat requirements of listed species were compared to the habitat available at the proposed project location to identify potentially affected species. Species considered unlikely to occur, for which suitable habitat did not exist within the proposed project area, were removed from further consideration. If potential habitat for any listed species occurred in the survey area, further evaluation of the potential impacts of the proposed project on the species was conducted and recommendations made for impact avoidance. In order to improve the team's ability to identify night-blooming cereus during the survey period, several individual plants that were known to occur near Lordsburg were examined and photographed prior to beginning the field survey effort. Additional information about known species locations was obtained through the Natural Heritage New Mexico at the University of New Mexico (Appendix C, McCollough 2010).

3.3 Wetlands and Waterways

The investigation included an assessment of potential CWA, Section 404 jurisdictional waters, as defined by the United States Army Corps of Engineers (USACE), which could be impacted by the proposed project. If potential wetlands were identified, Zia preliminarily defined these wetlands according to the USACE Wetland Delineation Manual (USACE 1987).

4.0 SITE DESCRIPTION

The project area is located among the Pyramid Mountain range of the Low Mountains and Bajadas ecoregion of the Chihuahuan Deserts region (Griffith, et al 2006). The ecoregion includes disjunctive hills and mixed geology. The mountainous areas contain shallow soil, exposed bedrock, and coarse rocky substrates. The alluvial fans within the region consist of rubble, sand, and gravel at the base of the mountains and form bajadas, gently-sloping outwash areas that are frequently dissected by



Photograph 1. Large project area overview facing north

arroyos. Vegetation typical for the lower elevations includes mostly desert shrubs, such as sotol (*Dasyllirion wheeleri*), lechuguilla (*Agave lechuguilla*), yucca (*Yucca* spp.), ocotillo (*Cylindropuntia* spp.), lotebush (*Ziziphus obstusifolia*), tarbush (*Flourensia cernua*), and pricklypear (*Opuntia* spp.), with a sparse intervening cover of black grama (*Bouteloua eriopoda*) and other grasses (Griffith, et al 2006)

The survey area totaled approximately 200 acres (81 ha) of desert scrub and grasslands. It is anticipated that less than 100 acres (40.5 ha) will be impacted by exploration activities and access roads. The elevation within the proposed project area ranged between 3,900 feet (ft) (1,189 meters [m]) (Recon Area E) and 4,450 ft (1,356 m) (Recon Area G) above mean sea level. The project area contained disturbances from past and current exploration operations and maintenance of dirt roads.

4.1 Climate

The Lordsburg, New Mexico region tends to be arid through most of the year with average rainfall of approximately 12.2 inches (33.5 centimeters). Most rainfall occurs during August with approximately 2.3 inches (31.0 centimeters) of precipitation. The hottest month of the year is in June with an average high temperature of 98.1°F (36.7°C), and the coldest month of the year in January with an average low temperature of 25.1°F (-3.8°C). (IDcide.com 2009)

During the pedestrian survey between November 22-25, 2009, conditions were favorable: temperatures were between 38-62°F (3.3-16.7°C), skies were clear, winds were 5-22 miles per hour (8.0-35.4 kilometers per hour), and visibility was good. (wunderground.com 2009)

During the pedestrian survey on April 20, 2010, conditions were favorable. Temperatures were between 65-71°F (18-22°C). Skies were clear, and winds were between 6-18 miles per hour (10-29 kilometers per hour). Visibility was good. (wunderground.com 2010)

4.2 Soils

The project area contained two soils as mapped by the NRCS Web Soil Survey (USDA 2009). Specific soil types are noted in Table 3, and are described below.

Table 3. Soils within the Project Area

Soil Name	Location	Special Notes
Lehmans extremely rocky loam, 10 to 25 percent slopes	Throughout except Recon B and E, and their respective alternatives	No Prime Farmlands or Hydric Soils
Tres Hermanos gravelly clay loam	Recon B and E, and their respective alternatives	Farmland of Statewide Importance but not a Hydric Soil

Lehmans extremely rocky loam, 10 to 25 percent slopes

This soil contains 85 percent Lehman soil (10 to 25 percent slopes) that consists of well mixed alluvium derived from igneous and sedimentary rock and is found on hillslopes. Its natural drainage class is well drained, and it is neither flooded nor ponded. Its depth to a root restrictive layer, bedrock and/or lithic, is 10 to 20 inches, and water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very low, and its shrink-swell potential is high. There is no zone of water saturation within a depth of 72 inches. This soil does not meet hydric criteria.

Tres Hermanos gravelly clay loam

This soil contains 85 percent Tres Hermanos soil (0 to 3 percent slopes) that consists of mixed residuum weathered from igneous and sedimentary rock and is found on alluvial fans. Its natural drainage class is well drained, and it is neither flooded nor ponded. Its depth to a root restrictive layer is greater than 60 inches, and water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate, and its shrink-swell potential is low. There is no zone of water saturation within a depth of 72 inches. This soil does not meet hydric criteria.

According to the USDA, farmland of statewide importance is defined as, “the location and extent of the most suitable land for producing food, feed, fiber, forage, and oilseed crops. This identification is useful in the management and maintenance of the resource base that supports the productive capacity of American agriculture.” (USDA 2010b) The project area has not been designated as an agricultural area. The proposed action will not significantly impact the project area if the designation were to be changed by the BLM.

4.3 Plants

According to Dick-Peddie (1993), the project area is located in a region classified as montane grasslands. However, plants observed within the proposed project area are characteristic of desert scrub with intermixed grasslands. The vegetation within the survey area was dominated by creosotebush (*Larrea tridentata*) with grassland patches dominated by alkali sacaton (*Sporobolous airoides*) which differs from the plants described as characteristic of the ecoregion by Griffith (Table 3 and Appendix B, Photographs 16-29).

Table 4. Observed Plant Species

Scientific Name	Common Name	Abundance
Forbs		
<i>Acortia nana</i>	desert holly	Uncommon
<i>Cevallia sinuate</i>	stinging-serpent	Uncommon
<i>Descurainia sophia</i>	flixweed	Uncommon
<i>Dichelostema capitatum</i>	bluedicks	Rare
<i>Eriogonum sp.</i>	buckwheat	Rare
<i>Eschscholtzia californica</i>	Mexican poppy	Uncommon
<i>Evolvulus sp.</i>	morning-glory	Rare
<i>Gutierrezia sarothrae</i>	broom snakeweed	Common
<i>Ipomopsis longiflora</i>	blue trumpets	Rare
<i>Lupinus sp.</i>	lupine	Uncommon
<i>Malacothrix fendleri</i>	desert dandelion	Uncommon
<i>Oenothera brachycarpa</i>	desert evening primrose	Rare
<i>Phacelia caerulea</i>	sky-blue scorpion-weed	Uncommon
<i>Proboscidea sp.</i>	devil's-claw	Rare
<i>Rafinesquia neomexicana</i>	desert chickory	Common
<i>Rumex hymenosepalus</i>	sand dock	Common
<i>Senna bauhinioides</i>	two-leaf senna	Uncommon
<i>Solanum elaeagnifolium</i>	silverleaf nightshade	Uncommon
Shrubs		
<i>Acacia constricta</i>	white-thorn acacia	Uncommon
<i>Atriplex canescens</i>	fourwing saltbush	Uncommon
<i>Dasyllirion leiophyllum</i>	common sotol	Uncommon
<i>Ephedra trifurca</i>	longleaf ephedra	Uncommon
<i>Fallugia paradoxa</i>	Apache-plume	Rare
<i>Flourensia cernua</i>	tarbush	Uncommon
<i>Larrea tridentata</i>	creosotebush	Abundant
<i>Prosopis glandulosa</i>	honey mesquite	Uncommon
<i>Yucca baccata</i>	banana yucca	Uncommon
<i>Yucca elata</i>	soaptree yucca	Uncommon
Grasses		
<i>Aristida divaricata</i>	poverty threeawn	Common
<i>Bothriochloa laguroides</i>	silver bluestem	Uncommon
<i>Dasyochloa pulchella</i>	fluffgrass	Common
<i>Muhlenbergia porteri</i>	bush muhly	Common
<i>Pleuraphis mutica</i>	tobosa	Common
<i>Sporobolous airoides</i>	alkali sacaton	Common
Trees		
<i>Juniperus monosperma</i>	one-seed juniper	Rare
<i>Koeberlinia spinosa</i>	crucifixion thorn	Common
<i>Rhus microphylla</i>	littleleaf sumac	Rare
Cactus		
<i>Coryphantha vivipara</i>	spiny star	Rare

Scientific Name	Common Name	Abundance
<i>Cylindropuntia spinosior</i>	walking-stick cholla	Uncommon
<i>Echinocereus neomexicanus</i>	New Mexico hedgehog	Rare
<i>Ferocactus wislizeni</i>	fish-hook barrel-cactus	Uncommon
<i>Fouquieria splendens</i>	ocotillo	Uncommon
<i>Opuntia phaeacantha</i>	plains pricklypear	Rare
Vine		
<i>Ibervillea tenuisecta</i>	deer-apples	Rare

4.4 Wildlife

Several species of wildlife were observed within the project area and are noted in Table 5. Activity indicators of wildlife included rabbit scat, rodent burrows and middens, cow patties, snake vertebra, coyote (*Canis latrans*) bones and tracks of small mammals and birds. Bird nests were identified within or in close proximity to the survey areas.

Table 5. Observed Wildlife Species

Scientific Name	Common Name	Abundance
Birds		
<i>Amphispiza belli</i>	black-throated sparrow	Common
<i>Buteo jamaicensis</i>	red-tailed hawk	1
<i>Corvus cryptoleucus</i>	Chihuahuan raven	1
<i>Grus canadensis</i>	sandhill cranes	2 migrating flocks
Mammals		
<i>Lepus californicus</i>	black-tailed jackrabbit	Common
<i>Odocoileus hemionus</i>	desert mule deer	5
<i>Sylvilagus audubonii</i>	desert cottontail	Common

The project area contained several burrows and middens. Table 6 shows photos of burrow/midden types and locations where each type of burrow or midden was observed. Locations are given in WGS 84. Several burrows observed within the project area were potentially large enough to be used by burrowing owls. Although burrowing owls and/or their activity indicators were not observed during the survey, they have the potential to be located within the project area.

