

Attachment B
Biological Memorandum

Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Melanie Kenderdine
Cabinet Secretary

Ben Shelton
Acting Deputy Secretary

Albert C.S. Chang, Director
Mining and Minerals Division



July 16, 2024

Biological Memorandum

SUBJECT: Biological Memorandum for the Lone Eagle Mine Safeguarding Project, Eddy County, New Mexico

This Biological Memo is being submitted in preparation for the Lone Eagle Mine Safeguarding Project, located approximately 9 miles northwest of Carlsbad, NM (Township 21 South, Range 25 East, Section 14). The Area of Potential Effect (APE) is approximately 31 acres and includes Bureau of Land Management (BLM) and New Mexico State Land Office (SLO) surface ownership and varies in elevation between 3,350 and 3,420 feet (Figure 1). Two mine features considered for safeguarding within the APE include: one shaft with a large, excavated pit and dangerous highwall located on SLO surface ownership and one shaft in poor condition located on BLM surface ownership. Both mine openings present a safety hazard to the public, particularly the large pit surrounding the SLO shaft which currently is illegal dumping area.

The BLM Carlsbad Field Office (BLM-CFO) and the New Mexico Abandoned Mine Land Program (AMLPL) have partnered together with the SLO to safeguard the Lone Eagle Mine project area. The BLM and AMLPL have completed separate categorical exclusions for the lands under different surface ownership. AMLPL provided the biological surveys, cultural resource inventory and related consultations with the BLM-CFO, SLO, and the New Mexico State Historic Preservation Office (SHPO).

On January 9, 2024, Bat Conservation International (BCI) conducted subterranean biological surveys for the proposed Lone Eagle Safeguarding Project (Appendix A). BCI's surveys focused on subterranean habitat, with a primary emphasis on documenting bat (and other wildlife) use within features proposed for safeguarding. BCI's report documents survey and inventory of three mining-related features: the Lone Eagle Mine shaft and root cellar/powder magazine located on SLO lands and one other shaft located on BLM lands. Subterranean access could not be gained by BCI into the Lone Eagle Mine shaft feature, and while it could support roosting habitat for bats on the unstable highwall, overall habitat was reported by BCI as poor with no potential to support significant use due to restricted access and no dark zone present. The Root Cellar or powder magazine feature is culturally significant and no mine safeguarding work is planned, however, BCI determined the feature provides marginal bat habitat underground, but no dark zone and is not likely to be used by bats.

AMLPL biologists conducted desktop analyses of the APE in March and April, 2024, using the U.S. Fish and Wildlife website: *Information for Planning and Consultation (IPaC)*, which revealed 10 federally threatened and endangered (T&E), or T&E candidate species that may

occur within the project area (Appendix B)(USFWS 2024a). Additionally, according to IPAC, no critical habitat, general habitat, or known occurrences of federally T&E or T&E candidate species were found to occur within the project area (Table 1). Migratory birds are federally protected by the Migratory Bird Treaty Act (MBTA) and occur within the project area/APE. If proposed safeguarding work and construction is to be conducted during nesting season occurring from March 1 to September 30, AMLP will complete a pre-construction nesting survey of the project area prior to the commencement of proposed construction. Any active nests found will be flagged for avoidance during construction activities.

Further IPAC data analysis indicates the potential presence of 36 species that are designated as “sensitive” by the BLM-CFO and having the potential to occur within the project area (BLM 2019a; BLM 2019b; Appendix C). Suitable habitat for 6 of the 36 total potential sensitive species that were identified may be present within the project area and include: Monarch butterfly (*Danaus plexippus plexippus*), Tharp’s bluestar (*Amsonia tharpii*), Gypsum milkvetch (*Astragalus gypsodes*), Scheer’s beehive cactus (*Coryphantha robustispina ssp.scheeri*), Wright’s water-willow justicia (*Justicia wrightii*), and Allred’s flax (*Linum allredii*).

AMLP biologists also completed desktop analysis using the New Mexico Department of Game and Fish’s *New Mexico Environmental Review Tool* Website (NMERT) to generate a species report for the project area (NMGF 2024). According to the NMERT report, 15 wildlife species have the potential to occur within the project area (Appendix D); however, survey of the project area revealed no suitable habitat to be present for any of the 15 species (Table 1). The New Mexico Rare Plant Technical Council database (NMRPTC 2024) was also consulted, as well as the New Mexico Energy, Minerals, and Natural Resources Department’s *New Mexico State Endangered Plant Species* database (NMEMNRD 2023), which identified 2 New Mexico T&E wildlife/plant species as having the potential to occur within the project area (Appendix E). Suitable habitat was found within the project area for 1 of the 2 species: Scheer’s beehive cactus (*Coryphantha robustispina ssp.scheeri*) (Table 1).

On April 11th and 12th, 2024, AMLP biologists conducted field surveys to document and confirm existing conditions at the proposed Lone Eagle Mine Safeguarding Project area. Table 2 of this Memorandum provides a complete list of inventoried flora and fauna species observed during the surveys. In general, vegetation found within the overall project area consists primarily of a creosote (*Larrea tridentata*), whitethorn acacia (*Vachellia constricta*), and honey mesquite (*Prosopis glandulosa*) dominated habitat situated on a southerly aspect on a gently sloping, rocky hillside. Soil composition of the project area consists mainly of gravelly-loam soils (Ecto Stony Loam, 0 to 9 percent slopes) (NRCS, 2024). The proposed mine safeguarding work will be conducted entirely upon previously disturbed sites and any overland vehicle and machine access, if necessary, will be limited to approved access routes to be flagged by the AMLP archaeologist and project manager; and native vegetation will be avoided to the maximum extent. No federal or state T&E species or BLM-CFO sensitive species were observed during the biological surveys conducted in April 2024. Although suitable habitat exists within the general project area, there is no indication that the proposed Lone Eagle Mine Safeguarding Project would affect any federal or state T&E species or BLM-CFO sensitive species (Table 1).

This biological memorandum concludes that, while the proposed action may temporarily displace individuals during the proposed mine safeguarding project, it is not likely to remove individuals or result in a trend toward state/federal listing or loss of viability.

Sincerely,

Charles Dentino
Project Manager/Biologist
New Mexico Abandoned Mine Land Program

Figure 1. Map of Area of Potential Effect

Table 1. BLM Carlsbad Field Office Sensitive Species, NM State Listed Species, and Federally Listed Species and the Potential to Occur in the APE.

Table 2. Flora and fauna observed, Lone Eagle Mine Safeguarding Project - Biological Survey.

Appendices:

Appendix A – Bat Conservation International Subterranean Biological Survey

Appendix B – U.S. Fish and Wildlife (USFWS) Information for Planning and Consultation Report

Appendix C – BLM New Mexico. Special plant and animal lists.

Appendix D – New Mexico Environmental Review Tool Report

Appendix E – New Mexico State Endangered Plant Species

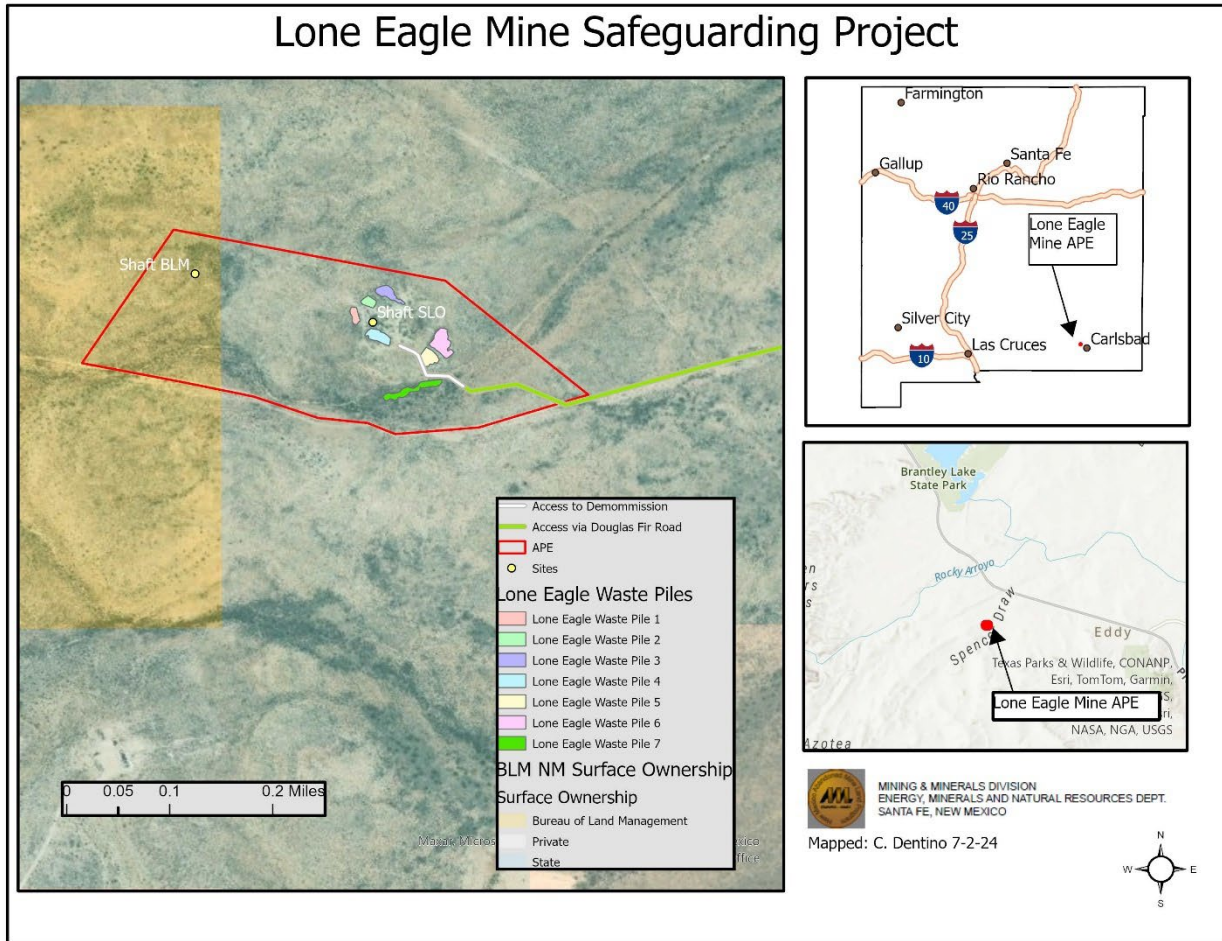


Figure 1. Map of Area of Potential Effect.

Table 1. BLM Carlsbad Field Office - Sensitive Species, NM State Listed Species, and Federally Listed Species and the Potential to Occur in the APE.

Species Common Name (Scientific Name)	Legal Status	Habitat Association	Potential for Presence in Area of Potential Effect (APE)
Plant			
Allred's flax (<i>Linum allredii</i>)	BLM Sensitive	Scarps and hillsides exposing pale sandy gypsum of the Permian-aged Castile Formation in Chihuahuan Desert scrub; 1,280 m (3,900 ft). Flowers April to August (NMRPTC).	May occur , however no individuals were located during biological surveys. Therefore, it is unlikely proposed construction would negatively affect populations of Allred's flax.
Chapline's columbine (<i>Aquilegia chrysantha</i> var. <i>chaplinei</i>)	BLM Sensitive	Limestone seeps and springs in the montane scrub or riparian canyon bottoms at 1,400-1,700 m (4,700-5,500 ft) (NMRPTC).	Unlikely to occur. The project area contains no limestone seeps, springs, or riparian areas
Guadalupe mescal bean (<i>Dermatophyllum</i> <i>guadalupense</i>)	BLM Sensitive	Outcrops of pink, limy, fine-grained sandstone that is 1-2 percent gypsum (by analysis) in Chihuahuan desert scrub and juniper savanna; 1,720-2,180 m (5,260-6,650 ft). Flowers March to April (NMRPTC).	Unlikely to occur. The project area elevation is much lower than associated habitat
Guadalupe penstemon (<i>Penstemon cardinalis</i> ssp. <i>Regalis</i>)	BLM Sensitive	Limestone slopes and canyon bottoms in montane scrub, piñon-juniper woodland, and lower montane coniferous forest; 1,400-1,800 m (4,500-6,000 ft). Flowers May to June (NMRPTC).	Unlikely to occur. The project area elevation is much lower than associated habitat
Gypsum milkvetch (<i>Astragalus Gypsodes</i>)	BLM Sensitive	Gypseous soils in Chihuahuan desert scrub; 1,050-1,125 m (3,500-4,000 ft). This species frequently colonizes areas where soil has been disturbed, such as roadsides. Flowers March to May (NMRPTC).	May occur , however no individuals were located during biological surveys. Therefore, it is unlikely proposed construction would negatively affect populations of Gypsum milkvetch.
Gypsum wild-buckwheat (<i>Eriogonum</i> <i>gypsophilum</i>)	USFWS Threatened	Restricted to almost pure gypsum that is sparsely vegetated with other gypsophilous plants such as <i>Coldenia hispidissima</i> , <i>Mentzelia humilis</i> , and <i>Anulocaulis leiosolenus</i> ; 1,000-1,100 m (3,280-3,600 ft) (NMRPTC).	Unlikely to occur. Project Area does not contain sparsely vegetated gypsum.

Species Common Name (Scientific Name)	Legal Status	Habitat Association	Potential for Presence in Area of Potential Effect (APE)
Lee Pincushion Cactus (<i>Coryphantha sneedii</i> <i>var. leei</i>)	USFWS Threatened	Primarily cracks in limestone in areas of broken terrain and steep slopes of Chihuahuan desert scrub; 1,200-1,500 m (4,000-5,000 ft) (NMRPTC).	Unlikely to occur. Project area lies below the known elevation range.
Scheer's beehive cactus (<i>Coryphantha robustispina</i> ssp. <i>scheeri</i>)	State Endangered; BLM Sensitive	Sparse throughout calcareous, loamy soils in desert grassland and Chihuahuan desert scrub, usually in slightly-sloping to nearly level gravelly or silty soils on or surrounding limestone or gypsum benches, hills and bajadas; 900-1,100 m (2,900-3,600 ft). Flowers May to June (NMRPTC).	May occur , however no individuals were located during biological surveys. Therefore, it is unlikely proposed construction would negatively affect populations of Scheer's beehive cactus.
Sneed pincushion cactus (<i>Coryphantha sneedii</i> <i>var. sneedii</i>)	USFWS Endangered	Primarily cracks in limestone in areas of broken terrain and steep slopes usually in Chihuahuan desert scrub (NMRPTC).	Unlikely to occur. Distribution is in Dona Ana County.
Tharp's bluestar (<i>Amsonia tharpii</i>)	BLM Sensitive	Limestone and gypsum hills in Chihuahuan desert scrub communities; 900-1,150 m (3,100-3,500 ft). Flowers April to May (NMRPTC).	May occur , however no individuals were located during biological surveys. Therefore, it is unlikely proposed construction would negatively affect populations of Tharp's bluestar.
Wind Mountain rockcress (<i>Boechera zephyra</i>)	BLM Sensitive	Rocky slopes of varying geology (either syenite, limestone, or basaltic scoria), primarily in the upper margins of Chihuahuan Desert scrub, occasionally in juniper savannah or oak-juniper woodlands. Flowers March to April (NMRPTC).	Unlikely to occur. The project area is located within the Chihuahuan Desert and not at the upper elevation margins.
Wright's marsh thistle (<i>Cirsium wrightii</i>)	State Endangered; BLM Sensitive; USFWS Threatened	Wet, alkaline soils in spring seeps and marshy edges of streams and ponds; 1,130-2,600 m (3,450-8,500 ft) (NMRPTC).	Unlikely to occur. The project area does not contain springs, seeps, or marshy edges of streams or ponds.
Wright's water-willow justicia (<i>Justicia wrightii</i>)	BLM Sensitive	Limestone benches in Chihuahuan desert scrub; 1,190 m (3,900 ft) in New Mexico. Flowers April to June (NMRPTC).	May occur , however no individuals were located during biological surveys. Therefore, it is unlikely proposed

Species Common Name (Scientific Name)	Legal Status	Habitat Association	Potential for Presence in Area of Potential Effect (APE)
			construction would negatively affect populations of Wright's water-willow <i>justicia</i> .
Ampibian			
None			
Arthropod			
Monarch Butterfly (<i>Danaus plexippus plexippus</i>)	BLM Sensitive	This is a migratory subspecies that breeds in summer across North America, including parts of about 48 states, north into southern Canada (NatureServe, 2019). The flight period for this species (on the Gray Ranch) is from July to October (BISON-M, 2019). The monarch butterfly is a nectarivore with milkweed species representing critical plants for hosting caterpillars.	May occur. There may be milkweed (<i>Asclepias</i> spp.) present in the Project Area, though none was found in areas of proposed disturbance.
Bird			
Aplomado falcon (<i>Falco femoralis</i>)	State Endangered	Habitat includes palm and oak savannahs, various desert grassland associations, and open pine woodlands. Within these variations, the essential habitat elements appear to be open terrain with scattered trees, relatively low ground cover, an abundance of insects and small to medium-sized birds, and a supply of nest sites. The species nests in abandoned stick platforms of corvids and other raptors. (USFWS 2024b).	Unlikely to occur. Preferred habitat types not included in project area. No trees are available to provide nesting platforms.
Bell's vireo (<i>Vireo bellii arizonae</i>)	BLM Sensitive, State Threatened	Willows and streamside's. Breeds in low dense growth, especially in second-growth scrub or brushy fields in Midwest, streamside thickets in Southwest, but also locally in chaparral, woodland edges, or scrub oaks. Winters in the tropics in dense low scrub, mostly near water (Audubon).	Unlikely to occur. Project area lacks habitat.
Brown pelican	State Endangered	Salt bays, beaches, ocean. Mostly over shallow waters along immediate coast, especially on sheltered bays; sometimes seen well out to sea. Nests on islands, which may be either bare and rocky or covered with	Unlikely to occur. Project area does not contain lakes or rivers.

