

# **EXHIBIT D**

## EXHIBIT D – BIOLOGICAL RESOURCES

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As stated in R14-3-219, Exhibits to Application, Exhibit D of the Rules of Practice and Procedure Before Power Plant and Transmission Line Siting Committee:

***“List the fish, wildlife, plant life and associated forms of life in the vicinity of the proposed site or route and describe the effects, if any, the proposed facilities will have thereon.”***

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### **INTRODUCTION**

The biological resources study area includes the Project footprint for the CEC New Build Route, the CEC Upgrade Route, and CEC Substations. The CEC New Build Route includes 66 miles of new double-circuit 345-kV transmission line in a new 200-foot-wide ROW, which would terminate at a new substation to be owned by Southline near the existing AEPCO Apache Substation,<sup>1</sup> and less than 1 mile of 115-kV or 230-kV transmission line and associated facilities needed to connect the proposed Southline Apache Substation to the AEPCO Apache Substation. The right-of-way (“ROW”) width will be 200 feet for the CEC New Build Route.

The CEC Upgrade Route consists of approximately 5 miles of new non-WAPA owned 138-kV and 230-kV transmission lines and associated facilities that would interconnect the upgraded WAPA 230-kV Apache-Tucson and Tucson-Saguaro transmission lines to four existing substations owned and operated by other Arizona load-serving utilities. The connection lines will have a ROW width of 150 feet. The CEC Substation expansions will occur outside the ROW at the Apache (69.4 acres), Pantano (25.4 acres), Vail (27.7 acres), DeMoss Petrie (4.2 acres), and Tortolita substations (16.1 acres).

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<sup>1</sup> The existing Apache Substation is owned and operated by AEPCO. Southline proposes to construct a new substation (“Southline Apache Substation”) located near the AEPCO Apache Substation that would connect the New Build Section of the Project to the AEPCO Apache Substation and to the Upgrade Section of the Project. See Application at Section 4.b.i.(3) for additional details.

Impacts to biological resources were considered by evaluating the presence or absence of suitable habitat within the study area, the potential for direct mortality, and habitat fragmentation.

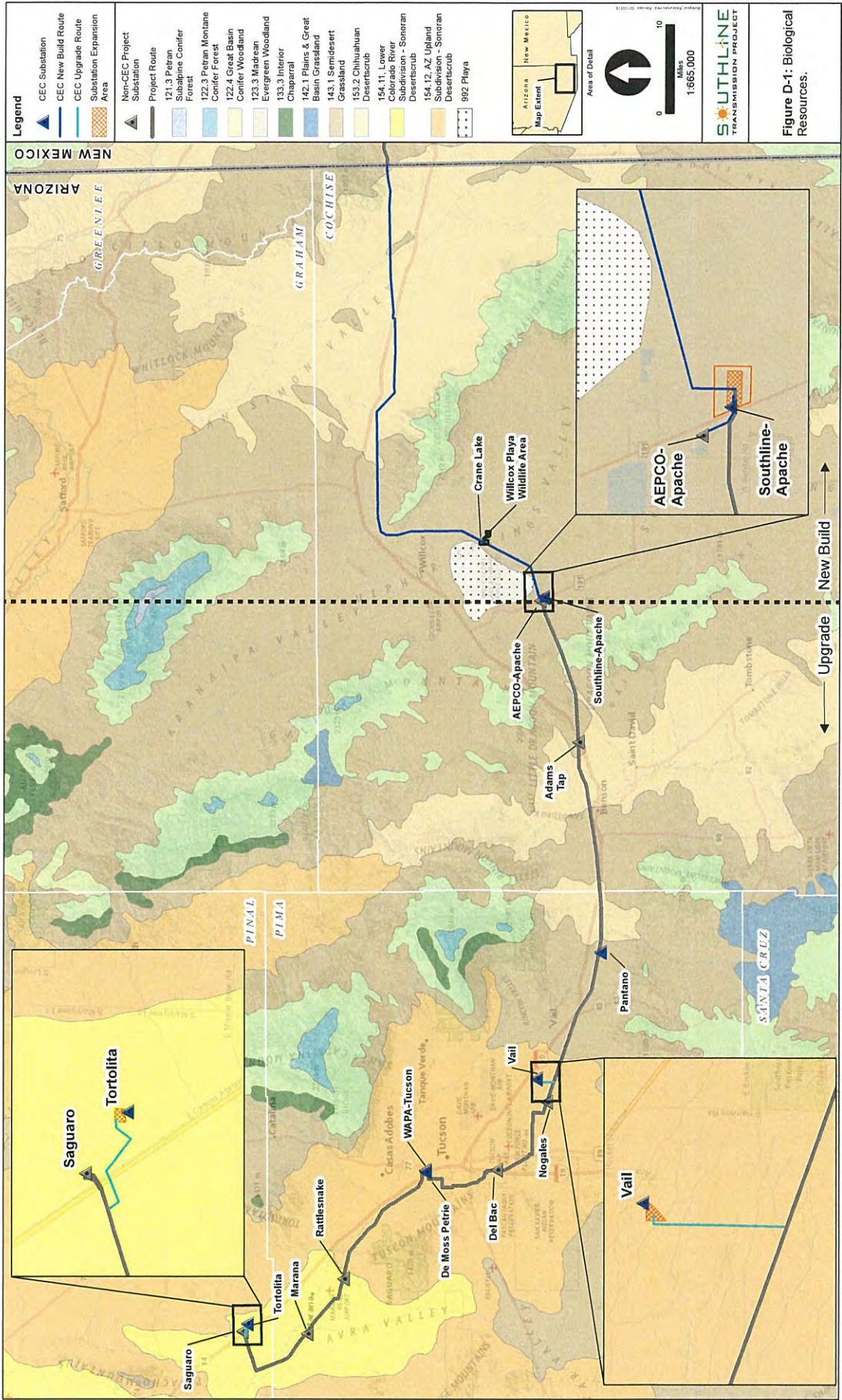
## **EXISTING CONDITIONS**

### **I. PHYSICAL SETTING**

The CEC New Build Route is located within the Mexican Highland Subprovince of the Basin and Range Physiographic Province. The Basin and Range Physiographic Province is characterized by numerous elongated, subparallel mountain ranges and intervening broad alluvial basins that formed during Late Cenozoic extension. The CEC Upgrade Route is located in the eastern edge of the Sonoran Desert Subprovince of the Basin and Range Physiographic Province. The Basin and Range Physiographic Province is a region dominated by basins filled with sediments separated by uplifted mountain blocks. Major basins include the Avra Valley, Tucson Basin, San Pedro Valley, and Willcox Playa (Trapp and Reynolds 1995).

### **II. LARGE-SCALE BIOTIC COMMUNITIES: BROWN AND LOWE BIOTIC COMMUNITIES**

The map of biotic communities of the Southwest described in Brown (1984) shows four communities within the study area (*see* Figure D-1). Acreage calculations by biotic community presented below were derived for the total study area for the CEC New Build Route, the CEC Upgrade Route, and the CEC Substations. In descending order of coverage, these communities are Semidesert Grassland (888.6 acres), Chihuahuan Desertscrub (789.0 acres), Arizona Upland Subdivision of Sonoran Desertscrub (66.9 acres), and Lower Colorado River Valley Subdivision of Sonoran Desertscrub (44.3 acres), for a total of 1,788.8 acres. A description of each of these communities is provided in the following paragraphs. The Willcox Playa is north of the project ROW in segments P7 and P8.



The vegetation communities crossed by the proposed Project are described below as background information and to place the finer-scale SWReGAP plant associations in a broader biogeographic context, but are not addressed in the further analysis of biotic communities.

Note that plant species names used below are based on those presented by Brown and Lowe (1980), and some of the plant names and taxonomic classifications have changed since then. Updated and current plant classifications and names are available at the NRCS PLANTS Database (NRCS 2016).