Table 6. Observed Burrows in Project Area

Location		Picture
Easting	Northing	
712864	3512864	 <p>Photograph 2. One large burrow</p>
712885	3576938	 <p>Photograph 3. One large burrow</p>
712977	3576841	 <p>Photograph 4. Rat midden examples</p>
713346	3577285	
713491	3577066	
713673	3577299	
713244	3576967	
713334	3576929	
713333	3576105	
714282	3574595	
711567	3573864	
711509	3573858	
712085	3575046	
712672	3577375	
713496	3576837	
713698	3577149	

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Location		Picture
Easting	Northing	
714643	3575106	 <p>Photograph 5. Approximately 10 small burrows in a cluster</p>
714921	3575160	 <p>Photograph 6. Approximately 15 small burrows in a cluster</p>
714814	3575143	 <p>Photograph 7. One large burrow</p>
714546	3575073	 <p>Photograph 8. One large burrow and several small in cluster</p>

Location		Picture
Easting	Northing	
713543	3576946	 Photograph 9. One large burrow
713571	3576929	 Photograph 10. Four large burrows (burrow cluster is indicative of a coyote or kit fox den)
713791	3577149	 Photograph 11. One large burrow

4.5 TES Species

Zia compared habitat available in the proposed project area with the habitat requirements for the listed TES plant and wildlife species that may occur in Hidalgo County. Of the species listed in Appendix C, those that may have suitable habitat within the project area are listed in the following TES plant and wildlife sections (Appendix C; NMDGF 2010, USFWS 2009a, NMRPTC 1999). Habitats for species listed in the following tables were assessed, and species that may be located within the project area or may be impacted by the proposed action were noted and evaluated further.

4.5.1 TES Plants

TES plant species were not observed during the pedestrian surveys. Although a special survey effort was made, night-blooming cereus was not found during the surveys. Of those species listed on the NMRPTC website, the project area did not contain suitable habitat for any TES plant species for Hidalgo County. Of the TES plants known to occur in Hidalgo County those that may have potentially suitable habitat, are known to utilize habitat located within the project area, or may be impacted by the proposed action within the project area are **bolded** in Table 7 and analyzed below. (USFWS 2009a)

Table 7. TES Plant Species

Scientific Name	Common Name	Status	Potentially Suitable Habitat Present?	Known Occupied Habitat Present?	Species Impacted by Action?
Plants					
<i>Arida blepharophylla</i>	gypsum hotspring aster	FWS-SOC; NM-SOC; BLM-S	No	No	No
<i>Astragalus cobrensis</i> var. <i>maguirei</i>	Maguire's milkvetch	FWS-SOC; NM-SOC	No	No	No
<i>Astragalus feensis</i>	Santa Fe milkvetch	FWS-SOC; NM-SOC	No	No	No
<i>Atriplex griffithsii</i>	Griffith's saltbush	FWS-SOC; NM-SOC; BLM-S	No	No	No
<i>Castilleja ornata</i>	swale paintbrush	FWS-SOC; NM-SOC; BLM-S	No	No	No
<i>Escobaria orcuttii</i>	Orcutt pincushion cactus	FWS-SOC; NM-SOC	Yes	No	No
<i>Hexalectris spicata</i> var. <i>arizonica</i>	Arizona coralroot	FWS-SOC; NM-E; BLM-S	No	No	No
<i>Limosella pubiflora</i>	Chiricahua mudwort	FWS-SOC; NM-SOC; BLM-S	No	No	No

Scientific Name	Common Name	Status	Potentially Suitable Habitat Present?	Known Occupied Habitat Present?	Species Impacted by Action?
<i>Pediomelum pentaphyllum</i>	Chihuahua scurf pea	FWS-SOC; NM-E; BLM-S	Yes	No	No
<i>Peniocereus greggii</i> var. <i>greggii</i>	night-blooming cereus	FWS-SOC; NM-E; BLM-S	Yes	No	No
<i>Phemeranthus humilis</i>	Pinos Altos fame flower	FWS-SOC; NM-SOC; BLM-S	No	No	No
<i>Puccinellia parishii</i>	Parish's alkali grass	FWS-SOC; NM-E; BLM-S	No	No	No
<i>Silene thurberi</i>	Thurber's campion	FWS-SOC; NM-SOC	No	No	No

FWS ~ U.S. Fish and Wildlife Service, BLM ~ Bureau of Land Management, NM ~ New Mexico, E ~ Endangered; T ~ Threatened; SOC ~ Species of Concern; S ~ Sensitive; (NMRPTC 1999; USFWS 2009a)

Escobaria orcuttii, Orcutt pincushion cactus

The Orcutt pincushion cactus is found in cracks in limestone or in rocky soils of broken mountainous terrain in Chihuahuan desert scrub, desert grassland, and oak woodland (NMRPTC 1999) which is similar to habitat observed during the pedestrian survey. However, the cactus is known to grow at elevations of 5,200-6,000 ft (1,600-1,800 m) which are outside the project area elevations. The species was not observed during the pedestrian survey, and will not be impacted by the proposed project.

Pediomelum pentaphyllum, Chihuahua scurf pea

The Chihuahua scurf pea is found within desert grassland or desert scrub among creosotebush or mesquite in sandy or gravelly loam soils within the elevations of 4,400-6,600 ft (1,350-2,000 m) (NMRPTC 1999). The desert scrub along containing creosotebush and mesquite were observed during the pedestrian survey. The known locations of this species are along the eastern portion of Hidalgo County. Although this species may contain suitable habitat within the project area, this species was not observed during the pedestrian survey.

Peniocereus greggii var. *greggii*, night-blooming cereus

The night-blooming cereus is found mostly in sandy to silty gravelly soils in gently broken to level terrain in desert grassland or Chihuahuan desert scrub (NMRPTC 1999). The pedestrian survey focused on this specific species for determining if the night-blooming cereus cactus was located within the project area. This species is known to grow in the vicinity of the project area, and the project area contained suitable habitat for optimal growth of the species. One individual plant known to occur within the vicinity was visited and analyzed prior to conducting the biological survey (Photograph 12).



Photograph 12. Night-blooming cereus used for comparison

A species specific request was made to the Natural Heritage New Mexico database at the University of New Mexico where they keep a database of known locations throughout New Mexico of sensitive species. The Natural Heritage database had no records of any locations within the project area. They did have one known location to the northwest and outside of the project area boundaries.

The night-blooming cereus was not observed during the pedestrian surveys. It is not expected that this species will be impacted by the proposed action.

4.5.2 TES Wildlife

TES wildlife species were not observed in the survey areas during the pedestrian surveys. Visual evidence of TES wildlife species (e.g. burrows, roosts, scat) was not observed in the survey area. Of the TES wildlife known to occur in Hidalgo County those that may have potentially suitable habitat, are known to utilize habitat located within the project area, or may be impacted by the proposed action within the project area are **bolded** in Table 8 and analyzed below.

Table 8. TES Wildlife Species

Scientific Name	Common Name	Status	Potentially Suitable Habitat Present?	Known Occupied Habitat Present?	Species Impacted by Action?
Invertebrates					
<i>Ashmunella hebardii</i>	Grande Hacheta woodlandsnail	FWS-SOC; NM-T; BLM-S	No	No	No
<i>Basilarchia archippus obsoleta</i>	Obsolete viceroy butterfly	FWS-SOC	No	No	No
<i>Gastrocopta dalliana dalliana</i>	shortneck snaggletooth snail	FWS-SOC; NM-T	No	No	No
<i>Limnebius aridus</i>	Animas minute moss beetle	FWS-SOC; BLM-S	No	No	No
Fish					
<i>Agosia chrysogaster</i>	longfin dace	BLM-S	No	No	No
<i>Catostomus clarki</i>	desert sucker	FWS-SOC; NM-S; BLM-S	No	No	No
<i>Catostomus insignis</i>	Sonora sucker	FWS-SOC; NM-S; BLM-S	No	No	No
<i>Gila robusta</i>	roundtail chub (lower Colorado River population)	FWS-SOC; NM-E; BLM-S	No	No	No
<i>Meda fulgida</i>	spikedace	FWS-T, CH; NM-E	No	No	No
<i>Tiaroga cobitis</i>	loach minnow	FWS-T, CH; NM-T	No	No	No
Amphibians and Reptiles					
<i>Aspidoscelis dixonii</i>	gray-checked whiptail	FWS-SOC; NM-E; BLM-S	Yes	No	No
<i>Aspidoscelis burti stictogrammus; xanthonotus</i>	canyon spotted whiptail	NM-T; BLM-S	No	No	No
<i>Bufo alvarius</i>	Sonoran desert toad	NM-T	No	No	No
<i>Crotalus lepidus lepidus</i>	mottled rock rattlesnake	NM-T	No	No	No
<i>Crotalus willardi obscurus</i>	New Mexico ridgenose rattlesnake	FWS-T, CH; NM-E	No	No	No
<i>Eumeces callicephalus</i>	mountain skink	NM-T	No	No	No
<i>Heloderma suspectum suspectum</i>	reticulate Gila monster	NM-E	Yes	No	No