Species Common Name (Scientific Name)	Legal Status	Habitat Association	Potential for Presence in Area of Potential Effect (APE)
		mangroves or other trees. Strays may appear on freshwater lakes inland.	
Chestnut-collared Longspur (<i>Calcarius ornatus</i>)	BLM Sensitive	Plains, prairies. Breeds in the general region of shortgrass prairie, but in areas of slightly longer grass and scattered taller weeds. Winters in shortgrass prairies and fields. Overlaps broadly in range with Thick-billed Longspur but tends to occur in areas with taller and denser grass (Audubon).	Unlikely to occur. Project area is located in the Chihuahuan Desert scrub and has very low grass prevalence.
Lesser prairie-chicken (<i>Tympanuchus pallidicinctus</i>)	BLM Sensitive; USFWS Endangered	Sandhill country, sage and bluestem grass, shinnery oak. Found in sandy short-grass prairie regions with scattered shrubs such as sand sage. Often found around stands of low, scrubby oaks (Havard and Mohr's oak, also called "shin oak"). Regularly comes to agricultural fields to feed on waste grain, but disappears from areas where too much of native prairie is taken over by farmland (Audubon).	Unlikely to occur. Sightings mostly occur to the east in less disturbed shinnery oak communities.
McCown's longspur (<i>Calcarius mccownii</i>)	BLM Sensitive	Plains, prairies. Breeds in rather dry open prairie with short grass, sometimes with patches of open ground or low cactus. Winters on similar shortgrass plains, also on bare soil such as dry lake beds, plowed fields. At all seasons, favors shorter grass and more open ground than that chosen by Chestnut-collared Longspurs occurring in same region (Audubon).	Unlikely to occur. Project area is located in the Chihuahuan Desert scrub and has very low grass prevalence.
Mexican spotted owl (<i>Strix occidentalis lucida</i>)	USFWS Threatened	Mature old-growth forests, conifers, wooded canyons. Along Pacific seaboard, mainly in undisturbed old-growth timber, including douglas-fir and redwoods. In southwest, generally in forested mountains and canyons, especially where tall trees grow close to rocky cliffs (Audubon).	Unlikely to occur due to lack of habitat.
Mexican Whip-poor-will (<i>Antrostomus arizonae</i>)	BLM Sensitive	Pine-oak woods in mountains. Breeds in woodland in mountains and canyons, mostly in the pine-oak zone at middle elevations, sometimes higher (Audubon).	Unlikely to occur. Project area lacks pine/oak forest
Peregrine falcon (<i>Falco peregrinus</i>)	State Threatened	Open country, cliffs (mountains to coast); sometimes cities. Over its wide range, found in wide variety of	Unlikely to occur. Project area lacks

Species Common Name (Scientific Name)	Legal Status	Habitat Association	Potential for Presence in Area of Potential Effect (APE)
		open habitats, from tundra to desert mountains (Audubon).	cliff areas and areas near water.
Piping plover (<i>Charadrius melodus</i>)	USFWS Threatened	Sandy beaches, tidal flats. Nests in open sandy situations near water, in a variety of settings: beaches along Atlantic Coast and Great Lakes; sandbars along major rivers on northern Great Plains; gravel or sand flats next to alkali lakes (Audubon).	Unlikely to occur due to lack of habitat.
Pinyon jay (<i>Gymnorhinus</i>)	BLM Sensitive	Pinyon pines, junipers; ranges into sagebrush. Under normal conditions, seldom found far from pinyon pines in pinyon-juniper woods. At times, perhaps when the pinyon cone crop fails, flocks are seen elsewhere in streamside groves, oak woods, or other habitats (Audubon).	Unlikely to occur due to lack of habitat.
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	USFWS Endangered	Bushes, willow thickets, brushy fields, upland crops. Breeds in thickets of deciduous trees and shrubs, especially willows, or along woodland edges. Often near streams or marshes (especially in southern part of range) but may be found in drier habitats than Alder Flycatcher (Audubon).	Unlikely to occur due to lack of habitat.
Sprague's Pipit (<i>Anthus spragueii</i>)	BLM Sensitive	Plains, shortgrass prairies. Breeds in relatively dry grassland, especially native prairie, avoiding brushy areas and cultivated fields. Winters in similar shortgrass habitats including pastures and prairies, and grassy patches within fields of crops such as alfalfa (Audubon).	Unlikely to occur. Project area is not located within grassland or prairie.
Varied Bunting (<i>Passerina versicolor</i>)	State Threatened	Streamside thickets, brush. In United States found mostly in areas of dense thorny brush, often with an upper story of scattered trees. Prime habitat is usually in canyons and along streams, but in some areas may be in flat desert away from water if brush is dense (Audubon).	Unlikely to occur. Project area lacks canyons, stream, and dense brush.
Virginia's Warbler (<i>Vermivora virginiae</i>)	BLM Sensitive	Oak canyons, brushy slopes, pinyons. Breeds on dry mountainsides in scrub oak, chaparral, pinyon-juniper woods, or other low brushy habitats. In some areas, prefers mountain mahogany and Gambel oak. In migration, frequently in woods along streams. In	Unlikely to occur. Project area lacks habitat and lacks Oak and Pinyon-Juniper woodlands.

Species Common Name (Scientific Name)	Legal Status	Habitat Association	Potential for Presence in Area of Potential Effect (APE)
		winter in Mexico, at mid-elevations in dry scrub (Audubon).	
Western Burrowing Owl(<i>Athene cunicularia</i>)	BLM Sensitive	Open grassland, prairies, farmland, airfields. Favors areas of flat open ground with very short grass or bare soil. Prairie-dog towns once furnished much ideal habitat in west, but these are now scarce, and the owls are found on airports, golf courses, vacant lots, industrial parks, other open areas (Audubon).	Unlikely to occur. Areas of proposed disturbance around the mine openings were examined for evidence of burrows or burrowing owls and no burrows or evidence of burrowing owls were observed in the Project Area.
Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)	USFWS Threatened	Woodlands, thickets, orchards, streamside groves. Breeds mostly in dense deciduous stands, including forest edges, tall thickets, dense second growth, overgrown orchards, scrubby oak woods. Often in willow groves around marshes. In the west, mostly in streamside trees, including cottonwood-willow groves in arid country (Audubon).	Unlikely to occur due to lack of habitat.
Crustacean			
None			
Fish			
Bigscale logperch (<i>Percina macrolepida</i>)	State Threatened; BLM Sensitive	Aquatic	Unlikely to occur. The Project Area does not contain aquatic habitats.
Blue sucker (<i>Cycleptus elongatus</i>)	State Endangered; BLM Sensitive	Aquatic	Unlikely to occur. The Project Area does not contain aquatic habitats.
Gray Redhorse (<i>Moxostoma congestum</i>)	State Endangered; BLM Sensitive	Aquatic	Unlikely to occur. The Project Area does not contain aquatic habitats.
Greenthroat darter (<i>Etheostoma lepidum</i>)	State Threatened; BLM Sensitive	Aquatic	Unlikely to occur. The Project Area does not contain aquatic habitats.
Mexican tetra (<i>Astyanax mexicanus</i>)	BLM Sensitive	Aquatic	Unlikely to occur. The Project Area does not contain aquatic habitats.

Species Common Name (Scientific Name)	Legal Status	Habitat Association	Potential for Presence in Area of Potential Effect (APE)
Pecos bluntnose shiner (<i>Notropis simus pecosensis</i>)	USFWS Threatened	Aquatic	Unlikely to occur. The Project Area does not contain aquatic habitats.
Pecos gambusia (<i>Gambusia nobilis</i>)	USFWS Endangered	Aquatic	Unlikely to occur. The Project Area does not contain aquatic habitats.
Pecos pupfish (<i>Cyprinodon pecosensis</i>)	BLM Sensitive	Aquatic	Unlikely to occur. The Project Area does not contain aquatic habitats.
Rio Grande chub (<i>Gila pandora</i>)	BLM Sensitive	Aquatic	Unlikely to occur. The Project Area does not contain aquatic habitats.
Rio Grande sucker (<i>Catostomus plebeius</i>)	BLM Sensitive	Aquatic	Unlikely to occur. The Project Area does not contain aquatic habitats.
Mammals			
Black-tailed prairie dog (<i>Cynomys ludovicianus</i>)	BLM Sensitive	Black-tailed prairie dogs inhabit grasslands, including short- and mixed-grass prairie, sagebrush steppe, and desert grasslands. Shortgrass prairies dominated by buffalo grass (<i>Buchloe dactyloides</i>), blue grama (<i>Bouteloua gracilis</i>), and western wheatgrass (<i>Pascopyron smithii</i>), and mixed-grass prairies that have been grazed by native and non-native herbivores are their preferred habitat. Slopes of 2% to 5% and vegetation heights between 3 and 5 in (8 and 13 cm) are optimal for detecting predators and facilitating communication.	Unlikely to occur. Project area lacks grassland habitat.
Least shrew (<i>Crptotis parva</i>)	State Threatened	Lowlands, riparian, and terrestrial (BISON).	Unlikely to occur. Only known record from Eddy County was in 1961. Population is considered extirpated due to habitat degradation.
Mexican long-tongued bat (<i>Choeronycteris mexicana</i>)	BLM Sensitive	Species known to inhabit deep canyons where they use caves and mine tunnels as day roosts (BISON).	Unlikely to occur. Overall bat habitat is poor (BCI).

Species Common Name (Scientific Name)	Legal Status	Habitat Association	Potential for Presence in Area of Potential Effect (APE)
Spotted bat (<i>Euderma maculatum</i>)	State Threatened; BLM Sensitive	Species have been found in pinon-juniper to pine-fur habitats. Rock cliffs and water nearby are common features (BISON)	Unlikely to occur. Overall bat habitat is poor (BCI).
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	BLM Sensitive	Townsend's big-eared bat is a western species occupying semidesert shrublands, pinon-juniper woodlands, and open montane forests. It is frequently associated with caves and abandoned mines for day roosts and hibernacula	Unlikely to occur. Overall bat habitat is poor (BCI).
Mollusks			
Pecos Springsnail (<i>Pyrgulopsis pecosensis</i>)	BLM Sensitive	The Pecos spring snail is an aquatic, gilled species (Taylor et al. 1985). It occurs on a mud and pebble substrate in its spring habitat, mainly along the edges of the water. Found in Blue and Crystal Springs (BISON)	Unlikely to occur. Project area does not include aquatic habitat.
Texas Hornshell (<i>Popenaias popeii</i>)	USFWS Endangered	Aquatic	Unlikely to occur. Project area does not include aquatic habitat.
Reptiles			
Desert massasauga(<i>Sistrurus tergeminus</i>)	BLM Sensitive	Throughout its range, <i>S. tergeminus</i> occupies a broad array of habitat types. In the central and eastern portions of its range, <i>S. tergeminus</i> is found in mesic grasslands, wet meadows, and occasionally marshes. In isolated western populations, <i>S. tergeminus</i> occurs in short-grass prairies, desert grasslands, grassy dunes, and shinnery oak (<i>Quercus havardii</i>) shrublands (Degenhardt et al. 1996; Hobert et al. 2004; Wastell and Mackessy 2011, 2016) (BISON).	Unlikely to occur. Project area does not include shinnery oak nor preferred grasslands.
Dunes Sagebrush Lizard (<i>Sceloporus arenicolus</i>)	State Endangered; BLM Sensitive	A little fan reptile, the Dunes Sagebrush Lizard, has a small range amid sand dunes of southeastern New Mexico and adjacent Texas. It lives in specialized habitats in the near areas of "blow-outs" (wind-swept depressions of open sand) between stands of shrub-like shinnery oak. It also happens to live atop the rich oil fields of Permian Basin. This specialized habitat cannot be replaced (BISON).	Unlikely to occur. Project area does not include any dune habitat.

Species Common Name (Scientific Name)	Legal Status	Habitat Association	Potential for Presence in Area of Potential Effect (APE)
Gray-Banded kingsnake (<i>Lampropeltis alterna</i>)	State Endangered	Habitat requirements of the gray-banded kingsnake include typical Chihuahuan desert habitat with abundant limestone outcroppings (BISON).	Unlikely to occur. Only one specimen collected in NM near Carlsbad National Park.
Gray-checked Whiptail (<i>Aspidoscelis dixoni</i>)	State Endangered	Dominant plants in the latter area include various grasses, forbs, and shrubs, such as creosote bush (<i>Larrea tridentata</i>), mesquite (<i>Prosopis</i> spp.), acacias (<i>Acacia</i> spp.), and tarbush (<i>Flourensia cernua</i>) (BISON).	Unlikely to occur. No documented occurrence in Eddy County (BISON).
Western River (Rio Grande) Cooter (<i>Pseudemys gorzugi</i>)	State Endangered; BLM Sensitive	Western River Cooters are associated with a variety of freshwater habitats, both lentic and lotic. It prefers small tributaries with habitat including shallow, clear streams with chiefly rocky or sandy bottoms and long, slow reaches between riffles. It also prefers larger, deeper pools in streams, usually but not always where aquatic plants are present (BISON).	Unlikely to occur. Project area does not include lentic or lotic habitats.

Table 2. Flora and fauna observed, Lone Eagle Mine Safeguarding Project - Biological Survey.

Lone Eagle Mine Safeguarding Project - Biological Survey April 2024	
Common Name	Scientific Name
Plants	
Agarita	<i>Berberis trifoliolata</i>
Bastardsage	<i>Eriogonum wrighti</i>
Blue grama	<i>Bouteloua gracilis</i>
Broom snakeweed	<i>Gutierrezia sarothrae</i>
Buck brush	<i>Ceanothus cuneatus</i>
Conejo buckwheat	<i>Eriogonum crocatum</i>
Creosote bush	<i>Larrea tridentata</i>
Crown of thorns	<i>Koeberlinia spinosa</i>
Damianita	<i>Chrysactinia mexicana</i>
Desert spoon	<i>Dasyilirion wheeleri</i>
Fiveneedle Pricklyleaf	<i>Thymophylla pentachaeta</i>
Honey mesquite	<i>Prosopis glandulosa</i>
Horse crippler	<i>Echinocactus texensis</i>
Littleleaf ratany	<i>Krameria erecta</i>
Mariola	<i>Parthenium incanum</i>
Prairie verbena	<i>Glandularia bipinnatifida</i>
Psoraceae	<i>Psoraceae</i>
Smallsees sandmat	<i>Euphorbia polycarpa</i>
Soaptree yucca	<i>Yucca elata</i>
Texas rainbow cactus	<i>Echinocereus dasyacanthus</i>
Tulip prickly pear	<i>Opuntia phaeacantha</i>
Water jacket	<i>Lycium andersonii</i>
Whitethorn acacia	<i>Vachellia constricta</i>
Wooly bluecurls	<i>Trichostema lanatum</i>
Ampibian	
None	
Arthropod	
None	
Birds	
Ash throated flycatcher	<i>Myiarchus cinerascens</i>
Black throated sparrow	<i>Amphispiza bilineata</i>
Great blue heron	<i>Ardea herodias</i>
Great horned owl	<i>Bubo Virginanus</i>
House finch	<i>Haemorhous mexicanus</i>
Lark sparrow	<i>Chondestas grammacus</i>
Rock wren	<i>Salpinctes obsoletus</i>
Common Nighthawk ¹	<i>Chordeiles minor</i>

Lone Eagle Mine Safeguarding Project - Biological Survey April 2024	
Common Name	Scientific Name
Crustacean	
None	
Fish	
None	
Mammals	
Coyote	<i>Canis latrans</i>
Mollusks	
None	
Reptiles	
None	

¹Observation occurred on 6/5/2024 during site visit.