### **A. Semidesert Grassland**

The Semidesert Grassland biotic community comprises 49.7 percent of the study area and covers large areas of southeast Arizona, southwest New Mexico, West Texas, and northern parts of Sonora and Chihuahua, Mexico. This perennial, grass-shrub-dominated community is situated topographically above desertscrub communities and below evergreen woodland, chaparral, or plains grassland (Brown 1984). The upper and lower elevation limits of this community vary substantially over its distribution. The lower contact with desertscrub is generally between about 3,600 and 4,600 feet, while the upper contact with evergreen woodland or chaparral is generally between 4,920 and 5,580 feet. Average annual rainfall in this community ranges from 9.8 to 17.7 inches. This community is dominated by a variety of grasses and seasonally abundant forbs. Common shrub species include mesquites (*Prosopis* spp.), Mormon tea (*Ephedra* spp.), mimosas (*Mimosa* spp.), catclaw acacia (*Acacia greggii*), and ocotillo (*Fouquieria splendens*). Common leaf succulents include agaves (*Agave* spp.), yuccas (*Yucca* spp.), and sotols (*Dasyliirion* spp.). This community is interspersed with Chihuahuan Desertscrub in the study area and occurs in the CEC New Build Route in segments P6b, P6c, P7, P8 and the Apache Substation expansion area. The community is present in the CEC Upgrade Route at the Pantano Substation expansion area.

### **B. Chihuahuan Desertscrub**

The Chihuahuan Desertscrub biotic community comprises 44.1 percent of the study area and covers large areas of southern New Mexico and West Texas, smaller areas of southeast Arizona, and a large part of the State of Chihuahua, Mexico. This community is centered in the highland plains and basins of northern Mexico, below the Semidesert

Grassland community (Brown 1984). This biotic community is dominated by basin and range topography, and most of this community is underlain by limestone.

The lower elevation limit of Chihuahuan Desertscrub is around 1,300 feet, while its upper limit is generally between 4,600 and 5,250 feet. Average annual rainfall in this community ranges from 7.9 to 11.8 inches. Large areas of this desert are dominated by three shrubs: creosotebush (*Larrea tridentata*), tarbush (*Flourensia cernua*), and viscid acacia (*Vachellia neovernicosa*). Honey mesquite (*Prosopis glandulosa*) and saltbush (*Atriplex* spp.) are common in some areas. Common leaf succulents include agaves, yuccas, and sotols. This community is interspersed with Semidesert Grassland and occurs in the CEC New Build Route in segments P5b, P5c, P6a, and P6b.

### **C. Sonoran Desertscrub – Arizona Upland Subdivision**

The Arizona Upland Subdivision comprises 3.7 percent of the study area but covers large areas of the northern and eastern parts of the Sonoran Desertscrub biotic community in Arizona and Sonora, Mexico. This subdivision is a cactus-dominated community situated topographically above the Lower Colorado River Subdivision and below Semidesert Grassland (Brown 1984). As with other communities, the upper and lower elevation limits of this community vary substantially over its distribution. The lower edge of this subdivision is generally between about 1,000 and 2,100 feet, whereas the upper contact with Semidesert Grassland is generally between 2,950 and 3,300 feet. Average annual rainfall in this community ranges from 7.9 to 16.7 inches. This community is dominated by a high diversity of cacti, and most of the woody shrubs have thorns. Common cactus species include saguaro, chollas (*Cylindropuntia* spp.) and pricklypears (*Opuntia* spp.), barrel cactus (*Ferocactus* spp.), hedgehog cactus (*Echinocereus* spp.), and pincushion cactus (*Mammillaria* spp.). Some common small trees and shrubs include paloverde (*Parkinsonia* spp.), ironwood, velvet mesquite (*Prosopis velutina*), acacias (*Acacia* spp.), and creosotebush. In the study area, this community is limited to the CEC Upgrade Route segment U4 and the Vail Substation expansion area. The DeMoss Petrie Substation expansion area is mapped within the community but has been previously cleared of vegetation.

## **D. Sonoran Desertscrub – Lower Colorado River Valley Subdivision**

The Lower Colorado River Valley Subdivision comprises 2.5 percent of the study area but covers large areas of the southern and western parts of the Sonoran Desertscrub biotic community in Arizona, California, Baja California, and Sonora, Mexico. This subdivision is a shrub-dominated community situated topographically below the Arizona Upland Subdivision (Brown 1984). This community is the hottest and driest part of the Sonoran Desert, with average annual rainfall between 1.2 and 11.3 inches. Dominant shrub species include creosotebush, white bursage (*Ambrosia dumosa*), and saltbush. Other shrubs and small trees are present in xeroriparian zones along small drainages. In the study area, this community is limited to the CEC Upgrade Route segment U3l. The adjacent Tortolita Substation expansion area is mapped within the community but has been previously cleared of vegetation.

### **EFFECTS OF THE PROPOSED FACILITIES**

Species occurrence, abundance, and distribution are strongly influenced by the topography and habitat types within and surrounding the study area. Tables D-1, D-2, and D-3 (included at the end of this Exhibit) present common mammals, birds, and reptiles/amphibians, respectively, which may occur in the study area. Lists of potentially occurring species of animals were assembled from standard references for the state.

The proposed Project could have direct and indirect impacts on vegetation resources located within areas disturbed by construction activity. These potential impacts will be mitigated through implementation of Proponent Committed Environment Measures (“PCEM”) VEG-1, VEG-2, VEG-3, VEG-4, VEG-5, or VEG-6 (*see* Exhibit B-1, Final EIS Table 2-8).

Potential impacts from the proposed Project common to all wildlife groups will include the loss, degradation, and/or fragmentation of breeding, rearing, foraging, and dispersal habitats; collisions with and crushing by construction and maintenance vehicles; loss of burrowing animals in burrows in areas where grading occurs, increased invasive and noxious weed establishment and spread; and increased noise/vibration levels. PCEMs and collocation of the transmission line, substations, and access road

with existing infrastructure, and routing of the line to avoid sensitive areas will reduce these impacts and they will be minor/negligible and short-term to long-term.

Design features and mitigation (PCEMs) for vegetation and wildlife will apply and reduce the amount of habitat lost or degraded/fragmented during construction activities. Some of the habitat will be restored or reconstructed elsewhere after the completion of construction activities; however, restoration in arid environments is difficult and slow and may require 50 to 100 or more years. The habitat types affected are abundant in the representative ROW and the broader study area. As such, impacts from ground disturbance will be minor and long-term.

## **I. Access Roads**

There will be approximately 71.2 miles of access roads, 68.7 miles will occur in the CEC New Build Route section with the remaining 2.5 miles in the CEC Upgrade Route section. In most areas the access roads will parallel existing utility roads.

The primary direct and indirect impacts of access roads will include the removal or crushing of native vegetation, decreased plant productivity from fugitive dust, plant community fragmentation, and the introduction or increased spread of noxious weeds. Impacts on wildlife will include the potential for direct collisions with construction and Project equipment, loss of burrowing animals in burrows in areas where grading occurs as well as the loss, degradation, and/or fragmentation of breeding, rearing, foraging, and dispersal habitats

The access roads for the Project will increase the amount of edge habitat along the ROW. Effects from increased amounts of edge will include decreased habitat block size. Decreased habitat block size may negatively impact those species that require large blocks of contiguous habitat and benefit other species that utilize edge habitats or have more general habitat requirements. In areas where there is higher vegetation density the potential impacts from habitat fragmentation and edge effects will be greatest.

Access roads could provide increased access for off-highway vehicle ("OHV") users, which could increase the potential for OHV collisions with wildlife, and increase fire ignition sources from increased OHV access. Required mitigation measures, or PCEMs, are a condition of the BLM's and WAPA's Record of Decisions. PCEMs to provide spur and access road closure signage at the entrances to these roads will reduce the potential



for impacts from the access roads. While mitigation will minimize OHV use along the transmission line and access roads, trespass use of the area could still occur. The increased potential for fire ignition could lead to fires that dramatically modify habitat over large areas, especially in habitat types that are not adapted to fire.

