3.4. BIOLOGICAL RESOURCES

The discussion in this section is based the biological report prepared for the project by Live Oak Associates (LOA) in October 2017. The LOA report is incorporated into this EIR by reference, as provided under CEQA Guidelines Section 15150. The LOA report is contained in Appendix D of this EIR, and its findings and recommendations are summarized below.

3.4.1. ENVIRONMENTAL SETTING

Westlands Solar Park

Study Methodology

Sources of information used in the LOA's analysis included: 1) the *California Natural Diversity Data Base* (CDFG 2014); 2) the *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2014); and, 3) manuals, reports, and references related to plan area and animals of the San Joaquin Valley region. LOA ecologists conducted a number of reconnaissance-level field surveys of the WSP plan area and gen-tie corridors from 2010 through 2017. Detailed surveys for sensitive biological resources were not conducted during the multiple-year site surveys of the plan area except the Swainson's hawk nest survey in 2012 which included the plan area and lands within a 10-mile radius of the plan area.

The level of effort undertaken during LOA's field surveys was sufficient to locate and establish the general extent of wetland and special-status species habitat that might be present, but was not sufficient to establish precise wetland boundaries or the extent of actual use of onsite habitats by special status species may be present. Field surveys conducted for this study were sufficient to assess the significance of potential biological impacts associated with the solar development of the 21,000-acre WSP plan area, and to assess the need for more detailed studies that could be warranted if sensitive biotic resources were identified in this program-level survey. Delineating all wetlands that may be present, conducting focused surveys for sensitive plants and wildlife species, or mapping the extent of any special-status-species habitat present may be warranted prior to the development of individual solar projects within the WSP plan area. The need for any such subsequent surveys or delineations is identified below where appropriate.

Biotic Habitats

Five biotic habitats were observed on and adjacent to the plan area and gen-tie corridors during the biological field surveys conducted from 2010 through 2017. These include: fallow/pasture/barren/shrubland, irrigated fields, orchard/vineyard, tailwater pond, and canal/aquatic, as well as developed land use. These habitats are shown in Figure BIO-1 and described below.

Fallow/Pasture/Barren/Shrubland

The vast majority of the WSP plan area consists of fallow fields/pasture/barren/shrubland areas (see Figure BIO-1), while the gen-tie corridors contain relatively little of this habitat. Much of this area appears to have been fallowed (unplanted) for five years or more. Fallowed fields showed no sign of irrigation and were dominated by non-native grasses and forbs adapted to withstand the long hot dry season. Vegetation in these areas varied from low-growing to taller more dense herbaceous cover depending on the field. Vegetation height and density is likely dependent upon soil characteristics and yearly rainfall. Grass and forb species common to this habitat/land use include fiddleneck, wild oat, soft chess brome, red brome, horseweed, and prickly wild lettuce, among others. Very little native vegetation such as Alkali mallow was observed in this habitat.

Wildlife species expected to occur in this habitat would be somewhat similar to those species occurring in the cultivated fields, described below. However, because this habitat is not regularly cultivated, an herbaceous groundcover has developed that provides forage and cover for regional and transient wildlife. Therefore, the fallow fields and pastures would support somewhat larger populations and a greater diversity of wildlife species than the cultivated fields.

The fallow fields/pasture/barren/shrubland would support much of the same amphibian and reptile species as the irrigated fields, described below; but at a greater density and with the possible addition of species such as western whiptails, coachwhips, and glossy snakes.

Birds observed foraging in the fallow fields during LOA's surveys included killdeer, mourning dove, western kingbird, loggerhead shrike, American crow, common raven, horned lark, northern mockingbird, American pipit, savannah sparrow, song sparrow, white-crowned sparrow, red-winged blackbird, western meadowlark. Raptors observed over fallow field/pasture include the red-tailed hawk and northern harrier. Other raptors that may forage on or over this habitat within plan area include the white-tailed kite, American kestrel, and various owl species such as the barn owl and western burrowing owl.

A number of mammal species may also occur within the fallow fields/idle croplands of the plan area. Mammals such as deer, California voles, house mice, California ground squirrel, and Botta's pocket gopher would occur in fluctuating numbers depending on the season and available cover. Other small mammals likely to occur from time to time within these fields include black-tailed hares and desert cottontail rabbits. Various species of bat may also forage over the agricultural fields of the plan area for flying insects.

Irrigated Fields

After the fallow field/ pasture/barren/shrubland, the next most extensive habitat/land use of the plan area is cultivated fields (see Figure BIO-1). Within the gen-tie corridors, irrigated fields comprise the predominant habitat/land use. These fields are disturbed by agricultural practices on a regular basis. During the LOA field surveys during the spring of the years 2010 through 2015, much of the fields were disced and barren of vegetation in preparation of the spring planting season. Crops identified included wheat, garbanzo beans, tomatoes, onion, grape vines, and alfalfa. Bare fields, almond orchards, and other unidentified crops were also present. The sparse vegetation that was observed in the disced fields consisted primarily of non-native grasses and forbs such as fiddleneck, wild oat, field mustard, Shepherd's purse, jimsonweed, seaside heliotrope, prickly lettuce, common mallow, Russian thistle, and escaped wheat, which are adapted to regular disturbance. Several lone willow trees were sparsely scattered throughout the margins of the cultivated fields.



Sources: Base map: Google Earth, 2016; Biotic habitats: Live Oak Associates, 2017

Biotic Habitats Figure BIO-1 This page intentionally left blank

Vegetation in this community is highly managed, with cultivation, monocrop plantings, and weed abatement efforts defining the broad annual cycle. As a result, these fields provide only marginal habitat for most native wildlife. Nonetheless, some native wildlife species may use these fields, as described in more detail below.

Cultivated fields within the plan area and gen-tie corridors provide limited habitat for amphibians and reptiles. Amphibian species, such as Pacific chorus frogs and western toads may use the adjacent irrigation canals for breeding and may also disperse through the cultivated fields during the winter and spring, but these fields provide marginal habitat value for these species at best. Reptile species that may forage in this habitat include the side-blotched lizard, gopher snake, and common kingsnake.

These fields provide foraging habitat for a number of avian species. Species observed in and around cultivated fields of the plan area and gen-tie corridors include the mourning dove, western kingbird, loggerhead shrike, Common raven, American pipit, horned lark, red-winged blackbird, western meadowlark, Brewer's blackbird, and brown-headed cowbird. Raptors observed foraging over cultivated fields include the northern harrier, red-tailed hawk, and American kestrel. Other common resident species likely to forage in the agricultural fields of the plan area and gen-tie corridors include the European starling. Winter migrants common to the area include white-crowned sparrows, and savannah sparrows.

Mammal species utilizing the cultivated fields would be essentially the same as those likely to occur in the fallow fields/ pasture/barren/shrubland but at a somewhat lower density.

The presence of birds and small mammals is likely to attract foraging raptors, such as red-tailed hawks, white-tailed kites, and various owls such as the burrowing owl. Mammalian predators occurring within the plan area and gen-tie corridors would most likely be limited to raccoons, striped skunks, coyotes (*Canis latrans*) and red foxes, as these species are tolerant of human disturbance.

Orchard/Vineyard

This habitat occurs within the plan area and gen-tie corridors and includes fruit, nut, and other tree crop orchards such as almonds, apricots, grapes, open water, oranges, pistachios, pomegranates, and walnuts, as well as grapes. Animal species are expected to sparsely use these habitats and include the species in the adjacent habitats.

Tailwater Pond

One off-site pond was observed in the vicinity of the plan area near the center of the plan area (see Figure BIO-1). While this pond is not located within the plan area, its proximity to the plan area warranted detailed consideration of its habitat characteristics and value. This pond was approximately 2,200 feet long and 500 feet wide, and reportedly served as a tailwater pond for storage of irrigation return flows from nearby fields. Aside from trees along the levees, the pond area is sparsely vegetated with vegetation increasing significantly by late April. The tailwater pond was observed to be fringed with hydrophytic vegetation including tall flatsedge, seaside heliotrope, alkali mallow, Harding grass, knotweed, willow leaved dock, Goodding's willow, athel tamarisk, and common cattail. Other vegetation observed in this habitat includes common nightshade, common cudweed, saltbush, common sunflower, cheeseweed, and summer mustard.

The aquatic habitat and riparian vegetation associated with the tailwater pond are expected to support some amphibian species and numerous avian species. Species observed within or in the vicinity of the

pond during the field surveys included: a desiccated bullfrog, a great horned owl, a nesting pair of barn owls, peregrine falcon, prairie falcon, and Swainson's hawk (see next paragraph). Various wading birds such as the American avocet, long-billed dowitcher, great egrets, great blue herons, and a small rookery of black-crowned night herons, as well as mallards were observed using this habitat.

During the 2010 field surveys, Swainson's hawks were observed flying overhead in the vicinity of the tailwater pond. During the 2011 field surveys, a pair of Swainson's hawks was observed flying over the tailwater pond, and a pair of red-tailed hawks was also observed over the pond. The trees surrounding the pond supported two nesting great horned owls, one nest with one owlet and the other nest with two owlets. During the 2012-2014 field surveys, Swainson's hawks were observed flying over the pond area, and red-tailed hawks and great-horned owls were also observed at the pond. On April 15, 2015 LOA ecologists observed two Swainson's hawks land in a tree at the tailwater pond although no evidence of nesting was found.