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<i>Lampropeltis getula californiae</i>	California kingsnake	NM-S	No	No	No
<i>Phrynosoma cornutum</i>	Texas horned lizard	BLM-S	Yes	No	No
<i>Rana chiricahuensis</i>	Chiricahua leopard frog	FWS-T; NM-S	No	No	No
<i>Rana yavapaiensis</i>	lowland leopard frog	FWS-SOC; NM-E; BLM-S	No	No	No
<i>Sceloporus slevini</i>	Slevin's bunchgrass lizard	NM-T	No	No	No
<i>Senticolis triaspis intermedia</i>	green rat snake	NM-T	No	No	No
<i>Tantilla yaquia</i>	Yaqui blackhead snake	NM-S	No	No	No
<i>Thamnophis eques megalops</i>	Mexican garter snake	FWS-C; NM-E; BLM-S	No	No	No
<i>Thamnophis rufipunctatus rufipunctatus</i>	narrowhead garter snake	FWS-SOC; NM-T; BLM-S	No	No	No
Birds					
<i>Accipiter gentilis atricapillus; apache</i>	northern goshawk	FWS-SOC; NM-S; BLM-S	No	No	No
<i>Aimophila botterii arizonae</i>	Botteri's sparrow	NM-S	Yes	No	No
<i>Amazilia violiceps ellioti</i>	violet-crowned hummingbird	NM-T	No	No	No
<i>Ammodramus bairdii</i>	Baird's sparrow	FWS-SOC; NM-T; BLM-S	Yes	No	No
<i>Ammodramus savannarum ammolegus</i>	Arizona grasshopper sparrow	NM-E	Yes	No	No
<i>Athene cucularia hypugaea</i>	burrowing owl	FWS-SOC; BLM-S	Yes	No	No
<i>Buteo nitidus</i>	gray hawk	FWS-SOC; BLM-S	No	No	No

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<i>Buteo regalis</i>	ferruginous hawk	BLM-S	Yes	No	No
<i>Buteocallus anthracinus anthracinus</i>	common black-hawk	FWS-SOC; NM-T	No	No	No
<i>Calothorax lucifer</i>	Lucifer hummingbird	NM-T	No	No	No
<i>Calypte costae</i>	Costa's hummingbird	NM-T	No	No	No
<i>Camptostoma imberbe ridgwayi</i>	northern beardless tyrannulet	NM-E	No	No	No
<i>Caprimulgus ridgwayi ridgwayi</i>	buff-collared nightjar	NM-E	No	No	No
<i>Charadrius montanus</i>	mountain plover	FWS-SOC; NM-S	No	No	No
<i>Coccyzus americanus occidentalis</i>	yellow-billed cuckoo (western pop.)	FWS-C; NM-S	No	No	No
<i>Columbina passerina pallescens</i>	common ground-dove	NM-E	Yes	No	No
<i>Cynanthus latirostris magicus</i>	broad-billed hummingbird	NM-T	No	No	No
<i>Cypseloides niger borealis</i>	black swift	NM-S	No	No	No
<i>Empidonax traillii extimus</i>	southwestern willow flycatcher	FWS-E, CH; NM-E	No	No	No
<i>Falco femoralis septentrionalis</i>	aplomado falcon	FWS-E, EXPN; NM-E	Yes	No	No
<i>Falco peregrinus anatum</i>	peregrine falcon	FWS-SOC; NM-T	No	No	No
<i>Falco peregrinus tundrius</i>	Arctic peregrine falcon	FWS-SOC; NM-T	No	No	No
<i>Haliaeetus leucocephalus alascanus</i>	bald eagle	NM-T	No	No	No
<i>Hylocharis leucotis borealis</i>	white-eared hummingbird	NM-T	No	No	No
<i>Junco phaeonotus palliates</i>	yellow-eyed junco	NM-T	No	No	No

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Scientific Name	Common Name	Status	Potentially Suitable Habitat Present?	Known Occupied Habitat Present?	Species Impacted by Action?
<i>Lanius ludovicianus excubitorides</i>	loggerhead shrike	NM-S; BLM-S	Yes	No	No
<i>Megascops trichopsis asperus</i>	whiskered screech-owl	FWS-SOC; NM-T	No	No	No
<i>Melanerpes uropygialis uropygialis</i>	Gila woodpecker	NM-T	No	No	No
<i>Meleagris gallopavo mexicana</i>	Gould's wild turkey	FWS-SOC; NM-T	No	No	No
<i>Passerina versicolor versicolor; dickeyae</i>	varied bunting	NM-T	No	No	No
<i>Phalacrocorax brasilianus</i>	neotropic cormorant	NM-T	No	No	No
<i>Pipilo aberti aberti</i>	Abert's towhee	NM-T	No	No	No
<i>Strix occidentalis lucida</i>	Mexican spotted owl	FWS-T, CH; NM-S	No	No	No
<i>Trogon elegans canescens</i>	elegant trogon	NM-E	No	No	No
<i>Tyrannus crassirostris</i>	thick-billed kingbird	NM-E	No	No	No
<i>Vireo bellii arizonae; medius</i>	Bell's vireo	FWS-SOC NM-T	No	No	No
<i>Vireo vicinior</i>	gray vireo	NM-T	Yes	No	No
Mammals					
<i>Bassariscus astutus arizonensis; flavus</i>	ringtail	NM-S	No	No	No
<i>Canis lupus baileyi</i>	Mexican gray wolf	FWS-E, EXPN; NM-E	Yes	No	No
<i>Choeronycteris mexicana</i>	Mexican long-tongued bat	FWS-SOC; NM-S; BLM-S	Yes	No	No
<i>Conepatus leuconotus mearnsi; venaticus</i>	common hog-nosed skunk	NM-S	No	No	No
<i>Corynorhinus townsendii pallescens</i>	pale Townsend's big-eared bat	FWS-SOC; NM-S; BLM-S	Yes	No	No
<i>Cynomys ludovicianus ludovicianus</i>	black-tailed prairie dog	FWS-SOC NM-S	No	No	No

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Scientific Name	Common Name	Status	Potentially Suitable Habitat Present?	Known Occupied Habitat Present?	Species Impacted by Action?
<i>Eumops perotis californicus</i>	greater western mastiff bat	NM-S; BLM-S	Yes	No	No
<i>Lasiurus blossevillii</i>	western red bat	FWS-SOC; NM-S	No	No	No
<i>Lasiurus xanthinus</i>	western yellow bat	NM-T	No	No	No
<i>Leptonycteris curasoae yerbabuena</i>	southern long-nosed bat	FWS-E; NM-T	No	No	No
<i>Leptonycteris nivalis</i>	Mexican long-tongued bat	FWS-E; NM-T	No	No	No
<i>Lepus callotis gaillardi</i>	white-sided jack rabbit	FWS-SOC; NM-T; BLM-S	No	No	No
<i>Mephitis macroura milleri</i>	hooded skunk	NM-S	No	No	No
<i>Myotis ciliolabrum melanorhinus</i>	western small-footed myotis bat	NM-S; BLM-S	Yes	No	No
<i>Myotis thysanodes thysanodes</i>	fringed myotis bat	NM-S; BLM-S	Yes	No	No
<i>Myotis velifer incautus; brevis</i>	cave myotis bat	NM-S; BLM-S	Yes	No	No
<i>Myotis volans interior</i>	long-legged myotis bat	NM-S; BLM-S	Yes	No	No
<i>Myotis yumanensis yumanensis</i>	Yuma myotis bat	NM-S; BLM-S	Yes	No	No
<i>Nasua narica</i>	white-nosed coati	NM-S	Yes	No	No
<i>Nyctinomops macrotis</i>	big free-tailed bat	NM-S; BLM-S	No	No	No
<i>Panthera onca arizonensis</i>	jaguar	FWS-E	No	No	No
<i>Ovis canadensis mexicana</i>	desert bighorn sheep	NM-T	Yes	No	No
<i>Sigmodon ochrognathus</i>	yellow-nosed cotton rat	FWS-SOC; BLM-S	No	No	No

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Scientific Name	Common Name	Status	Potentially Suitable Habitat Present?	Known Occupied Habitat Present?	Species Impacted by Action?
<i>Sorex arizonae</i>	Arizona shrew	FWS-SOC; NM-E; BLM-S	No	No	No
<i>Spilogale gracilis</i>	western spotted skunk	NM-S	No	No	No
<i>Thomomys bottae mearnsi</i>	Mearns' pocket gopher	FWS-SOC; NM-S; BLM-S	No	No	No
<i>Thomomys umbrinus emotus</i>	southern pocket gopher	NM-T	No	No	No
<i>Vulpes vulpes fulva;</i> <i>macroura</i>	red fox	NM-S	No	No	No

FWS ~ U.S. Fish and Wildlife Service, BLM ~ Bureau of Land Management, NM ~ New Mexico (NMDGF 2010; USFWS 2009a)
E ~ Endangered; T ~ Threatened; SOC ~ Species of Concern; S ~ Sensitive; C ~ Candidate
EXPN ~ Experimental Population; CH ~ Critical Habitat designated

Amphibians and Reptiles

The project area contained habitat suitable for the Texas horned lizard, the reticulate Gila monster, and the grey-checked whiptail. None of these species were observed during the pedestrian survey. The grey-checked whiptail is known to occur in the Antelope Pass within the Peloncillo Mountains, approximately 30 miles southeast (Degenhardt, et. al. 1996), and seems to be confined to within three to five miles of that area (NMDGF 2010). This species will not be impacted by the proposed action. Although the project area contains habitat that is suitable for the reticulate Gila monster, its range appears to be on the east side of the Peloncillo Mountains and into Arizona and approximately 10 miles to the east of the project area (Degenhardt, et. al. 1996). Gila monsters may enter the project area; however, protective measures such as avoidance will ensure that the species will not be impacted by the proposed action. The Texas horned lizard probably will utilize the project area, but most likely will avoid drilling activities and not be impacted by the proposed action. Hand relocation of individuals to avoid impact may be done if this species is observed near drill pad sites or access road alignments. Critical habitat for the New Mexico ridgenose rattlesnake is found in the Animas Mountain range which is 28 miles south of the project area. Ridgenose rattlesnakes will not be impacted by the proposed action.

