

EXHIBIT D BIOLOGICAL RESOURCES

The following addresses the requirements of Arizona Administrative Code R14-3-219, which states:

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.

Methods

Prior to conducting fieldwork, the ecology and habitat requirements of various species that could occur in Maricopa County were researched. A qualified biologist conducted a desktop analysis evaluating the Project Study Area (PSA) and nearby areas using digital photography and photographs of the PSA and conducted a field reconnaissance on May 16, 2018. The information was used to evaluate the potential effects of the Southeast Power Link (SPL) Project (Project) implementation on biological resources within the vicinity of the Project.

The analysis determined that overall habitat quality, plant diversity, and density are very low. The PSA consists of patches of native habitat, active agriculture, dairy operations, and existing roads. Many of the surrounding lands are being converted into residential developments. Vegetation is comprised mostly of creosote bush (*Larrea tridentata*) scrub and patchy honey mesquite (*Prosopis glandulosa*). Approximately 1/3 of the lands within the PSA are used for agriculture (farming and dairy operations), approximately 1/3 is native habitat, and 1/3 is disturbed by roadways or is being converted to residential.

Tables D-1, D-2, D-3, and D-4 contain lists of common plant life, mammals, birds, reptiles and amphibians potentially present in Maricopa County and within the vicinity of the PSA.

Vegetation

The PSA is located within Maricopa County. The proposed Project traverses agricultural areas and areas of native habitat, and is adjacent to or within commercial and residential areas, including disturbed roadways. Elevations range from 1,325 to 1,433 feet. Vegetation communities found within the PSA are described below, and **Table D-1** lists some common plant species that could be found within some of the native and disturbed habitats in the area.

Agriculture – Active

The PSA supports areas of active agricultural lands, most of which are growing alfalfa or are currently fallow. Irrigation canals and head ditches are common. There are also multiple dairy operations. These lands have been used for agriculture for many years and are mostly surrounded by residential areas.

Disturbed Urban Habitat

The PSA contains numerous roadways and transmission lines that bisect residential and commercial areas. The areas within road rights-of-way (ROW) have been disturbed by initial construction and on-going maintenance activities. Residential and commercial developments, and roadside landscaping exist within and adjacent to these features, and continue to be developed. There are scattered and isolated native plants and landscaped plants along the roads, including blue palo verde (*Cercidium floridum*) and honey mesquite (*Prosopis glandulosa*), as well as non-native grasses.

Native Desert

Native areas in the PSA support scattered and sparse creosote bush scrub and honey mesquite. There are several small areas with relatively dense patches of honey mesquite where water is blocked by existing road or canals forming slightly moister areas than where natural drainage occurs. The native desert habitat tends to be isolated and is broken up by roads, residential development, an airport and agricultural activities.

Table D-1. Common Plant Species Potential Occurrence in Isolated Disturbed / Native Habitats in the Vicinity of the PSA¹		
Common Name	Scientific Name	Ecosystem
Triangleleaf bursage	<i>Ambrosia deltoidea</i>	Sonoran Desertscrub, Sonoran Riparian
White bursage	<i>Ambrosia dumosa</i>	Sonoran Desertscrub
Fiddlehead	<i>Amsinckia intermedia</i>	Sonoran Riparian
Purple three-awn	<i>Aristida purpurea</i>	Sonoran Desertscrub
Four-wing saltbush	<i>Atriplex canescens</i>	Sonoran Desertscrub
All scale	<i>Atriplex polycarpa</i>	Sonoran Desertscrub
Datura	<i>Datura stramonium</i>	Sonoran Riparian
Englemann's hedgehog cactus	<i>Echinocereus englemannii</i>	Sonoran Desertscrub
Brittlebush	<i>Encelia farinosa</i>	Sonoran Desertscrub, Sonoran Riparian
Skeletonweed	<i>Eriogonum deflexum</i>	Sonoran Desertscrub
Filaree	<i>Erodium cicutarium</i>	Sonoran Desertscrub
Barrel cactus	<i>Ferocactus wislizenii</i>	Sonoran Desertscrub
Ocotillo	<i>Fouquieria splendens</i>	Sonoran Desertscrub
Rhatany	<i>Krameria parviflora</i>	Sonoran Desertscrub, Sonoran Riparian
Creosote bush	<i>Larrea tridentata</i>	Sonoran Desertscrub, Sonoran Riparian
Wolfberry	<i>Lycium spp.</i>	Sonoran Desertscrub, Sonoran Riparian
Little fishhook cactus	<i>Mammillaria thornberi</i>	Sonoran Desertscrub
Teddybear cholla	<i>Opuntia bigelovii</i>	Sonoran Desertscrub
Prickly pear cactus	<i>Opuntia engelmannii</i>	Sonoran Desertscrub
Jumping cholla	<i>Opuntia fulgida</i>	Sonoran Desertscrub
Desert mistletoe	<i>Phoradendron californicum</i>	Sonoran Desertscrub
Galleta grass	<i>Pleuraphis jamesii</i>	Sonoran Desertscrub, Sonoran Riparian