## **II. Transmission Line**

The total acreage in the CEC New Build Route will be approximately 1,518 acres, with approximately 248 acres to be disturbed by the transmission line. The CEC Upgrade Route will be approximately 63 acres, with approximately 18 acres to be disturbed by the transmission line. Disturbance associated with the CEC Substation expansions will occur at the Apache (69.3 acres), Pantano (25.4 acres), Vail (27.7 acres), DeMoss Petrie (4.2 acres), and Tortolita substations (16.1 acres).

Much of the CEC Proposed Route and CEC Substation expansions are collocated with existing roads, pipelines, and existing transmission lines. In areas where the proposed transmission line will be collocated with existing infrastructure impacts on vegetation will be less than in areas where there is no collocation of facilities. Impacts to native plant associations throughout these collocated portions of the CEC Proposed Route will therefore be minimal relative to the existing undeveloped portions of the proposed route.

Project activities will involve the removal of vegetation during construction resulting in the direct loss of plant communities. The primary direct and indirect impacts to vegetation during construction and operation and maintenance of the proposed Project will be associated with the removal and/or crushing of natural, native-species dominated vegetation communities or associations from construction of transmission lines, substations, temporary work areas, and access roads; decreased plant productivity from fugitive dust; and plant community fragmentation.

Vegetation removal could have a variety of effects on vegetation communities ranging from changes in community structure and composition along the ROW to alteration of soil moisture or nutrient regimes. The degree of impact depends on the type and amount of vegetation affected, and the rate at which vegetation regenerates after construction. Ultimately, these direct and indirect effects could reduce or change the functional qualities of vegetation, including habitat and forage. Fugitive dust from construction and maintenance traffic has the potential to affect photosynthetic rates and

decrease plant productivity. Potential impacts from fugitive dust caused by Project activities will be highest near the ROW and occur during construction activities. The overall impact on vegetation from fugitive dust will be localized along the ROW and will be reduced below significance once construction activities are completed. These impacts will only occur during occasional maintenance activities and will be insignificant after construction activities are complete.

Indirectly, removal of vegetation could cause increased soil desiccation, and will also expose soil to potential wind and water erosion. This could result in further loss of soil and vegetation, as well as increased sediment input to water resources. This impact will occur in areas of disturbance, localized in the ROW; however, as the proposed Project will occur in an area with an arid climate and large existing areas with low vegetation density the impacts from soil desiccation will be localized and minimal. Increased potential for erosion will occur but will be minimized through PCEMs to limit erosion.

There will also be indirect effects resulting from the fragmentation of connected vegetation types and creation of edge areas. Edge areas have different microclimatic conditions and structure, which could lead to different species composition than interior areas. In areas where there is higher vegetation density the potential impacts from habitat fragmentation and edge effects will be greatest. However, portions of the CEC Proposed Route and CEC Substation expansion will occur in areas with low vegetation density. In these areas impacts from fragmentation and edge effects will be minimal. The introduction and colonization of disturbed areas by invasive exotic plant species also will lead to changes in vegetation communities, including the possible shift to more wildfire-prone vegetation that favors invasive exotic species over native species.

The proposed Project could have direct and indirect impacts on vegetation resources located within areas disturbed by construction activity. These potential impacts will be mitigated through implementation of the required PCEMs VEG-1, VEG-2, VEG-3, VEG-4, VEG-5, or VEG-6 (*see* Exhibit B-1, Final EIS Table 2-8).

Routine operation and maintenance activities could increase long-term chances for invasive weed and wildfire threats to vegetation communities. Application of mitigation measures (PCEMs) will be used to mitigate these impacts, particularly PCEM VEG-1: Minimize Vegetation Impacts, PCEM VEG-2: Reclamation, Vegetation, and

Monitoring Plan, and PCEM VEG-4: Vegetation Clearing. Adherence to these measures will result in short-term, minor impacts to vegetation communities.

Pre-construction surveys for the species with the potential to occur in the ROW could allow direct impacts to be avoided. Furthermore, application of measures PCEM VEG 1-6 described above will be used to mitigate these impacts, particularly PCEM VEG-1: Minimize Vegetation Impacts; and PCEM VEG-2: Reclamation, Vegetation, and Monitoring Plan. Measures to restore special status species will also be implemented through the Reclamation, Vegetation, and Monitoring Plan (PCEM VEG-3). Measures that reduce ground disturbance and aid reclamation will also reduce any detrimental effects on sensitive biological soil crusts.

Application of PCEMs to reduce the transfer of invasive species on construction vehicles (as directed under PCEM VEG-5: Noxious Weed Management Plan and PCEM VEG-6 regarding equipment washing) should also mitigate most direct and indirect impacts associated with the spread of noxious weeds during construction. Adherence to PCEMs will result in short-term, minor impact to vegetation and wildlife.

Reclamation activities will utilize plant species that are reflective of the local ecosystem and habitat types. Compensatory mitigation planning will be developed as part of the Plant and Wildlife Species Conservation Measures Plan. Compensatory mitigation planning will address residual impacts anticipated following application of the Reclamation, Vegetation, and Monitoring Plan.

Routine operation and maintenance activities could increase long-term chances for invasive weed and wildfire threats. Application of measures PCEM VEG 1-6 as previously discussed will be used to mitigate these impacts particularly PCEM VEG-1: Minimize Vegetation Impacts and PCEM VEG-2: Reclamation, Vegetation, and Monitoring Plan.

Application of PCEMs to reduce the transfer of invasive species on vehicles (as directed under PCEM VEG-5: Noxious Weed Management Plan and PCEM VEG-6: Equipment Washing) should also mitigate most direct and indirect impacts associated with the spread of noxious weeds. Adherence to these measures will result in short-term, minor impacts to special status species.

Potential impacts to bird species will include temporary disturbance from noise as well as changes to habitat use. Noise-related construction activities could affect nesting, roosting, and foraging activities. Changes to behavior could include increased alertness, turning toward the disturbance, fleeing the disturbance, changes in activity patterns, and nest abandonment. Raptors will be especially susceptible to noise disturbance early in the breeding season, when it can cause nest abandonment and failure for up to one season. Measures to avoid working in sensitive habitats during the breeding season will reduce these impacts (PCEM WILD-5) and they will be minor and short-term.

Potential impacts from the transmission line will include the potential for birds to strike the electrical transmission lines, ground wires, and towers. Proponent proposed measures to design the transmission lines and structures in accordance with "Reducing Avian Collision with Power Lines" (Avian Powerline Interaction Committee ("APLIC") 2012), utilizing the existing WAPA transmission line ROW, and route siting will minimize the potential for bird collisions with transmission lines or towers (PCEM WILD-6). However, during poor weather conditions and along elevated terrain migrating birds and raptors will be at greater risk for collisions as they will fly nearer to transmission line facilities. While some individuals could be impacted these impacts will be unlikely to reach population levels. The impacts will be minor and long-term. Small and mobile bird species will be anticipated to have a very low potential for collisions.

Electrocution is not a potential issue for birds as the proposed transmission lines will have conductor spacing that is much larger than the largest wingspan of bird species that could occur in the area. Types of mitigation described by APLIC include collision monitoring, line marking, changing line configurations, and increasing wire diameters (APLIC 2012). Mitigation measures will be provided in the Avian Protection Plan and will be tailored to Project-specific conditions. With the application of PCEMs, there will be no impact on birds from electrocution.

The presence of transmission poles will provide perches as well as nesting habitat for some species. In some areas the transmission poles may be the only suitable nesting structures for some species. This will allow some species to utilize areas that would otherwise be unsuitable. This will be a beneficial impact to species that utilize the transmission line and could increase impacts on prey species near the ROW.