References

- Bat Conservation International (BCI). 2024. *Final Report: Lone Eagle Abandoned Mine Bat Surveys*. Prepared for New Mexico EMNRD and the Bureau of Land Management. January 9, 2024.
- Bureau of Land Management (BLM). 2019a. *BLM New Mexico Special Status Animal List*. New Mexico Threatened and Endangered Species. Available online: [https://www.blm.gov/sites/blm.gov/files/IB NM-2019-002_Attachment 1 Animal.pdf](https://www.blm.gov/sites/blm.gov/files/IB%20NM-2019-002_Attachment%201%20Animal.pdf)
- Bureau of Land Management (BLM). 2019b. *BLM New Mexico Special Status Plant List*. New Mexico Threatened and Endangered Species. Available online: [https://www.blm.gov/sites/blm.gov/files/IB NM-2019-002-Attachment 2 Plants.pdf](https://www.blm.gov/sites/blm.gov/files/IB%20NM-2019-002-Attachment%202%20Plants.pdf)
- National Audubon Society (NAS). 2024. *Search All Things Birds*. Available online: <https://www.audubon.org>
- New Mexico Department of Game and Fish (NMDGF). 2024. Biota Information System of New Mexico BISON-M). Species reports. Available online: <http://www.bison-m.org>
- New Mexico Energy, Minerals and Natural Resources Department (NMEMNRD). 2023. *New Mexico State Endangered Plant Species*. Available online: [NM-ENDANGERED-PLANT-List_2023.pdf](#)
- New Mexico Rare Plant Technical Council (NMRPTC). 2024. *New Mexico Rare Plants*. Available online: <https://nmrareplants.unm.edu/>. Accessed on April 9, 2024.
- U.S. Fish and Wildlife Service (USFWS). 2024a. Information, Planning, and Conservation System (IPaC). Environmental Conservation Online System. Report for project area generated May 10, 2024.
- U.S. Fish and Wildlife Service (USFWS). 2024b. Environmental Conservation Online System. Northern Aplomado Falcon (*Falco femoralis septentrionalis*). Available online: <https://ecos.fws.gov/ecp/species/1923>. Accessed May 10, 2024.

Appendix B
**U.S. Fish and Wildlife (USFWS) Information for Planning and
Consultation (IPaC) Report**



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna Road Ne
Albuquerque, NM 87113-1001
Phone: (505) 346-2525 Fax: (505) 346-2542

In Reply Refer To:

05/10/2024 17:39:28 UTC

Project Code: 2024-0088911

Project Name: Lone Eagle Mine Safeguarding Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Thank you for your recent request for information on federally listed species and important wildlife habitats that may occur in your project area. The U.S. Fish and Wildlife Service (Service) has responsibility for certain species of New Mexico wildlife under the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 *et seq.*), the Migratory Bird Treaty Act as amended (16 USC 701-715), and the Bald and Golden Eagle Protection Act as amended (16 USC 668-668(c)). We are providing the following guidance to assist you in determining which federally imperiled species may or may not occur within your project area, and to recommend some conservation measures that can be included in your project design.

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the ESA of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the ESA is to provide a means whereby threatened and endangered species and

the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the ESA and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (NEPA; 42 USC 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at <https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>.

Candidate Species and Other Sensitive Species

A list of candidate and other sensitive species in your area is also attached. Candidate species and other sensitive species are species that have no legal protection under the ESA, although we recommend that candidate and other sensitive species be included in your surveys and considered for planning purposes. The Service monitors the status of these species. If significant declines occur, these species could potentially be listed. Therefore, actions that may contribute to their decline should be avoided.

Lists of sensitive species including State-listed endangered and threatened species are compiled by New Mexico State agencies. These lists, along with species information, can be found at the following websites.

Biota Information System of New Mexico (BISON-M): www.bison-m.org

New Mexico State Forestry. The New Mexico Endangered Plant Program:
<https://www.emnrd.nm.gov/sfd/rare-plants/>

New Mexico Rare Plant Technical Council, New Mexico Rare Plants: nmrareplants.unm.edu

Natural Heritage New Mexico, online species database: nhnm.unm.edu

WETLANDS AND FLOODPLAINS

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. These habitats should be conserved through avoidance, or mitigated to ensure that there would be no net loss of wetlands function and value.

We encourage you to use the National Wetland Inventory (NWI) maps in conjunction with ground-truthing to identify wetlands occurring in your project area. The Service's NWI program website, www.fws.gov/wetlands/Data/Mapper.html, integrates digital map data with other resource information. We also recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands.

MIGRATORY BIRDS

In addition to responsibilities to protect threatened and endangered species under the ESA, there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the Service (50 CFR 10.12 and 16 USC 668(a)). For more information regarding these Acts, see <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a Federal nexus) or a Bird/Eagle Conservation Plan (when there is no Federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>. We also recommend review of the Birds of Conservation Concern list (<https://www.fws.gov/media/birds-conservation-concern-2021>) to fully evaluate the effects to the birds at your site. This list identifies migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent top conservation priorities for the Service, and are potentially threatened by disturbance, habitat impacts, or other project development activities.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 thereby provides additional protection for both migratory birds and migratory bird habitat. Please visit <https://www.fws.gov/partner/council-conservation-migratory-birds> for information regarding the implementation of Executive Order 13186.

We suggest you contact the New Mexico Department of Game and Fish, and the New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division for information regarding State protected and at-risk species fish, wildlife, and plants.

For further consultation with the Service we recommend submitting inquiries or assessments electronically to our incoming email box at nmesfo@fws.gov, where it will be more promptly routed to the appropriate biologist for review.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New Mexico Ecological Services Field Office

2105 Osuna Road Ne
Albuquerque, NM 87113-1001
(505) 346-2525

PROJECT SUMMARY

Project Code: 2024-0088911

Project Name: Lone Eagle Mine Safeguarding Project

Project Type: Mine Closure

Project Description: The Lone Eagle Safeguarding Project will safeguard 2 dangerous mine features in the project area northwest of Carlsbad, NM. One is a location on state land while the other is on BLM. The Lone Eagle open pit located on state land will be filled using existing waste rock onsite and potentially imported fill material from a nearby quarry. The BLM shaft will likely be filled with a PUF base and covered using imported fill. AMLP would like to block or remove the two-track access to the state land site to prevent further dumping and vandalization. Ground disturbance will occur when removing fill from waste rock piles to be used in the pit.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@32.476127500000004,-104.37322826651975,14z>



Counties: Eddy County, New Mexico

ENDANGERED SPECIES ACT SPECIES

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> This species only needs to be considered if the project includes wind turbine operations. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Mexican Spotted Owl <i>Strix occidentalis lucida</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8196	Threatened
Northern Aplomado Falcon <i>Falco femoralis septentrionalis</i> Population: U.S.A (AZ, NM) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1923	Experimental Population, Non- Essential
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened

FISHES

NAME	STATUS
Pecos Bluntnose Shiner <i>Notropis simus pecosensis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4362	Threatened
Pecos Gambusia <i>Gambusia nobilis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/460	Endangered

CLAMS

NAME	STATUS
Texas Hornshell <i>Popenaias popeii</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/919	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

FLOWERING PLANTS

NAME	STATUS
Gypsum Wild-buckwheat <i>Eriogonum gypsophilum</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7770	Threatened
Lee Pincushion Cactus <i>Coryphantha sneedii</i> var. <i>leei</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2504	Threatened
Sneed Pincushion Cactus <i>Coryphantha sneedii</i> var. <i>sneedii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4706	Endangered
Wright's Marsh Thistle <i>Cirsium wrightii</i> Population: There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8963	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: New Mexico Energy, Minerals, and Natural Resources Department
Name: Charles Dentino
Address: 1220 South Saint Francis Drive
City: Santa Fe
State: NM
Zip: 87505
Email: charles.dentino@emnrd.nm.gov
Phone: 5057953339

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Office of Surface Mining Reclamation and Enforcement

You have indicated that your project falls under or receives funding through the following special project authorities:

- BIPARTISAN INFRASTRUCTURE LAW (BIL) (OTHER)

Appendix A
Bat Conservation International Subterranean Biological Survey

Final Report: Lone Eagle Abandoned Mine Bat Surveys

January 9, 2024

Agreement No. 22-521-0600-0005 / Task Order 4



Myriam surveying portal of Lone Eagle SLO adit.
BCI Photo by Jackson Bain

Submitted April 1, 2024

Contents

Acknowledgements	3
Overview	3
Section 1: Survey Methods	6
Section 2: Survey Results.....	7
Contact	9
Appendix 1: Selected Photos.....	10
Appendix 2: Bat Habitat Assessments	13
Appendix 3: Closure Recommendations.....	17
Appendix 4: Exclusion Guidance.....	20

Acknowledgements

BCI wishes to thank Laurence D'Alessandro and Chuck Dentino of New Mexico ENMRD, for initiating the project and for providing the scope of work and site inventory descriptions. Special thanks to Chuck for joining us in the field.

All surveys were conducted by BCI Subterranean Team staff: Jackson Bain and Myriam Bishop. This report was authored by Jackson Bain and Myriam Bishop, with survey protocol content and report design by Shawn Thomas. Geospatial products were created by Priyesh Patel.

Overview

BAT SURVEYS:

This biological survey project assessed abandoned mine land (AML) features in southern New Mexico. The AML features surveyed are located northwest of Carlsbad, NM. All sites were surveyed by Bat Conservation International (BCI) staff following standardized protocols and safety procedures for providing subterranean biological data and closure recommendations. Surveys focused on documenting bat and other wildlife use of each feature. The field project resulted in bat surveys being conducted on 3 distinct features, comprising 3 openings to the surface (Table 1, Figure 1). Bat habitat assessments and closure recommendations are provided for all features. Selected photos appear in Appendix 1.

Table 1. Summary of bat survey results and closure recommendations.

Feature¹	Closure Rec.²	Live Bats	Other Bat Sign	Roost Function	Bat Habitat
Lone Eagle Shaft SLO	DCAT	none	none	none	Poor
Lone Eagle Shaft BLM	DCAT	none	none	none	Poor
Lone Eagle Root Cellar	LAI or DCAT	none	none	none	Marginal

¹Feature: A distinct feature may consist of a single opening, multiple openings interconnected via underground workings, or closely related surface workings. In the “Feature” column, distinct features are separated by solid lines, and associated openings of a feature are separated by dashed lines. A feature contains shared biological and habitat characteristics and is therefore described by a single survey, whereas closure recommendations are unique to each opening.

²Closure recommendations:

Wildlife-compatible Closures

- BCAT – bat-compatible closure, any time
- BCCS – bat-compatible closure, cold season
- BCWS – bat-compatible closure, warm season
- OWC – other wildlife-compatible closure
- CM – closure modification

Destructive Closures

- DCAT – destructive closure, any time
- DCWS – destructive closure, warm season

No Action

- LAI – leave as is

Other Closure Type

- AC – airflow closure

BCI Field Surveys: 2024 Lone Eagle

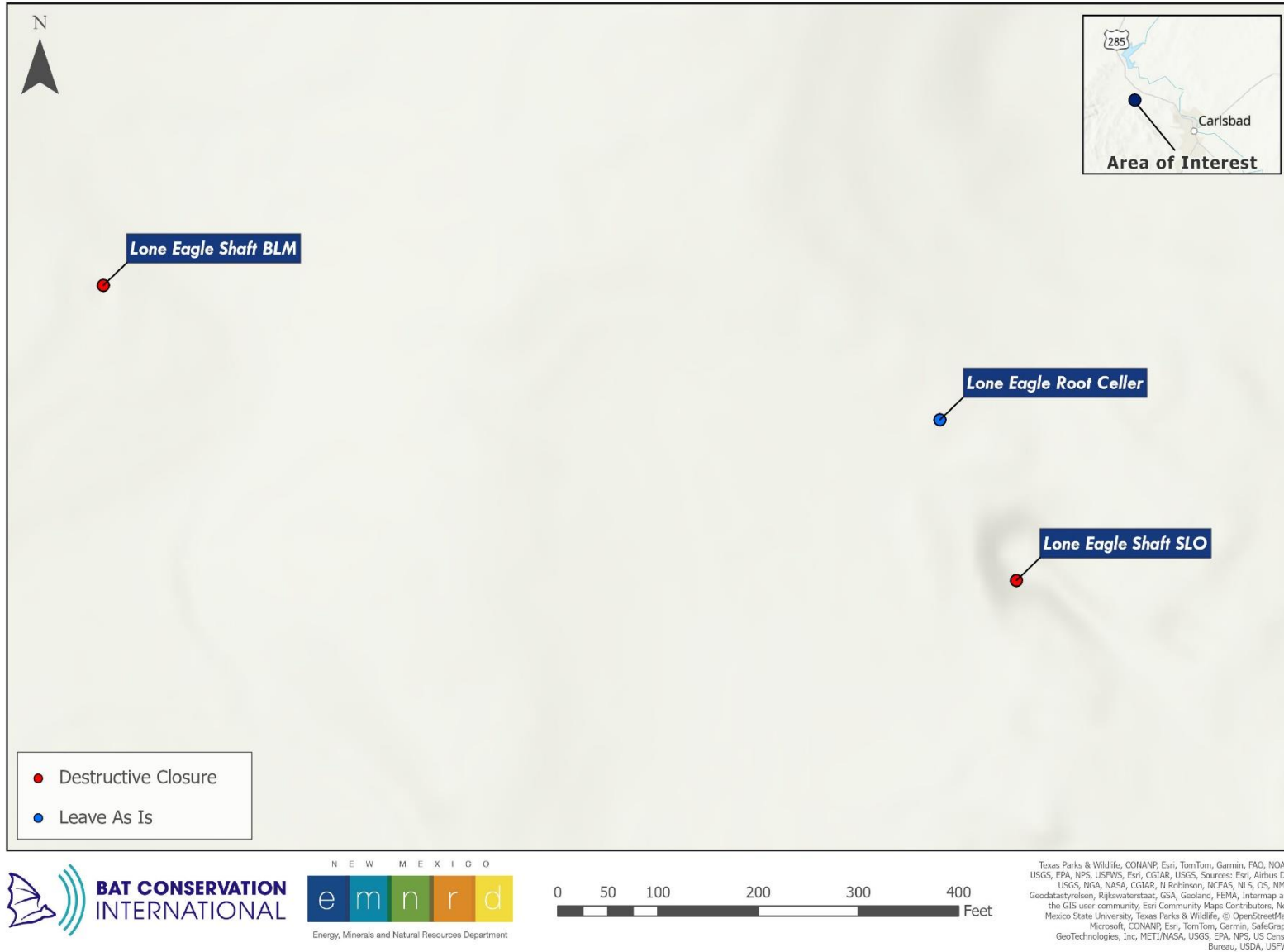


Figure 1: Overview Map of Project Area and Features Surveyed

Section 1: Survey Methods

BIOLOGICAL SURVEYS:

Biological data is collected via internal surveys after abandoned mine land (AML) features are assessed and determined to be safe to enter. Internal surveys are the most efficient and effective means of assessing habitat quality and wildlife use. Surveys are focused on subterranean habitat, with a primary emphasis on bat use. Surveys attempt to identify bat species present, document other bat sign (e.g., guano, insect parts, roost staining), and determine roost function of the site. Additionally, surveys document other wildlife use of features, evident by live animals, scat, nests, etc. All bat and other wildlife observations inform habitat assessments and closure recommendations.

BAT HABITAT ASSESSMENT SUMMARY:

Bat habitat assessments are determined based on observed bats and bat sign, along with physical characteristics of the site such as complexity and extensiveness of workings, portal size and obstructions, ceiling textures that bats select for, hydrological activity (such as seasonal flooding) that may preclude bat use, and any additional observations that may influence bat use of the site. A bat habitat assessment is applied to each distinct AML feature, which may include multiple openings.

- None
- Poor
- Marginal
- Moderate
- Good
- Excellent
- Unknown

See Appendix 2 for descriptions of bat habitat assessment classifications.

CLOSURE RECOMMENDATIONS:

Closure recommendations generally fall into bat-compatible or destructive closure categories and include a seasonal component that recommends the closure to occur either during the warm season, cold season, or at any time. A closure recommendation is provided for each individual opening of an AML feature and is selected from the following options:

- BCAT: Bat-compatible Closure, Any Time
- BCCS: Bat-compatible Closure, Cold Season
- BCWS: Bat-compatible Closure, Warm Season
- OWC: Other Wildlife-compatible Closure
- DCAT: Destructive Closure, Any Time
- DCWS: Destructive Closure, Warm Season
- LAI: Leave As Is
- CM: Closure Modification
- AC: Airflow Closure

See Appendix 3 for descriptions of closure recommendation classifications and Appendix 4 for guidance on conducting exclusion prior to closure.

Section 2: Survey Results

AML FEATURE DESCRIPTIONS:

Unless otherwise noted, all features are driven in moderate- to good-quality rock (qualitative safety assessment), contain good air*, and exhibit minimal signs of post-mining human disturbance. All feature locations are listed as latitude and longitude (decimal degrees) in the WGS84 datum.

* Good air is defined as no alarm sounding on the Altair 4x Multi-gas Detector carried during all surveys. The detector measures four gases (oxygen, carbon monoxide, hydrogen sulfide, methane) and alarms for gas levels that fall outside of safe thresholds.

Feature: Lone Eagle Shaft SLO

Location: 32.47626400, -104.37229900

Date: January 9, 2024

Observations: This feature is a 12' adit inside of a 40' diameter pit filled with trash and other debris, including junked vehicles and household appliances. A 35' trench allows access to the pit, and a settling pond sits adjacent to the entrance to the trench. This feature has long been used as a dumpsite; some of the trash appears to be historical. The adit presents no dark zone; a high wall does have featurings that could support roosting but appears unstable. Overall bat habitat is poor, and this feature has no potential to support future significant use. This feature does see significant owl use evidenced by guano below a prominent perch, owl pellets, and a dead barn owl.