Exhibit D – Biological Resources

Mesquite	<i>Prosopis spp.</i>	Sonoran Riparian
Bladdersage	<i>Salazaria Mexicana</i>	Sonoran Desertscrub
Russian thistle	<i>Salsola iberica</i>	Sonoran Desertscrub, Sonoran Riparian
London rocket	<i>Sisymbrium irio</i>	Sonoran Desertscrub, Sonoran Riparian
Globe mallow	<i>Sphaeralcea spp.</i>	Sonoran Desertscrub, Sonoran Riparian
¹ Brown 1994		

Wildlife

Wildlife resources within the PSA are predominantly associated with agricultural land and native habitats. Species occurrence, abundance, and distribution are strongly influenced by the presence of surface water, topography, and habitat types within and surrounding the PSA.

Tables D-2, D-3, and D-4 present lists of common mammals, birds, reptiles, and amphibians that may occur or that have been observed within Maricopa County in habitats similar to those in the PSA. Some of the species are also listed in Exhibit C as Wildlife of Concern.

Mammals

Most mammalian species likely to be present are small, inconspicuous, largely nocturnal species of rodents and bats. Desert-adapted rodents such as pocket mice and kangaroo rats could be present. Medium-sized mammals that could be found in the PSA include desert cottontail (*Sylvilagus auduboni*), black-tailed jackrabbits (*Lepus californicus*), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), bobcat (*Felis rufus*), and badger (*Taxidae taxus*). **Table D-2** presents a more comprehensive list of mammalian species that may occur in the area.

Migratory Birds

Most bird species likely to be present are considered migratory birds and are associated with agricultural and urbanized land uses. The majority of the birds present during any given season are small songbirds and raptors like the mourning dove and red-tailed hawk (**Table D-3**). Some water birds may also be present in the area because they are attracted to the canals and ditches that are within and near the PSA; however, none were observed during the field reconnaissance. Species observed during the field reconnaissance include mourning dove, white-winged dove, turkey vulture, killdeer, and great-tailed grackle.

Amphibians and Reptiles

Relatively undisturbed desert habitats represent the best habitat for reptiles, although some species could be found in agricultural or other disturbed areas. Water resources are very limited in the PSA, as are reptiles and amphibians. **Table D-4** presents a list of amphibian and reptilian species that could be present in the vicinity of the PSA.