Birds

The project area and the immediate vicinity contained habitat suitable for the Botteri's sparrow, Baird's sparrow, Arizona grasshopper sparrow, burrowing owl, common ground-dove, aplomado falcon, ferruginous hawk, loggerhead shrike, and grey vireo. None of the listed species were observed during the pedestrian survey nor were nests observed. The Botteri's sparrow and the Arizona grasshopper sparrow may forage within the project area, but the project area does not contain ideal nesting habitats for either species. The Baird's sparrow may forage in the project area, but this species breeds in the northern states. The project area contained burrow mounds that could potentially house burrowing owls. There were no signs of burrowing owl activity observed during the pedestrian survey. The common ground-dove is locally abundant in Hidalgo County near agricultural areas which are located 24 miles southwest and 30 miles northwest of the project area. The aplomado falcon is known to utilize tall yuccas for nesting and perching. Although yuccas were observed in the project area, they were not of the height typically utilized by the aplomado falcon. Hidalgo County is a known historic range for the aplomado falcon, but the project area is not known to have any recent sightings or nesting. The ferruginous hawk may forage within the project area, but nesting locations are within the higher elevations in the vicinity of the project area. The loggerhead shrike may forage within the project area, but evidence of nesting was not observed. The grey vireo regularly breeds in woodland areas which were not observed within the project area. Existing sightings of this species noted that they were vagrants (NMDGF 2010). It is not anticipated that any of these species would be impacted by the proposed action, and if any of these species were to be within the project area during drilling, they would avoid the disturbance areas until drilling activity was complete.

Mammals

Habitat within and in the vicinity of the project area appeared suitable for the pale Townsend's big-eared bat, cave myotis bat, fringed myotis bat, long-legged myotis bat, greater western mastiff bat, western small-footed myotis bat, Yuma myotis bat, white-nosed coati, desert bighorn sheep, and Mexican gray wolf. The listed bat species may forage or pass through the project area, and would likely utilize open mines and caves found in the vicinity of the project area for roosting. Bats need a water source for foraging and drinking and no such source was observed within the project area. The white-nosed coati may pass through the project area, but it does not occupy the area regularly. Desert bighorn sheep may pass through the project area, particularly at Recon location G. Radio-collared sheep have been released southwest of the project area in the Peloncillo Mountains (NMDGF 2010). Hidalgo County is a historic range for the Mexican gray wolf, but the species has not been observed in the area for many years. The wolf has been released in the Gila National Forest and the Black Range both of which are far north of the project area (NMDGF 2010). If any of these species were to occur within the project area at the time of drilling, it is anticipated that they would avoid the drilling sites. If drilling occurs between dusk and dawn, impacts to foraging habits are not anticipated to occur.

4.5.3 TES Effect Determination and Rationale

For analysis purposes, this report has adopted the USFWS effect determinations and rationale for all potential TES plant and wildlife species, both federal and state listed species, which could utilize the project area. These species were previously highlighted in Tables 7 and 8. Effect determinations for each potential species (Table 9) were made utilizing the following definitions:

No effect (NE) – This determination is used when it is deemed that there will be no effect on the species in question as a result of the proposed action. It has been determined that “no suitable habitat” exists within the proposed project area for this species. In this situation, no further contact with responsible management agencies is required.

May affect, not likely to adversely affect (NLAA-d, -i, -b) – This determination is used when the proposed action includes effects that are beneficial (b), insignificant (i) or discountable (d). This type of effect requires informal Section 7 consultation with the USFWS and concurrence with the determination for federally listed species.

May affect, likely to adversely affect (LAA) – This determination is used when adverse effects cannot be avoided by the proposed action either directly or indirectly. In the event the overall effect of the proposed action is beneficial to the listed species, but also is likely to cause some adverse effects, the proper effect determination for the proposed action is “likely to adversely affect” the listed species.

Table 9. Determination of Effect of TES Species

Common Name	Concerned Agency	Determination	Rationale
Orcutt pincushion cactus	FWS-SOC; NM-SOC	NE	Suitable habitat was observed for this species; however, this species was not observed during the pedestrian survey and the elevation of the project area is not within the range of known locations for this species.
Chihuahua scurf pea	FWS-SOC; NM-E; BLM-S	NE	Suitable habitat was observed for this species; however, this species was not observed during the pedestrian survey. Known locations of this species are located on the eastern side of the county.
night-blooming cereus	FWS-SOC; NM-E; BLM-S	NE	Suitable habitat was observed for this species; however, this species was not observed during the pedestrian survey.
gray-checked whiptail	FWS-SOC; NM-E; BLM-S	NE	Suitable habitat was observed within the project area; however this species is known to be confined to a range of 3 to 5 miles within the Antelope Pass in the Peloncillo Mountains, approximately 30 miles southeast of the project area.

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Common Name	Concerned Agency	Determination	Rationale
reticulate Gila monster	NM-E	NE	Suitable habitat was observed within the project area; however the known range for this species is on the eastern slopes of the Peloncillo Mountains through Arizona and approximately 10 miles to the east of the project area. This species is not expected to occur within the project area.
Texas horned lizard	BLM-S	NE	Suitable habitat was observed within the project area but individual lizards were not observed during the pedestrian survey.
Botteri's sparrow	NM-S	NE	Suitable foraging habitat was observed within the project area, but the project area does not contain nesting habitat.
Baird's sparrow	FWS-SOC; NM-T; BLM-S	NE	Suitable foraging habitat was observed within the project area, but the project area does not contain ideal nesting habitat.
Arizona grasshopper sparrow	NM-E	NE	Suitable foraging habitat was observed within the project area, but the project area does not contain ideal nesting habitat.
ferruginous hawk	BLM-S	NE	Suitable foraging habitat was observed within the project area, but the project area does not contain ideal nesting habitat.
common ground-dove	NM-E	NE	Suitable habitat was observed within the project area, but individual doves were not observed. Known locations of this species are more than 20 miles away.
burrowing owl	FWS-SOC; BLM-S	NE	Suitable habitat for this species was observed. If the species is observed during project construction, mitigation measures provided by NMDGF should be used to prevent impacts to this species (Appendix D).
aplomado falcon	FWS-E, EXPN; NM-E	NE	Suitable foraging habitat was observed within the project area, but the project area does not contain ideal nesting habitat.
loggerhead shrike	NM-S; BLM-S	NE	Suitable habitat for this species was observed; however, individual species and nests were not observed during the pedestrian survey.
gray vireo	NM-T	NE	Suitable habitat was observed within the project area; however, individual species and nests were not observed during the pedestrian survey.
Mexican gray wolf	FWS-E, EXPN; NM-E	NE	Suitable habitat was observed within the project area, but no individuals were observed during the pedestrian survey. Known occurrences of this species are 30 or more miles north of the project area.
pale Townsend's big-eared bat	FWS-SOC; NM-S; BLM-S	NE	Suitable foraging but not roosting habitat present.

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Common Name	Concerned Agency	Determination	Rationale
greater western mastiff bat	NM-S; BLM-S	NE	Suitable foraging but not roosting habitat present.
western small-footed myotis bat	NM-S; BLM-S	NE	Suitable foraging but not roosting habitat present.
fringed myotis bat	NM-S; BLM-S	NE	Suitable foraging but not roosting habitat present.
cave myotis bat	NM-S; BLM-S	NE	Suitable foraging but not roosting habitat present.
long-legged myotis bat	NM-S; BLM-S	NE	Suitable foraging but not roosting habitat present.
Yuma myotis bat	NM-S; BLM-S	NE	Suitable foraging but not roosting habitat present.
white-nosed coati	NM-S	NE	Marginally suitable habitat was observed within the project area, but evidence of individuals of the species was not observed during the pedestrian survey.
desert bighorn sheep	NM-T	NE	Suitable habitat was observed within the project area but individuals of the species were not observed during the pedestrian survey.

4.6 Migratory Birds

Migratory birds are known to pass through and nest within and adjacent to the project area. If drilling occurs during the nesting season (March through September), pre-drilling surveys would be conducted for active nests within the project area. Active nests would need to be avoided during drilling and development of access roads. Nests indicative of black-throated sparrows were observed during the 2009 pedestrian survey (Table 10).

Table 10. Project Area Birds Nests

Location		Picture
Easting	Northing	
712970	3577175	 <p style="text-align: center;">Photograph 13. Black-throated sparrow nest in creosotebush</p>
712969	3577122	 <p style="text-align: center;">Photograph 14. Black-throated sparrow nest in creosotebush</p>

4.7 Wetlands and Jurisdictional Waters

Wetlands regulated under Section 404 of the CWA and as defined by the USACE (USACE 1987) were not identified in the survey areas. Jurisdictional waters as defined by the USACE were not identified within the project area. Several arroyos cut through the project area; however, they are intermittently flooded only during times of heavy rains. The project area is within a closed basin. Water flowing within these arroyos will not reach the Rio Grande or the Mimbres River.

Dominant vegetation observed within or adjacent to the proposed project area was reviewed for inclusion on the *USDA Wetland Indicator Status List for New Mexico in Region 7* (Arizona and New Mexico) (2010a). Wetland indicator plants were not identified.

4.8 Noxious Weeds

New Mexico Class A, B, and C noxious weeds were not identified in the survey areas.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 TES Species

5.1.1 TES Plants

The proposed drilling and access road development would impact less than 100 acres (40.5 ha) of desert scrub with intermixed grasslands. Of the plants listed for Hidalgo County, the project area contains suitable habitat for the Orcutt pincushion cactus, Chihuahua scurf pea and the night-blooming cereus. These species were not observed during the pedestrian surveys nor are expected to be impacted by the proposed action. The habitat in the survey area did not appear suitable for other state or federally listed endangered or threatened plant species that may occur in Hidalgo County.