Bat Habitat: Poor

Closure Recommendation: Destructive Closure, Any Time (DCAT)

Feature: Lone Eagle Shaft BLM

Location: 32.47694300, -104.3747940

Date: January 9, 2024

Observations: This feature is a shaft 6' x 8' in diameter that ends in collapse 9' down. A jack-straw plug of timbers and debris may support a false bottom to the shaft. No subterranean access for bats was evident though the debris plug. The east side of the shaft has a 3' undercut. Historical findings include collapsed timber collar support and lagging. No modern sign of visitation was observed. With no dark zone present and no subterranean access, bat habitat is assessed as poor. Other wildlife use observations included a woodrat midden and fresh scat.

Bat Habitat: Poor

Closure Recommendation: Destructive Closure, Any Time (DCAT)

Feature: Lone Eagle Root Cellar

Location: 32.47663353, -104.37250831

Date: January 9, 2024

Observations: This feature is a powder magazine constructed over a shallow pit directly adjacent to a road. Square dimensional timbers form a roof over a 7'x 10' pit. The structure is ~4' in height throughout. Modern sign of visitation was evident at a moderate level by a Lego block and a Jolly Rancher wrapper. The timbered ceiling provides featuring usable by bats, but the feature offers no dark zone, and no bat sign was observed. Other wildlife sign included woodrat scat and midden, millipede shell, lizard bones, and live invertebrates.

Bat Habitat: Marginal

Closure Recommendation: Leave As Is (LAI)

This feature does contain cultural resources. However, the feature is directly adjacent to a road and the roof of the feature is constructed of timbering and may collapse under load. Fencing and signage could be added to minimize safety concerns.

Alternate Closure Recommendation: Destructive Closure, Any Time (DCAT)

Considering the safety hazards, it may be most appropriate to destructively close the feature. Perform a visual inspection (entire feature visible from opening) to check for any wildlife that may be present prior to closure.

Contact

For questions on the content of this report, or for more information on bats and subterranean habitat, please contact Bat Conservation International's Subterranean Team:

Shawn Thomas

Subterranean Team Lead

sthamas@batcon.org

Kathleen Slocum

Subterranean Specialist

kslocum@batcon.org

Jackson Bain

Assistant Subterranean Team Lead

jbain@batcon.org

Josh Hydeman

Subterranean Specialist

jhydeman@batcon.org

Dillon Metcalfe

Subterranean Safety Lead

dmetcalfe@batcon.org

Harrison Tamayo

Subterranean Specialist

htamayo@batcon.org

Alexi Kimiatek

Subterranean Specialist

akimiatek@batcon.org

Corrie Harrison

Subterranean Specialist

charrison@batcon.org

BCI's Habitat Protection & Restoration Program (HP&R) works to identify, protect, restore, and conserve the above and below ground habitats that are vital to bat populations around the world. To learn more about our capabilities and partnership opportunities, please contact:

Jason Corbett

Director, Habitat Protection & Restoration

jcorbett@batcon.org

To learn more about BCI's mission to end bat extinctions worldwide, and how you can help, please visit our website:

www.batcon.org



Appendix 1: Selected Photos

The full set of photos from all features was provided in digital form with this report.



Lone Eagle Shaft SLO: Pit viewed from trench. Adit is in the background beyond surveyor.
BCI Photo by Jackson Bain



Lone Eagle Shaft BLM: Surveyor shining light looking for opening in the timbers.
BCI Photo by Jackson Bain



Lone Eagle Shaft BLM: The collar is obstructed by collapsed timbers and provides no flyway.
BCI Photo by Jackson Bain



Lone Eagle Root Cellar: Myriam entering the feature.
BCI Photo by Jackson Bain



Lone Eagle Root Cellar: Ceiling of the feature could easily collapse under load.
BCI Photo by Jackson Bain

Appendix 2: Bat Habitat Assessments

Bat habitat is assessed for each feature surveyed and describes the value of that feature for bat use. Determining bat habitat is the primary objective of surveys conducted by the BCI Subterranean Program. Survey of a feature results in seven possible bat habitat classifications: excellent, good, moderate, marginal, poor, no habitat, or unknown. Each of these classifications are described below.

Excellent Bat Habitat

Description

Excellent bat habitat is very rare amongst features surveyed. For a feature to be assessed as having excellent habitat, significant bat use, usually by colonies, must be documented. Typically, this occurs when a large single species roost (>20 bats) is identified using the feature for warm season aggregation, usually in conjunction with substantial guano piles. Bats present in lower numbers but representing multi-species use of three or more species also warrants an assessment of excellent habitat. Bats need not be present to identify excellent habitat, as obvious bat sign such as large guano piles, heavily scattered guano along flyways, and roost staining on ceilings are indicators of significant bat use. Major winter use by bats cannot be confirmed during warm season surveys, though features that exhibit cold temperatures, airflow, and a high diversity of microclimates and roosting habitat can be identified as sites with good potential for serving as hibernacula. Features offering excellent bat habitat usually exhibit striking internal complexity, with extensive workings and possibly multiple levels. Due to the extensiveness of underground workings, these features nearly always offer high quality rock habitat. Exceptions, however, include small features used as maternity sites. Feature stability should be good, with little concern for future collapse that could result in loss of the roost.

Closure Recommendation

Features with excellent bat habitat should nearly always be recommended for protection (exceptions include imminent collapse or other major safety hazards). To minimize disturbance while bats are using the feature for a critical life cycle phase, bat-friendly closures should occur during the opposite season of primary use. For example, closure of a feature that hosts a maternity colony should occur during the cold season, and closure of a feature that serves as a hibernaculum should occur during the warm season. For features with multiple entrances, closures should protect all openings that are either used for bat access or necessary to preserve airflow patterns.

Good Bat Habitat

Description

Good bat habitat is represented by features that contain clear signs of persistent bat use but do not exhibit the striking evidence of significant use by bat colonies. These features often support use by one or two species of bats that use the site as a day roost or night roost. Bat sign such as guano, either scattered or in small piles, and insect parts are common in these features. The internal workings usually exhibit moderate complexity, with rock habitat quality that meets the specific needs of day or night roosting bats, such as domes, drill holes, and/or a heavily featured back. Feature stability should be good, with little concern for future collapse that could result in loss of the roost.

Closure Recommendation

Features with good bat habitat should nearly always be recommended for protection (exceptions include imminent collapse or other major safety hazards). Bat-friendly closures can usually occur at any time of the year, as bat use of these sites is persistent but dispersed and does not represent significant use for warm season maternity colony aggregation or cold season hibernation. For features with multiple entrances, closures should protect all openings that are either used for bat access or necessary to preserve airflow patterns.

Moderate Bat Habitat

Description

Moderate bat habitat generally refers to features that exhibit some signs of minor bat use or have potential for bat use due to the level of complexity and/or stable microclimate offered within. Moderate habitat features are often occupied by one or two bats, possibly on a seasonal nature, but will not display any signs of significant bat use. Guano, if present, will be lightly scattered, or in no more than a few very small piles representative of solitary bats of a single species. Insect parts may also be present, indicating night roosting. Bat sign may also be completely absent from these features at the time of survey, either due to extremely limited bat use, suspected winter use that cannot be detected during a warm season survey, or feature conditions such as flooding that may cover or destroy evidence of bat use. Complexity of the feature will range from simple, if combined with other signs of bat use, to moderately complex. Feature stability should be relatively stable, and rock habitat quality should offer some level of suitable roosting surface.

Closure Recommendation

Features with moderate bat habitat fall into the "grey area" where bat use is not necessarily prominent enough to immediately warrant a protective closure, yet the possibility for increased future bat use exists. Generally, a bat-friendly closure should be recommended for features with moderate habitat in order to maintain a conservative approach to habitat protection. Furthermore, the context of the feature relative to the surrounding landscape may elevate its importance if few other suitable habitat options are available. Scenarios that may call for destructive closure recommendations on features that meet the criteria for moderate habitat include unstable internal conditions that suggest future collapse/destruction of the feature or areas in which the feature is eclipsed by numerous other features with superior habitat. If a destructive closure is recommended, it must be accompanied by bat exclusion prior to closure.

Marginal Bat Habitat

Description

Features designated marginal bat habitat generally lack bats and bat sign. Less commonly, these features may exhibit signs of very minor, infrequent use. A single bat may be present, but there may be no accompanying signs that would allow detection if the bat was absent. Guano and insect parts, if present, will be very sparsely scattered and require diligence for detection. Complexity of the feature will always be simple, with no substantial workings; however, these features are usually extensive enough to include a dark zone, and the entire feature is not visible from the portal or collar. Marginal features are often short, simple adits or blind and bald shafts. Feature stability can be stable, but often poor rock conditions contribute to marginal habitat. Rock habitat quality will generally be poor to fair, with less than ideal roosting surfaces.

Closure Recommendation

Features with marginal bat habitat are almost invariably recommended for destructive closure due to these features lacking bat sign and/or containing unstable conditions that threaten collapse. Given the possibility for bats to be present in these features, exclusion is required prior to closures occurring in the warm season when bats are active. In rare circumstances, a protective closure may be warranted to allow for the possibility of future bat use, especially if the feature represents one of the only subterranean habitat options in the area.

Poor Bat Habitat

Description

Features classified as poor bat habitat tend to be very small prospects that exhibit no signs of bat use. While these features offer some level of subterranean habitat, the workings are so limited as to offer no true dark zone and no area of stable subterranean microclimate. Usually, the entire feature will be visible from the portal or collar. These features are so small that structural stability is often quite good, but they may also be in a state of collapse. Rock habitat quality can range the entire spectrum, but this assessment is largely irrelevant in such small features that offer little physical area from which bats can select roosting spots that have a stable microclimate.

Closure Recommendation

Features with poor bat habitat are recommended for destructive closure. Due to the lack of bat sign or potential for future bat use, a "DCAT" recommendation is usually warranted on these features.

No Bat Habitat

Description

Assessing a feature as containing no bat habitat means no subterranean habitat is available. No underground workings are present at all, and the feature would present no option for bats to roost in subterranean environments. This scenario occurs for features that are totally collapsed, prospect scrapes, entirely and permanently flooded, or some other similar circumstance. This assessment is also appropriate for portals that are almost entirely sloughed closed and/or overgrown with vegetation such that bats would be unable to access the workings.

Closure Recommendation

With no subterranean component and thus no bat habitat, a "DCAT" recommendation is always warranted. For some features, though, especially those that contain no inherent hazard, a "Leave As Is" recommendation may be most appropriate. This recommendation is most applicable to prospect scrapes and pits that contain no headwall and may be largely overgrown.

Unknown Bat Habitat

Description

If an internal survey cannot be conducted, and underground workings are likely to exist based on observations from the surface, then bat habitat cannot be assessed. This usually occurs when the feature is not accessible due to safety concerns (e.g., wildlife hazards, rock or timber hazards) at the portal or collar. Often, looking into the feature from outside confirms that underground workings are present, though inaccessible. An unknown bat habitat assessment may also be appropriate for some partial internal surveys, when a survey is terminated underground due to safety concerns. In these instances, though, if extensive workings and/or bats and bat sign are observed prior to terminating the survey, then a higher bat habitat classification and feature protection are warranted.

Closure Recommendation

Closures of features with unknown bat habitat should follow conservative recommendations to minimize the possibility of destroying potentially important bat roosts. When possible, bat-friendly closures should be recommended for these features. In cases where destructive closures are more appropriate (e.g., collapse of feature is imminent), exclusion is required prior to closures occurring in the warm season when bats are active.

Appendix 3: Closure Recommendations

Closure recommendations are assigned to each opening of a distinct feature surveyed and prescribe the appropriate remediation strategy for the site. Bat use, other wildlife use, feature stability, and overall nature of the workings are considered when determining the closure recommendations. Survey of a feature usually results in recommendation of a bat-compatible closure or destructive closure for each opening, with a seasonal component to advise suitable timing of the closure. In some cases, openings may warrant other wildlife-friendly closures or recommendation of no action (leave as is). Each of these classifications are described below.

Bat-compatible Closures

Bat-compatible closures are recommended for openings to features that contain bats / bat sign and/or exhibit characteristics that indicate high potential for bat use. These features warrant protective closures to maintain the bat habitat within and allow for continued bat use. Bat-compatible closures include a variety of methods that fall on a spectrum of high to low compatibility. No closure method is perfect for all bat species, but generally, gates designed to comply with bat-compatible specifications are preferred to 1) minimize the potential of disrupting current use patterns and 2) promote long-term access for bats and other wildlife. For openings that are unstable or present access challenges, construction of a standard bat gate may not be possible. In these instances, use of alternative methods such as culverts or cable nets may be the most feasible method; while these closure types are not ideal for bats and other wildlife, they may still facilitate moderate levels of access and habitat use and therefore present a suitable alternative to total habitat loss.

Three seasonal designations are used to recommend appropriate timing of bat-compatible closures:

- **BCAT (Bat-compatible Closure, Any Time):** "Any time" bat closures are recommended for openings to features in which overall bat use is relatively minor or not confined to any single season.
- **BCCS (Bat-compatible Closure, Cold Season):** Cold season bat closures are recommended for openings to features that display significant warm season use, typically by a maternity colony of bats. Closure is recommended to occur during the cold season to avoid disturbance of bat colonies, which could potentially lead to abandonment of the site.
- **BCWS (Bat-compatible Closure, Warm Season):** Warm season bat closures are recommended for openings to features that are documented as hibernacula or exhibit characteristics that indicate high potential for significant cold season use by hibernating bats. Closure is recommended to occur during the warm season to avoid disturbance of hibernating bats, which could potentially lead to bats arousing and burning critical energy reserves.

Airflow Closures

Airflow closures may be recommended for secondary openings to features with multiple openings that access habitat warranting protection. Independent, secondary openings often contribute to the microclimate and habitat suitability of the underground workings via air exchange but may not serve as important access points for wildlife. In these cases, it is appropriate to close these secondary openings in a way to maintain air exchange without preserving access to wildlife.

Other Wildlife-compatible Closures

Protection may also be recommended for openings to features that display significant use by wildlife other than, or in addition to, bats. These closure recommendations are relatively rare, and closure methods are dependent on type of wildlife use. Protection of features may be warranted for use by wildlife including, but not limited to, birds (e.g., owls, vultures), mammals (e.g., cats, foxes, porcupines, ringtails), and reptiles/amphibians (e.g., salamanders).

Closure Modifications

Closure modifications are recommended for existing closures such as bat gates or backfills that do not adequately protect or maintain habitat provided by the feature. In these cases, a modification to the existing closure is recommended to improve wildlife access to habitat assessed at the time of survey. Closure modifications are recommended to provide access to previously inaccessible habitat or to facilitate increased use of existing habitat. Seasonality is also considered in closure modification recommendations to advise suitable timing of the modification.

Destructive Closures

Destructive closures are recommended for openings to features that either offer no bat habitat, contain no evidence of bat use, or exhibit only minor, insignificant bat use. In some cases, destructive closures may also be recommended for secondary openings to features that are protected through bat-compatible closure of primary openings used for wildlife access. Two destructive closure designations are used to recommend appropriate measures based on possible bat use:

- **DCAT (Destructive Closure, Any Time):** These openings access features that exhibit no signs of bat use or potential for bats to be present and can be destructively closed without conducting exclusion, during any season. This recommendation may also be applied to secondary openings to features protected for wildlife habitat, provided that these openings do not serve any critical function in maintaining wildlife access or suitable habitat conditions.
- **DCWS (Destructive Closure, Warm Season):** These openings access features that either exhibit signs of minor, insignificant bat use or have the potential for bats to be present

during destructive closure. In some cases, other wildlife such as birds may be present, and these animals should also be excluded; alternatively, closure with bat exclusion may be timed for after the nesting season when birds are no longer using the feature. Using appropriate exclusion techniques on the features prior to closure is critical. Exclusion needs to be done during the warm season when bats are active and will be able to escape. See Appendix 4 and refer to “Managing Abandoned Mines for Bats,” published by Bat Conservation International, for guidance on exclusion techniques.

Leave As Is (No Action)

"Leave As Is" (LAI) treatments are recommended on a limited basis for subterranean features that present no inherent safety concerns (e.g., vertical drops, loose overhead rock), contain little to no sign of modern human visitation, and/or are so remotely located and difficult to access that they do not present a viable threat to human health and safety. Features that are appropriate for this recommendation include minor prospects and relatively short adits that meet the above criteria. Additionally, features with no subterranean component (e.g., prospect scrapes/trenches, self-remediated adits, small subsidence pits in unconsolidated sediment) are often suitable for LAI recommendations. Features that present a fall hazard (e.g., shafts) should never receive a LAI recommendation.

Wildlife use is another consideration for some Leave As Is recommendations. For features with habitat unique to the landscape and with demonstrated use by wildlife that would be precluded by standard bat-compatible closures, LAI is the only option for preserving the habitat for those animals. Examples from past SubT surveys include black bear, javelina, and turkey vulture habitat (this consideration does not apply to domesticated animals like sheep and cattle). In these cases, however, consideration is still given to any objective hazards presented by the feature, along with access and signs of human visitation.