Table D-2. Mammal Species Potential Occurrence in the Vicinity of the PSA¹	
Common Name	Scientific Name
Harris' antelope squirrel	<i>Ammospermophilus harrisi</i>
Pallid bat	<i>Antrozous pallidus</i>
Ringtail	<i>Bassariscus astutus</i>
Coyote	<i>Canis latrans</i>
Mexican long-tongued bat	<i>Choeronycteris mexicana</i>
Desert kangaroo rat	<i>Dipodomys deserti</i>
Merriam's kangaroo rat	<i>Dipodomys merriami</i>
Big brown bat	<i>Eptesicus fuscus</i>
Spotted bat	<i>Euderma maculatum</i>
Western mastiff bat	<i>Eumops perotis</i>
Mountain lion	<i>Felis concolor</i>
Bobcat	<i>Felis rufus</i>
Red bat	<i>Lasiurus borealis</i>
Hoary bat	<i>Lasiurus cinereus</i>
Southern yellow bat	<i>Lasiurus ega xanthinus</i>
Mexican long-nosed bat	<i>Leptonycteris nivalis</i>
Black-tailed jackrabbit	<i>Lepus californicus</i>
Hooded skunk	<i>Mephitis macroura</i>
Striped skunk	<i>Mephitis</i>
California myotis	<i>Myotis californicus</i>
Fringed myotis	<i>Myotis thysanodes</i>
Cave myotis	<i>Myotis velifer</i>
Yuma myotis	<i>Myotis yumanensis</i>
White-throated woodrat	<i>Neotoma albigula</i>
Desert wood rat	<i>Neotoma lepida</i>
Desert shrew	<i>Notiosorex crawfordi</i>
Desert Mule deer	<i>Odocoileus hemionus crooki</i>
Muskrat	<i>Ondatra zibethicus</i>
Southern grasshopper mouse	<i>Onychomys torridus</i>
Collared peccary	<i>Pecari tajacu</i>
Arizona pocket mouse	<i>Perognathus amplus</i>
Bailey's pocket mouse	<i>Perognathus baileyi</i>
Long-tailed pocket mouse	<i>Perognathus formosus</i>
Rock pocket mouse	<i>Perognathus intermedius</i>
Little pocket gopher	<i>Perognathus longimembris</i>
Desert pocket mouse	<i>Perognathus penicillatus</i>
Brush mouse	<i>Peromyscus boylii</i>
Cactus mouse	<i>Peromyscus eremicus</i>

Table D-2 Mammal Species Potential Occurrence in the Vicinity of the PSA¹	
Common Name	Scientific Name
Deer mouse	<i>Peromyscus maniculatus</i>
Western pipistrelle	<i>Pipistrellus Hesperus</i>
Townsend's big-eared bat	<i>Plecotus townsendii</i>
Raccoon	<i>Procyon lotor</i>
Western harvest mouse	<i>Reithrodontomys megalotis</i>
Arizona gray squirrel	<i>Sciurus arizonensis</i>
Arizona cotton rat	<i>Sigmodon arizonae</i>
Round-tailed ground squirrel	<i>Spermophilus tereticaudus</i>
Rock squirrel	<i>Spermophilus variegatus</i>
Western spotted skunk	<i>Spilogale gracilis</i>
Desert cottontail	<i>Sylvilagus audubonii</i>
American free-tailed bat	<i>Tadarida brasiliensis</i>
Pocketed free-tailed bat	<i>Tadarida femorosacca</i>
Big free-tailed bat	<i>Tadarida macrotis</i>
Badger	<i>Taxidae taxus</i>
Botta's pocket gopher	<i>Thomomys bottae</i>
Gray fox	<i>Urocyon cinereoargenteus</i>
Kit fox	<i>Vulpes macrotis</i>
¹ D.F. Hoffmeister. 1986. Mammals of Arizona. University of Arizona Press	

Table D-3 Bird Species Potential Occurrence in the Vicinity of the PSA¹	
Common Name	Scientific Name
Cooper's hawk	<i>Accipiter cooperii</i>
Sharp-shinned hawk	<i>Accipiter striatus</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Sage sparrow	<i>Amphispiza belli</i>
Black-throated sparrow	<i>Amphispiza bilineata</i>
Cinnamon teal	<i>Anas cyanoptera</i>
Mallard	<i>Anas platyrhynchos</i>
Black-chinned hummingbird	<i>Archilochus alexandri</i>
Great egret	<i>Ardea alba</i>
Great blue heron	<i>Ardea herodias</i>
Verdin	<i>Auriparus flaviceps</i>
Cedar waxwing	<i>Bombycilla cedrorum</i>
Great horned owl	<i>Bubo virginianus</i>
Cattle egret	<i>Bubulcus ibis</i>