Other birds observed in the immediate area of the pond include the mallard, snowy egret, turkey vulture, killdeer, black-necked stilt, American avocet, spotted sandpiper, greater yellowlegs, whimbrel, least sandpiper, mourning dove, western kingbird, loggerhead shrike, Common raven, horned lark, northern rough-winged swallow, red-winged blackbird, western meadowlark, both individuals and nestlings of Brewer's blackbird, and brown-headed cowbird.

The riparian trees and shrubs associated with the pond provide considerable habitat for a diversity of avian species. The taller shrubs and trees provide roosting and nesting habitat for various resident species such as the yellow-billed magpie, common raven, and red-tailed hawk. This vegetation provides cover for many migrant species moving north from Mexico and Central America during the spring or moving south from the Pacific Northwest and Canada during the fall. The more densely vegetated areas may be used as nesting habitat by spring migrants such as house wrens and Bullock's orioles.

Breeding California toads, breeding American bullfrogs, and gopher snakes were observed near the pond. Mammal species associated with the tailwater pond would be limited to those species found in the surrounding cultivated fields such as the various small mammals observed on the dikes around the pond, including desert cottontail, California ground squirrel burrows, mice, as well as a dead shrew. A coyote skull, raccoon prints, one domestic horse with rider, and domestic sheep were also observed near the pond. Various bat species would find ample foraging habitat along the edges and over the pond.

Canal/Aquatic

For the purposes of this analysis, the term "canal/aquatic" refers to the relatively permanent earthenbanked irrigation water conveyance structures within the plan area, most of which contained water during LOA's multi-year field surveys and/or supported wetland vegetation. Earthen ditches which may be created and/or removed from one crop season to the next, or which rarely contain water, are not considered to be aquatic habitat but are considered part of the cultivated and fallow field habitats described above.

A number of irrigation canals occur within the plan area, all of which have earthen beds and banks (see Figure BIO-1). The largest canal runs along the south side of Laurel Avenue and feeds secondary and tertiary canals in the eastern half of the plan area. The eastern part of the plan area, along with the off-site tailwater pond, supports the greatest biodiversity of any areas in the plan area. Vegetation

occurred in most of the canals; however, signs of vegetation removal within some canals were observed, providing evidence of regular management of the canals to maintain and maximize flows. Wetland and upland native and non-native vegetation observed in the dry canals included common sunflower, Russian thistle, prickly lettuce, salt grass, Mexican sprangeltop, cocklebur, and alkali heath, among others. Canals that were inundated during the survey periods supported included emergent vegetation such as narrow-leaf cattail.

The canals within the plan area provide habitat for several amphibian and reptile species. Amphibian species observed in the canals by LOA included the Pacific chorus frog, breeding California toad, and breeding bullfrog. The presence of amphibians would attract predators such as the common garter snake. Gopher snakes were observed on the roads (dikes) next to canals. An unidentified turtle was observed in a canal near the eastern boundary of the plan area.

Several bird species are likely to forage over the canals for invertebrate prey. Avian species observed in this habitat include the mallard, pied-billed grebe, great blue heron, great egret, snowy, green heron, black-crowned night heron, northern harrier, red-shouldered hawk, common moorhen, American coot, killdeer, black-necked stilt, greater yellowlegs, least sandpiper, long-billed dowitcher, herring gull, mourning dove, black phoebe, Say's phoebe, western kingbird, loggerhead shrike, American crow, northern rough-winged swallow, cliff swallow (observed nesting in concrete culverts), European starling, American pipit, yellow-rumped warbler, lark sparrow, savanna sparrow, song sparrow, white-crowned sparrow, Brewer's blackbird, and house sparrow. Several common ravens' nests were observed throughout the plan area, mostly in power poles/towers, often along the edges of the canals. California ground squirrels and western burrowing owls were observed along the sides of dry and/or inundated canals. A few coyote dens were observed along dry canals.

The canals also provide habitat for aquatic species. Mosquito, fish, carp, and an unknown species of crayfish were observed in the canals. Various species of catfish are also known to inhabit perennial canal habitats.

There are few irrigation canals or agricultural drainage ditches in the gen-tie corridors area, although both gen-tie corridors pass over the San Luis Canal/California Aqueduct to the west of the plan area. The agricultural canals and ditches in the corridors area are periodically maintained and do not support native vegetation associated with wetlands or riparian habitats. There are also several tailwater ponds or irrigation regulating ponds in the vicinity, but these were all created as part of agricultural infrastructure and do not include wetland or riparian habitat.

Developed

Developed areas within the plan area and gen-tie corridors are limited to public and private roads consisting of both paved and dirt roads. The margins of these roads support weedy plant species.

Special Status Plants and Animals

Several species of plants and animals within the state of California have low populations and/or limited distributions. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described more fully under "Regulatory Context" below, state and federal laws have provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS)

with a mechanism for conserving and protecting the diversity of plan area and animal species native to the state. A sizable number of native plan area and animals have been formally designated as "threatened" or "endangered" under state and federal endangered species legislation. Others have been designated as candidates for such listing. Still others have been designated as "species of special concern" by the CDFW. The California Native Plant Society (CNPS) has developed its own set of lists of native plan area considered rare, threatened, or endangered, and this listing is sanctioned by CDFW. Collectively, these plan area and animals are referred to as "special status species."

A number of special status plant and animals occur in the vicinity of the WSP plan area and gen-tie corridors (see Figures 5 and 6 in LOA's WSP biological report contained in Appendix D of this EIR). These species, and their potential to occur in the plan area, are listed in Table BIO-1 on the following pages.

Special-Status Animal Species Meriting Further Discussion

Western Pond Turtle

Federal Listing Status: None; *State Listing Status*: Species of Special Concern.

Life History and Ecology. The western pond turtle is the only native freshwater turtle in California and normally associates with permanent or nearly permanent aquatic habitats, including streams, lakes, and ponds. Historically, this species occurred in Pacific Coast drainages from Washington to Mexico. This species occurs in aquatic habitats with: 1) basking sites such as rocks and logs; 2) dense stands of submergent or emergent vegetation; 3) abundant aquatic invertebrate resources; 4) suitable nearby nesting sites; and 5) the lack of native and exotic predators.

Potential to Occur within the Plan area and Gen-Tie Corridors. One unidentified turtle was observed during an LOA field survey on the eastern edge of the plan area in the large canal running along the south side of Laurel Avenue. A previous sighting of western pond turtle was reported just several miles to the east of this location at the junction of Highway 41 and the Kings River in 1996. Therefore, there is a potential that the western pond turtle may occur in portions of the plan area and gen-tie corridors containing perennial or near perennial waters.

Blunt-Nosed Leopard Lizard

Federal Listing Status: Endangered; *State Listing Status*: Endangered; California Protected.

In addition to being state and federally-endangered, the blunt-nosed leopard lizard (BNLL) is one of fewer than 40 species that has a "fully protected" status through provisions of the California State Fish & Game Code. The CDFG cannot issue a "take" permit for fully protected species, and projects with fully protected species are required to completely avoid direct "take" of the species. In this instance, "take" refers to direct harm, injury, or killing of an individual, not to habitat modifications.

Life History and Ecology. The blunt-nosed leopard lizard is a large, long-lived lizard with short, blunt snout and pale crossbars on its back and tail. It inhabits sparsely vegetated plains, alkali flats, low foothills, grasslands, canyon floors, large river washes, and arroyos. These opportunistic foragers feed primarily on insects, particularly grasshoppers, crickets, moths, and other lizards, and occasionally plant material.

TABLE BIO-1

SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE WSP VICINITY

PLANTS (adapted from CDFG 2016 and CNPS 2016)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	*Occurrence in the Plan Area
California jewel-flower	FE, CE,	Chenopod scrub, pinyon and	Absent. Suitable habitat for this species is
(Caulanthus californicus)	CNPS 1B	juniper woodland, and sandy	absent from the plan area. Any suitable
		valley and foothill grassland at	habitat that may have once been present
		elevations between 70 and 1000	has been highly modified for human use.
		meters. Blooms Feb-May.	
San Joaquin woolly threads	FT,	Chenopod scrub and valley and	Absent. Suitable habitat for this species is
(Monolopia congdonii)	CNPS 1B	foothill grassland at elevations	absent from the plan area. Any suitable
		between 60 and 800 meters.	habitat that may have once been present
		Blooms February-May.	has been highly modified for human use.
Round leaved filaree	CNPS 1B	Grasslands and foothills at	Absent. Suitable habitat for this species is
(California macrophylla)		elevations between 200 and	absent from the plan area. Any suitable
		2,000 feet. Blooms March-May.	habitat that may have once been present
			has been highly modified for human use.

Other Species under the CNPS

Species	Status	Habitat	*Occurrence in the Plan Area
Round leaved filaree (California macrophylla)	CNPS 1B	Grasslands and foothills at elevations between 200 and 2,000 feet. Blooms March-May.	Absent . Suitable habitat for this species is absent from the plan area. Any suitable habitat that may have once been present has been highly modified for human use.
Lemmon's jewel-flower (Caulanthus lemmonii)	CNPS 1B	<u>Habitat</u> : Occurs in pinion and juniper woodland and valley and foothill grasslands. <u>Elevation</u> : 80-1220 meters. <u>Blooms</u> : March-May.	Absent . Suitable habitat for this species is absent from the plan area. Furthermore, this species is not known to occur within the interior of the San Joaquin Valley. The nearest documented occurrence is approximately 9.25 miles southwest of the project site, from a 1962 occurrence centered in the City of Avenal (CDFW 2017).
Recurved larkspur (<i>Delphinium recurvatum</i>)	CNPS 1B	<u>Habitat</u> : Occurs in chenopod scrub, cismontane woodland, and valley and foothill grasslands. <u>Elevation</u> : 3-750 meters. <u>Blooms</u> : March-June.	Unlikely. Suitable habitat for this species is absent from the plan area. The nearest documented occurrence is approximately 12 miles northwest of the plan area in undisturbed foothill grassland (CDFW 2017). Past farming activities in fallow fields of the site that currently support non-native grassland habitat would have eliminated any recurved larkspur that may have occurred there. Furthermore, many miles of cultivated agricultural fields lie between these fallow fields and all distant documented occurrences of this species or any suitable habitat, making colonization of this species onto onsite fallow fields highly unlikely.

SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE WSP VICINITY

PLANTS (adapted from CDFG 2016 and CNPS 2016)

Other Species under the CNPS

Species	Status	Habitat	*Occurrence in the Plan Area
Kern Mallow (Eremalche parryi ssp. kernensis)	CNPS 1B	Habitat: Occurs on dry, open sandy to clay soils, often at the edge of balds in chenopod scrub, pinion and juniper woodland, and valley and foothill grassland habitats. <u>Elevation</u> : 70-1290 meters. <u>Blooms</u> : January-May	Unlikely. Suitable habitat for this species is absent from the plan area. Furthermore, the plan area is just outside the northern edge of this species documented distribution. The nearest documented occurrence is approximately 7.5 miles southwest of the plan area, from a 1973 occurrence in foothill grassland northeast of the City of Avenal (CDFW 2017). Past farming activities in fallow fields of the plan area that currently support non-native grassland habitat would have eliminated any Kern mallow that may have occurred there. Furthermore, many miles of cultivated agricultural fields lie between these fallow fields and all distant documented occurrences of this species or any suitable habitat, making colonization of this species onto onsite fallow fields highly unlikely.

ANIMALS (adapted from CDFG 2016 and USFWS 2016) Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	*Occurrence in the Plan area
Vernal pool fairy shrimp	FT	Occurs in vernal pools of	Absent. Suitable habitat in the form of
(Branchinecta lynchi)		California.	vernal pools is absent from the plan area.
Valley elderberry longhorn	FT	Lives in mature elderberry	Absent. Suitable habitat in the form of
beetle		shrubs of California's Central	elderberry shrubs is absent from the plan
(Desmocerus californicus		Valley and Sierra Foothills.	area.
dimorphus)			
California tiger salamander (Ambystoma californiense)	FT, CT	Breeds in vernal pools and stock ponds of central California; adults aestivate in	Absent . No historic or current records of this species are known within the region. Intensively cultivated lands provide
		grassland habitats adjacent to	unsuitable habitat for this species. The
			than 22 miles to the northeast of the
			plan area (CNDDB 2016).

SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE WSP VICINITY

ANIMALS - cont'd

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	*Occurrence in the Plan Area
Giant garter snake (Thamnophis gigas)	FT, CT	Habitat requirements consist of (1) adequate water during the snake's active season (early- spring through mid-fall) to provide food and cover; (2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat during the active season; (3) grassy banks and openings in waterside vegetation for basking; and (4) higher elevation uplands for cover and refuge from flood waters during the snake's dormant season in the winter.	Unlikely . Marginal breeding and overwintering habitat is available along major irrigation canals along the eastern edge of the plan area. However, the nearest recorded observation is more than 13 miles to the north and is a historic record from a published account in 1941 (CNDDB 2016). See expanded discussion following this table.
Blunt-nosed leopard lizard (<i>Gambelia silus</i>)	FE, CE, CP	Frequents grasslands, alkali meadows and chenopod scrub of the San Joaquin Valley from Merced south to Kern County.	Unlikely . Habitats required by this species have been highly disturbed or eliminated as a result of agricultural activities. The nearest recorded observation is more than 8 miles to the southwest (CNDDB 2016).
Swainson's hawk (Buteo swainsoni)	СТ	Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	Present. Foraging habitat is available throughout the plan area in both fallow and agricultural fields. Breeding habitat is present in riparian trees along the off-site tailwater pond. A pair of Swainson's hawks was observed flying over the tailwater pond in 2010-2014, and a pair was observed landing in a tree at the tailwater pond during 2015 surveys.
California least tern (Sterna antillarum browni)	FE, CE, CP	Occurs in coastal central to southern California April to November. Found in and near coastal habitat including coasts, beaches, bays, estuaries, lagoons, lakes, and rivers. When found inland, they are near large bodies of water.	Unlikely. California least terns are most prevalent on the coast of central to southern California for breeding. Although records exist of them occurring inland, they are observed near large bodies of water. As the plan area does not support large bodies of water, the California least tern would be unlikely to occur within the plan area, although, they may fly over the plan area from time to time during migration.
Western yellow-billed cuckoo (Coccyzus americanus occidentalis)	FC, CE	Breed in large blocks of riparian habitats, particularly cottonwoods and willows.	Absent. Dense riparian habitat required by this species is absent from the plan area.

SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE WSP VICINITY

ANIMALS-cont'd

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	*Occurrence in the Plan Area
Western snowy plover (Charadrius alexandrines nivosus)	FT, CSC	Uses human-made agricultural wastewater ponds and reservoir margins. Breeds on barren to sparsely vegetated ground at alkaline or saline lakes, reservoirs, ponds, and riverine sand bars.	Possible . Breeding and foraging habitat is available along agricultural canals and nearby ponds, including the agricultural pond inside the plan area. The nearest recorded observation is approximately 3 miles to the east of the plan area (CNDDB 2016).
Nelson's antelope squirrel (Ammospermophilus nelsoni)	СТ	Frequents open shrublands and annual grassland habitats.	Absent . Habitats required by this species are absent from the plan area and surrounding agricultural lands due to intensive agricultural use.
Giant kangaroo rat (Dipodomys ingens)	FE, CE	Inhabits grasslands on gentle slopes generally less than 10°, with friable, sandy-loam soils.	Absent . Habitats required by this species are absent from the plan area and surrounding agricultural lands due to intensive agricultural use.
Tipton kangaroo rat (Dipodomys nitratoides nitratoides)	FE, CE	Inhabits arid land with grassland or salt scrub on level or near-level terrain on the San Joaquin Valley floor with alluvial fan and floodplain soils.	Absent. The habitat of the plan area has been disturbed for agricultural use for many years, therefore, Tipton's kangaroo rat would not be expected to recolonize the plan area. The nearest recorded observation of the TKR is from 1951 and is approximately 2.5 miles south of the plan area south of Kettleman City near the California Aqueduct (CNDDB 2017).
Fresno kangaroo rat (Dipodomys nitratoides exilis)	FE, CE	Inhabits grassland on gentle slopes generally less than 10°, with friable, sandy-loam soils.	Absent . Habitats required by this species are absent from the plan area and surrounding agricultural lands due to intensive agricultural use.
San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	FE, CT	Frequents desert alkali scrub and annual grasslands and may forage in adjacent agricultural habitats. Utilizes enlarged (4 to 10 inches in diameter) ground squirrel burrows as denning habitat.	Unlikely. Burrows observed within the plan area during the multi-year surveys were of suitable size for the kit fox. However, nearly all these burrows were within the vicinity of California ground squirrels or actively used by ground squirrels. An extensive burrow survey was not conducted. The plan area has been highly modified for agricultural use and, as a result, provides only marginal foraging and breeding habitat for the kit fox. Fallow land provides more suitable foraging habitat than agricultural fields. There are no documented sightings of this species within the plan area, but there have been numerous documented sightings within a ten-mile radius of the plan area, between 1971 and 2002 (CNDDB 2016). Therefore, kit foxes are unlikely to breed within the plan area, but may occasionally forage within the plan area, and may use the plan area for dispersal movements.

SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE WSP VICINITY

ANIMALS (adapted from CDFG 2016 and USFWS 2016)

State Species of Special Concern

Species	Status	Habitat	*Occurrence in the Plan area
Western spadefoot (Scaphiopus hammondii)	CSC	Primarily occurs in grasslands, but also occurs in valley and foothill hardwood woodlands. Requires vernal pools or other temporary wetlands for breeding.	Unlikely . Vernal pools required for breeding are absent from the plan area. Terrestrial habitat required for aestivation is absent from cultivated fields and marginally available in fallow fields.
Western pond turtle (Actinemys marmorata)	CSC	Intermittent and permanent waterways including streams, marshes, rivers, ponds and lakes.	Possible . Habitat for this species is available in and along the larger agricultural canals. An unidentified turtle was observed in such a canal during the 2010 field survey of plan area. The nearest documented occurrence is less than 2 miles to the east of the plan area (CNDDB 2016).
Silvery legless lizard (Anniella pulchra pulchra)	CSC	Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks.	Unlikely . Habitat for this species is not available.
Coast horned lizard (Phrynosoma blainvillii)	CSC	Grasslands, scrublands, oak woodlands, etc. of central California. Common in sandy washes with scattered shrubs.	Unlikely . Habitats required by this species are absent because they have been heavily modified for human use. The nearest documented observation of this species is more than 27 miles to the northwest of the plan area (CNDDB 2016).
San Joaquin whipsnake (Masticophis flagellum ruddocki)	CSC	Open, dry habitats with little or no tree cover. Found in valley grasslands and saltbush scrub in the San Joaquin Valley.	Possible . Some habitat for this species occurs in fallowed lands along the eastern portion of the plan area. The nearest documented occurrence of this species is more than 3 miles south of the Plan area.
American white pelican (nesting) (Pelecanus erythrorhynchos)	CSC	Nests on islands in large lakes or on ephemeral islands in shallower wetlands.	Unlikely. Nesting habitat is absent from the plan area. A flock of this species was observed flying over the Plan area.

SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE WSP VICINITY

Species	Status	Habitat	*Occurrence in the Plan area
White-faced ibis (<i>Plegadis chihi</i>)	CSC	Salt and freshwater marsh as well as grain and alfalfa fields.	Possible . Marginal foraging habitat required for this species is present in the form of alfalfa, grain, and fallow fields within the plan area. Breeding habitat is absent. In 2010, a dead white-faced ibis was observed on a road shoulder by LOA biologists 5.5 miles east of the plan area.
Northern harrier (Circus cyaneus)	CSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	Present . Harriers were observed foraging over agricultural fields within the plan area in 2010 and 2011.
White-tailed kite (Elanus leucurus)	СР	Open grasslands and agricultural areas throughout central California.	Possible . Suitable breeding and foraging habitat occurs for this species within the plan area.
Mountain plover (Charadrius montanus)	CSC	Forages in short grasslands and freshly plowed fields of the Central Valley.	Possible . The plan area provides suitable winter foraging habitat for this species.
Burrowing owl (Athene cunicularia)	csc	Frequents open, dry annual or perennial grasslands, deserts, and scrublands characterized by low growing vegetation. Dependent upon burrowing mammals, most notably the California ground squirrel, for nest burrows.	Present . Multiple burrowing owls were observed within the plan area along dry agricultural canals. Nesting habitat in the form of ground squirrel burrows exist onsite and were in use by owls during the multi-year surveys.
Black swift (Cypseloides niger)	CSC	Migrants found in many habitats of state; in Sierra nests are often associated with waterfalls.	Absent . The plan area does not provide suitable breeding or foraging habitat for this species.
Vaux's swift (Chaetura vauxi)	CSC	Migrants move through the foothills of the western Sierra in spring and late summer. Some individuals breed in the region.	Absent. The plan area does not provide suitable breeding or foraging habitat for this species.
Loggerhead shrike (Lanius ludovicianus)	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. Can often be found in cropland.	Present. This species was observed throughout the plan area in agricultural fields and canals and fallow/pasture fields in 2010 and 2011.

ANIMALS – cont'd State Species of Special Concern

SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE WSP VICINITY

Species	Status	Habitat	*Occurrence in the Plan area
Tricolored blackbird (Agelaius tricolor)	CSC	Breeds near fresh water, primarily emergent wetlands, with tall thickets. Forages in grassland and cropland habitats.	Possible . Suitable foraging habitat occurs onsite for this species. Marginal breeding habitat occurs at the agricultural pond and large canals. The nearest recorded observation is more than 5 miles to the west of the plan area (CNDDB 2016).
Tulare grasshopper mouse (Onychomys torridus)	CSC	Arid shrubland communities in hot, arid grassland and scrub desert associations. These include blue oak woodlands at 450 m (1476 feet); upper Sonoran subshrub scrub community; alkali sink and mesquite associations on the valley floor; and grasslands associations on the sloping margins of the San Joaquin Valley and Carrizo Plain region.	Absent . Suitable shrubland habitat is not present within the plan area.
Townsend's Big-eared bat (Corynorhinus townsendii)	CSC	Primarily a cave-dwelling bat that may also roost in buildings. Occurs in a variety of habitats.	Possible . Suitable foraging habitat for this species is present within the plan area; roosting habitat is absent.
Pallid bat (Antrozous pallidus)	CSC	Roosts in rocky outcrops, cliffs, and crevices with access to open habitats for foraging. May also roost in caves, mines, hollow trees and buildings.	Possible . Suitable roosting and foraging habitat for this species is present within the plan area.
California mastiff bat (Eumops perotis ssp. californicus)	CSC	Frequents open, semi-arid to arid habitats, including conifer, and deciduous woodlands, coastal scrub, grasslands, palm oasis, chaparral and urban. Roosts in cliff faces, high buildings, trees and tunnels.	Possible. Suitable roosting and foraging habitat for this species is present within the plan area. The nearest recorded observation is less than 8 miles to the west of the plan area (CNDDB 2016).

ANIMALS – cont'd State Species of Special Concern

SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE WSP VICINITY

ANIMALS – cont'd State Species of Special Concern

Species	Status	Habitat	*Occurrence in the Plan area
American badger (<i>Taxidea taxus</i>)	csc	Found in drier open stages of most shrub, forest and herbaceous habitats with friable soils.	Possible . No burrows of the size and shape suitable for this species were observed within the plan area. However, an exhaustive search was not conducted. It is possible this species may establish burrows in fallow/pasture fields with sparse to moderately dense vegetation within the plan area. The nearest documented observation is 6 miles to the west of the plan area (CNDDB 2016).
Ringtail (Bassariscus astutus)	СР	Riparian and heavily wooded habitats near water.	Unlikely . Marginal habitat for this species is present in the riparian area around the off-site tailwater pond.

*Explanation of Occurrence Designations and Status Codes

Present: Species observed within the plan area at time of field surveys or during recent past. **Likely**: Species not observed within the plan area, but it may reasonably be expected to occur there on a regular basis.

Possible: Species not observed within the plan area, but it could occur there from time to time.

Unlikely: Species not observed within the plan area, and would not be expected to occur there except, perhaps, as a transient.

Absent: Species not observed within the plan area, and precluded from occurring there because habitat requirements not met.

STATUS CODES

- FE Federally Endangered
- FT Federally Threatened
- FPE Federally Endangered (Proposed)
- FC Federal Candidate

- CE California Endangered
- CT California Threatened
- CR California Rare
- CP California Fully Protected
- CSC California Species of Special Concern

CNPS California Native Plant Society Listing

- 1A Plants Presumed Extinct in California
- 1B Plants Rare, Threatened, or Endangered in California and elsewhere
- 2 Plants Rare, Threatened, or Endangered in California, but more common elsewhere
- 3 Plants about which we need more information a review list
- 4 Plants of limited distribution a watch list

The species was originally found throughout the San Joaquin Valley and adjacent foothills, from San Joaquin County south to eastern San Luis Obispo County. Its distribution has been reduced by conversion of habitat to cropland. The blunt-nosed leopard lizard now occurs in scattered locations in the valley and in the eastern portions of the Coast Ranges, including the Antelope and Carrizo Plains and Cuyama Valley.

Potential to Occur within the WSP Plan Area and Gen-Tie Corridors. The BNLL is known to occur west of Interstate 5, several miles from the southern end of the plan area. A few sightings of this species have been documented in the Kettleman Hills, just west of Kettleman City, with the nearest observation reported in 1994 more than 8 miles southwest of the plan area. Given the decades of ground disturbance that have occurred in the plan area and gen-tie corridors from agricultural use, the plan area provides no habitat in cultivated fields and provides extremely marginal habitat in fallowed areas of the plan area. Therefore, it is considered extremely unlikely that BNLL would occur within the plan area or the gen-tie corridors.

Giant Garter Snake

Federal Listing Status: Threatened; *State Listing Status*: Threatened.

The giant garter snake population has suffered severe declines as a result of habitat loss due to urbanization and agricultural activities, and was listed as federally threatened in 1993. A draft recovery plan for the giant garter snake was completed in 1999, but a final recovery plan has not been adopted.

Life History and Ecology. The giant garter snake is one of the largest garter snakes, reaching a total length of at least 63 inches. Dorsal background coloration varies from brownish to olive with a checkered pattern of black spots, separated by a yellow dorsal stripe and two light colored lateral stripes. Giant garter snakes feed primarily on small fishes, tadpoles, and frogs.

The giant garter snake inhabits small mammal burrows and other soil crevices above prevailing flood elevations throughout its winter dormancy period. Giant garter snakes typically select burrows with sunny exposure along south- and west-facing slopes. Although giant garter snakes generally remain in close proximity to aquatic and wetland habitats, they have been observed foraging or dispersing through upland habitats up to 800 feet from marshes and pools. The giant garter snake is generally inactive during the winter and seeks cover in rodent burrows that may be as much as 800 feet from marshes and ponds.

Potential to Occur within the WSP Plan Area and Gen-Tie Corridors. As noted, the plan area has been highly disturbed by agricultural activities. While some of the larger irrigation canals within the plan area provide potentially suitable habitat for this species, the nearest known populations of giant garter snakes are associated with the San Joaquin River drainage in areas near Mendota approximately 40 miles northwest of the plan area. The nearest documented occurrence is more than 13 miles to the north in the Kings River drainage and was reported in 1941. Based on the highly disturbed nature of the plan area and gen-tie corridors and the lack of recent documentation of this species in the immediate region, the giant garter snake is considered unlikely to occur within the plan area or the gen-tie corridors.

Swainson's Hawk

Federal Listing Status: None; *State Listing Status*: Threatened.

The Swainson's hawk is designated as a California Threatened species. The loss of agricultural lands (i.e., foraging habitat) to urban development and additional threats such as riverbank protection projects have contributed to its decline.

Life History and Ecology. Swainson's hawks are large, broad-winged, broad-tailed hawks. Male and female Swainson's hawks have similar body types, with a length generally between 17 and 22 inches and a wingspan between 47 and 57 inches. They weigh up to 2.5 pounds.