The increased amount of edge habitat created by the proposed Project will allow for an increase in species that use edge habitats, such as brown-headed cowbirds (*Molothrus ater*). This will change the species composition of the ROW area and impact species that utilize larger blocks of habitat as they will be subject to increased predation and nest parasitism. Other species that utilize edge habitats or have more general habitat requirements will benefit from the increased amount of edge habitat. In areas where there is higher vegetation density the potential impacts from habitat fragmentation and edge effects will be greatest. However, as portions of the proposed Project occur in areas with low vegetation density or in areas with existing development, impacts from habitat fragmentation and edge effects will be minor and short-term.

Noise and vibration associated with construction activities may temporarily change habitat use patterns for some species. Some individuals will move away from the source(s) of the noise/vibration to adjacent or nearby habitats; which may increase competition for resources within these areas. Noise/vibration and other disturbances may also lead to increased stress on individuals, which could decrease their overall fitness due to increased metabolic expenditures.

Operation and maintenance impacts will be temporary and will occur sporadically over the life of the proposed Project. It is estimated that maintenance activities will occur once or twice a year under normal circumstances.

### **III. Construction Activities and Temporary Work Areas**

Potential construction-related impacts, including in temporary work areas, from the proposed Project will include the removal of vegetation and plant community fragmentation; loss, degradation, and/or fragmentation of wildlife breeding, rearing, foraging, and dispersal habitats; collisions with and crushing by construction vehicles; loss of burrowing animals in burrows in areas where grading will occur, increased invasive and noxious weed establishment and spread; and increased noise/vibration levels. PCEMs and collocation of the transmission line, and access road with existing infrastructure, and routing of the line to avoid sensitive areas will reduce these impacts and they will be minor/negligible and short-term to long-term.

Project construction and use of temporary work areas will create temporary impacts associated with the presence of workers and equipment that may cause species to avoid using work areas during construction activities. These potential impacts will be

temporary and will cease with the completion of construction and reclamation activities. As such they will be unlikely to be significant at the population level.

Noise and vibration associated with construction activities may temporarily change habitat use patterns for some species. Some individuals will move away from the source(s) of the noise/vibration to adjacent or nearby habitats; which may increase competition for resources within these areas. Noise/vibration and other disturbances may also lead to increased stress on individuals, which could decrease their overall fitness due to increased metabolic expenditures. These effects will be temporary and of short duration and will cease with the completion of construction activities. Impacts from noise/vibration will likely be limited to individuals, will be minor and short-term and could lead to reproductive failure for one season. However, given the temporary nature of noise/vibration impacts they will not be significant at the population level.

Design features and mitigation (PCEMs) for vegetation and wildlife will apply and reduce the amount of vegetation and habitat that will be lost or degraded/fragmented during construction activities. Some of the habitat will be restored or reconstructed elsewhere after the completion of construction activities; however, restoration in arid environments is difficult and slow and may require 50 to 100 or more years. The habitat types affected are abundant in the study area. As such, impacts from ground disturbance will be minor and long-term.

A Project speed limit for construction areas and spur roads will be implemented to reduce the potential for construction activities leading to wildlife collisions with construction equipment. Burial of some individuals could occur during ground-disturbing activities. Given the amount of habitat in the study area, implementation of PCEMs, the temporary nature of construction activities, and the ability of many species to leave impacted areas, it is unlikely that there will be population level impacts. The presence of construction-related trash and debris will be an attractant for some wildlife species. This will be minimized by PCEM HAZ-6. As such, impacts from construction will be short- and long-term and minor.

Mitigation measures will minimize the introduction and spread of invasive and noxious weeds within the ROW or to adjacent areas from construction equipment. Minimization of ground-disturbing activities will decrease conditions that favor the establishment

and spread of invasive and noxious weed species. These species could adversely modify wildlife habitat by changing vegetation composition and altering fire regimes.

In areas that are not adapted to fire, increased frequency and intensity of fires could lead to dramatic changes in the overall vegetation community and available habitat for wildlife. Impacts from fire will be minimized through PCEM HEA-3. Given that vegetation types that will be disturbed are common in the study area and the implementation of PCEMs, impacts from the establishment and spread of invasive and noxious weeds will be short- and long-term and minor.

#### **IV. Off-Site and Compensatory Mitigation**

PCEMs and mitigation for special status species and their habitat are described in Exhibit C. Southline has developed (or will develop prior to construction) framework plans including; a Plant and Wildlife Species Conservation Measures Plan, Noxious Weed Management Plan, Reclamation, Vegetation, and Monitoring Plan, and an Avian Protection Plan (*see* Exhibit B-1, Final EIS Section 2.4.1). These framework plans include measures to mitigate or avoid impacts to vegetation, wildlife, and migratory birds. Off-site mitigation measures at the Willcox Playa Wildlife Area are described in Exhibit J-3.

### **CONCLUSION**

The vegetation communities and wildlife habitat types found in the study area are generally common and widespread in southern Arizona. The area to be impacted by the CEC New Build Route, CEC Upgrade Route, and CEC Substations is a small portion of the vegetation communities and habitat present in the Project vicinity. The Project has been located to avoid new ground disturbance where possible. Given that areas to be disturbed would be a small portion of the vegetation communities and wildlife habitat in the Project vicinity and with the implementation of PCEMs, impacts to vegetation and wildlife are not expected to be significant.

**Table D-1. Mammal Species with the Potential to Occur in the Vicinity of the Study Area.**

Scientific Name	Common Name	Habitat
<i>Ammospermophilus harrisi</i>	Harris's antelope squirrel	Rocky areas of creosote bush/saltbush/bursage
<i>Ammospermophilus interpres</i>	Texas antelope ground squirrel	Chihuahuan desertscrub
<i>Ammospermophilus leucurus</i>	White-tailed antelope squirrel	Desertscrub with rocky areas for shelter
<i>Antrozous pallidus</i>	Pallid bat	Desertscrub with caves, mine, cliffs, bridges, or other structures for roosts
<i>Canis latrans</i>	Coyote	Cosmopolitan, from spruce forest to low desert
<i>Chartodipus baileyi</i>	Bailey pocket mouse	Flats and lower slope of desertscrub
<i>Chaetodipus formosus</i>	Long-tailed pocket mouse	Areas with rocky or stony groundcover in desertscrub
<i>Chartodipus intermedius</i>	Rock pocket mouse	Rocky areas of desertscrub
<i>Dipodomys deserti</i>	Desert kangaroo rat	Sonoran desertscrub
<i>Erethizon dorsatum</i>	Porcupine	Generally distributed
<i>Dipodomys merriami</i>	Merriam's kangaroo rat	Sandy areas of desertscrub
<i>Dipodomys nelson</i>	Nelson's kangaroo rat	Chihuahuan desertscrub
<i>Dipodomys spectabilis</i>	Banner-tailed kangaroo rat	Semidesert grassland
<i>Dicotyles tajacu</i>	Peccary, Javelina	Semidesert grassland, Sonoran desertscrub
<i>Eutamias dorsalis</i>	Cliff chipmunk	Rocky outcroppings, cliffs in desertscrub and juniper woodlands
<i>Erethizon dorsatum</i>	Ord's kangaroo rat	Semidesert grassland
<i>Eptesicus fuscus</i>	Big brown bat	Wooded areas, desertscrub
<i>Euderma maculatum</i>	Spotted bat	Rocky cliffs near riparian areas
<i>Felis concolor</i>	Mountain lion	Generally distributed
<i>Felis rufus</i>	Bobcat	Desertscrub, especially thickets along creeks and streambeds
<i>Geomys arenarius</i>	Desert pocket gopher	Chihuahuan desertscrub
<i>Idionycteris phyllotis</i>	Allen's big-eared bat	Caves in mountainous pine forests and desertscrub near permanent water
<i>Lepus californicus</i>	Black-tailed jackrabbit	Desertscrub and other areas with open ground cover
<i>Macrotus californicus</i>	California leaf-nosed bat	Desertscrub
<i>Lasionycteris noctivagans</i>	Silver-haired bat	Areas with rivers, ponds, canals, or other permanent water
<i>Lasiurus borealis</i>	Red bat	Desertscrub with rock faces containing crevices, occasionally caves and mines