Table D-3 Bird Species Potential Occurrence in the Vicinity of the PSA¹	
Zone-tailed hawk	<i>Buteo albonotatus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Ferruginous hawk	<i>Buteo regalis</i>
Swainson's hawk	<i>Buteo swainsoni</i>
Green heron	<i>Butorides virescens</i>
Lark bunting	<i>Calamospiza melanocorys</i>
Gambel's quail	<i>Callipepla gambelii</i>
Anna's hummingbird	<i>Calypte anna</i>
Costa's hummingbird	<i>Calypte costae</i>
Cactus wren	<i>Campylorhynchus brunneicapillus</i>
Northern cardinal	<i>Cardinalis</i>
Pyrrhuloxia	<i>Cardinalis sinuatus</i>
Lesser goldfinch	<i>Carduelis psaltria</i>
House finch	<i>Carpodacus mexicanus</i>
Turkey vulture	<i>Cathartes aura</i>
Killdeer	<i>Charadrius vociferus</i>
Lark sparrow	<i>Chondestes grammacus</i>
Lesser nighthawk	<i>Chordeiles acutipennis</i>
Northern harrier	<i>Circus cyaneus</i>
Red-shafted northern flicker	<i>Colaptes cafer</i>
Gilded flicker	<i>Colaptes chrysoides</i>
Rock dove	<i>Columba livia</i>
Inca dove	<i>Columbina inca</i>
Common ground-dove	<i>Columbina passerine</i>
Western wood-pewee	<i>Contopus sordidulus</i>
Common raven	<i>Corvus corax</i>
Yellow-rumped warbler	<i>Dendroica coronata</i>
Black-throated gray warbler	<i>Dendroica nigrescens</i>
Yellow warbler	<i>Dendroica petechia</i>
Snowy egret	<i>Egretta thula</i>
Pacific-slope flycatcher	<i>Empidonax difficilis</i>
Dusky flycatcher	<i>Empidonax oberholster</i>
Cordilleran flycatcher	<i>Empidonax occidentalis</i>
Gray flycatcher	<i>Empidonax wrightii</i>
Horned lark	<i>Eremophila alpestris</i>
Brewer's blackbird	<i>Euphagus cyanocephalus</i>
American kestrel	<i>Falco sparverius</i>
American coot	<i>Fulica americana</i>
Common moorhen	<i>Gallinula chloropus</i>
Greater roadrunner	<i>Geococcyx californianus</i>

Table D-3 Bird Species Potential Occurrence in the Vicinity of the PSA¹	
Blue grosbeak	<i>Guiraca carulea</i>
Cliff swallow	<i>Hirundo pyrrhonota</i>
Barn swallow	<i>Hirundo rustica</i>
Northern oriole	<i>Icterus bullockii</i>
Hooded oriole	<i>Icterus cucullatus</i>
Bullock's oriole	<i>Icterus galbula</i>
Dark-eyed junco	<i>Junco hyemalis</i>
Loggerhead shrike	<i>Lanius ludovicianus</i>
Gila woodpecker	<i>Melanerpes uropygialis</i>
Lincoln's sparrow	<i>Melospiza lincolnii</i>
Song sparrow	<i>Melospiza melodia</i>
Elf owl	<i>Micrathene whitneyi</i>
Northern mockingbird	<i>Mimus polyglottos</i>
Bronzed cowbird	<i>Molothrus aeneus</i>
Brown-headed cowbird	<i>Molothrus ater</i>
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>
Brown-crested flycatcher	<i>Myiarchus tyrannulus</i>
Black-crowned night-heron	<i>Nycticorax</i>
MacGillivray's warbler	<i>Oporornis tolmiei</i>
Sage thrasher	<i>Oreoscoptes montanus</i>
Western screech owl	<i>Otus kennicottii</i>
Harris' hawk	<i>Parabuteo unicinctus</i>
House sparrow	<i>Passer domesticus</i>
Phainopepla	<i>Phainopepla nitens</i>
Double-crested cormorant	<i>Phalacrocorax auritus</i>
Common poorwill	<i>Phalaenoptilus nuttallii</i>
Black-headed grosbeak	<i>Pheucticus melanocephalus</i>
Ladder-backed woodpecker	<i>Picoides scalaris</i>
Abert's towhee	<i>Pipilo aberti</i>
Green-tailed towhee	<i>Pipilo chlorurus</i>
Spotted towhee	<i>Pipilo erythrophthalmus</i>
Canyon towhee	<i>Pipilo fuscus</i>
Western tanager	<i>Piranga ludoviciana</i>
Pied-billed grebe	<i>Podilymbus podiceps</i>
Blue-gray gnatcatcher	<i>Polioptila caerulea</i>
Black-tailed gnatcatcher	<i>Polioptila melanura</i>
Vesper sparrow	<i>Pooecetes gramineus</i>
Vermillion flycatcher	<i>Pyrocephalus rubinus</i>
Great-tailed grackle	<i>Quiscalus mexicanus</i>
Ruby-crowned kinglet	<i>Regulus calendula</i>

