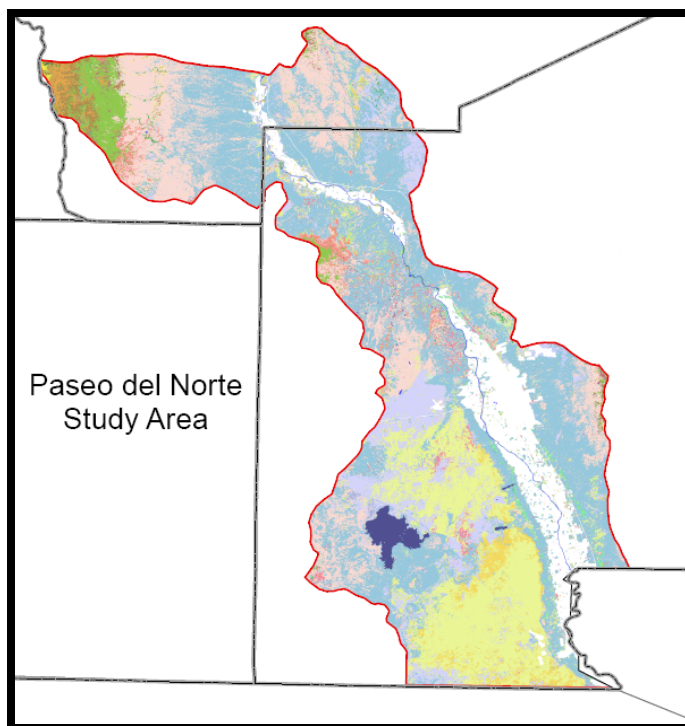


Biological Data Survey for Paseo del Norte Watershed Restoration Action Strategy



New Mexico Cooperative Fish and Wildlife Research Unit

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Wildlife Management Institute*

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TECHNICAL ASSISTANCE REPORT

**Biological Data Survey for Paseo del Norte
Watershed Restoration Action Strategy**

Final Report

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INTRODUCTION

Analysis at the watershed scale is crucial to the structure and processes associated with streams and riparian systems (Briggs 1996). Riparian systems are directly affected by the connection with the adjacent ecosystems. Disturbances, even in small parts of the watershed, can create a disequilibrium that influences the condition of riparian systems for many years. Salwasser (1994) defined watershed integrity as “possessing a full set of natural parts and processes in good working order.” Watershed integrity is synonymous with watershed condition or rangeland condition and includes more factors other than pathogens and TMDL. Many conservation activities are currently being pursued to ensure long-term system integrity that can affect the Rio Grande and surrounding tributaries (NMDGF 2005).

Information for this assessment was based largely on *New Mexico’s Comprehensive Wildlife Conservation Strategy* (NMCWCS) produced by the New Mexico Department of Fish and Game (NMDGF 2005) and land cover, species-habitat models and land stewardship/ownership data provided by the Southwest Regional Gap Analysis Project (Prior-Magee et al. 2006). Many species are present within the watershed, so focus is placed largely on habitat, rather than specific species. Species focus in cases is based around the NMDGF Species of Greatest Conservation Need (SGCN) as identified within the NMCWCS and habitat associates provided by SWReGAP (Boykin et al 2006).

STUDY AREA

The study area is the 8-digit hydrologic unit code or HUC (13030102) with El Paso-Las Cruces, New Mexico, Texas as the category name (Figure 1). The area encompasses X hectares with plant communities ranging from coniferous forests at the upper watershed to desert shrublands to riparian communities along the Rio Grande River.

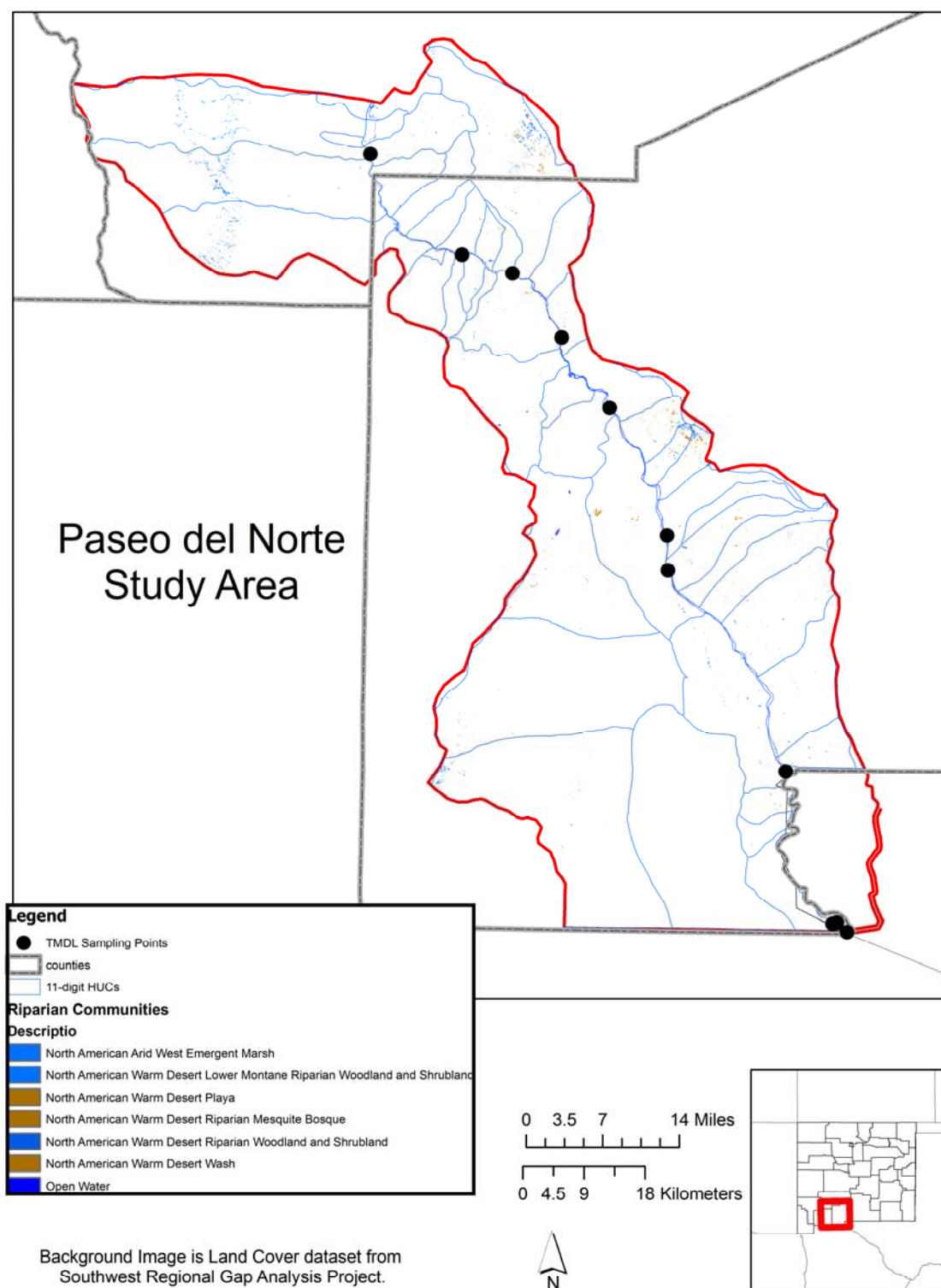


Figure 1. Map of watershed study area with TMDL sample points, perennial water, and riparian habitat as mapped by Southwest Regional Gap Analysis Project.

LAND STEWARDSHIP

Using the Southwest Regional Gap Analysis Project (SWReGAP) stewardship dataset (Ernst et al. 2006), we analyzed the percentage of land within the Paseo del Norte watershed by land owner. The Bureau of Land Management is the majority land manager within the watershed, managing 58% of the watershed (Table 1). Private landowners account for 22% of the watershed and the State of New Mexico accounts for 16%. Private land owners are largely confined to the floodplain with the exception of the city of Las Cruces. USDA Forest Service and the Department of Defense comprise 3% and 1% respectively.

Table 1. List of five major land owners within the watershed as mapped by the Southwest Regional Gap Analysis Project (Ernst et al. 2006).

Land Manager	Area	Percent
	Hectares	%
BLM	343,134	58
USFS	15,140	3
DOD	6,833	1
State	94,859	16
Private	133,729	22

HABITAT AND LAND COVER

SWReGAP mapped land cover based on ecological systems over a broad region including the watershed (Lowery et al 2006). Ecological systems are defined by Comer et al. (2003) as “groups of plant communities and sparsely vegetated habitats unified by similar ecological processes, substrates, and/or environmental gradients.” SWReGAP mapped 52 land cover types within the watershed with 40 types mapped at less than 1% of the land area. Many of these land cover types are likely on the periphery of their range or found in small isolated patches within the watershed. Twelve land cover types (Table 2) were mapped with more than 1% of the watershed including Chihuahuan Mixed Desert and Thorn Scrub, Apacherian-Chihuahuan Semi-Desert Grassland and Steppe, Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub, and Apacherian-Chihuahuan Mesquite Upland Scrub. Irrigated agriculture was mapped on 6.7 % of the watershed and urban areas including low, medium, and high density development were mapped on 3.4%.

There are several key habitats within the watershed as identified by the New Mexico Department of Game and Fish in New Mexico’s Comprehensive Wildlife Conservation Strategy (NMDGF 2005). These include the terrestrial habitats of Chihuahuan Semi-Desert Grasslands, Madrean Encinal, and Madrean Pine-Oak /Conifer-Oak, riparian habitats, and aquatic habitats including Marsh/ Cienega/ Spring/ Seep, 1st and 2nd Order Streams, and 5th Order Streams (Rio Grande).

Below we discuss land cover types considered either dominant within the watershed or in or adjacent to streams. Information on habitat condition, factors affecting these habitats, information gaps, research needs, and conservation actions for those land cover types identified as key habitats to species (NMCWCS 2005).

Table 2. List of 12 Ecological Systems mapped with greatest abundance within the watershed as mapped by the Southwest Regional Gap Analysis Project Lowery et al. (2006).

Code	Description	Hectares	%
S062	Chihuahuan Mixed Desert and Thorn Scrub	200,840	33.4
S077*	Apacherian-Chihuahuan Semi-Desert Grassland and Steppe	113,393	18.9
S068	Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub	91,947	15.3
S058	Apacherian-Chihuahuan Mesquite Upland Scrub	57,153	9.5
N80	Agriculture	40,174	6.7
S112*	Madrean Pinyon-Juniper Woodland	15,183	2.5
S018	North American Warm Desert Active and Stabilized Dune	13,036	2.2
N22	Developed, Medium - High Intensity	11,258	1.9
N21	Developed, Open Space - Low Intensity	8,896	1.5
S116	Chihuahuan Mixed Salt Desert Scrub	8,131	1.4
S019	North American Warm Desert Volcanic Rockland	6,783	1.1
S051*	Madrean Encinal	6,202	1.0

*Key habitats as defined by the New Mexico Department of Game and Fish

Upland Habitats

Of the five predominant terrestrial land cover types, only the Chihuahuan semi-desert grasslands were identified as a key habitat by NMDGF. This land cover type is an aggregation of semi-desert grasslands including the Apacherian-Chihuahuan Semi-Desert Grassland and Steppe ecological system. The other three land cover types (Chihuahuan Mixed Desert and Thorn Scrub, Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub, Apacherian-Chihuahuan Mesquite Upland Scrub) were not considered key and were not treated as extensively as the Chihuahuan semi-desert grasslands.

Chihuahuan Semi-Desert Grasslands

In the Paseo del Norte watershed, the predominant ecological system within the Chihuahuan Semi-Desert Grasslands is the Apacherian-Chihuahuan Semi-Desert Grassland and Steppe (Figure 2). This ecological system is broadly defined as a desert grassland, mixed shrub-succulent, or xeromorphic tree savanna (Comer et al 2003, See Appendix C). It occurs in the Borderlands of Arizona, New Mexico and northern Mexico. It occurs on gently sloping bajadas that supported frequent fire throughout and steeper piedmont and foothill slopes in the Chihuahuan Desert. Species present include perennial grasses such as black grama (*Bouteloua eriopoda*), hairy grama (*Bouteloua hirsute*), sideoats grama (*Bouteloua curtipendula*), blue

grama (*Bouteloua gracilis*), plains lovegrass (*Eragrostis intermedia*), bush muhly (*Muhlenbergia porter*), curlyleaf muhly (*Muhlenbergia setifolia*), tobosagrass (*Pleuraphis mutica*), and alkali sacaton (*Sporobolus airoides*). Succulent species include of Agave, sotol (*Dasylirion*), and *Yucca*. Tall-shrub/short-tree species include mesquite (*Prosopis spp.*) and various oaks including gray oak (*Quercus grisea*) and Arizona white oak (*Quercus arizonica*)(Comer et al 2003).



Figure 2. Representative site of Chihuahuan Sandy Plains Semi-Desert Grassland as an ecological system grouped into the Chihuahuan Semi-Desert Grasslands land cover type. Photo curtesy of SWReGAP.

These semi-desert grasslands are found throughout the watershed. This grassland habitat type has recently shifted from perennial grassland to shrub-dominated desert scrubland (Barnes 1936, Buffington and Herbel 1965, Branson 1985, Archer 1989). Fredrickson et al. (1998) suggested the reasons for this shift include improper livestock grazing, climatic change, and fire suppression. Conversion of grassland and human development have caused increased runoff and erosion, decreased biological diversity, shifts in avian species assemblages, increased invasion by non-native species, and decreased livestock and wildlife forage (Branson 1985, Saunders et al. 1991, Vickery et al. 1999, Desmond et al. 2005).

Species of Greatest Conservation Need associated within this habitat type include two amphibians, the Great Plains narrowmouth toad and tiger salamander (NMDGF 2005). Bird SGCN include Aplomado falcon, Baird's sparrow, bald eagle, Bendire's thrasher, Botteri's sparrow, burrowing owl, common ground-dove, ferruginous hawk, golden eagle, grasshopper sparrow, gray vireo, hooded oriole, loggerhead shrike, Montezuma quail, mourning dove, northern harrier, sage thrasher, sandhill crane, scaled quail, Sprague's pipit, and varied bunting. Mammal SGCN associated with this habitat type include Arizona Myotis bat, black-tailed prairie dog, Coues' white-tailed deer, desert bighorn sheep, lesser long-nosed bat, Mexican long-tongued bat, mule deer, northern pygmy mouse, pocketed free-tailed bat, swift fox,

white-sided jack rabbit, and yellow-nosed cotton rat. Reptiles associated with this habitat include bunch grass lizard, collared lizard, desert massasauga, gray-banded kingsnake, gray-checked whiptail, milk snake, ornate box turtle, Texas banded gecko, and the western diamondback rattlesnake.

Several mollusc SGCN are also associated with this habitat and include distorted *Metastoma* snail, Dona Ana talussnail, Franklin Mountain talussnail, New Mexico ramshorn snail, northern treeband snail, Organ Mountain talussnail, San Luis Mountains talussnail, three-toothed column snail, whitewashed radabotus snail, and a woodlandsnail species.

Chihuahuan Mixed Desert and Thorn Scrub

The Chihuahuan Mixed Desert and Thorn Scrub is comprised of two ecological systems including the Chihuahuan Creosotebush Xeric Basin Desert Scrub and the Chihuahuan Mixed Desert and Thorn Scrub (Comer et al. 2003) (Figure 3). These land cover types include xeric creosotebush shrublands and mixed desert scrub in foothill transition zones and extending up to lower montane woodlands (Appendix C). Species include creosote bush (*Larrea tridentata*) singly or mixed with thornscrub and other desert scrubs such as lechuguilla (*Agave lechuguilla*), Wright's bee brush (*Aloysia wrightii*), ocotillo (*Fouquieria splendens*), sotol (*Dasylirion leiophyllum*), tarbush (*Flourensia cernua*), Big Bend barometerbush (*Leucophyllum minus*), catclaw mimosa (*Mimosa aculeaticarpa* var. *biuncifera*), Texas prickly pear (*Opuntia engelmannii*), mariola (*Parthenium incanum*), honey mesquite (*Prosopis glandulosa*), and plumed crinklemat (*Tiquilia greggii*).



Figure 3. Representative site of Chihuahuan Mixed Desert and Thorn Scrub ecological system mapped by the Southwestern Regional Gap Analysis Project. Photo curtesy of SWReGAP.

There are 173 terrestrial vertebrates species associated with this habitat type (Appendix G). Amphibians within this habitat include green toad, red-spotted toad, Woodhouse's toad,

Couch's spadefoot, and plains spadefoot. Birds associated with this land cover type include black-chinned hummingbird, burrowing owl, scaled quail, cactus wren, Chihuahuan raven, Aplomado falcon, greater roadrunner, bald eagle, phainopepla, ladder-backed woodpecker, Bendire's thrasher, and Lucy's warbler. Mammals associated with this habitat include ringtail, Townsend's big-eared bat, Merriam's kangaroo rat, banner-tailed kangaroo rat, black-tailed jack rabbit, mule deer, collared peccary, hispid cotton rat, badger, gray fox, and kit fox. Reptiles found in the habitat include glossy snake, trans-Pecos rat snake, Chihuahuan spotted whiptail, Texas banded gecko, western diamondback rattlesnake, collared lizard, Texas horned lizard, round-tailed horned lizard, massasauga and ornate box turtle.

Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub

This ecological system includes open shrublands of vegetated coppice dunes dominated by honey mesquite (Comer et al. 2003)(Figure 4). It can include four-wing saltbush (*Atriplex canescens*), Torrey's ephedra (*Ephedra torreyana*), longleaf jointfir (*Ephedra trifurca*), frosted mint (*Poliomintha incana*), and littleleaf sumac (*Rhus microphylla*) coppice sand scrub with 10-30% total vegetation cover. Soap tree yucca (*Yucca elata*), snakeweed (*Gutierrezia sarothrae*), and mesa dropseed (*Sporobolus flexuosus*) are also commonly present.



Figure 4 Representative site of Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub mapped by the Southwestern Regional Gap Analysis Project. Photo courtesy of SWReGAP.

There are 63 terrestrial vertebrates associated with this land cover type (Appendix G). Amphibians found within Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub include red-spotted toad and Woodhouse's toad. Birds they may be found within this habitat include burrowing owl, great horned owl, lesser nighthawk, greater roadrunner, bald eagle, Scott's oriole, loggerhead shrike, ash-throated flycatcher, sage thrasher, phainopepla, Bendire's thrasher, western kingbird, and mourning dove. Mammals associated with this habitat include Merriam's kangaroo rat, Ord's kangaroo rat, desert pocket gopher, striped skunk, Arizona myotis, southern

plains woodrat, big free-tailed bat, mule deer, northern grasshopper mouse, southern grasshopper mouse, silky pocket mouse, mountain lion, gray fox, and kit fox. Reptiles associated with this habitat include glossy snake, Trans-Pecos rat snake, New Mexico whiptail, checkered whiptail, western diamondback rattlesnake, long-nosed leopard lizard, common kingsnake, Texas blind snake, Texas horned lizard, massasauga, ground snake, and ornate box turtle

Apacherian-Chihuahuan Mesquite Upland Scrub

This ecological system occurs in the uplands as shrublands or as the grassland-shrubland transition in foothills and piedmont in the Chihuahuan Desert (Figure 5). Plant species are dominated by honey mesquite and succulents. Other desert scrub that may be dominant or codominant include viscid acacia (*Acacia neovernicosa*), whitethorn acacia (*Acacia constricta*), one-seed juniper (*Juniperus monosperma*), or redberry juniper (*Juniperus coahuilensis*). Grass cover is typically low. The area occupied by this system has increased through conversion of desert grasslands as a result of drought, improper grazing, and/or decreases in fire frequency.



Figure 5. Representative site of Apacherian-Chihuahuan Mesquite Upland Scrub mapped by the Southwestern Regional Gap Analysis Project. Photo courtesy of SWReGAP.

There are 198 terrestrial vertebrate species associated with this land cover type (Appendix G). Amphibians found in this habitat include green toad, red-spotted toad, Woodhouse's toad and Couch's spadefoot. Bird species associated with this habitat include black-chinned hummingbird, burrowing owl, great horned owl, zone-tailed hawk, scaled quail, killdeer, lesser nighthawk, common nighthawk, common raven, Chihuahuan raven, peregrine falcon, American kestrel, greater roadrunner, bald eagle, Scott's oriole, loggerhead shrike, ash-throated flycatcher, western screech-owl, painted bunting, phainopepla, ladder-backed woodpecker, green-tailed towhee, vermilion flycatcher, Bendire's thrasher, Lucy's warbler, Bell's vireo, gray vireo, and mourning dove. Mammals associated with this habitat include porcupine, desert pocket gopher, hoary bat, black-tailed jack rabbit, bobcat, striped skunk, Arizona myotis, long-legged myotis,

southern plains woodrat, desert shrew, mule deer, northern grasshopper mouse, collared peccary, silky pocket mouse, raccoon, mountain lion, tawny-bellied cotton rat, hispid cotton rat, spotted ground squirrel, desert cottontail, badger, gray fox, kit fox and red fox. Reptiles associated with this type include glossy snake, Trans-Pecos rat snake, Chihuahuan spotted whiptail, New Mexico whiptail, Texas banded gecko, racer, western diamondback rattlesnake, rock rattlesnake, collared lizard, ring-necked snake, many-lined skink, great plains skink, long-nosed leopard lizard, western hook-nosed snake, Gila monster, western hog-nosed snake, common kingsnake, Texas blind snake, Texas horned lizard, round-tailed horned lizard, western patch-nosed snake, Southwestern black-headed snake, plains black-headed snake, ornate box turtle, western terrestrial garter snake, and western lyre snake.

Riparian Habitats

Riparian habitats are assemblages of plant communities associated with stream-induced or related factors (Kauffman and Krueger 1984). Riparian systems can range from mesic vegetation communities associated with perennial water such as the Rio Grande River to xeric communities with highly ephemeral waters associated with the many arroyos within the watershed. All riparian habitats were considered key habitats within the NMCWCS. Sixteen ecological systems mapped by SWReGAP were aggregated. In the Paseo del Norte watershed, six ecological system were mapped including North American Warm Desert Wash, North American Warm Desert Playa, North American Warm Desert Lower Montane Riparian Woodland and Shrubland, North American Warm Desert Riparian Woodland and Shrubland, North American Warm Desert Riparian Mesquite Bosque and North American Arid West Emergent Marsh (See Lowery et al 2006 for descriptions). Watts (1998) identified finer scale vegetation communities specifically for the watershed. Dominant tree and shrub species included ash (*Fraxinus* spp.), cottonwood (*Populus* spp.), saltcedar (*Tamarix* spp.), willow (*Salix* spp.), seepwillow (*Baccharis* sp.), and mesquite (*Prosopis* sp.). Herbaceous species include alkali sacaton (*Sporobolus airoides*), Bermudagrass (*Cynodon dactylon*), and saltgrass (*Distichlis spicata*).

Riparian habitats support greater diversity of plants and animals than upland habitats. A large number of wildlife in the Southwest use riparian habitats (Thomas et al. 1979, Johnson et al. 1977) and approximately 80% of sensitive and specially classified vertebrate species in New Mexico depend upon riparian habitat for some portion of their life cycle (New Mexico Department of Game and Fish 2000). It is estimated that wetlands and riparian ecosystems comprise less than 1% of New Mexico (Dahl 1990, Henrickson and Johnston 1986, Allen and Marlow 1992).

Dahl (1990) estimated that 33% of the wetlands once existing in New Mexico have been lost. Hink and Ohmart (1984) identified an 87% decrease in wetland acreage along the main stem of the Rio Grande from 1918 to 1982. Riparian systems have been the subject of alteration and fragmentation because they occur in the valley floor where humans have settled for agricultural reasons. Fullerton and Batts (2003) suggested the largest stressors were regulated river flows, channelization, and invasive species. Historically, floods caused multiple channels and sandbars, washed away stands of trees, and created wetlands resulting in an heterogeneous mosaic of vegetation communities and age classes. Construction of dams has decreased flood frequency and intensity. Additionally, the water table decreased, river channels were straightened and

bermed, banks were stabilized, and the natural shifting of channels halted. At some locations, the river channel is narrowing and deepening and vegetation is stabilizing the riverbank.

The condition of xeric riparian (arroyos) communities is largely unknown. These communities occur throughout the watershed along ephemeral drainages. These communities can be highly fragmented due to natural and anthropogenic sources. Few studies have focused on these riparian communities and standard riparian monitoring methods are not applicable to these vegetation types. Xeric riparian communities are thought to be important for species and support unique species compared to adjacent upland habitats (Meyer 1995).

Riparian habitats host up to 216 terrestrial vertebrates within the watershed (Appendix F). Amphibian species found within this habitat type include amphibians such as great plains toad, green toad, red-spotted toad, Woodhouse's toad, plains leopard frog, Chiricahua leopard frog, northern leopard frog, and Couch's spadefoot. Birds associated with this habitat type include northern goshawk, sharp-shinned hawk, wood duck, black-throated sparrow, northern pintail, black-chinned hummingbird, common black-hawk, yellow-billed cuckoo, Chihuahuan raven, Aplomado falcon, peregrine falcon, sandhill crane, blue grosbeak, bald eagle, dark-eyed junco, phainopepla, ladder-backed woodpecker, vermilion flycatcher, Bendire's thrasher, orange-crowned warbler, Lucy's warbler, Bell's vireo, gray vireo, and mourning dove. Mammals found within this habitat type include pallid bat, beaver, hispid pocket mouse, hog-nosed skunk, Merriam's kangaroo rat, banner-tailed kangaroo rat, porcupine, spotted bat, bobcat, striped skunk, mule deer, muskrat, Mearns' grasshopper mouse, collared peccary, raccoon, mountain lion, badger, gray fox, and red fox. The reptiles associated with the habitat type include spiny softshell turtle, glossy snake, Trans-Pecos rat snake, snapping turtle, New Mexico whiptail, western diamondback rattlesnake, black-tailed rattlesnake, collared lizard, ring-necked snake, Madrean alligator lizard, yellow mud turtle, Sonoran mountain kingsnake, Big Bend slider, and common slider

In xeric riparian communities there are up to 108 terrestrial vertebrates associated with these communities riparian communities (Appendix G). Amphibians found within this habitat type include green toad, red-spotted toad, Woodhouse's toad, and plains spadefoot. Birds associated with this habitat type include black-chinned hummingbird, burrowing owl, verdin, zone-tailed hawk, ferruginous hawk, Gambel's quail, lesser nighthawk, peregrine falcon, greater roadrunner, phainopepla, vermilion flycatcher, Bendire's thrasher, Lucy's warbler, and mourning dove. Mammals associated with xeric riparian communities include Merriam's kangaroo rat, banner-tailed kangaroo rat, porcupine, spotted bat, desert pocket gopher, western red bat, bobcat, striped skunk, mule deer, collared peccary, silky pocket mouse, cactus mouse, raccoon, western spotted skunk, desert cottontail, Brazilian free-tailed bat, Botta's pocket gopher, gray fox, and kit fox. Reptiles that are associated with this land cover include glossy snake, Trans-Pecos rat snake, New Mexico whiptail, western diamondback rattlesnake, Great Plains skink, common kingsnake, western blind snake, Texas horned lizard, ornate box turtle, and western terrestrial garter snake.

Aquatic Habitats

The NMCWCS identified three key aquatic habitats that can occur within the Paseo del Norte watershed. These include Perennial Marsh/Cienega/Spring/Seep, Perennial 1st and 2nd Order Stream, and Perennial 5th Order Stream. Each aquatic habitat was treated within the CWCS.

Perennial Marsh/Cienega/Spring/Seep

Perennial marsh/cienegas/Springs/Seeps occur as geographically isolated wet depressions or seeps that are products of seasonal discharge of shallow groundwater aquifers and precipitation events. These areas collect and hold water that commonly supports hydrophilic plants (e.g., obligate and facultative wetland plants) and wildlife. Flooding provided the majority of the habitat along the Rio Grande until channelization and water control activities reduced these events. Perennial spring-fed marshes and cienegas discharge to localized aquatic systems that contribute surface flows to perennial tributaries of the Rio Grande.

Within Perennial Marsh/Cienega/Spring/Seep there are 34 identified SGCN for the entire Rio Grande (Appendix H). Invertebrates associated with this land cover type include crustaceans such as sideswimmers/scuds, Socorro isopod, and mollusks such as the Alamosa springsnail, blunt ambersnail, Chupadera pyrg snail, ovate vertigo snail, and Socorro pyrg snail. Fish species within these habitats include the Rio Grande Silvery Minnow, although not likely within the watershed. Amphibians that can be associated with this habitat include Chiricahua leopard frog, northern leopard frog, plains leopard frog, tiger salamander, and western chorus frog. Birds associated with this habitat include American bittern, bald eagle, common black-hawk, eared grebe, Lucy's warbler, northern harrier, northern pintail, peregrine falcon, sandhill crane, southwestern willow flycatcher, white-faced ibis, and yellow warbler. Mammal species that are associated with this habitat include Allen's big-eared bat, American beaver, New Mexico meadow jumping mouse, spotted bat, and western red bat. A reptile SGCN that is associated with this habitat type is the New Mexico garter snake.

Perennial 1st and 2nd Order Stream

Perennial 1st and 2nd ordered streams consist of headwater streams. These streams are limited within the watershed and likely only occur in the higher elevations of the Black Range Mountains or Organ Mountains. These streams are least impacted by human activity. Limited channelization and dewatering occurs within these streams. At lower elevations in the watershed, 1st and 2nd order streams are ephemeral unless associated with springs.

Within Perennial 1st/2nd order streams, there are 14 identified SGCN for the entire Rio Grande (Appendix H). Invertebrates associated with this habitat type include crustaceans (e.g. Sideswimmers / Scuds) and mollusks (e.g. Alamosa springsnail and wrinkled marshsnail). Fish species associated with this habitat type are Rio Grande chub, Rio Grande cutthroat trout and the Rio Grande sucker. Amphibians associated with this aquatic system include Chiricahua leopard frog, northern leopard frog, and western chorus frog. Bird species that are associated with this habitat include common black-hawk and yellow warbler. Only one mammal (American beaver) and one reptile (New Mexico garter snake) are associated with this habitat.

Perennial 5th Order Stream

The Rio Grande is the only 5th order streams in the watershed. There is a decreasing gradient for the Rio Grande until it reaches the state border. In the Mesilla valley the historic floodplain was wide and diverse. Crawford et al (1996) suggested that the channel morphology was complex including meanders, oxbows, and braiding. Frequent over-bank flows generated off-river ponds and marshes.

Within Perennial 5th order streams there are 31 identified SGCN for the entire Rio Grande (Appendix H). Invertebrates that inhabit these systems include sideswimmers / scuds and the creeping Ancyloid snail. Fish found within these streams include blue catfish, Rio Grande chub, Rio Grande sucker, and smallmouth buffalo. Amphibian species found within 5th order streams include Chiricahua leopard frog, northern leopard frog and the plains leopard frog. Birds that are associated with these systems include bald eagle, bank swallow, Bell's vireo, common black-hawk, eared grebe, interior least tern, Lucy's warbler, northern pintail, osprey, painted bunting, peregrine falcon, Southwestern willow flycatcher, and yellow warbler. The American beaver is the only mammal SGCN that is associated with this habitat and there are three reptiles including Big Bend slider, New Mexico garter snake, and western painted turtle.

WILDLIFE DISTRIBUTIONS

Distribution models for terrestrial and aquatic vertebrate species were produced by the Southwest Regional Gap Analysis Project (<http://fws-nmcfwru.nmsu.edu/SWReGAP/>) and the NMDGF CWCS (<http://fws-nmcfwru.nmsu.edu/cwcs/>). These efforts provided extensive literature review to identify species, habitats, and range for these species (NMDGF 2005, Boykin et al 2006).

Distribution and Abundance of Vertebrates

Geographical Distributions and Abundance of Terrestrial Vertebrates

Our knowledge of distribution and abundance of vertebrates varies by taxa group. Many abundance estimates are site based or small parcel based. Breeding bird counts and Christmas bird counts provide estimates of trends and abundance by species, but recent data is currently in interim format (Breeding Bird Atlas Explorer 2007). Data for trend and abundance are listed in Appendix A. There are two possible sampling sites for Christmas Bird Counts within the watershed providing a limited dataset for use (<http://www.audubon.org/bird/cbc/pdf/AmBird106-pp93-98.pdf>). We identified available bat data from Bat Conservation International and includes polygon distribution information for 20 species.

Museum records databases are available from various online museum data sources including Mammal Networked Information System (MaNIS; <http://manisnet.org/>), Ornithological Networked Information System (OrNIS; <http://olla.berkeley.edu/ornisnet/>), and Herpnet (<http://www.herpnet.org/>)(Appendix A). Also, records are available from the Institute of Natural Resource Analysis and Management (INRAM) biodiversity section (<http://biodiversity.inram.org/>).

Southwest Regional Gap Analysis Project (Prior-Magee 2006) completed habitat modeling for the Southwest United States (Boykin et al. 2006). SWReGAP identified the predicted suitable habitat for species. For each modeled A total of 431 terrestrial vertebrates were predicted to occur within the Paseo del Norte watershed (Table 3). These include 13 amphibians, 265 birds, 89 mammals, and 64 reptiles. SWReGAP data was restricted to species level so no subspecies models were available. Within this watershed there are 11 federally listed and 9 New Mexico State listed species. For more information on Southwest Regional Gap Analysis Project refer to <http://fws-nmcfwru.nmsu.edu/SWReGAP/> and for information for the NMDGF CWCS refer to http://wildlife.state.nm.us/conservation/comp_wildlife_cons_strategy/index.htm.

Stotz (2000) identified 8 native amphibian species within the watershed, with one probable species and one introduced species (bullfrog). There were 49 reptiles identified by Stotz (2000), with one introduced species (Mediterranean gecko), and one introduced species extirpated (lined snake). For mammals, Stotz (2000) identified up to 36 species within the watershed, with 4 introduced species and one extirpated species. Stotz (2000) provides factors that have led to extirpation as well as population trends and habitat preference within developed species accounts (see Stotz 2000 for further detail).

Table 3. Number of terrestrial vertebrate species that may be found within the watershed as mapped by the Southwest Regional Gap Analysis Project (Boykin et al. 2006).

Taxa Group	Number of Species
Birds	265
Mammals	89
Reptiles	64
Amphibians	13
Total	431

The number of terrestrial vertebrate species by habitat association within the watershed varies from a low of 27 species in the North American Warm Desert Volcanic Rockland ecological system to a high of 246 species in the North American Warm Desert Riparian Woodland and Shrubland (Table 4). Most ecological systems within the watershed have more than 100 species associated with them. These species may use the habitat year-round, during migration, during the winter or during breeding. This is highly variable depending on the individual life history of the species. Species associations as derived from SWReGAP and are provided in Appendix G.

The dominant key habitats identified by the NMCWCS in the watershed was the Apacherian-Chihuahuan Semi-Desert Grassland and Steppe. This ecological system was mapped on 18.9% of the watershed and has 228 species of terrestrial vertebrates associated with it. The Chihuahuan Mixed Desert and Thorn Scrub ecological system has 173 species associated with that system, which accounts for 33.4% of the watershed. The Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub was mapped on 15.3% of the watershed and has 63 associated species, Apacherian-Chihuahuan Mesquite Upland Scrub occurs on 9.5% of the watershed and has 198 species associated with this ecological system. Agriculture has 171 species associated with it and was mapped on 6.7% of the watershed. The two other key habitats as identified by the NMCWCS were the Madrean Pinyon-Juniper Woodland mapped on 2.5% of the watershed and the Madrean Encinal mapped on 1.0%. These ecological systems had 220 and 155 species respectively associated with them.

The riparian systems (Table 4) vary in total species associations. The mesic riparians ecological systems including North American Arid West Emergent Marsh, North American Warm Desert Lower Montane Riparian Woodland and Shrubland, North American Warm Desert Riparian

Mesquite Bosque North American Warm Desert Riparian Woodland and Shrubland have near or over 200 species associated with each. The two xeric or arroyo ecological systems within the watershed are well below this number of species. The North American Warm Desert Playa ecological system has 45 species associated and the North American Warm Desert Wash ecological system has 108 species.

Table 4. Number of terrestrial vertebrate species that may be found within the watershed as mapped by the Southwest Regional Gap Analysis Project (Boykin et al. 2006).

General Type	SWReGAP Land Cover Type	Number of Species
	Agriculture	171
	Apacherian-Chihuahuan Mesquite Upland Scrub	198
Semi-Desert Grasslands	Apacherian-Chihuahuan Piedmont Semi-Desert Grassland and Steppe	228
	Chihuahuan Creosotebush, Mixed Desert and Thorn Scrub	173
	Chihuahuan Mixed Salt Desert Scrub	130
Semi-Desert Grasslands	Chihuahuan Sandy Plains Semi-Desert Grassland	100
	Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub	63
	Developed, Medium - High Intensity	63
	Developed, Open Space - Low Intensity	123
	Madrean Encinal	155
	Madrean Pinyon-Juniper Woodland	220
Riparian	North American Arid West Emergent Marsh	205
	North American Warm Desert Active and Stabilized Dune	64
Riparian	North American Warm Desert Lower Montane Riparian Woodland and Shrubland	241
Riparian	North American Warm Desert Playa	45
Riparian	North American Warm Desert Riparian Mesquite Bosque	199
Riparian	North American Warm Desert Riparian Woodland and Shrubland	246
	North American Warm Desert Volcanic Rockland	27
Riparian	North American Warm Desert Wash	108
	Open Water	133

Geographical Distributions and Abundance of Aquatic Vertebrates

The geographic distribution of fish within the watershed were mapped for species of Greatest Conservation Need by the NMDGF (<http://fws-nmcfwru.nmsu.edu/cwcs/>). There were 15 species of fish identified as occurring within the specific HUC (Table 5). Abundance of aquatic vertebrates is often difficult to obtain over large areas such as the watershed. NMDGF does conduct periodic surveys of sport fish and native species.

Stotz (2000) provided background on historical accounts of the aquatic vertebrates along the river. Historic accounts of eels and large fish were reported common near El Paso. Catfish and soft-shell turtles were mentioned along the northernmost reaches. According to Stotz (2000), 10 native fish species have been extirpated within the watershed, eleven native species remain, and 15 species have been introduced.

Table 5. List of fish species identified within the PDN HUC by NMDGF (2005).

Common Name	Species Name
Trout, Cutthroat, Rio Grande (NM)	<i>Oncorhynchus clarki virginalis</i>
Trout, Rainbow	<i>Oncorhynchus mykiss</i>
Chub, Chihuahua	<i>Gila nigrescens</i>
Chub, Rio Grande	<i>Gila pandora</i>
Sucker, Rio Grande	<i>Catostomus plebeius</i>
Buffalo, Smallmouth	<i>Ictiobus bubalus</i>
Catfish, Channel	<i>Ictalurus punctatus</i>
Catfish, Flathead	<i>Pylodictis olivaris</i>
Bass, White	<i>Morone chrysops</i>
Bluegill	<i>Lepomis macrochirus</i>
Sunfish, Longear	<i>Lepomis megalotis</i>
Bass, Smallmouth	<i>Micropterus dolomieu</i>
Bass, Spotted	<i>Micropterus punctulatus</i>
Bass, Largemouth (NM)	<i>Micropterus salmoides salmoides</i>
Crappie, White	<i>Pomoxis annularis</i>

Distribution and Abundance of Invertebrates

The distribution and abundance of many of the invertebrates is limited or unknown. This is particularly the case with distributions of aquatic invertebrates in smaller streams and springs. A list of species identified within the NMCWCS is provided in Table 6.