Swainson's hawks have a high degree of mate and territorial fidelity. They arrive at their nesting sites in March or April, and build a nest which is likely to be a three- to four-foot diameter stick nest constructed in a tree, and can take up to two weeks to complete. In the Central Valley, Swainson's hawks typically nest in large trees within or near riparian systems adjacent to suitable foraging habitats. Other suitable nest sites include lone trees, groves of trees such as oaks, other trees in agricultural fields, and mature roadside trees. The young hatch sometime between March and July and do not leave the nest until some 4 to 6 weeks later. Swainson's hawks forage in large, open fields with abundant prey, including grasslands or lightly grazed pastures, alfalfa and other hay crops, and certain grain and row croplands.

Potential to Occur within the WSP Plan Area and Gen-Tie Corridors. Swainson's hawks are known to forage in areas surrounding the plan area. The trees surrounding the off-site tailwater pond, as well as trees along the nearby Kings River, provide suitable nesting and perching habitat, and the fallow and agricultural lands provide suitable foraging habitat. In June 2010, LOA biologists observed a pair of Swainson's hawks soaring above and around the tailwater pond. The LOA biologists conducted a thorough search for a nest, but no Swainson's hawk nest was observed in the trees associated with the tailwater pond. Subsequent thorough searches of the tailwater pond area by LOA biologists during the breeding seasons of 2011 through 2015 failed to detect the presence of a Swainson's hawk nest in the vicinity of the tailwater pond. In 2015, LOA biologists observed a pair of Swainson's hawks land in a tree adjacent to the tailwater pond, but no nest was found. Therefore, LOA concluded that while Swainson's hawks likely forage on-site throughout the months of March through September, there is no evidence of Swainson's hawk nesting activity within the plan area.

In the spring of 2012, LOA conducted a Swainson's hawk nest survey of the plan area as well as accessible lands within a 10-mile radius of the plan area, except for those lands previously surveyed by ESTEP Ecological Consulting (2011 and 2012). Four active Swainson's nests were observed, two of which were in trees northwest of the Town of Huron, one nest was located just east of Kettleman City in a stand of eucalyptus trees, and one nest was located in a cottonwood tree located south of the southern tip of the WSP plan area. During the 2013-2015 spring surveys, this latter nest was observed to be in active use by a pair of breeding Swainson's hawks. This pair likely uses the WSP plan area for foraging. As shown in Figure 7 in the LOA report in Appendix D, there are no known Swainson's hawk nests within or in the immediate vicinity of the gen-tie corridors.

In summary, Swainson's hawks are present within the plan area and gen-tie corridors and likely forage onsite throughout the months of March through September, and nest near the southern limit of the plan area in some years.

Burrowing Owl

Federal Listing Status: None; *State Listing Status*: Species of Special Concern.

The burrowing owl is designated as a California Species of Special Concern. This designation was based on the species' declining population within the state, which is mainly the result of habitat destruction from development and agricultural practices.

Life History and Ecology. The burrowing owl is a small, long-legged bird that averages a height of 9.5 inches, has an average wingspan of 23 inches, and weighs an average of 5.25 ounces. Burrowing owls are unique in that they are the only owl that regularly lives and breeds in underground nests. In California, these birds typically occur in the Central and Imperial Valleys, primarily utilizing ground squirrel burrows (or the burrows of other animals, e.g., badgers, prairie dogs and kangaroo rats) found in grasslands, open shrub lands, deserts, and, to a lesser extent, grazed and agricultural lands. Burrowing owls in this region are typically found at elevations below 250 feet and exhibit strong site fidelity. Pairs have been known to return to the same area year after year, and sometimes utilize the same burrow as the previous year. Burrowing owls are colonially nesting raptors, and colony size is indicative of habitat quality. It is not uncommon to find burrowing owls in developed and cultivated areas where California ground squirrels are active.

Burrowing owls feed on various small mammals including deer mice, voles, and rats. They also prey on various invertebrates including crickets, beetles, grasshoppers, spiders, centipedes, scorpions and crayfish. Peak hunting periods occur around dusk and dawn.

Potential to Occur within the WSP Plan Area and Gen-Tie Corridors. During LOA's multi-year surveys, burrowing owls were observed utilizing existing burrows along canals in the eastern and southern portions of the plan area. In the survey years, LOA biologists observed a minimum of 8 pair is some years and a minimum of 12 pair within the plan area in other years. The Plan area provides suitable habitat for this species in the form of California ground squirrel burrows present in fallow fields and canal banks. LOA biologists estimate that approximately 51 percent of the Plan area provides suitable year-round habitat and an additional 38 percent provides suitable seasonable habitat for burrowing owls. Within the gen-tie corridors vicinity, burrowing owls have been observed along and near the California Aqueduct within 3 miles of the southern gen-tie corridor. Thus, suitable nesting habitat likely occurs in the vicinity of the gen-tie corridors.

San Joaquin Kit Fox

Federal Listing Status: Endangered; State Listing Status: Threatened.

By the time the U.S. Fish and Wildlife Service listed it as an endangered species under the Federal Endangered Species Act in 1967, the San Joaquin kit fox had been extirpated from much of its historic range. In 1971, the State of California listed the kit fox as a threatened species, and in 1998 the USFWS adopted a final recovery plan area for the San Joaquin kit fox. Critical habitat has not been established for the San Joaquin kit fox.

Life History and Ecology. The San Joaquin kit fox, the smallest North American member of the dog family (Canidae), historically occupied the dry plains of the San Joaquin Valley, from San Joaquin County

to southern Kern County. Local surveys, research projects, and incidental sightings indicate that kit foxes currently occupy available habitat on the San Joaquin Valley floor and in the surrounding foothills.

Kit foxes prefer habitats of open or low vegetation with loose soils. In the northern portion of their range, they occupy grazed grasslands and, to a lesser extent, valley oak woodlands. In the southern and central portion of the San Joaquin Valley, kit foxes are found in valley sink scrub, valley saltbrush scrub, upper Sonoran subshrub scrub, and annual grassland. Kit foxes may also be found in grazed grasslands, urban settings, and in areas adjacent to tilled or fallow fields.

Kit fox diets vary geographically, seasonally, and annually. In the central portion of their range, which includes lands around the Plan area, known prey includes white-footed mice, insects, California ground squirrels, black-tailed hares, San Joaquin antelope squirrels, kangaroo rats, desert cottontails, and ground-nesting birds.

The kit fox requires underground dens to raise pups, regulate body temperature, and avoid predators and other adverse environmental conditions. In the central portion of their range, they usually occupy burrows excavated by small mammals, such as ground squirrels. Denning habitat consists of ground squirrel complexes in which some burrows have been enlarged to 4 to 6 inches in diameter for the length of approximately 2 feet.

Potential to Occur within the WSP Plan area and Gen-Tie Corridors. Lands surrounding the plan area and the gen-tie corridors consist of cultivated and fallow agricultural fields and the State Route 41 corridor as well as rangeland in the Kettleman Hills to the south and southwest. The lands within the plan area and the gen-tie corridors have been heavily managed for agricultural uses for decades. Agricultural lands are not generally suitable for the San Joaquin kit fox since they provide a limited prey base and thus constitute marginal foraging habitat.

Although a few burrows were observed by LOA biologists that were of suitable dimensions for kit fox, these burrows were or appeared to be occupied by California ground squirrels or burrowing owls; however, protocol-level surveys were not conducted.

According to the CNDDB there have been a total of 32 historical sightings of San Joaquin kit fox within 10 miles of the plan area, none of which occurred within the plan area itself (the observation locations are shown in Figure 6 of LOA's biological report in Appendix D of this EIR). These sightings occurred to the east, west, and south of the plan area. Many of these sightings are from the 1970s, but some are from the last 20 years, with the most recent from 2002. The multiple large irrigation canals run that through the plan area may act as movement corridors; however, should a kit fox utilize these corridors, the fox would have to travel through miles of marginal to poor habitat before reaching the plan area, which itself holds little habitat value.

In summary, the plan area and the gen-tie corridors offer marginal habitat primarily in fallowed fields; the surrounding lands provide similar habitat. Considering the highly disturbed condition of the plan area and the gen-tie corridors, their isolation from extant kit fox populations, and their marginal to poor suitability as foraging or denning habitat, it is unlikely any kit fox have taken up residence within the plan area or the gen-tie corridors. While the plan area and gen-tie corridors do not provide suitable habitat for San Joaquin kit fox, they may be used by occasional dispersing kit foxes traversing the plan area.

Wildlife Movement Corridors

Wildlife movement corridors are areas where regional wildlife populations regularly and predictably move during dispersal or migration. Movement corridors in California are typically associated with valleys, rivers and creeks supporting riparian vegetation, and ridgelines. In the San Joaquin Valley, which lacks many of the more pronounced topographic features found in the surrounding foothills, wildlife will often move across ill-defined undeveloped habitat patches; or regional movement is facilitated along existing linear features such as ditches, canals, farm roads, and creeks. In areas of intense farming, these existing linear features tend to be used disproportionately for movement when compared to the adjacent, intensely farmed lands. While actively farmed fields are not barriers in themselves, they are used less often than the linear features that cut through them.

The intense farming throughout the San Joaquin Valley over the last century has long altered the more traditional regional movement patterns of wildlife. While regionally-occurring wildlife do in fact move across the broad range of the Valley, they do so less effectively than they once did, relying more extensively on various linear features such as canals, ditches and creeks. Regionally, the nearest areas believed to provide for regional wildlife movement include areas in the surrounding Sierra and inner coast range foothills that have not been substantially altered.