Table D-3 Bird Species Potential Occurrence in the Vicinity of the PSA¹	
Rock wren	<i>Salpinctes obsoletus</i>
Black phoebe	<i>Sayornis nigricans</i>
Say's phoebe	<i>Sayornis saya</i>
Rufus hummingbird	<i>Selasphorus rufus</i>
Western bluebird	<i>Sialia mexicana</i>
Brewer's sparrow	<i>Spizella breweri</i>
Chipping sparrow	<i>Spizella passerine</i>
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>
Western meadowlark	<i>Sturnella neglecta</i>
European starling	<i>Sturnus vulgaris</i>
Tree swallow	<i>Tachycineta bicolor</i>
Violet-green swallow	<i>Tachycineta thalassina</i>
Bewick's wren	<i>Thryomanes bewickii</i>
Bendire's thrasher	<i>Toxostoma bendirei</i>
Curve-billed thrasher	<i>Toxostoma curvirostre</i>
House wren	<i>Troglodytes aedon</i>
American robin	<i>Turdus migratorius</i>
Western kingbird	<i>Tyrannus verticalis</i>
Barn owl	<i>Tyto alba</i>
Orange-crowned warbler	<i>Vermivora celata</i>
Lucy's warbler	<i>Vermivora luciae</i>
Nashville warbler	<i>Vermivora ruficapilla</i>
Virginia's warbler	<i>Vermivora virginiae</i>
Bell's vireo	<i>Vireo bellii</i>
Warbling vireo	<i>Vireo gilvus</i>
Wilson's warbler	<i>Wilsonia pusilla</i>
White-winged dove	<i>Zenaida asiatica</i>
Mourning dove	<i>Zenaida macroura</i>
White-crowned sparrow	<i>Zonotrichia leucophrys</i>
¹ Corman and Wise-Gervais 2005	

Table D-4 Reptile and Amphibian Species Potential Occurrence in the Vicinity of the PSA¹	
Common Name	Scientific Name
Arizona glossy snake	<i>Arizona elegans noctivaga</i>
Sonoran desert toad	<i>Bufo alvarius</i>
Great plains toad	<i>Bufo cognatus</i>
Red-spotted toad	<i>Bufo punctatus</i>
Zebra tail lizard	<i>Callisaurus draconoides</i>

Exhibit D – Biological Resources

Banded sand snake	<i>Chilomeniscus cinctus</i>
Western shovel-nosed snake	<i>Chionactis occipitalis</i>
Gila spotted whiptail	<i>Cnemidophorus flagellicaudus</i>
Western whiptail	<i>Cnemidophorus tigris</i>
Desert banded gecko	<i>Coleonyx variegatus</i>
Western diamondback rattlesnake	<i>Crotalus atrox</i>
Sonoran sidewinder	<i>Crotalus cerastes cercobombus</i>
Speckled rattlesnake	<i>Crotalus mitchellii pyrrhus</i>
Black-tailed rattlesnake	<i>Crotalus molossus</i>
Mojave rattlesnake	<i>Crotalus scutulatus</i>
Arizona black rattlesnake	<i>Crotalus viridis cerberus</i>
Common collared lizard	<i>Crotaphytus collaris</i>
Western collared lizard	<i>Crotaphytus collaris baileyi</i>
Desert iguana	<i>Dipsosaurus dorsalis</i>
Large spotted leopard lizard	<i>Gambelia wislizenii</i>
Desert tortoise	<i>Gopherus agassizii</i>
Gila monster	<i>Heloderma suspectum</i>
Canyon tree frog	<i>Hyla arenicolor</i>
Night snake	<i>Hypsiglena torquata</i>
Sonoran mud turtle	<i>Kinosternon sonoriense</i>
Common kingsnake	<i>Lampropeltis getula</i>
Western blind snake	<i>Leptotyphlops humilis</i>
Rosy boa	<i>Lichanura trivirgata</i>
Red coachwhip	<i>Masticophis flagellum piceus</i>
Arizona coral snake	<i>Micruroides euryxanthus</i>
Desert horned lizard	<i>Phrynosoma platyrhinos</i>
Desert horned lizard	<i>Phrynosoma platyrhinos calidiarum</i>
Regal horned lizard	<i>Phrynosoma solare</i>
Saddled leaf-nosed snake	<i>Phyllorhynchus browni</i>
Western leaf-nosed snake	<i>Phyllorhynchus decurtatus perkinsi</i>
Sonoran gopher snake	<i>Pituphis melanoleucus affinis</i>
Bullfrog	<i>Rana catesbeiana</i>
Western long-nosed snake	<i>Rhinocheilus lecontei</i>
Western patch-nosed snake	<i>Salvadora hexalepis</i>
Western chuckwalla	<i>Sauromalus obesus</i>
Couch spadefoot	<i>Scaphiopus couchi</i>
Western spadefoot	<i>Scaphiopus hammondi</i>
Southern spadefoot	<i>Scaphiopus multiplicatus</i>
Sonoran spiny lizard	<i>Sceloporus magister</i>
Yellow-backed spiny lizard	<i>Sceloporus magister uniformis</i>
Ground snake	<i>Sonora semiannulata</i>
SW black-headed snake	<i>Tantilla hobartsmithi</i>