Table 6. List of Crustaceans species identified within the PDN HUC by NMCWCS (2005)

Common Name	Scientific Name
tadpole shrimp	<i>Triops sp.</i>
Beavertail fairy shrimp	<i>Thamnocephalus platyurus</i>
clam shrimp	<i>Cyzicus sp. (mexicanus?)</i>
clam shrimp	<i>Isaura compleximanus (Leptestheria compleximanus)</i>
clam shrimp	<i>Eulimnadia cylindrova</i>
clam shrimp	<i>Eulimnadia texana</i>
Mexican beavertail fairy shrimp	<i>Thamnocephalus mexicanus</i>
Moore's fairy shrimp	<i>Streptocephalus moorei</i>

WILDLIFE BORNE INFECTIOUS DISEASES

A number of wildlife borne infectious diseases are having been or have potential to be present within the watershed. These diseases include avian influenza, West Nile Virus, Cryptosporidium, and Avian Botulism. Another purpose of this effort was to analyze existing data including historic, current or potential incidences of wildlife borne infectious diseases that could be potential human pathogens based on wildlife populations within the watershed. These diseases cycle between vertebrates and invertebrates.

Avian influenza

Avian influenza is an infection caused the influenza viruses. These viruses occur naturally in birds, where the virus is found in their intestine. Typically, the birds are not affected by the virus (CDC 2006a). Avian influenza is very contagious and can be transmitted to domesticated birds (CDC 2006a). Infected birds can transmit the virus through their saliva, saliva, and nasal secretions. The risk to human from avian influenza is low, however there are confirmed cases of human infections (CDC 2006a). These confirmed cases have been associated with infected poultry (CDC 2006a). Currently, there have been no cases of avian influenza within the United States.

West Nile Virus

West Nile Virus is a virus that can cause human meningitis or encephalitis (CDC 2007). It was first detected in Egypt in the 1950s and first appeared in North America in 1999. Mosquitos are the vectors for this virus generally from bird reservoir hosts. Though some bird species can die (e.g. crows and jays), most infected birds survive (CDC 2007). Mammals, including humans, are considered incidental or “dead-end” hosts. DeMinna et al. (2006) describe the emergence of West Nile Virus (family *Flaviviridae*, genus *Flavivirus*, WNV) along the Rio Grande Valley in New Mexico. Introduction appears to have occurred in late summer of 2002 with a period of transmission cycles between avian hosts and mosquitoes. Many municipalities currently have mosquito abatement programs in place in an effort to reduce mosquito populations. Multiple cases of West Nile Virus have been identified within humans in Dona Ana County (Dona Ana County 2007).

Spatial data regarding the number of cases in wild birds or just in crows is identified in Appendix A. This data was obtained from the National Atlas.

Cryptosporidium

Cryptosporidium is an enteric parasite that can affect both birds and mammals (Kuhn et al. 2002). The parasite can be found in drinking water and recreational water in every region of the United States. The parasite can, which is protected by an outer shell, can survive outside of the body for long periods of time. Thus, the parasite can be found in soil, food, and water. Kuhn et al. (2002) identified the presence of both *Cryptosporidium* and *Giardia* in wild ducks within the Rio Grand River Valley.

Avian Botulism

Avian botulism is defined as “a paralytic disease caused by ingestion of a toxin produced by the bacteria, *Clostridium botulism*” by the National Wildlife Health Center (http://www.nwhc.usgs.gov/disease_information/avian_botulism/). This widespread bacteria is found in soils. The bacteria requires warm temperatures, a protein source, and an anaerobic environment to produce toxin. These warm temperatures coupled with decomposing vegetation and invertebrates provide ideal conditions for the bacteria to activate and produce toxin. Several types of toxins are produced by strains of this bacterium and birds are more commonly affected by type C than type E. Birds either ingest the toxin directly or eat toxin containing invertebrates (e.g. chironomids). The invertebrates are not affected by the toxin and store the toxin. A cyclical pattern develops during an outbreak with fly larvae feeding on animal carcasses and ingesting the toxin. Ducks that consume these maggots can develop botulism after ingesting as few as 3 or 4 maggots. Diagnosis is made through serum or tissue samples. Waterfowl, shorebirds, and colonial waterbirds are the main host for Type C toxin. Gulls and loons are host to Type E. The toxin affects the bird nervous system and affected birds are unable to use muscles in the wings, legs, neck. Death results in water deprivation, electrolyte imbalance, respiratory failure, or predation.

Avian botulism outbreaks can occur throughout the United States with outbreaks generally occurring from July through September. Control includes removal and disposal of carcasses. It is suggested that altering water depth by flooding or drawing down water levels during hot weather should be avoided as this can increase mortality in invertebrate and fish. Affected birds should be provided with fresh water, shade, and protection from predators for recovery. Birds are not known to develop Immunity after surviving a botulism outbreak.

We have identified spatial data regarding the incidence of avian botulism in the United States. This data is listed in Appendix A.

FACTORS AFFECTING HABITAT AND CONSERVATION ACTIONS

Chihuahuan Semi-Desert Grasslands

Factors that affect this habitat or those species associated with this habitat include fragmentation, condition and restoration, grazing practices, fire regimes, development, off-road vehicles, non-native species, and diseases and pathogens (NMDGF 2005). Little is known about the intensity, scale, extent, and causes of grassland fragmentation in the Chihuahuan Desert particularly regarding the effects of fragmentation on SGCN and other wildlife. Pidgeon et al. (2001) suggested that the movement from grasslands to desert shrub has caused a major turnover in the avian community. Gutzwiller and Barrow (2002) suggested that landscape patchiness was

species specific and could affect bird community structure. Additionally more information is needed about the extent that land use activities (e.g. livestock grazing; human development; off-road vehicle use; and exotic species invasions) fragment and alter habitats. More information is also needed to identify the effect of land management practices on grazing regimes, invasive species, and shrub encroachment. More information is needed on all aspects of vertebrate and invertebrate species including habitat association, life histories, ecological relationships, and population trends within grasslands. Interception, transpiration, infiltration, and runoff processes within Chihuahuan semi-desert grasslands need to be better understood.

Condition of the grasslands is an important factor and identifying ways to determine degradation is necessary. Conditions of the habitat types are necessary before restoration can occur to restore the natural ecological processes of these areas. Shrub encroachment is a significant factor within these grasslands and has direct effects on hydrology. It is important to know the environmental conditions and thresholds needed by wildlife species including the SGCN.

Livestock grazing effects on wildlife in the Chihuahuan Desert are dependent on the grazing management practices. Grazing by domestic livestock or wildlife may lead to loss of grassland cover, mortality of plant species, and increased erosion (Wilson and MacLeod 1991). Infrastructure development and improper grazing practices can lead to habitat fragmentation and loss by promoting conditions favorable for shrub encroachment (Dinerstein et al. 2000). Grazing management practices that produce sustainable levels, composition, and structure of native grasses need further research.

Fire regimes have been altered from fire suppression and removal of fine fuels, which can promote woody vegetation establishment and introduced non-native species. Historically, fire occurrence in desert grasslands varied and was related to seasonal and annual rainfall and physiographic variables (Archer 1994). Fires in desert grasslands were likely limited due to low biomass and a lack of fine fuels (Hastings and Turner 1965, York and Dick-Peddie 1969).

Increased urbanization in the Chihuahuan desert leads to the loss and fragmentation of native vegetation and increased erosion. Off-road vehicle use has increased in these grasslands. While the affects of these activities are not well understood, increased off-road vehicle use can negatively impact wildlife by destroying or fragmenting habitat, cause wildlife mortality, or alter wildlife behavior (Busack and Bury 1974, Brattstrom and Bondello 1983). Little is known about the extent to which off-road vehicle use is impacting Chihuahuan semi-desert grasslands and specifically SGCN wildlife populations. Though the effects are likely similar to those previously discussed by Pidgeon et al. (2001), Gutzwiller and Barrow (2002), and Desmond (2004).

Invasive species can displace native plant and animal species, disrupt nutrient and fire cycles, and promote further invasions (Cox 1999, Deloach et al. 2000, Zavaleta et al. 2001, Osborn et al. 2002). The extent of invasive species in Chihuahuan semi-desert grasslands is unknown as is the effects on wildlife species.

Riparian Habitats

Factors that are affecting wildlife species and wildlife habitat within riparian areas include alteration of natural flow regime, habitat conversion, invasive species, restoration practices, grazing practices, fire management, and disease (NMDGF 2005). Natural flow regimes are

important for a river's natural ecosystem function and riparian biodiversity (Stanford et al. 1996, Poff et al. 1997, Richter et al. 1997). Flow regimes affect riparian communities by creating variable environmental conditions which drive patch dynamics and influence organisms' movements (Poff et al. 1997).

Habitat conversion can be a type conversion or more subtle such as changing dominant plant densities or changing plant strata composition. Concentrated flow of surface runoff from dairy farms or agricultural chemicals may limit the capability of riparian buffers to remove or absorb this runoff (Davis et al. 1999). Roads can redirect water, sediment, and nutrients between streams and their riparian ecosystems (Trombulak and Frissell 2000). Roads can create habitat fragmentation which can change species territories, creating patches too small for viable populations, or becoming barriers to species movement. Development also creates habitat conversion or fragmentation. Riparian habitats along the Rio Grande downstream of Caballo Dam have experienced considerable change and fragmentation (Fullerton and Batts 2003). River channelization, agriculture, urbanization, changes in flow regime and landscape vegetation have altered native vegetation composition in favor of invasive species or different plant communities (Fullerton and Batts 2003).

Invasive species can influence the integrity of riparian areas by disrupting the structure and stability of native plant communities and degrading native wildlife habitat by successfully competing with and replacing native plant species. Along the entire Rio Grande in New Mexico, exotic species represent more than 25% of herbaceous plant species and more than 40% of tree species (Muldavin et al. 2000). The Rio Grande Canalization Project Environmental Impact Statement identified invasive species being prevalent throughout the corridor with complete eradication not feasible (Parsons 2003). Non-native species can alter riparian and aquatic biodiversity, ecosystem processes, and landscape structure (Crawford et al. 1996).

Historically, restoration projects have been unsuccessful, despite availability of detailed site evaluations and intensive management (Briggs 1992). Current restoration practices focus on natural processes and self-sustainability when assessing restoration site potential (Rood et al. 2003). Native riparian vegetative communities have been successfully restored using natural flooding processes or artificial seeding and planting (Taylor and McDaniel 2003, Taylor and McDaniel 2004). Developments within the floodplain, such as levees, urban, agriculture, and water or transportation infrastructures, can constrain restoration of floodplain connectivity and dynamic geomorphic channel processes like bank erosion, lateral migration, and avulsion.

Improper grazing practices have been identified as a factor that negatively affects riparian systems in New Mexico (Carothers 1977, Kennedy 1977, Szaro 1989, Durkin et al. 1996). Wilson and Macleod (1991) defined improper grazing practices as those grazing practices that reduce long-term plant and animal productivity. Improper grazing practices that alter infiltration and runoff patterns in upland areas may ultimately influences river flow regimes by increasing frequency and intensity of floods (Wallace 1992). Ecological effects from improper grazing (both livestock and wildlife) include invasion by exotics species (Sivinski et al. 1990, Busch and Scott 1995, Medina 1996), an increase in soil compaction, reduced vegetative cover, changes in species composition (Kauffman and Krueger 1984, Szaro 1989), stream bank erosion, changes in channel morphologies, increased sediment transport, and the lowering of the surrounding water

tables (Clary and Webster 1990, Krueper 1996). Suggestions that minimize the adverse effects of livestock and wildlife grazing in riparian areas include: 1) improving grazing practices, 2) herding or fencing cattle away from streams, 3) reducing livestock numbers, 4) increasing the period of rest from grazing, 4) changing the kind or class of grazing animals, 5) managing riparian zones as “special use pastures”, 6) installing in-stream structures, and 7) range improvement practices such as salting, providing alternative water sources, fencing, and range riders (Kauffman and Krueger 1984, Vallentine 1989, Armour et al. 1994, Elmore and Kauffman 1994, Belsky et al. 1999, Holechek et al. 2001). Restoration of degrading channel systems may only require exclusion of grazing (domestic animals and wildlife) for a few years (Medina 1996). Lucas et al. (2004) argue that the scientific literature has not adequately addressed the effects of livestock grazing on riparian areas in New Mexico. They argue that most available information is observational, anecdotal, based on un-replicated experiments, or compares heavily grazed areas to areas from which livestock have been completely excluded.

Forest fires in riparian systems of the southwest have been increasing in number and severity, due to increased litter-layer fuel accumulations from reduced flooding events, and more frequent natural and anthropogenic ignition events (Molles et al. 1995, Ellis et al. 1998, Bess et al. 2002). As a result of enhanced fuel loads, the severity of fire has changed from relatively cool, slow-moving ground fires, to extremely hot, rapidly moving stand-replacement fires, which often leave only dead standing trees and a surface layer of mineral ash (Steuver 1997, Steuver et al. 1997). This was exemplified when the Mesilla Valley Bosque State Park, near Radium Springs burned 40 acres of saltcedar (D. Boykin, personal communication 2007).

Numerous studies have been conducted in riparian habitats, yet many information gaps remain (NMDGF 2005). Currently, the amount of riparian habitat is only estimated and we have limited knowledge of the condition of these habitats. Likewise we have limited knowledge on the temporal change and fragmentation of these habitats though Watts (1998) provided a comparison of species diversity between 1977 and 1998. Further, the effect that these changes have had on wildlife species and specifically SGCN is largely unknown. In general, we have little abundance and trend information for many of the SGCNs and the habitat needs of the obligate riparian SGCN are poorly understood. Additionally, the response of SGCN to human disturbance is poorly understood.

Hydrological models can facilitate research on human-induced alterations to the flow regimes, but there is largely no quantitative estimates of the flow parameters that are necessary to sustain native species and natural ecosystem functions. The role and ecological function of small streams within larger watersheds are not fully understood. The effects of regulated flows on riparian systems from stabilization of flows and systems established by seasonal flooding needs further study. An understanding is needed of the magnitude, frequency, timing, duration, and rate of change of flow and those affects and hydrologic alterations on riparian systems. A need exists to determine flow requirements for habitats and SGCN. The Fish and Wildlife Coordination Act Report (2001) for the El Paso regional water projects provides a list of recommendations for the floodplains.

Restoration efforts need to have research that develops methodological approaches to restoring ecosystem-level processes and functions. These methods need to incorporate monitoring to determine outcomes of the effects on habitat and wildlife (Block et al. 2001). Knowledge of

riparian habitat condition is necessary for restoration projects and management. Research is needed to identify the specific conditions and thresholds that affect all wildlife species, which to date is largely unknown. Quantification of the current condition provides the ability to begin to identify indicators of degradation and provide restoration goals for that habitat. There are some current efforts in place to do just this. Incorporating indicators of biological integrity may also provide information regarding the amount of riparian fragmentation. Other factors affecting condition include current land use practices including agricultural use, urban development, off-road vehicle use, and recreation. The interactions of invasive species with natural processes and native species requires additional research particularly to see how these species have altered riparian habitats and wildlife distribution and abundances.

Better understanding of the effects of fire including frequency, severity, behavior, and extent on riparian communities and species that inhabit these areas is needed (Ellis 2001, Bisson et al. 2003, Dwire and Kauffman 2003). Wildfire studies not in the Southwest have shown that fire effects riparian forests by creating erosion from denuded catchments and that fires have long-term effects on the community structure in lotic systems (Molles 1982, Minshall et al. 1989, Minshall et al. 2001, Earl and Blinn 2003, McKenzie et al. 2004). Additionally the impact on amphibians to fire and fuel reduction practices in riparian areas is unknown (Pilliod et al. 2003).

Perennial Marsh/Cienega/Spring/Seep

Wildlife and wildlife habitat are affected by dewatering and habitat conversion (NMDGF 2005). Water table lowering has caused perennial cienegas and marshes to become either ephemeral or non-existent. This habitat loss has resulted in a decline of some species (western painted turtles, leopard frogs, and New Mexico garter snakes).

Information gaps for the perennial marshes/cienegas/springs/seeps in the Rio Grande Watershed include comprehensive data on the distribution and abundance of fish, invertebrates, and amphibians and the location and condition of marsh/cienega/spring/seep habitats, and knowledge regarding the extent to which habitat conversion alters perennial marsh/cienega/spring/seep habitats (NMDGF 2005). Research was identified to assess potential threats to these habitats and to increase the mapping effort of these sites. Further research on species that use these habitats is necessary to provide for better understanding and management. Fragmentation that alters these habitats must also be studied.

Prioritized conservation actions identified include 1) protecting habitat; 2) implementing an aquatic nuisance species management plan; 3) identify methods to track increases and decreases in perennial marsh/cienega/spring/seep habitats; 4) monitor habitats to assess adverse effects caused by introduced species; 5) promote saltcedar management that does not affect endemic communities; 6) conduct studies that provide information about SGCN within the habitat.

Perennial 1st and 2nd Order Stream

The NMCWCS (2005) suggested that sedimentation resulting from improper grazing or logging and associated infrastructure presented the most serious potential adverse effect to these streams. Native species that occur within these streams (e.g. Rio Grande sucker and Rio Grande chub) are negatively affected by the presence of non-native salmonids through competition, or predation.

The Chiricahua leopard frog can be found in these streams and frog populations are known to be declining largely as a result of Chytrid fungus (*Batrachochytrium dendrobatidis*).

Five Information gaps for 1st and 2nd order stream habitats have been identified in the entire Rio Grande Watershed (NMDGF 2005). These include 1) unknown effect of fragmentation on the viability and genetic diversity of Rio Grande cutthroat trout, though possible distribution within the watershed is limited; 2) unknown population information for non-game species such as the Rio Grande sucker; 3) little known about invertebrates in perennial 1st and 2nd order stream habitats; 4) limited SGCN life history and habitat use in perennial 1st and 2nd order stream habitats; and 5) limited knowledge about the intensity, scale, and extent of different land use activities degrading these habitats and their effects on populations of SGCN.

The NMDGF conducts periodic surveys of 1st and 2nd order streams to assess sport fish and native species populations. However additional research and surveys needed include 1) comprehensive population data for Rio Grande sucker and Rio Grande chub; 2) identifying the distribution of the Chiricahua leopard frog and identifying methods for minimizing non-native fish species impacts, and determining how to reduce Chytrid fungus spread; 3) Assess current stocking of non-native fish species and minimize potential conflicts with SGCN; 4) study habitat use patterns of all SGCN that are perennial 1st and 2nd order stream obligates; 5) study and monitor invertebrate species since little is known of their distribution, biology; and 6) Characterize population dynamics and species interactions in these habitats.

NMDGF Conservation actions, in order of priority, include: 1) Include non-game species in NMDGF fish survey analysis to improve baseline information regarding distribution and status of SGCN; 2) Increasing connectivity for fish species should benefit other wildlife species within this habitat type; 3) Work with land managers to develop methods that reduce the adverse effects of non-native aquatic species on native SGCN; and 4) Work with US Fish and Wildlife Service and other federal agencies to implement the Chiricahua Leopard Frog Recovery Plan and develop and implement strategies to reduce the spread of Chytrid fungus.

Perennial 5th Order Stream

Factors that affect this habitat or associated species were identified by the NMDGF (2005). This includes modification of natural processes. The Rio Grande has been affected by anthropogenic activity. Diversion and dewatering may be the largest impact to fish occupying this habitat, though other habitat stressors exist. Agricultural return flows alter water chemistry and sediment load. Channelization has reduced channel diversity and eliminated over-bank flow for most of the system.

Within the watershed a number of fish species (e.g. bluntnose shiner, gray redhorse, blue sucker, and Rio Grande shiner) have been extirpated. Non-native predators and disease likely caused the extirpation of the northern leopard frog. Big Bend sliders are now mostly confined to perennial reservoirs due to water diversion and alteration of the river channel.

Four information gaps for the Rio Grande have been identified (NMDGF 2005). These include 1) unknown long-term effects of habitat fragmentation on population viability and genetic diversity of wildlife species; 2) unknown effects of habitat modification on aquatic nuisance

species expansion; and 3) Incomplete information on the effects of chemical and physical efforts of saltcedar removal on biological communities, particularly invertebrates and amphibians.

Six conservation actions have previously been identified (NMDGF 2005). These include: 1) Investigate the role of irrigation supply and return ditches as refugia for SGCN and the biological connectivity of large reservoirs to 5th order stream habitats; 2) develop and implement an aquatic nuisance species management program; 3) monitor Rio Grande plant and animal communities to assess problems posed by introduced species and eliminate threats where possible; 4) investigate habitat modification strategies; 5) minimize impacts of water management in the Rio Grande Watershed and avoid dewatered conditions; and 6) reduce sedimentation and promote water conservation activities such as lining irrigation supply and return ditches.

DATA GAPS

One purpose of this effort was to identify both temporal and spatial data gaps in the identified data sets. Many information gaps for each habitat type were provided within habitat description sections. A fine scale analysis of habitat and habitat condition would provide much information to the question of watershed integrity. These information gaps also highlight the need for further quantification of species habitat use, abundance, and distribution. Many of the studies within the watershed have provided snapshot pictures of species diversity, species abundance, and habitat quality. More regional analyses such as the SWReGAP effort provide the coarse view, but lack some of the fine scale habitat information needed for single watershed analysis.

Studies such as Parsons (2001) conducted threatened and endangered species surveys over a set period of time. As they acknowledged, there are problems with these surveys such as they present a snapshot in time and don't necessarily identify habitat or species presence, but rather species non-detection. This is similar to population studies conducted over short periods of time. Further analysis is needed to identify long-term population trends of species. NMDGF has conducted long-term aquatic vertebrate surveys, and these may provide the ability to look at trend over time.

CONCLUSIONS

Population and abundance of wildlife is a difficult metric to measure and one that requires long-term datasets to allow meaningful interpretation. Coarse scale studies, such as SWReGAP, allow for regional perspective to be acknowledged but are limited in applicability at finer resolutions. Populations of wildlife vary depending on many factors related to the life history of the species. These populations can vary by orders of magnitude such as in amphibians. Watershed integrity plays a large role in populations by varying habitat, prey, and nesting or breeding sites. Only long term monitoring can filter noise caused by short term variability and allow cause and effect relationships to be identified.

There are multiple factors that affect the watershed and river. These factors can affect wildlife species by altering habitat or changing mortality rates or birth rates. Habitat changes can eliminate suitable habitat, breeding habitat, hibernacula, or prey. Factors can be of a short temporal scale that eliminates the entire population or can work at longer temporal scales that slowly reduce the population. These factors can be anthropogenic or natural and can include poor rangeland health, contamination, and changing flood regimes.

The entire watershed should be the focus of ecological integrity restoration. The USFWS (2001) suggested that a more year-round flow regime would be necessary before riverine ecosystems would effectively enhance habitat for aquatic species.

SPATIAL DATA AND COORDINATED DATABASE

Data was obtained from multiple sources to provide the background necessary for further data analysis and implementation. This data is provided in shapefile, spreadsheet, and text files as outlined in Appendix A. Data can be imported to the coordinated database as time allows.

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APPENDICES

Appendix A. List of spatial data pertinent to project. (Data provided on CD-ROM in GIS, text and/or tabular formats. Narrative descriptions appear below).

Dataset	Hard-copy	Digital-Tabular	Digital-Geospatial	Other	Description	Last edited	Source	Citation	Notes
Vertebrates									
Aquatic vertebrate distribution					NMDGF conducts sports fishery and non-native surveys				
Aquatic vertebrate abundance					NMDGF conducts sports fishery and non-native surveys				
Terrestrial vertebrate distribution									
<i>Antrozous pallidus</i>			bat001p020		Nationwide polygon distribution of <i>Antrozous pallidus</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Corynorhinus townsendii</i>			bat005p020		Nationwide polygon distribution of <i>Corynorhinus townsendii</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Eptesicus fuscus</i>			bat006p020		Nationwide polygon distribution of <i>Eptesicus fuscus</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Euderma maculatum</i>			bat007p020		Nationwide polygon distribution of <i>Euderma maculatum</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Lasiurus blossevillei</i>			bat012p020		Nationwide polygon distribution of <i>Lasiurus blossevillei</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Lasiurus borealis</i>			bat013p020		Nationwide polygon distribution of <i>Lasiurus borealis</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Lasiurus cinereus</i>			bat014p020		Nationwide polygon distribution of <i>Lasiurus cinereus</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Lasionycteris noctivagans</i>			bat017p020		Nationwide polygon distribution of <i>Lasionycteris noctivagans</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Myotis auriculus</i>			bat025p020		Nationwide polygon distribution of <i>Myotis auriculus</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Myotis californicus</i>			bat027p020		Nationwide polygon distribution of <i>Myotis californicus</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	

Dataset	Hard-copy	Digital-Tabular	Digital-Geospatial	Other	Description	Last edited	Source	Citation	Notes
<i>Myotis ciliolabrum</i>			bat028p020		Nationwide polygon distribution of <i>Myotis ciliolabrum</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Myotis evotis</i>			bat029p020		Nationwide polygon distribution of <i>Myotis evotis</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Myotis lucifugus</i>			bat033p020		Nationwide polygon distribution of <i>Myotis lucifugus</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Myotis thysanodes</i>			bat036p020		Nationwide polygon distribution of <i>Myotis thysanodes</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Myotis velifer</i>			bat037p020		Nationwide polygon distribution of <i>Myotis velifer</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Myotis volans</i>			bat038p020		Nationwide polygon distribution of <i>Myotis volans</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Myotis yumanensis</i>			bat039p020		Nationwide polygon distribution of <i>Myotis yumanensis</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Nyctinomops macrotis</i>			bat042p020		Nationwide polygon distribution of <i>Nyctinomops macrotis</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Pipistrellus hesperus</i>			bat043p020		Nationwide polygon distribution of <i>Pipistrellus hesperus</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Tadarida brasiliensis</i>			bat045p020		Nationwide polygon distribution of <i>Tadarida brasiliensis</i> . Incorporates records from the past 100-150 years.	May-03	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Angela E. England, Bat Conservation International, Inc, 200305, North American Bat Ranges: National Atlas of the United States, Reston, VA.	
<i>Several bird species</i>		route_trend.zip			Nationwide text files with Breeding Bird Survey route-specific trend data for multiple bird species	Jun-06	http://www.mbr-pwrc.usgs.gov/bbs/geographic_information_products.htm	Sauer, J. R., J. E. Hines, and J. Fallon. 2005. The North American Breeding Bird Survey, Results and Analysis 1966 - 2005. Version 6.2.2006. USGS Patuxent Wildlife Research Center, Laurel, MD	Must be used with additional files: SpeciesNames.txt, usacanab.zip, nabbs02_mis_alb.zip, usacanab.avl (usacanab.txt), routetrendlegend.avl (routetrendlegend.txt)
<i>Several bird species</i>		grid_trend.zip			Nationwide text files with Breeding Bird Survey smooth-grid trend data for multiple bird species	Jun-06	http://www.mbr-pwrc.usgs.gov/bbs/geographic_information_products.htm	Sauer, J. R., J. E. Hines, and J. Fallon. 2005. The North American Breeding Bird Survey, Results and Analysis 1966 - 2005. Version 6.2.2006. USGS Patuxent Wildlife Research Center, Laurel, MD	Must be used with additional files: SpeciesNames.txt, usacanab.zip, bbsgrid.zip, usacanab.avl (usacanab.txt), gridtrendlegend.avl (gridtrendlegend.txt)
<i>Amphibian and reptile species</i>		DonaAna_herpnet			Excel table containing museum records of amphibian and reptile species collected in Dona Ana County, NM from 1996-2007.	Apr-07	http://www.herpnet.org	Data were obtained from records held in the following institutions and accessed through the HerpNet portal (http://www.herpnet.org) on 22 April 2007: Florida Museum of Natural History, University of Florida, ; Cornell University Museum of Vertebrates, ; Monte L. Bean Museum, Brigham Young University, Provo; Academy of Sciences, San Francisco; Museum of Southwestern Biology,	

Dataset	Hard-copy	Digital-Tabular	Digital-Geospatial	Other	Description	Last edited	Source	Citation	Notes
<i>Mule deer, pronghorn, gemsbok, and bighorn sheep</i>		Artiodactyla			Excel table containing museum records of mule deer, pronghorn, gemsbok, and bighorn sheep collected in Dona Ana and Sierra Counties, NM from 1993, 1996, 1998, and 2001.	2001	http://biodiversity.inram.org	University of New Mexico, Albuquerque; Michigan State University Museum, ; San Diego Natural History Museum, San Diego; Museum of the High Plains - Fort Hays State University, KS; Illinois Natural History Survey, University of Illinois, ; UIMNH; Main; University of Colorado Museum, ; The Centennial Museum, University of Texas at El Paso; Louisiana Museum of Natural History, Louisiana State University, Baton Rouge; Museum of Comparative Zoology, Harvard University, ;University of Nebraska State Museum, ; TCWC; Field Museum of Natural History, Chicago; Natural History Museum of Los Angeles County, ; Museum of Vertebrate Zoology, University of California, Berkeley.	
<i>Bobcat, mountain lion, swift fox, American badger, striped skunk, hog-nosed skunk, and ringtail</i>		Carnivora			Excel table containing museum records of bobcat, mountain lion, swift fox, American badger, striped skunk, hog-nosed skunk, and ringtail collected in Dona Ana and Sierra Counties, NM from 1915 to 1995.	1995	http://biodiversity.inram.org	INRAM. 2007. The INRAM Gateway to New Mexico Biodiversity. Version 1.0. The Institute of Natural Resource Analysis and Management, New Mexico, USA. Available http://biodiversity.inram.org . (Accessed April 20, 2007).	
<i>Several bat species</i>		Chiroptera			Excel table containing museum records of several species of bats collected in Dona Ana and Sierra Counties, NM from 1961-1994.	1994	http://biodiversity.inram.org	INRAM. 2007. The INRAM Gateway to New Mexico Biodiversity. Version 1.0. The Institute of Natural Resource Analysis and Management, New Mexico, USA. Available http://biodiversity.inram.org . (Accessed April 20, 2007).	
<i>Amphibian and reptile species</i>		Herps			Excel table containing museum records of amphibian and reptile species collected in Dona Ana and Sierra Counties, NM from 1944-2003.	2003	http://biodiversity.inram.org	INRAM. 2007. The INRAM Gateway to New Mexico Biodiversity. Version 1.0. The Institute of Natural Resource Analysis and Management, New Mexico, USA. Available http://biodiversity.inram.org . (Accessed April 20, 2007).	
<i>Black-tailed jackrabbit, desert cottontail, and desert shrew</i>		Lago_Sorica_morpha			Excel table containing museum records of black-tailed jackrabbit, desert cottontail, and desert shrew collected in Dona Ana and Sierra Counties, NM from 1918-1998.	1998	http://biodiversity.inram.org	INRAM. 2007. The INRAM Gateway to New Mexico Biodiversity. Version 1.0. The Institute of Natural Resource Analysis and Management, New Mexico, USA. Available http://biodiversity.inram.org . (Accessed April 20, 2007).	
<i>Several rodent species</i>		Rodentia			Excel table containing museum records of several rodent species collected in Dona Ana and Sierra Counties, NM from 1915-2000.	2000	http://biodiversity.inram.org	INRAM. 2007. The INRAM Gateway to New Mexico Biodiversity. Version 1.0. The Institute of Natural Resource Analysis and Management, New Mexico, USA. Available http://biodiversity.inram.org . (Accessed April 20, 2007).	
<i>Several mammal species</i>		DonaAna_Manis			Excel table containing museum records of several mammal species collected in Dona Ana County, NM from 1857-1990.	Apr-07	http://manisnet.org	Data were obtained from records held in the following institutions and accessed through a MaNIS data portal (http://manisnet.org) on 22 April 2007: San Diego Natural History Museum, San Diego; Cornell University Museum of Vertebrates, Ithica; Florida Museum of Natural History, University of Florida, Gainesville; Sternberg Museum of Natural History, Fort Hays State University, Hays, Kansas; Museum of Comparative Zoology, Harvard University, Cambridge; University of Michigan Museum of Zoology, Ann Arbor; Sam Noble Oklahoma Museum of Natural History, University of Oklahoma, Norman; Royal Ontario Museum, Toronto; University of Texas at El Paso; University of Washington Burke Museum, Seattle.	
<i>Several mammal species</i>		Sierra_Manis			Excel table containing museum records of several mammal species collected in Sierra County, NM from 1916-2001.	Oct-05	http://manisnet.org	Data were obtained from records held in the following institutions and accessed through a MaNIS data portal (http://manisnet.org) on 22 April 2007: San Diego Natural History Museum, San Diego; Sternberg Museum of Natural History, Fort Hays State University, Hays, Kansas; Sam Noble Oklahoma Museum of Natural History, University of Oklahoma, Norman; University of Texas at El Paso.	
<i>Several bird species</i>		DonaAna_ornis			Excel table containing museum records of several bird species collected in Dona Ana	Apr-07	http://ornisnet.org	Data were obtained from records held in the following institutions and accessed through ORNIS data portal	

Dataset	Hard-copy	Digital-Tabular	Digital-Geospatial	Other	Description	Last edited	Source	Citation	Notes
					County, NM from 1902-2004.			(http://ornisnet.org) on April 27, 2007: Museum of Vertebrates, Cornell University, Ithica; Kansas University Natural History Museum, Lawrence; Museum of Zoology, University of Michigan, Ann Arbor; Western Foundation of Vertebrate Zoology, Camarillo, California; Museum of Comparative Zoology, Harvard University, Cambridge; Burke Museum of Natural History, University of Washington, Seattle.	
Several bird species		Sierra_ornis			Excel table containing museum records of several bird species collected in Sierra County, NM from 1891-1940.	Aug-06	http://ornisnet.org	Data were obtained from records held in the following institutions and accessed through ORNIS data portal (http://ornisnet.org) on April 27, 2007: Museum of Vertebrates, Cornell University, Ithica; Museum of Zoology, University of Michigan, Ann Arbor; Western Foundation of Vertebrate Zoology, Camarillo, California; Museum of Comparative Zoology, Harvard University, Cambridge.	
Terrestrial vertebrate abundance Several bird species		route_abundance.zip			Nationwide text files with Breeding Bird Survey route-specific abundance data for multiple bird species	Jun-06	http://www.mbr-pwrc.usgs.gov/bbs/geographic_information_products.htm	Sauer, J. R., J. E. Hines, and J. Fallon. 2005. The North American Breeding Bird Survey, Results and Analysis 1966 - 2005. Version 6.2.2006. USGS Patuxent Wildlife Research Center, Laurel, MD	Must be used with additional files: SpeciesNames.txt, usacanab.zip, nabbs02_mis_alb.zip, usacanab.avl (usacanab.txt), routeabundancelegend.avl (routeabundancelegend.txt)
Several bird species		grid_abundance.zip			Nationwide text files with Breeding Bird Survey smooth-grid abundance data for multiple bird species	Jun-06	http://www.mbr-pwrc.usgs.gov/bbs/geographic_information_products.htm	Sauer, J. R., J. E. Hines, and J. Fallon. 2005. The North American Breeding Bird Survey, Results and Analysis 1966 - 2005. Version 6.2.2006. USGS Patuxent Wildlife Research Center, Laurel, MD	Must be used with additional files: SpeciesNames.txt, usacanab.zip, bbsgrid.zip, usacanab.avl (usacanab.txt), gridabundancelegend.avl (gridabundancelegend.txt)
Invertebrates Aquatic invertebrate distribution Unidentified dragonfly/damselfly and a caddisfly		Odonata_Trichoptera			Excel table containing museum records of one unidentified dragonfly or damselfly and one unidentified caddisfly collected in Dona Ana County, NM from 1985.	1985	http://biodiversity.inram.org	INRAM. 2007. The INRAM Gateway to New Mexico Biodiversity. Version 1.0. The Institute of Natural Resource Analysis and Management, New Mexico, USA. Available http://biodiversity.inram.org. (Accessed July 23, 2007).	
Aquatic invertebrate abundance									
Terrestrial invertebrate distribution Africanized honey bees			afrbeep020		Nationwide spread of the Africanized honey bee by county and year, from 1990-2005.	Mar-05	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Compiled by the National Atlas of the United States from information provided by the Agricultural Research Service.	
Several species of ants, bees, and wasps		hymenoptera_thy sanura			Excel table containing museum records of several species of ants, bees, and wasps collected in Dona Ana and Sierra Counties, NM from 1900-2004.	2004	http://biodiversity.inram.org	INRAM. 2007. The INRAM Gateway to New Mexico Biodiversity. Version 1.0. The Institute of Natural Resource Analysis and Management, New Mexico, USA. Available http://biodiversity.inram.org. (Accessed April 20, 2007).	
Several species of crickets, grasshoppers, beetles, moths, butterflies, cockroaches, true		Ortho_Coleo_Le pid_Etc			Excel table containing museum records of several species of crickets, grasshoppers, beetles, moths, butterflies, cockroaches, true bugs, fleas, flies, and a booklouse collected in Dona Ana and Sierra Counties, NM from 1894-2004.				

Dataset	Hard-copy	Digital-Tabular	Digital-Geospatial	Other	Description	Last edited	Source	Citation	Notes
<i>bugs, fleas, flies, and a booklouse</i>									
Terrestrial invertebrate abundance									
Wildlife-borne Infectious Diseases									
Historic, current or potential incidences of avian influenza									
Historic, current or potential incidences of cryptosporidium									
Historic, current or potential incidences of avian botulism historic and current incidences		wlbotut.dbf			Portrays incidence of avian botulism in the U.S. from 1910-2005, though primarily last 30 years. This data set updates the May 2000 data set.	Jun-05	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Table downloaded from National Atlas of the United States of America. Data in table was extracted from the USGS National Wildlife Health Center's EPIZOO database.	
Historic, current or potential incidences of other wildlife-borne infectious diseases that are potential human pathogens									
West Nile Virus		wnvavit.dbf			data set portrays the weekly and cumulative West Nile virus cases found in wild birds in the eastern United States, between January 1, 2000 and December 31, 2000.				
West Nile Virus		wnvacrt.dbf			data set portrays the weekly and cumulative West Nile virus cases found in crows in the eastern United States, between January 1, 2000 and December 31, 2000.				
West Nile Virus		wnvcrdt.dbf			data set contains West Nile virus data on the total number of crow samples in the eastern United States, between January 1, 2000 and December 31, 2000.				
West Nile Virus		wnvaott.dbf			data set portrays the weekly and cumulative West Nile virus cases found in wild birds other than crows in the eastern United States, between January 1, 2000 and December 31, 2000.				
West Nile Virus		wnvotdt.dbf			data set contains West Nile virus data on the total number of samples from wild birds other than crows in the eastern United States, between January 1, 2000 and December 31, 2000.				
West Nile Virus		w01avit.dbf			data set portrays the weekly and cumulative West Nile virus cases found in wild birds in the United States, between January 1, 2001 and December 31, 2001.	Jun-02	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Data provided to the National Atlas of the United States of America by the Centers for Disease Control and Prevention.	
West Nile Virus		w01acrtd.dbf			data set portrays the weekly and cumulative West Nile virus cases found in	Jun-02	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Data provided to the National Atlas of the United States of America by the Centers for Disease Control and Prevention.	