Scientific Name	Common Name	Habitat
<i>Lasiurus cinereus</i>	Hoary bat	Open woodlands
<i>Macrotus californicus</i>	California leaf-nosed bat	Desertscrub
<i>Mephitis macroura</i>	Hooded skunk	Desertscrub, especially along creeks and streambeds or rocky ledges of canyons
<i>Mephitis mephitis</i>	Striped skunk	From spruce/fir belt to sea level, usually near permanent water
<i>Microtus longicaudus</i>	Long-tailed vole	Desertscrub, especially along creeks and streambeds
<i>Microtus mexicanus</i>	Mexican vole	Grassy openings of pine forests
<i>Mustela frenata</i>	Long-tailed weasel	Wooded areas in desertscrub and woodlands
<i>Myotis auricolus</i>	Southwestern myotis	Desertscrub with rock faces containing crevices, occasionally caves and mines
<i>Myotis californicus</i>	California myotis	Desertscrub with rock faces containing crevices, occasionally caves and mines
<i>Myotis evotis</i>	Long-eared myotis	Mixed coniferous forests
<i>Myotis leibii</i>	Small-footed myotis	Coniferous forests with rock faces containing crevices, caves, and mines
<i>Myotis occultus</i>	Arizona myotis	Coniferous forests along permanent water
<i>Myotis thysanodes</i>	Fringed myotis	Open, coniferous, middle-elevation forests
<i>Myotis velifer</i>	Cave myotis	Desertscrub with caves, mines, or bridges and water nearby
<i>Myotis volans</i>	Long-legged myotis	Forested mountains
<i>Myotis yumanensis</i>	Yuma myotis	Areas with rivers, ponds, canals, or other permanent water
<i>Nasua narica</i>	Coati	Medium elevation woodland and shrubby grassland, may migrate or wander through desert areas
<i>Neotoma albigula</i>	White-throated wood rat	Areas below the conifer belt, especially with <i>Opuntia</i> or paloverde
<i>Neotoma goldmani</i>	Goldman's woodrat	Chihuahuan desertscrub
<i>Neotoma lepida</i>	Desert woodrat	Desertscrub
<i>Neotoma mexicana</i>	Mexican woodrat	Rocky areas in montane mixed coniferous forests
<i>Neotoma micropus</i>	Southern plains woodrat	Semidesert grassland
<i>Neotoma stephensi</i>	Stephen's woodrat	Rocky areas with crevices in juniper woodlands
<i>Notiosorex crawfordi</i>	Crawford's gray shrew	Desertscrub

Scientific Name	Common Name	Habitat
<i>Odocoileus hemionus</i>	Mule deer	Pine forest, oak woodland, chaparral, upland desert
<i>Onychomys leucogaster</i>	Northern grasshopper mouse	Grasslands or open brushlands in desertscrub
<i>Odocoileus virginianus</i>	White-tailed deer	Generally distributed
<i>Odocoileus hemionus crooki</i>	Mule deer	Semidesert grassland, Chihuahuan desertscrub, and Sonoran desertscrub
<i>Odocoileus hemionus crooki</i>	Desert mule deer	Semidesert grassland, Chihuahuan desertscrub, and Sonoran desertscrub
<i>Omychomys torridus</i>	Southern grasshopper mouse	Semidesert grassland
<i>Ovis Canadensis</i>	Bighorn sheep	Areas with rocky outcroppings
<i>Ovis Canadensis mexicana</i>	Desert bighorn sheep	Chihuahuan desertscrub
<i>Perognathus apache</i>	Apache pocket mouse	Sandy areas in desertscrub
<i>Perognathus baileyi</i>	Bailey's pocket mouse	Sonoran desertscrub
<i>Peromyscus boylii</i>	Brush mouse	Medium to high densities of shrubs and tree cover in desertscrub
<i>Peromyscus crinitus</i>	Canyon mouse	Rocky outcroppings
<i>Peromyscus eremicus</i>	Cactus mouse	Desertscrub, rocky areas, chaparral
<i>Perognathus eremicus eremicus</i>	Arizona cactus mouse	Chihuahuan desertscrub
<i>Perognathus flavus</i>	Silky pocket mouse	Desertscrub and juniper woodlands
<i>Perognathus formosus</i>	Long-tailed pocket mouse	Chihuahuan desertscrub
<i>Pappogeomys castanops</i>	Yellow-faced pocket gopher	Chihuahuan desertscrub
<i>Perognathus hispidus</i>	Hispid pocket mouse	Semidesert grassland
<i>Peromyscus leucopus</i>	White-footed mouse	Woodlands near creek and river bottoms
<i>Peromyscus maniculatus</i>	Deer mouse	Creek beds and canals in Sonoran desertscrub
<i>Perognathus nelson</i>	Nelson's pocket mouse	Chihuahuan desertscrub
<i>Perognathus parvus</i>	Great Basin pocket mouse	Desertscrub
<i>Perognathus pencillatus</i>	Desert pocket mouse	Chihuahuan desertscrub and Sonoran desertscrub
<i>Peromyscus truei</i>	Pinyon mouse	Rocky areas in juniper woodlands
<i>Perognathus spp.</i>	Pocket mouse	Semidesert grassland
<i>Pipistrellus hesperus</i>	Western pipistrelle	Areas with canyon walls or cliff faces for roosting, streambeds, and tanks for foraging
<i>Plecotus townsendii</i>	Townsend's big-eared bat	Coniferous forests with caves, mines, or bridges and water nearby
<i>Procyon lotor</i>	Raccoon	Areas with permanent water

Scientific Name	Common Name	Habitat
<i>Reithrodontomys megalotis</i>	western harvest mouse	Desertscrub or chaparral
<i>Sciurus aberti</i>	Abert's squirrel	Coniferous forests
<i>Sigmodon fulviventris</i>	Tawny-bellied cotton rat	Semidesert grassland
<i>Sigmodon hispidus</i>	Hispid cotton rat	Semidesert grassland
<i>Sorex merriami</i>	Merriam's shrew	Sagebrush, pinyon-juniper woodlands, and montane shrublands
<i>Spermophilus lateralis</i>	Manteled ground squirrel	Coniferous and mixed coniferous forests with rocky meadows and sagebrush areas
<i>Spermophilus auduboni</i>	Round-tailed ground squirrel	Chihuahuan desertscrub
<i>Spermophilus spilosoma</i>	Spotted ground squirrel	Sandy soils with sparse vegetation in desertscrub
<i>Spermophilus variegatus</i>	Rock squirrel	Rocky areas above 1,600 feet amsl
<i>Spilogale putorius</i>	Spotted skunk	Low and middle elevations, often in rocky areas or around human habitation
<i>Sylvilagus audubonii</i>	Desert cottontail	Desertscrub, semi-desert grassland
<i>Sylvilagus floridanus</i>	Eastern cottontail	Open grassy areas in desertscrub
<i>Tadarida brasiliensis</i>	Mexican free-tailed bat	Coniferous forests with rock faces containing crevices, caves, and mines
<i>Tamias cinereicollis</i>	Gray-collared chipmunk	Coniferous forests
<i>Tamiasciurus hudsonicus</i>	American red squirrel	Mature coniferous forests
<i>Taxidea taxus</i>	Badger	Generally distributed
<i>Thomomys bottae</i>	Botta's pocket gopher	Any area with soil suitable for digging burrows
<i>Urocyon cinereoargenteus</i>	Gray fox	Open desertscrub, chaparral, lower-elevation woodland
<i>Ursus americanus</i>	Black bear	Generally distributed
<i>Vulpes macrotis</i>	Kit fox	Desertscrub and desert grassland with sandy or softer clay soils