Lyre snake	<i>Trimorphodon biscutatus</i>
Spiny softshell	<i>Trionyx spiniferus</i>
Arizona brush lizard	<i>Urosaurus graciosus shannoni</i>
Tree lizard	<i>Urosaurus ornatus</i>
Side-blotched lizard	<i>Uta stansburiana</i>
¹ Stebbins, R.C. 1985. A Field Guide to Western Reptiles and Amphibians. Peterson Field Guides.	

Invasive Weed Species and Noxious Weeds

Non-native, weedy, and crop species typically dominate remnant agricultural lands and other disturbed and unmaintained areas. It is possible that invasive weed species and/or noxious weeds are present in disturbed areas. Common weed species in the PSA that are not included in the state's noxious weed list include filaree (*Erodium cicutarium*) and Russian thistle (*Salsola tragus*).

Potential Effects

The following sections address the potential effects from development of the various Project components to the biological resources that are likely to occur within the PSA.

Proposed Alignment

Northern Alignment

Loop 202 Proposed Alignment

General Vegetation

Direct Impacts

The Proposed Alignment (P1 – P3) would result in temporary impacts from pads, access roads, and pulling/tensioning sites within the ROW along approximately 1.55 miles of creosote bush scrub and disturbed areas on the east side of Loop 202 or 1.67 miles along the west side of Loop 202. No impacts to active or remnant agriculture are expected. The Project would permanently impact only those areas associated with pole locations. With implementation of Salt River Project Agricultural Improvement and Power District's (SRP's) proposed measures described in **Exhibit C**, there would be no expected change in species composition and very little impact to the vegetation communities at the actual pole locations as a result of construction or operation. Therefore, the Proposed Alignment would have a minor direct impact on ecosystems and biological communities.

Indirect Impacts

Potential indirect impacts on vegetation communities could include introduction of invasive weed species, which can out-compete native or other desirable vegetation. Implementation of SRP's proposed measures listed in **Table C-2** would minimize or eliminate any potential for the introduction of invasive weed species into the area.

Cumulative Impacts

Agricultural, residential, commercial and industrial development, along with its associated roads and infrastructure, has converted and degraded areas of natural vegetation (wildlife habitat) in the PSA. The Proposed Alignment would permanently impact a very small area and the majority of the Project-related impacts would be temporary and short-term in nature. Therefore, the Proposed Alignment would result in a negligible cumulative impact on vegetation.

Invasive Weed Species and Noxious Weeds

The spread of invasive weed species and/or noxious weeds is not likely to occur as a result of construction due to the lack of noxious weeds observed during field reconnaissance.

As mitigation, all heavy equipment from other geographic areas utilized during construction would be washed prior to arrival on site. This would ensure that weed seed from a different area is not transported into the PSA.

General Wildlife

Direct Impacts

The Proposed Alignment would result in the temporary and permanent disturbance of very low quality wildlife habitat (creosote bush scrub and disturbed habitat) along approximately 1.55 miles of ROW along the east side of Loop 202, or 1.67 miles along the west side of Loop 202. Construction-related impacts would be temporary and short-term, and may include the temporary loss of habitat and displacement of resident wildlife species along the segment, possible injury or death of small burrowing reptiles or mammals during ground-disturbing activities, temporary impacts on wildlife movement, and noise-related disturbance. With implementation of SRP's proposed measures, direct impacts on wildlife associated with the segment would be short-term and minor. Operation of the facilities would include periodic maintenance activities along existing disturbed areas. As a result, direct impacts to wildlife are expected to be very minimal.