Dataset	Hard-copy	Digital-Tabular	Digital-Geospatial	Other	Description	Last edited	Source	Citation	Notes
West Nile Virus		w01crdt.dbf			crows in the United States, between January 1, 2001 and December 31, 2001. data set contains West Nile virus data on the total number of crow samples in the United States, between January 1, 2001 and December 31, 2001.	Jun-02	p.html?openChapters=chpbio#chpbio http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Data provided to the National Atlas of the United States of America by the Centers for Disease Control and Prevention.	
West Nile Virus		w01aott.dbf			data set portrays the weekly and cumulative West Nile virus cases found in wild birds other than crows in the United States, between January 1, 2001 and December 31, 2001.	Jun-02	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Data provided to the National Atlas of the United States of America by the Centers for Disease Control and Prevention.	
West Nile Virus		w01otdt.dbf			data set contains West Nile virus data on the total number of wild bird samples other than crows in the United States, between January 1, 2001 and December 31, 2001.	Jun-02	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Data provided to the National Atlas of the United States of America by the Centers for Disease Control and Prevention.	
West Nile Virus		w01most.dbf			data set portrays weekly and cumulative West Nile virus cases found in mosquitoes in the U.S., between January 1, 2001 and December 31, 2001.	Jun-02	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Data provided to the National Atlas of the United States of America by the Centers for Disease Control and Prevention.	
West Nile Virus		wnvmost.dbf			data set portrays the weekly and cumulative West Nile virus cases found in mosquitoes within the surveillance area in the eastern United States (including Texas), between January 1, 2000 and December 31, 2000.	Jun-01	http://www-atlas.usgs.gov/atlasftp.html?openChapters=chpbio#chpbio	Data provided to the National Atlas of the United States of America by the Centers for Disease Control and Prevention.	

Appendix B. List of Contacts for Paseo del Norte Watershed data.

Jornada LTER Data Manager

DataManager@jornada.nmsu.edu

Jornada Experimental Range Office

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Jornada Experimental Range

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NMSU

Las Cruces, NM 88003-0003

NOTE: a copy of publication citing

Jornada Basin LTER data must be sent to him.

NBII Wildlife Disease Information Node

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NBII Program

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F. Joshua Dein, Principal Investigator

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National Animal Health Surveillance System

National Surveillance Unit (NSU)

2150 Centre Ave, Building B,

Mail Stop 2E7

Fort Collins, CO 80526-8117

(970)494-7589

National.Surveillance.Unit@aphis.usda.gov

Dr. Brian McCluskey, Unit Leader

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Centers for Disease Control and Prevention

(970)221-6400

dvbid@cdc.gov

NOTE: for questions regarding New Mexico West Nile Virus data on webpage.

BLM – Las Cruces area

Jack Barnitz, Wildlife Management Biologist
(505)525-4310

Margie Guzman, Wildlife Management Biologist
(505)525-4338

Mark Hakkila, Wildlife Management Biologist
(505)525-4341

Migratory Bird Data Center website

Becky Rau, USFWS
Division of Migratory Bird
Management
(301)497-5862
Rebecca_rau@fws.gov

Bruce Peterjohn, USGS
Patuxent Wildlife Research Center
(301)497-5841
bruce_peterjohn@usgs.gov

John Sauer, USGS
Patuxent Wildlife Research Center
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Laurel, MD 20708-4039
John_R_Sauer@usgs.gov

NOTE: submit questions about shapefiles to him.

Appendix C. List and description of dominant land cover types for the mapped by the Southwest Regional Gap Analysis Project.

Chihuahuan Mixed Desert and Thorn Scrub (S062)

This widespread Chihuahuan Desert land cover type is composed of two ecological systems the Chihuahuan Creosotebush Xeric Basin Desert Scrub (CES302.731) and the Chihuahuan Mixed Desert and Thorn Scrub (CES302.734). This cover type includes xeric creosotebush basins and plains and the mixed desert scrub in the foothill transition zone above, sometimes extending up to the lower montane woodlands. Vegetation is characterized by *Larrea tridentata* alone or mixed with thornscrub and other desert scrub such as *Agave lechuguilla*, *Aloysia wrightii*, *Fouquieria splendens*, *Dasyllirion leiophyllum*, *Flourensia cernua*, *Leucophyllum minus*, *Mimosa aculeaticarpa* var. *biuncifera*, *Mortonia scabrella* (= *Mortonia sempervirens* ssp. *scabrella*), *Opuntia engelmannii*, *Parthenium incanum*, *Prosopis glandulosa*, and *Tiquilia greggii*. Stands of *Acacia constricta* *Acacia neovernicosa* or *Acacia greggii* dominated thornscrub are included in this system, and limestone substrates appear important for at least these species. Grasses such as *Dasyochloa pulchella*, *Bouteloua curtipendula*, *Bouteloua eriopoda*, *Bouteloua ramosa*, *Muhlenbergia porteri* and *Pleuraphis mutica* may be common, but generally have lower cover than shrubs.

Apacherian-Chihuahuan Semi-Desert Grassland and Steppe (S077*)

This ecological system is a broadly defined desert grassland, mixed shrub-succulent or xeromorphic tree savanna that is typical of the Borderlands of Arizona, New Mexico and northern Mexico [Apacherian region] but extends west to the Sonoran Desert, north into the Mogollon Rim and throughout much of the Chihuahuan Desert. It is found on gently sloping bajadas that supported frequent fire throughout the Sky Islands and on mesas and steeper piedmont and foothill slopes in the Chihuahuan Desert. It is characterized by typically diverse perennial grasses. Common grass species include *Bouteloua eriopoda*, *Bouteloua hirsuta*, *Bouteloua rothrockii*, *Bouteloua curtipendula*, *Bouteloua gracilis*, *Eragrostis intermedia*, *Muhlenbergia porteri*, *Muhlenbergia setifolia*, *Pleuraphis jamesii*, *Pleuraphis mutica*, and *Sporobolus airoides*, succulent species of *Agave*, *Dasyllirion*, and *Yucca*, and tall-shrub/short-tree species of *Prosopis* and various oaks (e.g., *Quercus grisea*, *Quercus emoryi*, *Quercus arizonica*). Many of the historical desert grassland and savanna areas have been converted, some to Chihuahuan Mesquite Upland Scrub (CES302.733) (*Prosopis* spp.-dominated), through intensive grazing and other land uses.

Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub (S068)

This ecological system includes the open shrublands of vegetated coppice dunes and sandsheets found in the Chihuahuan Desert. Usually dominated by *Prosopis glandulosa* but includes *Atriplex canescens*, *Ephedra torreyana*, *Ephedra trifurca*, *Poliomintha incana*, and *Rhus microphylla* coppice sand scrub with 10-30% total vegetation cover. *Yucca elata*, *Gutierrezia sarothrae*, and *Sporobolus flexuosus* are commonly present.

Apacherian-Chihuahuan Mesquite Upland Scrub (S058)

This ecological system occurs as upland shrublands that are concentrated in the extensive grassland-shrubland transition in foothills and piedmont in the Chihuahuan Desert. It extends into the Sky Island region to the west and the Edwards Plateau to the east. Substrates are

typically derived from alluvium, often gravelly without a well-developed argillic or calcic soil horizon that would limit infiltration and storage of winter precipitation in deeper soil layers. *Prosopis* spp. and other deep-rooted shrubs exploit this deep soil moisture that is unavailable to grasses and cacti. Vegetation is typically dominated by *Prosopis glandulosa* or *Prosopis velutina* and succulents. Other desert scrub that may codominate or dominate includes *Acacia neovernicosa*, *Acacia constricta*, *Juniperus monosperma*, or *Juniperus coahuilensis*. Grass cover is typically low. During the last century, the area occupied by this system has increased through conversion of desert grasslands as a result of drought, overgrazing by livestock, and/or decreases in fire frequency. It is similar to Chihuahuan Mixed Desert and Thorn Scrub (CES302.734) but is generally found at higher elevations where *Larrea tridentata* and other desert scrub are not codominant. It is also similar to Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub (CES302.737) but does not occur on eolian-deposited substrates.

Agriculture (N80)

An aggregated landcover type that includes both Pasture/Hay (N81): areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle, where pasture/hay vegetation accounts for greater than 20 percent of total vegetation, and Cultivated Crops (N82): areas used for the production of annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial woody crops such as orchards and vineyards, where crop vegetation accounts for greater than 20 percent of total vegetation. N82 also includes all land being actively tilled.

Madrean Pinyon-Juniper Woodland (S112*)

This system occurs on foothills, mountains and plateaus in the Sierra Madre Occidentale and Sierra Madre Orientale in Mexico, Trans-Pecos Texas, southern New Mexico and Arizona, generally south of the Mogollon Rim. Substrates are variable, but soils are generally dry and rocky. The presence of *Pinus cembroides*, *Pinus discolor*, or other Madrean trees and shrubs is diagnostic of this woodland system. *Juniperus coahuilensis*, *Juniperus deppeana*, *Juniperus pinchotii*, *Juniperus monosperma*, and/or *Pinus edulis* may be present to dominant. Madrean oaks such as *Quercus arizonica*, *Quercus emoryi*, *Quercus grisea*, or *Quercus mohriana* may be codominant. *Pinus ponderosa* is absent or sparse. If present, understory layers are variable and may be dominated by shrubs or graminoids.

North American Warm Desert Active and Stabilized Dune (S018)

This ecological system occurs across the warm deserts of North America and is composed of unvegetated to sparsely vegetated (generally <10% plant cover) active dunes and sandsheets derived from quartz or gypsum sands. Common vegetation includes *Ambrosia dumosa*, *Abronia villosa*, *Eriogonum deserticola*, *Larrea tridentata*, *Pleuraphis rigida*, *Poliomintha* spp., *Prosopis* spp., *Psoralea* spp., *Artemisia filifolia*, and *Rhus microphylla*. Dune "blowouts" and subsequent stabilization through succession are characteristic processes.

Developed, Medium - High Intensity (N22)

Developed, Medium Intensity: Includes areas with a mixture of constructed materials and vegetation. Impervious surface accounts for 50-79 percent of the total cover. These areas most commonly include single-family housing units. Developed, High Intensity: Includes highly developed areas where people reside or work in high numbers. Examples include apartment

complexes, row houses and commercial/industrial. Impervious surfaces account for 80 to 100 percent of the total cover.

Developed, Open Space - Low Intensity (N21)

Open Space: Includes areas with a mixture of some construction materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20 percent of total cover. These areas most commonly include large-lot single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes. Developed, Low Intensity: Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20-49 percent of total cover. These areas most commonly include single-family housing units.

Chihuahuan Mixed Salt Desert Scrub (S116)

This system includes extensive open-canopied shrublands of typically saline basins in the Chihuahuan Desert. Stands often occur on alluvial flats and around playas. Substrates are generally fine-textured, saline soils. Vegetation is typically composed of one or more *Atriplex* species such as *Atriplex canescens*, *Atriplex obovata*, or *Atriplex polycarpa* along with species of *Allenrolfea*, *Flourensia*, *Salicornia*, *Suaeda*, or other halophytic plants. Graminoid species may include *Sporobolus airoides*, *Pleuraphis mutica*, or *Distichlis spicata* at varying densities.

North American Warm Desert Volcanic Rockland (S019)

This ecological system occurs across the warm deserts of North America and is restricted to barren and sparsely vegetated (<10% plant cover) volcanic substrates such as basalt lava (malpais) and tuff. Vegetation is variable and includes a variety of species depending on local environmental conditions, e.g., elevation, age and type of substrate. Typically scattered *Larrea tridentata*, *Atriplex hymenelytra*, or other desert shrubs are present.

Madrean Encinal (S051*)

Madrean Encinal occurs on foothills, canyons, bajadas and plateaus in the Sierra Madre Occidentale and Sierra Madre Orientale in Mexico, extending north into Trans-Pecos Texas, southern New Mexico and sub-Mogollon Arizona. These woodlands are dominated by Madrean evergreen oaks along a low-slope transition below Madrean Pine-Oak Forest and Woodland (CES305.796) and Madrean Pinyon-Juniper Woodland (CES305.797). Lower elevation stands are typically open woodlands or savannas where they transition into desert grasslands, chaparral or in some cases desertscrub. Common evergreen oak species include *Quercus arizonica*, *Quercus emoryi*, *Quercus intricata*, *Quercus grisea*, *Quercus oblongifolia*, *Quercus toumeyii*, and in Mexico *Quercus chihuahuensis* and *Quercus albocincta*. Madrean pine, Arizona cypress, pinyon and juniper trees may be present, but do not codominate. Chaparral species such as *Arctostaphylos pungens*, *Cercocarpus montanus*, *Purshia* spp., *Garrya wrightii*, *Quercus turbinella*, *Frangula betulifolia* (= *Rhamnus betulifolia*), or *Rhus* spp. may be present but do not dominate. The graminoid layer is usually prominent between trees in grassland or steppe that is dominated by warm-season grasses such as *Aristida* spp., *Bouteloua gracilis*, *Bouteloua curtipendula*, *Bouteloua rothrockii*, *Digitaria californica*, *Eragrostis intermedia*, *Hilaria belangeri*, *Leptochloa dubia*, *Muhlenbergia* spp., *Pleuraphis jamesii*, or *Schizachyrium cirratum*, species typical of Chihuahuan Piedmont Semi-Desert Grassland (CES302.735). This system includes seral stands dominated by shrubby Madrean oaks typically with a strong graminoid

layer. In transition areas with drier chaparral systems, stands of chaparral are not dominated by Madrean oaks; however, Madrean Encinal may extend down along drainages.

Appendix D. List and description of dominant aquatic habitat types used in the New Mexico Comprehensive Wildlife Conservation Strategy.

- A901¹ *Perennial Spring/Seep* – Area where groundwater continuously flows naturally from a rock or soil substrate to the surface to form a stream, pond, marsh, or other type of water body. A seep is a small groundwater discharge that slowly oozes to the surface of the ground or into a stream, which differs from a spring that visibly flows from the ground.
- A902 *Perennial Small Reservoir* – Natural or artificial impoundment less than 2,471 ac (1,000 ha) where water is collected, stored, regulated, and released for human use. Examples include Elephant Butte, Navajo, Heron, El Vado, Abiquiu, Ute, Summner, Brantly, Red Bluff, Caballo, Conchas, Cochiti, and Eagle Nest Reservoirs.
- A903² *Perennial Large Reservoir* – Natural or artificial impoundment greater than 2,471 ac (1,000 ha) where water is collected, stored, regulated, and released for human use. Examples include Clayton, Charlette Lakes, Stubblefield, Maxwell 13, Miami, Laguna Madre, Springer, Bill Evans, Lake Rolsals, Bea-Canyon, Storrie McAllister, Carlsbad, Jackson, Hopewell, Snow Lake, Farmington Lake, Bonita Lake, Artic Lake, Willow, Bluewater, Ramal, Quemado, Fenton, San Gregorio, and Murphy Reservoirs.
- A904² *Perennial 1st and 2nd Order Stream* – Natural water course containing flowing water together with dissolved and suspended materials, that normally supports communities of plants and animals within the channel and the riparian vegetation zone. A first order stream is an unforked or unbranched stream. Two first order streams flow together to form a second order stream. First and second order stream are usually headwater streams.
- A905² *Perennial 3rd and 4th Order Stream* – Natural water course containing flowing water together with dissolved and suspended materials, that normally supports communities of plants and animals within the channel and the riparian vegetation zone. Two second order streams flow together to form a third order stream and two third order streams flow together to form a fourth order stream. Third and fourth order streams are usually intermediate streams flowing out of mountains.
- A906² *Perennial 5th Order Stream* – Natural water course containing flowing water together with dissolved and suspended materials, that normally supports communities of plants and animals within the channel and the riparian vegetation zone. Two fourth order streams flow together to form a fifth order stream.
- A907 *Perennial Natural Lake* – Body of fresh or saline water (usually at least 20 ac; 8 ha in surface area) that is completely surrounded by land and is persistent and relatively unchanged over a period of years.
- A908 *Perennial Pool, Playa, Tinaja, Kettle* – Bodies of standing water formed in depressions, basins or in streams. A pool is formed in a small depression found in a marsh or on a floodplain. A playa is an internally drained lake found in a sandy, salty, or muddy flat floor of an arid basin occupied by shallow water. A tinaja is a permanent pool in seasonal streams. A kettle is formed in a depression by melting ice blocks deposited in glacial drift or in the outwash plain.
- A909 *Perennial Cirque* – Body of standing water that occurs where valleys are shaped into structures resembling amphitheatres by the action of freezing and thawing ice usually found in the upper portion of a glaciated area or in mountains and always containing water.
- A910² *Perennial Tank* – Artificial pond to hold water for livestock, wildlife (sometimes including fish) and other uses and always containing water.

Appendix E. List of Terrestrial Vertebrate Species of Greatest Conservation Need with potential range in the Paseo del Norte Watershed as identified by the New Mexico Comprehensive Wildlife Conservation Strategy and Southwest Regional Gap Analysis Project.

Common Name	Scientific Name
ARIZONA MYOTIS	<i>Myotis occultus</i>
PLAINS LEOPARD FROG	<i>Rana blairi</i>
CHIRICAHUA LEOPARD FROG	<i>Rana chiricahuensis</i>
TIGER SALAMANDER	<i>Ambystoma tigrinum</i>
ORNATE BOX TURTLE	<i>Terrapene ornata</i>
COLLARED LIZARD	<i>Crotaphytus collaris</i>
TEXAS BANDED GECKO	<i>Coleonyx brevis</i>
GILA MONSTER	<i>Heloderma suspectum</i>
MILK SNAKE	<i>Lampropeltis triangulum</i>
MASSASAUGA	<i>Sistrurus catenatus</i>
WESTERN DIAMONDBACK RATTLESNAKE	<i>Crotalus atrox</i>
ROCK RATTLESNAKE	<i>Crotalus lepidus</i>
EARED GREBE	<i>Podiceps nigricollis</i>
AMERICAN BITTERN	<i>Botaurus lentiginosus</i>
WHITE-FACED IBIS	<i>Plegadis chihi</i>
NORTHERN PINTAIL	<i>Anas acuta</i>
NORTHERN GOSHAWK	<i>Accipiter gentilis</i>
FERRUGINOUS HAWK	<i>Buteo regalis</i>
COMMON BLACK-HAWK	<i>Buteogallus anthracinus</i>
GOLDEN EAGLE	<i>Aquila chrysaetos</i>
BALD EAGLE	<i>Haliaeetus leucocephalus</i>
NORTHERN HARRIER	<i>Circus cyaneus</i>
OSPREY	<i>Pandion haliaetus</i>
PEREGRINE FALCON	<i>Falco peregrinus</i>
APLOMADO FALCON	<i>Falco femoralis</i>
SCALED QUAIL	<i>Callipepla squamata</i>
WILD TURKEY	<i>Meleagris gallopavo</i>
SANDHILL CRANE	<i>Grus canadensis</i>
SNOWY PLOVER	<i>Charadrius alexandrinus</i>
LONG-BILLED CURLEW	<i>Numenius americanus</i>
WILSON'S PHALAROPE	<i>Phalaropus tricolor</i>
LEAST TERN	<i>Sterna antillarum</i>
BAND-TAILED PIGEON	<i>Columba fasciata</i>
MOURNING DOVE	<i>Zenaida macroura</i>
YELLOW-BILLED CUCKOO	<i>Coccyzus americanus</i>
ELF OWL	<i>Micrathene whitneyi</i>
BURROWING OWL	<i>Athene cunicularia</i>
BLACK SWIFT	<i>Cypseloides niger</i>
LEWIS'S WOODPECKER	<i>Melanerpes lewis</i>
WILLIAMSON'S SAPSUCKER	<i>Sphyrapicus thyroideus</i>
BANK SWALLOW	<i>Riparia riparia</i>
SPRAGUE'S PIPIT	<i>Anthus spragueii</i>
LOGGERHEAD SHRIKE	<i>Lanius ludovicianus</i>
BENDIRE'S THRASHER	<i>Toxostoma bendirei</i>

Common Name	Scientific Name
SAGE THRASHER	<i>Oreoscoptes montanus</i>
LUCY'S WARBLER	<i>Vermivora luciae</i>
BLACK-THROATED GRAY WARBLER	<i>Dendroica nigrescens</i>
BELL'S VIREO	<i>Vireo bellii</i>
GRAY VIREO	<i>Vireo vicinior</i>
HOODED ORIOLE	<i>Icterus cucullatus</i>
PAINTED BUNTING	<i>Passerina ciris</i>
SAGE SPARROW	<i>Amphispiza belli</i>
SPOTTED BAT	<i>Euderma maculatum</i>
WESTERN RED BAT	<i>Lasiurus blossevillii</i>
HOARY BAT	<i>Lasiurus cinereus</i>
ABERT'S SQUIRREL	<i>Sciurus aberti</i>
BLACK-TAILED PRAIRIE DOG	<i>Cynomys ludovicianus</i>
BEAVER	<i>Castor canadensis</i>
JAGUAR	<i>Panthera onca</i>
GRAY WOLF	<i>Canis lupus</i>
MULE DEER	<i>Odocoileus hemionus</i>
BIGHORN SHEEP	<i>Ovis canadensis</i>
MADREAN ALLIGATOR LIZARD	<i>Elgaria kingii</i>
COMMON KINGSNAKE	<i>Lampropeltis getula</i>
MOUNTAIN LION	<i>Puma concolor</i>

Appendix F. Number of species associated with each Southwest Regional Gap Analysis Project Land Cover type.

SWReGAP Land Cover Type	Number of Species
Agriculture	171
Apacherian-Chihuahuan Mesquite Upland Scrub	198
Apacherian-Chihuahuan Piedmont Semi-Desert Grassland and Steppe	228
Chihuahuan Creosotebush, Mixed Desert and Thorn Scrub	173
Chihuahuan Gypsophilous Grassland and Steppe	123
Chihuahuan Mixed Salt Desert Scrub	130
Chihuahuan Sandy Plains Semi-Desert Grassland	100
Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub	63
Chihuahuan Succulent Desert Scrub	147
Colorado Plateau Mixed Bedrock Canyon and Tableland	154
Colorado Plateau Pinyon-Juniper Woodland	208
Developed, Medium - High Intensity	63
Developed, Open Space - Low Intensity	123
Inter-Mountain Basins Big Sagebrush Shrubland	126
Inter-Mountain Basins Juniper Savanna	160
Inter-Mountain Basins Mixed Salt Desert Scrub	100
Inter-Mountain Basins Montane Sagebrush Steppe	107
Inter-Mountain Basins Semi-Desert Grassland	183
Inter-Mountain Basins Semi-Desert Shrub Steppe	139
Madrean Encinal	155
Madrean Juniper Savanna	186
Madrean Pine-Oak Forest and Woodland	235
Madrean Pinyon-Juniper Woodland	220
Madrean Upper Montane Conifer-Oak Forest and Woodland	131
Mogollon Chaparral	128
North American Arid West Emergent Marsh	205
North American Warm Desert Active and Stabilized Dune	64
North American Warm Desert Bedrock Cliff and Outcrop	114
North American Warm Desert Lower Montane Riparian Woodland and Shrubland	241
North American Warm Desert Pavement	17
North American Warm Desert Playa	45
North American Warm Desert Riparian Mesquite Bosque	199
North American Warm Desert Riparian Woodland and Shrubland	253
North American Warm Desert Volcanic Rockland	27
North American Warm Desert Wash	108
Open Water	133
Rocky Mountain Aspen Forest and Woodland	104
Rocky Mountain Cliff and Canyon	131
Rocky Mountain Gambel Oak-Mixed Montane Shrubland	156
Rocky Mountain Lower Montane-Foothill Shrubland	80
Rocky Mountain Montane Dry-Mesic Mixed Conifer Forest and Woodland	135

SWReGAP Land Cover Type	Number of Species
Rocky Mountain Montane Mesic Mixed Conifer Forest and Woodland	132
Rocky Mountain Ponderosa Pine Woodland	157
Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	78
Sonoran Mid-Elevation Desert Scrub	74
Sonoran Paloverde-Mixed Cacti Desert Scrub	140
Southern Rocky Mountain Juniper Woodland and Savanna	172
Southern Rocky Mountain Montane-Subalpine Grassland	96
Southern Rocky Mountain Pinyon-Juniper Woodland	214
Western Great Plains Foothill and Piedmont Grassland	133
Western Great Plains Shortgrass Prairie	183

Appendix G. Species association with SWReGAP land cover types for the Paseo del Norte Watershed.