Source: Hoffmeister 1986

**Table D-2. Bird Species with the Potential to Occur in the Vicinity of the Study Area.**

Scientific Name	Common Name	Habitat
<i>Accipiter cooperii</i>	Cooper's hawk	Broken woodlands or streamside groves
<i>Accipiter gentilis</i>	Northern goshawk	Coniferous forests
<i>Accipiter striatus</i>	Sharp-shinned hawk	Generally distributed
<i>Actitis macularia</i>	Spotted sandpiper	Lakes, ponds, streams, and flooded areas
<i>Aegolius acadicus</i>	Northern saw-whet owl	Coniferous forests with thickets of shrubs
<i>Agelaius phoeniceus</i>	Red-winged blackbird	Riparian areas, irrigated fields, marshes, and feedlots
<i>Aimophila cassinii</i>	Cassin's sparrow	Semidesert grassland.
<i>Amphispiza bilineata</i>	Black-throated sparrow	Chihuahuan desertscrub, Sonoran desertscrub
<i>Anas platyrhynchos</i>	Mallard	Lakes, ponds, streams, canals
<i>Aphelocoma californica</i>	Western scrub-jay	Open areas in pinyon-juniper woodlands
<i>Aquila chrysaetos</i>	Golden eagle	Open coniferous forests in hilly and mountainous regions
<i>Ardea herodias</i>	Great blue heron	Lakes, ponds, streams, marshes, and canals
<i>Asio flammeus</i>	Short-eared owl	Open areas such as grasslands and prairies
<i>Asio otus</i>	Long-eared owl	Open woodlands, forest edges, riparian strips along rivers, wooded ravines and gullies, and juniper thickets
<i>Athene cunicularia</i>	Burrowing owl	Open country, golf courses, airports
<i>Auriparus flaviceps</i>	Verdin	Semidesert grassland, Sonoran desertscrub
<i>Baeolophus griseus</i>	Juniper titmouse	Open areas such as grasslands and prairies, associated with burrowing animals
<i>Bubo virginianus</i>	Great horned owl	Common in a wide variety of habitats
<i>Buteo albonotatus</i>	Zone-tailed hawk	Open areas with scattered trees and riparian areas
<i>Buteo jamaicensis</i>	Red-tailed hawk	Plains, prairie groves, desert
<i>Buteo lagopus</i>	Rough-legged hawk	Near steppes and open juniper woodland
<i>Buteo regalis</i>	Ferruginous hawk	Dry, open country
<i>Buteo swainsoni</i>	Swainson's hawk	Fields and desert
<i>Buteogallus anthracinus</i>	Common black hawk	Lowlands and middle elevations near water
<i>Calypte costae</i>	Costa's hummingbird	Sonoran desertscrub
<i>Callipepla squamata</i>	Scaled quail	Semidesert grassland, Chihuahuan desertscrub

Scientific Name	Common Name	Habitat
<i>Campylorhynchus brunneicapillus</i>	Cactus wren	Semidesert grassland, Chihuahuan desertscrub, Sonoran desertscrub
<i>Cardinalis sinuatus</i>	Pyrrhuloxia	Sonoran desertscrub
<i>Carduelis pinus</i>	Pine siskin	Coniferous forests, brushy pastures, and mixed woodlands
<i>Carpodacus mexicanus</i>	House finch	Riparian and suburban areas, farmland, desert
<i>Cathartes aura</i>	Turkey vulture	Open country, woodlands, farmlands
<i>Catharus guttatus</i>	Hermit thrush	Lowland woodlands and suburban areas
<i>Charadrius vociferus</i>	Killdeer	Ponds, streams, and marshes
<i>Chondestes grammacus</i>	Lark sparrow	Brushy, weedy areas, riparian areas, and field edges
<i>Chordeiles acutipennis</i>	Lesser nighthawk	Chihuahuan desertscrub, Sonoran desertscrub
<i>Chordeiles minor</i>	Common nighthawk	Dry, open country, scrubland, desert
<i>Circus cyaneus</i>	Northern harrier	Open areas including grasslands and prairies
<i>Colaptes auratus</i>	Northern flicker	Open woodlands, suburban areas
<i>Colaptes chrysoides</i>	Gilded flicker	Sonoran desertscrub
<i>Columba livia</i>	Rock dove	Parks, fields, urban settings
<i>Contopus cooperi</i>	Olive-sided flycatcher	Near openings, burns, ponds, and bogs in boreal spruce and fir forests
<i>Contopus sordidulus</i>	Western wood-pewee	Riparian areas, wooded habitats, including suburban areas
<i>Corvus brachyrhynchos</i>	American crow	Fields, open woodlands, and forests
<i>Corvus corax</i>	Common raven	Mountains, deserts, coastal areas
<i>Corvus cryptoleucus</i>	White-necked raven	Semidesert grassland, Chihuahuan desertscrub
<i>Cyanocitta stelleri</i>	Steller's jay	Evergreen forests
<i>Dendroica coronata</i>	Yellow-rumped warbler	Riparian and suburban areas
<i>Dendroica graciae</i>	Grace's warbler	Open forest with tall pines
<i>Empidonax oberholseri</i>	Dusky flycatcher	Open, dry, coniferous forests with a shrubby understory
<i>Empidonax wrightii</i>	Gray flycatcher	Open woodland with bare understory
<i>Eremophila alpestris</i>	Horned lark	Dirt fields, gravel ridges, shores
<i>Euphagus cyanocephalus</i>	Brewer's blackbird	Fields, farmyards, feedlots, ponds, and riparian areas
<i>Falco columbarius</i>	Merlin	Coniferous forest near open areas
<i>Falco mexicanus</i>	Prairie falcon	Dry, open country, prairies

Scientific Name	Common Name	Habitat
<i>Falco peregrinus</i>	Peregrine falcon	Generally distributed
<i>Falco sparverius</i>	American kestrel	Open country, cities
<i>Geococcyx californianus</i>	Roadrunner	Semidesert grassland, Chihuahuan desertscrub, Sonoran desertscrub
<i>Glaucidium gnoma</i>	Northern pygmy-owl	Pine and pine-oak forests
<i>Gymnogyps californianus</i>	California condor	Rugged canyons, gorges, and forested mountains
<i>Gymnorhinus cyanocephalus</i>	Pinyon jay	Pinyon-juniper woodlands and low-elevation ponderosa pine
<i>Haliaeetus leucocephalus</i>	Bald eagle	Areas near large areas of open water
<i>Hirundo rustica</i>	Barn swallow	Streams, ponds, lakes, and agricultural areas
<i>Iceterus parisorum</i>	Scott's oriole	Semidesert grassland, Chihuahuan desertscrub
<i>Junco hyemalis</i>	Dark-eyed junco	Desertscrub
<i>Lanius ludovicianus</i>	Loggerhead shrike	Semidesert grassland
<i>Lophortyx californicus</i>	California quail	Sonoran desertscrub
<i>Lophortyx douglassii</i>	Elegant quail	Sonoran desertscrub
<i>Lophortyx gambelii</i>	Gambel's quail	Semidesert grassland, Sonoran desertscrub
<i>Melanerpes formicivorus</i>	Acorn woodpecker	Oak woodlands containing mature oaks interspersed with grassland
<i>Melanerpes uropygialis</i>	Gila woodpecker	Sonoran desertscrub
<i>Micrathene whitneyi</i>	Elf owl	Sonoran desertscrub
<i>Mimus polyglottos</i>	Northern mockingbird	Variety of habitats
<i>Molothrus ater</i>	Brown-headed cowbird	Suburbs and agricultural areas
<i>Myiarchus cinerascens</i>	Ash-throated flycatcher	Wide variety of habitats
<i>Myiarchus tyrannulus</i>	Wied's crested flycatcher	Sonoran desertscrub
<i>Otus kennicottii</i>	Western screech owl	Open woodlands, streamside groves, deserts, suburban areas
<i>Pandion haliaetus</i>	Osprey	Lakes, ponds, streams, marshes, and canals
<i>Parabuteo unicinctus</i>	Harris' hawk	Sonoran desertscrub
<i>Phainopepla nitens</i>	Phainopepla	Riparian areas, especially in trees with mistletoe
<i>Phalaenoptilus nuttallii</i>	Poor-will	Semidesert grassland
<i>Pheucticus melanocephalus</i>	Black-headed grosbeak	Transient in lowlands
<i>Picoides scalaris</i>	Ladder-backed woodpecker	Semidesert grassland, Sonoran desertscrub