5.1.2 TES Wildlife

During the pedestrian surveys, TES wildlife species were not observed within the project area. Suitable habitat within or near the vicinity of the project area was observed for Texas horned lizard, the reticulate Gila monster, the grey-checked whiptail, Botteri's sparrow, Baird's sparrow, Arizona grasshopper sparrow, burrowing owl, common ground-dove, aplomado falcon, ferruginous hawk, loggerhead shrike, grey vireo, pale Townsend's big-eared bat, cave myotis bat, fringed myotis bat, long-legged myotis bat, greater western mastiff bat, western small-footed myotis bat, Yuma myotis bat, white-nosed coati, desert bighorn sheep, and Mexican gray wolf. Impact to these species is not anticipated. If these species were to be present in the project area at the time of drilling, they would most likely avoid the area until drilling activities have ceased. Bat species would not be impacted since species would likely pass through the project area and avoid active disturbance activities. The habitat in the survey area did not appear suitable for other state or federally listed endangered or threatened wildlife species that may occur in Hidalgo County.

5.1.2.1 *TES Wildlife Recommendations*

For all trenching operations, the NMDGF trenching guidelines (Appendix D) should be followed to avoid impacts to wildlife species. 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 found alive therein should be removed and relocated. Mine closures such as those observed in the project area pictured in Photograph 15 would work well. Entreé Gold, Inc. (2010) has proposed that the exploration operations would be surrounded by fencing and netting, and contains escape ramps approved by the state of New Mexico which consists of expanded metal. This would satisfy the requirements stated within the NMDGF trenching guidelines.



Photograph 15. Current exploration operations

Additional protective measures such as avoidance to prevent impact to the reticulate Gila monster and the Texas horned lizard are requested by the BLM.

5.2 Migratory Birds

Migratory birds are known to pass through and nest within and adjacent to the project area. If drilling occurs during the nesting season (March through September), pre-drilling surveys would be conducted for active nests within the project area. Any active nests found should be marked and avoided until young have successfully fledged and left the nest. If roadways and drill pads are constructed outside of the nesting season, drilling activities would be able to continue throughout the year without the need for any additional migratory bird surveys.

5.3 Wetlands and Jurisdictional Waters

Wetlands and jurisdictional waters, as defined by the USACE, were not identified within the survey area.

5.4 Noxious Weeds

New Mexico Class A, B, and C noxious weeds were not identified in the survey area.

6.0 REFERENCES

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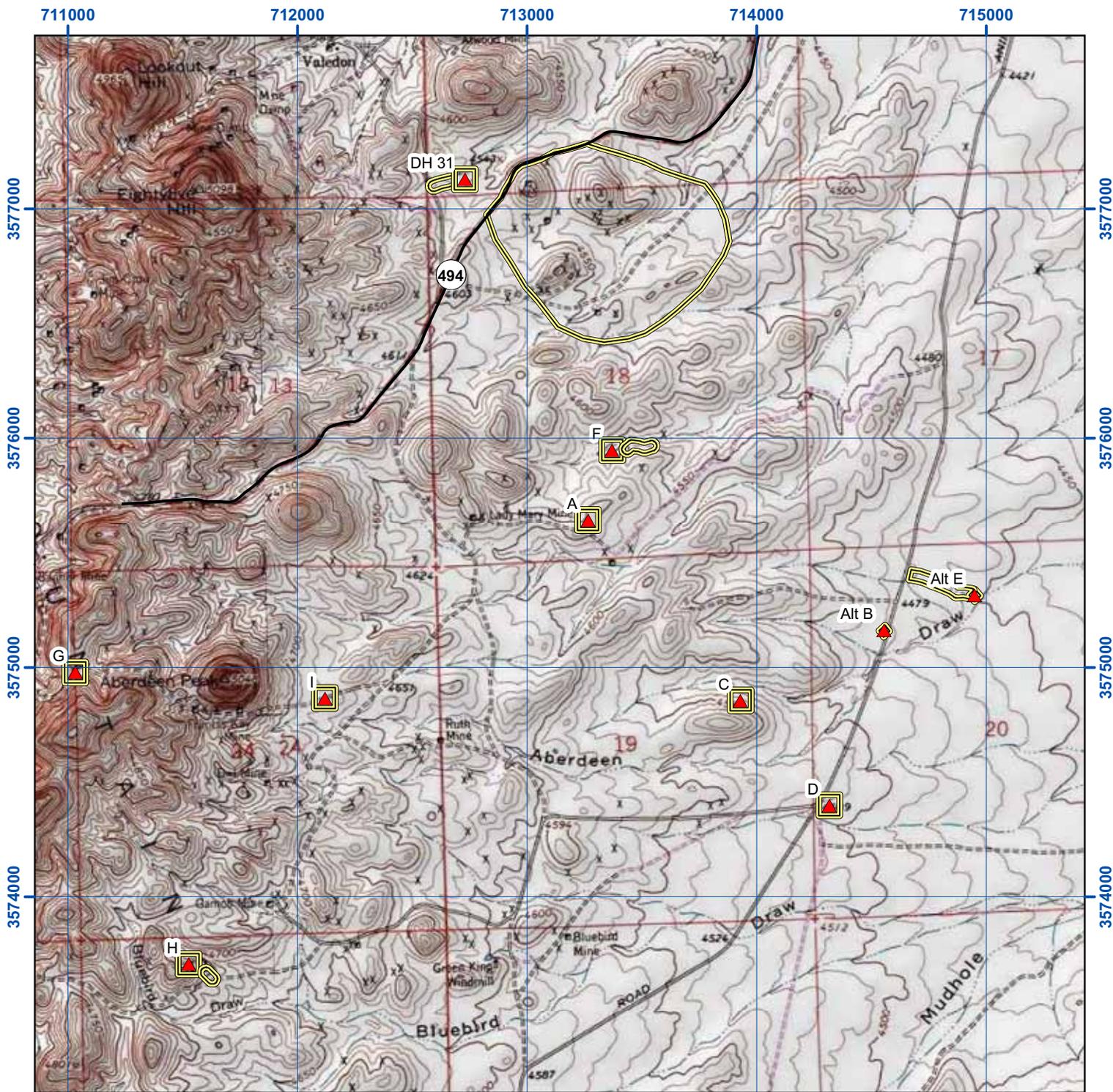
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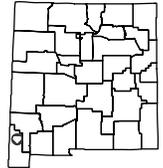
APPENDIX A
Project Area Maps

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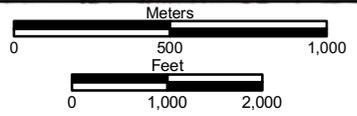
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 Test Drilling Locations and Access Roads
 Near Lordsburg, Hidalgo County, New Mexico
 LCE-10-002



Based in NGS_Topo_US_2D
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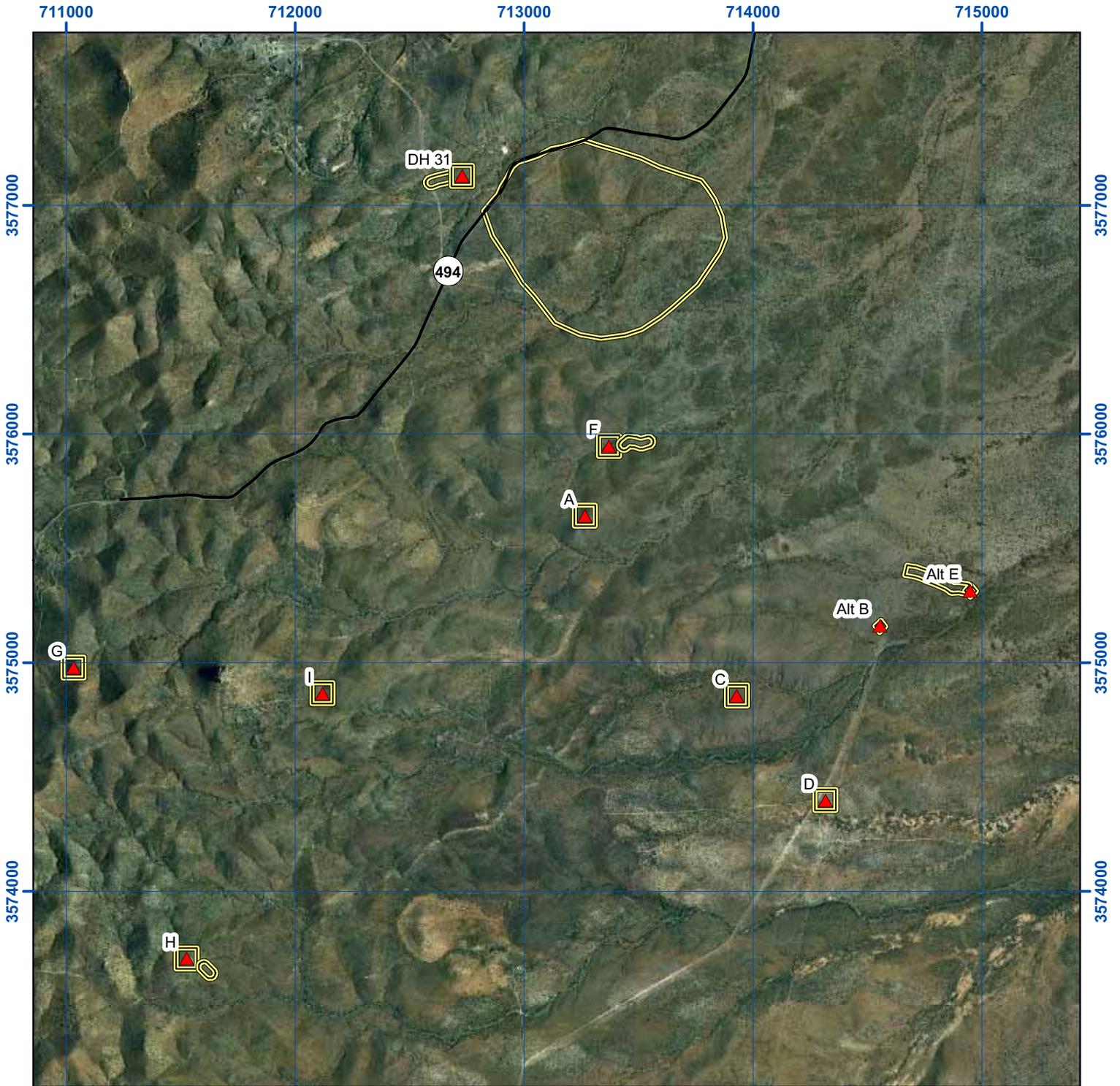
- Project Area
- ▲ Reconnaissance Mines



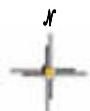
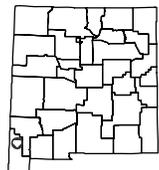
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Test Drilling Locations and Access Roads
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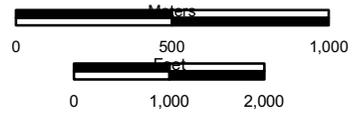


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UTM Zone 12
NAD 27
1:24,000

 Project Area
 Reconnaissance Mines



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APPENDIX B
Additional Project Area Photographs

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Photograph 16. Large Project Area facing South



Photograph 17. Large Project Area facing East



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Photograph 18. Recon Area A facing North



Photograph 19. Roadway to Recon Areas B and E



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Photograph 20. Recon Area C facing North



Photograph 21. Recon Area D facing Southeast



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Photograph 22. Between Recon Area B and E facing East



Photograph 23. Recon Area F facing South



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Photograph 24. Recon Area G facing North



Photograph 25. Recon Area H facing North



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Photograph 28. Alternative Recon Area B facing West



Photograph 29. Alternative Recon Area E facing Northwest from Southeast corner



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Project No.: LCE-10-002

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APPENDIX C
Threatened, Endangered
and Sensitive Species Resources

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Database Query

Your **search terms** were as follows:

91 species returned.