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
Agriculture	<i>Amphibian</i>	WOODHOUSE'S TOAD	Bufo woodhousii	Suitable
	<i>Bird</i>	SHARP-SHINNED HAWK	Accipiter striatus	Suitable
		NORTHERN SAW-WHET OWL	Aegolius acadicus	Suitable
		RED-WINGED BLACKBIRD	Agelaius phoeniceus	Suitable
		WOOD DUCK	Aix sponsa	Suitable
		NORTHERN PINTAIL	Anas acuta	Suitable
		AMERICAN WIGEON	Anas americana	Suitable
		NORTHERN SHOVELER	Anas clypeata	Suitable
		GREEN-WINGED TEAL	Anas crecca	Suitable
		CINNAMON TEAL	Anas cyanoptera	Suitable
		BLUE-WINGED TEAL	Anas discors	Suitable
		MALLARD	Anas platyrhynchos	Suitable
		GADWALL	Anas strepera	Suitable
		GREATER WHITE-FRONTED GOOSE	Anser albifrons	Suitable
		AMERICAN PIPIT	Anthus rubescens	Wintering
		SPRAGUE'S PIPIT	Anthus spragueii	Suitable
		GOLDEN EAGLE	Aquila chrysaetos	Suitable
		GREAT EGRET	Ardea alba	Suitable
		SHORT-EARED OWL	Asio flammeus	Suitable
		LONG-EARED OWL	Asio otus	Suitable
		BURROWING OWL	Athene cunicularia	Suitable
		VERDIN	Auriparus flaviceps	Suitable
		REDHEAD	Aythya americana	Suitable
		REDHEAD	Aythya americana	Suitable
		CEDAR WAXWING	Bombycilla cedrorum	Suitable
		CANADA GOOSE	Branta canadensis	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		CATTLE EGRET	Bubulcus ibis	Suitable
		RED-TAILED HAWK	Buteo jamaicensis	Suitable
		ROUGH-LEGGED HAWK	Buteo lagopus	Suitable
		FERRUGINOUS HAWK	Buteo regalis	Suitable
		SWAINSON'S HAWK	Buteo swainsoni	Suitable
		LARK BUNTING	Calamospiza melanocorys	Suitable
		CHESTNUT-COLLARED LONGSPUR	Calcarius ornatus	Suitable
		PYRRHULOXIA	Cardinalis sinuatus	Suitable
		LAWRENCE'S GOLDFINCH	Carduelis lawrencei	Wintering
		HOUSE FINCH	Carpodacus mexicanus	Suitable
		TURKEY VULTURE	Cathartes aura	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		SNOW GOOSE	Chen caerulescens	Suitable
		ROSS'S GOOSE	Chen rossii	Suitable
		COMMON NIGHTHAWK	Chordeiles minor	Suitable
		NORTHERN HARRIER	Circus cyaneus	Suitable
		NORTHERN FLICKER	Colaptes auratus	Suitable
		BAND-TAILED PIGEON	Columba fasciata	Suitable
		ROCK DOVE	Columba livia	Suitable
		INCA DOVE	Columbina inca	Suitable
		AMERICAN CROW	Corvus brachyrhynchos	Suitable
		COMMON RAVEN	Corvus corax	Suitable
		YELLOW-RUMPED WARBLER	Dendroica coronata	Wintering
		YELLOW WARBLER	Dendroica petechia	Suitable
		WHITE-TAILED KITE	Elanus leucurus	Suitable
		HORNED LARK	Eremophila alpestris	Suitable
		BREWER'S BLACKBIRD	Euphagus cyanocephalus	Suitable
		MERLIN	Falco columbarius	Suitable
		PRAIRIE FALCON	Falco mexicanus	Suitable
		PEREGRINE FALCON	Falco peregrinus	Suitable
		AMERICAN KESTREL	Falco sparverius	Suitable
		AMERICAN COOT	Fulica americana	Suitable
		COMMON SNIBE	Gallinago gallinago	Suitable
		GREATER ROADRUNNER	Geococcyx californianus	Suitable
		SANDHILL CRANE	Gris canadensis	Suitable
		BLUE GROSBEAK	Guiraca caerulea	Suitable
		BALD EAGLE	Haliaeetus leucocephalus	Suitable
		BARN SWALLOW	Hirundo rustica	Suitable
		BULLOCK'S ORIOLE	Icterus bullockii	Suitable
		HOODED ORIOLE	Icterus cucullatus	Suitable
		MISSISSIPPI KITE	Ictinia mississippiensis	Suitable
		LOGGERHEAD SHRIKE	Lanius ludovicianus	Suitable
		RING-BILLED GULL	Larus delawarensis	Suitable
		GLAUCOUS GULL	Larus hyperboreus	Suitable
		LONG-BILLED DOWITCHER	Limnodromus scolopaceus	Suitable
		MARBLED GODWIT	Limosa fedoa	Suitable
		LEWIS'S WOODPECKER	Melanerpes lewis	Suitable
		ELF OWL	Micrathene whitneyi	p13
		BROWN-HEADED COWBIRD	Molothrus ater	Suitable
		LONG-BILLED CURLEW	Numenius americanus	Suitable
		WHIMBREL	Numenius phaeopus	Suitable
		WESTERN SCREECH-OWL	Otus kennicottii	Suitable
		HOUSE SPARROW	Passer domesticus	Suitable
		SAVANNAH SPARROW	Passerculus sandwichensis	Suitable
		PAINTED BUNTING	Passerina ciris	Suitable
		INDIGO BUNTING	Passerina cyanea	Suitable
		CLIFF SWALLOW	Petrochelidon pyrrhonota	Suitable
		PHAINOPELA	Phainopepla nitens	Suitable
		RING-NECKED PHEASANT	Phasianus colchicus	Suitable
		WESTERN TANAGER	Piranga ludoviciana	Suitable
		SUMMER TANAGER	Piranga rubra	Suitable
		WHITE-FACED IBIS	Plegadis chihi	Suitable
		VESPER SPARROW	Pooecetes gramineus	Suitable
		VERMILION FLYCATCHER	Pyrocephalus rubinus	Suitable
		GREAT-TAILED GRACKLE	Quiscalus mexicanus	Suitable
		BANK SWALLOW	Riparia riparia	Suitable
		BLACK PHOEBE	Sayornis nigricans	Suitable
		SAY'S PHOEBE	Sayornis saya	Suitable
		MOUNTAIN BLUEBIRD	Sialia currucoides	Suitable
		WESTERN BLUEBIRD	Sialia mexicana	Suitable
		DICKCISSEL	Spiza americana	Suitable
		CLAY-COLORED SPARROW	Spizella pallida	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
Apacherian-Chihuahuan Mesquite Upland Scrub	<i>Mammal</i>	CHIPPING SPARROW	Spizella passerina	Suitable
		NORTHERN ROUGH-WINGED SWALLOW	Stelgidopteryx serripennis	Suitable
		EASTERN MEADOWLARK	Sturnella magna	Suitable
		WESTERN MEADOWLARK	Sturnella neglecta	Suitable
		EUROPEAN STARLING	Sturnus vulgaris	Suitable
		TREE SWALLOW	Tachycineta bicolor	Suitable
		BEWICK'S WREN	Thryomanes bewickii	Suitable
		BROWN THRASHER	Toxostoma rufum	Suitable
		HOUSE WREN	Troglodytes aedon	Suitable
		AMERICAN ROBIN	Turdus migratorius	Suitable
		COMMON BARN-OWL	Tyto alba	Suitable
		TENNESSEE WARBLER	Vermivora peregrina	Suitable
		YELLOW-HEADED BLACKBIRD	Xanthocephalus xanthocephalus	Suitable
		MOURNING DOVE	Zenaidura macroura	Suitable
		WHITE-THROATED SPARROW	Zonotrichia albicollis	Suitable
		WHITE-CROWNED SPARROW	Zonotrichia leucophrys	Wintering
		HARRIS'S SPARROW	Zonotrichia querula	Suitable
		PALLID BAT	Antrozous pallidus	Suitable
		RINGTAIL	Bassariscus astutus	Suitable
		COYOTE	Canis latrans	Suitable
		BEAVER	Castor canadensis	Suitable
		TOWNSEND'S BIG-EARED BAT	Corynorhinus townsendii	Suitable
		VIRGINIA OPOSSUM	Didelphis virginiana	Suitable
		BIG BROWN BAT	Eptesicus fuscus	Suitable
		PORCUPINE	Erethizon dorsatum	Suitable
		DESERT POCKET GOPHER	Geomys arenarius	Suitable
		EASTERN RED BAT	Lasiurus borealis	Suitable
		BLACK-TAILED JACK RABBIT	Lepus californicus	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		HOUSE MOUSE	Mus musculus	Suitable
		LONG-TAILED WEASEL	Mustela frenata	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		ARIZONA MYOTIS	Myotis occultus	Suitable
		FRINGED MYOTIS	Myotis thysanodes	Suitable
		WHITE-THROATED WOODRAT	Neotoma albigula	Suitable
		DESERT SHREW	Notiosorex crawfordi	Suitable
		BIG FREE-TAILED BAT	Myotis myotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		MUSKRAT	Ondatra zibethicus	Suitable
		YELLOW-FACED POCKET GOPHER	Pappogeomys castanops	Suitable
		SILKY POCKET MOUSE	Perognathus flavus	Suitable
		WHITE-FOOTED MOUSE	Peromyscus leucopus	Suitable
		DEER MOUSE	Peromyscus maniculatus	Suitable
		WESTERN HARVEST MOUSE	Reithrodontomys megalotis	Suitable
		PLAINS HARVEST MOUSE	Reithrodontomys montanus	Suitable
		HISPID COTTON RAT	Sigmodon hispidus	Suitable
		ROCK SQUIRREL	Spermophilus variegatus	Suitable
		DESERT COTTONTAIL	Sylvilagus auduboni	Suitable
		BRAZILIAN FREE-TAILED BAT	Tadarida brasiliensis	Suitable
		GRAY FOX	Urocyon cinereoargenteus	Suitable
		RED FOX	Vulpes vulpes	Suitable
	<i>Reptile</i>	SPINY SOFTSHELL TURTLE	Apalone spinifera	Suitable
		NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		WESTERN DIAMONDBACK RATTLESNAKE	Crotalus atrox	Suitable
		WESTERN RATTLESNAKE	Crotalus viridis	Suitable
		RING-NECKED SNAKE	Diadophis punctatus	Suitable
		CORN SNAKE	Elaphe guttata	Suitable
		COMMON KINGSSNAKE	Lampropeltis getula	Suitable
		BULLSNAKE	Pituophis catenifer	Suitable
		ORNATE BOX TURTLE	Terrapene ornata	Suitable
		CHECKERED GARTER SNAKE	Thamnophis marcianus	Suitable
Apacherian-Chihuahuan Mesquite Upland Scrub	<i>Amphibian</i>	GREEN TOAD	Bufo debilis	Suitable
		RED-SPOTTED TOAD	Bufo punctatus	Suitable
		WOODHOUSE'S TOAD	Bufo woodhousii	Suitable
		COUCH'S SPADEFOOT	Scaphiopus couchii	Suitable
	<i>Bird</i>	RED-WINGED BLACKBIRD	Agelaius phoeniceus	Suitable
		CASSIN'S SPARROW	Aimophila cassinii	Suitable
		RUFIOUS-CROWNED SPARROW	Aimophila ruficeps	Suitable
		SAGE SPARROW	Amphispiza belli	Suitable
		BLACK-THROATED SPARROW	Amphispiza bilineata	Suitable
		WESTERN SCRUB-JAY	Aphelocoma californica	Suitable
		BLACK-CHINNED HUMMINGBIRD	Archilochus alexandri	Breeding
		BURROWING OWL	Athene cucularia	Suitable
		VERDIN	Auriparus flaviceps	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		ZONE-TAILED HAWK	Buteo albonotatus	k13
		RED-TAILED HAWK	Buteo jamaicensis	Suitable
		SWAINSON'S HAWK	Buteo swainsoni	Suitable
		LARK BUNTING	Calamospiza melanocorys	Suitable
		GAMBEL'S QUAIL	Callipepla gambelii	Suitable
		SCALED QUAIL	Callipepla squamata	Suitable
		PYRRHULOXIA	Cardinalis sinuatus	Suitable
		LAWRENCE'S GOLDFINCH	Carduelis lawrencei	Wintering
		TURKEY VULTURE	Cathartes aura	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		LARK SPARROW	Chondestes grammacus	Suitable
		LESSER NIGHTHAWK	Chordeiles acutipennis	Suitable
		COMMON NIGHTHAWK	Chordeiles minor	Suitable
		COMMON RAVEN	Corvus corax	Suitable
		CHIHUAHUA RAVEN	Corvus cryptoleucus	Suitable
		YELLOW-RUMPED WARBLER	Dendroica coronata	Wintering
		YELLOW WARBLER	Dendroica petechia	k21
		TOWNSEND'S WARBLER	Dendroica townsendi	Migratory
		DUSKY FLYCATCHER	Empidonax oberholseri	Suitable
		PEREGRINE FALCON	Falco peregrinus	Suitable
		AMERICAN KESTREL	Falco sparverius	Suitable
		GREATER ROADRUNNER	Geococcyx californianus	Suitable
		BALD EAGLE	Haliaeetus leucocephalus	Suitable
		BARN SWALLOW	Hirundo rustica	Suitable
		SCOTT'S ORIOLE	Icterus parisorum	Breeding
		MISSISSIPPI KITE	Ictinia mississippiensis	Suitable
		LOGGERHEAD SHRIKE	Lanius ludovicianus	Suitable
		WILD TURKEY	Meleagris gallopavo	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
		NORTHERN MOCKINGBIRD	Mimus polyglottos	Suitable
		BROWN-HEADED COWBIRD	Molothrus ater	Suitable
		TOWNSEND'S SOLITAIRE	Myadestes townsendi	Wintering
		ASH-THROATED FLYCATCHER	Myiarchus cinerascens	Suitable
		MACGILLIVRAY'S WARBLER	Oporornis tolmiei	Breeding
		SAGE THRASHER	Oreoscoptes montanus	Suitable
		WESTERN SCREECH-OWL	Otus kennicottii	Suitable
		PAINTED BUNTING	Passerina ciris	Suitable
		INDIGO BUNTING	Passerina cyanea	Suitable
		CLIFF SWALLOW	Petrochelidon pyrrhonota	Suitable
		PHAINOPEPLA	Phainopepla nitens	Suitable
		BLACK-HEADED GROSBEAK	Phaeocephalus melanocephalus	Breeding
		LADDER-BACKED WOODPECKER	Picoides scalaris	Suitable
		GREEN-TAILED TOWHEE	Pipilo chlorurus	Wintering
		CANYON TOWHEE	Pipilo fuscus	Suitable
		SUMMER Tanager	Piranga rubra	Suitable
		BLACK-TAILED GNATCATCHER	Poliopitila melanura	Suitable
		VERMILION FLYCATCHER	Pyrocephalus rubinus	Suitable
		ROCK WREN	Salpinctes obsoletus	Suitable
		MOUNTAIN BLUEBIRD	Sialia currucoides	Wintering
		WESTERN BLUEBIRD	Sialia mexicana	Wintering
		EASTERN BLUEBIRD	Sialia sialis	Suitable
		BREWER'S SPARROW	Spizella breweri	Suitable
		CLAY-COLORED SPARROW	Spizella pallida	Suitable
		EASTERN MEADOWLARK	Sturnella magna	Suitable
		TREE SWALLOW	Tachycineta bicolor	Suitable
		BEWICK'S WREN	Thryomanes bewickii	Suitable
		BENDIRE'S THRASHER	Toxostoma bendirei	Suitable
		CURVE-BILLED THRASHER	Toxostoma curvirostre	Suitable
		HOUSE WREN	Troglodytes aedon	Suitable
		WESTERN KINGBIRD	Tyrannus verticalis	Suitable
		LUCY'S WARBLER	Vermivora luciae	Suitable
		BELL'S VIREO	Vireo bellii	Suitable
		GRAY VIREO	Vireo vicinior	Suitable
		WHITE-WINGED DOVE	Zenaidura macroura	Breeding
		MOURNING DOVE	Zenaidura macroura	Suitable
		WHITE-CROWNED SPARROW	Zonotrichia leucophrys	Suitable
	Mammal	RINGTAIL	Bassariscus astutus	Suitable
		COYOTE	Canis latrans	Suitable
		GRAY WOLF	Canis lupus	Suitable
		ROCK POCKET MOUSE	Chaetodipus intermedius	Suitable
		DESERT POCKET MOUSE	Chaetodipus penicillatus	Suitable
		MERRIAM'S KANGAROO RAT	Dipodomys merriami	Suitable
		ORD'S KANGAROO RAT	Dipodomys ordii	Suitable
		BIG BROWN BAT	Eptesicus fuscus	Suitable
		PORCUPINE	Erethizon dorsatum	Suitable
		DESERT POCKET GOPHER	Geomys arenarius	Suitable
		HOARY BAT	Lasiurus cinereus	Suitable
		BLACK-TAILED JACK RABBIT	Lepus californicus	Suitable
		BOBCAT	Lynx rufus	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		MOGOLLON VOLE	Microtus mogollonensis	Suitable
		HOUSE MOUSE	Mus musculus	Suitable
		CALIFORNIA MYOTIS	Myotis californicus	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		ARIZONA MYOTIS	Myotis occultus	Suitable
		FRINGED MYOTIS	Myotis thysanodes	Suitable
		LONG-LEGGED MYOTIS	Myotis volans	Suitable
		YUMA MYOTIS	Myotis yumanensis	Suitable
		WHITE-THROATED WOODRAT	Neotoma albigula	Suitable
		MEXICAN WOODRAT	Neotoma mexicana	Suitable
		SOUTHERN PLAINS WOODRAT	Neotoma micropus	Suitable
		DESERT SHREW	Notiosorex crawfordi	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		NORTHERN GRASSHOPPER MOUSE	Onychomys leucogaster	Suitable
		ORYX	Oryx gazella	Suitable
		BIGHORN SHEEP	Ovis canadensis	Suitable
		YELLOW-FACED POCKET GOPHER	Pappogeomys castanops	Suitable
		COLLARED PECCARY	Pecari tajacu	Suitable
		SILKY POCKET MOUSE	Perognathus flavus	Suitable
		BRUSH MOUSE	Peromyscus boylii	Suitable
		CACTUS MOUSE	Peromyscus eremicus	Suitable
		WHITE-FOOTED MOUSE	Peromyscus leucopus	Suitable
		DEER MOUSE	Peromyscus maniculatus	Suitable
		PINON MOUSE	Peromyscus truei	Suitable
		RACCOON	Procyon lotor	Suitable
		MOUNTAIN LION	Puma concolor	Suitable
		TAWNY-BELLIED COTTON RAT	Sigmodon fulviventer	Suitable
		HISPID COTTON RAT	Sigmodon hispidus	Suitable
		SPOTTED GROUND SQUIRREL	Spermophilus spilosoma	Suitable
		ROCK SQUIRREL	Spermophilus variegatus	Suitable
		DESERT COTTONTAIL	Sylvilagus audubonii	Suitable
		BRAZILIAN FREE-TAILED BAT	Tadarida brasiliensis	Suitable
		BADGER	Taxidea taxus	Suitable
		BOTTA'S POCKET GOPHER	Thomomys bottae	Suitable
		GRAY FOX	Urocyon cinereoargenteus	Suitable
		BROWN BEAR	Ursus arctos	Suitable
		KIT FOX	Vulpes macrotis	Suitable
		RED FOX	Vulpes vulpes	Suitable
	Reptile	GLOSSY SNAKE	Arizona elegans	Suitable
		GLOSSY SNAKE	Arizona elegans	Suitable
		TRANS-PECOS RAT SNAKE	Bogertophis subocularis	Suitable
		CHIHUAHUA SPOTTED WHIPTAIL	Cnemidophorus exsanguis	Suitable
		LITTLE STRIPED WHIPTAIL	Cnemidophorus inornatus	Suitable
		NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		WESTERN WHIPTAIL	Cnemidophorus tigris	Suitable
		DESERT GRASSLAND WHIPTAIL	Cnemidophorus uniparens	Suitable
		TEXAS BANDED GECKO	Coleonyx brevis	Suitable
		RACER	Coluber constrictor	Suitable
		WESTERN DIAMONDBACK RATTLESNAKE	Crotalus atrox	Suitable
		ROCK RATTLESNAKE	Crotalus lepidus	Suitable
		MOJAVE RATTLESNAKE	Crotalus scutulatus	Suitable
		WESTERN RATTLESNAKE	Crotalus viridis	Suitable
		COLLARED LIZARD	Crotaphytus collaris	Suitable
		RING-NECKED SNAKE	Diadophis punctatus	Suitable
		CORN SNAKE	Elaphe guttata	Suitable
		MANY-LINED SKINK	Eumeces multivirgatus	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
Apacherian-Chihuahuan Piedmont Semi-Desert Grassland and Steppe		GREAT PLAINS SKINK	Eumeces obsoletus	Suitable
		LONG-NOSED LEOPARD LIZARD	Gambelia wislizenii	Suitable
		WESTERN HOOK-NOSED SNAKE	Gyalopion canum	Suitable
		GILA MONSTER	Heloderma suspectum	Suitable
		WESTERN HOG-NOSED SNAKE	Heterodon nasicus	Suitable
		LESSER EARLESS LIZARD	Holbrookia maculata	Suitable
		NIGHT SNAKE	Hypsiglena torquata	Suitable
		COMMON KINGSSNAKE	Lampropeltis getula	Suitable
		MILK SNAKE	Lampropeltis triangulum	Suitable
		TEXAS BLIND SNAKE	Leptotyphlops dulcis	Suitable
		COACHWHIP	Masticophis flagellum	Suitable
		STRIPED WHIPSNAKE	Masticophis taeniatus	Suitable
		TEXAS HORNED LIZARD	Phrynosoma cornutum	Suitable
		ROUND-TAILED HORNED LIZARD	Phrynosoma modestum	Suitable
		BULLSNAKE	Pituophis catenifer	Suitable
		LONG-NOSED SNAKE	Rhinocheilus lecontei	Suitable
		MOUNTAIN PATCH-NOSED SNAKE	Salvadora grahamiae	Suitable
		WESTERN PATCH-NOSED SNAKE	Salvadora hexalepis	Suitable
		DESERT SPINY LIZARD	Sceloporus magister	Suitable
		CREVICE SPINY LIZARD	Sceloporus poinsettii	Suitable
		EASTERN FENCE LIZARD	Sceloporus undulatus	Suitable
		GROUND SNAKE	Sonora semiannulata	Suitable
		SOUTHWESTERN BLACK-HEADED SNAKE	Tantilla hobartsmithi	Suitable
		PLAINS BLACK-HEADED SNAKE	Tantilla nigriceps	Suitable
		ORNATE BOX TURTLE	Terrapene ornata	Suitable
		WESTERN TERRESTRIAL GARTER SNAKE	Thamnophis elegans	Suitable
		WESTERN LYRE SNAKE	Trimorphodon biscutatus	Suitable
		SIDE-BLOTCHED LIZARD	Uta stansburiana	Suitable
	Amphibian	GREAT PLAINS TOAD	Bufo cognatus	Suitable
		GREEN TOAD	Bufo debilis	Suitable
		RED-SPOTTED TOAD	Bufo punctatus	Suitable
		WOODHOUSE'S TOAD	Bufo woodhousii	Suitable
		COUCH'S SPADEFOOT	Scaphiopus couchii	Suitable
	Bird	SHARP-SHINNED HAWK	Accipiter striatus	Wintering
		CASSIN'S SPARROW	Aimophila cassinii	Suitable
		RUFIOUS-CROWNED SPARROW	Aimophila ruficeps	Suitable
		BLACK-THROATED SPARROW	Amphispiza bilineata	Suitable
		NORTHERN PINTAIL	Anas acuta	Suitable
		GREEN-WINGED TEAL	Anas crecca	Suitable
		GADWALL	Anas strepera	Suitable
		SPRAGUE'S PIPIT	Anthus spragueii	Suitable
		GOLDEN EAGLE	Aquila chrysaetos	Suitable
		SHORT-EARED OWL	Asio flammeus	Suitable
		LONG-EARED OWL	Asio otus	Suitable
		BURROWING OWL	Athene cucularia	Suitable
		VERDIN	Auriparus flaviceps	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		CATTLE EGRET	Bubulcus ibis	Suitable
		ZONE-TAILED HAWK	Buteo albonotatus	k13
		RED-TAILED HAWK	Buteo jamaicensis	Suitable
		ROUGH-LEGGED HAWK	Buteo lagopus	Suitable
		SWAINSON'S HAWK	Buteo swainsoni	Suitable
		LARK BUNTING	Calamospiza melanocorys	Suitable
		MCCOWN'S LONGSPUR	Calcarius mccownii	Suitable
		CHESTNUT-COLLARED LONGSPUR	Calcarius ornatus	Suitable
		GAMBEL'S QUAIL	Callipepla gambelii	Suitable
		SCALED QUAIL	Callipepla squamata	Suitable
		CACTUS WREN	Campylorhynchus brunneicapillus	Suitable
		PYRRHULOXIA	Cardinalis sinuatus	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		LARK SPARROW	Chondestes grammacus	Suitable
		LESSER NIGHTHAWK	Chordeiles acutipennis	Suitable
		COMMON NIGHTHAWK	Chordeiles minor	Suitable
		NORTHERN HARRIER	Circus cyaneus	Suitable
		NORTHERN FLICKER	Colaptes auratus	Suitable
		COMMON RAVEN	Corvus corax	Suitable
		CHIHUAHUA RAVEN	Corvus cryptoleucus	Suitable
		TOWNSEND'S WARBLER	Dendroica townsendi	Migratory
		WHITE-TAILED KITE	Elanus leucurus	Suitable
		DUSKY FLYCATCHER	Empidonax oberholseri	Suitable
		BREWER'S BLACKBIRD	Euphagus cyanocephalus	Suitable
		MERLIN	Falco columbarius	Suitable
		APLOMADO FALCON	Falco femoralis	Suitable
		PRAIRIE FALCON	Falco mexicanus	Suitable
		AMERICAN KESTREL	Falco sparverius	Suitable
		GREATER ROADRUNNER	Geococcyx californianus	Suitable
		BLUE GROSBEEK	Guiraca caerulea	Suitable
		BALD EAGLE	Haliaeetus leucocephalus	Suitable
		BALD EAGLE	Haliaeetus leucocephalus	Suitable
		SCOTT'S ORIOLE	Icterus parisorum	Breeding
		MISSISSIPPI KITE	Ictinia mississippiensis	Suitable
		DARK-EYED JUNCO	Junco hyemalis	Wintering
		LOGGERHEAD SHRIKE	Lanius ludovicianus	Suitable
		BONAPARTE'S GULL	Larus philadelphia	Suitable
		NORTHERN MOCKINGBIRD	Mimus polyglottos	Suitable
		BROWN-HEADED COWBIRD	Molothrus ater	Suitable
		TOWNSEND'S SOLITAIRE	Myadestes townsendi	Wintering
		ASH-THROATED FLYCATCHER	Myiarchus cinerascens	Suitable
		MACGILLIVRAY'S WARBLER	Oporornis tolmiei	Breeding
		SAGE THRASHER	Oreoscoptes montanus	Suitable
		SAVANNAH SPARROW	Passerculus sandwichensis	Suitable
		INDIGO BUNTING	Passerina cyanea	Suitable
		CAVE SWALLOW	Petrochelidon fulva	Suitable
		PHAINOPEPLA	Phainopepla nitens	Suitable
		LADDER-BACKED WOODPECKER	Picoides scalaris	Suitable
		CANYON TOWHEE	Pipilo fuscus	Suitable
		BLACK-TAILED GNATCATCHER	Poliophtila melanura	Suitable
		VESPER SPARROW	Poocetes gramineus	Suitable
		VERMILION FLYCATCHER	Pyrocephalus rubinus	Suitable
		ROCK WREN	Salpinctes obsoletus	Suitable
		MOUNTAIN BLUEBIRD	Sialia currucoides	Suitable
		WESTERN BLUEBIRD	Sialia mexicana	Wintering
		EASTERN BLUEBIRD	Sialia sialis	Suitable
		BREWER'S SPARROW	Spizella breweri	Suitable
		CLAY-COLORED SPARROW	Spizella pallida	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
		CHIPPING SPARROW	Spizella passerina	Suitable
		EASTERN MEADOWLARK	Sturnella magna	Suitable
		WESTERN MEADOWLARK	Sturnella neglecta	Suitable
		EUROPEAN STARLING	Sturnus vulgaris	Suitable
		BENDIRE'S THRASHER	Toxostoma bendirei	Suitable
		CURVE-BILLED THRASHER	Toxostoma curvirostre	Suitable
		HOUSE WREN	Troglodytes aedon	Suitable
		WESTERN KINGBIRD	Tyrannus verticalis	Suitable
		COMMON BARN-OWL	Tyto alba	Suitable
		LUCY'S WARBLER	Vermivora luciae	Suitable
		BELL'S VIREO	Vireo bellii	Suitable
		WHITE-WINGED DOVE	Zenaida asiatica	Breeding
		MOURNING DOVE	Zenaida macroura	Suitable
	Mammal	TEXAS ANTELOPE SQUIRREL	Ammospermophilus interpres	Suitable
		PALLID BAT	Antrozous pallidus	Suitable
		RINGTAIL	Bassariscus astutus	Suitable
		COYOTE	Canis latrans	Suitable
		GRAY WOLF	Canis lupus	Suitable
		HISPID POCKET MOUSE	Chaetodipus hispidus	Suitable
		DESERT POCKET MOUSE	Chaetodipus penicillatus	Suitable
		TOWNSEND'S BIG-EARED BAT	Corynorhinus townsendii	Suitable
		BLACK-TAILED PRAIRIE DOG	Cynomys ludovicianus	Suitable
		MERRIAM'S KANGAROO RAT	Dipodomys merriami	Suitable
		ORD'S KANGAROO RAT	Dipodomys ordii	Suitable
		BANNER-TAILED KANGAROO RAT	Dipodomys spectabilis	Suitable
		BIG BROWN BAT	Eptesicus fuscus	Suitable
		PORCUPINE	Erethizon dorsatum	Suitable
		DESERT POCKET GOPHER	Geomys arenarius	Suitable
		SILVER-HAIRED BAT	Lasiorycteris noctivagans	Suitable
		HOARY BAT	Lasiurus cinereus	Suitable
		BLACK-TAILED JACK RABBIT	Lepus californicus	Suitable
		BOBCAT	Lynx rufus	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		HOUSE MOUSE	Mus musculus	Suitable
		LONG-TAILED WEASEL	Mustela frenata	Suitable
		BLACK-FOOTED FERRET	Mustela nigripes	Suitable
		CALIFORNIA MYOTIS	Myotis californicus	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		ARIZONA MYOTIS	Myotis occultus	Suitable
		FRINGED MYOTIS	Myotis thysanodes	Suitable
		CAVE MYOTIS	Myotis velifer	Suitable
		LONG-LEGGED MYOTIS	Myotis volans	Suitable
		YUMA MYOTIS	Myotis yumanensis	Suitable
		WHITE-THROATED WOODRAT	Neotoma albigula	Suitable
		MEXICAN WOODRAT	Neotoma mexicana	Suitable
		SOUTHERN PLAINS WOODRAT	Neotoma micropus	Suitable
		DESERT SHREW	Notiosorex crawfordi	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		MEARNS' GRASSHOPPER MOUSE	Onychomys arenicola	Suitable
		NORTHERN GRASSHOPPER MOUSE	Onychomys leucogaster	Suitable
		SOUTHERN GRASSHOPPER MOUSE	Onychomys torridus	Suitable
		ORYX	Oryx gazella	Suitable
		BIGHORN SHEEP	Ovis canadensis	Suitable
		JAGUAR	Panthera onca	Suitable
		YELLOW-FACED POCKET GOPHER	Pappogeomys castanops	Suitable
		COLLARED PECCARY	Pecari tajacu	Suitable
		SILKY POCKET MOUSE	Perognathus flavus	Suitable
		BRUSH MOUSE	Peromyscus boylii	Suitable
		CACTUS MOUSE	Peromyscus eremicus	Suitable
		WHITE-FOOTED MOUSE	Peromyscus leucopus	Suitable
		DEER MOUSE	Peromyscus maniculatus	Suitable
		ROCK MOUSE	Peromyscus nasutus	Suitable
		WESTERN PIPISTRELLE	Pipistrellus hesperus	Suitable
		RACCOON	Procyon lotor	Suitable
		MOUNTAIN LION	Puma concolor	Suitable
		WESTERN HARVEST MOUSE	Reithrodontomys megalotis	Suitable
		PLAINS HARVEST MOUSE	Reithrodontomys montanus	Suitable
		TAWNY-BELLIED COTTON RAT	Sigmodon fulviventor	Suitable
		HISPID COTTON RAT	Sigmodon hispidus	Suitable
		SPOTTED GROUND SQUIRREL	Spermophilus spilosoma	Suitable
		ROCK SQUIRREL	Spermophilus variegatus	Suitable
		DESERT COTTONTAIL	Sylvilagus audubonii	Suitable
		BRAZILIAN FREE-TAILED BAT	Tadarida brasiliensis	Suitable
		BADGER	Taxidea taxus	Suitable
		BOTTA'S POCKET GOPHER	Thomomys bottae	Suitable
		GRAY FOX	Urocyon cinereoargenteus	Suitable
		BROWN BEAR	Ursus arctos	Suitable
		KIT FOX	Vulpes macrotis	Suitable
		RED FOX	Vulpes vulpes	Suitable
	Reptile	GLOSSY SNAKE	Arizona elegans	Suitable
		TRANS-PECOS RAT SNAKE	Bogertophis subocularis	Suitable
		PAINTED TURTLE	Chrysemys picta	Suitable
		CHIHUAHUA SPOTTED WHIPTAIL	Cnemidophorus exsanguis	Suitable
		LITTLE STRIPED WHIPTAIL	Cnemidophorus inornatus	Suitable
		NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		DESERT GRASSLAND WHIPTAIL	Cnemidophorus uniparens	Suitable
		TEXAS BANDED GECKO	Coleonyx brevis	Suitable
		GREATER EARLESS LIZARD	Cophosaurus texanus	Suitable
		WESTERN DIAMONDBACK RATTLESNAKE	Crotalus atrox	Suitable
		BLACK-TAILED RATTLESNAKE	Crotalus molossus	Suitable
		MOJAVE RATTLESNAKE	Crotalus scutulatus	Suitable
		WESTERN RATTLESNAKE	Crotalus viridis	Suitable
		COLLARED LIZARD	Crotaphytus collaris	Suitable
		RING-NECKED SNAKE	Diadophis punctatus	Suitable
		CORN SNAKE	Elaphe guttata	Suitable
		MANY-LINED SKINK	Eumeces multivirgatus	Suitable
		GREAT PLAINS SKINK	Eumeces obsoletus	Suitable
		GILA MONSTER	Heloderma suspectum	Suitable
		WESTERN HOG-NOSED SNAKE	Heterodon nasicus	Suitable
		LESSER EARLESS LIZARD	Holbrookia maculata	Suitable
		NIGHT SNAKE	Hypsiglena torquata	Suitable
		NIGHT SNAKE	Hypsiglena torquata	Suitable
		COMMON KINGSSNAKE	Lampropeltis getula	Suitable
		MILK SNAKE	Lampropeltis triangulum	Suitable
		TEXAS BLIND SNAKE	Leptotyphlops dulcis	Suitable
		COACHWHIP	Masticophis flagellum	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
Chihuahuan Creosotebush, Mixed Desert and Thorn Scrub		STRIPED WHIPSNAKE	Masticophis taeniatus	Suitable
		TEXAS HORNED LIZARD	Phrynosoma cornutum	Suitable
		GREATER SHORT-HORNED LIZARD	Phrynosoma hernandesi	Suitable
		ROUND-TAILED HORNED LIZARD	Phrynosoma modestum	Suitable
		BULLSNAKE	Pituophis catenifer	Suitable
		LONG-NOSED SNAKE	Rhinocheilus lecontei	Suitable
		BIG BEND PATCH-NOSED SNAKE	Salvadora deserticola	Suitable
		MOUNTAIN PATCH-NOSED SNAKE	Salvadora grahamiae	Suitable
		WESTERN PATCH-NOSED SNAKE	Salvadora hexalepis	Suitable
		CREVICE SPINY LIZARD	Sceloporus poinsettii	Suitable
		EASTERN FENCE LIZARD	Sceloporus undulatus	Suitable
		MASSASAUGA	Sistrurus catenatus	Suitable
		GROUND SNAKE	Sonora semiannulata	Suitable
		SOUTHWESTERN BLACK-HEADED SNAKE	Tantilla hobartsmithi	Suitable
		PLAINS BLACK-HEADED SNAKE	Tantilla nigriceps	Suitable
		ORNATE BOX TURTLE	Terrapene ornata	Suitable
		WESTERN LYRE SNAKE	Trimorphodon biscutatus	Suitable
		SIDE-BLOTCHED LIZARD	Uta stansburiana	Suitable
	Amphibian	GREEN TOAD	Bufo debilis	Suitable
		RED-SPOTTED TOAD	Bufo punctatus	Suitable
		WOODHOUSE'S TOAD	Bufo woodhousii	Suitable
		COUCH'S SPADEFOOT	Scaphiopus couchii	Suitable
		PLAINS SPADEFOOT	Spea bombifrons	Suitable
	Bird	SHARP-SHINNED HAWK	Accipiter striatus	Wintering
		RUFIOUS-CROWNED SPARROW	Aimophila ruficeps	Suitable
		SAGE SPARROW	Amphispiza belli	Suitable
		BLACK-THROATED SPARROW	Amphispiza bilineata	Suitable
		BLACK-CHINNED HUMMINGBIRD	Archilochus alexandri	Breeding
		BURROWING OWL	Athene cunicularia	Suitable
		VERDIN	Auriparus flaviceps	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		ZONE-TAILED HAWK	Buteo albonotatus	k13
		RED-TAILED HAWK	Buteo jamaicensis	Suitable
		SWAINSON'S HAWK	Buteo swainsoni	Suitable
		CHESTNUT COLLARED LONGSPUR	Calcarius ornatus	Suitable
		GAMBEL'S QUAIL	Callipepla gambelii	Suitable
		SCALED QUAIL	Callipepla squamata	Suitable
		CACTUS WREN	Campylorhynchus brunneicapillus	Suitable
		PYRRHULOXIA	Cardinalis sinuatus	Suitable
		TURKEY VULTURE	Cathartes aura	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		LARK SPARROW	Chondestes grammacus	Suitable
		LESSER NIGHTHAWK	Chordeiles acutipennis	Suitable
		COMMON RAVEN	Corvus corax	Suitable
		CHIHUAHUA RAVEN	Corvus cryptoleucus	Suitable
		APLOMADO FALCON	Falco femoralis	Suitable
		PRAIRIE FALCON	Falco mexicanus	Suitable
		PEREGRINE FALCON	Falco peregrinus	Suitable
		AMERICAN KESTREL	Falco sparverius	Suitable
		GREATER ROADRUNNER	Geococcyx californianus	Suitable
		BALD EAGLE	Haliaeetus leucocephalus	Suitable
		LOGGERHEAD SHRIKE	Lanius ludovicianus	Suitable
		NORTHERN MOCKINGBIRD	Mimus polyglottos	Suitable
		ASH-THROATED FLYCATCHER	Myiarchus cinerascens	Suitable
		SAGE THRASHER	Oreoscoptes montanus	Suitable
		PHAINOPEPLA	Phainopepla nitens	Suitable
		COMMON POORWILL	Phalaenoptilus nuttallii	Suitable
		LADDER-BACKED WOODPECKER	Picoides scalaris	Suitable
		GREEN-TAILED TOWHEE	Pipilo chlorurus	Wintering
		BLACK-TAILED GNATCATCHER	Poliopitila melanura	Suitable
		RUBY-CROWNED KINGLET	Regulus calendula	Wintering
		ROCK WREN	Salpinctes obsoletus	Suitable
		MOUNTAIN BLUEBIRD	Sialia currucoides	Wintering
		CLAY-COLORED SPARROW	Spizella pallida	Suitable
		EASTERN MEADOWLARK	Sturnella magna	Suitable
		BEWICK'S WREN	Thryomanes bewickii	Suitable
		BENDIRE'S THRASHER	Toxostoma bendirei	Suitable
		CRISSAL THRASHER	Toxostoma crissale	Suitable
		CURVE-BILLED THRASHER	Toxostoma curvirostre	Suitable
		WESTERN KINGBIRD	Tyrannus verticalis	Suitable
		COMMON BARN-OWL	Tyto alba	Suitable
		LUCY'S WARBLER	Vermivora luciae	Suitable
		WHITE-WINGED DOVE	Zenaidura macroura	Suitable
		MOURNING DOVE	Zenaidura macroura	Suitable
	Mammal	TEXAS ANTELOPE SQUIRREL	Ammospermophilus interpres	Suitable
		PALLID BAT	Antrozous pallidus	Suitable
		RINGTAIL	Bassariscus astutus	Suitable
		COYOTE	Canis latrans	Suitable
		GRAY WOLF	Canis lupus	Suitable
		HISPID POCKET MOUSE	Chaetodipus hispidus	Suitable
		ROCK POCKET MOUSE	Chaetodipus intermedius	Suitable
		DESERT POCKET MOUSE	Chaetodipus penicillatus	Suitable
		HOG-NOSED SKUNK	Conepatus mesoleucus	Suitable
		TOWNSEND'S BIG-EARED BAT	Corynorhinus townsendii	Suitable
		MERRIAM'S KANGAROO RAT	Dipodomys merriami	Suitable
		ORD'S KANGAROO RAT	Dipodomys ordii	Suitable
		BANNER-TAILED KANGAROO RAT	Dipodomys spectabilis	Suitable
		BIG BROWN BAT	Eptesicus fuscus	Suitable
		PORCUPINE	Erethizon dorsatum	Suitable
		SPOTTED BAT	Euderma maculatum	Suitable
		DESERT POCKET GOPHER	Geomys arenarius	Suitable
		SILVER-HAIRED BAT	Lasionycteris noctivagans	Suitable
		HOARY BAT	Lasiurus cinereus	Suitable
		BLACK-TAILED JACK RABBIT	Lepus californicus	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		HOUSE MOUSE	Mus musculus	Suitable
		LONG-TAILED WEASEL	Mustela frenata	Suitable
		CALIFORNIA MYOTIS	Myotis californicus	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		ARIZONA MYOTIS	Myotis occultus	Suitable
		FRINGED MYOTIS	Myotis thysanodes	Suitable
		CAVE MYOTIS	Myotis velifer	Suitable
		LONG-LEGGED MYOTIS	Myotis volans	Suitable
		YUMA MYOTIS	Myotis yumanensis	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
Chihuahuan Gypsophilous Grassland and Steppe		WHITE-THROATED WOODRAT	Neotoma albigula	Suitable
		MEXICAN WOODRAT	Neotoma mexicana	Suitable
		SOUTHERN PLAINS WOODRAT	Neotoma micropus	Suitable
		DESERT SHREW	Notiosorex crawfordi	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		MEARNS' GRASSHOPPER MOUSE	Onychomys arenicola	Suitable
		NORTHERN GRASSHOPPER MOUSE	Onychomys leucogaster	Suitable
		SOUTHERN GRASSHOPPER MOUSE	Onychomys torridus	Suitable
		ORYX	Oryx gazella	Suitable
		YELLOW-FACED POCKET GOPHER	Pappogeomys castanops	Suitable
		COLLARED PECCARY	Pecari tajacu	Suitable
		SILKY POCKET MOUSE	Perognathus flavus	Suitable
		BRUSH MOUSE	Peromyscus boylii	Suitable
		CACTUS MOUSE	Peromyscus eremicus	Suitable
		WHITE-FOOTED MOUSE	Peromyscus leucopus	Suitable
		DEER MOUSE	Peromyscus maniculatus	Suitable
		PINON MOUSE	Peromyscus truei	Suitable
		WESTERN PIPISTRELLE	Pipistrellus hesperus	Suitable
		MOUNTAIN LION	Puma concolor	Suitable
		WESTERN HARVEST MOUSE	Reithrodontomys megalotis	Suitable
		PLAINS HARVEST MOUSE	Reithrodontomys montanus	Suitable
		TAWNY-BELLIED COTTON RAT	Sigmodon fulviventor	Suitable
		HISPID COTTON RAT	Sigmodon hispidus	Suitable
		SPOTTED GROUND SQUIRREL	Spermophilus pilosoma	Suitable
		ROCK SQUIRREL	Spermophilus variegatus	Suitable
		DESERT COTTONTAIL	Sylvilagus audubonii	Suitable
		BRAZILIAN FREE-TAILED BAT	Tadarida brasiliensis	Suitable
		BADGER	Taxidea taxus	Suitable
		BOTTA'S POCKET GOPHER	Thomomys bottae	Suitable
		GRAY FOX	Urocyon cinereoargenteus	Suitable
		BROWN BEAR	Ursus arctos	Suitable
		KIT FOX	Vulpes macrotis	Suitable
	Reptile	GLOSSY SNAKE	Arizona elegans	Suitable
		TRANS-PECOS RAT SNAKE	Bogertophis subocularis	Suitable
		CHIHUAHUA SPOTTED WHIPTAIL	Cnemidophorus exsanguis	Suitable
		NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		CHECKERED WHIPTAIL	Cnemidophorus tessellatus	Suitable
		WESTERN WHIPTAIL	Cnemidophorus tigris	Suitable
		TEXAS BANDED GECKO	Coleonyx brevis	Suitable
		GREATER EARLESS LIZARD	Cophosaurus texanus	Suitable
		WESTERN DIAMONDBACK RATTLESNAKE	Crotalus atrox	Suitable
		WESTERN RATTLESNAKE	Crotalus viridis	Suitable
		COLLARED LIZARD	Crotaphytus collaris	Suitable
		RING-NECKED SNAKE	Diadophis punctatus	Suitable
		GREAT PLAINS SKINK	Eumeces obsoletus	Suitable
		LONG-NOSED LEOPARD LIZARD	Gambelia wislizenii	Suitable
		WESTERN HOOK-NOSED SNAKE	Gyalopion canum	Suitable
		GILA MONSTER	Heloderma suspectum	Suitable
		WESTERN HOG-NOSED SNAKE	Heterodon nasicus	Suitable
		LESSER EARLESS LIZARD	Holbrookia maculata	Suitable
		NIGHT SNAKE	Hypsiglena torquata	Suitable
		COMMON KINGSSNAKE	Lampropeltis getula	Suitable
		TEXAS BLIND SNAKE	Leptotyphlops dulcis	Suitable
		COACHWHIP	Masticophis flagellum	Suitable
		STRIPED WHIPSNAKE	Masticophis taeniatus	Suitable
		TEXAS HORNED LIZARD	Phrynosoma cornutum	Suitable
		ROUND-TAILED HORNED LIZARD	Phrynosoma modestum	Suitable
		BULLSNAKE	Pituophis catenifer	Suitable
		LONG-NOSED SNAKE	Rhinocellulus lecontei	Suitable
		BIG BEND PATCH-NOSED SNAKE	Salvadora deserticola	Suitable
		MOUNTAIN PATCH-NOSED SNAKE	Salvadora grahamiae	Suitable
		CREVICE SPINY LIZARD	Sceloporus poinsettii	Suitable
		EASTERN FENCE LIZARD	Sceloporus undulatus	Suitable
		MASSASAUGA	Sistrurus catenatus	Suitable
		GROUND SNAKE	Sonora semiannulata	Suitable
		PLAINS BLACK-HEADED SNAKE	Tantilla nigriceps	Suitable
		ORNATE BOX TURTLE	Terrapene ornata	Suitable
		SIDE-BLOTCHED LIZARD	Uta stansburiana	Suitable
	Amphibian	GREAT PLAINS TOAD	Bufo cognatus	Suitable
		GREEN TOAD	Bufo debilis	Suitable
		RED-SPOTTED TOAD	Bufo punctatus	Suitable
		PLAINS SPADEFOOT	Spea bombifrons	Suitable
	Bird	SAGE SPARROW	Amphispiza belli	Suitable
		SPRAGUE'S PIPIT	Anthus spraguei	Suitable
		GOLDEN EAGLE	Aquila chrysaetos	Suitable
		SHORT-EARED OWL	Asio flammeus	Suitable
		BURROWING OWL	Athene cunicularia	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		CATTLE EGRET	Bubulcus ibis	Suitable
		SWAINSON'S HAWK	Buteo swainsoni	Suitable
		LARK BUNTING	Calamospiza melanocorys	Suitable
		CHESTNUT-COLLARED LONGSPUR	Calcarius ornatus	Suitable
		GAMBEL'S QUAIL	Callipepla gambelii	Suitable
		SCALED QUAIL	Callipepla squamata	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		COMMON NIGHTHAWK	Chordeiles minor	Suitable
		NORTHERN HARRIER	Circus cyaneus	Suitable
		COMMON RAVEN	Corvus corax	Suitable
		CHIHUAHUA RAVEN	Corvus cryptoleucus	Suitable
		WHITE-TAILED KITE	Elanus leucurus	Suitable
		BREWER'S BLACKBIRD	Euphagus cyanocephalus	Suitable
		MERLIN	Falco columbarius	Suitable
		APLOMADO FALCON	Falco femoralis	Suitable
		PRAIRIE FALCON	Falco mexicanus	Suitable
		AMERICAN KESTREL	Falco sparverius	Suitable
		GREATER ROADRUNNER	Geococcyx californianus	Suitable
		BALD EAGLE	Haliaeetus leucocephalus	Suitable
		BALD EAGLE	Haliaeetus leucocephalus	Suitable
		MISSISSIPPI KITE	Ictinia mississippiensis	Suitable
		LOGGERHEAD SHRIKE	Lanius ludovicianus	Suitable
		BONAPARTE'S GULL	Larus philadelphia	Suitable
		NORTHERN MOCKINGBIRD	Mimus polyglottos	Suitable
		SAGE THRASHER	Oreoscoptes montanus	Suitable
		SAVANNAH SPARROW	Passerculus sandwichensis	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
		CAVE SWALLOW	Petrochelidon fulva	Suitable
		CANYON TOWHEE	Pipilo fuscus	Suitable
		VESPER SPARROW	Poocetes gramineus	Suitable
		ROCK WREN	Salpinctes obsoletus	Suitable
		WESTERN BLUEBIRD	Sialia mexicana	Wintering
		BREWER'S SPARROW	Spizella breweri	Suitable
		CLAY-COLORED SPARROW	Spizella pallida	Suitable
		EASTERN MEADOWLARK	Sturnella magna	Suitable
		WESTERN MEADOWLARK	Sturnella neglecta	Suitable
		EUROPEAN STARLING	Sturnus vulgaris	Suitable
		CURVE-BILLED THRASHER	Toxostoma curvirostre	Suitable
		WESTERN KINGBIRD	Tyrannus verticalis	Suitable
		COMMON BARN-OWL	Tyto alba	Suitable
<i>Mammal</i>		RINGTAIL	Bassariscus astutus	Suitable
		COYOTE	Canis latrans	Suitable
		GRAY WOLF	Canis lupus	Suitable
		HISPID POCKET MOUSE	Chaetodipus hispidus	Suitable
		DESERT POCKET MOUSE	Chaetodipus penicillatus	Suitable
		TOWNSEND'S BIG-EARED BAT	Corynorhinus townsendii	Suitable
		MERRIAM'S KANGAROO RAT	Dipodomys merriami	Suitable
		ORD'S KANGAROO RAT	Dipodomys ordii	Suitable
		BANNER-TAILED KANGAROO RAT	Dipodomys spectabilis	Suitable
		BIG BROWN BAT	Eptesicus fuscus	Suitable
		PORCUPINE	Erethizon dorsatum	Suitable
		HOARY BAT	Lasiurus cinereus	Suitable
		BLACK-TAILED JACK RABBIT	Lepus californicus	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		HOUSE MOUSE	Mus musculus	Suitable
		LONG-TAILED WEASEL	Mustela frenata	Suitable
		BLACK-FOOTED FERRET	Mustela nigripes	Suitable
		CALIFORNIA MYOTIS	Myotis californicus	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		ARIZONA MYOTIS	Myotis occultus	Suitable
		FRINGED MYOTIS	Myotis thysanodes	Suitable
		LONG-LEGGED MYOTIS	Myotis volans	Suitable
		WHITE-THROATED WOODRAT	Neotoma albigula	Suitable
		MEXICAN WOODRAT	Neotoma mexicana	Suitable
		SOUTHERN PLAINS WOODRAT	Neotoma micropus	Suitable
		DESERT SHREW	Notiosorex crawfordi	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		NORTHERN GRASSHOPPER MOUSE	Onychomys leucogaster	Suitable
		SOUTHERN GRASSHOPPER MOUSE	Onychomys torridus	Suitable
		ORYX	Oryx gazella	Suitable
		YELLOW-FACED POCKET GOPHER	Pappogeomys castanops	Suitable
		SILKY POCKET MOUSE	Perognathus flavus	Suitable
		CACTUS MOUSE	Peromyscus eremicus	Suitable
		DEER MOUSE	Peromyscus maniculatus	Suitable
		ROCK MOUSE	Peromyscus nasutus	Suitable
		WESTERN PIPISTRELLE	Pipistrellus hesperus	Suitable
		MOUNTAIN LION	Puma concolor	Suitable
		WESTERN HARVEST MOUSE	Reithrodontomys megalotis	Suitable
		TAWNY-BELLIED COTTON RAT	Sigmodon fulviventer	Suitable
		HISPID COTTON RAT	Sigmodon hispidus	Suitable
		SPOTTED GROUND SQUIRREL	Spermophilus pilosoma	Suitable
		ROCK SQUIRREL	Spermophilus variegatus	Suitable
		DESERT COTTONTAIL	Sylvilagus audubonii	Suitable
		BRAZILIAN FREE-TAILED BAT	Tadarida brasiliensis	Suitable
		BADGER	Taxidea taxus	Suitable
		BOTTAS' POCKET GOPHER	Thomomys bottae	Suitable
		GRAY FOX	Urocyon cinereoargenteus	Suitable
		BROWN BEAR	Ursus arctos	Suitable
		KIT FOX	Vulpes macrotis	Suitable
<i>Reptile</i>		NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		CHECKERED WHIPTAIL	Cnemidophorus tesselatus	Suitable
		WESTERN WHIPTAIL	Cnemidophorus tigris	Suitable
		DESERT GRASSLAND WHIPTAIL	Cnemidophorus uniparens	Suitable
		WESTERN DIAMONDBACK RATTLESNAKE	Crotalus atrox	Suitable
		WESTERN RATTLESNAKE	Crotalus viridis	Suitable
		COLLARED LIZARD	Crotaphytus collaris	Suitable
		LESSER EARLESS LIZARD	Holbrookia maculata	Suitable
		NIGHT SNAKE	Hypsiglena torquata	Suitable
		COMMON KINGSSNAKE	Lampropeltis getula	Suitable
		MILK SNAKE	Lampropeltis triangulum	Suitable
		COACHWHIP	Masticophis flagellum	Suitable
		TEXAS HORNED LIZARD	Phrynosoma cornutum	Suitable
		BULLSNAKE	Pituophis catenifer	Suitable
		EASTERN FENCE LIZARD	Sceloporus undulatus	Suitable
		MASSASAUGA	Sistrurus catenatus	Suitable
		GROUND SNAKE	Sonora semiannulata	Suitable
		CHECKERED GARTER SNAKE	Thamnophis marcianus	Suitable
Chihuahuan Mixed Salt Desert Scrub	<i>Amphibian</i>			
	<i>Bird</i>	RED-SPOTTED TOAD	Bufo punctatus	Suitable
		SAGE SPARROW	Amphispiza belli	Suitable
		GOLDEN EAGLE	Aquila chrysaetos	Suitable
		BURROWING OWL	Athene cunicularia	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		RED-TAILED HAWK	Buteo jamaicensis	Suitable
		LARK BUNTING	Calamospiza melanocorys	Suitable
		GAMBEL'S QUAIL	Callipepla gambelii	Suitable
		SCALED QUAIL	Callipepla squamata	Suitable
		TURKEY VULTURE	Cathartes aura	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		LARK SPARROW	Chondestes grammacus	Suitable
		LESSER NIGHTHAWK	Chordeiles acutipennis	Suitable
		COMMON RAVEN	Corvus corax	Suitable
		CHIHUAHUA RAVEN	Corvus cryptoleucus	Suitable
		HORNED LARK	Eremophila alpestris	Suitable
		APLOMADO FALCON	Falco femoralis	Suitable
		PRAIRIE FALCON	Falco mexicanus	Suitable
		AMERICAN KESTREL	Falco sparverius	Suitable
		GREATER ROADRUNNER	Geococcyx californianus	Suitable
		LOGGERHEAD SHRIKE	Lanius ludovicianus	Suitable
		NORTHERN MOCKINGBIRD	Mimus polyglottos	Suitable
		ASH-THROATED FLYCATCHER	Myiarchus cinerascens	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
Chihuahuan Sandy Plains Semi-Desert Grassland	<i>Mammal</i>	SAGE THRASHER	Oreoscoptes montanus	Suitable
		LADDER-BACKED WOODPECKER	Picoides scalaris	Suitable
		GREEN-TAILED TOWHEE	Pipilo chlorurus	Wintering
		AMERICAN AVOCET	Recurvirostra americana	Suitable
		RUBY-CROWNED KINGLET	Regulus calendula	Wintering
		ROCK WREN	Salpinctes obsoletus	Suitable
		EASTERN MEADOWLARK	Sturnella magna	Suitable
		BEWICK'S WREN	Thryomanes bewickii	Suitable
		BENDIRE'S THRASHER	Toxostoma bendirei	Suitable
		CURVE-BILLED THRASHER	Toxostoma curvirostre	Suitable
		WESTERN KINGBIRD	Tyrannus verticalis	Suitable
		COMMON BARN-OWL	Tyto alba	Suitable
		WHITE-WINGED DOVE	Zenaida asiatica	Suitable
		MOURNING DOVE	Zenaida macroura	Suitable
		TEXAS ANTELOPE SQUIRREL	Ammospermophilus interpres	Suitable
		PALLID BAT	Antrozous pallidus	Suitable
		RINGTAIL	Bassariscus astutus	Suitable
		COYOTE	Canis latrans	Suitable
		GRAY WOLF	Canis lupus	Suitable
		HISPID POCKET MOUSE	Chaetodipus hispidus	Suitable
		TOWNSEND'S BIG-EARED BAT	Corynorhinus townsendii	Suitable
		MERRIAM'S KANGAROO RAT	Dipodomys merriami	Suitable
		ORD'S KANGAROO RAT	Dipodomys ordii	Suitable
		BANNER-TAILED KANGAROO RAT	Dipodomys spectabilis	Suitable
		BIG BROWN BAT	Eptesicus fuscus	Suitable
		PORCUPINE	Erethizon dorsatum	Suitable
		DESERT POCKET GOPHER	Geomys arenarius	Suitable
		SILVER-HAIRED BAT	Lasionycteris noctivagans	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		HOUSE MOUSE	Mus musculus	Suitable
		LONG-TAILED WEASEL	Mustela frenata	Suitable
		CALIFORNIA MYOTIS	Myotis californicus	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		ARIZONA MYOTIS	Myotis occultus	Suitable
		FRINGED MYOTIS	Myotis thysanodes	Suitable
		CAVE MYOTIS	Myotis velifer	Suitable
		LONG-LEGGED MYOTIS	Myotis volans	Suitable
		YUMA MYOTIS	Myotis yumanensis	Suitable
		WHITE-THROATED WOODRAT	Neotoma albigula	Suitable
		SOUTHERN PLAINS WOODRAT	Neotoma micropus	Suitable
		DESERT SHREW	Notiosorex crawfordi	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		MEARNS' GRASSHOPPER MOUSE	Onychomys arenicola	Suitable
		ORYX	Oryx gazella	Suitable
		YELLOW-FACED POCKET GOPHER	Pappogeomys castanops	Suitable
		SILKY POCKET MOUSE	Perognathus flavus	Suitable
		BRUSH MOUSE	Peromyscus boylii	Suitable
		WHITE-FOOTED MOUSE	Peromyscus leucopus	Suitable
		DEER MOUSE	Peromyscus maniculatus	Suitable
		PINON MOUSE	Peromyscus truei	Suitable
		WESTERN PIPISTRELLE	Pipistrellus hesperus	Suitable
		MOUNTAIN LION	Puma concolor	Suitable
		WESTERN HARVEST MOUSE	Reithrodontomys megalotis	Suitable
		HISPID COTTON RAT	Sigmodon hispidus	Suitable
		ROCK SQUIRREL	Spermophilus variegatus	Suitable
		DESERT COTTONTAIL	Sylvilagus audubonii	Suitable
		BRAZILIAN FREE-TAILED BAT	Tadarida brasiliensis	Suitable
		BADGER	Taxidea taxus	Suitable
		BOTTAS' POCKET GOPHER	Thomomys bottae	Suitable
		GRAY FOX	Urocyon cinereoargenteus	Suitable
		BROWN BEAR	Ursus arctos	Suitable
		KIT FOX	Vulpes macrotis	Suitable
		RED FOX	Vulpes vulpes	Suitable
	<i>Reptile</i>	GLOSSY SNAKE	Arizona elegans	Suitable
		TRANS-PECOS RAT SNAKE	Bogertophis subocularis	Suitable
		CHIHUAHUA SPOTTED WHIPTAIL	Cnemidophorus exsanguis	Suitable
		NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		TEXAS BANDED GECKO	Coleonyx brevis	Suitable
		GREATER EARLESS LIZARD	Cophosaurus texanus	Suitable
		WESTERN DIAMONDBACK RATTLESNAKE	Crotalus atrox	Suitable
		WESTERN RATTLESNAKE	Crotalus viridis	Suitable
		COLLARED LIZARD	Crotaphytus collaris	Suitable
		RING-NECKED SNAKE	Diadophis punctatus	Suitable
		GREAT PLAINS SKINK	Eumeces obsoletus	Suitable
		LONG-NOSED LEOPARD LIZARD	Gambelia wislizenii	Suitable
		WESTERN HOG-NOSED SNAKE	Heterodon nasicus	Suitable
		LESSER EARLESS LIZARD	Holbrookia maculata	Suitable
		NIGHT SNAKE	Hypsiglena torquata	Suitable
		COMMON KINGSSNAKE	Lampropeltis getula	Suitable
		COACHWHIP	Masticophis flagellum	Suitable
		STRIPED WHIPSNAKE	Masticophis taeniatus	Suitable
		STRIPED WHIPSNAKE	Masticophis taeniatus	Suitable
		TEXAS HORNED LIZARD	Phrynosoma cornutum	Suitable
		ROUND-TAILED HORNED LIZARD	Phrynosoma moudesum	Suitable
		BULLSNAKE	Pituophis catenifer	Suitable
		LONG-NOSED SNAKE	Rhinoceros lecontei	Suitable
		BIG BEND PATCH-NOSED SNAKE	Salvadora deserticola	Suitable
		MOUNTAIN PATCH-NOSED SNAKE	Salvadora grahamiae	Suitable
		CREVICE SPINY LIZARD	Sceloporus poinsettii	Suitable
		EASTERN FENCE LIZARD	Sceloporus undulatus	Suitable
		PLAINS BLACK-HEADED SNAKE	Tantilla nigriceps	Suitable
		ORNATE BOX TURTLE	Terrapene ornata	Suitable
		SIDE-BLOTCHED LIZARD	Uta stansburiana	Suitable
	<i>Amphibian</i>	GREEN TOAD	Bufo debilis	Suitable
		RED-SPOTTED TOAD	Bufo punctatus	Suitable
		COUCH'S SPADEFOOT	Scaphiopus couchii	Suitable
	<i>Bird</i>	CASSIN'S SPARROW	Aimophila cassini	Suitable
		SAGE SPARROW	Amphispiza belli	Suitable
		BLACK-THROATED SPARROW	Amphispiza bilineata	Suitable
		SPRAGUE'S PIPIT	Anthus spraguei	Suitable
		GOLDEN EAGLE	Aquila chrysaetos	Suitable
		BLACK-CHINNED HUMMINGBIRD	Archilochus alexandri	Breeding
		SHORT-EARED OWL	Asio flammeus	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
		BURROWING OWL	Athene cunicularia	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		RED-TAILED HAWK	Buteo jamaicensis	Suitable
		ROUGH-LEGGED HAWK	Buteo lagopus	Suitable
		SWAINSON'S HAWK	Buteo swainsoni	Suitable
		LARK BUNTING	Calamospiza melanocorys	Suitable
		CHESTNUT-COLLARED LONGSPUR	Calcarius ornatus	Suitable
		GAMBEL'S QUAIL	Callipepla gambelii	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		COMMON NIGHTHAWK	Chordeiles minor	Suitable
		NORTHERN HARRIER	Circus cyaneus	Suitable
		COMMON RAVEN	Corvus corax	Suitable
		CHIHUAHUA RAVEN	Corvus cryptoleucus	Suitable
		BREWER'S BLACKBIRD	Euphagus cyanocephalus	Suitable
		MERLIN	Falco columbarius	Suitable
		APLOMADO FALCON	Falco femoralis	Suitable
		PRAIRIE FALCON	Falco mexicanus	Suitable
		AMERICAN KESTREL	Falco sparverius	Suitable
		BLUE GROSBEAK	Guitraca caerulea	Suitable
		BALD EAGLE	Haliaeetus leucocephalus	Suitable
		BALD EAGLE	Haliaeetus leucocephalus	Suitable
		HOODED ORIOLE	Icterus cucullatus	Suitable
		SCOTT'S ORIOLE	Icterus parisorum	Breeding
		MISSISSIPPI KITE	Ictinia mississippiensis	Suitable
		LOGGERHEAD SHRIKE	Lanius ludovicianus	Suitable
		NORTHERN MOCKINGBIRD	Mimus polyglottos	Suitable
		SAGE THRASHER	Oreoscoptes montanus	Suitable
		SAVANNAH SPARROW	Passerculus sandwichensis	Suitable
		CAVE SWALLOW	Petrochelidon fulva	Suitable
		CANYON TOWHEE	Pipilo fuscus	Suitable
		VESPER SPARROW	Poocetes gramineus	Suitable
		WESTERN BLUEBIRD	Sialia mexicana	Wintering
		BREWER'S SPARROW	Spizella breweri	Suitable
		CLAY-COLORED SPARROW	Spizella pallida	Suitable
		EASTERN MEADOWLARK	Sturnella magna	Suitable
		WESTERN MEADOWLARK	Sturnella neglecta	Suitable
		EUROPEAN STARLING	Sturnus vulgaris	Suitable
		WESTERN KINGBIRD	Tyrannus verticalis	Suitable
		MOURNING DOVE	Zenaida macroura	Suitable
Mammal		COYOTE	Canis latrans	Suitable
		GRAY WOLF	Canis lupus	Suitable
		HISPID POCKET MOUSE	Chaetodipus hispidus	Suitable
		DESERT POCKET MOUSE	Chaetodipus penicillatus	Suitable
		MERRIAM'S KANGAROO RAT	Dipodomys merriami	Suitable
		ORD'S KANGAROO RAT	Dipodomys ordii	Suitable
		BANNER-TAILED KANGAROO RAT	Dipodomys spectabilis	Suitable
		BOBCAT	Lynx rufus	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		BLACK-FOOTED FERRET	Mustela nigripes	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		ARIZONA MYOTIS	Myotis occultus	Suitable
		WHITE-THROATED WOODRAT	Neotoma albigula	Suitable
		SOUTHERN PLAINS WOODRAT	Neotoma micropus	Suitable
		DESERT SHREW	Notiosorex crawfordi	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		NORTHERN GRASSHOPPER MOUSE	Onychomys leucogaster	Suitable
		SOUTHERN GRASSHOPPER MOUSE	Onychomys torridus	Suitable
		JAGUAR	Panthera onca	Suitable
		YELLOW-FACED POCKET GOPHER	Pappogeomys castanops	Suitable
		COLLARED PECCARY	Pecari tajacu	Suitable
		SILKY POCKET MOUSE	Perognathus flavus	Suitable
		CACTUS MOUSE	Peromyscus eremicus	Suitable
		WHITE-FOOTED MOUSE	Peromyscus leucopus	Suitable
		DEER MOUSE	Peromyscus maniculatus	Suitable
		MOUNTAIN LION	Puma concolor	Suitable
		TAWNY-BELLIED COTTON RAT	Sigmodon fulviventer	Suitable
		HISPID COTTON RAT	Sigmodon hispidus	Suitable
		SPOTTED GROUND SQUIRREL	Spermophilus spilosoma	Suitable
		GRAY FOX	Urocyon cinereoargenteus	Suitable
		BROWN BEAR	Ursus arctos	Suitable
		KIT FOX	Vulpes macrotis	Suitable
Reptile		NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		WESTERN WHIPTAIL	Cnemidophorus tigris	Suitable
		DESERT GRASSLAND WHIPTAIL	Cnemidophorus uniparens	Suitable
		WESTERN DIAMONDBACK RATTLESNAKE	Crotalus atrox	Suitable
		WESTERN RATTLESNAKE	Crotalus viridis	Suitable
		NIGHT SNAKE	Hypsiglena torquata	Suitable
		NIGHT SNAKE	Hypsiglena torquata	Suitable
		COMMON KINGSSNAKE	Lampropeltis getula	Suitable
		TEXAS BLIND SNAKE	Leptotyphlops dulcis	Suitable
		TEXAS HORNED LIZARD	Phrynosoma cornutum	Suitable
		BULLSNAKE	Pituophis catenifer	Suitable
		GROUND SNAKE	Sonora semiannulata	Suitable
		CHECKERED GARTER SNAKE	Thamnophis marcianus	Suitable
Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub	Amphibian	RED-SPOTTED TOAD	Bufo punctatus	Suitable
		WOODHOUSE'S TOAD	Bufo woodhousii	Suitable
Bird		BURROWING OWL	Athene cunicularia	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		LESSER NIGHTHAWK	Chordeiles acutipennis	Suitable
		COMMON RAVEN	Corvus corax	Suitable
		GREATER ROADRUNNER	Geococcyx californianus	Suitable
		BALD EAGLE	Haliaeetus leucocephalus	Suitable
		SCOTT'S ORIOLE	Icterus parisorum	Breeding
		LOGGERHEAD SHRIKE	Lanius ludovicianus	Suitable
		ASH-THROATED FLYCATCHER	Myiarchus cinerascens	Suitable
		SAGE THRASHER	Oreoscoptes montanus	Suitable
		PHAINOPEPLA	Phainopepla nitens	Suitable
		ROCK WREN	Salpinctes obsoletus	Suitable
		BENDIRE'S THRASHER	Toxostoma bendirei	Suitable
		CURVE-BILLED THRASHER	Toxostoma curvirostre	Suitable
		WESTERN KINGBIRD	Tyrannus verticalis	Suitable
		MOURNING DOVE	Zenaida macroura	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
Chihuahuan Succulent Desert Scrub	<i>Mammal</i>	COYOTE	Canis latrans	Suitable
		GRAY WOLF	Canis lupus	Suitable
		MERRIAM'S KANGAROO RAT	Dipodomys merriami	Suitable
		ORD'S KANGAROO RAT	Dipodomys ordii	Suitable
		DESERT POCKET GOPHER	Geomys arenarius	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		ARIZONA MYOTIS	Myotis occultus	Suitable
		WHITE-THROATED WOODRAT	Neotoma albigula	Suitable
		SOUTHERN PLAINS WOODRAT	Neotoma micropus	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		NORTHERN GRASSHOPPER MOUSE	Onychomys leucogaster	Suitable
		SOUTHERN GRASSHOPPER MOUSE	Onychomys torridus	Suitable
		SILKY POCKET MOUSE	Perognathus flavus	Suitable
		WHITE-FOOTED MOUSE	Peromyscus leucopus	Suitable
		DEER MOUSE	Peromyscus maniculatus	Suitable
		MOUNTAIN LION	Puma concolor	Suitable
		SPOTTED GROUND SQUIRREL	Spermophilus spilosoma	Suitable
		GRAY FOX	Urocyon cinereoargenteus	Suitable
		BROWN BEAR	Ursus arctos	Suitable
		KIT FOX	Vulpes macrotis	Suitable
	<i>Reptile</i>	GLOSSY SNAKE	Arizona elegans	Suitable
		TRANS-PECOS RAT SNAKE	Bogertophis subocularis	Suitable
		NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		CHECKERED WHIPTAIL	Cnemidophorus tesselatus	Suitable
		WESTERN WHIPTAIL	Cnemidophorus tigris	Suitable
		WESTERN DIAMONDBACK RATTLESNAKE	Crotalus atrox	Suitable
		WESTERN RATTLESNAKE	Crotalus viridis	Suitable
		LONG-NOSED LEOPARD LIZARD	Gambelia wislizenii	Suitable
		COMMON KINGSLAKE	Lampropeltis getula	Suitable
		TEXAS BLIND SNAKE	Leptotyphlops dulcis	Suitable
		TEXAS HORNED LIZARD	Phrynosoma cornutum	Suitable
		BULLSNAKE	Pituophis catenifer	Suitable
	<i>Amphibian</i>	MASSASAUGA	Sistrurus catenatus	Suitable
		GROUND SNAKE	Sonora semiannulata	Suitable
		ORNATE BOX TURTLE	Terrapene ornata	Suitable
Chihuahuan Succulent Desert Scrub	<i>Bird</i>	GREEN TOAD	Bufo debilis	Suitable
		RED-SPOTTED TOAD	Bufo punctatus	Suitable
		WOODHOUSE'S TOAD	Bufo woodhousii	Suitable
	<i>Bird</i>	RUFIOUS-CROWNED SPARROW	Aimophila ruficeps	Suitable
		GOLDEN EAGLE	Aquila chrysaetos	Suitable
		BLACK-CHINNED HUMMINGBIRD	Archilochus alexandri	Breeding
		BURROWING OWL	Athene cucularia	Suitable
		VERDIN	Auriparus flaviceps	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		RED-TAILED HAWK	Buteo jamaicensis	Suitable
		SWAINSON'S HAWK	Buteo swainsoni	Suitable
		GAMBEL'S QUAIL	Callipepla gambelii	Suitable
		SCALED QUAIL	Callipepla squamata	Suitable
		CACTUS WREN	Campylorhynchus brunneicapillus	Suitable
		TURKEY VULTURE	Cathartes aura	Suitable
		LARK SPARROW	Chondestes grammacus	Suitable
		LESSER NIGHTHAWK	Chordeiles acutipennis	Suitable
		NORTHERN HARRIER	Circus cyaneus	Suitable
		COMMON RAVEN	Corvus corax	Suitable
		CHIHUAHUA RAVEN	Corvus cryptoleucus	Suitable
		PRAIRIE FALCON	Falco mexicanus	Suitable
		PEREGRINE FALCON	Falco peregrinus	Suitable
		AMERICAN KESTREL	Falco sparverius	Suitable
		GREATER ROADRUNNER	Geococcyx californianus	Suitable
		BALD EAGLE	Haliaeetus leucocephalus	Suitable
		SCOTT'S ORIOLE	Icterus parisorum	Breeding
		LOGGERHEAD SHRIKE	Lanius ludovicianus	Suitable
		NORTHERN MOCKINGBIRD	Mimus polyglottos	Suitable
		ASH-THROATED FLYCATCHER	Myiarchus cinerascens	Suitable
		SAGE THRASHER	Oreoscoptes montanus	Suitable
		PHAINOPEPLA	Phainopepla nitens	Suitable
		LADDER-BACKED WOODPECKER	Picoides scalaris	Suitable
		RUBY-CROWNED KINGLET	Regulus calendula	Wintering
		ROCK WREN	Salpinctes obsoletus	Suitable
		MOUNTAIN BLUEBIRD	Sialia currucoides	Wintering
		EASTERN MEADOWLARK	Sturnella magna	Suitable
		BEWICK'S WREN	Thryomanes bewickii	Suitable
		BENDIRE'S THRASHER	Toxostoma bendirei	Suitable
		CURVE-BILLED THRASHER	Toxostoma curvirostre	Suitable
		WESTERN KINGBIRD	Tyrannus verticalis	Suitable
		COMMON BARN-OWL	Tyto alba	Suitable
		WHITE-WINGED DOVE	Zenaida asiatica	Suitable
		MOURNING DOVE	Zenaida macroura	Suitable
Chihuahuan Succulent Desert Scrub	<i>Mammal</i>	TEXAS ANTELOPE SQUIRREL	Ammospermophilus interpres	Suitable
		PALLID BAT	Antrozous pallidus	Suitable
		RINGTAIL	Bassariscus astutus	Suitable
		COYOTE	Canis latrans	Suitable
		GRAY WOLF	Canis lupus	Suitable
		ROCK POCKET MOUSE	Chaetodipus intermedius	Suitable
		TOWNSEND'S BIG-EARED BAT	Corynorhinus townsendii	Suitable
		MERRIAM'S KANGAROO RAT	Dipodomys merriami	Suitable
		ORD'S KANGAROO RAT	Dipodomys ordii	Suitable
		BANNER-TAILED KANGAROO RAT	Dipodomys spectabilis	Suitable
		BIG BROWN BAT	Eptesicus fuscus	Suitable
		PORCUPINE	Erethizon dorsatum	Suitable
		DESERT POCKET GOPHER	Geomys arenarius	Suitable
		SILVER-HAIRED BAT	Lasionycteris noctivagans	Suitable
		HOARY BAT	Lasiurus cinereus	Suitable
		BLACK-TAILED JACK RABBIT	Lepus californicus	Suitable
		BOBCAT	Lynx rufus	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		HOUSE MOUSE	Mus musculus	Suitable
		CALIFORNIA MYOTIS	Myotis californicus	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		FRINGED MYOTIS	Myotis thysanodes	Suitable
		CAVE MYOTIS	Myotis velifer	Suitable
		LONG-LEGGED MYOTIS	Myotis volans	Suitable
	<i>Mammal</i>	TEXAS ANTELOPE SQUIRREL	Ammospermophilus interpres	Suitable
		PALLID BAT	Antrozous pallidus	Suitable
		RINGTAIL	Bassariscus astutus	Suitable
		COYOTE	Canis latrans	Suitable
		GRAY WOLF	Canis lupus	Suitable
		ROCK POCKET MOUSE	Chaetodipus intermedius	Suitable
		TOWNSEND'S BIG-EARED BAT	Corynorhinus townsendii	Suitable
		MERRIAM'S KANGAROO RAT	Dipodomys merriami	Suitable
		ORD'S KANGAROO RAT	Dipodomys ordii	Suitable
		BANNER-TAILED KANGAROO RAT	Dipodomys spectabilis	Suitable
		BIG BROWN BAT	Eptesicus fuscus	Suitable
		PORCUPINE	Erethizon dorsatum	Suitable
		DESERT POCKET GOPHER	Geomys arenarius	Suitable
		SILVER-HAIRED BAT	Lasionycteris noctivagans	Suitable
		HOARY BAT	Lasiurus cinereus	Suitable
		BLACK-TAILED JACK RABBIT	Lepus californicus	Suitable
		BOBCAT	Lynx rufus	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		HOUSE MOUSE	Mus musculus	Suitable
		CALIFORNIA MYOTIS	Myotis californicus	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		FRINGED MYOTIS	Myotis thysanodes	Suitable
		CAVE MYOTIS	Myotis velifer	Suitable
		LONG-LEGGED MYOTIS	Myotis volans	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
Developed, Low Intensity	<i>Reptile</i>	YUMA MYOTIS	Myotis yumanensis	Suitable
		WHITE-THROATED WOODRAT	Neotoma albigula	Suitable
		SOUTHERN PLAINS WOODRAT	Neotoma micropus	Suitable
		DESERT SHREW	Notiosorex crawfordi	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		MEARNS' GRASSHOPPER MOUSE	Onychomys arenicola	Suitable
		NORTHERN GRASSHOPPER MOUSE	Onychomys leucogaster	Suitable
		ORYX	Oryx gazella	Suitable
		YELLOW-FACED POCKET GOPHER	Pappogeomys castanops	Suitable
		SILKY POCKET MOUSE	Perognathus flavus	Suitable
		BRUSH MOUSE	Peromyscus boylii	Suitable
		CACTUS MOUSE	Peromyscus eremicus	Suitable
		WHITE-FOOTED MOUSE	Peromyscus leucopus	Suitable
		DEER MOUSE	Peromyscus maniculatus	Suitable
		PINON MOUSE	Peromyscus truei	Suitable
		WESTERN PIPISTRELLE	Pipistrellus hesperus	Suitable
		MOUNTAIN LION	Puma concolor	Suitable
		WESTERN HARVEST MOUSE	Reithrodontomys megalotis	Suitable
		PLAINS HARVEST MOUSE	Reithrodontomys montanus	Suitable
		SPOTTED GROUND SQUIRREL	Spermophilus pilosoma	Suitable
		ROCK SQUIRREL	Spermophilus variegatus	Suitable
		WESTERN SPOTTED SKUNK	Spilogale gracilis	Suitable
		DESERT COTTONTAIL	Sylvilagus audubonii	Suitable
		BRAZILIAN FREE-TAILED BAT	Tadarida brasiliensis	Suitable
		BADGER	Taxidea taxus	Suitable
		BOTTA'S POCKET GOPHER	Thomomys bottae	Suitable
		GRAY FOX	Urocyon cinereoargenteus	Suitable
		BROWN BEAR	Ursus arctos	Suitable
		KIT FOX	Vulpes macrotis	Suitable
		GLOSSY SNAKE	Arizona elegans	Suitable
		TRANS-PECOS RAT SNAKE	Bogertophis subocularis	Suitable
		CHIHUAHUA SPOTTED WHIPTAIL	Cnemidophorus exsanguis	Suitable
		NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		WESTERN WHIPTAIL	Cnemidophorus tigris	Suitable
		TEXAS BANDED GECKO	Coleonyx brevis	Suitable
		GREATER EARLESS LIZARD	Cophosaurus texanus	Suitable
		WESTERN DIAMONDBACK RATTLESNAKE	Crotalus atrox	Suitable
		WESTERN RATTLESNAKE	Crotalus viridis	Suitable
		COLLARED LIZARD	Crotaphytus collaris	Suitable
		RING-NECKED SNAKE	Diadophis punctatus	Suitable
		RING-NECKED SNAKE	Diadophis punctatus	Suitable
		GREAT PLAINS SKINK	Eumeces obsoletus	Suitable
		LONG-NOSED LEOPARD LIZARD	Gambelia wislizenii	Suitable
		WESTERN HOOK-NOSED SNAKE	Gyalopion canum	Suitable
		GILA MONSTER	Heloderma suspectum	Suitable
		WESTERN HOG-NOSED SNAKE	Heterodon nasicus	Suitable
		LESSER EARLESS LIZARD	Holbrookia maculata	Suitable
		NIGHT SNAKE	Hypsiglena torquata	Suitable
		NIGHT SNAKE	Hypsiglena torquata	Suitable
		COACHWHIP	Masticophis flagellum	Suitable
		STRIPED WHIPSNAKE	Masticophis taeniatus	Suitable
		TEXAS HORNED LIZARD	Phrynosoma cornutum	Suitable
		ROUND-TAILED HORNED LIZARD	Phrynosoma modestum	Suitable
		BULLSNAKE	Pituophis catenifer	Suitable
		LONG-NOSED SNAKE	Rhinocheilus lecontei	Suitable
		BIG BEND PATCH-NOSED SNAKE	Salvadora deserticola	Suitable
		MOUNTAIN PATCH-NOSED SNAKE	Salvadora grahamiae	Suitable
		EASTERN FENCE LIZARD	Sceloporus undulatus	Suitable
		MASSASAUGA	Sistrurus catenatus	Suitable
		GROUND SNAKE	Sonora semiannulata	Suitable
		PLAINS BLACK-HEADED SNAKE	Tantilla nigriceps	Suitable
		ORNATE BOX TURTLE	Terrapene ornata	Suitable
		WESTERN TERRESTRIAL GARTER SNAKE	Thamnophis elegans	Suitable
		SIDE-BLOTCHED LIZARD	Uta stansburiana	Suitable
	<i>Bird</i>	COOPER'S HAWK	Accipiter cooperii	Suitable
		SHARP-SHINNED HAWK	Accipiter striatus	Suitable
		NORTHERN SAW-WHET OWL	Aegolius acadicus	Suitable
		WHITE-THROATED SWIFT	Aeronautes saxatalis	Suitable
		RED-WINGED BLACKBIRD	Agelaius phoeniceus	Suitable
		AMERICAN WIGEON	Anas americana	Suitable
		MALLARD	Anas platyrhynchos	Suitable
		WESTERN SCRUB-JAY	Aphelocoma californica	Suitable
		GREAT EGRET	Ardea alba	Suitable
		SHORT-EARED OWL	Asio flammeus	Suitable
		BURROWING OWL	Athene cucularia	Suitable
		CEDAR WAXWING	Bombycilla cedrorum	Suitable
		CANADA GOOSE	Branta canadensis	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		RED-TAILED HAWK	Buteo jamaicensis	Suitable
		ROUGH-LEGGED HAWK	Buteo lagopus	Suitable
		LAWRENCE'S GOLDFINCH	Carduelis lawrencei	Wintering
		LESSER GOLDFINCH	Carduelis psaltria	Suitable
		AMERICAN GOLDFINCH	Carduelis tristis	Suitable
		HOUSE FINCH	Carpodacus mexicanus	Suitable
		HERMIT THRUSH	Catharus guttatus	Suitable
		CANYON WREN	Catherpes mexicanus	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		COMMON NIGHTHAWK	Chordeiles minor	Suitable
		BLACK-BILLED CUCKOO	Coccyzus erythrophthalmus	Suitable
		NORTHERN FLICKER	Colaptes auratus	Suitable
		BAND-TAILED PIGEON	Columba fasciata	Suitable
		ROCK DOVE	Columba livia	Suitable
		INCA DOVE	Columbina inca	Suitable
		AMERICAN CROW	Corvus brachyrhynchos	Suitable
		COMMON RAVEN	Corvus corax	Suitable
		PALM WARBLER	Dendroica palmarum	Suitable
		BLACKPOLL WARBLER	Dendroica striata	Suitable
		BREWER'S BLACKBIRD	Euphagus cyanocephalus	Suitable
		MERLIN	Falco columbarius	Suitable
		PEREGRINE FALCON	Falco peregrinus	Suitable
		AMERICAN KESTREL	Falco sparverius	Suitable
		GREATER ROADRUNNER	Geococcyx californianus	Suitable
		BLUE GROSBEAK	Guiraca caerulea	Suitable
		BALD EAGLE	Haliaeetus leucocephalus	Suitable
		BARN SWALLOW	Hirundo rustica	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
		WOOD THRUSH	Hylocichla mustelina	Suitable
		BULLOCK'S ORIOLE	Icterus bullockii	Suitable
		HOODED ORIOLE	Icterus cucullatus	Suitable
		MISSISSIPPI KITE	Ictinia mississippiensis	Suitable
		DARK-EYED JUNCO	Junco hyemalis	Suitable
		LOGGERHEAD SHRIKE	Lanius ludovicianus	Suitable
		RING-BILLED GULL	Larus delawarensis	Suitable
		GLAUCOUS GULL	Larus hyperboreus	Suitable
		LEWIS'S WOODPECKER	Melanerpes lewis	Suitable
		ELF OWL	Micrathene whitneyi	p13
		NORTHERN MOCKINGBIRD	Mimus polyglottos	Suitable
		BLACK-AND-WHITE WARBLER	Mniotilta varia	Suitable
		BRONZED COWBIRD	Molothrus aeneus	Suitable
		BROWN-HEADED COWBIRD	Molothrus ater	Suitable
		WESTERN SCREECH-OWL	Otus kennicottii	Suitable
		HOUSE SPARROW	Passer domesticus	Suitable
		CAVE SWALLOW	Petrochelidon fulva	Suitable
		CLIFF SWALLOW	Petrochelidon pyrrhonota	Suitable
		BLACK-HEADED GROSBEEK	Pheucticus melanocephalus	Breeding
		HAIRY WOODPECKER	Picoides villosus	Suitable
		CANYON TOWHEE	Pipilo fuscus	Suitable
		WESTERN Tanager	Piranga ludoviciana	Suitable
		WHITE-FACED IBIS	Plegadis chihi	Suitable
		GREAT-TAILED GRACKLE	Quiscalus mexicanus	Suitable
		RUBY-CROWNED KINGLET	Regulus calendula	Migratory
		ROCK WREN	Salpinctes obsoletus	Suitable
		BLACK PHOEBE	Sayornis nigricans	Suitable
		EASTERN PHOEBE	Sayornis phoebe	Suitable
		SAY'S PHOEBE	Sayornis saya	Suitable
		OVENBIRD	Seiurus aurocapillus	Suitable
		MOUNTAIN BLUEBIRD	Sialia currucoides	Suitable
		CHIPPING SPARROW	Spizella passerina	Suitable
		EASTERN MEADOWLARK	Sturnella magna	Suitable
		EUROPEAN STARLING	Sturnus vulgaris	Suitable
		BROWN THRASHER	Toxostoma rufum	Suitable
		AMERICAN ROBIN	Turdus migratorius	Suitable
		WESTERN KINGBIRD	Tyrannus verticalis	Suitable
		COMMON BARN-OWL	Tyto alba	Suitable
		WILSON'S WARBLER	Wilsonia pusilla	Migratory
		MOURNING DOVE	Zenaidura macroura	Suitable
		WHITE-THROATED SPARROW	Zonotrichia albicollis	Suitable
		WHITE-CROWNED SPARROW	Zonotrichia leucophrys	Wintering
Developed, Medium - High Intensity	Mammal	PALLID BAT	Antrozous pallidus	Suitable
		RINGTAIL	Bassariscus astutus	Suitable
		COYOTE	Canis latrans	Suitable
		BEAVER	Castor canadensis	Suitable
		TOWNSEND'S BIG-EARED BAT	Corynorhinus townsendii	Suitable
		BLACK-TAILED PRAIRIE DOG	Cynomys ludovicianus	Suitable
		VIRGINIA OPOSSUM	Didelphis virginiana	Suitable
		BIG BROWN BAT	Eptesicus fuscus	Suitable
		SILVER-HAIRED BAT	Lasionycteris noctivagans	Suitable
		EASTERN RED BAT	Lasiurus borealis	Suitable
		HOARY BAT	Lasiurus cinereus	Suitable
		BLACK-TAILED JACK RABBIT	Lepus californicus	Suitable
		BOBCAT	Lynx rufus	Suitable
		LONG-TAILED VOLE	Microtus longicaudus	Suitable
		HOUSE MOUSE	Mus musculus	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		ARIZONA MYOTIS	Myotis occultus	Suitable
		FRINGED MYOTIS	Myotis thysanodes	Suitable
		LONG-LEGGED MYOTIS	Myotis volans	Suitable
		BIG FREE-TAILED BAT	Nyctinomys macrotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		MUSKRAT	Ondatra zibethicus	Suitable
		SILKY POCKET MOUSE	Perognathus flavus	Suitable
		WHITE-FOOTED MOUSE	Peromyscus leucopus	Suitable
		WESTERN PIPITRELLE	Pipistrellus hesperus	Suitable
		WESTERN HARVEST MOUSE	Reithrodontomys megalotis	Suitable
		PLAINS HARVEST MOUSE	Reithrodontomys montanus	Suitable
		ABERT'S SQUIRREL	Sciurus aberti	Suitable
		ROCK SQUIRREL	Spermophilus variegatus	Suitable
		DESERT COTTONTAIL	Sylvilagus audubonii	Suitable
		BRAZILIAN FREE-TAILED BAT	Tadarida brasiliensis	Suitable
	Reptile	NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		WESTERN DIAMONDBACK RATTLESNAKE	Crotalus atrox	Suitable
		RING-NECKED SNAKE	Diadophis punctatus	Suitable
		CORN SNAKE	Elaphe guttata	Suitable
		MANY-LINED SKINK	Eumeces multivirgatus	Suitable
		BULLSNAKE	Pituophis catenifer	Suitable
	Bird	COOPER'S HAWK	Accipiter cooperii	Suitable
		RED-WINGED BLACKBIRD	Agelaius phoeniceus	Suitable
		WESTERN SCRUB-JAY	Aphelocoma californica	Suitable
		BLACK-CHINNED HUMMINGBIRD	Archilochus alexandri	Breeding
		CEDAR WAXWING	Bombycilla cedrorum	Suitable
		GREAT HORNE OWL	Bubo virginianus	Suitable
		LESSER GOLDFINCH	Carduelis psaltria	Suitable
		AMERICAN GOLDFINCH	Carduelis tristis	Suitable
		HOUSE FINCH	Carpodacus mexicanus	Suitable
		HERMIT THRUSH	Catharus guttatus	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		ROCK DOVE	Columba livia	Suitable
		AMERICAN CROW	Corvus brachyrhynchos	Suitable
		COMMON RAVEN	Corvus corax	Suitable
		PALM WARBLER	Dendroica palmarum	Suitable
		BREWER'S BLACKBIRD	Euphagus cyanocephalus	Suitable
		MERLIN	Falco columbarius	Suitable
		PEREGRINE FALCON	Falco peregrinus	Suitable
		AMERICAN KESTREL	Falco sparverius	Suitable