Scientific Name	Common Name	Habitat
<i>Picoides villosus</i>	Hairy woodpecker	Generally distributed
<i>Pipilo fuscus</i>	Canyon towhee	Sonoran desertscrub
<i>Pipilo maculatus</i>	Spotted towhee	Brushy areas, riparian and suburban areas
<i>Piranga flava</i>	Hepatic tanager	Oak-pine woodlands and riparian canyons
<i>Piranga ludoviciana</i>	Western tanager	Transient in lowlands
<i>Poecile gambeli</i>	Mountain chickadee	Dry, mountainous forests
<i>Poliptila melanura</i>	Black-tailed gnatcatcher	Semidesert grassland, Sonoran desertscrub
<i>Quiscalus mexicanus</i>	Great-tailed grackle	Riparian areas, irrigated fields, marshes, and feedlots
<i>Sayornis nigricans</i>	Black Phoebe	Woodlands, parks, suburbs, prefers to nest near water
<i>Sayornis saya</i>	Say's phoebe	Dry, open areas, canyons, cliffs
<i>Selasphorus platycercus</i>	Broad-tail hummingbird	Open woodland, especially pinyon-juniper and pine-oak association
<i>Sialia currucoides</i>	Mountain bluebird	High mountain meadows with scattered trees and bushes
<i>Sialia mexicana</i>	Western bluebird	Woodlands, farmlands, orchards, deserts, especially in mesquite-mistletoe groves
<i>Sitta carolinensis</i>	White-breasted nuthatch	Open mixed forest
<i>Sitta pygmaea</i>	Pygmy nuthatch	Pine forests
<i>Spizella passerina</i>	Chipping sparrow	Brushy edges and riparian areas
<i>Strix occidentalis</i>	Spotted owl	Dense, dark, old-growth coniferous or mixed forest
<i>Sturnella magna</i>	Eastern Meadowlark	Semidesert grassland
<i>Sturnella neglecta</i>	Western meadowlark	Semidesert grassland
<i>Sturnus vulgaris</i>	European starling	Generally distributed
<i>Tachycineta bicolor</i>	Tree swallow	Streams, ponds, lakes
<i>Tachycineta thalassina</i>	Violet-green swallow	Riparian areas, streams, ponds, and lakes
<i>Thryomanes bewickii</i>	Bewick's wren	Wooded riparian areas
<i>Toxostoma bendirei</i>	Bendire's thrasher	Sonoran desertscrub
<i>Toxostoma curvirostra</i>	Curve-billed thrasher	Semidesert grassland, Chihuahuan desertscrub, Sonoran desertscrub
<i>Toxostoma lecontei</i>	LeConte's thrasher	Sonoran desertscrub
<i>Troglodytes aedon</i>	House wren	Dense, brushy areas
<i>Turdus migratorius</i>	American robin	Riparian and suburban areas, desertscrub

Scientific Name	Common Name	Habitat
<i>Tyrannus verticalis</i>	Western kingbird	Semidesert grassland
<i>Tyrannus vociferans</i>	Cassin's kingbird	Varied habitats
<i>Tyto alba</i>	Barn owl	Dark cavities in city and farm buildings, cliffs, trees
<i>Vermivora virginiae</i>	Virginia's warbler	Low brushy areas on dry mountain sides
<i>Vireo plumbeus</i>	Plumbeous vireo	Woodland habitats
<i>Zenaida asiatica</i>	White-winged dove	Sonoran desertscrub
<i>Zenaida macroura</i>	Mourning dove	Wide variety of habitats

Source: Corman and Wise-Gervais 2005 and Glinski 1998.



**Table D-3. Reptile and Amphibian Species with the Potential to Occur in the Vicinity of the Study Area.**

Scientific Name	Common Name	Habitat
<i>Ambystoma tigrinum mavortium</i>	Barred tiger salamander	Near water in forested and prairie area
<i>Arizona elegans</i>	Glossy snake	Sonoran desertscrub
<i>Arizona elegans eburnata</i>	Desert glossy snake	Sonoran desertscrub
<i>Arizona elegans noctivaga</i>	Arizona glossy snake	Sonoran desertscrub
<i>Arizona elegans philipi</i>	Painted desert glossy snake	Below 6,000 feet in sparsely vegetated woodland, chaparral, grassland, or desertscrub with loose soil
<i>Aspidoscelis uniparens</i>	Desert grassland whiptail	Low valleys, mesquite-lined riparian corridors, floodplains, and moderate slopes in semidesert grassland into interior chaparral and woodland communities
<i>Bufo cognatus</i>	Great Plains toad	Creosote bush, mesquite deserts and desert scrub in association with temporary ponds, wetlands, and irrigation ponds and ditches
<i>Bufo debilis insidior</i>	Western green toad	Semidesert grassland
<i>Bufo punctatus</i>	Red-spotted toad	Rocky desert streams, pools in rocky arroyos, cattle tanks, grassland, oak woodland, scrubland, and river floodplains
<i>Bufo retiformis</i>	Sonoran green toad	Sonoran desertscrub
<i>Bufo woodhousii woodhousii</i>	Rocky Mountain toad	Irrigation ditches, temporary pools, moist meadows, grasslands, ponds, lakes, reservoirs, sagebrush flats, woods, desert streams, farms, river floodplains, irrigation canals, irrigated fields and golf courses
<i>Callisaurus cinctus</i>	Banded sand snake	Sonoran desertscrub
<i>Callisaurus draconoides</i>	Zebratail lizard	Sonoran desertscrub
<i>Callisaurus occipitalis</i>	Western shovelnose snake	Sonoran desertscrub
<i>Gambelia wislizenii wislizenii</i>	Long-nosed leopard lizard	Arid and semiarid plains grown to bunch grass, alkali bush, sagebrush, creosote bush, or other scattered low plants; ground may be hardpan, gravel, or sand
<i>Cnemidophorus hyperythrus</i>	Orangethroat lizard	Sonoran desertscrub
<i>Cnemidophorus inornatus heptagrammus</i>	Trans-Pecos striped whiptail	Inhabits deserts and semiarid habitats, usually where plants are sparse, also found in woodland, streamside growth, and in the warmer, drier parts of forests
<i>Cnemidophorus inonatus</i>	Little striped whiptail	Chihuahuan desertscrub
<i>Cnemidophorus neomexicanus</i>	New Mexico Whiptail	Chihuahuan desertscrub