The WSP plan area and gen-tie corridors consists mainly of agricultural fields or fallowed pasture fields with minor areas of ruderal/developed and canal habitat. A number of medium to large canals are located within the plan area, which in agricultural areas of the San Joaquin Valley can function as movement corridors for the regular home range or dispersal movements of native wildlife, including special status species. The large area comprising the plan area (approximately 33 sq. mi.) likely has value for the regional movements of some wildlife species, when placed in a regional context. However, it is noted that the USFWS' *Recovery Plan for Upland Species of the San Joaquin Valley* (Recovery Plan area) does not show movement corridors within or near the WSP plan area or gen-tie corridors. The Recovery Plan area shows the foothills to the west as a north-south movement corridor (USFWS 1998). The nearest significant riparian corridor that likely facilitates regional movement of wildlife is the Kings River to the northeast of the plan area. This riparian area is located 1.3 miles to the east of the plan area at its nearest point.

Jurisdictional Waters

Jurisdictional waters include rivers, creeks, and drainages that have a defined bed and bank and which, at the very least, carry ephemeral flows. Jurisdictional waters also include lakes, ponds, reservoirs, and wetlands. Such waters may be subject to the regulatory authority of the U.S. Army Corps of Engineers (USACE), the California Department of Fish and Wildlife (CDFW), and the California Regional Water Quality Control Board (RWQCB). See Section *3.4.2. Regulatory Context* below for detailed discussion of these agencies' roles and responsibilities. Formal wetland delineations of the plan area and gen-tie corridors have not been conducted, but the jurisdictional status of onsite waters has been surmised by LOA based on their multi-year site surveys and investigation of aerial photography and maps.

In the vicinity of the plan area, the nearest known Water of the U.S. is the Kings River to the north and east of the plan area. A number of irrigation canals run through the plan area; however, these canals do not receive water from the Kings River, which is at a lower elevation than the Plan area. Artificial waterways such as canals are typically not claimed by the agencies unless they receive water from a Known Water of the U.S., and then return water to a Known Water of the U.S. Thus, even if the onsite canals received water from a Known Water of the U.S., the Kings River, those waters would not return to

the Kings River. Therefore, it is unlikely that the onsite canals would fall under the jurisdiction of the USACE under the federal Clean Water Act. In addition, the adjacent tailwater pond would also likely fall outside the jurisdiction of the USACE due to its isolation from a Known Water of the U.S. Although the waters of the plan area are likely not regulated by the USACE, they may be claimed as jurisdictional by the RWQCB under the broader definition of Waters of the State under the Porter-Cologne Water Quality Act, which encompasses any surface or groundwater within the boundaries of the state. Thus, although the canals and tailwater pond may not fall under federal jurisdiction, the RWQCB may assert jurisdiction over those portions of the canals and tailwater pond that function as wetlands. The CDFW typically only asserts jurisdiction over ponds, lakes, and natural drainages or manmade features that replace natural drainages and, therefore, is unlikely to regulate alterations to the manmade canals mentioned above.

In the vicinity of the gen-tie corridors, the nearest known Water of the U.S., besides the California Aqueduct, is Los Gatos Creek which runs to the north and west of the gen-tie corridors, and is 4 miles from the gen-tie corridors at its nearest approach. Since there is no hydrologic connection between the gen-tie corridors and Los Gatos Creek, and the since the gen-tie projects will avoid the California Aqueduct, it is unlikely that any portion of the gen-tie corridors would fall under the jurisdiction of the USACE.

In summary, alteration of the canals within the plan area and the gen-tie corridors is unlikely to be regulated by the USACE; however, the RWQCB and CDFW may assert jurisdiction over some of these features. Jurisdiction would need to be evaluated on a case-by-case basis. It is important to note that these three agencies are the final arbiters and would need to be consulted regarding their jurisdiction over some or all of these features.

3.4.2. REGULATORY CONTEXT

Federal and State Regulations

Threatened and Endangered Species

State and federal "endangered species" legislation has provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Species listed as threatened or endangered under provisions of the State and Federal endangered species acts, candidate species for such listing, state species of special concern, and some plants listed as endangered by the California Native Plant Society are collectively referred to as "species of special status." Permits may be required from CDFW and/or USFWS if activities associated with a proposed project will result in the "take" of a listed species. "Take" is defined by the State of California as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86). "Take" is more broadly defined by the federal Endangered Species Act to include "harm" (16 USC, Section 1532(19), 50 CFR, Section 17.3). In addition, the CDFW and the USFWS are responding agencies under the California Environmental Quality Act (CEQA). Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

Migratory Birds

Most birds are also protected by State and federal law. The federal Migratory Bird Treaty Act (MBTA: 16 U.S.C., sec. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

Birds of Prey

Birds of prey are also protected in California under provisions of the State Fish and Game Code, Section 3503.5, 1992), which states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW.

Wetlands and Other "Jurisdictional Waters"

The discharge of dredged or fill materials into areas delineated as "Waters of the United States" is subject to regulation under Section 404 of the federal Clean Water Act (CWA). Natural drainage channels and adjacent wetlands that are delineated as "Waters of the United States" (hereafter referred to as "jurisdictional waters") are subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE). The extent of jurisdiction has been defined in the Code of Federal Regulations and has been subject to interpretation of the federal courts. Jurisdictional waters generally include:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce;
- All impoundments of waters otherwise defined as waters of the United States;
- Tributaries of waters identified above.

As determined in 2001 by the United States Supreme Court in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (the SWANCC decision) held that channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds.

The USACE regulates the filling or grading of jurisdictional waters under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by "ordinary high water marks" on opposing channel banks. Wetlands are habitats with soils that are intermittently or permanently saturated, or inundated. The resulting anaerobic conditions select for plant species known as hydrophytes that show a high degree of fidelity to such soils. Wetlands are identified by the presence of hydrophytic vegetation, hydric soils (soils saturated intermittently or permanently saturated by water), and wetland hydrology according to methodologies outlined in the 1987 Corps of Engineers

Wetlands Delineation Manual. All activities that involve the discharge of fill into jurisdictional waters are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation resulting in no net loss of wetland functions or values.

All activities that involve the discharge of fill into jurisdictional waters are subject to the permit requirements of the USACE (Wetland Training Institute, Inc. 1991). Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values. No Section 404 permit can be issued until the California Regional Water Quality Control Board issues a Water Quality Certification (or waiver of such certification) under Section 401 of the Clean Water Act, certifying that the proposed activity will meet state water quality standards. The filling of isolated wetlands, over which the USACE has disclaimed jurisdiction under the SWANCC decision, is still regulated by the RWQCB under the Porter-Cologne Water Quality Act. Under the Porter-Cologne Act, it is unlawful to fill isolated wetlands without filing a Notice of Intent with the RWQCB. The RWQCB may impose waste discharge requirements (WDRs) if fill material is to be placed into the Waters of the State.

In the wake of the SWANCC decision discussed above, the State Water Resources Control Board, in coordination with the CDFW, is currently in the process of preparing policy guidance for the definition and delineation of wetlands subject to State jurisdiction, as well as waste discharge requirements applicable to the filling of such wetlands. Based on the draft wetland protection policies, the State's definition of wetlands is expected to closely follow the federal definition of wetlands under Section 404 of the Clean Water Act, except that the State definition will apply to isolated wetlands (i.e., areas no longer under federal jurisdiction) and may apply to surface waters lacking vegetation (i.e., unvegetated areas experiencing prolonged soil saturation and/or prolonged inundation). While the state definition of a wetland has yet to be finalized, it appears that all surface waters of the state, whether natural or man-made, vegetated or un-vegetated could be defined as a wetland subject to the jurisdiction to the state of California.

As noted above, the canals and ditches within the WSP plan area are unlikely to be regulated by the USACE; however, the RWQCB and CDFW may assert jurisdiction over some of these features. In the vicinity of the gen-tie corridors, Los Gatos Creek is likely to be claimed as jurisdictional by USACE, while the RWQCB and CDFW would likely claim jurisdiction over all drainage features traversed by the gen-tie corridors. Jurisdiction would need to be evaluated on a case-by-case basis. It is important to note that these three agencies are the final arbiters and would need to be consulted regarding their jurisdiction over some or all of these features in conjunction with the Conditional Use Permit processes for individual solar projects and gen-tie projects.

California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) has jurisdiction over the bed and bank of natural drainages under Section 1601 through 1603 of the California Fish and Game Code. Activities potentially disturbing these drainages are regulated by the CDFW via a Lake or Streambed Alteration Agreement. Such a permit typically includes conditions that certain measures will be implemented for the protection of the habitat values of the drainage in question. Since there are no natural drainage channels within the plan area or the gen-tie corridors, no Streambed Alteration Agreement would be required from CDFW.

Habitat Conservation Plans (HCPs) and Natural Community Conservation Plans (NCCPs)

As discussed above, the federal Endangered Species Act mandates protection of threatened and endangered species and their habitat on federal and private land by prohibiting "take" of listed species through direct harm to individuals or habitat destruction. In an attempt to balance species protection with private landowner development interests, Congress amended Section 10(a)(1)(B) of the Endangered Species Act in 1982 to allow private landowners to destroy some endangered species habitat through a permitting system. Under this amendment, private landowners developing, logging, or otherwise negatively affecting land known to be home to listed species, are required to design and implement a Habitat Conservation Plan (HCP) that will minimize and mitigate harm to the impacted species during the proposed project.