		BLUE GROSBEEK	Guiraca caerulea	Suitable
		BARN SWALLOW	Hirundo rustica	Suitable
		WOOD THRUSH	Hylocichla mustelina	Suitable
		BULLOCK'S ORIOLE	Icterus bullockii	Suitable
		HOODED ORIOLE	Icterus cucullatus	Suitable
		MISSISSIPPI KITE	Ictinia mississippiensis	Suitable
		NORTHERN MOCKINGBIRD	Mimus polyglottos	Suitable
		BRONZED COWBIRD	Molothrus aeneus	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
Madrean Encinal	Mammal	BROWN-HEADED COWBIRD	Molothrus ater	Suitable
		HOUSE SPARROW	Passer domesticus	Suitable
		CAVE SWALLOW	Petrochelidon fulva	Suitable
		CLIFF SWALLOW	Petrochelidon pyrrhonota	Suitable
		BLACK-HEADED GROSBEAK	Pheucticus melanocephalus	Breeding
		HAIRY WOODPECKER	Picoides villosus	Suitable
		GREAT-TAILED GRACKLE	Quiscalus mexicanus	Suitable
		BLACK PHOEBE	Sayornis nigricans	Suitable
		EASTERN PHOEBE	Sayornis phoebe	Suitable
		EASTERN MEADOWLARK	Sturnella magna	Suitable
		EUROPEAN STARLING	Sturnus vulgaris	Suitable
		AMERICAN ROBIN	Turdus migratorius	Suitable
		WESTERN KINGBIRD	Tyrannus verticalis	Suitable
		COMMON BARN-OWL	Tyto alba	Suitable
		MOURNING DOVE	Zenaida macroura	Suitable
		WHITE-THROATED SPARROW	Zonotrichia albicollis	Suitable
		WHITE-CROWNED SPARROW	Zonotrichia leucophrys	Wintering
		RINGTAIL	Bassariscus astutus	Suitable
		COYOTE	Canis latrans	Suitable
		TOWNSEND'S BIG-EARED BAT	Corynorhinus townsendii	Suitable
		VIRGINIA OPOSSUM	Didelphis virginiana	Suitable
		BIG BROWN BAT	Eptesicus fuscus	Suitable
		SILVER-HAIRED BAT	Lasionycteris noctivagans	Suitable
		HOARY BAT	Lasiurus cinereus	Suitable
		HOUSE MOUSE	Mus musculus	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		ARIZONA MYOTIS	Myotis occultus	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		SILKY POCKET MOUSE	Perognathus flavus	Suitable
		WESTERN PIPISTRELLE	Pipistrellus hesperus	Suitable
		WESTERN HARVEST MOUSE	Reithrodontomys megalotis	Suitable
		BRAZILIAN FREE-TAILED BAT	Tadarida brasiliensis	Suitable
	Reptile	NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		BULLSNAKE	Pituophis catenifer	Suitable
	Bird	CASSIN'S SPARROW	Aimophila cassinii	Suitable
		BLACK-THROATED SPARROW	Amphispiza bilineata	Suitable
		BLACK-CHINNED HUMMINGBIRD	Archilochus alexandri	Breeding
		LONG-EARED OWL	Asio otus	Suitable
		VERDIN	Auriparus flaviceps	Suitable
		JUNIPER TITMOUSE	Baeolophus ridgwayi	Suitable
		CEDAR WAXWING	Bombycilla cedrorum	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		ZONE-TAILED HAWK	Buteo albonotatus	k13
		GAMBEL'S QUAIL	Callipepla gambelii	Suitable
		CASSIN'S FINCH	Carpodacus cassinii	Suitable
		EVENING GROSBEAK	Coccothraustes vespertinus	Suitable
		BLACK-BILLED CUCKOO	Coccyzus erythrophthalmus	Suitable
		BAND-TAILED PIGEON	Columba fasciata	Suitable
		COMMON RAVEN	Corvus corax	Suitable
		YELLOW-RUMPED WARBLER	Dendroica coronata	Wintering
		BLACK-THROATED GRAY WARBLER	Dendroica nigrescens	Suitable
		DUSKY FLYCATCHER	Empidonax oberholseri	Suitable
		PRAIRIE FALCON	Falco mexicanus	Suitable
		HOODED ORIOLE	Icterus cucullatus	Suitable
		SCOTT'S ORIOLE	Icterus parisorum	Breeding
		MISSISSIPPI KITE	Ictinia mississippiensis	Suitable
		DARK-EYED JUNCO	Junco hyemalis	Wintering
		LOGGERHEAD SHRIKE	Lanius ludovicianus	Suitable
		WILD TURKEY	Meleagris gallopavo	Suitable
		ELF OWL	Micrathene whitneyi	k13
		NORTHERN MOCKINGBIRD	Mimus polyglottos	Suitable
		ASH-THROATED FLYCATCHER	Myiarchus cinerascens	Suitable
		MACGILLIVRAY'S WARBLER	Oporornis tolmiei	Breeding
		WESTERN SCREECH-OWL	Otus kennicottii	Suitable
		FOX SPARROW	Passerella iliaca	Suitable
		PHAINOPEPLA	Phainopepla nitens	Suitable
		BLACK-HEADED GROSBEAK	Pheucticus melanocephalus	Breeding
		LADDER-BACKED WOODPECKER	Picoides scalaris	Suitable
		CANYON TOWHEE	Pipilo fuscus	Suitable
		SPOTTED TOWHEE	Pipilo maculatus	Suitable
		BLUE-GRAY GNATCATCHER	Polioptila caerulea	Suitable
		VESPER SPARROW	Poocetes gramineus	Suitable
		VERMILION FLYCATCHER	Pyrocephalus rubinus	Suitable
		ROCK WREN	Salpinctes obsoletus	Suitable
		RUFIOUS HUMMINGBIRD	Selasphorus rufus	Suitable
		MOUNTAIN BLUEBIRD	Sialia currucoides	Suitable
		EASTERN BLUEBIRD	Sialia sialis	Suitable
		EASTERN BLUEBIRD	Sialia sialis	Suitable
		BEWICK'S WREN	Thryomanes bewickii	Suitable
		CRISSAL THRASHER	Toxostoma crissale	Suitable
		CURVE-BILLED THRASHER	Toxostoma curvirostre	Suitable
		HOUSE WREN	Troglodytes aedon	Suitable
		AMERICAN ROBIN	Turdus migratorius	Suitable
		WESTERN KINGBIRD	Tyrannus verticalis	Suitable
		ORANGE-CROWNED WARBLER	Vermivora celata	Suitable
		LUCY'S WARBLER	Vermivora luciae	Suitable
		VIRGINIA'S WARBLER	Vermivora virginiae	Suitable
		BELL'S VIREO	Vireo bellii	Suitable
		GRAY VIREO	Vireo vicinior	Suitable
		MOURNING DOVE	Zenaida macroura	Suitable
	Mammal	PALLID BAT	Antrozous pallidus	Suitable
		RINGTAIL	Bassariscus astutus	Suitable
		COYOTE	Canis latrans	Suitable
		GRAY WOLF	Canis lupus	Suitable
		WAPITI	Cervus elaphus	Suitable
		HISPID POCKET MOUSE	Chaetodipus hispidus	Suitable
		ROCK POCKET MOUSE	Chaetodipus intermedius	Suitable
		TOWNSEND'S BIG-EARED BAT	Corynorhinus townsendii	Suitable
		MERRIAM'S KANGAROO RAT	Dipodomys merriami	Suitable
		ORD'S KANGAROO RAT	Dipodomys ordii	Suitable
		BIG BROWN BAT	Eptesicus fuscus	Suitable
		PORCUPINE	Erethizon dorsatum	Suitable
		SILVER-HAIRED BAT	Lasionycteris noctivagans	Suitable
		WESTERN RED BAT	Lasiurus blossevillii	Suitable
		HOARY BAT	Lasiurus cinereus	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
Madrean Pinyon-Juniper Woodland	Reptile	BLACK-TAILED JACK RABBIT	Lepus californicus	Suitable
		BOBCAT	Lynx rufus	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		MOGOLLON VOLE	Microtus mogollonensis	Suitable
		HOUSE MOUSE	Mus musculus	Suitable
		LONG-TAILED WEASEL	Mustela frenata	Suitable
		CALIFORNIA MYOTIS	Myotis californicus	Suitable
		LONG-EARED MYOTIS	Myotis evotis	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		FRINGED MYOTIS	Myotis thysanodes	Suitable
		CAVE MYOTIS	Myotis velifer	Suitable
		LONG-LEGGED MYOTIS	Myotis volans	Suitable
		YUMA MYOTIS	Myotis yumanensis	Suitable
		WHITE-THROATED WOODRAT	Neotoma albigula	Suitable
		MEXICAN WOODRAT	Neotoma mexicana	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		MEARNS' GRASSHOPPER MOUSE	Onychomys arenicola	Suitable
		NORTHERN GRASSHOPPER MOUSE	Onychomys leucogaster	Suitable
		SOUTHERN GRASSHOPPER MOUSE	Onychomys torridus	Suitable
		BIGHORN SHEEP	Ovis canadensis	Suitable
		JAGUAR	Panthera onca	Suitable
		COLLARED PECCARY	Pecari tajacu	Suitable
		SILKY POCKET MOUSE	Perognathus flavus	Suitable
		BRUSH MOUSE	Peromyscus boylii	Suitable
		CACTUS MOUSE	Peromyscus eremicus	Suitable
		WHITE-FOOTED MOUSE	Peromyscus leucopus	Suitable
		DEER MOUSE	Peromyscus maniculatus	Suitable
		ROCK MOUSE	Peromyscus nasutus	Suitable
		WESTERN PIPISTRELLE	Pipistrellus hesperus	Suitable
		RACCOON	Procyon lotor	Suitable
		MOUNTAIN LION	Puma concolor	Suitable
		WESTERN HARVEST MOUSE	Reithrodontomys megalotis	Suitable
		TAWNY-BELLIED COTTON RAT	Sigmodon fulviventor	Suitable
		ROCK SQUIRREL	Spermophilus variegatus	Suitable
		WESTERN SPOTTED SKUNK	Syllogale gracilis	Suitable
		DESERT COTTONTAIL	Sylvilagus audubonii	Suitable
		BRAZILIAN FREE-TAILED BAT	Tadarida brasiliensis	Suitable
		GRAY-COLLARED CHIPMUNK	Tamias cinereicollis	Suitable
		BADGER	Taxidea taxus	Suitable
		BOTTA'S POCKET GOPHER	Thomomys bottae	Suitable
		GRAY FOX	Urocyon cinereoargenteus	Suitable
		BROWN BEAR	Ursus arctos	Suitable
	Amphibian	TRANS-PECOS RAT SNAKE	Bogertophis subocularis	Suitable
		CHIHUAHUA SPOTTED WHIPTAIL	Cnemidophorus exsanguis	Suitable
		GREATER EARLESS LIZARD	Cophosaurus texanus	Suitable
		BLACK-TAILED RATTLESNAKE	Crotalus molossus	Suitable
		WESTERN RATTLESNAKE	Crotalus viridis	Suitable
		RING-NECKED SNAKE	Diadophis punctatus	Suitable
		MANY-LINED SKINK	Eumeces multivirgatus	Suitable
		GREAT PLAINS SKINK	Eumeces obsoletus	Suitable
		WESTERN HOG-NOSED SNAKE	Heterodon nasicus	Suitable
		NIGHT SNAKE	Hypsiglena torquata	Suitable
		NIGHT SNAKE	Hypsiglena torquata	Suitable
		COMMON KINGSSNAKE	Lampropeltis getula	Suitable
		SONORAN MOUNTAIN KINGSSNAKE	Lampropeltis pyromelana	Suitable
		COACHWHIP	Masticophis flagellum	Suitable
		STRIPED WHIPSNAKE	Masticophis taeniatus	Suitable
		GREATER SHORT-HORNED LIZARD	Phrynosoma hernandesi	Suitable
		ROUND-TAILED HORNED LIZARD	Phrynosoma modestum	Suitable
		BULL SNAKE	Pinophis catenifer	Suitable
		LONG-NOSED SNAKE	Rhinocheilus lecontei	Suitable
		WESTERN PATCH-NOSED SNAKE	Salvadora hexalepis	Suitable
		CREVICE SPINY LIZARD	Sceloporus poinsettii	Suitable
		EASTERN FENCE LIZARD	Sceloporus undulatus	Suitable
		GROUND SNAKE	Sonora semiannulata	Suitable
		SOUTHWESTERN BLACK-HEADED SNAKE	Tantilla hobartsmithi	Suitable
		CHECKERED GARTER SNAKE	Thamnophis marcianus	Suitable
		WESTERN LYRE SNAKE	Trimorphodon biscutatus	Suitable
		SIDE-BLOTCHED LIZARD	Uta stansburiana	Suitable
Madrean Pinyon-Juniper Woodland	Amphibian	RED-SPOTTED TOAD	Bufo punctatus	Suitable
		WOODHOUSE'S TOAD	Bufo woodhousii	Suitable
	Bird	COOPER'S HAWK	Accipiter cooperii	Suitable
		SHARP-SHINNED HAWK	Accipiter striatus	Suitable
		NORTHERN SAW-WHET OWL	Aegolius acadicus	Suitable
		WHITE-THROATED SWIFT	Aeronautes saxatalis	Suitable
		RUFIOUS-CROWNED SPARROW	Aimophila ruficeps	Suitable
		BLACK-THROATED SPARROW	Amphispiza bilineata	Suitable
		WESTERN SCRUB-JAY	Aphelocoma californica	Suitable
		GOLDEN EAGLE	Aquila chrysaetos	Suitable
		LONG-EARED OWL	Asio otus	Suitable
		VERDIN	Auriparus flaviceps	Suitable
		JUNIPER TITMOUSE	Baeolophus ridgwayi	Suitable
		CEDAR WAXWING	Bombycilla cedrorum	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		GAMBEL'S QUAIL	Callipepla gambelii	Suitable
		SCALED QUAIL	Callipepla squamata	Suitable
		LESSER GOLDFINCH	Carduelis psaltria	Suitable
		CASSIN'S FINCH	Carpodacus cassinii	Suitable
		HERMIT THRUSH	Catharus guttatus	Suitable
		BROWN CREEPER	Certhia americana	Suitable
		COMMON NIGHTHAWK	Chordeiles minor	Suitable
		EVENING GROSBEAK	Coccothraustes vespertinus	Suitable
		NORTHERN FLICKER	Colaptes auratus	Suitable
		BAND-TAILED PIGEON	Columba fasciata	Suitable
		WESTERN WOOD-PEWEE	Contopus sordidulus	Suitable
		COMMON RAVEN	Corvus corax	Suitable
		CHIHUAHUA RAVEN	Corvus cryptoleucus	Suitable
		YELLOW-RUMPED WARBLER	Dendroica coronata	Suitable
		BLACK-THROATED GRAY WARBLER	Dendroica nigrescens	Suitable
		YELLOW WARBLER	Dendroica petechia	k21
		TOWNSEND'S WARBLER	Dendroica townsendi	Migratory
		TOWNSEND'S WARBLER	Dendroica townsendi	Suitable
		MERLIN	Falco columbarius	Suitable
		PEREGRINE FALCON	Falco peregrinus	Suitable
		AMERICAN KESTREL	Falco sparverius	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
		GREATER ROADRUNNER	Geococcyx californianus	Suitable
		BALD EAGLE	Haliaeetus leucocephalus	Suitable
		SCOTT'S ORIOLE	Icterus parisorum	Breeding
		DARK-EYED JUNCO	Junco hyemalis	Suitable
		LOGGERHEAD SHRIKE	Lanius ludovicianus	Suitable
		RED CROSSBILL	Loxia curvirostra	Suitable
		WILD TURKEY	Meleagris gallopavo	Suitable
		ELF OWL	Micrathene whitneyi	k13
		NORTHERN MOCKINGBIRD	Mimus polyglottos	Suitable
		BROWN-HEADED COWBIRD	Molothrus ater	Suitable
		TOWNSEND'S SOLITAIRE	Myadestes townsendi	Wintering
		ASH-THROATED FLYCATCHER	Myiarchus cinerascens	Suitable
		MACGILLIVRAY'S WARBLER	Oporornis tolmiei	Breeding
		SAGE THRASHER	Oroscoptes montanus	Suitable
		WESTERN SCREECH-OWL	Otus kennicottii	Suitable
		CLIFF SWALLOW	Petrochelidon pyrrhonota	Suitable
		PHAINOPEPLA	Phainopepla nitens	Suitable
		COMMON POORWILL	Phalaenoptilus nuttallii	Suitable
		BLACK-HEADED GROSBEAK	Pheucticus melanocephalus	Breeding
		LADDER-BACKED WOODPECKER	Picoides scalaris	Suitable
		CANYON TOWHEE	Pipilo fuscus	Suitable
		SPOTTED TOWHEE	Pipilo maculatus	Suitable
		WESTERN TANAGER	Piranga ludoviciana	Suitable
		SUMMER TANAGER	Piranga rubra	Suitable
		MOUNTAIN CHICKADEE	Poecile gambeli	Suitable
		BLUE-GRAY GNATCATCHER	Poliophtila caerulea	Suitable
		ROCK WREN	Salpinctes obsoletus	Suitable
		RUFIOUS HUMMINGBIRD	Selasphorus rufus	Suitable
		MOUNTAIN BLUEBIRD	Sialia currucoides	Suitable
		WESTERN BLUEBIRD	Sialia mexicana	Wintering
		EASTERN BLUEBIRD	Sialia sialis	Suitable
		RED-BREASTED NUTHATCH	Sitta canadensis	Suitable
		WHITE-BREASTED NUTHATCH	Sitta carolinensis	Suitable
		PYGMY NUTHATCH	Sitta pygmaea	Suitable
		BLACK-CHINNED SPARROW	Spizella atrogularis	Suitable
		CHIPPING SPARROW	Spizella passerina	Suitable
		TREE SWALLOW	Tachycineta bicolor	Suitable
		VIOLET-GREEN SWALLOW	Tachycineta thalassina	Breeding
		BEWICK'S WREN	Thryomanes bewickii	Suitable
		CRISSAL THRASHER	Toxostoma crissale	Suitable
		CURVE-BILLED THRASHER	Toxostoma curvirostre	Suitable
		HOUSE WREN	Troglodytes aedon	Suitable
		AMERICAN ROBIN	Turdus migratorius	Suitable
		WESTERN KINGBIRD	Tyrannus verticalis	Suitable
		ORANGE-CROWNED WARBLER	Vermivora celata	Suitable
		LUCY'S WARBLER	Vermivora luciae	Suitable
		VIRGINIA'S WARBLER	Vermivora virginiae	Suitable
		BELL'S VIREO	Vireo bellii	Suitable
		PLUMBEOUS VIREO	Vireo plumbeus	Suitable
		GRAY VIREO	Vireo vicinior	Suitable
		MOURNING DOVE	Zenaidura macroura	Suitable
		WHITE-CROWNED SPARROW	Zonotrichia leucophrys	Suitable
	Mammal	PALLID BAT	Antrozous pallidus	Suitable
		RINGTAIL	Bassariscus astutus	Suitable
		COYOTE	Canis latrans	Suitable
		GRAY WOLF	Canis lupus	Suitable
		ROCK POCKET MOUSE	Chaetodipus intermedius	Suitable
		TOWNSEND'S BIG-EARED BAT	Corynorhinus townsendii	Suitable
		ORD'S KANGAROO RAT	Dipodomys ordii	Suitable
		BANNER-TAILED KANGAROO RAT	Dipodomys spectabilis	Suitable
		BIG BROWN BAT	Eptesicus fuscus	Suitable
		PORCUPINE	Erethizon dorsatum	Suitable
		SPOTTED BAT	Euderma maculatum	Suitable
		DESERT POCKET GOPHER	Geomys arenarius	Suitable
		SILVER-HAIRED BAT	Lasiorycteris noctivagans	Suitable
		HOARY BAT	Lasiurus cinereus	Suitable
		BLACK-TAILED JACK RABBIT	Lepus californicus	Suitable
		BOBCAT	Lynx rufus	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		MOGOLLON VOLE	Microtus mogollonensis	Suitable
		HOUSE MOUSE	Mus musculus	Suitable
		LONG-TAILED WEASEL	Mustela frenata	Suitable
		CALIFORNIA MYOTIS	Myotis californicus	Suitable
		LONG-EARED MYOTIS	Myotis evotis	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		ARIZONA MYOTIS	Myotis occultus	Suitable
		FRINGED MYOTIS	Myotis thysanodes	Suitable
		CAVE MYOTIS	Myotis velifer	Suitable
		LONG-LEGGED MYOTIS	Myotis volans	Suitable
		YUMA MYOTIS	Myotis yumanensis	Suitable
		WHITE-THROATED WOODRAT	Neotoma albigula	Suitable
		MEXICAN WOODRAT	Neotoma mexicana	Suitable
		SOUTHERN PLAINS WOODRAT	Neotoma micropus	Suitable
		DESERT SHREW	Notiosorex crawfordi	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		MEARNS' GRASSHOPPER MOUSE	Onychomys arenicola	Suitable
		NORTHERN GRASSHOPPER MOUSE	Onychomys leucogaster	Suitable
		BIGHORN SHEEP	Ovis canadensis	Suitable
		JAGUAR	Panthera onca	Suitable
		COLLARED PECCARY	Pecari tajacu	Suitable
		SILKY POCKET MOUSE	Perognathus flavus	Suitable
		BRUSH MOUSE	Peromyscus boylii	Suitable
		CACTUS MOUSE	Peromyscus eremicus	Suitable
		OSGOOD'S MOUSE	Peromyscus gratus	Suitable
		WHITE-FOOTED MOUSE	Peromyscus leucopus	Suitable
		DEER MOUSE	Peromyscus maniculatus	Suitable
		ROCK MOUSE	Peromyscus nasutus	Suitable
		PINON MOUSE	Peromyscus truei	Suitable
		WESTERN PIPISTRELLE	Pipistrellus hesperus	Suitable
		RACCOON	Procyon lotor	Suitable
		MOUNTAIN LION	Puma concolor	Suitable
		WESTERN HARVEST MOUSE	Reithrodontomys megalotis	Suitable
		TAWNY-BELLIED COTTON RAT	Sigmodon fulviventer	Suitable
		MONTANE SHREW	Sorex monticolus	Suitable
		GOLDEN-MANTLED GROUND SQUIRREL	Spermophilus lateralis	Suitable
		SPOTTED GROUND SQUIRREL	Spermophilus spilosoma	Suitable
		ROCK SQUIRREL	Spermophilus variegatus	Suitable
		WESTERN SPOTTED SKUNK	Spilogale gracilis	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
North American Arid West Emergent Marsh	<i>Reptile</i>	DESERT COTTONTAIL	Sylvilagus audubonii	Suitable
		BRAZILIAN FREE-TAILED BAT	Tadarida brasiliensis	Suitable
		GRAY-COLLARED CHIPMUNK	Tamias cinereicollis	Suitable
		BADGER	Taxidea taxus	Suitable
		BOTTA'S POCKET GOPHER	Thomomys bottae	Suitable
		GRAY FOX	Urocyon cinereoargenteus	Suitable
		BROWN BEAR	Ursus arctos	Suitable
		RED FOX	Vulpes vulpes	Suitable
		TRANS-PECOS RAT SNAKE	Bogertophis subocularis	Suitable
		CHIHUAHUA SPOTTED WHIPTAIL	Cnemidophorus exsanguis	Suitable
		LITTLE STRIPED WHIPTAIL	Cnemidophorus inornatus	Suitable
		NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		CHECKERED WHIPTAIL	Cnemidophorus tessellatus	Suitable
		WESTERN WHIPTAIL	Cnemidophorus tigris	Suitable
		TEXAS BANDED GECKO	Coleonyx brevis	Suitable
		RACER	Coluber constrictor	Suitable
		RACER	Coluber constrictor	Suitable
		WESTERN DIAMONDBACK RATTLESNAKE	Crotalus atrox	Suitable
		ROCK RATTLESNAKE	Crotalus lepidus	Suitable
		BLACK-TAILED RATTLESNAKE	Crotalus molossus	Suitable
		WESTERN RATTLESNAKE	Crotalus viridis	Suitable
		COLLARED LIZARD	Crotaphytus collaris	Suitable
		RING-NECKED SNAKE	Diadophis punctatus	Suitable
		CORN SNAKE	Elaphe guttata	Suitable
		MANY-LINED SKINK	Eumeces multivirgatus	Suitable
		GREAT PLAINS SKINK	Eumeces obsoletus	Suitable
		WESTERN HOOK-NOSED SNAKE	Gyalopion canum	Suitable
		GILA MONSTER	Heloderma suspectum	Suitable
		WESTERN HOG-NOSED SNAKE	Heterodon nasicus	Suitable
		LESSER EARLESS LIZARD	Holbrookia maculata	Suitable
		NIGHT SNAKE	Hypsiglena torquata	Suitable
		NIGHT SNAKE	Hypsiglena torquata	Suitable
		COMMON KING SNAKE	Lampropeltis getula	Suitable
		SONORAN MOUNTAIN KING SNAKE	Lampropeltis pyromelana	Suitable
		MILK SNAKE	Lampropeltis triangulum	Suitable
		COACHWHIP	Masticophis flagellum	Suitable
		STRIPED WHIPSNAKE	Masticophis lateralis	Suitable
		GREATER SHORT-HORNED LIZARD	Phrynosoma hernandesi	Suitable
		ROUND-TAILED HORNED LIZARD	Phrynosoma modestum	Suitable
		BULLSNAKE	Pituophis catenifer	Suitable
		BIG BEND PATCH-NOSED SNAKE	Salvadora deserticola	Suitable
		MOUNTAIN PATCH-NOSED SNAKE	Salvadora grahamiae	Suitable
		WESTERN PATCH-NOSED SNAKE	Salvadora hexalepis	Suitable
		DESERT SPINY LIZARD	Sceloporus magister	Suitable
		CREVICE SPINY LIZARD	Sceloporus poinsettii	Suitable
		EASTERN FENCE LIZARD	Sceloporus undulatus	Suitable
		GROUND SNAKE	Sonora semiannulata	Suitable
		SOUTHWESTERN BLACK-HEADED SNAKE	Tantilla hobartsmithi	Suitable
		PLAINS BLACK-HEADED SNAKE	Tantilla nigriceps	Suitable
		ORNATE BOX TURTLE	Terrapene ornata	Suitable
		WESTERN LYRE SNAKE	Trimorphodon biscutatus	Suitable
		SIDE-BLOTCHED LIZARD	Uta stansburiana	Suitable
	<i>Amphibian</i>	GREEN TOAD	Bufo debilis	Suitable
		WOODHOUSE'S TOAD	Bufo woodhousii	Suitable
		PLAINS LEOPARD FROG	Rana blairi	Suitable
		NORTHERN LEOPARD FROG	Rana pipiens	Suitable
		COUCH'S SPADEFOOT	Scaphiopus couchii	Suitable
	<i>Bird</i>	WESTERN GREBE	Aechmophorus occidentalis	Suitable
		RED-WINGED BLACKBIRD	Agelaius phoeniceus	Suitable
		WOOD DUCK	Aix sponsa	Suitable
		NORTHERN PINTAIL	Anas acuta	Suitable
		AMERICAN WIGEON	Anas americana	Suitable
		NORTHERN SHOVELER	Anas clypeata	Suitable
		GREEN-WINGED TEAL	Anas crecca	Suitable
		CINNAMON TEAL	Anas cyanoptera	Suitable
		BLUE-WINGED TEAL	Anas discors	Suitable
		MALLARD	Anas platyrhynchos	Suitable
		GADWALL	Anas strepera	Suitable
		GREATER WHITE-FRONTED GOOSE	Anser albifrons	Suitable
		AMERICAN PIPIT	Anthus rubescens	Wintering
		GREAT EGRET	Ardea alba	Suitable
		GREAT BLUE HERON	Ardea herodias	Suitable
		SHORT-EARED OWL	Asio flammeus	Suitable
		SHORT-EARED OWL	Asio flammeus	Suitable
		LESSER SCAUP	Aythya affinis	Suitable
		REDHEAD	Aythya americana	Suitable
		RING-NECKED DUCK	Aythya collaris	Suitable
		CANVASBACK	Aythya valisineria	Suitable
		AMERICAN BITTERN	Botaurus lentiginosus	Suitable
		CANADA GOOSE	Branta canadensis	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		CATTLE EGRET	Bubulcus ibis	Suitable
		BUFFLEHEAD	Bucephala albeola	Suitable
		COMMON GOLDENEYE	Bucephala clangula	Suitable
		ROUGH-LEGGED HAWK	Buteo lagopus	Suitable
		GREEN HERON	Butorides virescens	Suitable
		SANDERLING	Calidris alba	Suitable
		BAIRD'S SANDPIPER	Calidris bairdii	Suitable
		WESTERN SANDPIPER	Calidris mauri	Suitable
		LEAST SANDPIPER	Calidris minutilla	Suitable
		SNOWY PLOVER	Charadrius alexandrinus	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		SNOW GOOSE	Chen caerulescens	Suitable
		ROSS'S GOOSE	Chen rossii	Suitable
		NORTHERN HARRIER	Circus cyaneus	Suitable
		MARSH WREN	Cistothorus palustris	Suitable
		AMERICAN CROW	Corvus brachyrhynchos	Suitable
		COMMON RAVEN	Corvus corax	Suitable
		YELLOW-RUMPED WARBLER	Dendroica coronata	Wintering
		LITTLE BLUE HERON	Egretta caerulea	Suitable
		SNOWY EGRET	Egretta thula	Suitable
		BREWER'S BLACKBIRD	Euphagus cyanocephalus	Suitable
		PEREGRINE FALCON	Falco peregrinus	Suitable
		AMERICAN COOT	Fulica americana	Suitable
		COMMON SNIBE	Gallinago gallinago	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
North American Warm Desert Active and Stabilized Dune	Mammal	COMMON SNIFE	Gallinago gallinago	Suitable
		COMMON MOORHEN	Gallinula chloropus	Suitable
		COMMON YELLOWTHROAT	Geothlypis trichas	Suitable
		SANDHILL CRANE	Grus canadensis	Suitable
		BLACK-NECKED STILT	Himantopus mexicanus	Suitable
		YELLOW-BREASTED CHAT	Icteria virens	Suitable
		RING-BILLED GULL	Larus delawarensis	Suitable
		GLAUCOUS GULL	Larus hyperboreus	Suitable
		BONAPARTE'S GULL	Larus philadelphia	Suitable
		LONG-BILLED DOWITCHER	Limnodromus scolopaceus	Suitable
		MARbled GODWIT	Limosa fedoa	Suitable
		HOODED MERGANSER	Lophodytes cucullatus	Suitable
		SWAMP SPARROW	Melospiza georgiana	Suitable
		LINCOLN'S SPARROW	Melospiza lincolni	Suitable
		SONG SPARROW	Melospiza melodia	Suitable
		COMMON MERGANSER	Mergus merganser	Suitable
		RED-BREASTED MERGANSER	Mergus serrator	Suitable
		NORTHERN MOCKINGBIRD	Mimus polyglottos	Suitable
		BROWN-HEADED COWBIRD	Molothrus ater	Suitable
		LONG-BILLED CURLEW	Numenius americanus	Suitable
		WHIMBREL	Numenius phaeopus	Suitable
		BLACK-CROWNED NIGHT-HERON	Nycticorax nycticorax	Suitable
		RUDDY DUCK	Oxyura jamaicensis	Suitable
		SAVANNAH SPARROW	Passerculus sandwichensis	Suitable
		FOX SPARROW	Passerella iliaca	Suitable
		WILSON'S PHALAROPE	Phalaropus tricolor	Suitable
		RING-NECKED PHEASANT	Phasianus colchicus	Suitable
		BLACK-HEADED GROSBEAK	Phaeucticus melanocephalus	Breeding
		WHITE-FACED IBIS	Plegadis chihi	Suitable
		AMERICAN GOLDEN-PLOVER	Pluvialis dominica	Suitable
		EARED GREBE	Podiceps nigricollis	Suitable
		PIED-BILLED GREBE	Podilymbus podiceps	Suitable
		SORA	Porzana carolina	Suitable
		GREAT-TAILED GRACKLE	Quiscalus mexicanus	Suitable
		AMERICAN AVOCET	Recurvirostra americana	Suitable
		BANK SWALLOW	Riparia riparia	Suitable
		BLACK PHOEBE	Sayornis nigricans	Suitable
		DICKCISSEL	Spiza americana	Suitable
		CLAY-COLORED SPARROW	Spizella pallida	Suitable
		NORTHERN ROUGH-WINGED SWALLOW	Stelgidopteryx serripennis	Suitable
		FORSTER'S TERN	Sterna forsteri	Suitable
		EASTERN MEADOWLARK	Sturnella magna	Suitable
		WESTERN MEADOWLARK	Sturnella neglecta	Suitable
		VIOLET-GREEN SWALLOW	Tachycineta thalassina	Suitable
		LESSER YELLOWLEGS	Tringa flavipes	Suitable
		GREATER YELLOWLEGS	Tringa melanoleuca	Suitable
		SOLITARY SANDPIPER	Tringa solitaria	Suitable
		YELLOW-HEADED BLACKBIRD	Xanthocephalus xanthocephalus	Suitable
		WHITE-THROATED SPARROW	Zonotrichia albicollis	Suitable
		WHITE-CROWNED SPARROW	Zonotrichia leucophrys	Wintering
		HARRIS'S SPARROW	Zonotrichia querula	Suitable
	Reptile	COYOTE	Canis latrans	Suitable
		GRAY WOLF	Canis lupus	Suitable
		BEAVER	Castor canadensis	Suitable
		ROCK POCKET MOUSE	Chaetodipus intermedius	Suitable
		DESERT POCKET MOUSE	Chaetodipus penicillatus	Suitable
		VIRGINIA OPOSSUM	Didelphis virginiana	Suitable
		SPOTTED BAT	Euderma maculatum	Suitable
		SILVER-HAIRED BAT	Lasiorycteris noctivagans	Suitable
		BOBCAT	Lynx rufus	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		LONG-TAILED VOLE	Microtus longicaudus	Suitable
		MOGOLLON VOLE	Microtus mogollonensis	Suitable
		HOUSE MOUSE	Mus musculus	Suitable
		CALIFORNIA MYOTIS	Myotis californicus	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		ARIZONA MYOTIS	Myotis occultus	Suitable
		LONG-LEGGED MYOTIS	Myotis volans	Suitable
		YUMA MYOTIS	Myotis yumanensis	Suitable
		WHITE-THROATED WOODRAT	Neotoma albigula	Suitable
		DESERT SHREW	Notiosorex crawfordi	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		MUSKRAT	Ondatra zibethicus	Suitable
	Amphibian	CACTUS MOUSE	Peromyscus eremicus	Suitable
		WHITE-FOOTED MOUSE	Peromyscus leucopus	Suitable
		DEER MOUSE	Peromyscus maniculatus	Suitable
		RACCOON	Procyon lotor	Suitable
		WESTERN HARVEST MOUSE	Reithrodontomys megalotis	Suitable
		TAWNY-BELLIED COTTON RAT	Sigmodon fulviventer	Suitable
		HISPID COTTON RAT	Sigmodon hispidus	Suitable
		BADGER	Taxidea taxus	Suitable
		GRAY FOX	Urocyon cinereoargenteus	Suitable
		RED FOX	Vulpes vulpes	Suitable
	Bird	SPINY SOFTSHELL TURTLE	Apalone spinifera	Suitable
		SNAPPING TURTLE	Chelydra serpentina	Suitable
		RING-NECKED SNAKE	Diadophis punctatus	Suitable
		YELLOW MUD TURTLE	Kinosternon flavescens	Suitable
		COMMON KINGSLAKE	Lampropeltis getula	Suitable
		CHECKERED GARTER SNAKE	Thamnophis marianus	Suitable
		COMMON GARTER SNAKE	Thamnophis sirtalis	Suitable
		COMMON SLIDER	Trachemys scripta	Suitable
		RED-SPOTTED TOAD	Bufo punctatus	Suitable
		SAGE SPARROW	Amphispiza belli	Suitable
		BLACK-THROATED SPARROW	Amphispiza bilineata	Suitable
		BURROWING OWL	Athene cucularia	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		LESSER NIGHTHAWK	Chordeiles acutipennis	Suitable
		TOWNSEND'S WARBLER	Dendroica townsendi	Migratory
		GREATER ROADRUNNER	Geococcyx californianus	Suitable
		NORTHERN MOCKINGBIRD	Mimus polyglottos	Suitable
		SAGE THRASHER	Oreoscoptes montanus	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
North American Warm Desert Lower Montane Riparian Woodland and Shrubland	<i>Mammal</i>	PHAINOPEPLA	Phainopepla nitens	Suitable
		BLACK-TAILED GNATCATCHER	Poliophtila melanura	Suitable
		BENDIRE'S THRASHER	Toxostoma bendirei	Suitable
		CURVE-BILLED THRASHER	Toxostoma curvirostre	Suitable
		WHITE-WINGED DOVE	Zenaida asiatica	Breeding
		COYOTE	Canis latrans	Suitable
		HISPID POCKET MOUSE	Chaetodipus hispidus	Suitable
		TOWNSEND'S BIG-EARED BAT	Corynorhinus townsendii	Suitable
		MERRIAM'S KANGAROO RAT	Dipodomys merriami	Suitable
		ORD'S KANGAROO RAT	Dipodomys ordii	Suitable
		DESERT POCKET GOPHER	Geomys arenarius	Suitable
		BLACK-TAILED JACK RABBIT	Lepus californicus	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		ARIZONA MYOTIS	Myotis occultus	Suitable
		YUMA MYOTIS	Myotis yumanensis	Suitable
		SOUTHERN PLAINS WOODRAT	Neotoma micropus	Suitable
		DESERT SHREW	Notiosorex crawfordi	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		NORTHERN GRASSHOPPER MOUSE	Onychomys leucogaster	Suitable
		SOUTHERN GRASSHOPPER MOUSE	Onychomys torridus	Suitable
		SILKY POCKET MOUSE	Perognathus flavus	Suitable
		SPOTTED GROUND SQUIRREL	Spermophilus spilosoma	Suitable
		ROCK SQUIRREL	Spermophilus variegatus	Suitable
		BRAZILIAN FREE-TAILED BAT	Tadarida brasiliensis	Suitable
		GRAY FOX	Urocyon cinereoargenteus	Suitable
		KIT FOX	Vulpes macrotis	Suitable
	<i>Reptile</i>	GLOSSY SNAKE	Arizona elegans	Suitable
		TRANS-PECOS RAT SNAKE	Bogertophis subocularis	Suitable
		NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		GREATER EARLESS LIZARD	Cophosaurus texanus	Suitable
		WESTERN DIAMONDBACK RATTLESNAKE	Crotalus atrox	Suitable
		WESTERN RATTLESNAKE	Crotalus viridis	Suitable
		GREAT PLAINS SKINK	Eumeces obsoletus	Suitable
		WESTERN HOG-NOSED SNAKE	Heterodon nasicus	Suitable
		NIGHT SNAKE	Hypsiglena torquata	Suitable
		COMMON KINGSSNAKE	Lampropeltis getula	Suitable
		MILK SNAKE	Lampropeltis triangulum	Suitable
		COACHWHIP	Masticophis flagellum	Suitable
		TEXAS HORNED LIZARD	Phrynosoma cornutum	Suitable
		BULLSNAKE	Pituophis catenifer	Suitable
		LONG-NOSED SNAKE	Rhinocheilus lecontei	Suitable
		EASTERN FENCE LIZARD	Sceloporus undulatus	Suitable
		PLAINS BLACK-HEADED SNAKE	Tantilla nigriceps	Suitable
		ORNATE BOX TURTLE	Terrapene ornata	Suitable
	<i>Amphibian</i>	GREEN TOAD	Bufo debilis	p10
		WOODHOUSE'S TOAD	Bufo woodhousii	Suitable
		CHIRICAHUA LEOPARD FROG	Rana chiricahuensis	Suitable
	<i>Bird</i>	COOPER'S HAWK	Accipiter cooperii	Suitable
		NORTHERN GOSHAWK	Accipiter gentilis	Suitable
		SHARP-SHINNED HAWK	Accipiter striatus	Suitable
		SPOTTED SANDPIPER	Actitis macularia	Suitable
		WHITE-THROATED SWIFT	Aeronautes saxatalis	Suitable
		WOOD DUCK	Aix sponsa	Suitable
		CINNAMON TEAL	Anas cyanoptera	Suitable
		MALLARD	Anas platyrhynchos	Suitable
		GADWALL	Anas strepera	Suitable
		GOLDEN EAGLE	Aquila chrysaetos	Suitable
		BLACK-CHINNED HUMMINGBIRD	Archilochus alexandri	Breeding
		GREAT EGRET	Ardea alba	Suitable
		LONG-EARED OWL	Asio otus	Suitable
		VERDIN	Auriparus flaviceps	Suitable
		REDHEAD	Aythya americana	Suitable
		RING-NECKED DUCK	Aythya collaris	Suitable
		JUNIPER TITMOUSE	Baeolophus ridgwayi	Suitable
		CEDAR WAXWING	Bombycilla cedrorum	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		BUFFLEHEAD	Bucephala albeola	Breeding
		ZONE-TAILED HAWK	Buteo albonotatus	k13
		COMMON BLACK-HAWK	Buteogallus anthracinus	Suitable
		WESTERN SANDPIPER	Calidris mauri	Suitable
		LEAST SANDPIPER	Calidris minutilla	Suitable
		LEAST SANDPIPER	Calidris minutilla	Suitable
		GAMBEL'S QUAIL	Callipepla gambelii	Suitable
		SCALED QUAIL	Callipepla squamata	Suitable
		CACTUS WREN	Campylorhynchus brunneicapillus	Suitable
		LAWRENCE'S GOLDFINCH	Carduelis lawrencei	Wintering
		AMERICAN GOLDFINCH	Carduelis tristis	Suitable
		HOUSE FINCH	Carpodacus mexicanus	Suitable
		TURKEY VULTURE	Cathartes aura	Suitable
		CANYON WREN	Catherpes mexicanus	Suitable
		BROWN CREEPER	Certhia americana	Suitable
		BELTED KINGFISHER	Ceryle alcyon	Suitable
		SNOW GOOSE	Chen caerulescens	Suitable
		ROSS'S GOOSE	Chen rossii	Suitable
		LARK SPARROW	Chondestes grammacus	Suitable
		AMERICAN DIPPER	Cinclus mexicanus	Suitable
		NORTHERN HARRIER	Circus cyaneus	Suitable
		MARSH WREN	Cistothorus palustris	Suitable
		YELLOW-BILLED CUCKOO	Coccyzus americanus	Suitable
		BLACK-BILLED CUCKOO	Coccyzus erythrophthalmus	Suitable
		NORTHERN FLICKER	Colaptes auratus	Suitable
		WESTERN WOOD-PEWEE	Contopus sordidulus	Suitable
		AMERICAN CROW	Corvus brachyrhynchos	Suitable
		COMMON RAVEN	Corvus corax	Suitable
		CHIHUAHUA RAVEN	Corvus cryptoleucus	Suitable
		YELLOW-RUMPED WARBLER	Dendroica coronata	Suitable
		BLACK-THROATED GRAY WARBLER	Dendroica nigrescens	Suitable
		YELLOW WARBLER	Dendroica petechia	Suitable
		TOWNSEND'S WARBLER	Dendroica townsendi	Migratory
		WHITE-TAILED KITE	Elanus leucurus	Suitable
		DUSKY FLYCATCHER	Empidonax oberholseri	Suitable
		BREWER'S BLACKBIRD	Euphagus cyanocephalus	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
		PRAIRIE FALCON	Falco mexicanus	Suitable
		PEREGRINE FALCON	Falco peregrinus	Suitable
		AMERICAN KESTREL	Falco sparverius	Suitable
		AMERICAN COOT	Fulica americana	Suitable
		COMMON SNIFE	Gallinago gallinago	Suitable
		COMMON YELLOWTHROAT	Geothlypis trichas	Suitable
		BLUE GROSBEAK	Guiraca caerulea	Suitable
		BALD EAGLE	Haliaeetus leucocephalus	Suitable
		BARN SWALLOW	Hirundo rustica	Suitable
		YELLOW-BREASTED CHAT	Icteria virens	Suitable
		BULLOCK'S ORIOLE	Icterus bullockii	Suitable
		HOODED ORIOLE	Icterus cucullatus	Suitable
		MISSISSIPPI KITE	Ictinia mississippiensis	Suitable
		DARK-EYED JUNCO	Junco hyemalis	Suitable
		LOGGERHEAD SHRIKE	Lanius ludovicianus	Suitable
		HOODED MERGANSER	Lophodytes cucullatus	Suitable
		ACORN WOODPECKER	Melanerpes formicivorus	Suitable
		LEWIS'S WOODPECKER	Melanerpes lewis	Suitable
		WILD TURKEY	Meleagris gallopavo	Suitable
		SWAMP SPARROW	Melospiza georgiana	Suitable
		LINCOLN'S SPARROW	Melospiza lincolni	Suitable
		COMMON MERGANSER	Mergus merganser	Suitable
		RED-BREASTED MERGANSER	Mergus serrator	Suitable
		ELF OWL	Micrathene whitneyi	k13
		NORTHERN MOCKINGBIRD	Mimus polyglottos	Suitable
		BLACK-AND-WHITE WARBLER	Mniotilta varia	Suitable
		BROWN-HEADED COWBIRD	Molothrus ater	Suitable
		ASH-THROATED FLYCATCHER	Myiarchus cinerascens	Suitable
		WHIMBREL	Numenius phaeopus	Suitable
		BLACK-CROWNED NIGHT-HERON	Nycticorax nycticorax	Suitable
		MACGILLIVRAY'S WARBLER	Oporornis tolmiei	Breeding
		SAGE THRASHER	Oreoscoptes montanus	Suitable
		WESTERN SCREECH-OWL	Otus kennicottii	Suitable
		OSPREY	Pandion haliaetus	Suitable
		SAVANNAH SPARROW	Passerculus sandwichensis	Suitable
		FOX SPARROW	Passerella iliaca	Suitable
		INDIGO BUNTING	Passerina cyanea	Suitable
		CLIFF SWALLOW	Petrochelidon pyrrhonota	Suitable
		PHAINOPELA	Phainopepla nitens	Suitable
		DOUBLE-CRESTED CORMORANT	Phalacrocorax auritus	Suitable
		BLACK-HEADED GROSBEAK	Phenicurus melanocephalus	Breeding
		LADDER-BACKED WOODPECKER	Picoides scalaris	Suitable
		HAIRY WOODPECKER	Picoides villosus	Suitable
		GREEN-TAILED TOWHEE	Pipilo chlorurus	Suitable
		CANYON TOWHEE	Pipilo fuscus	Suitable
		SPOTTED TOWHEE	Pipilo maculatus	Suitable
		WESTERN Tanager	Piranga ludoviciana	Suitable
		SUMMER Tanager	Piranga rubra	Suitable
		MOUNTAIN CHICKADEE	Poecile gambeli	Suitable
		BLUE-GRAY GNATCATCHER	Poliophtila caerulea	Suitable
		VESPER SPARROW	Poocetes gramineus	Suitable
		PURPLE MARTIN	Progne subis	Suitable
		VERMILION FLYCATCHER	Pyrocephalus rubinus	Suitable
		RUBY-CROWNED KINGLET	Regulus calendula	Suitable
		GOLDEN-CROWNED KINGLET	Regulus satrapa	Suitable
		BANK SWALLOW	Riparia riparia	Suitable
		ROCK WREN	Salpinctes obsoletus	Suitable
		OVENBIRD	Seiurus aurocapillus	Suitable
		NORTHERN WATERTHRUSH	Seiurus noveboracensis	Suitable
		RUFIOUS HUMMINGBIRD	Selasphorus rufus	Suitable
		AMERICAN REDSTART	Setophaga ruticilla	Suitable
		WESTERN BLUEBIRD	Sialia mexicana	Wintering
		RED-BREASTED NUTHATCH	Sitta canadensis	Suitable
		PYGMY NUTHATCH	Sitta pygmaea	Suitable
		RED-NAPED SAPSUCKER	Sphyrapicus nuchalis	Suitable
		CHIPPING SPARROW	Spizella passerina	Suitable
		NORTHERN ROUGH-WINGED SWALLOW	Stelgidopteryx serripennis	Suitable
		WESTERN MEADOWLARK	Sturnella neglecta	Suitable
		TREE SWALLOW	Tachycineta bicolor	Suitable
		VIOLET-GREEN SWALLOW	Tachycineta thalassina	Suitable
		BEWICK'S WREN	Thryomanes bewickii	Suitable
		CRISSAL THRASHER	Toxostoma crissale	Suitable
		CURVE-BILLED THRASHER	Toxostoma curvirostre	Suitable
		BROWN THRASHER	Toxostoma rufum	Suitable
		GREATER YELLOWLEGS	Tringa melanoleuca	Suitable
		HOUSE WREN	Troglodytes aedon	Suitable
		WESTERN KINGBIRD	Tyrannus verticalis	Suitable
		COMMON BARN-OWL	Tyto alba	Suitable
		LUCY'S WARBLER	Vermivora luciae	Suitable
		VIRGINIA'S WARBLER	Vermivora virginiae	Suitable
		WARBLING VIREO	Vireo gilvus	Suitable
		PLUMBEOUS VIREO	Vireo plumbeus	Suitable
		WILSON'S WARBLER	Wilsonia pusilla	Migratory
		YELLOW-HEADED BLACKBIRD	Xanthocephalus xanthocephalus	Suitable
		MOURNING DOVE	Zenaidura macroura	Suitable
		WHITE-THROATED SPARROW	Zonotrichia albicollis	Suitable
		WHITE-CROWNED SPARROW	Zonotrichia leucophrys	Suitable
		HARRIS'S SPARROW	Zonotrichia querula	Suitable
	Mammal	RINGTAIL	Bassariscus astutus	Suitable
		COYOTE	Canis latrans	Suitable
		GRAY WOLF	Canis lupus	Suitable
		BEAVER	Castor canadensis	Suitable
		ROCK POCKET MOUSE	Chaetodipus intermedius	Suitable
		DESERT POCKET MOUSE	Chaetodipus penicillatus	Suitable
		HOG-NOSED SKUNK	Conenatus mesoleucus	Suitable
		SPOTTED BAT	Euderma maculatum	Suitable
		SILVER-HAIRED BAT	Lasionycteris noctivagans	Suitable
		WESTERN RED BAT	Lasiurus blossevillii	Suitable
		EASTERN RED BAT	Lasiurus borealis	Suitable
		HOARY BAT	Lasiurus cinereus	Suitable
		BOBCAT	Lynx rufus	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		HOUSE MOUSE	Mus musculus	Suitable
		LONG-TAILED WEASEL	Mustela frenata	Suitable
		CALIFORNIA MYOTIS	Myotis californicus	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		ARIZONA MYOTIS	Myotis occultus	Suitable
		FRINGED MYOTIS	Myotis thysanodes	Suitable
		LONG-LEGGED MYOTIS	Myotis volans	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
North American Warm Desert Playa		YUMA MYOTIS	Myotis yumanensis	Suitable
		WHITE-THROATED WOODRAT	Neotoma albigula	Suitable
		MEXICAN WOODRAT	Neotoma mexicana	Suitable
		SOUTHERN PLAINS WOODRAT	Neotoma micropus	Suitable
		DESERT SHREW	Notiosorex crawfordi	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		MUSKRAT	Ondatra zibethicus	Suitable
		NORTHERN GRASSHOPPER MOUSE	Onychomys leucogaster	Suitable
		SOUTHERN GRASSHOPPER MOUSE	Onychomys torridus	Suitable
		JAGUAR	Panthera onca	Suitable
		YELLOW-FACED POCKET GOPHER	Papogeomys castanops	Suitable
		COLLARED PECCARY	Pecari tajacu	Suitable
		CACTUS MOUSE	Peromyscus eremicus	Suitable
		OSGOOD'S MOUSE	Peromyscus gratus	Suitable
		WHITE-FOOTED MOUSE	Peromyscus leucopus	Suitable
		DEER MOUSE	Peromyscus maniculatus	Suitable
		ROCK MOUSE	Peromyscus nasutus	Suitable
		PINON MOUSE	Peromyscus truei	Suitable
		RACCOON	Procyon lotor	Suitable
		MOUNTAIN LION	Puma concolor	Suitable
		HISPID COTTON RAT	Sigmodon hispidus	Suitable
		MONTANE SHREW	Sorex monticolus	Suitable
		ROCK SQUIRREL	Spermophilus variegatus	Suitable
		WESTERN SPOTTED SKUNK	Spilogale gracilis	Suitable
		BRAZILIAN FREE-TAILED BAT	Tadarida brasiliensis	Suitable
		BADGER	Taxidea taxus	Suitable
		BROWN BEAR	Ursus arctos	Suitable
		RED FOX	Vulpes vulpes	Suitable
	Reptile	TRANS-PECOS RAT SNAKE	Bogertophis subocularis	Suitable
		NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		CHECKERED WHIPTAIL	Cnemidophorus tesselatus	Suitable
		WESTERN WHIPTAIL	Cnemidophorus tigris	Suitable
		GREATER EARLESS LIZARD	Cophosaurus texanus	Suitable
		BLACK-TAILED RATTLESNAKE	Crotalus molossus	Suitable
		MOJAVE RATTLESNAKE	Crotalus scutulatus	Suitable
		RING-NECKED SNAKE	Diadophis punctatus	Suitable
		CORN SNAKE	Elaphe guttata	Suitable
		MADREAN ALLIGATOR LIZARD	Elgaria kingii	Suitable
		GILA MONSTER	Heloderma suspectum	Suitable
		YELLOW MUD TURTLE	Kinosternon flavescens	Suitable
		COMMON KINGSSNAKE	Lampropeltis getula	Suitable
		SONORAN MOUNTAIN KINGSSNAKE	Lampropeltis pyromelana	Suitable
		WESTERN BLIND SNAKE	Leptotyphlops humilis	Suitable
		BULLSNAKE	Pituophis catenifer	Suitable
		LONG-NOSED SNAKE	Rhinocheilus lecontei	Suitable
		WESTERN PATCH-NOSED SNAKE	Salvadora hexalepis	Suitable
		DESERT SPINY LIZARD	Sceloporus magister	Suitable
		GROUND SNAKE	Sonora semiannulata	Suitable
		SOUTHWESTERN BLACK-HEADED SNAKE	Tantilla hobartsmithi	Suitable
		ORNATE BOX TURTLE	Terrapene ornata	Suitable
		WESTERN TERRESTRIAL GARTER SNAKE	Thamnophis elegans	Suitable
		COMMON SLIDER	Trachemys scripta	Suitable
		WESTERN LYRE SNAKE	Trimorphodon biscutatus	Suitable
North American Warm Desert Riparian Mesquite Bosque	Amphibian	GREEN TOAD	Bufo debilis	Suitable
		RED-SPOTTED TOAD	Bufo punctatus	Suitable
		WOODHOUSE'S TOAD	Bufo woodhousii	Suitable
	Bird	PLAINS SPADEFOOT	Spea bombifrons	Suitable
		SAGE SPARROW	Amphispiza belli	Suitable
		NORTHERN PINTAIL	Anas acuta	Suitable
		GOLDEN EAGLE	Aquila chrysaetos	Suitable
		BURROWING OWL	Athene cunicularia	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		SNOWY PLOVER	Charadrius alexandrinus	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		PEREGRINE FALCON	Falco peregrinus	Suitable
		GREATER ROADRUNNER	Geococcyx californianus	Suitable
		BALD EAGLE	Haliaeetus leucocephalus	Suitable
		LONG-BILLED CURLEW	Numenius americanus	Suitable
		WILSON'S PHALAROPE	Phalaropus tricolor	Suitable
		LEAST TERN	Sterna antillarum	Suitable
		MOURNING DOVE	Zenaida macroura	Suitable
	Mammal	COYOTE	Canis latrans	Suitable
		BANNER-TAILED KANGAROO RAT	Dipodomys spectabilis	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		ARIZONA MYOTIS	Myotis occultus	Suitable
		YUMA MYOTIS	Myotis yumanensis	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		WHITE-FOOTED MOUSE	Peromyscus leucopus	Suitable
		MONTANE SHREW	Sorex monticolus	Suitable
		GRAY FOX	Urocyon cinereoargenteus	Suitable
		KIT FOX	Vulpes macrotis	Suitable
	Reptile	NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		WESTERN DIAMONDBACK RATTLESNAKE	Crotalus atrox	Suitable
		WESTERN RATTLESNAKE	Crotalus viridis	Suitable
		GREAT PLAINS SKINK	Eumeces obsoletus	Suitable
		COMMON KINGSSNAKE	Lampropeltis getula	Suitable
		TEXAS HORNED LIZARD	Phrynosoma cornutum	Suitable
		BULLSNAKE	Pituophis catenifer	Suitable
		WESTERN TERRESTRIAL GARTER SNAKE	Thamnophis elegans	Suitable
	Amphibian	GREAT PLAINS TOAD	Bufo cognatus	Suitable
		GREEN TOAD	Bufo debilis	Suitable
		RED-SPOTTED TOAD	Bufo punctatus	Suitable
		WOODHOUSE'S TOAD	Bufo woodhousii	Suitable
		PLAINS LEOPARD FROG	Rana blairi	Suitable
	Bird	CHIRICAHUA LEOPARD FROG	Rana chiricahuensis	Suitable
		COUCH'S SPADEFOOT	Scaphiopus couchii	Suitable
		COOPER'S HAWK	Accipiter cooperii	Suitable
		SHARP-SHINNED HAWK	Accipiter striatus	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
		WHITE-THROATED SWIFT	Aeronautes saxatalis	Suitable
		RED-WINGED BLACKBIRD	Agelaius phoeniceus	Suitable
		CASSIN'S SPARROW	Aimophila cassinii	Suitable
		BLACK-THROATED SPARROW	Amphispiza bilineata	Suitable
		WESTERN SCRUB-JAY	Aphelocoma californica	Suitable
		BLACK-CHINNED HUMMINGBIRD	Archilochus alexandri	Breeding
		GREAT EGRET	Ardea alba	Suitable
		LONG-EARED OWL	Asio otus	Suitable
		VERDIN	Auriparus flaviceps	Suitable
		REDHEAD	Aythya americana	Suitable
		RING-NECKED DUCK	Aythya collaris	Suitable
		CEDAR WAXWING	Bombycilla cedrorum	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		WESTERN SANDPIPER	Calidris mauri	Suitable
		LEAST SANDPIPER	Calidris minutilla	Suitable
		GAMBEL'S QUAIL	Callipepla gambelii	Suitable
		SCALED QUAIL	Callipepla squamata	Suitable
		LAWRENCE'S GOLDFINCH	Carduelis lawrencei	Wintering
		HOUSE FINCH	Carpodacus mexicanus	Suitable
		TURKEY VULTURE	Cathartes aura	Suitable
		HERMIT THRUSH	Catharus guttatus	Suitable
		CANYON WREN	Catherpes mexicanus	Suitable
		BROWN CREEPER	Certhia americana	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		LARK SPARROW	Chondestes grammacus	Suitable
		LESSER NIGHTHAWK	Chordeiles acutipennis	Suitable
		NORTHERN HARRIER	Circus cyaneus	Suitable
		YELLOW-BILLED CUCKOO	Coccyzus americanus	Suitable
		AMERICAN CROW	Corvus brachyrhynchos	Suitable
		COMMON RAVEN	Corvus corax	Suitable
		CHIHUAHUA RAVEN	Corvus cryptoleucus	Suitable
		YELLOW-RUMPED WARBLER	Dendroica coronata	Wintering
		BLACK-THROATED GRAY WARBLER	Dendroica nigrescens	Suitable
		YELLOW WARBLER	Dendroica petechia	Suitable
		BLACKPOLL WARBLER	Dendroica striata	Suitable
		TOWNSEND'S WARBLER	Dendroica townsendi	Migratory
		BREWER'S BLACKBIRD	Euphagus cyanocephalus	Suitable
		APLOMADO FALCON	Falco femoralis	Suitable
		PEREGRINE FALCON	Falco peregrinus	Suitable
		AMERICAN KESTREL	Falco sparverius	Suitable
		COMMON SNIPE	Gallinago gallinago	Suitable
		COMMON SNIPE	Gallinago gallinago	Suitable
		GREATER ROADRUNNER	Geococcyx californianus	Suitable
		COMMON YELLOWTHROAT	Geothlypis trichas	Suitable
		BLUE GROSBEEK	Guiraca caerulea	Suitable
		BULLOCK'S ORIOLE	Icterus bullockii	Suitable
		HOODED ORIOLE	Icterus cucullatus	Suitable
		MISSISSIPPI KITE	Ictinia mississippiensis	Suitable
		DARK-EYED JUNCO	Junco hyemalis	Suitable
		LOGGERHEAD SHRIKE	Lanius ludovicianus	Suitable
		HOODED Merganser	Lophodytes cucullatus	Suitable
		LEWIS'S WOODPECKER	Melanerpes lewis	Suitable
		WILD TURKEY	Meleagris gallopavo	Suitable
		LINCOLN'S SPARROW	Melospiza lincolni	Suitable
		SONG SPARROW	Melospiza melodia	Suitable
		COMMON Merganser	Mergus merganser	Suitable
		RED-BREASTED Merganser	Mergus serrator	Suitable
		NORTHERN MOCKINGBIRD	Mimus polyglottos	Suitable
		BROWN-HEADED COWBIRD	Molothrus ater	Suitable
		TOWNSEND'S SOLITAIRE	Myadestes townsendi	Wintering
		ASH-THROATED FLYCATCHER	Myiarchus cinerascens	Suitable
		WHIMBREL	Numenius phaeopus	Suitable
		BLACK-CROWNED NIGHT-HERON	Nycticorax nycticorax	Suitable
		MACGILLIVRAY'S WARBLER	Oporornis tolmiei	Suitable
		SAGE THRASHER	Oreoscoptes montanus	Suitable
		WESTERN SCREECH-OWL	Otus kennicottii	Suitable
		PAINTED BUNTING	Passerina ciris	Suitable
		INDIGO BUNTING	Passerina cyanea	Suitable
		PHAINOPEPLA	Phainopepla nitens	Suitable
		BLACK-HEADED GROSBEEK	Pheucticus melanocephalus	Breeding
		LADDER-BACKED WOODPECKER	Picoides scalaris	Suitable
		GREEN-TAILED TOWHEE	Pipilo chlorurus	Wintering
		CANYON TOWHEE	Pipilo fuscus	Suitable
		WESTERN TANAGER	Piranga ludoviciana	Suitable
		WHITE-FACED IBIS	Plegadis chihi	Suitable
		BLUE-GRAY GNATCATCHER	Poliotilta caerulea	Suitable
		BLACK-TAILED GNATCATCHER	Poliotilta melanura	Suitable
		VERMILION FLYCATCHER	Pyrocephalus rubinus	Suitable
		GREAT-TAILED GRACKLE	Quiscalus mexicanus	Suitable
		RUBY-CROWNED KINGLET	Regulus calendula	Suitable
		BANK SWALLOW	Riparia riparia	Suitable
		ROCK WREN	Salpinctes obsoletus	Suitable
		WESTERN BLUEBIRD	Sialia mexicana	Wintering
		EASTERN MEADOWLARK	Sturnella magna	Suitable
		WESTERN MEADOWLARK	Sturnella neglecta	Suitable
		VIOLET-GREEN SWALLOW	Tachycineta thalassina	Suitable
		BEWICK'S WREN	Thryomanes bewickii	Suitable
		BENDIRE'S THRASHER	Toxostoma bendirei	Suitable
		CRISSAL THRASHER	Toxostoma crissale	Suitable
		CURVE-BILLED THRASHER	Toxostoma curvirostre	Suitable
		BROWN THRASHER	Toxostoma rufum	Suitable
		GREATER YELLOWLEGS	Tringa melanoleuca	Suitable
		GREATER YELLOWLEGS	Tringa melanoleuca	Suitable
		HOUSE WREN	Troglodytes aedon	Suitable
		WESTERN KINGBIRD	Tyrannus verticalis	Suitable
		COMMON BARN-OWL	Tyto alba	Suitable
		ORANGE-CROWNED WARBLER	Vermivora celata	Suitable
		LUCY'S WARBLER	Vermivora luciae	Suitable
		VIRGINIA'S WARBLER	Vermivora virginiae	Suitable
		BELL'S VIREO	Vireo bellii	Suitable
		WILSON'S WARBLER	Wilsonia pusilla	Migratory
		WHITE-WINGED DOVE	Zenaidura macroura	Breeding
		MOURNING DOVE	Zenaidura macroura	Suitable
		HARRIS'S SPARROW	Zonotrichia querula	Suitable
	Mammal	PALLID BAT	Antrozous pallidus	Suitable
		RINGTAIL	Bassariscus astutus	Suitable
		COYOTE	Canis latrans	Suitable
		GRAY WOLF	Canis lupus	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
North American Warm Desert Riparian Woodland and Shrubland	<i>Reptile</i>	BEAVER	Castor canadensis	Suitable
		HISPID POCKET MOUSE	Chaetodipus hispidus	Suitable
		DESERT POCKET MOUSE	Chaetodipus penicillatus	Suitable
		VIRGINIA OPOSSUM	Didelphis virginiana	Suitable
		MERRIAM'S KANGAROO RAT	Dipodomys merriami	Suitable
		ORD'S KANGAROO RAT	Dipodomys ordii	Suitable
		BANNER-TAILED KANGAROO RAT	Dipodomys spectabilis	Suitable
		PORCUPINE	Erethizon dorsatum	Suitable
		SPOTTED BAT	Euderma maculatum	Suitable
		DESERT POCKET GOPHER	Geomys arenarius	Suitable
		WESTERN RED BAT	Lasiurus blossevillii	Suitable
		BLACK-TAILED JACK RABBIT	Lepus californicus	Suitable
		BOBCAT	Lynx rufus	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		HOUSE MOUSE	Mus musculus	Suitable
		CALIFORNIA MYOTIS	Myotis californicus	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		ARIZONA MYOTIS	Myotis occultus	Suitable
		YUMA MYOTIS	Myotis yumanensis	Suitable
		WHITE-THROATED WOODRAT	Neotoma albigula	Suitable
		DESERT SHREW	Notiosorex crawfordi	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		NORTHERN GRASSHOPPER MOUSE	Onychomys leucogaster	Suitable
		ORYX	Oryx gazella	Suitable
		JAGUAR	Panthera onca	Suitable
		YELLOW-FACED POCKET GOPHER	Pappogeomys castanops	Suitable
		COLLARED PECCARY	Pecari tajacu	Suitable
		SILKY POCKET MOUSE	Perognathus flavus	Suitable
		CACTUS MOUSE	Peromyscus eremicus	Suitable
		WHITE-FOOTED MOUSE	Peromyscus leucopus	Suitable
		RACCOON	Procyon lotor	Suitable
		MOUNTAIN LION	Puma concolor	Suitable
		HISPID COTTON RAT	Sigmodon hispidus	Suitable
		WESTERN SPOTTED SKUNK	Spilogale gracilis	Suitable
		DESERT COTTONTAIL	Sylvilagus audubonii	Suitable
		BADGER	Taxidea taxus	Suitable
		GRAY FOX	Urocyon cinereoargenteus	Suitable
		BROWN BEAR	Ursus arctos	Suitable
		RED FOX	Vulpes vulpes	Suitable
		GLOSSY SNAKE	Arizona elegans	Suitable
		TRANS-PECOS RAT SNAKE	Bogertophis subocularis	Suitable
		NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		WESTERN WHIPTAIL	Cnemidophorus tigris	Suitable
		WESTERN DIAMONDBACK RATTLESNAKE	Crotalus atrox	Suitable
		BLACK-TAILED RATTLESNAKE	Crotalus molossus	Suitable
		MOJAVE RATTLESNAKE	Crotalus scutulatus	Suitable
		WESTERN RATTLESNAKE	Crotalus viridis	Suitable
		COLLARED LIZARD	Crotaphytus collaris	Suitable
		RING-NECKED SNAKE	Diadophis punctatus	Suitable
		CORN SNAKE	Elaphe guttata	Suitable
		MADREAN ALLIGATOR LIZARD	Elgaria kingii	Suitable
		GILA MONSTER	Heloderma suspectum	Suitable
		LESSER EARLESS LIZARD	Holbrookia maculata	Suitable
		YELLOW MUD TURTLE	Kinosternon flavescens	Suitable
		COMMON KINGSSNAKE	Lampropeltis getula	Suitable
		WESTERN BLIND SNAKE	Leptotyphlops humilis	Suitable
		BULLSNAKE	Pituophis catenifer	Suitable
		LONG-NOSED SNAKE	Rhinocheilus lecontei	Suitable
		WESTERN PATCH-NOSED SNAKE	Salvadora hexalepis	Suitable
		DESERT SPINY LIZARD	Sceloporus magister	Suitable
		EASTERN FENCE LIZARD	Sceloporus undulatus	Suitable
		GROUND SNAKE	Sonora semiannulata	Suitable
		SOUTHWESTERN BLACK-HEADED SNAKE	Tantilla hobartsmithi	Suitable
		ORNATE BOX TURTLE	Terrapene ornata	Suitable
		WESTERN TERRESTRIAL GARTER SNAKE	Thamnophis elegans	Suitable
		COMMON SLIDER	Trachemys scripta	Suitable
	<i>Amphibian</i>	WOODHOUSE'S TOAD	Bufo woodhousii	Suitable
		PLAINS LEOPARD FROG	Rana blairi	Suitable
		CHIRICAHUA LEOPARD FROG	Rana chiricahuensis	Suitable
	<i>Bird</i>	COOPER'S HAWK	Accipiter cooperii	Suitable
		NORTHERN GOSHAWK	Accipiter gentilis	Suitable
		SHARP-SHINNED HAWK	Accipiter striatus	Wintering
		SPOTTED SANDPIPER	Actitis macularia	Suitable
		WHITE-THROATED SWIFT	Aeronautes saxatalis	Suitable
		RED-WINGED BLACKBIRD	Agelaius phoeniceus	Suitable
		WOOD DUCK	Aix sponsa	Suitable
		CINNAMON TEAL	Anas cyanoptera	Suitable
		BLUE-WINGED TEAL	Anas discors	Suitable
		MALLARD	Anas platyrhynchos	Suitable
		GADWALL	Anas strepera	Suitable
		WESTERN SCRUB-JAY	Aphelocoma californica	Suitable
		GOLDEN EAGLE	Aquila chrysaetos	Suitable
		BLACK-CHINNED HUMMINGBIRD	Archilochus alexandri	Breeding
		GREAT EGRET	Ardea alba	Suitable
		LONG-EARED OWL	Asio otus	Suitable
		VERDIN	Auriparus flaviceps	Suitable
		REDHEAD	Aythya americana	Suitable
		RING-NECKED DUCK	Aythya collaris	Suitable
		CEDAR WAXWING	Bombicilla cedrorum	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		BUFFLEHEAD	Bucephala albeola	Breeding
		ZONE-TAILED HAWK	Buteo albonotatus	k13
		COMMON BLACK-HAWK	Buteogallus anthracinus	Suitable
		WESTERN SANDPIPER	Calidris mauri	Suitable
		LEAST SANDPIPER	Calidris minutilla	Suitable
		GAMBEL'S QUAIL	Callipepla gambelii	Suitable
		SCALED QUAIL	Callipepla squamata	Suitable
		CACTUS WREN	Campylorhynchus brunneicapillus	Suitable
		LESSER GOLDFINCH	Carduelis psaltria	Suitable
		AMERICAN GOLDFINCH	Carduelis tristis	Suitable
		HOUSE FINCH	Carpodacus mexicanus	Suitable
		TURKEY VULTURE	Cathartes aura	Suitable
		HERMIT THRUSH	Catharus guttatus	Suitable
		GRAY-CHEEKED THRUSH	Catharus minimus	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
		CANYON WREN	Catherpes mexicanus	Suitable
		BROWN CREEPER	Certhia americana	Suitable
		BELTED KINGFISHER	Ceryle alcyon	Suitable
		SNOW GOOSE	Chen caerulescens	Suitable
		ROSS'S GOOSE	Chen rossii	Suitable
		LARK SPARROW	Chondestes grammacus	Suitable
		AMERICAN DIPPER	Cinclus mexicanus	Suitable
		NORTHERN HARRIER	Circus cyaneus	Suitable
		MARSH WREN	Cistothorus palustris	Suitable
		YELLOW-BILLED CUCKOO	Coccyzus americanus	Suitable
		BLACK-BILLED CUCKOO	Coccyzus erythrophthalmus	Suitable
		NORTHERN FLICKER	Colaptes auratus	Suitable
		WESTERN WOOD-PEWEE	Contopus sordidulus	Suitable
		AMERICAN CROW	Corvus brachyrhynchos	Suitable
		COMMON RAVEN	Corvus corax	Suitable
		CHIHUAHUA RAVEN	Corvus cryptoleucus	Suitable
		YELLOW-RUMPED WARBLER	Dendroica coronata	Wintering
		PALM WARBLER	Dendroica palmarum	Suitable
		YELLOW WARBLER	Dendroica petechia	Suitable
		BLACKPOLL WARBLER	Dendroica striata	Suitable
		TOWNSEND'S WARBLER	Dendroica townsendi	Migratory
		WHITE-TAILED KITE	Elanus leucurus	Suitable
		BREWER'S BLACKBIRD	Euphagus cyanocephalus	Suitable
		PRAIRIE FALCON	Falco mexicanus	Suitable
		PEREGRINE FALCON	Falco peregrinus	Suitable
		AMERICAN KESTREL	Falco sparverius	Suitable
		AMERICAN COOT	Fulica americana	Suitable
		COMMON SNIFE	Gallinago gallinago	Suitable
		COMMON YELLOWTHROAT	Geothlypis trichas	Suitable
		BLUE GROSBEAK	Guiraca caerulea	Suitable
		BALD EAGLE	Haliaeetus leucocephalus	Suitable
		BARN SWALLOW	Hirundo rustica	Suitable
		WOOD THRUSH	Hylocichla mustelina	Suitable
		YELLOW-BREASTED CHAT	Icteria virens	Suitable
		BULLOCK'S ORIOLE	Icterus bullockii	Suitable
		HOODED ORIOLE	Icterus cucullatus	Suitable
		MISSISSIPPI KITE	Ictinia mississippiensis	Suitable
		DARK-EYED JUNCO	Junco hyemalis	Suitable
		LOGGERHEAD SHRIKE	Lanius ludovicianus	Suitable
		HOODED Merganser	Lophodytes cucullatus	Suitable
		ACORN WOODPECKER	Melanerpes formicivorus	Suitable
		LEWIS'S WOODPECKER	Melanerpes lewis	Suitable
		WILD TURKEY	Meleagris gallopavo	Suitable
		SWAMP SPARROW	Melospiza georgiana	Suitable
		LINCOLN'S SPARROW	Melospiza lincolni	Suitable
		COMMON Merganser	Mergus merganser	Suitable
		RED-BREASTED Merganser	Mergus serrator	Suitable
		ELF OWL	Micrathene whitneyi	k13
		NORTHERN MOCKINGBIRD	Mimus polyglottos	Suitable
		BLACK-AND-WHITE WARBLER	Mniotilta varia	Suitable
		BROWN-HEADED COWBIRD	Molothrus ater	Suitable
		ASH-THROATED FLYCATCHER	Myiarchus cinerascens	Suitable
		WHIMBREL	Numenius phaeopus	Suitable
		BLACK-CROWNED NIGHT-HERON	Nycticorax nycticorax	Suitable
		MACGILLIVRAY'S WARBLER	Oporornis tolmiei	Breeding
		SAGE THRASHER	Oreoscoptes montanus	Suitable
		WESTERN SCREECH-OWL	Otus kennicottii	Suitable
		OSPREY	Pandion haliaetus	Suitable
		SAVANNAH SPARROW	Passerculus sandwichensis	Suitable
		FOX SPARROW	Passerella iliaca	Suitable
		PAINTED BUNTING	Passerina ciris	Suitable
		INDIGO BUNTING	Passerina cyanea	Suitable
		CLIFF SWALLOW	Petrochelidon pyrrhonota	Suitable
		PHAINOPELA	Phainopepla nitens	Suitable
		DOUBLE-CRESTED CORMORANT	Phalacrocorax auritus	Suitable
		COMMON POORWILL	Phalaenoptilus nuttallii	Suitable
		BLACK-HEADED GROSBEAK	Pheucticus melanocephalus	Breeding
		LADDER-BACKED WOODPECKER	Picoides scalaris	Suitable
		HAIRY WOODPECKER	Picoides villosus	Suitable
		GREEN-TAILED TOWHEE	Pipilo chlorurus	Suitable
		CANYON TOWHEE	Pipilo fuscus	Suitable
		SPOTTED TOWHEE	Pipilo maculatus	Suitable
		WESTERN TANAGER	Piranga ludoviciana	Suitable
		SUMMER TANAGER	Piranga rubra	Suitable
		BLUE-GRAY GNATCATCHER	Polioptila caerulea	Suitable
		VESPER SPARROW	Poocetes gramineus	Suitable
		PURPLE MARTIN	Progne subis	Suitable
		VERMILION FLYCATCHER	Pyrocephalus rubinus	Suitable
		RUBY-CROWNED KINGLET	Regulus calendula	Suitable
		GOLDEN-CROWNED KINGLET	Regulus satrapa	Suitable
		BANK SWALLOW	Riparia riparia	Suitable
		ROCK WREN	Salpinctes obsoletus	Suitable
		BLACK PHOEBE	Sayornis nigricans	Suitable
		EASTERN PHOEBE	Sayornis phoebe	Suitable
		NORTHERN WATERTHRUSH	Seiurus noveboracensis	Suitable
		RUFIOUS HUMMINGBIRD	Setophorus rufus	Suitable
		AMERICAN REDSTART	Setophaga ruticilla	Suitable
		WESTERN BLUEBIRD	Sialia mexicana	Wintering
		WHITE-BREASTED NUTHATCH	Sitta carolinensis	Suitable
		PYGMY NUTHATCH	Sitta pygmaea	Suitable
		RED-NAPED SAPSUCKER	Sphyrapicus nuchalis	Suitable
		BREWER'S SPARROW	Spizella breweri	Suitable
		CHIPPING SPARROW	Spizella passerina	Suitable
		NORTHERN ROUGH-WINGED SWALLOW	Stelgidopteryx serripennis	Suitable
		WESTERN MEADOWLARK	Sturnella neglecta	Suitable
		TREE SWALLOW	Tachycineta bicolor	Suitable
		VIOLET-GREEN SWALLOW	Tachycineta thalassina	Suitable
		BEWICK'S WREN	Thryomanes bewickii	Suitable
		CRISSAL THRASHER	Toxostoma crissale	Suitable
		CURVE-BILLED THRASHER	Toxostoma curvirostre	Suitable
		BROWN THRASHER	Toxostoma rufum	Suitable
		GREATER YELLOWLEGS	Tringa melanoleuca	Suitable
		GREATER YELLOWLEGS	Tringa melanoleuca	Suitable
		HOUSE WREN	Troglodytes aedon	Suitable
		WESTERN KINGBIRD	Tyrannus verticalis	Suitable
		COMMON BARN-OWL	Tyto alba	Suitable
		ORANGE-CROWNED WARBLER	Vermivora celata	Suitable
		LUCY'S WARBLER	Vermivora luciae	Suitable
		VIRGINIA'S WARBLER	Vermivora virginiae	Suitable
		WARBLING VIREO	Vireo gilvus	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
North American Warm Desert Volcanic Rockland	<i>Mammal</i>	PLUMBEOUS VIREO	Vireo plumbeus	Suitable
		GRAY VIREO	Vireo vicinior	Suitable
		WILSON'S WARBLER	Wilsonia pusilla	Migratory
		YELLOW-HEADED BLACKBIRD	Xanthocephalus xanthocephalus	Suitable
		MOURNING DOVE	Zenaidura macroura	Suitable
		WHITE-THROATED SPARROW	Zonotrichia albicollis	Suitable
		WHITE-CROWNED SPARROW	Zonotrichia leucophrys	Suitable
		HARRIS'S SPARROW	Zonotrichia querula	Suitable
		PALLID BAT	Antrozous pallidus	Suitable
		RINGTAIL	Bassariscus astutus	Suitable
		GRAY WOLF	Canis lupus	Suitable
		BEAVER	Castor canadensis	Suitable
		ROCK POCKET MOUSE	Chaetodipus intermedius	Suitable
		DESERT POCKET MOUSE	Chaetodipus penicillatus	Suitable
		HOG-NOSED SKUNK	Conepatus mesoleucus	Suitable
		VIRGINIA OPOSSUM	Didelphis virginiana	Suitable
		PORCUPINE	Erethizon dorsatum	Suitable
		SPOTTED BAT	Euderma maculatum	Suitable
		SILVER-HAIRED BAT	Lasionycteris noctivagans	Suitable
		WESTERN RED BAT	Lasiurus blossevillii	Suitable
		EASTERN RED BAT	Lasiurus borealis	Suitable
		HOARY BAT	Lasiurus cinereus	Suitable
		BLACK-TAILED JACK RABBIT	Lepus californicus	Suitable
		BOBCAT	Lynx rufus	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		HOUSE MOUSE	Mus musculus	Suitable
		LONG-TAILED WEASEL	Mustela frenata	Suitable
		CALIFORNIA MYOTIS	Myotis californicus	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		ARIZONA MYOTIS	Myotis occultus	Suitable
		FRINGED MYOTIS	Myotis thysanodes	Suitable
		LONG-LEGGED MYOTIS	Myotis volans	Suitable
		YUMA MYOTIS	Myotis yumanensis	Suitable
		SOUTHERN PLAINS WOODRAT	Neotoma micropus	Suitable
		DESERT SHREW	Notiosorex crawfordi	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		MUSKRAT	Ondatra zibethicus	Suitable
		MEARNS' GRASSHOPPER MOUSE	Onychomys arenicola	Suitable
		NORTHERN GRASSHOPPER MOUSE	Onychomys leucogaster	Suitable
		SOUTHERN GRASSHOPPER MOUSE	Onychomys torridus	Suitable
		JAGUAR	Panthera onca	Suitable
		YELLOW-FACED POCKET GOPHER	Pappogeomys castanops	Suitable
		COLLARED PECCARY	Pecari tajacu	Suitable
		SILKY POCKET MOUSE	Perognathus flavus	Suitable
		CACTUS MOUSE	Peromyscus eremicus	Suitable
		OSGOOD'S MOUSE	Peromyscus gratus	Suitable
		WHITE-FOOTED MOUSE	Peromyscus leucopus	Suitable
		DEER MOUSE	Peromyscus maniculatus	Suitable
		ROCK MOUSE	Peromyscus nasutus	Suitable
		PINON MOUSE	Peromyscus truei	Suitable
		RACCOON	Procyon lotor	Suitable
		MOUNTAIN LION	Puma concolor	Suitable
		HISPID COTTON RAT	Sigmodon hispidus	Suitable
		ROCK SQUIRREL	Spermophilus variegatus	Suitable
		WESTERN SPOTTED SKUNK	Spilogale gracilis	Suitable
		BRAZILIAN FREE-TAILED BAT	Tadarida brasiliensis	Suitable
		BADGER	Taxidea taxus	Suitable
		BROWN BEAR	Ursus arctos	Suitable
	<i>Reptile</i>	TRANS-PECOS RAT SNAKE	Bogertophis subocularis	Suitable
		NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		CHECKERED WHIPTAIL	Cnemidophorus tesselatus	Suitable
		WESTERN WHIPTAIL	Cnemidophorus tigris	Suitable
		WESTERN DIAMONDBACK RATTLESNAKE	Crotalus atrox	Suitable
		BLACK-TAILED RATTLESNAKE	Crotalus molossus	Suitable
		MOJAVE RATTLESNAKE	Crotalus scutulatus	Suitable
		WESTERN RATTLESNAKE	Crotalus viridis	Suitable
		RING-NECKED SNAKE	Diadophis punctatus	Suitable
		CORN SNAKE	Elaphe guttata	Suitable
		MADREAN ALLIGATOR LIZARD	Elgaria kingii	Suitable
		GILA MONSTER	Heloderma suspectum	Suitable
		YELLOW MUD TURTLE	Kinosternon flavescens	Suitable
		COMMON KINGSLAKE	Lampropeltis getula	Suitable
		WESTERN BLIND SNAKE	Leptotyphlops humilis	Suitable
		BULLSNAKE	Pituophis catenifer	Suitable
		LONG-NOSED SNAKE	Rhinocheilus lecontei	Suitable
		WESTERN PATCH-NOSED SNAKE	Salvadora hexalepis	Suitable
		DESERT SPINY LIZARD	Sceloporus magister	Suitable
		GROUND SNAKE	Sonora semiannulata	Suitable
		SOUTHWESTERN BLACK-HEADED SNAKE	Tantilla hobartsmithi	Suitable
		ORNATE BOX TURTLE	Terrapene ornata	Suitable
		WESTERN TERRESTRIAL GARTER SNAKE	Thamnophis elegans	Suitable
		BIG BEND SLIDER	Trachemys gaigeae	Suitable
		COMMON SLIDER	Trachemys scripta	Suitable
		WESTERN LYRE SNAKE	Trimorphodon biscutatus	Suitable
	<i>Bird</i>	BLACK-THROATED SPARROW	Amphispiza bilineata	Suitable
		GOLDEN EAGLE	Aquila chrysaetos	Suitable
		JUNIPER TITMOUSE	Baeolophus ridgwayi	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		CANYON WREN	Catherpes mexicanus	Suitable
		LESSER NIGHTHAWK	Chordeiles acutipennis	Suitable
		AMERICAN KESTREL	Falco sparverius	Suitable
		WILD TURKEY	Meleagris gallopavo	Suitable
		ROCK WREN	Salpinctes obsoletus	Suitable
	<i>Mammal</i>	RINGTAIL	Bassariscus astutus	Suitable
		COYOTE	Canis latrans	Suitable
		ROCK POCKET MOUSE	Chaetodipus intermedius	Suitable
		HOG-NOSED SKUNK	Conepatus mesoleucus	Suitable
		WHITE-THROATED WOODRAT	Neotoma albigula	Suitable
		MEXICAN WOODRAT	Neotoma mexicana	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		BIGHORN SHEEP	Ovis canadensis	Suitable
		ROCK SQUIRREL	Spermophilus variegatus	Suitable
		WESTERN SPOTTED SKUNK	Spilogale gracilis	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
North American Warm Desert Wash	<i>Reptile</i>	WESTERN DIAMONDBACK RATTLESNAKE	Crotalus atrox	Suitable
		WESTERN RATTLESNAKE	Crotalus viridis	Suitable
		COLLARED LIZARD	Crotaphytus collaris	Suitable
		GREAT PLAINS SKINK	Eumeces obsoletus	Suitable
		COMMON KINGSSNAKE	Lampropeltis getula	Suitable
		TEXAS HORNED LIZARD	Phrynosoma cornutum	Suitable
		EASTERN FENCE LIZARD	Sceloporus undulatus	Suitable
		TREE LIZARD	Urosaurus ornatus	Suitable
	<i>Amphibian</i>	RED-SPOTTED TOAD	Bufo punctatus	Suitable
		WOODHOUSE'S TOAD	Bufo woodhousii	Suitable
	<i>Bird</i>	CASSIN'S SPARROW	Aimophila cassinii	Suitable
		GOLDEN EAGLE	Aquila chrysaetos	Suitable
		BLACK-CHINNED HUMMINGBIRD	Archilochus alexandri	Breeding
		VERDIN	Auriparus flaviceps	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		ZONE-TAILED HAWK	Buteo albonotatus	k13
		FERRUGINOUS HAWK	Buteo regalis	Suitable
		GAMBEL'S QUAIL	Callipepla gambelii	Suitable
		CACTUS WREN	Campylorhynchus brunneicapillus	Suitable
		PYRRHULOXIA	Cardinalis sinuatus	Suitable
		AMERICAN GOLDFINCH	Carduelis tristis	Suitable
		BROWN CREEPER	Certhia americana	Suitable
		SNOWY PLOVER	Charadrius alexandrinus	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		LARK SPARROW	Chondestes grammacus	Suitable
		LESSER NIGHTHAWK	Chordeiles acutipennis	Suitable
		YELLOW WARBLER	Dendroica petechia	k21
		TOWNSEND'S WARBLER	Dendroica townsendi	Migratory
		DUSKY FLYCATCHER	Empidonax oberholseri	Suitable
		PRAIRIE FALCON	Falco mexicanus	Suitable
		GREATER ROADRUNNER	Geococcyx californianus	Suitable
		LOGGERHEAD SHRIKE	Lanius ludovicianus	Suitable
		WILD TURKEY	Meleagris gallopavo	Suitable
		NORTHERN MOCKINGBIRD	Mimus polyglottos	Suitable
		ASH-THROATED FLYCATCHER	Myiarchus cinerascens	Suitable
		SAGE THRASHER	Oreoscoptes montanus	Suitable
		WESTERN SCREECH-OWL	Otus kennicottii	Suitable
		INDIGO BUNTING	Passerina cyanea	Suitable
		PHAINOPEPLA	Phainopepla nitens	Suitable
		COMMON POORWILL	Phalaenoptilus nuttallii	Suitable
		BLACK-HEADED GROSBEAK	Phaeucticus melanocephalus	Breeding
		LADDER-BACKED WOODPECKER	Picoides scalaris	Suitable
		CANYON TOWHEE	Pipilo fuscus	Suitable
		SUMMER TANAGER	Piranga rubra	Suitable
		BLACK-TAILED GNATCATCHER	Polioptila melanura	Suitable
		VERMILION FLYCATCHER	Pyrocephalus rubinus	Suitable
		BANK SWALLOW	Riparia riparia	Suitable
		ROCK WREN	Salpinctes obsoletus	Suitable
		EASTERN MEADOWLARK	Sturnella magna	Suitable
		BEWICK'S WREN	Thryomanes bewickii	Suitable
		BENDIRE'S THRASHER	Toxostoma bendirei	Suitable
		CRISSAL THRASHER	Toxostoma crissale	Suitable
		CURVE-BILLED THRASHER	Toxostoma curvirostre	Suitable
		COMMON BARN-OWL	Tyto alba	Suitable
		LUCY'S WARBLER	Vermivora luciae	Suitable
		WARBLING VIREO	Vireo gilvus	Suitable
		GRAY VIREO	Vireo vicinior	Suitable
		WHITE-WINGED DOVE	Zenaida asiatica	Breeding
		MOURNING DOVE	Zenaida macroura	Suitable
	<i>Mammal</i>	PALLID BAT	Antrozous pallidus	Suitable
		COYOTE	Canis latrans	Suitable
		ROCK POCKET MOUSE	Chaetodipus intermedius	Suitable
		DESERT POCKET MOUSE	Chaetodipus penicillatus	Suitable
		MERRIAM'S KANGAROO RAT	Dipodomys merriami	Suitable
		ORD'S KANGAROO RAT	Dipodomys ordii	Suitable
		PORCUPINE	Erethizon dorsatum	Suitable
		SPOTTED BAT	Euderma maculatum	Suitable
		DESERT POCKET GOPHER	Geomys arenarius	Suitable
		WESTERN RED BAT	Lasiurus blossevillii	Suitable
		BLACK-TAILED JACK RABBIT	Lepus californicus	Suitable
		BOBCAT	Lynx rufus	Suitable
		STRIPED SKUNK	Mephitis mephitis	Suitable
		CALIFORNIA MYOTIS	Myotis californicus	Suitable
		ARIZONA MYOTIS	Myotis occultus	Suitable
		WHITE-THROATED WOODRAT	Neotoma albigula	Suitable
		SOUTHERN PLAINS WOODRAT	Neotoma micropus	Suitable
		DESERT SHREW	Notiosorex crawfordi	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		MULE DEER	Odocoileus hemionus	Suitable
		SOUTHERN GRASSHOPPER MOUSE	Onychomys torridus	Suitable
		YELLOW-FACED POCKET GOPHER	Pappogeomys castanops	Suitable
		COLLARED PECCARY	Pecari tajacu	Suitable
		SILKY POCKET MOUSE	Perognathus flavus	Suitable
		CACTUS MOUSE	Peromyscus eremicus	Suitable
		WHITE-FOOTED MOUSE	Peromyscus leucopus	Suitable
		RACCOON	Procyon lotor	Suitable
		TAWNY-BELLIED COTTON RAT	Sigmodon fulviventer	Suitable
		ROCK SQUIRREL	Spermophilus variegatus	Suitable
		WESTERN SPOTTED SKUNK	Spilogale gracilis	Suitable
		DESERT COTTONTAIL	Sylvilagus audubonii	Suitable
		BRAZILIAN FREE-TAILED BAT	Tadarida brasiliensis	Suitable
		BOTTA'S POCKET GOPHER	Thomomys bottae	Suitable
		GRAY FOX	Urocyon cinereoargenteus	Suitable
		KIT FOX	Vulpes macrotis	Suitable
	<i>Reptile</i>	GLOSSY SNAKE	Arizona elegans	Suitable
		TRANS-PECOS RAT SNAKE	Bogertophis subocularis	Suitable
		NEW MEXICO WHIPTAIL	Cnemidophorus neomexicanus	Suitable
		WESTERN WHIPTAIL	Cnemidophorus tigris	Suitable
		WESTERN DIAMONDBACK RATTLESNAKE	Crotalus atrox	Suitable
		WESTERN RATTLESNAKE	Crotalus viridis	Suitable
		COMMON KINGSSNAKE	Lampropeltis getula	Suitable
		WESTERN BLIND SNAKE	Leptotyphlops humilis	Suitable
		TEXAS HORNED LIZARD	Phrynosoma cornutum	Suitable
		BULLSNAKE	Pituophis catenifer	Suitable