Communication from partners may also inform Leave As Is recommendations. Partners occasionally indicate they have no intention of closing a particular feature. Conversely, some partners are adamant that every feature must be physically addressed with a hard closure. While partner perspectives are important in making closure recommendations, they are not the sole consideration. Land management is dynamic and evolves over time with funding and staffing changes. Thus, our recommendations remain rooted in the primary factors we use to inform the appropriate closure type (e.g., wildlife use, safety, access, human visitation).

Our deliverables include primary closure recommendations that are derived from our standard decision-making process. When recommending LAI for subterranean features, an alternative recommendation (bat-compatible or destructive) will also be included. For non-subterranean features, LAI can serve as the sole closure recommendation. Based on partner communication, LAI can also be indicated as a primary or alternative recommendation, if appropriate.

For a typical AML project, LAI recommendations will constitute a minor proportion of overall closure recommendations.

Appendix 4: Exclusion Guidance

Exclusion Guidance as Excerpted from BCI's "Managing Abandoned Mines for Bats"

Timing of Exclusions

The exact timing of exclusions and site closures is best determined locally, given the variability in types of use by different species. As a general rule, bats must be active for exclusions to be effective, so all exclusions should be conducted outside of hibernation season. In general:

- The best time to implement exclusions and portal closures is during late summer or early fall, after cessation of maternity activities and before the onset of hibernation.
- Early-fall closures will best ensure a window for bats to find alternate hibernacula and will give females a full spring season to locate alternate maternity sites.

Exclusions for Destructive Closures

Regardless of the reason for a destructive closure of known or potential bat roosts, steps must be taken to ensure significant bat colonies are not destroyed as a direct result of closure activities. Managers should include adequate exclusions as a routine part of mine reclamation programs to minimize the risk of entombing bats in closed workings. Further, closures should be conducted immediately following exclusion to limit the chance of bats becoming reestablished in the mine. In general, these two guidelines can help determine whether exclusions should be conducted and how intense the exclusion effort should be.

Exclusions Not Required: Exclusions are generally not required if a mine does not offer potential bat habitat, as mutually agreed upon by all partners involved in the mine closure project.

Standard Exclusions: In general, exclusions are recommended at all mines that represent habitat for bats. Given the ephemeral and episodic use of some roosts, it is prudent to err on the side of caution and conduct standard exclusions efforts, especially if significant time has elapsed since biological assessments were conducted.

The use of one-inch mesh material (e.g., chicken wire, polypropylene or similar material) is most often used to exclude bats from a mine. Lighter-weight material may be used for remote mines that require physically transporting the material over long distances or rough terrain. Although this material is very effective for excluding bats, it may also entangle bats and other wildlife. Managers may need to develop a plan to periodically check exclusion materials at sites with large bat colonies or high use by other wildlife to prevent loss of entangled bats, amphibians, reptiles or birds.

Exclusion materials should be maintained for at least three nights prior to portal closure at mines that provide habitat and where little or no bat use has been detected. Simultaneously

covering all external openings with exclusion materials and leaving it in place for at least one week is an effective method for excluding most bat species from roosts. Difficulties in navigating through exclusion materials should cause bats to seek alternate roosts rather than continuing to access the mine through the wire.

For most species, simply spreading exclusion materials across portals will be sufficient to allow bats to exit a mine while effectively discouraging their return. However, not all bats in all roosts across all landscapes will respond in an identical manner. As a general rule, smaller colonies in areas where roosts are abundant tend to quickly abandon roosts after exclusion materials are installed. For example, exclusion materials left in place for three to five nights will usually cause small colonies of Townsend's big-eared bat roosting in small mines in Nevada to abandon the roosts.

Appendix C

New Mexico BLM Special Status Plant and Animal List

Plant Species Data

<i>Species</i>	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	NatureServe Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
Plants													
<i>Abronia bigelovii</i>	Sand verbena, Galisteo		Potential	Verified					G3	S2	None	Species of Concern	BLM SENSITIVE
<i>Acarospora clauzadeana</i>	Lichen, acarospora clauzadeana						Verified		G1G2	S1	Petitioned/negative 90 day finding	None	BLM SENSITIVE
<i>Agastache pringlei</i> var. <i>verticillata</i>	Giant hyssop, Organ Mountains					Verified			G3G4T2	S2	None	Species of Concern	BLM SENSITIVE *New*
<i>Aliciella formosa</i>	Gilia, Aztec	Verified							G2	S2	Petitioned/negative 90 day finding	Endangered	BLM SENSITIVE
<i>Amsonia fugatei</i>	Amsonia, Fugate's				Verified				G2	S2	None	Species of Concern	BLM SENSITIVE
<i>Amsonia tharpii</i>	Bluestar, Tharp's							Verified	G1	S1	Petitioned/positive 90 day finding	Endangered	BLM SENSITIVE
<i>Anulocaulis leiosolenus</i> var. <i>howardii</i>	Ringstem, Howard's gyp					Verified			G2T1	S1	None	Species of Concern	BLM SENSITIVE
<i>Aquilegia chrysantha</i> var. <i>chaplinae</i>	Columbine, Chapline's					Verified		Verified	G4T2	S2	None	Species of Concern	BLM SENSITIVE

Plant Species Data

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	NatureServe Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
<i>Asclepias sanjuanensis</i>	Milkweed, San Juan	Verified							G2G3	S2S3	None	Species of Concern	BLM SENSITIVE
<i>Astragalus cobrensis</i> var. <i>maguirei</i>	Milkvetch, coppermine					Verified			G4T1	S1	None	Species of Concern	BLM SENSITIVE
<i>Astragalus Gypsodes</i>	Milkvetch, Gypsum							Verified	G2	S2	None	Species of Concern	BLM SENSITIVE
<i>Astragalus Knightii</i>	Milkvetch, Knight's			Verified					G2	S2	None	Species of Concern	BLM SENSITIVE
<i>Astragalus Ripleyi</i>	Milkvetch, Ripley		Verified	Potential					G3	S3?	None	Species of Concern	BLM SENSITIVE
<i>Boechera zephyra</i>	Wind Mountain Rockcress					Verified		Potential	G1	S1	None	None	BLM SENSITIVE *New*
<i>Castilleja organorum</i>	Paintbrush, Organ Mountains					Verified			G2	S2	None	Species of Concern	BLM SENSITIVE *New*
<i>Cirsium wrightii</i>	Thistle, wright's Marsh				Potential	Potential	Potential	Potential	G2	S2	Candidate	Endangered	BLM SENSITIVE
<i>Coryphantha robustispina</i> ssp. <i>scheeri</i>	Cactus, scheer's beehive					Verified		Verified	G4T3	S2	None	Endangered	BLM SENSITIVE *New*
<i>Cymopterus spellenbergii</i>	Taos springparsley		Verified						G2	S2	None	Species of Concern	BLM SENSITIVE

Plant Species Data

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	NatureServe Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
<i>Dermatophyllum guadalupense</i>	Mescalbean, Guadalupe					Verified		Verified	G1T1	S1	Petitioned/ negative 90 day finding	Species of Concern	BLM SENSITIVE
<i>Erigeron acomanus</i>	Fleabane, Acoma	Potential		Verified					G1G2	S1S2	None	Species of Concern	BLM SENSITIVE
<i>Eriogonum lachnogynum var. colobum</i>	Wildbuckwheat, clipped	Potential	Verified	Potential					G4?T2	S2	None	Species of Concern	BLM SENSITIVE
<i>Escobaria duncanii</i>	Cactus, Duncan's Pincushion					Verified			G3T1T2	S1	None	Endangered	BLM SENSITIVE
<i>Escobaria villardii</i>	Cactus, Villard's Pincushion					Verified			G2Q	S2	None	Endangered	BLM SENSITIVE
<i>Hymenoxys ambigens var. Neomexicana</i>	Bitterweed, New Mexico					Verified			G3?T2	S2	None	Species of Concern	BLM SENSITIVE *New*
<i>Justicia wrightii</i>	Water- Willow, Wright's							Verified	G2	S1	None	Species of Concern	BLM SENSITIVE *New*
<i>Lepidospartum burgessii</i>	Scalebroom, gypsum					Verified			G2	S1	None	Endangered	BLM SENSITIVE
<i>Linum allredii</i>	Flax, Allred's							Verified	G1G2	S1S2	None	Species of Concern	BLM SENSITIVE
<i>Mentzelia conspicua</i>	Blazingstar, Rio Chama		Verified						G2	S2	None	Species of Concern	BLM SENSITIVE *New*

Plant Species Data

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	NatureServe Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
<i>Mentzelia humilis</i> var. <i>Guadalupe</i>	Stickleaf, Guadalupe					Verified			G4T1T2	S1S2	None	Species of Concern	BLM SENSITIVE
<i>Mentzelia sivinskii</i>	Sivinski's Blazingstar	Verified							G3	S3	None	Species of Concern	BLM SENSITIVE *New*
<i>Mentzelia todiltoensis</i>	Stickleaf, Todilito		Potential	Verified	Potential				G1?Q	S3	None	Species of Concern	BLM SENSITIVE *New*
<i>Nerisyrenia hypercorax</i>	Greggia, Crow Flat					Verified			G1G2	S1S2	None	Species of Concern	BLM SENSITIVE
<i>Opuntia Arenaria</i>	Pricklypear, Sand					Verified			G2	S2	None	Endangered	BLM SENSITIVE
<i>Opuntia x viridiflora</i>	Cholla, Santa Fe		Verified						G1Q	S1	None	Endangered	BLM SENSITIVE
<i>Paronychia wilkinsonii</i>	Nailwort, Wilkinson's					Verified			G2	S1	None	Species of Concern	BLM SENSITIVE *New*
<i>Pediomelum pentaphyllum</i>	Scurfpea, Chihuahua					Verified			G1G2	S1	Petitioned/ positive 90 day finding	Endangered	BLM SENSITIVE
<i>Peniocereus greggii</i> var <i>greggii</i>	Cereus, Night-Blooming					Verified			G3G4T2	S3	None	Endangered	BLM SENSITIVE
<i>Penstemon alamosensis</i>	Beardtongue, Alamo					Verified			G3	S3	None	Species of Concern	BLM SENSITIVE

Plant Species Data

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	NatureServe Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
<i>Penstemon cardinalis</i> ssp. <i>regalis</i>	Penstemon, Guadalupe							Verified	G3T2T3	S2	None	Species of Concern	BLM SENSITIVE
<i>Perityle Cernua</i>	Cliff Daisy, Nodding					Verified			G2	S2	None	Species of Concern	BLM SENSITIVE
<i>Physaria newberryi</i> var. <i>yesicola</i>	Twinpod, Yeso			Verified	Potential				G3G4T2	S2	None	Species of Concern	BLM SENSITIVE *New*
<i>Proatriple x pleiantha</i>	Saltbush, Mancos	Verified							G3	S3?	None	Species of Concern	BLM SENSITIVE
<i>Puccinellia Parishii</i>	Alkaligrass, Parish's	Potential		Verified	Potential	Verified			G2G3	S1	None	Endangered	BLM SENSITIVE
<i>Sclerocactus cloverae</i>	Cactus, Clover's	Verified		Potential					G3T3	S3	None	None	BLM SENSITIVE *New*
<i>Sclerocactus cloverae</i> ssp. <i>brackii</i>	Cactus, Brack's Hardwall	Verified		Potential					G3T1	S2	None	Endangered	BLM SENSITIVE
<i>Scrophularia laevis</i>	Figwort, Organ Mountain					Verified			G2	S2	None	Species of Concern	BLM SENSITIVE *New*
<i>Scrophularia macrantha</i>	Figwort, Mimbres					Verified			G2	S2	None	Species of Concern	BLM SENSITIVE
<i>Sibara grisea</i>	Sibara, Gray; Thelypody, Texas					Verified			G3	S3?	None	Species of Concern	BLM SENSITIVE

Plant Species Data

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	NatureServe Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
<i>Spermolepis organensis</i>	Scaleseed, Organ Mountains					Verified			G1	S1	None	Species of Concern	BLM SENSITIVE *New*
<i>Streptanthus sparsiflorus</i>	Jewelflower, Sparseflower							Verified	G2Q	S2	Petitioned/ negative 90 day finding	Species of Concern	BLM SENSITIVE
<i>Townsendia gypsophila</i>	Townsend Daisy, Gypsum			Verified					G2	S2	None	Species of Concern	BLM SENSITIVE
Plants - Watch													
<i>Adenophyllum wrightii</i> var. <i>Wrightii</i>	Dogweed, Wright's					Verified			G1?	SNR,S1	Petitioned/ negative 90 day finding	None	WATCH
<i>Agalinis calycina</i>	False Foxglove, Leoncita						Potential	Potential	G1	S1	Petitioned/ negative 90 day finding	None	WATCH
<i>Agastache cana</i>	Giant Hyssop, Grayish-White					Verified			G4	S3	None	Species of Concern	WATCH
<i>Anulocaulis leiosolenus</i> var. <i>gypsogenus</i>	Ringstem, Pecos Gyp						Verified	Verified	G4	S4	None	Species of Concern	WATCH

Plant Species Data

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	NatureServe Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
<i>Arida blepharophylla</i>	Aster, Gypsum Hotspring					Potential			G1	SH	Petitioned/ negative 90 day finding	Species of Concern	WATCH
<i>Asclepias uncialis</i> ssp. <i>ruthiae</i>	Milkweed, Ruth's	Potential							GNR	S1	None	None	WATCH
<i>Astragalus accumbens</i>	Milkvetch, Zuni			Verified					G3	S3	None	Species of Concern	WATCH
<i>Astragalus castetteri</i>	Milkvetch, Castetter's					Verified			G3	S3	None	Species of Concern	WATCH
<i>Astragalus cliffordii</i>	Milkvetch, Clifford's	Potential							GNR	S1	None	Species of Concern	WATCH
<i>Astragalus cyaneus</i>	Milkvetch, Cyanic		Verified	Potential					G4	S4	None	Species of Concern	WATCH
<i>Astragalus feensis</i>	Milkvetch, Santa Fe			Verified		Verified			G3	S3	None	Species of Concern	WATCH
<i>Astragalus heilii</i>	Milkvetch, Heil's	Potential							G1?	S1	None	Species of Concern	WATCH
<i>Astragalus humistratus</i> var. <i>crispulus</i>	Milkvetch, Villous Groundcover				Potential				G4G5T3?	S2	None	None	WATCH
<i>Astragalus kerrii</i>	Milkvetch, Kerr's						Potential		G2	S2	None	Species of Concern	WATCH
<i>Astragalus micromerius</i>	Milkvetch, Chaco	Potential		Potential					G3	S2S3	None	Species of Concern	WATCH

Plant Species Data

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	NatureServe Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
<i>Astragalus missouriensis</i> var. <i>humistratus</i>	Milkvetch, Pagosa	Potential	Potential						G5T1	S1	None	None	WATCH
<i>Astragalus monumentalis</i> var. <i>cottamii</i>	Milkvetch, Cottam's	Verified							G4T4	S3	None	Species of Concern	WATCH
<i>Astragalus naturitensis</i>	Milkvetch, Naturita	Potential							G2G3	S2	None	Species of Concern	WATCH
<i>Astragalus neomexicanus</i>	Milkvetch, New Mexico						Potential		G3	S3	None	Species of Concern	WATCH
<i>Astragalus nutriosensis</i>	Milkvetch, Apache				Verified				G3?	SNR	None	None	WATCH *New*
<i>Astragalus oocalycis</i>	Milkvetch, Arboles	Verified							G4	S3	None	Species of Concern	WATCH
<i>Astragalus puniceus</i> var. <i>gertrudis</i>	Milkvetch, Taos	Potential	Verified						G4T3?Q	S3?	None	Species of Concern	WATCH
<i>Astragalus siliceus</i>	Milkvetch, Flint Mountains		Verified						G3	S3	None	Species of Concern	WATCH

Plant Species Data

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	NatureServe Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
<i>Astragalus waterfallii</i>	Milkvetch, Waterfall's					Verified		Verified	G3?	S2	None	None	WATCH *New*
<i>Astragalus wittmannii</i>	Milkvetch, One-Flowered		Potential						G3	S3	None	Species of Concern	WATCH
<i>Atriplex griffithsii</i>	Saltbush, Griffith's					Verified			G2G3	S2	None	Species of Concern	WATCH
<i>Castilleja ornata</i>	Paintbrush, Swale					Potential			G1	S1	Petitioned/ positive 90 day finding	Species of Concern	WATCH
<i>Castilleja tomentosa</i>	Hairy Indian Paintbrush					Potential			G1Q	S1	None	None	WATCH *New*
<i>Chaetopappa hersheyi</i>	Leastdaisy, Guadalupe							Verified	G3	S3	None	Species of Concern	WATCH
<i>Cleome multicaulis</i>	Spiderflower, Slender		Potential			Potential			G2G3	SH	None	Endangered	WATCH
<i>Cuscuta warneri</i>	Dodder, Warner's					Potential	Potential		GH	S1	None	Species of Concern	WATCH
<i>Dalea scariosa</i>	Prairie Clover, La Jolla			Potential	Potential				G4	S3	None	Species of Concern	WATCH
<i>Delphinium robustum</i>	Larkspur, Robust		Potential						G2G3	S2	None	Species of Concern	WATCH
<i>Draba smithii</i>	Whitlowgrass, Smith's		Potential						G2	S1	None	Species of Concern	WATCH