Indirect Impacts

During operation of the line, there could be a potential for increased raptor roost sites on poles, which can increase predation rates on certain prey species. This impact is expected to be minimal.

Cumulative Impacts

Agricultural development, housing and industrial development, road development, and other related infrastructure has converted and degraded areas of natural vegetation (wildlife habitat) in the PSA. The Proposed Alignment would permanently impact a very small area and the majority of the Project-related impacts would be temporary and short-term in nature. Therefore, the Proposed Alignment would result in a negligible cumulative impact on wildlife.

Migratory Birds

If construction occurs during the breeding season (approximately February 1 to August 31), SRP will follow the established protocols set out in *the Burrowing Owl Project Clearing Guidance for Landowners* (AGFD 2009). Therefore, there would be no impacts to active nests.

The new line could create a slight collision risk to birds. However, due to the degraded nature of the habitats within and adjacent to the proposed ROW, the amount of industrial, residential, and commercial development in the PSA, and the lack of high-quality foraging and migration areas in the PSA, this risk would be low and would represent a minor adverse impact on these species. To minimize risk to migratory birds, the lines will be constructed following industry suggested practices aimed at reducing avian collisions and electrocutions (Avian Power Line Interaction Committee [APLIC] 2006 and 2012). If avian line interactions become an issue, SRP will move quickly to evaluate the issue and craft a solution using appropriate state of the art measures.

RS-31 Substation Siting Area

The RS-31 Substation Siting Area is located entirely within vacant land (226 acres) that is dominated by creosote bush scrub with scattered, small mesquite. This vacant land provides low-quality habitat for wildlife. The substation footprint would result in long-term loss of the vegetation type but would result in only minor impacts to the biological community given the low quality of the habitat. The nature of potential direct, indirect, and cumulative impacts for vegetation and wildlife are similar to those described for the Proposed Alignment but are greater because the substation would disturb more acreage.

Central Alignment

State Route (SR)-24 Proposed Alignment

The Proposed Alignment (P5 – P6) would result in temporary impacts from pads, access roads, and pulling/tensioning sites within the ROW, and permanent impacts from pole locations along approximately 2.08 miles of creosote bush scrub with scattered, small mesquite on the north side of SR-24 or 2.55 miles on the south side of SR-24. The nature of potential direct, indirect, and cumulative impacts for vegetation and wildlife are similar to those described for the Northern Proposed Alignment, but slightly greater because this portion of the Project is approximately 0.41 to 1.0 mile longer than the Northern Proposed Alignment.

Southern Alignment

Crismon Road Proposed Alignment

The Proposed Alignment (P6 – P14) would result in temporary impacts from pads, access roads, and pulling/tensioning sites within the ROW, and permanent impacts from pole locations along approximately 2.11 miles of creosote bush scrub with scattered mesquite, agricultural fields, and a nursery. The nature of potential direct, indirect, and cumulative impacts for vegetation and wildlife are similar to those described for the Northern Proposed Alignment, but slightly greater

because this portion of the Project is approximately 0.44 to 0.56 miles longer than the Northern Proposed Alignment.

References

- Arizona Burrowing Owl Working Group. 2009. *Burrowing Owl Project Clearance Guidance for Landowners*. AGFD. Phoenix, Arizona.
- APLIC. 2012. *Reducing Avian Collisions with Power Lines: The State of the Art in 2012*. Edison Electric Institute and Avian Power Line Interaction Committee. Washington D.C.
- APLIC. 2006. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. Edison Electric Institute and Avian Power Line Interaction Committee. Washington D.C.
- Brown D.E. 1994. *Biotic Communities: Southwestern United States and Northwestern Mexico*. University of Utah Press.
- Corman, T. and C. Wise-Gervais (editors). 2005. *Arizona Breeding Bird Atlas*. University of New Mexico Press. Albuquerque, New México. 636 pp.
- Hoffmeister, D.F. 1986. *Mammals of Arizona*. University of Arizona Press.
- Stebbins, R.C. 1985. *A Field Guide to Western Reptiles and Amphibians*. Peterson Field Guides.