Land Cover Type	Taxa Group	Common Name	Scientific Name	Habitat
Open water		LONG-NOSED SNAKE	Rhinocheilus lecontei	Suitable
		DESERT SPINY LIZARD	Sceloporus magister	Suitable
		ORNATE BOX TURTLE	Terrapene ornata	Suitable
		SIDE-BLOTCHED LIZARD	Uta stansburiana	Suitable
	Amphibian	GREAT PLAINS TOAD	Bufo cognatus	Suitable
		RED-SPOTTED TOAD	Bufo punctatus	Suitable
		PLAINS LEOPARD FROG	Rana blairi	Suitable
		NORTHERN LEOPARD FROG	Rana pipiens	Suitable
	Bird	SPOTTED SANDPIPER	Actitis macularia	Suitable
		WESTERN GREBE	Aechmophorus occidentalis	Suitable
		WOOD DUCK	Aix sponsa	Suitable
		NORTHERN PINTAIL	Anas acuta	Suitable
		AMERICAN WIGEON	Anas americana	Suitable
		NORTHERN SHOVELER	Anas clypeata	Suitable
		GREEN-WINGED TEAL	Anas crecca	Suitable
		CINNAMON TEAL	Anas cyanoptera	Suitable
		BLUE-WINGED TEAL	Anas discors	Suitable
		MALLARD	Anas platyrhynchos	Suitable
		GADWALL	Anas strepera	Suitable
		GREATER WHITE-FRONTED GOOSE	Anser albifrons	Suitable
		GREAT EGRET	Ardea alba	Suitable
		GREAT BLUE HERON	Ardea herodias	Suitable
		LESSER SCAUP	Aythya affinis	Suitable
		REDHEAD	Aythya americana	Suitable
		RING-NECKED DUCK	Aythya collaris	Suitable
		GREATER SCAUP	Aythya marila	Suitable
		CANVASBACK	Aythya valisineria	Suitable
		AMERICAN BITTERN	Botaurus lentiginosus	Suitable
		CANADA GOOSE	Branta canadensis	Suitable
		GREAT HORNED OWL	Bubo virginianus	Suitable
		BUFFLEHEAD	Bucephala albeola	Suitable
		COMMON GOLDENEYE	Bucephala clangula	Suitable
		GREEN HERON	Butorides virescens	Suitable
		SANDERLING	Calidris alba	Suitable
		BAIRD'S SANDPIPER	Calidris bairdii	Suitable
		STILT SANDPIPER	Calidris himantopus	Suitable
		WESTERN SANDPIPER	Calidris mauri	Suitable
		LEAST SANDPIPER	Calidris minutilla	Suitable
		SNOWY PLOVER	Charadrius alexandrinus	Suitable
		KILLDEER	Charadrius vociferus	Suitable
		SNOW GOOSE	Chen caerulescens	Suitable
		ROSS'S GOOSE	Chen rossii	Suitable
		LITTLE BLUE HERON	Egretta caerulea	Suitable
		PEREGRINE FALCON	Falco peregrinus	Suitable
		AMERICAN COOT	Fulica americana	Suitable
		YELLOW-BILLED LOON	Gavia adamsii	Suitable
		SANDHILL CRANE	Grus canadensis	Suitable
		BALD EAGLE	Haliaeetus leucocephalus	Suitable
		BARN SWALLOW	Hirundo rustica	Suitable
		HERRING GULL	Larus argentatus	Suitable
		RING-BILLED GULL	Larus delawarensis	Suitable
		GLAUCOUS GULL	Larus hyperboreus	Suitable
		LONG-BILLED DOWITCHER	Limnodromus scolopaceus	Suitable
		MARbled GODWIT	Limosa fedoa	Suitable
		HOODED MERGANSER	Lophodytes cucullatus	Suitable
		COMMON MERGANSER	Mergus merganser	Suitable
		RED-BREASTED MERGANSER	Mergus serrator	Suitable
		LONG-BILLED CURLEW	Numenius americanus	Suitable
		WHIMBREL	Numenius phaeopus	Suitable
		RUDDY DUCK	Oxyra jamaicensis	Suitable
		OSPREY	Pandion haliaetus	Suitable
		AMERICAN WHITE PELICAN	Pelecanus erythrorhynchos	Suitable
		DOUBLE-CRESTED CORMORANT	Phalacrocorax auritus	Suitable
		WILSON'S PHALAROPE	Phalaropus tricolor	Suitable
		WHITE-FACED IBIS	Plegadis chihi	Suitable
		EARED GREBE	Podiceps nigricollis	Suitable
		PIED-BILLED GREBE	Podilymbus podiceps	Suitable
		AMERICAN AVOCET	Recurvirostra americana	Suitable
		BANK SWALLOW	Riparia riparia	Suitable
		BLACK PHOEBE	Sayornis nigricans	Suitable
		NORTHERN WATERTHRUSH	Seiurus noveboracensis	Suitable
		NORTHERN ROUGH-WINGED SWALLOW	Stelgidopteryx serripennis	Suitable
		LEAST TERN	Sterna antillarum	Suitable
		FORSTER'S TERN	Sterna forsteri	Suitable
		TREE SWALLOW	Tachycineta bicolor	Suitable
		VIOLET-GREEN SWALLOW	Tachycineta thalassina	Suitable
		LESSER YELLOWLEGS	Tringa flavipes	Suitable
		GREATER YELLOWLEGS	Tringa melanoleuca	Suitable
		SOLITARY SANDPIPER	Tringa solitaria	Suitable
		SABINE'S GULL	Xema sabini	Suitable
	Mammal	BEAVER	Castor canadensis	Suitable
		TOWNSEND'S BIG-EARED BAT	Corynorhinus townsendii	Suitable
		BIG BROWN BAT	Eptesicus fuscus	Suitable
		SILVER-HAIRED BAT	Lasiurus noctivagans	Suitable
		EASTERN RED BAT	Lasiurus borealis	Suitable
		WESTERN SMALL-FOOTED MYOTIS	Myotis leibii	Suitable
		FRINGED MYOTIS	Myotis thysanodes	Suitable
		LONG-LEGGED MYOTIS	Myotis volans	Suitable
		YUMA MYOTIS	Myotis yumanensis	Suitable
		BIG FREE-TAILED BAT	Nyctinomops macrotis	Suitable
		MUSKRAT	Ondatra zibethicus	Suitable
	Reptile	SPINY SOFTSHELL TURTLE	Apalone spinifera	Suitable
		SNAPPING TURTLE	Chelydra serpentina	Suitable
		YELLOW MUD TURTLE	Kinosternon flavescens	Suitable
		ORNATE BOX TURTLE	Terrapene ornata	Suitable
		COMMON SLIDER	Trachemys scripta	Suitable