Plant Species Data

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	NatureServe Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
<i>Ericameria nauseosa</i> ssp. <i>nauseosa</i> var. <i>texensis</i>	Rabbitbrush, Guadalupe					Verified		Potential	G5T2	S2	None	Species of Concern	WATCH
<i>Erigeron bistiensis</i>	Fleabane, Bisti	Verified							G1	S1	Petitioned/negative 90 day finding	None	WATCH
<i>Eriogonum aliquantum</i>	Wild Buckwheat, Cimarron		Potential						G3	S3	None	Species of Concern	WATCH
<i>Eriogonum lachnogynum</i> var. <i>sarhiae</i>	Buckwheat, Sarah's	Potential							G4?T1	S1	None	Species of Concern	WATCH
<i>Escobaria guadalupensis</i>	Cactus, Guadalupe Pincushion							Potential	G1	S1	Petitioned/negative 90 day finding	Species of Concern	WATCH
<i>Escobaria organensis</i>	Cactus, Organ Mountains Pincushion					Verified			G2	S2	None	Endangered	WATCH
<i>Euphorbia rayturneri</i>	Spurge, Ray Turner's					Verified			G1	S1	None	None	WATCH
<i>Fissidens littlei</i>	Fissidens Moss, Little's					Potential			G1?	S1	Petitioned/negative 90 day finding	None	WATCH

Plant Species Data

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	NatureServe Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
<i>Grindelia arizonica</i> var. <i>neomexicana</i>	Gumweed, New Mexico					Potential			G4T3?	SNR	None	Species of Concern	WATCH
<i>Hedeoma apiculata</i>	Pennyroyal, Mckittrick							Verified	G3	S3	None	Species of Concern	WATCH
<i>Helianthus arizonensis</i>	Sunflower, Arizona				Potential				G2G4	SNR	None	Species of Concern	WATCH
<i>Helianthus neglectus</i>	Sunflower, Neglected							Potential	G2Q	SNR	None	None	WATCH
<i>Hexalectris nitida</i>	Coralroot, Shining					Potential		Potential	G3	S1	None	Endangered	WATCH
<i>Hexalectris revoluta</i>	Coralroot, Chisos Mtn					Potential		Potential	G1	S1	Petitioned/ positive 90 day finding	None	WATCH
<i>Hexalectris spicata</i> var. <i>arizonica</i>	Coralroot, Arizona					Potential		Potential	G5T2T4	S2	None	Endangered	WATCH
<i>Hymenoxys vaseyi</i>	Bitterweed, Vasey's					Verified			G2	S2	None	Species of Concern	WATCH
<i>Limosella pubiflora</i>	Mudwort, Chiricahua					Potential			G1Q	S1	None	Species of Concern	WATCH
<i>Mentzelia filifolia</i>	Threadleaf Blazingstar	Potential							G3	S1?	None	Species of Concern	WATCH *New*

Plant Species Data

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	NatureServe Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
<i>Mentzelia springeri</i>	Blazingstar, Springer's		Potential	Potential					G3	S3	None	Species of Concern	WATCH
<i>Nama xylopodium</i>	Nama, Cliff					Verified		Verified	G4?	S4?	None	Species of Concern	WATCH
<i>Oenothera organensis</i>	Evening Primrose, Organ Mountains					Verified			G2	S2	None	Species of Concern	WATCH
<i>Packera spellenbergii</i>	Groundsel, Spellenberg's		Potential						G2	S2	None	Species of Concern	WATCH
<i>Panicum mohavense</i>	Panicum, Mohave				Potential	Potential			G1	S1	Petitioned/negative 90 day finding	Species of Concern	WATCH
<i>Perityle quinqueflora</i>	Rockdaisy, Five-Flowered					Potential		Potential	G4	S3	None	Species of Concern	WATCH
<i>Perityle staurophylla</i> var. <i>staurophylla</i>	Rockdaisy, New Mexico					Verified			G4T3T4	S3	None	Species of Concern	WATCH
<i>Phacelia cloudcroftensis</i>	Cloudcroft Phacelia					Potential			G1	S1	None	Species of Concern	WATCH *New*
<i>Phacelia serrata</i>	Phacelia, Cinder			Potential					G3	S2	None	Species of Concern	WATCH
<i>Phacelia sivinskii</i>	Scorpionweed, Sivinski's			Verified	Verified	Verified			G3	S3	None	Species of Concern	WATCH

Plant Species Data

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	NatureServe Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
<i>Phemeranthus humilis</i>	Flameflower, Pinos Altos					Potential			G2	S2	None	Species of Concern	WATCH
<i>Phlox caryophylla</i>	Phlox, Pagosa	Potential	Potential						G4	S2	None	Species of Concern	WATCH
<i>Physaria navajoensis</i>	Bladderpod, Navajo	Potential							G2	S1	Petitioned/ positive 90 day finding	Species of Concern	WATCH
<i>Physaria pruinosa</i>	Bladderpod, Pagosa Springs	Potential	Potential						G2	S1	None	Species of Concern	WATCH
<i>Polygala rimulicola</i> var. <i>Rimulicola</i>	Milkwort, Guadalupe							Verified	G3T3	S2	None	Species of Concern	WATCH
<i>Sclerocactus papyracanthus</i>	Cactus, Grama Grass	Potential	Verified	Verified	Potential	Verified	Potential		G4	S4	None	None	WATCH (downlisted)
<i>Senecio Cliffordii</i>	Groundsel, Clifford's	Potential							GNR	S2	None	Species of Concern	WATCH
<i>Senecio Warnockii</i>	Ragwort, Warnock's					Verified		Verified	G3Q	S2	Species of Concern	Species of Concern	WATCH *New*
<i>Sicyos glaber</i>	Cucumber, Smooth Bur					Verified			G3	S1S2	None	Species of Concern	WATCH *New*
<i>Silene Plankii</i>	Catchfly, Plank's				Verified	Potential			G2	S2	None	Species of Concern	WATCH
<i>Silene Thurberi</i>	Campion, Thurber's					Potential			G4	S3?	None	Species of Concern	WATCH

Plant Species Data

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	NatureServe Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
<i>Silene Wrightii</i>	Catchfly, Wright's				Potential	Verified			G3	S2	None	Species of Concern	WATCH
<i>Stellaria porsildii</i>	Starwort, Porsild's					Potential			G1	S1	Petitioned/ negative 90 day finding	Species of Concern	WATCH
<i>Talinum brachypodum</i>	Fameflower, Laguna			Potential	Potential				GNRQ	S1	None	Species of Concern	WATCH
<i>Valeriana texana</i>	Valerian, Guadalupe							Verified	G3	S3	None	Species of Concern	WATCH
<i>Viola calcicola</i>	Limestone Violet					Potential		Verified	G3	S3	None	Species of Concern	WATCH *New*

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	Naturese ve Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
Amphibians													
<i>Anaxyrus (Bufo) microscaphus</i>	Southwestern (Arizona) toad	None	None	Potential	Verified	Verified	None	None	G3G4	S3	Under Review	SGCN	BLM Sensitive
<i>Lithobates (Rana) pipiens</i>	Northern leopard frog	Verified	Verified	Verified	Verified	None	None	None	G5	S3	None	SGCN	BLM Sensitive
Amphibians - Watch													
<i>Craugastor (Eleutherodactylus) augusti latrans</i>	Eastern barking frog	None	None	None	None	Verified	Verified	Verified	G5T4	S2S3	None	SGCN	Watch
<i>Gastrophryne olivacea</i>	Western narrowmouth toad	None	Potential	None	None	Verified	None	Verified	G5	S1	None	Endangered, SGCN	Watch
<i>Lithobates (Rana) blairi</i>	Plains leopard frog	Verified	Verified	None	None	Verified	Verified	Verified	G5	S4	Former FWS Species	SGCN	Watch
<i>Lithobates yavapaiensis</i>	Lowland Leopard Frog	None	None	None	Potential	Potential	None	None	G4	S1	None	SCGN	Watch *New*
Arthropods													
<i>Danaus plexippus plexippus</i>	Monarch Butterfly	Verified	Verified	Verified	Verified	Verified	Verified	Verified	G4	SNR	Under Review	None	BLM Sensitive *New*
<i>Lytta mirifica</i>	Anthony Blister Beetle	None	None	None	None	Verified	None	None	G2	SH	Former Category 2	Former (2006)	BLM Sensitive
<i>Ochlodes yuma anasazi</i>	Yuma Skipper	None	Verified	None	None	None	None	None	G5	SNR	None	None	BLM Sensitive
Arthropods - Watch													
<i>Bombus occidentalis</i>	Western Bumble Bee	Verified	Verified	Verified	Verified	Verified	Verified	Verified	G4	SNR	None	None	Watch *New*
<i>Deronectes (Stictotarsus)</i>	Bonita Diving Beetle	None	None	None	None	None	Potential	None	G2	SNR	Former Category 2	Former (2006)	Watch *New*
Birds													
<i>Aimophila boterii</i>	Botteri's Sparrow	None	None	None	None	Verified	None	None	G4	S1B,S1N	None	SGCN	BLM Sensitive *New*
<i>Ammodramus bairdii</i>	Baird's Sparrow	None	None	None	None	Verified	None	None	G4	S1N	None	Threatened	BLM Sensitive
<i>Ammodramus savannarum</i>	Arizona Grasshopper	None	None	None	None	Verified	None	None	G5TU	S1B,S1N	None	Endangered	BLM Sensitive
<i>Athene cunicularia</i>	Western Burrowing Owl	Verified	Verified	Verified	Verified	Verified	Verified	Verified	G4T4	S3	None	SGCN	BLM Sensitive
<i>Anthus spragueii</i>	Sprague's Pipit	None	None	None	Potential	Verified	Verified	Verified	G3G4	S2N	None	SGCN	BLM Sensitive
<i>Antrostomus arizonae</i>	Mexican Whip-poor-will	Potential	Verified	Verified	Verified	Verified	Potential	Potential	GNR	SNR	None	SGCN	BLM Sensitive *New*
<i>Calcarius mccownii</i>	McCown's Longspur	None	Potential	None	Potential	Verified	Verified	Verified	G4	S3N	None	SGCN	BLM Sensitive *New*
<i>Calcarius ornatus</i>	Chestnut-collared Longspur	Potential	Verified	None	Verified	Verified	Verified	Verified	G5	S3N	None	SGCN	BLM Sensitive
<i>Gymnorhinus</i>	Pinyon Jay	Verified	Verified	Verified	Verified	Verified	Verified	Potential	G3	S2S3	None	SGCN	BLM Sensitive
<i>Toxostoma bendirei</i>	Bendire's Thrasher	Verified	Potential	Verified	Verified	Verified	Potential	None	G4	S3B,S3N	None	SGCN	BLM Sensitive

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	Natureserve Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
<i>Tympanuchus pallidicinctus</i>	Lesser Prairie-chicken	None	None	None	None	None	Verified	Verified	G3	S2B,S2N	Under Review	SGCN	BLM Sensitive
<i>Vireo bellii arizonae</i>	Bell's Vireo	None	Verified	None	Verified	Verified	Verified	Verified	G5	S2B,S3N	None	Threatened SGCN	BLM Sensitive
<i>Vermivora virginiae</i>	Virginia's Warbler	Verified	Verified	Verified	Verified	Verified	Verified	Verified	G5	S3B,S4N	None	SGCN	BLM Sensitive *New*
Birds - Watch													
<i>Aphelocoma woodhouseii</i>	Woodhouse's Scrub- Jay	Verified	Verified	Verified	Verified	Verified	Verified	Verified	G5	S5B, S5N	None	None	Watch *New*
<i>Aquila chrysaetos</i>	Golden Eagle	Verified	Verified	Verified	Verified	Verified	Verified	Verified	G4	SB3, S4N	None	None	Watch
<i>Baeolophus ridgwayi</i>	Juniper Titmouse	Verified	Verified	Verified	Verified	Verified	Potential	Potential	G5	S4B	None	SGCN	Watch *New*
<i>Botaurus lentiginosus</i>	American Bittern	Verified	Verified	Verified	Verified	Verified	Verified	Verified	G4	S2	None	SGCN	Watch
<i>Buteogallus anthracinus</i>	Common Black-Hawk	Potential	Potential	Verified	Verified	Verified	Verified	Verified	G4G5	S2B,S3N	None	Threatened SGCN	Watch
<i>Callipepla squamata</i>	Scaled Quail	Verified	Verified	Verified	Verified	Verified	Verified	Verified	G5	S3	None	None	Watch *New*
<i>Camptostoma imberbe</i>	Northern Beardless-	None	None	None	None	Verified	None	None	G5	S1B,S1N	None	Endangered	Watch
<i>Carpodacus cassinii</i>	Cassin's Finch	Verified	Verified	Verified	Verified	Verified	Verified	Verified	G5	S3B,S5N	None	SGCN	Watch
<i>Charadrius montanus</i>	Mountain Plover	Verified	Verified	Verified	Verified	None	None	None	G3	S2B,S4N	None	SGCN	Watch
<i>Columbina passerina</i>	Common Ground Dove	None	None	None	Potential	Verified	Potential	Verified	G5	S1B,S1N	None	Endangered	Watch
<i>Falco peregrinus</i>	Peregrine Falcon								G4T4	S2B, S3N	Delisted in 1999	SGCN	Watch *New*
<i>Lanius ludovicianus</i>	Loggerhead Shrike	Verified	Verified	Verified	Verified	Verified	Verified	Verified	G4	S3	None	SGCN	Watch
<i>Melanerpes lewis</i>	Lewis's Woodpecker	Verified	Verified	Verified	Verified	Verified	Verified	Verified	G4	S3B,S3N	None	SGCN	Watch *New*
<i>Meleagris gallopavo mexicana</i>	Gould's Wild Turkey	None	None	None	None	Verified	None	None	G5T3	S2B S2N	None	Threatened SGCN	Watch
<i>Micrathene whitneyi</i>	Elf Owl	None	None	Verified	Verified	Verified	None	None	G5	S3B,S3N	None	SGCN	Watch
<i>Numenius americanus</i>	Long- billed Curlew	Verified	Verified	Verified	Verified	Verified	Verified	Verified	G5	SB3, S4N	None	SGCN	Watch
<i>Oreoscoptes montanus</i>	Sage Thrasher	Verified	Verified	Verified	Verified	Verified	Verified	Verified	G4	S3B,S4N	None	None	Watch
<i>Passerina ciris</i>	Painted Bunting	None	None	None	None	Verified	Potential	Verified	G5	S4B,S4N	None	None	Watch
<i>Psiloscops flammeolus</i>	Flammulated Owl								G4	S3B, S3N	None	SGCN	Watch *New*
<i>Setophaga graciae</i>	Grace's Warbler	Verified	Verified	Verified	Verified	Verified	Verified	None	G5	S3B, S4N	None	SGCN	Watch *New*
<i>Setophaga nigrescens</i>	Black-throated Gray	Verified	Verified	Verified	Verified	Verified	Verified	None	G5	S3B,S4N	None	SGCN	Watch *New*
<i>Spizella atrogularis evura</i>	Black-chinned Sparrow	None	None	Verified	Verified	Verified	Verified	Verified	G5	S3B,S3N	None	SGCN	Watch