The State of California's Natural Community Conservation Planning Act (NCCP Act), enacted in 1991, authorized of the Department of Fish and Wildlife to establish a program that takes a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity. The NCCP program is a cooperative effort involving numerous private and public partners. An NCCP identifies and provides for the regional or area-wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. The NCCP Act, while not intended to supersede the requirements of the federal and state Endangered Species Acts, is intended to allow for comprehensive, regional multi-species planning in a manner which satisfies the requirements of these endangered species laws.

Neither the WSP plan area nor the gen-tie corridors are covered by any existing Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP).

Recovery Plan area for Upland Species of the San Joaquin Valley

The *Recovery Plan area for Upland Species of the San Joaquin Valley* covers 34 species of plant and animals that occur in the San Joaquin Valley. The majority of these species occur in arid grasslands and scrublands of the San Joaquin Valley and the adjacent foothills and valleys. The plan includes information on recovery criteria, habitat protection, umbrella and keystone species, monitoring and research program, adaptive management, and economic and social considerations.

The only species addressed in the Recovery Plan that potentially occurs in the WSP and gen-tie corridors vicinity is the San Joaquin kit fox. Although no sightings of this species have been recorded in the immediate vicinity of the WSP plan area, there are several sightings from 1981 near the California Aqueduct in the vicinity of the gen-tie corridors. The Recovery Plan does not identify any lands in the immediate vicinity of the WSP plan area or gen-tie corridors as areas that should be protected as Specialty Reserve Areas, Wildlife-Compatible Farmland to be Maintained, or Areas Where Connectivity and Linkages Should be Promoted. The nearest area identified as a connectivity and linkage area is the Kettleman Hills to Anticline Ridge Movement Corridor, located west of I-5, approximately 4 miles west of the western end of the gen-tie corridors at the Gates Substation (USFWS 1998).

PG&E San Joaquin Valley Operation and Maintenance HCP

The PG&E San Joaquin Valley Operation and Maintenance HCP is the only HCP that covers the area of the gen-tie corridors. While some elements of the WSP solar projects and gen-tie projects (e.g., transmission lines, substations, switching stations) may be constructed and/or operated by PG&E, the

HCP would not cover construction of these major facilities; therefore, this HCP does not apply to the WSP solar development or gen-tie projects.

Kings County

Since the Westlands Solar Park is located entirely within Kings County, the County has discretionary approval authority for all WSP solar projects. Therefore, the County's plans, policies, and regulations pertaining to biological resources are applicable to WSP solar development.

Kings County General Plan

The 2035 Kings County General Plan contains the following goals, objectives, and policies related to biological resources that are relevant to the Westlands Solar Park:

Resource Conservation Element

D. Natural Plant and Animal Habitats

RC GOAL D1 Preserve land that contains important natural plant and animal habitats.

- RC OBJECTIVE D1.1 Require that development in or adjacent to important natural plan area and animal habitats minimize the disruption of such habitats.
- RC Policy D1.1.1: Evaluate all discretionary land use applications in accordance with the screening procedures contained in the Biological Resources Survey located in Appendix C. If the results of the project screening indicates the potential for important biological resources to exist on the site a biological evaluation (consistent with Appendix C) shall be performed by a qualified biologist. If the evaluation indicates that the project could have a significant adverse impact, mitigation shall be required or the project will be redesigned to avoid such impacts. Mitigation shall be provided consistent with the California Environmental Quality Act (CEQA), and applicable state and federal guidelines as appropriate. Mitigation may include habitat improvement or protection, acquisition of other habitat, or payment to an appropriate agency to purchase, improve, or protect such habitat.
- RC Policy D1.1.2: Require project applicants to consult with the California Department of Fish and Game and the United States Fish and Wildlife Service and to obtain appropriate authority for any such take pursuant to Endangered Species Act requirements if new development or other actions are likely to result in incidental take of any threatened or endangered species.
- RC GOAL D2 Maintain the quality of existing natural wetland areas as required by the California Department of Fish and Game, the United States Fish and Wildlife Service and the United States Army Corp of Engineers.
- RC OBJECTIVE D2.1 Maintain compatible land uses in natural wetland habitats designated by state and federal agencies.

- RC Policy D2.1.1: Follow state and federal guidelines for the protection of natural wetlands. Require developers to obtain authorization from the appropriate local, state, or federal agency prior to commencement of any wetland fill activities.
- RC Policy D2.1.2: Use the California Environmental Quality Act (CEQA) process to assess wetland resources, and require mitigation measures for development which could adversely impact a designated wetland.
- RC Policy D2.1.3: "Prior Converted Croplands" as defined by state and federal regulations shall be exempt from consideration as wetlands under the County planning process.

E. Threatened and Endangered Species

- RC GOAL E1 Balance the protection of the County's diverse plant and animal communities with the County's economic needs.
- RC OBJECTIVE E1.1 Require mitigation measures to protect important plant and wildlife habitats.
- RC Policy E1.1.1: Complete the inquiry process outlined in Appendix C in the initial project review for development permits to determine whether the project is likely to have a significant adverse impact on any threatened or endangered species habitat locations, and to assure appropriate consideration of habitat preservation by development. Maintain current copies of California Department of Fish and Game and United States Fish and Wildlife Service maps showing locations of known threatened and endangered species habitat. If shown to be necessary, require the developer to consult with the California Department of Fish and Game, the United States Fish and Wildlife Service, and the United States Army Corps of Engineers as to potential impacts, appropriate mitigation measures, and required permits.
- RC Policy E1.1.2: Require as a primary objective in the review of development projects the preservation of healthy native oaks and other healthy native trees.
- RC Policy E1.1.3: Maintain to the maximum extent practical the natural plant communities utilized as habitat by threatened and endangered species (see Appendix C for a listing and map of these plant communities).

Kings County Code

The Kings County Code and the Kings County Development Code include no specific requirements related to the protection of trees or biological resources.

Fresno County

Since no portion of the Westlands Solar Park is located within Fresno County, the County's plans, policies and regulations are not applicable to WSP solar development. Transmission projects that are to be

constructed or co-sponsored by an investor-owned utility (IOU) such as PG&E are subject to the sole permitting jurisdiction of the California Public Utilities Commission (CPUC) and are exempt from local jurisdiction. However, CPUC General Order 131-D requires public utilities to coordinate with local jurisdictions regarding consistency of their projects with local plans and policies. Transmission lines that may be privately owned (such as gen-ties) are not under CPUC jurisdiction, and thus are subject to Fresno County jurisdiction and may require the issuance of a conditional use permit from the County.

Fresno County General Plan

The Open Space and Conservation Element of the Fresno County General Plan contains a number of policies related to Natural Resources. These policies are directed specifically to the protection of special habitat areas such as wetlands and riparian areas, as well as fish and wildlife habitat. The Open Space and Conservation Element is directly accessible at the following web address: http://www2.co.fresno.ca.us/4510/4360/General_Plan/GP_Final_policy_doc/Open_Space_Element_rj.p

Fresno County Code

The Fresno County Ordinance Code contains the following provisions related to the protection of trees and biological resources. Section 13.12.040 requires tree permits for removal of any trees within county roadways that have been declared to be scenic drives by the Board of Supervisors. Section 17.20.020 provides that a proposed tentative or final map may be rejected "if the design of the subdivision or the proposed improvements are likely to cause substantial environmental damage or substantially unavoidably injure fish or wildlife or their habitat." The Fresno County Ordinance Code includes no other specific provisions or requirements related to the protection of trees or biological resources.

3.4.3. ENVIRONMENTAL IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Based on the State CEQA Guidelines, Appendix G, the project would be considered to have a significant impact on biological resources if it would:

- a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. (Impacts BIO-1 through BIO-7)
- b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. (Impact BIO-9)
- c. Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. (Impact BIO-9)

- d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (Impact BIO-8)
- e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (Impact BIO-10)
- f. Conflict with the provisions of an adopted Habitat Conservation Plan, or other approved local, regional, or state habitat conservation plan. (Impact BIO-11)

IMPACTS AND MITIGATION

Impact BIO-1. Impacts to Special Status Plants

<u>Westlands Solar Park</u>. The WSP solar development would not adversely affect special-status plants or their habitat since no special-status plant species or their habitat are present within the WSP plan area. (*Less-than-Significant Impact*)

<u>WSP Gen-Tie Corridors</u>. The gen-tie projects would not adversely affect special-status plants or their habitat since no special-status plant species or their habitat are present within the gen-tie corridors or vicinity. (*Less-than-Significant Impact*)

This impact analysis, together with subsequent analyses, addresses significance criterion 'a' above.

Westlands Solar Park and WSP Gen-Tie Corridors

Three special-status vascular plant species are known to occur in the general vicinity of the plan area and gen-tie corridors, including: California jewel-flower, San Joaquin woolly threads, and round leaved filaree (see Table BIO-1). Due to the many decades of agricultural disturbance of the plan area and gentie corridors, habitat for these three plant species is absent from the area. Therefore, the planned WSP land uses and development of individual solar projects would not affect regional populations of these species. The potential impacts of WSP solar development upon special-status plants and their habitat would be *less than significant*.

Mitigation Measures:

Westlands Solar Park. No mitigation is required.

WSP Gen-Tie Corridors. No mitigation is required.