Scientific Name	Common Name	Habitat
<i>Cnemidophorus tesselatus</i>	Colorado checkered whiptail	Chihuahuan desertscrub
<i>Cnemidophorus tigris gracilis</i>	Southern whiptail	Sonoran desertscrub
<i>Cnemidophorus tigris marmoratus</i>	Marbled whiptail	Chihuahuan desertscrub
<i>Cnemidophorus tigris multiscutatus</i>	Coastal whiptail	Sonoran desertscrub
<i>Cnemidophorus tigris tigris</i>	Western whiptail	Sonoran desertscrub
<i>Cnemidophorus uniparens</i>	Desert grassland whiptail	Semidesert grassland
<i>Coleonyx brevis</i>	Texas banded gecko	Sonoran desertscrub
<i>Coleonyx reticulatus</i>	Reticulated gecko	Sonoran desertscrub
<i>Coleonyx variegatus</i>	Banded gecko	Chihuahuan desertscrub
<i>Cophosaurus texanus</i>	Greater earless lizard	Sonoran desertscrub
<i>Crotalus atrox</i>	Western diamondback rattlesnake	Wide variety of habitats below 7,000 feet
<i>Crotalus cerastes</i>	Sidewinder	Chihuahuan desertscrub
<i>Crotalus molossus molossus</i>	Black-tailed rattlesnake	Upland desert to pine-oak woodland
<i>Crotalus ruber</i>	Red diamondback rattlesnake	Sonoran desertscrub
<i>Crotalus scutulatus scutulatus</i>	Mojave rattlesnake	Mostly in upland desert and lower mountain slopes
<i>Crotalus tigris</i>	Tiger rattlesnake	Sonoran desertscrub
<i>Crotalus viridis</i>	Prairie rattlesnake	Dry regions with sparse vegetation and a rocky component
<i>Crotaphytus collaris baileyi</i>	Western collared lizard	Rock-dwelling lizard that frequents canyons, rocky gullies, limestone ledges, mountain slopes, and boulder-strewn alluvial fans, usually where vegetation is sparse
<i>Dipsosaurus dorsalis</i>	Desert iguana	Sonoran desertscrub
<i>Elaphe subocularis</i>	Trans-pecos rat snake	Chihuahuan desertscrub
<i>Eumeces gaigeae</i>	Variable skink	Rocky grassy slopes in forested areas with ponderosa pine, edges of rocky canyons, pinyon-juniper woodland, and mountain streamsides
<i>Eumeces obsoletus</i>	Great Plains Skink	Canyons, mesas, and mountains in semi-arid regions, especially in shrubby rock outcrops along stream courses
<i>Ficimia cana</i>	Western hooknose snake	Chihuahuan desertscrub
<i>Gopherus agassizi</i>	Desert tortoise	Sonoran desertscrub
<i>Gopherus flavomarginatus</i>	Bolson tortoise	Chihuahuan desertscrub
<i>H. suspectum</i>	Gila monster	Sonoran desertscrub

Scientific Name	Common Name	Habitat
<i>H. suspectum suspectum</i>	Reticulated Gila monster	Sonoran desertscrub
<i>Heterodon nasicus kennerlyi</i>	Mexican hognose snake	Semidesert grassland
<i>Holbrookia maculata approximans</i>	Speckled earless lizard	Sandy soil areas in grassy prairie, cultivated fields, dry streambeds, and desert grasslands
<i>Holbrookia texana scitula</i>	Southwestern earless lizard	Semidesert grassland
<i>Hyla arenicolor</i>	Canyon tree frog	Huddles in niches on sides of boulders or stream banks, favors intermittent or permanent streams with quiet pools that have a hard rocky bottom, frequents arroyos in semi-arid grassland, streams in pinyon-juniper and pine-oak woodlands, and tropical scrub forest
<i>Hypsiglena torquata</i>	Night snake	Various upland and desert habitats used
<i>Lichanura trivirgata</i>	Rosy boa	Sonoran desertscrub
<i>Masticophis flagellum lineatus</i>	Lined coachwhip	Chihuahuan desertscrub
<i>Masticophis taeniatus</i>	Striped whipsnake	Open brushy areas in desertscrub, often along edges of rivers or ponds
<i>Micruroides euryxanthus</i>	Arizona coral snake	Sonoran desertscrub
<i>Pituophis catenifer affinis</i>	Sonoran gopher snake	Variety of habitats including desert flats, agricultural land, and riparian areas
<i>Phrynosoma douglasii hernandesi</i>	Mountain Short-horned lizard	Open, shrubby, or openly wooded areas with sparse vegetation at ground level
<i>Phrynosoma m'calli</i>	Flat-headed horned lizard	Sonoran desertscrub
<i>Phrynosoma modestum</i>	Roundtail horned lizard	Chihuahuan desertscrub
<i>Phrynosoma platyrhinos calidiarum</i>	Southern desert horned lizard	Sonoran desertscrub
<i>Phrynosoma solare</i>	Regal horned lizard	Sonoran desertscrub
<i>Phyllorhynchus decurtatus</i>	Spotted leaf-nose snake	Sonoran desertscrub
<i>Pseudacris triseriata triseriata</i>	Western chorus frog	Wet meadows, marshes, and woodlands
<i>Rana pipiens</i>	Northern leopard frog	Grasslands, wet meadows, potholes, forests, woodland, brushland, springs, canals, bogs, marshes, and reservoirs
<i>Rhinocheilus lecontei</i>	Longnose snake	Arid and semi-arid deserts, grasslands, shrublands, and prairies
<i>Salvadora hexlepis</i>	Western patchnose snake	Sonoran desertscrub
<i>Sauromalus obesus</i>	Chuckwalla	Sonoran desertscrub
<i>Sceloporus cautus</i>	Shy spiny lizard	Chihuahuan desertscrub

Scientific Name	Common Name	Habitat
<i>Sceloporus graciosus graciosus</i>	Sagebrush lizard	Sagebrush, pine or fie forests, brushland, and pinyon-juniper woodland
<i>Sceloporus maculosus</i>	Spotted spiny lizard	Chihuahuan desertscrub
<i>Sceloporus magister</i>	Desert spiny lizard	Chihuahuan desertscrub
<i>Sceloporus magister bimaculosus</i>	Twin-spotted spiny lizard	Chihuahuan desertscrub
<i>Sceloporus merriami</i>	Merriam's canyon lizard	Chihuahuan desertscrub
<i>Sceloporus occidentalis</i>	Western fence lizard	Grassland, broken chaparral, sagebrush, woodland, and coniferous forest
<i>Sceloporus ornatus</i>	Ornate spiny lizard	Chihuahuan desertscrub
<i>Sceloporus poinsetti</i>	Crevice spiny lizard	Chihuahuan desertscrub
<i>Sonora semiannulata</i>	Ground snake	Areas with surface cover and some moisture including grasslands, river bottoms, deserts flats, ranchland, sand hummocks, open rocky hillsides with loose soil, sandy washes, dry streambeds, and riparian thickets
<i>Spea multiplicata</i>	New Mexico spadefoot	Wide range of arid and semi-arid habitat types where soil is sandy or gravelly
<i>Tantilla atriceps</i>	Mexican blackhead snake	Chihuahuan desertscrub
<i>Tantilla hobartsmithi</i>	Southwestern blackhead snake	In loose soil or plant litter in desert grassland and woodland habitats
<i>Thamnophis cyrtopsis cyrtopsis</i>	Western blackneck garter snake	Pine-fir forest to upland desert and chaparral, generally in the vicinity of a water source
<i>Thamnophis elegans vagrans</i>	Wandering garter snake	Variety of habitats
<i>Terrapene ornata</i>	Ornate box turtle	Sonoran desertscrub
<i>Terrapene ornata luteola</i>	Desert box turtle	Semidesert grassland
<i>Trimorphodon biscutatus</i>	Western lyre snake	From oak and juniper woodland to higher elevation desert and grasslands, particularly in rocky areas
<i>Uma exsul</i>	Fringe-toed sand lizard	Chihuahuan desertscrub
<i>Uma notata</i>	Fringe-toed lizard	Sonoran desertscrub
<i>Urosaurus graciosus</i>	Brush lizard	Sonoran desertscrub
<i>Urosaurus microscutatus</i>	Small-scaled lizard	Sonoran desertscrub
<i>Urosaurus ornatus</i>	Western tree lizard	Frequents mesquite, oak, pine, juniper, alder, cottonwood, and non-native trees such as tamarisk and rough-bark eucalyptus, but also may occur in treeless areas, especially attracted to river courses

Source: Stebbins 2003

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