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	Naturese ve Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
<i>Vermivora luciae</i>	Lucy's Warbler	None	None	None	Verified	Verified	None	None	G5	S3B,S4N	None	SGCN	Watch
<i>Vireo vicinior</i>	Gray Vireo	Verified	Verified	Verified	Verified	Verified	Verified	Verified	G5	S4B S3N	None	Threatened SGCN	Watch
Crustaceans													
<i>Eulimnadia follisimilis</i>	Clam Shrimp	None	None	None	Verified	None	Verified	None	GNR	SNR	None	SGCN	BLM Sensitive
<i>Phallocryptus sublettei</i>	Salt Playa (Sublette's) Fairy Shrimp	None	None	None	None	Verified	None	None	G2	SNR	None	SGCN	BLM Sensitive
<i>Streptocephalus moorei</i>	Moore's Fairy Shrimp	None	None	None	None	Verified	None	None	G1	SNR	None	SGCN	BLM Sensitive
<i>Streptocephalus</i>	Bowman's Fairy Shrimp	None	None	None	None	Verified	None	None	G1	SNR	None	SGCN	BLM Sensitive
Crustaceans - Watch													
<i>Eocyzicus concavus</i>	Sway-backed Clam Shrimp	None	None	None	None	None	Potential	None	G1G3Q	SNR	None	SGCN	Watch *New*
<i>Lepidurus lemmoni</i>	Lynch's Tadpole	None	None	None	None	Verified	None	None	G4	SNR	None	SGCN	Watch *New*
<i>Thamnocephalus mexicanus</i>	Mexican Beavertail	None	None	None	None	Potential	None	None	G3	SNR	None	SGCN	Watch *New*
Fish													
<i>Astyanax mexicanus</i>	Mexican Tetra	None	None	None	None	None	Verified	Verified	G5	S2	None	SGCN	BLM Sensitive
<i>Catostomus clarkii</i>	Desert Sucker	None	None	None	Potential	Verified	None	None	G3G4	S2	Former species of concern	SGCN	BLM Sensitive
<i>Catostomus insignis</i>	Sonora Sucker	None	None	None	Potential	Verified	None	None	G3G4	S2	Former species of concern	SGCN	BLM Sensitive
<i>Catostomus plebeius</i>	Rio Grande Sucker	None	Verified	Potential	Potential	Verified	Potential	Potential	G3G4	S2	None	SGCN	BLM Sensitive
<i>Cycleptus elongatus</i>	Blue Sucker	None	None	None	None	None	Potential	Verified	G3G4	S1	None	Endangered SGCN	BLM Sensitive
<i>Cyprinodon pecosensis</i>	Pecos Pupfish	None	None	None	None	None	Verified	Verified	G2	S1	Former species of concern	SGCN	BLM Sensitive
<i>Etheostoma lepidum</i>	Greenthroat Darter	None	None	None	None	None	Verified	Verified	G3G4	S2	Former species of concern	Threatened SGCN	BLM Sensitive
<i>Gila pandora</i>	Rio Grande Chub	None	Verified	Potential	Potential	Potential	Verified	Verified	G3	S3	None	SGCN	BLM Sensitive
<i>Gila robusta</i>	Roundtail Chub	Potential	Potential	Potential	Potential	Verified	None	None	G3	S2	None	Endangered SGCN	BLM Sensitive
<i>Macrhybopsis tetranema</i>	Peppered Chub	None	Potential	None	None	None	None	None	G1	S1	Former species of concern	SGCN	BLM Sensitive
<i>Moxostoma congestum</i>	Gray Redhorse	None	None	None	None	None	None	Verified	G4	S1	Former species of concern	Endangered SGCN	BLM Sensitive
<i>Percina macrolepida</i>	Bigscale Logperch	None	Introduced	None	None	None	Verified	Verified	G5	S2	None	Threatened SGCN	BLM Sensitive
<i>Phenacobius mirabilis</i>	Suckermouth Minnow	None	Verified	None	None	None	Verified	None	G5	S2	None	SGCN	BLM Sensitive

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	Naturese ve Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
Fish - Watch													
<i>Agosia chrysogaster</i>	Longfin Dace	None	None	None	Potential	Verified	Verified	None	G4	S3S4	Former FWS Species of Concern	None	Watch *New*
<i>Ictiobus bubalus</i>	Smallmouth Buffalo	None	None	None	Potential	Verified	Verified	Verified	G5	S3S4	None	None	Watch *New*
<i>Catostomus discobolus discobolus</i>	Bluehead Sucker	Verified	None	None	None	None	None	None	G4T4	S2	None	None	Watch *New*
<i>Catostomus latipinnis</i>	Flannelmouth Sucker	Verified	Potential	None	None	Potential	None	None	G3G4	S1	Former Category 2 Candidate	None	Watch *New*
<i>Ictalurus lupus</i>	Headwater Catfish	None	None	None	None	None	Verified	Verified	G3	S1	Former species of concern	None	Watch *New*
<i>Macrhybopsis aestivalis</i>	Speckled Chub	None	Potential	None	None	None	Verified	Verified	G3G4	S2	None	None	Watch *New*
<i>Notropis jemezianus</i>	Rio Grande Shiner	None	None	None	Potential	None	Verified	Verified	G3	S2	Former species of concern	None	Watch *New*
<i>Oncorhynchus clarki viginalis</i>	Rio Grande Cutthroat Trout	None	Potential	Potential	Potential	Potential	Potential	None	G5	S2	Former Candidate	None	Watch *New*
Mammals													
<i>Choeronycteris mexicana</i>	Mexican long-tongued bat	None	None	None	None	Verified	None	Potential	G3G4	S2S3	None	SGCN	BLM Sensitive
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	Verified	Verified	Verified	Verified	Verified	Verified	Verified	G3G4T3T4	S3S4	None	SGCN	BLM Sensitive
<i>Cynomys gunnisoni</i>	Gunnison's prairie dog	Verified	Verified	Verified	Verified	None	None	None	G5	S2	None	SGCN	BLM Sensitive
<i>Cynomys ludovicianus</i>	Black-tailed prairie dog	None	Verified	Potential	Potential	Verified	Verified	Verified	G4	S2	None	SGCN	BLM Sensitive
<i>Euderma maculatum</i>	Spotted bat	Verified	Verified	Verified	Verified	Verified	Verified	Potential	G4	S3	None	Threatened, SGCN	BLM Sensitive
<i>Lasiurus xanthinus</i>	Western yellow bat	None	None	None	None	Verified	None	None	G5	S1	None	Threatened, SGCN	BLM Sensitive
<i>Leptonycteris yerbabuena</i>	Lesser long-nosed bat	None	None	None	None	Verified	None	None	G3	S3	Delisted 2018	Threatened, SGCN	BLM Sensitive
<i>Lepus callotis</i>	White-sided jack rabbit	None	None	None	None	Verified	None	None	G4T3	S1	None	Threatened,	BLM Sensitive
<i>Sorex arizonae</i>	Arizona shrew	None	None	None	None	Verified	None	None	G3	S1	None	Endangered	BLM Sensitive *New*
Mammals - Watch													
<i>Cratogeomys castanops</i>	Yellow-faced pocket	None	Verified	Verified	Verified	Verified	Verified	Verified	G5	S2	None	None	Watch
<i>Cryptotis parva</i>	Least shrew	None	Potential	None	None	None	Verified	Verified	G5	S2	None	Threatened,	Watch *New*
<i>Idionycteris phyllotis</i>	Allen's lappet-browed	None	None	Potential	Verified	Verified	None	None	G4	S3	None	None	Watch *New*
<i>Lasiurus blossevillii</i>	Western red bat	None	None	None	Verified	Verified	Potential	None	G4	S3	None	None	Watch *New*

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	Naturese ve Global rank	NHNM State rank	FWS Status	NM Status	BLM Status
<i>Lepus townsendii</i>	White-tailed jack rabbit	Potential	Verified	None	None	None	None	None	G5	S3	None	None	Watch
<i>Nasua narica</i>	White-nosed coati	None	None	None	Verified	Verified	None	None	G5	S2	None	None	Watch *New*
<i>Nyctinomops femorosaccus</i>	Pocketed free-tailed	None	None	None	None	Verified	None	Verified	G4	S1	None	None	Watch
<i>Ovis canadensis mexicana</i>	Desert bighorn sheep	None	None	None	Verified	Verified	None	None	G3	S1	None	Threatened	Watch
<i>Reithrodontomys fulvescens canus</i>	Fulvous harvest mouse	None	None	None	None	Verified	None	None	G5	S1	None	None	Watch
<i>Sigmodon ochrognathus</i>	Yellow-nosed cotton rat	None	None	None	None	Verified	None	None	G4	S2	None	None	Watch
<i>Thomomys umbrinus</i>	Southern pocket	None	None	None	Potential	Verified	None	None	G5T2	S2	None	Threatened,	Watch *New*
Mollusks													
<i>Ashmunella hebardii</i>	Hacheta Grande Woodlandsnail	None	None	None	None	Verified	None	None	G1	S1	None	SGCN	BLM Sensitive *New*
<i>Ashmunella macromphala</i>	Cooke's Peak	None	None	None	None	Verified	None	None	G1	S1	None	SGCN	BLM Sensitive *New*
<i>Gastrocopta dalliana dalliana</i>	Shortneck Snaggletooth Snail	None	None	None	None	Potential	None	None	G2G4	S3S4	None	SGCN	BLM Sensitive *New*
<i>Holospira crosseii</i>	Cross Holospira Snail	None	None	None	None	Verified	None	None	G2	S1	None	SGCN	BLM Sensitive *New*
<i>Holospira metcalfi</i>	Metcalf Holospira Snail	None	None	None	None	Verified	None	None	G1	S1	None	SGCN	BLM Sensitive *New*
<i>Pyrgulopsis pecosensis</i>	Pecos Springsnail	None	None	None	None	None	None	Potential	G1	S1	None	SGCN	BLM Sensitive *New*
<i>Radiocentrum ferrissi</i>	Fringed Mountainsnail	None	None	None	None	Potential	None	None	G1	S1	None	SGCN	BLM Sensitive *New*
<i>Sonorella hachitana</i>	New Mexico Talussnail	None	None	None	None	Verified	None	None	G2	S2	None	SGCN	BLM Sensitive *New*
<i>Sonorella hachitana flora</i>	New Mexico Talussnail	None	None	None	None	Verified	None	None	G2T1	S1	None	SGCN	BLM Sensitive *New*
<i>Sonorella todseni</i>	Doña Ana Talussnail	None	None	None	None	Verified	None	None	G1	S1	Former Category 2	SGCN	BLM Sensitive *New*
Mollusks -Watch													
<i>Ashmunella amblya cornudasensis</i>	Woodlandsnail	None	None	None	None	Potential	None	None	G3T3	S3	None	SGCN	Watch *New*
<i>Holospira animasensis</i>	Animas Mountains Holospira Snail	None	None	None	None	Potential	None	None	G1G2	S1	None	SGCN	Watch *New*
Reptiles													
<i>Aspidoscelis dixonii</i>	Gray-checked Whiptail	None	None	None	None	Verified	None	None	G3G4	S1	None	Endangered SGCN	BLM Sensitive

Species	Common Name	Farmington	Taos	Rio Puerco	Socorro	Las Cruces	Roswell	Carlsbad	Naturese ve Global rank	NHM State rank	FWS Status	NM Status	BLM Status
<i>Heloderma suspectum</i>	Gila Monster	None	None	None	None	Verified	None	None	G4	S2	None	Endangered, SGCN	BLM Sensitive
<i>Pseudemys gorzugi</i>	Western River (Rio Grande) Cooter	None	None	None	None	None	Verified	Verified	G3G4	S2	Under Review	Threatened, SGCN	BLM Sensitive
<i>Sceloporus arenicolus</i>	Dunes Sagebrush Lizard	None	None	None	None	None	Verified	Verified	G2G3	S2	Formerly proposed, withdrawn following	Endangered SGCN	BLM Sensitive
<i>Sistrurus tergeminus</i>	Desert massasauga	None	None	Verified	Verified	Verified	Verified	Verified	G3G4T3T4	S3	Under Review	SGCN	BLM Sensitive *New*
<i>Trachemys gaigeae</i>	Big Bend Slider	None	None	None	Verified	Verified	None	None	G3	S2	None	SGCN	BLM Sensitive
Reptiles - Watch													
<i>Aspidoscelis stictogramma</i>	Giant Spotted Whiptail	None	None	None	None	Verified	None	None	G4	S1	None	Threatened, SGCN	Watch
<i>Crotalus cerberus</i>	Arizona black rattlesnake	None	None	None	Verified	Verified	None	None	G5	SNR	None	SGCN	Watch *New*
<i>Crotalus lepidus lepidus</i>	Mottled Rock Rattlesnake	None	None	None	None	Verified	Potential	Verified	G5T4T5	S2	None	Threatened, SGCN	Watch
<i>Lampropeltis alterna</i>	Gray-banded Kingsnake	None	None	None	None	None	None	Verified	G5	S1	None	Endangered, SGCN	Watch
<i>Sceloporus slevini</i>	Slevin's Bunchgrass Lizard	None	None	None	None	Verified	None	None	G4	S1	None	Threatened, SGCN	Watch

Appendix D
New Mexico Environmental Review Tool Report



PROJECT INFORMATION

Project Title: Lone Eagle Mine Safeguarding
Project Type: MINING, Mine Reclamation
Latitude/Longitude (DMS): 32.476027 / -104.372967
County(s): EDDY
Project Description: The Lone Eagle Safeguarding Project will safeguard 2 dangerous mine features in the project area. One is a location on state land while the other is on BLM. The Lone Eagle open pit located on state land will be filled using existing waste rock onsite and potentially imported fill material from a nearby quarry. The BLM shaft will likely be filled with a PUF base and covered using imported fill. AMLP would like to block or remove the two-track access to the state land site to prevent further dumping and vandalization. Ground disturbance will occur when removing fill from waste rock piles to be used in the pit.

REQUESTOR INFORMATION

Project Organization:
Contact Name: Charles Dentino
Email Address: charles.dentino@emnrd.nm.gov
Organization: New Mexico Abandoned Mine Land Program
Address: 1220 South Saint Francis Drive, Santa Fe NM 87505
Phone: 5057953339

OVERALL STATUS

The information contained within this report comprises the recommendations of the New Mexico Department of Game and Fish (Department) for management and mitigation of proposed project impacts to wildlife and habitat resources; see the Project Recommendations section below for further details. No further consultation with the Department is required based on the project's location and, with implementation of mitigation measures described in the Project Recommendations section below, no adverse effects to wildlife or important habitats are anticipated. However, a Department biologist may be in touch within 30 days if they determine that further review is required.

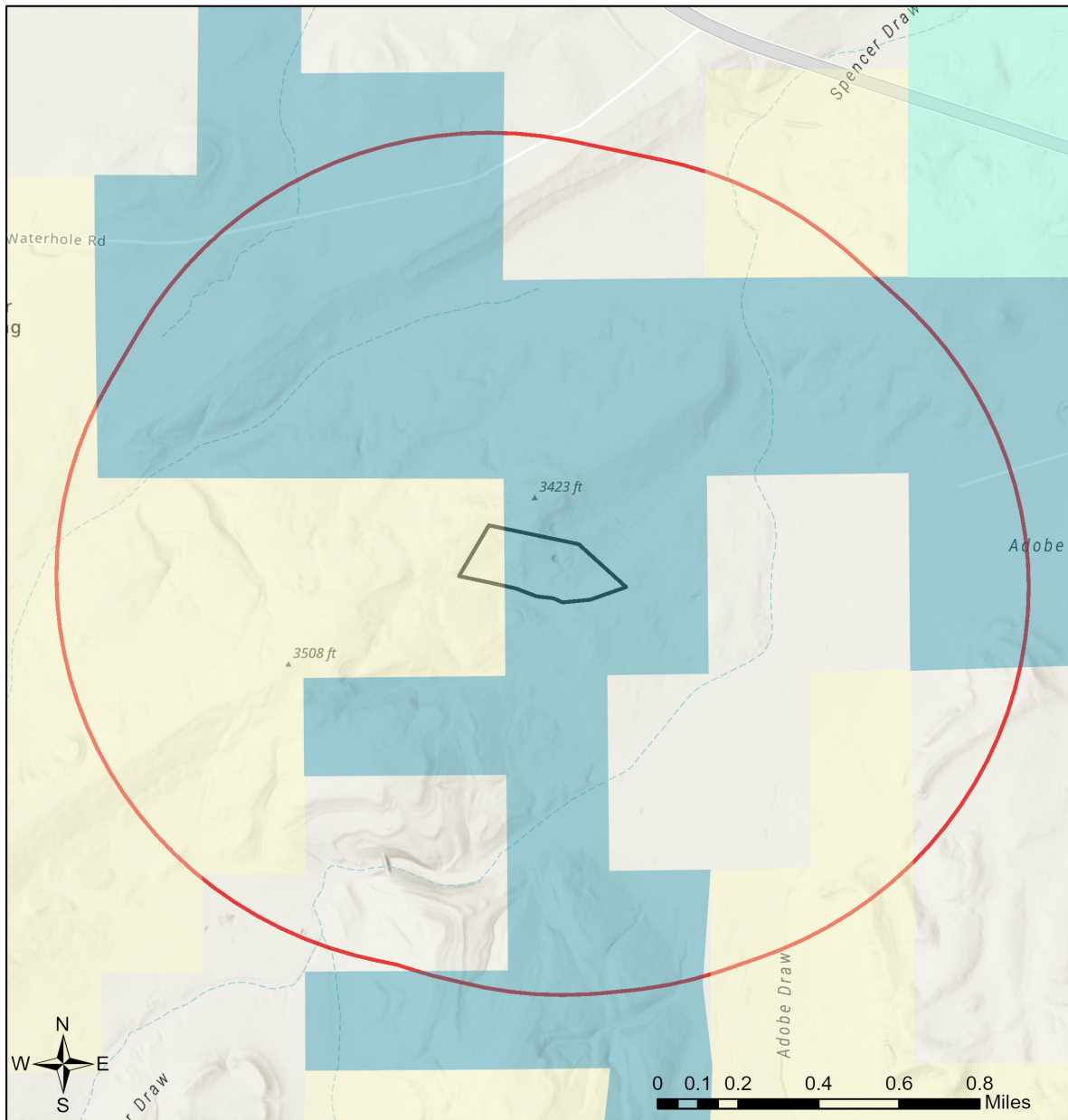


About this report:

- This environmental review is based on the project description and location that was entered. The report must be updated if the project type, area, or operational components are modified.
- This is a preliminary environmental screening assessment and report. It is not a substitute for the potential wildlife knowledge gained by having a biologist conduct a field survey of the project area. Federal status and plant data are provided as a courtesy to users. The review is also not intended to replace consultation required under the federal Endangered Species Act (ESA), including impact analyses for federal resources from the U.S. Fish and Wildlife Service (USFWS) using their [Information for Planning and Consultation tool](#).
- This report contains information on wildlife species protected under the ESA and the [Wildlife Conservation Act \(WCA\)](#), [Species of Greatest Conservation Need \(SGCN\)](#), and Species of Economic and Recreational Importance (SERI). Species listed under the ESA are protected from take at the federal level and under the WCA are protected from take at the state level. SGCN are identified in the [State Wildlife Action Plan \(SWAP\) for New Mexico](#); all of these species are considered to be of conservation concern but not all of them are protected from take at the state or federal level. The harvest of all SERI is regulated at the state level. The Department has no authority to designate critical habitat for species listed under the WCA; only the USFWS can designate critical habitat for species listed under the ESA.
- The New Mexico Environmental Review Tool (ERT) utilizes species observation locations and species habitat suitability models, both of which are subject to ongoing change and refinement. Inclusion or omission of a species within a report cannot guarantee species presence or absence within your project area. To determine occurrence of any species listed in this report, or other wildlife that may be present within your project area, onsite surveys conducted by a qualified biologist during appropriate, species-specific survey timelines may be necessary.
- The Department encourages use of the ERT to modify proposed projects for avoidance, minimization, or mitigation of wildlife impacts. However, the ERT is not intended to be used in a repeatedly iterative fashion to adjust project attributes until a previously determined recommendation is generated. The ERT serves to assess impacts once project details are developed. The [New Mexico Crucial Habitat Assessment Tool](#), the data layers from which are included in the ERT, is the appropriate system for advising early-stage project planning and design to avoid areas of anticipated wildlife concerns and associated regulatory requirements.