Taxonomic Group	# Species	Taxonomic Group	# Species
Fish	6	Mammals	28
Amphibians	3	Molluscs	2
Reptiles	13	Coleoptera; beetles	1
Birds	37	Lepidoptera; moths and butterflies	1

[Export to Excel](#)

Common Name	Scientific Name	Habitat Map	Species Photo (click photo to enlarge)	County	Status
Chub, Roundtail	<i>Gila robusta</i> (lower Colorado River populations)		no photo	Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: Candidate Federal: FWS Species of Concern State NM: Endangered
Dace, Longfin	<i>Agosia chrysogaster</i>	no map	no photo	Hidalgo	BLM Sensitive: NM State Office (NMSO)
Minnow, Loach	<i>Tiaroga cobitis</i>	no map	no photo	Hidalgo	Federal: Critical Hab. Designated (NM) Federal: Threatened State NM: Threatened
Spikedace	<i>Meda fulgida</i>		no photo	Hidalgo	Federal: Critical Hab. Designated (NM) Federal: Threatened State NM: Endangered
Sucker, Desert	<i>Catostomus clarki</i>	no map	no photo	Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: FWS Species of Concern State NM: Sensitive taxa (informal)
Sucker, Sonora	<i>Catostomus insignis</i>		no photo	Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: FWS Species of Concern State NM: Sensitive taxa (informal)
Frog, Leopard, Chiricahua	<i>Rana chiricahuensis</i>	no map		Hidalgo	Federal: Threatened State NM: Sensitive taxa (informal)

Frog, Leopard, Lowland	<i>Rana yavapaiensis</i>	no map		Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: FWS Species of Concern State NM: Endangered
Toad, Desert, Sonoran	<i>Bufo alvarius</i>	no map		Hidalgo	State NM: Threatened
Lizard, Bunchgrass, Slevin's	<i>Sceloporus slevini</i>	no map	no photo	Hidalgo	State NM: Threatened
Lizard, Horned, Texas	<i>Phrynosoma cornutum</i>	no map		Hidalgo	BLM Sensitive: NM State Office (NMSO)
Monster, Gila, Reticulate	<i>Heloderma suspectum suspectum</i> (NM,AZ)	no map		Hidalgo	State NM: Endangered
Rattlesnake, Ridgenose, NM	<i>Crotalus willardi obscurus</i> (NM)	no map		Hidalgo	Federal: Critical Hab. Designated (NM) Federal: Threatened State NM: Endangered
Rattlesnake, Rock, Mottled	<i>Crotalus lepidus lepidus</i> (NM)	no map		Hidalgo	State NM: Threatened
Skink, Mountain	<i>Eumeces callicephalus</i>	no map		Hidalgo	State NM: Threatened
Snake, Blackhead, Yaqui	<i>Tantilla yaquia</i>	no map		Hidalgo	State NM: Sensitive taxa (informal)
Snake, Garter, Mexican	<i>Thamnophis eques megalops</i> (NM)	no map		Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: Candidate State NM: Endangered
Snake, Garter, Narrowhead	<i>Thamnophis rufipunctatus rufipunctatus</i> (NM)	no map		Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: FWS Species of Concern State NM: Threatened
Kingsnake, California	<i>Lampropeltis getula californiae</i> (NM,AZ)	no map		Hidalgo	State NM: Sensitive taxa (informal)
Snake, Rat, Green	<i>Senticolis triaspis intermedia</i> (NM,AZ)	no map		Hidalgo	State NM: Threatened

Whiptail, Gray-checked	<i>Aspidoscelis dixonii</i>	no map		Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: FWS Species of Concern State NM: Endangered
Whiptail, Spotted, Canyon	<i>Aspidoscelis burti stictogrammus</i> (NM,AZ); <i>xanthonotus</i> (AZ)	no map		Hidalgo	BLM Sensitive: NM State Office (NMSO) State NM: Threatened
Tyrannulet, Beardless, N.	<i>Camptostoma imberbe ridgwayi</i> (NM)	no map		Hidalgo	State NM: Endangered
Black-Hawk, Common	<i>Buteogallus anthracinus anthracinus</i> (NM)	no map		Hidalgo	Federal: FWS Species of Concern State NM: Threatened
Bunting, Varied	<i>Passerina versicolor versicolor</i> (NM); <i>dickeyae</i> (NM)	no map		Hidalgo	State NM: Threatened
Cormorant, Neotropic	<i>Phalacrocorax brasilianus</i>	no map		Hidalgo	State NM: Threatened
Cuckoo, Yellow-billed	<i>Coccyzus americanus occidentalis</i> (western pop)	no map	no photo	Hidalgo	Federal: Candidate State NM: Sensitive taxa (informal)
Eagle, Bald	<i>Haliaeetus leucocephalus alascanus</i> (NM)	no map		Hidalgo	State NM: Threatened
Falcon, Aplomado	<i>Falco femoralis septentrionalis</i> (NM)	no map		Hidalgo	Federal: Endangered Federal: Nonessential Experimental Population State NM: Endangered
Falcon, Peregrine	<i>Falco peregrinus anatum</i>	no map		Hidalgo	Federal: FWS Species of Concern State NM: Threatened
Falcon, Peregrine, Arctic	<i>Falco peregrinus tundrius</i>	no map	no photo	Hidalgo	Federal: FWS Species of Concern State NM: Threatened
Flycatcher, Willow, SW.	<i>Empidonax traillii extimus</i>	no map		Hidalgo	Federal: Critical Hab. Designated (NM) Federal: Endangered State NM: Endangered
Goshawk, Northern	<i>Accipiter gentilis atricapillus</i> (NM,AZ); <i>apache</i> (NM,AZ)	no map	no photo	Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: FWS Species of Concern State NM: Sensitive taxa (informal)

Ground-dove, Common	<i>Columbina passerina pallescens</i> (NM)	no map		Hidalgo	State NM: Endangered
Hawk, Ferruginous	<i>Buteo regalis</i>	no map		Hidalgo	BLM Sensitive: NM State Office (NMSO)
Hawk, Gray	<i>Buteo nitidus</i>	no map		Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: FWS Species of Concern
Hummingbird, Broad-billed	<i>Cynanthus latirostris magicus</i> (NM)	no map		Hidalgo	State NM: Threatened
Hummingbird, Costa's	<i>Calypte costae</i>	no map		Hidalgo	State NM: Threatened
Hummingbird, Lucifer	<i>Calothorax lucifer</i>		no photo	Hidalgo	State NM: Threatened
Hummingbird, Violet-crowned	<i>Amazilia violiceps ellioti</i> (NM)	no map		Hidalgo	State NM: Threatened
Hummingbird, White-eared	<i>Hylocharis leucotis borealis</i> (NM)	no map		Hidalgo	State NM: Threatened
Junco, Yellow-eyed	<i>Junco phaeonotus palliatus</i> (NM)	no map		Hidalgo	State NM: Threatened
Kingbird, Thick-billed	<i>Tyrannus crassirostris</i>	no map		Hidalgo	State NM: Endangered
Nightjar, Buff-collared	<i>Caprimulgus ridgwayi ridgwayi</i> (NM)	no map	no photo	Hidalgo	State NM: Endangered
Owl, Burrowing	<i>Athene cucularia hypugaea</i> (NM,AZ)	no map		Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: FWS Species of Concern
Screech-Owl, Whiskered	<i>Megascops trichopsis asperus</i> (NM)	no map		Hidalgo	Federal: FWS Species of Concern State NM: Threatened
Owl, Spotted, Mexican	<i>Strix occidentalis lucida</i> (NM,AZ)	no map		Hidalgo	Federal: Critical Hab. Designated (NM) Federal: Threatened State NM: Sensitive taxa (informal)