Appendix H. Species of Greatest Conservation Need habitat associations with New Mexico CWCS key habitat in the Rio Grande Watershed.

Common Name	Perennial 1st / 2nd order stream	Perennial 3rd / 4th order stream	Perennial 5th order stream	Perennial Marsh/Cienega/Spring/Seep
Amphibian				
Chiricahua Leopard Frog	X	X	X	X
Northern Leopard Frog	X	X	X	X
Plains Leopard Frog		X	X	X
Tiger Salamander				X
Western Boreal Toad	X			X
Western Chorus Frog	X	X		X
Birds				
American Bittern				X
Bald Eagle		X	X	X
Bank Swallow		X	X	
Bell's Vireo		X	X	
Common Black-Hawk	X	X	X	X
Eared Grebe		X	X	X
Interior Least Tern		X	X	
Lucy's Warbler		X	X	X
Northern Harrier				X
Northern Pintail		X	X	X
Osprey		X	X	
Painted Bunting		X	X	
Peregrine Falcon		X	X	X
Sandhill Crane		X		X
Snowy Plover		X		
Southwestern Willow Flycatcher		X	X	X
White-Faced Ibis				X
Yellow Warbler	X	X	X	X
Crustaceans				
Sideswimmers / Scuds	X	X	X	X
Socorro Isopod				X
Fish				
Blue Catfish			X	
Blue Sucker			E	
Gray Redhorse			E	
Mexican Tetra	E			E
Rio Grande Chub	X	X	X	
Rio Grande Cutthroat Trout	X	X		
Rio Grande Shiner			E	
Rio Grande Silvery Minnow			X	X
Rio Grande Sucker	X	X	X	
Smallmouth Buffalo			X	
Speckled Chub			E	
Mammals				
Allen's Big-eared Bat				X
American Beaver	X	X	X	X
Desert Bighorn Sheep				X
New Mexico Meadow Jumping Mouse				X
Spotted Bat				X
Western Red Bat				X
Molluscs				
Alamosa Springsnail	X			X
Blunt Ambersnail				X
Chupadera Pyrg Snail				X
Creeping Ancyloid Snail		X	X	
Ovate Vertigo Snail				X
Socorro Pyrg Snail				X
Wrinkled Marshsnail	X			
Reptiles				
Big Bend Slider			X	