Lone Eagle Mine Safeguarding



- Bureau of Land Management
- Private
- State Land Office
- U.S. Bureau of Reclamation

NHNM, USGS, USFS, US Census Bureau, NMDGF
Esri, NASA, NGA, USGS, FEMA
Texas Parks & Wildlife, CONANP, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS



Special Status Animal Species Potentially within 1 Miles of Project Area

Common Name	Scientific Name	USFWS (ESA)	NMDGF (WCA)	NMDGF SGCN/SERI	USFS	USFS SCC	BLM
Boreal Chorus Frog	Pseudacris maculata			SGCN			
Barking Frog	Craugastor augusti			SGCN			
Brown Pelican	Pelecanus occidentalis		E	SGCN			
Aplomado Falcon	Falco femoralis		E	SGCN			
Peregrine Falcon	Falco peregrinus		T	SGCN			BLM WATCH
Yellow-Billed Cuckoo	Coccyzus americanus	LT		SGCN			
Western Burrowing Owl	Athene cunicularia hypugaea			SGCN	Sensitive Species	USFS R3 SCC	BLM SENSITIVE
Common Nighthawk	Chordeiles minor			SGCN			
Lewis's Woodpecker	Melanerpes lewis			SGCN		USFS R3 SCC	BLM WATCH
Bank Swallow	Riparia riparia			SGCN			
Pygmy Nuthatch	Sitta pygmaea			SGCN			
Sprague's Pipit	Anthus spragueii			SGCN			BLM SENSITIVE
Loggerhead Shrike	Lanius ludovicianus			SGCN		USFS R3 SCC	BLM WATCH
Bell's Vireo	Vireo bellii		T	SGCN			BLM SENSITIVE
Varied Bunting	Passerina versicolor		T	SGCN	Sensitive Species		
Vesper Sparrow	Pooecetes gramineus			SGCN			
Thick-billed Longspur	Rhynchophanes mccownii			SGCN			BLM SENSITIVE
Chestnut-Collared Longspur	Calcarius ornatus			SGCN			BLM SENSITIVE
Least Shrew	Cryptotis parva		T	SGCN			BLM WATCH
Black-Tailed Prairie Dog	Cynomys ludovicianus			SGCN	Sensitive Species		BLM SENSITIVE
Mule Deer	Odocoileus hemionus			SERI			
Gray-Checkered Whiptail	Aspidoscelis tesselata		E	SGCN			BLM SENSITIVE



Special Status Animal Species Potentially within 1 Miles of Project Area

Common Name	Scientific Name	USFWS (ESA)	NMDGF (WCA)	NMDGF SGCN/SERI	USFS	USFS SCC	BLM
Gray-Banded Kingsnake	Lampropeltis alterna		E	SGCN			BLM WATCH
Western Ribbon Snake	Thamnophis proximus		T	SGCN	Sensitive Species		
Desert Massasauga	Sistrurus catenatus edwardsii			SGCN			

Common Name hyperlink takes you to species account in bison-m.org; Scientific Name hyperlink takes you to information in [NatureServe Explorer](#); ESA = Endangered Species Act, C = Candidate, LE = Listed Endangered, LT = Listed Threatened, XN = Non-essential Experimental Population, for other ESA codes see this [website](#); WCA = Wildlife Conservation Act, E = Endangered, T = Threatened; SERI = Species of Economic and Recreational Importance; SGCN = Species of Greatest Conservation Need; USFS = U.S. Forest Service, Sensitive Species = A species likely to occur on USFS lands that is of concern for a potential reduction in population viability; SCC = Species of Conservation Concern; BLM = Bureau of Land Management, BLM SENSITIVE = A species that occurs on BLM lands and whose viability is at risk, BLM WATCH = Species that may be added to the sensitive species list in future pending new information regarding species status.



Project Recommendations

Burrowing owl (*Athene cunicularia*) may occur within your project area. Burrowing owls are protected from take by the Migratory Bird Treaty Act and under New Mexico state statute. Before any ground disturbing activities occur, the Department recommends that a preliminary burrowing owl survey be conducted by a qualified biologist using the Department's [burrowing owl survey protocol](#). Should burrowing owls be documented in the project area, please contact the Department or USFWS for further recommendations regarding relocation or avoidance of impacts.

Your project area intersects an Important Plant Area (IPA) that contains one or more species of plants listed as threatened or endangered by the New Mexico Energy, Minerals and Natural Resources Department (EMNRD) under New Mexico Statutes Annotated (NMSA) 75-6-1 or by the USFWS under the federal ESA. Although IPAs have no legal designation, they have been identified as areas that support either a high diversity of sensitive plant species or contain the last remaining locations of New Mexico's most endangered plants. The Department recommends that you consult with EMNRD's [Endangered Plant Program Coordinator](#) regarding any state-listed plants and the USFWS's [Information for Planning and Consultation \(IPAC\)](#) system for any federally-listed plants and reaching out to the appropriate federal species lead(s) with the [New Mexico Ecological Services Office of USFWS](#). The Department does not have any authority to designate or advise on state- or federally-listed plants.

Prairie dog colonies may occur within the vicinity of your project area. Both black-tailed prairie dogs (*Cynomys ludovicianus*) and Gunnison's prairie dogs (*Cynomys gunnisoni*) are designated as New Mexico SGCN, and their colonies provide important habitat for other grassland wildlife. Wherever possible, occupied prairie dog colonies should be left undisturbed, and all project activities should be directed off the colony. Any burrows that are located on the project site should be surveyed by a qualified biologist to determine whether burrows are active or inactive and whether burrowing owls may be utilizing the site. Colonies within the range of the black-tailed prairie dog can be surveyed by a qualified biologist diurnally, year-round using binoculars. Colonies within the range of the Gunnison's prairie dog can be surveyed by a qualified biologist diurnally, using binoculars during the warmer months from April through October and by searching for fairly fresh scat and lack of cobwebs or debris at the mouths of burrows during the cold months (November through March). If ground-disturbing activities cannot be relocated off the prairie dog colony, or if project activities involve control of prairie dogs, the Department recommends live-trapping and relocation of prairie dogs. The Department can provide recommendations regarding suitability of potential translocation areas and procedures.



Disclaimers regarding recommendations:

- The Department provides technical guidance to support the persistence of all protected species of native fish and wildlife, including game and nongame wildlife species. Species listed within this report include those that have been documented to occur within the project area, and others that may not have been documented but are projected to occur within the project vicinity.
- Recommendations are provided by the Department under the authority of § 17-1-5.1 New Mexico Statutes Annotated 1978, to provide "communication and consultation with federal and other state agencies, local governments and communities, private organizations and affected interests responsible for habitat, wilderness, recreation, water quality and environmental protection to ensure comprehensive conservation services for hunters, anglers and nonconsumptive wildlife users".
- The Department has no authority for management of plants or Important Plant Areas. The [New Mexico Endangered Plant Program](#), under the Energy, Minerals, and Natural Resources Department's Forestry Division, identifies and develops conservation measures necessary to ensure the survival of plant species within New Mexico. Plant status information is provided within this report as a courtesy to users. Recommendations provided within the ERT may not be sufficient to preclude impacts to rare or sensitive plants, unless conservation measures are identified in coordination with the Endangered Plant Program.
- Additional coordination and/or consultation may also be necessary under the federal ESA or National Environmental Policy Act (NEPA). Further site-specific mitigation recommendations may be proposed during ESA consultation and/or NEPA analyses or through coordination with affected federal agencies.

From: info@nmert.org on behalf of [New Mexico Environmental Review Tool](#)
To: [Dentino, Charles, EMNRD](#)
Cc: [Kellermueller, Ronald, DGF](#); [DGF-EEP-TG](#)
Subject: [EXTERNAL] NM ERT : AML Lone Eagle Mine Safeguarding
Date: Friday, May 31, 2024 2:35:57 PM

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

NOTE: DO NOT RESPOND DIRECTLY TO THIS EMAIL, AS IT WILL BE SENT TO AN ADDRESS THAT IS NOT MONITORED. PLEASE SEND ANY QUESTIONS OR ADDITIONAL INFORMATION TO ronald.kellermueller@dgf.nm.gov.

Project: AML Lone Eagle Mine Safeguarding
Project ID: [NMERT-3489](#)
Date Submitted: 05/10/2024 - 11:44
Organization: New Mexico Abandoned Mine Land Program

Dear Charles Dentino,

The New Mexico Department of Game and Fish (Department) has reviewed the Biological Memorandum and Bat Conservation International's Lone Eagle Abandoned Mine Bat Surveys Final Report for the proposed Lone Eagle Mine Safeguarding Project in Eddy, County New Mexico submitted by the New Mexico Abandoned Mine Land Program. With implementation of the recommended mitigation measures provided in the New Mexico Environmental Review Tool's Project Report and those stated in the Biological Memorandum, no significant adverse impacts to wildlife or wildlife habitat is anticipated.

For post-construction reclamation of the project area, the Department recommends that the project proponent use only native plant species and that the reclamation seed mix is designed to enhance local pollinator habitat. The Department also recommends that only certified weed-free seed be used to avoid inadvertently introducing non-native species to the reclamation site. Any alternate seeds used to substitute for primary plant species that are unavailable at the time of reclamation should also be native. When possible, the Department recommends using seeds that are sourced from the same region and habitat type as the reclamation site and suggests including seeds from a region that represents potential future climatic conditions at the site.

Thank you for the opportunity to review your proposed mine safeguarding project. Please do not hesitate to contact me if you have any questions.

Sincerely,

Ron Kellermueller
New Mexico Department of Game and Fish
ronald.kellermueller@dgf.nm.gov
505-270-6612

<https://nmert.org/>

This email is for the use of the intended recipient only. If you have received this email in error,

please notify the sender immediately and then delete it. If you are not the intended recipient, you must not keep, use, disclose, copy or distribute this email without the author's prior permission.

Appendix E
New Mexico State Endangered Plant Species

NEW MEXICO STATE ENDANGERED PLANT SPECIES (19.21.2.8 NMAC)

Detailed information and images of many of these and other rare plants can be found at the New Mexico Rare Plants website (<https://nmrareplants.unm.edu/>). Also, click on botanical name in table to get detailed information for each species from New Mexico Rare Plants Website.

Botanical Name	Common Name	New Mexico Counties
<u><i>Agalinis calycina</i></u>	Leoncita false-foxglove	Chaves
<u><i>Aliciella formosa</i></u>	Aztec gilia	San Juan
<u><i>Allium gooddingii</i></u>	Goodding's onion	San Juan, McKinley, Catron, Lincoln, Santa Fe
<u><i>Amsonia tharpii</i></u>	Tharp's bluestar	Eddy
<u><i>Argemone pinnatisecta</i></u>	Sacramento prickly poppy	Otero
<u><i>Asplenium scolopendrium</i> var. <i>americanum</i></u>	American hart's-tongue fern	Cibola
<u><i>Astragalus humillimus</i></u>	Mancos milkvetch	San Juan
<u><i>Castilleja ornata</i></u>	Swale paintbrush	Hidalgo
<u><i>Castilleja tomentosa</i></u>	Tomentose paintbrush	Hidalgo
<u><i>Cirsium vinaceum</i></u>	Sacramento Mountains thistle	Otero
<u><i>Cirsium wrightii</i></u>	Wright's marsh thistle	Chaves, Guadalupe, Otero, Sierra, Socorro
<u><i>Cleome multicaulis</i> (<i>Peritoma multicaulis</i>)</u>	slender spiderflower	Grant, Hidalgo
<u><i>Coryphantha robustispina</i> ssp. <i>scheeri</i></u>	Scheer's pincushion cactus	Chavez, Eddy
<u><i>Cylindropuntia viridiflora</i></u>	Santa Fe cholla	Santa Fe
<u><i>Cymopterus spellenbergii</i></u>	Spellenberg's springparsley	Rio Arriba, Taos
<u><i>Cypripedium parviflorum</i> var. <i>pubescens</i></u>	golden lady's slipper	San Juan, Grant, San Miguel
<u><i>Echinocereus fendleri</i> var. <i>kuenzleri</i></u>	Kuenzler's hedgehog cactus	Chavez, Eddy, Lincoln, Otero
<u><i>Erigeron hessii</i></u>	Hess' fleabane	Catron

<u><i>Erigeron rhizomatus</i></u>	Zuni fleabane	Catron, McKinley, San Juan
<u><i>Eriogonum gypsophilum</i></u>	gypsum wild buckwheat	Eddy
<u><i>Escobaria duncanii</i></u>	Duncan's pincushion cactus	Sierra
<u><i>Escobaria organensis</i></u>	Organ Mountain pincushion cactus	Doña Ana
<u><i>Escobaria sneedii</i> var. <i>leei</i></u>	Lee's pincushion cactus	Eddy
<u><i>Escobaria sneedii</i> var. <i>sneedii</i></u>	Sneed's pincushion cactus	Doña Ana
<u><i>Escobaria villardii</i></u>	Villard's pincushion cactus	Doña Ana, Otero
<u><i>Hedeoma todsenii</i></u>	Todsen's pennyroyal	Otero, Sierra
<u><i>Helianthus paradoxus</i></u>	Pecos sunflower	Cibola, Valencia, Socorro, Guadalupe, Chavez
<u><i>Hexalectris colemanii</i></u>	Coleman's coralroot	Hidalgo
<u><i>Hexalectris nitida</i></u>	shining coralroot	Eddy, Otero
<u><i>Hexalectris arizonica</i></u>	crested coralroot	Sierra, Otero, Hidalgo
<u><i>Ipomopsis sancti-spiritus</i></u>	Holy Ghost ipomopsis	San Miguel
<u><i>Lepidospartum burgessii</i></u>	gypsum scalebroom	Otero
<u><i>Lilium philadelphicum</i></u>	wood lily	Otero, Los Alamos, Sandoval, San Miguel, Santa Fe
<u><i>Linum allredii</i></u>	Allred's flax	Eddy
<u><i>Opuntia arenaria</i></u>	sand prickly pear	Doña Ana, Luna, Socorro
<u><i>Pediocactus knowltonii</i></u>	Knowlton's cactus	San Juan
<u><i>Pediomelum pentaphyllum</i></u>	Chihuahua scurfpea	Hidalgo
<u><i>Peniocereus greggii</i></u>	night-blooming cereus	Doña Ana, Grant, Hidalgo, Luna
<u><i>Penstemon metcalfei</i></u>	Metcalfe's beardtongue	Sierra
<u><i>Polygala rimulicola</i> var. <i>mescalerorum</i></u>	San Andres milkwort	Doña Ana

<u><i>Puccinellia parishii</i></u>	Parish's alkali grass	Catron, Cibola, Grant, Hidalgo, McKinley, Sandoval, San Juan
<u><i>Sclerocactus cloverae</i></u>	Clover's cactus	Rio Arriba, San Juan, Sandoval
<u><i>Sclerocactus mesae-verdae</i></u>	Mesa Verde cactus	San Juan
<u><i>Scrophularia macrantha</i></u>	Mimbres figwort	Grant, Luna
<u><i>Spiranthes magnicamporum</i></u>	lady tresses orchid	Bernalillo, Santa Fe, Guadalupe, Rio Arriba
<u><i>Townsendia gypsophila</i></u>	gypsum Townsend's aster	Sandoval