Plover, Mountain	Charadrius montanus		no photo	Hidalgo	Federal: FWS Species of Concern State NM: Sensitive taxa (informal)
Shrike, Loggerhead	Lanius ludovicianus excubitorides (NM);sonoriensis (NM);gambeli (NM)	no map		Hidalgo	BLM Sensitive: NM State Office (NMSO) State NM: Sensitive taxa (informal)
Sparrow, Baird's	Ammodramus bairdii	no map		Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: FWS Species of Concern State NM: Threatened
Sparrow, Botteri's	Aimophila botterii arizonae (NM)	no map		Hidalgo	State NM: Sensitive taxa (informal)
Sparrow, Grasshopper, AZ	Ammodramus savannarum ammolegus (NM,AZ)	no map		Hidalgo	State NM: Endangered
Swift, Black	Cypseloides niger borealis (NM)	no map		Hidalgo	State NM: Sensitive taxa (informal)
Towhee, Abert's	Pipilo aberti aberti (NM)	no map		Hidalgo	State NM: Threatened
Trogon, Elegant	Trogon elegans canescens (NM)	no map		Hidalgo	State NM: Endangered
Turkey, Wild, Gould's	Meleagris gallopavo mexicana (NM,AZ)	no map	no photo	Hidalgo	Federal: FWS Species of Concern State NM: Threatened
Vireo, Bell's	Vireo bellii arizonae (NM,AZ);medius (NM)	no map		Hidalgo	Federal: FWS Species of Concern State NM: Threatened
Vireo, Gray	Vireo vicinior			Hidalgo	State NM: Threatened
Woodpecker, Gila	Melanerpes uropygialis uropygialis (NM)	no map		Hidalgo	State NM: Threatened
Bat, Big-eared, Townsend's, Pale	Corynorhinus townsendii pallescens (NM,AZ)	no map	no photo	Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: FWS Species of Concern State NM: Sensitive taxa (informal)

Bat, Myotis, Cave	<i>Myotis velifer incautus</i> (NM); <i>brevis</i> (NM,AZ)	no map	no photo	Hidalgo	BLM Sensitive: NM State Office (NMSO) State NM: Sensitive taxa (informal)
Bat, Free-tailed, Big	<i>Nyctinomops macrotis</i>	no map	no photo	Hidalgo	BLM Sensitive: NM State Office (NMSO) State NM: Sensitive taxa (informal)
Bat, Myotis, Fringed	<i>Myotis thysanodes thysanodes</i> (NM,AZ)	no map	no photo	Hidalgo	BLM Sensitive: NM State Office (NMSO) State NM: Sensitive taxa (informal)
Bat, Myotis, Long-legged	<i>Myotis volans interior</i> (NM,AZ)	no map	no photo	Hidalgo	BLM Sensitive: NM State Office (NMSO) State NM: Sensitive taxa (informal)
Bat, Long-nosed, Mexican	<i>Leptonycteris nivalis</i>	no map	no photo	Hidalgo	Federal: Endangered State NM: Endangered
Bat, Long-nosed, Southern	<i>Leptonycteris curasoae yerbabuena</i> (NM,AZ)	no map	no photo	Hidalgo	Federal: Endangered State NM: Threatened
Bat, Long-tongued, Mexican	<i>Choeronycteris mexicana</i>		no photo	Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: FWS Species of Concern State NM: Sensitive taxa (informal)
Bat, Mastiff, W., Greater	<i>Eumops perotis californicus</i> (NM,AZ)	no map	no photo	Hidalgo	BLM Sensitive: NM State Office (NMSO) State NM: Sensitive taxa (informal)
Bat, Red, Western	<i>Lasiurus blossevillii</i>	no map	no photo	Hidalgo	Federal: FWS Species of Concern State NM: Sensitive taxa (informal)
Bat, Myotis, Small-footed, W.	<i>Myotis ciliolabrum melanorhinus</i> (NM,AZ)	no map		Hidalgo	BLM Sensitive: NM State Office (NMSO) State NM: Sensitive taxa (informal)
Bat, Yellow, Western	<i>Lasiurus xanthinus</i>	no map	no photo	Hidalgo	State NM: Threatened
Bat, Myotis, Yuma	<i>Myotis yumanensis yumanensis</i> (NM,AZ)	no map		Hidalgo	BLM Sensitive: NM State Office (NMSO) State NM: Sensitive taxa (informal)
Coati, White-nosed	<i>Nasua narica</i>			Hidalgo	State NM: Sensitive taxa (informal)
Prairie Dog, Black-tailed	<i>Cynomys ludovicianus ludovicianus</i> (NM)	no map		Hidalgo	Federal: FWS Species of Concern State NM: Sensitive taxa (informal)
Fox, Red	<i>Vulpes vulpes fulva</i> (NM); <i>macroura</i> (NM)	no map		Hidalgo	State NM: Sensitive taxa (informal)

Gopher, Pocket, Mearns'	<i>Thomomys bottae mearnsi</i> (NM,AZ)	no map	no photo	Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: FWS Species of Concern State NM: Sensitive taxa (informal)
Gopher, Pocket, Southern	<i>Thomomys umbrinus emotus</i> (NM)	no map	no photo	Hidalgo	State NM: Threatened
Jaguar	<i>Panthera onca arizonensis</i> (NM,AZ)	no map	no photo	Hidalgo	Federal: Endangered
Rabbit, Jack, White-sided	<i>Lepus callotis gaillardi</i> (NM)	no map	no photo	Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: FWS Species of Concern State NM: Threatened
Rat, Cotton, Yellow-nosed	<i>Sigmodon ochrognathus</i>	no map	no photo	Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: FWS Species of Concern
Ringtail	<i>Bassariscus astutus arizonensis</i> (NM,AZ); <i>flavus</i> (NM); <i>yumanensis</i> (AZ); <i>nevadensis</i> (AZ)	no map		Hidalgo	State NM: Sensitive taxa (informal)
Sheep, Bighorn, Desert	<i>Ovis canadensis mexicana</i> (endangered pops)	no map		Hidalgo	State NM: Endangered
Shrew, Arizona	<i>Sorex arizonae</i>	no map	no photo	Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: FWS Species of Concern State NM: Endangered
Skunk, Hog-nosed, Common	<i>Conepatus leuconotus mearnsi</i> (NM); <i>venaticus</i> (NM,AZ)	no map		Hidalgo	State NM: Sensitive taxa (informal)
Skunk, Hooded	<i>Mephitis macroura milleri</i> (NM,AZ)	no map	no photo	Hidalgo	State NM: Sensitive taxa (informal)
Skunk, Spotted, Western	<i>Spilogale gracilis</i>	no map	no photo	Hidalgo	State NM: Sensitive taxa (informal)
Wolf, Gray, Mexican	<i>Canis lupus baileyi</i> (NM,AZ)	no map		Hidalgo	Federal: Endangered Federal: Nonessential Experimental Population State NM: Endangered
Woodlandsnail, Hacheta Grande	<i>Ashmunella hebardi</i>	no map		Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: FWS Species of Concern State NM: Threatened
Snail, Snaggletooth, Shortneck	<i>Gastrocopta dalliana dalliana</i> (NM)	no map	no photo	Hidalgo	Federal: FWS Species of Concern State NM: Threatened
Beetle, Moss, Minute, Animas	<i>Limnebius aridus</i>	no map	no photo	Hidalgo	BLM Sensitive: NM State Office (NMSO) Federal: FWS Species of Concern

Butterfly, Viceroy, Obsolete	Basilarchia archippus obsoleta (NM,AZ)	no map	no photo	Hidalgo	Federal: FWS Species of Concern
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Listed and Sensitive Species in Hidalgo County

Total number of species: 51



Common Name	Scientific Name	Group	Status
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Bird	Candidate
Northern aplomado falcon	<i>Falco femoralis septentrionalis</i>	Bird	Endangered
Southwestern willow flycatcher <i>Designated Critical Habitat</i>	<i>Empidonax traillii extimus</i>	Bird	Endangered
Gray Wolf (Mexican Gray Wolf)	<i>Canis lupus baileyi</i>	Mammal	Endangered
Jaguar	<i>Panthera onca</i>	Mammal	Endangered
Lesser long-nosed bat	<i>Leptonycteris curasoae yerbabuena</i>	Mammal	Endangered
Mexican long-nosed bat	<i>Leptonycteris nivalis</i>	Mammal	Endangered
Chiricahua leopard frog	<i>Rana chiricahuensis</i>	Amphibian	Threatened
Mexican spotted owl <i>Designated Critical Habitat</i>	<i>Strix occidentalis lucida</i>	Bird	Threatened
Loach minnow <i>Proposed Critical Habitat</i>	<i>Tiaroga cobitis</i>	Fish	Threatened
Spikedace <i>Proposed Critical Habitat</i>	<i>Meda fulgida</i>	Fish	Threatened
New Mexico ridgenose rattlesnake <i>Designated Critical Habitat</i>	<i>Crotalus willardi obscurus</i>	Reptile	Threatened

Species of Concern

Species of Concern are included for planning purposes only.

Common Name	Scientific Name	Group	Status
Lowland leopard frog	<i>Rana yavapaiensis</i>	Amphibian	Species of Concern
Animas minute moss beetle	<i>Limnebius aridus</i>	Arthropod - Invertebrate	Species of Concern
American peregrine falcon	<i>Falco peregrinus anatum</i>	Bird	Species of Concern
Arctic peregrine falcon	<i>Falco peregrinus tundrius</i>	Bird	Species of Concern

Baird's sparrow	<i>Ammodramus bairdii</i>	Bird	Species of Concern
Bell's vireo	<i>Vireo bellii</i>	Bird	Species of Concern
Common black hawk	<i>Buteogallus anthracinus</i>	Bird	Species of Concern
Gould's turkey	<i>Meleagris gallopavo mexicana</i>	Bird	Species of Concern
Mountain plover	<i>Charadrius montanus</i>	Bird	Species of Concern
Northern goshawk	<i>Accipiter gentilis</i>	Bird	Species of Concern
Northern gray hawk	<i>Buteo nitidus maxima</i>	Bird	Species of Concern
Western burrowing owl	<i>Athene cunicularia hypugaea</i>	Bird	Species of Concern
Whiskered screech owl	<i>Otus trichopsis</i>	Bird	Species of Concern
Desert sucker	<i>Catostomus clarki</i>	Fish	Species of Concern
Roundtail chub	<i>Gila robusta</i>	Fish	Species of Concern
Sonora sucker	<i>Catostomus insignis</i>	Fish	Species of Concern
Arizona shrew	<i>Sorex arizonae</i>	Mammal	Species of Concern
Black-tailed prairie dog ¹	<i>Cynomys ludovicianus</i>	Mammal	Species of Concern
Mearns' southern pocket gopher	<i>Thomomys umbrinus mearnsi</i>	Mammal	Species of Concern
Mexican long-tongued bat	<i>Choenycteris mexicana</i>	Mammal	Species of Concern
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	Mammal	Species of Concern
Western red bat	<i>Lasiurus blossevillii</i>	Mammal	Species of Concern
White-sided jack rabbit	<i>Lepus callotis gaillardi</i>	Mammal	Species of Concern
Yellow-nosed cotton rat	<i>Sigmodon ochrognathus</i>	Mammal	Species of Concern
Hacheta Grande woodlandsnail	<i>Ashmunella hebardi</i>	Mollusc - Invertebrate	Species of Concern
Shortneck snaggletooth (snail)	<i>Gastrocopta dalliana dalliana</i>	Mollusc - Invertebrate	Species of Concern