New Mexico Garter Snake	X	X	X	X
Western Painted Turtle		X	X	

Appendix I. Representative Maps based on data from Southwest Regional Gap Analysis Project and New Mexico's Comprehensive Wildlife Conservation Strategy.

Legend

SWReGAP Land Cover Legend

	Agriculture
	Apacherian-Chihuahuan Mesquite Upland Scrub
	Apacherian-Chihuahuan Piedmont Semi-Desert Grassland and Steppe
	Chihuahuan Creosotebush, Mixed Desert and Thorn Scrub
	Chihuahuan Gypsophilous Grassland and Steppe
	Chihuahuan Mixed Salt Desert Scrub
	Chihuahuan Sandy Plains Semi-Desert Grassland
	Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub
	Chihuahuan Succulent Desert Scrub
	Chihuahuan-Sonoran Desert Bottomland and Swale Grassland
	Developed, Medium - High Intensity
	Developed, Open Space - Low Intensity
	Disturbed, Non-specific
	Invasive Southwest Riparian Woodland and Shrubland
	Madrean Encinal
	Madrean Juniper Savanna
	Madrean Pine-Oak Forest and Woodland
	Madrean Pinyon-Juniper Woodland
	Madrean Upper Montane Conifer-Oak Forest and Woodland
	Mogollon Chaparral
	North American Arid West Emergent Marsh
	North American Warm Desert Active and Stabilized Dune
	North American Warm Desert Badland
	North American Warm Desert Bedrock Cliff and Outcrop
	North American Warm Desert Lower Montane Riparian Woodland and Shrubland
	North American Warm Desert Pavement
	North American Warm Desert Playa
	North American Warm Desert Riparian Mesquite Bosque
	North American Warm Desert Riparian Woodland and Shrubland
	North American Warm Desert Volcanic Rockland
	North American Warm Desert Wash
	Open Water

Figure 6. Legend for Southwest Regional Gap Analysis Maps.

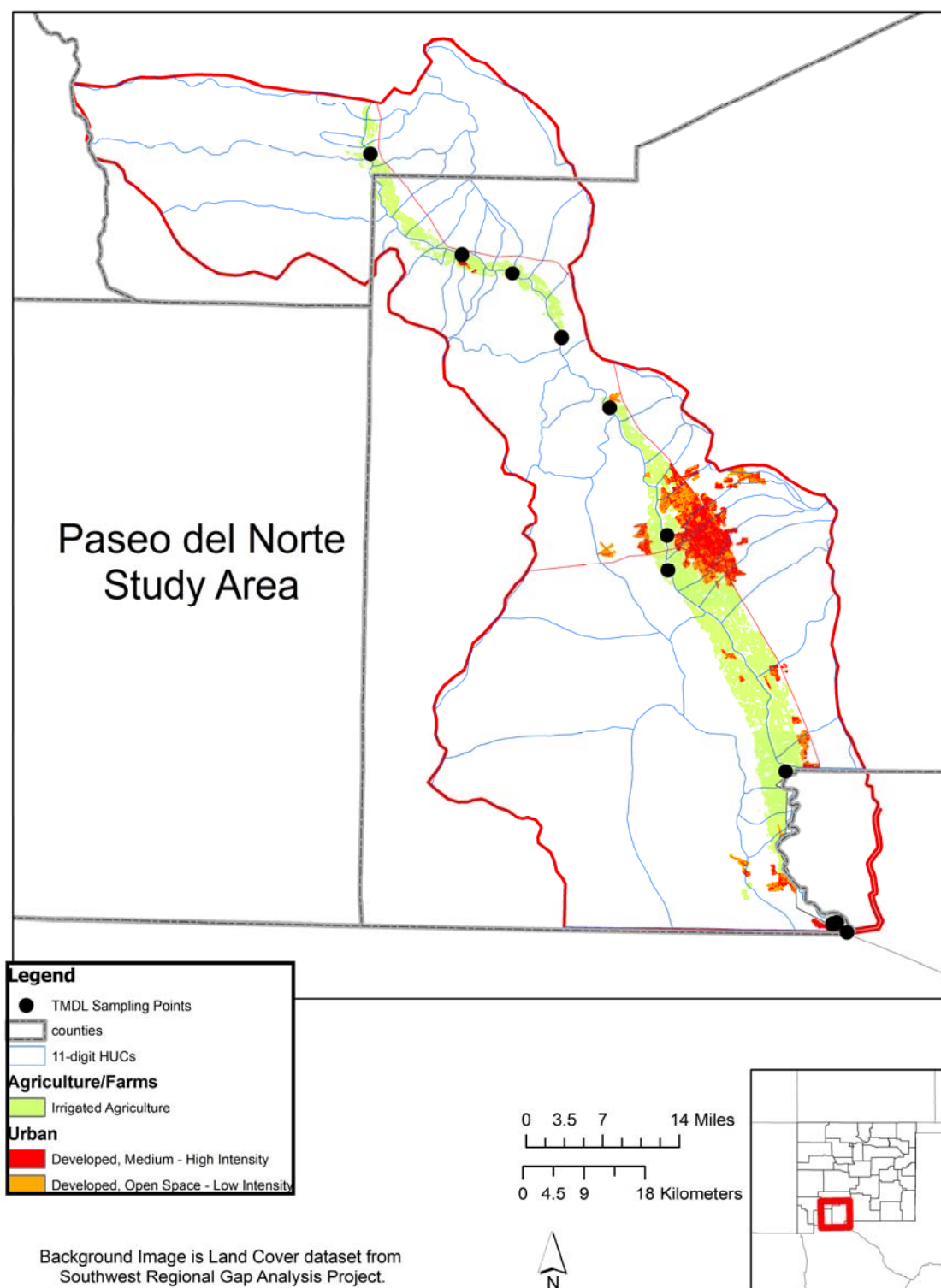


Figure 7. Mapped Urban and Irrigated Farm lands.

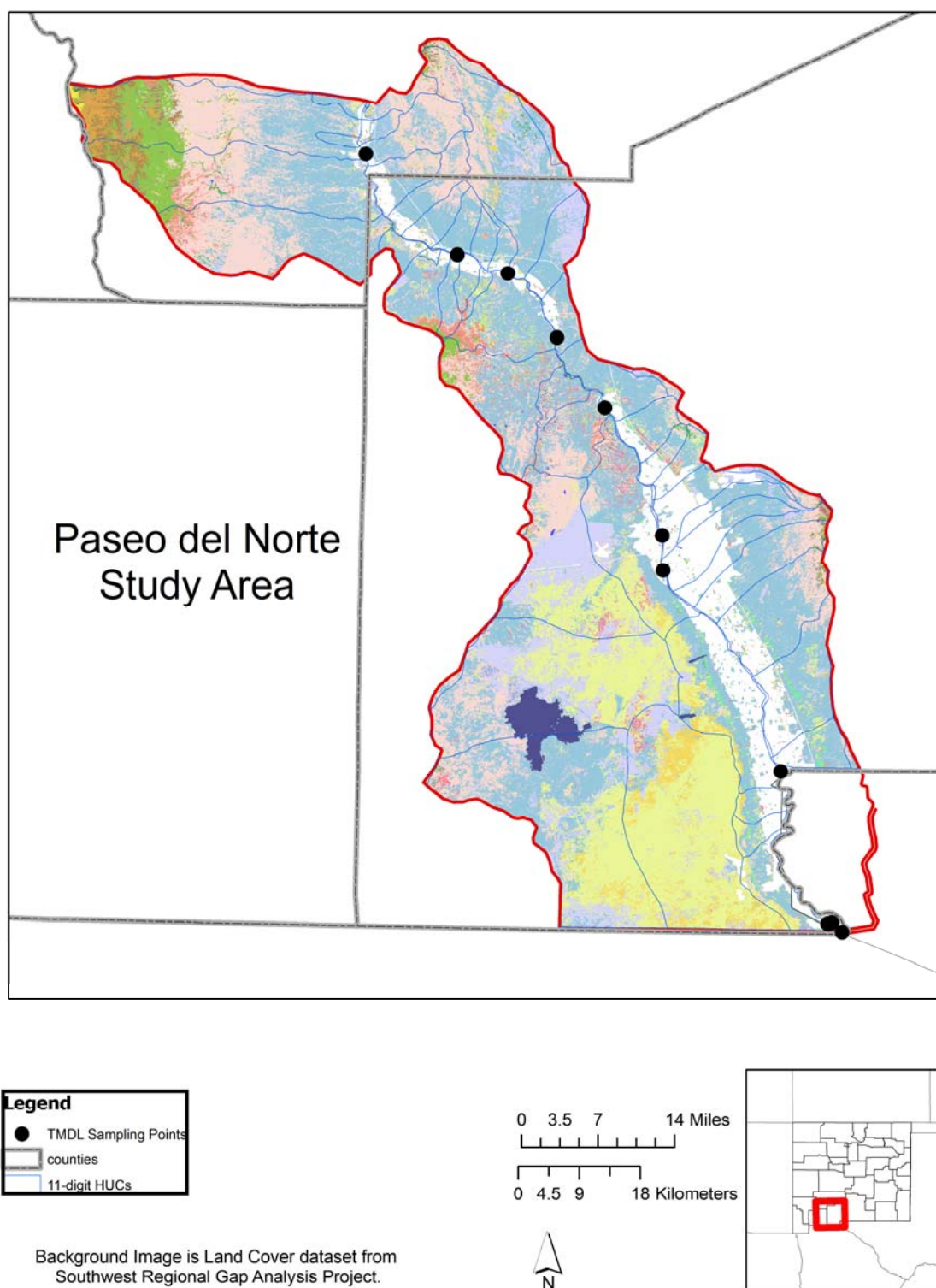


Figure 8. Natural communities as mapped by the Southwest Regional Gap Analysis Project.



Figure 9. Land managers as mapped by the Southwest Regional Gap Analysis Project.

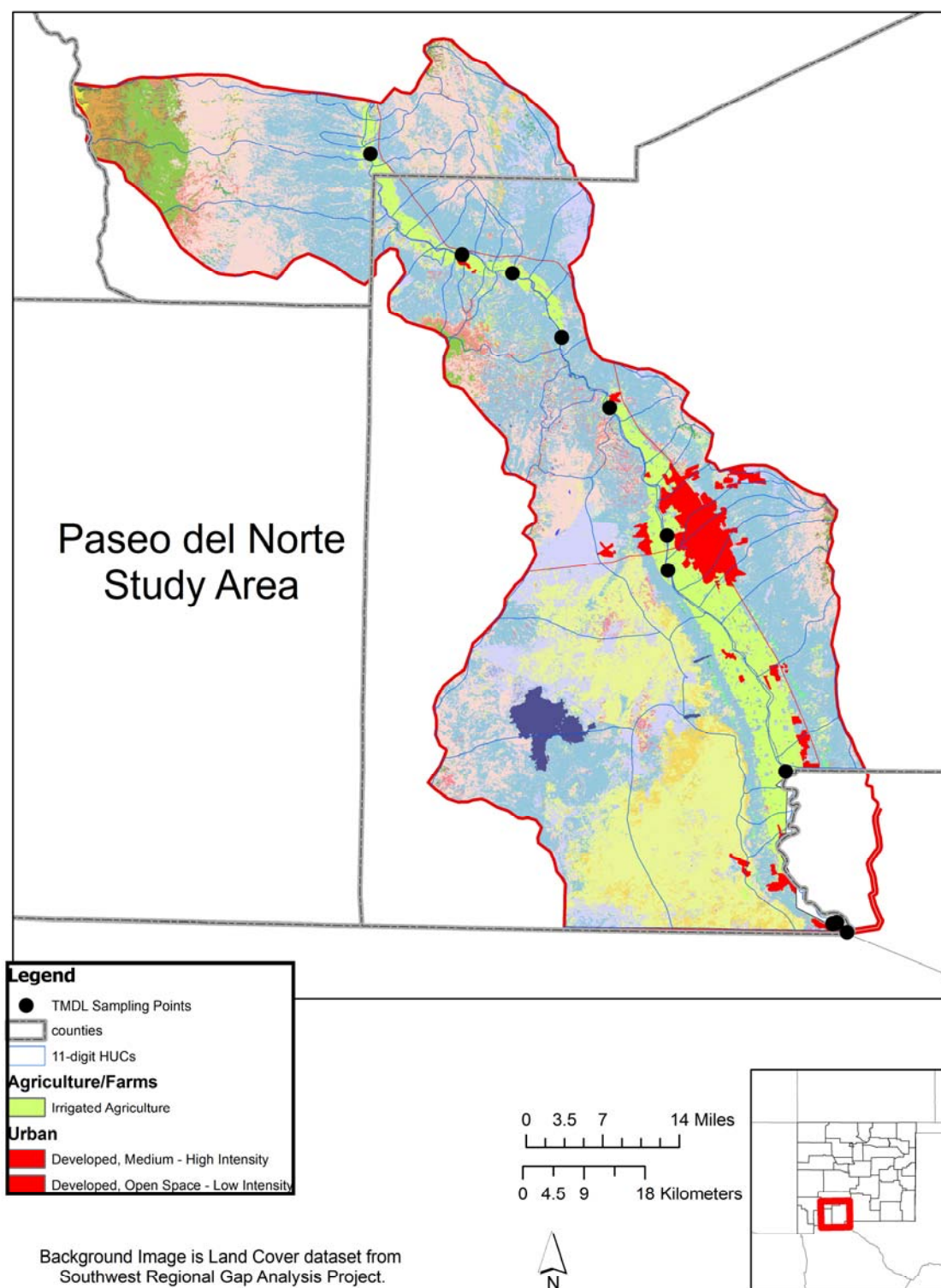


Figure 10. Natural communities, agriculture, and urban areas as mapped by the Southwest Regional Gap Analysis Project. with TMDL sample sites and 11-digit HUCS.