Chiricahua mudwort	<i>Limosella publiflora</i>	Plant	Species of Concern
Contra yerba	<i>Pediomelum pentaphyllum</i>	Plant	Species of Concern
Coppermine milk-vetch	<i>Astragalus cobrensis var. maguirei</i>	Plant	Species of Concern
Desert night-blooming cereus	<i>Cereus greggii var. greggii</i>	Plant	Species of Concern
Griffith's saltbush	<i>Atriplex griffithsii</i>	Plant	Species of Concern
Gypsum hotspring aster	<i>Machaeranthera gypsitherma</i>	Plant	Species of Concern
Limestone rosewood	<i>Vauquelinia californica ssp. pauciflora</i>	Plant	Species of Concern
Ornate paintbrush	<i>Castilleja ornata</i>	Plant	Species of Concern
Parish's alkali grass	<i>Puccinellia parishii</i>	Plant	Species of Concern
San Carlos wild-buckwheat	<i>Eriogonum capillare</i>	Plant	Species of Concern
Gray-checked whiptail	<i>Cnemidophorus dixonii</i>	Reptile	Species of Concern
Mexican garter snake	<i>Thamnophis eques</i>	Reptile	Species of Concern
Narrowhead garter snake	<i>Thamnophis rufipunctatus</i>	Reptile	Species of Concern

Endangered	Any species which is in danger of extinction throughout all or a significant portion of its range.	Threatened	Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.
Candidate	Candidate Species (taxa for which the Service has sufficient information to propose that they be added to list of endangered and threatened species, but the listing action has been precluded by other higher priority listing activities).	Proposed	Any species of fish, wildlife or plant that is proposed in the Federal Register to be listed under section 4 of the Act. This could be either proposed for endangered or threatened status.
Species of Concern	Taxa for which further biological research and field study are needed to resolve their conservation status OR are considered sensitive, rare, or declining on lists maintained by Natural Heritage Programs, State wildlife agencies, other Federal agencies, or professional/academic scientific societies. Species of Concern are included for planning purposes only.		

Foot Notes:	
D Designated Critical Habitat.	P Proposed Critical Habitat.
1 Introduced population.	3 Extirpated in this county.
2 Survey should be conducted if project involves impacts to prairie dog towns or complexes of 200-acres or more for the Gunnison's prairie dog (<i>Cynomys gunnisoni</i>) and/or 80-acres or more for any subspecies of Black-tailed prairie dog (<i>Cynomys ludovicianus</i>). A complex consists of two or more neighboring prairie dog towns within 4.3 miles (7 kilometers) of each other.	



US Fish & Wildlife Service

Southwest Region 2

New Mexico Ecological Services Field Office

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Changes to the New Mexico Listed and Sensitive Species Lists

All Species Lists can be considered current subject to the following changes.

Common Name	Scientific Name	Status	Action	Date	Reason
Wright's marsh thistle	<i>Cirsium wrightii</i>	Species of Concern	Added to Socorro County - Removed from Lincoln County.	4/15/09	Correction of county occurrence.
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	Endangered	Added to Eddy County.	1/5/09	Species is found in this county.
Pecos sunflower	<i>Helianthus paradoxus</i>	Threatened	Critical Habitat established in Chaves, Cibola and Guadalupe counties.	4/1/08	Habitat was determined to occur in Chaves, Cibola and Guadalupe counties.
New Mexican meadow jumping mouse	<i>Zapus hudsonius luteus</i>	Candidate	Reclassified from Species of Concern to a Candidate species.	12/1/07	In December 2007, we concluded that the status of the jumping mouse qualified as a candidate species under the ESA.
Bald eagle	<i>Haliaeetus leucocephalus</i>	Not Listed	Removed as a Threatened Species.	8/8/07	Removed as a Threatened Species.
Gray Wolf (Mexican Gray Wolf)	<i>Canis lupus baileyi</i>	Endangered	Dropped from Luna county - Added to Sierra county	4/9/07	Species does not occur in Luna county but does occur in Sierra county.
Gila trout	<i>Oncorhynchus gilae</i>	Threatened	Reclassified from Endangered to Threatened.	7/18/06	The Gila trout has been reclassified from endangered to threatened with a special rule to allow recreational fishing opportunities. Threatened status is appropriate because the number of populations has increased from 4 to 12 since recovery efforts began, and all of the threats affecting the species have either been reduced or eliminated.
Gould's turkey	<i>Meleagris gallopavo mexicana</i>	Species of Concern	Corrected spelling.	7/17/06	Mexicana was incorrectly spelled.
Mountain plover	<i>Charadrius montanus</i>	Species of Concern	Added to Sierra County.	7/17/06	Species is found in this county.
Black-footed ferret	<i>Mustela nigripes</i>	Endangered	Added superscript "2" to all counties except Dona Ana, Hidalgo, and Luna.	7/5/06	To alert action agencies to survey for black-footed ferrets if the project involved disturbance to prairie dog towns or complexes.
Rio Grande Sucker	<i>Catostomus plebeius</i>	Species of Concern	Added to Catron, Cibola, Grant, Lincoln Luna, Rio Arriba, Sandoval, Santa Fe, and Taos Counties.	6/28/06	Consulted "The Fishes of New Mexico" by J.E. Sublette, M.D. Hatch and M. Sublette for species distribution.
Santa Fe cholla	<i>Opuntia viridiflora</i>	Species of Concern	Dropped from Catron, Cibola, Harding, and San Juan Counties.	6/28/06	Species does not occur in these counties.
Sacramento Mountains checkerspot butterfly	<i>Euphydryas anicia cloudcrofti</i>	Species of Concern	Added to Otero County.	6/28/06	Species was omitted from initial list.
Goodding's onion	<i>Allium gooddingii</i>	Species of Concern	Dropped from Lincoln and San Juan Counties.	6/28/06	Species does not occur in those counties.
Baird's sparrow	<i>Ammodramus bairdii</i>	Species of Concern	Dropped from Cibola and McKinley Counties.	6/28/06	Species does not occur in those counties.

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Results of County Search

HIDALGO	
Scientific name	County-NM
<i>Arida blepharophylla</i>	Hidalgo
<i>Astragalus cobrensis</i> var. <i>maguirei</i>	Hidalgo
<i>Astragalus feensis</i>	Bernalillo, Hidalgo, Sandoval, Santa Fe, Torrance
<i>Atriplex griffithsii</i>	Hidalgo, Luna
<i>Castilleja ornata</i>	Hidalgo
<i>Escobaria orcuttii</i>	Hidalgo, Luna
<i>Hexalectris spicata</i> var. <i>arizonica</i>	Doña Ana, Hidalgo, Otero, Sierra
<i>Hymenoxys ambigens</i> var. <i>neomexicana</i>	Hidalgo
<i>Limosella pubiflora</i>	Hidalgo
<i>Pediomelum pentaphyllum</i>	Hidalgo
<i>Peniocereus greggii</i> var. <i>greggii</i>	Doña Ana, Grant, Hidalgo, Luna
<i>Phemeranthus humilis</i>	Grant, Hidalgo
<i>Puccinellia parishii</i>	Catron, Cibola, Grant, Hidalgo, Mckinley, San Juan, Sandoval
<i>Silene thurberi</i>	Grant, Hidalgo, Sierra

Photo credits in header *Peniocereus greggii* var. *greggii* © T. Todsén,
Lepidospartum burgessii © M. Howard, *Argemone pleiacantha* ssp. *pinnatisecta* © R. Sivinski
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The University of New Mexico



NATURAL HERITAGE
NEW MEXICO

1/14/2010

Dear Leah,

We have completed a search of our databases and consulted with our biologists. Below are the results.

We have one record of [Desert Night-blooming Cereus](#), *Peniocereus greggii* var. *greggii*, global heritage rank of G3G4T2, state heritage rank of S1, near the NW corner of your project boundaries.

Our botanist, Phil Tonne, said there's potential for this species in the foothills in and around your project area.

Note that our databases only have data in areas that have been surveyed. No comprehensive biological survey has been done in NM. There are many data gaps, especially on private lands. We therefore direct you to county lists for a more complete list of potential sensitive species.

For rare plants see <http://nmrareplants.unm.edu/county.php>.

For rare animals (and plants) see <http://www.fws.gov/southwest/es/EndangeredSpecies/lists/ListSpecies.cfm>.

For a more complete animal list you can query the NM Dept. of Game & Fish's online database, Bison-M at <http://www.bison-m.org>.

Please note that the quantity and quality of data collected by the Natural Heritage New Mexico Program (NHNM) are dependent on the research and observations of many individuals and organizations. In many cases, these data are not the result of comprehensive or site-specific field surveys; many natural areas in New Mexico have never been thoroughly surveyed. For these reasons, NHNM cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of New Mexico. NHNM reports summarize the existing information known to NMNHP at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the elements of areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. We suggest that data users contact NHNM for recommendations on appropriate use of this information.

We would appreciate notification of any sensitive elements located during the course of this project. Field observation forms which may be used to report interesting observations are available from our web site at http://nmnhp.unm.edu/im/contribute_data.html or contact me directly for more information.

Rayo

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APPENDIX D
New Mexico Department of
Game and Fish Guidelines

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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.

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