Impact BIO-2. Impacts to Special Status Animals Habitat

<u>Westlands Solar Park</u>. The WSP solar development would have a potentially adverse impact on 13 special-status animal species which may utilize the plan area as breeding and/or foraging habitat. (*Less-than-Significant Impact with Mitigation*)

<u>WSP Gen-Tie Corridors</u>. The WSP gen-tie projects would have a potentially adverse impact on 13 special status animal species which may utilize the gen-tie corridors as breeding and/or foraging habitat. (*Less-than-Significant Impact with Mitigation*)

This impact analysis, together with related analyses, addresses significance criterion 'a' above.

Westlands Solar Park and WSP Gen-Tie Corridors

Of the 33 special-status animal species listed in Table BIO-1 that potentially occur in the region, 18 species would be absent or unlikely to occur within the plan area due to unsuitable habitat conditions. These include the vernal pool fairy shrimp, valley elderberry longhorn beetle, California tiger salamander, western spadefoot, silvery legless lizard, coast horned lizard, blunt-nosed leopard lizard, giant garter snake, American white pelican (nesting), black swift, Vaux's swift, western yellow-billed cuckoo, Nelson's antelope squirrel, giant kangaroo rat, Fresno kangaroo rat, Tulare grasshopper mouse, San Joaquin kit fox, and ringtail. Development of individual solar projects within the plan area would have no effect on loss of habitat for these species because there is little or no likelihood that they are present. Therefore, the potential impact upon regional populations of these species would be *less than significant*.

Two species that may regularly or occasionally utilize the plan area for foraging only, other than the Swainson's hawk, include mountain plover and white-faced ibis. (The potential impacts to Swainson's hawk are discussed under Impact BIO-4, below.) The WSP plan area does not provide regionally important foraging habitat for mountain plover and white-faced ibis. Migrant species such as the mountain plover pass through or over many types of habitats en route to breeding or wintering habitat. White-faced ibis may possibly forage in agricultural fields of the plan area from time to time, this species would still have abundant foraging habitat in the region after full buildout of the Westlands Solar Park. Considerable habitat suitable for migratory movements and winter foraging would continue to be available for these species on other lands within the region following WSP solar development and construction of the associated gen-tie projects. Therefore, development of individual WSP solar projects would result in a *less-than-significant* impact to these species.

An additional 13 special-status animal species listed in Table BIO-1 potentially occur frequently as regular foragers and may be resident to the area. These include the western pond turtle, San Joaquin whipsnake, western snowy plover, Swainson's hawk, northern harrier, white-tailed kite, burrowing owl, loggerhead shrike, tricolored blackbird, Townsend's big-eared bat, pallid bat, California mastiff bat, and American badger. Given the very large area of the plan area (33 sq. mi.), the WSP solar development would result in a substantial reduction of foraging, denning, and/or roosting habitat available regionally, depending on the species. However, the WSP solar development would not affect existing ditches and canals, which would continue to be operated and managed as they are under current conditions. Thus the foraging, nesting, denning, breeding, and roosting habitat for resident special-status species (as well

as other native wildlife) provided by these canals would be maintained. However, impacts to several of the special-status species utilizing the site for regular foraging and breeding would be *potentially significant*. These species include Swainson's hawk, burrowing owl, American badger, and the other bird species noted above. Impacts to these species are addressed subsequently in this section. With respect to the Gen-Tie Corridors, the burrowing owl, other raptors and migratory birds would be potentially subject to impacts if gen-tie construction occurred in the vicinity of existing nests. With the implementation of MM BIO-1 below, the potential impacts would be reduced to *less-than-significant*.

Mitigation Measures:

<u>Westlands Solar Park</u>. Implement MMs BIO-1 (pre-project design measures), BIO-2 (raptors and migratory birds), BIO-3 (Swainson's hawk), BIO-4 (burrowing owl), BIO-5 (San Joaquin kit fox), and BIO-11 (American badger).

<u>WSP Gen-Tie Corridors</u>. Implement MMs BIO-1 (pre-project design measures), BIO-2 (raptors and migratory birds), BIO-3 (Swainson's hawk), BIO-4 (burrowing owl), BIO-5 (San Joaquin kit fox), and BIO-11 (American badger).

- MM BIO-1: <u>Pre-Project Design and Construction-Level Mitigation Measures</u>. Prior to the final planning and design of any WSP solar or gen-tie project, the following measures shall be implemented to minimize impacts to special-status animal species:
 - a. <u>Conduct Seasonal Surveys for Potentially Affected Species</u>. Prior to final planning and design of any solar or gen-tie project, full coverage ground biological surveys shall be conducted by a qualified biologist within the potential disturbance areas of the solar or gen-tie project to identify the presence or absence of individuals or habitat of special-status animal species. Surveys for each potentially affected species shall be conducted during seasons that are optimal for identification of individuals and habitat of the species.
 - b. <u>Identify Project Design Measures</u>. The results of the biological surveys shall be utilized in the final planning and design of the solar and gen-tie projects for the purpose of avoiding and minimizing the potential impacts to special-status animal species and their habitat to the extent feasible.
 - c. <u>Identify Construction Level Mitigation Measures</u>. The results of the biological surveys shall be utilized in the project review and approval process to provide the basis for identifying construction-level mitigation measures to be implemented during project construction, operation, and decommissioning. Examples of mitigation measures that can be implemented at the project-specific level include the following:
 - Restrict outdoor lighting except as needed for safety.
 - Require that all lights be shielded, pointed downward, and directed away from adjacent habitat.
 - Require motion sensor-type nighttime lighting so that the lights do not stay on constantly and interfere with nocturnal wildlife activities.

- Install perimeter fencing so that the bottom of the fence is 5 to 7 inches above the ground surface and knuckled under to create a smooth edge to allow for unimpeded movement of wildlife through the project sites.
- Require that all vertical pipes associated with solar mounts or chain-link fencing be capped at the time of installation to prevent entrapment and death of birds.
- Restrict the use of rodenticides in accordance with the Pest Management and Weed Abatement Plans required by Kings County for each solar project.

Impact BIO-3. Disturbance to Active Raptor and Migratory Bird Nests

Westlands Solar Park. The WSP solar development could result in disturbance to active nests of raptors and migratory birds. (Less-than-Significant Impact with Mitigation)

<u>WSP Gen-Tie Corridors</u>. The construction of the gen-tie projects could result in disturbance to active nests of raptors and migratory birds. (*Less-than-Significant Impact with Mitigation*)

This impact analysis, together with related analyses, addresses significance criterion 'a' above.

Westlands Solar Park and WSP Gen-Tie Corridors

In addition to the Swainson's hawk and burrowing owl (which are discussed in turn below under Impacts BIO-4 and BIO-5), several other raptor species such as the northern harrier, prairie falcon, peregrine falcon, and red-tailed hawk were observed foraging over the plan area and gen-tie corridors; and barn owls, great horned owls, and red-tailed hawks were observed nesting at the off-site tailwater pond during the multi-year surveys from 2010 through 2017. Additionally, the plan area provides nesting habitat for a number of migratory bird species. Nearly all native bird species are protected by the federal Migratory Bird Treaty Act. The trees surrounding the off-site tailwater pond as well as large trees in existing orchards within and adjacent to the plan area and the gen-tie corridors provide potential nesting habitat for these species. Emergent vegetation and barren ground also provide nesting habitat for some bird species. Although the WSP solar and gen-tie projects will avoid the habitats most suitable for nesting raptors and other birds, some portions of the plan area and gen-tie corridors such as orchards provide suitable nesting habitat and fallow fields, and other undisturbed areas provide suitable nesting habitat for several ground-nesting birds. If birds were to nest in these areas in the future prior to construction, project-related activities could result in the abandonment of active nests or direct mortality to these birds. Construction and decommissioning activities that adversely affect the nesting success of raptors or result in mortality of individual birds constitute a violation of state and federal laws and would be considered a significant impact under CEQA. With the implementation of MM BIO-2 below, the potential impact would be reduced to *less-than-significant*.

[Note: A related issue is the potential for avian collision and electrocution on power lines. It is anticipated that the project proponents for construction of WSP gen-tie projects will prepare and implement avian protection plans based on the current industry guidance regarding best practices in order to minimize bird mortality and injury.]

Mitigation Measures:

<u>Westlands Solar Park</u>. Implement MM BIO-2 (a-d)(raptors and migratory birds).

<u>WSP Gen-Tie Corridors</u>. Implement MM BIO-2 (a-c) (raptors and migratory birds).

- <u>MM BIO-2.</u> <u>Avoidance Measures for Raptor and Migratory Bird Nests</u>. The following measures shall be implemented to minimize disturbance to any active raptor and other bird nests, as necessary, prior to the construction and decommissioning of any WSP solar project or gen-tie project:
 - a. <u>Pre-Construction Surveys for Active Nests</u>. If tree removal, site preparation, grading, construction, or decommissioning is planned to occur within the breeding period (i.e., between February 1 and August 31), a qualified biologist shall be retained to conduct pre-construction surveys for active nests of migratory birds within 14 days of the onset of these activities. If construction or decommissioning activity is planned to commence outside the breeding period, no pre-construction surveys are required for nesting birds and raptors.
 - b. <u>Exclusion Zones for Active Nests</u>. If any active nests are discovered in or near the planned construction zones on or adjacent to a project site, the biologist shall consult with the California Department of Fish and Wildlife to identify a suitable construction-free buffer around the nest. This exclusion zone shall be identified on the ground with flagging or fencing, and shall be maintained until the biologist has determined that the young have fledged.
 - c. <u>Tailgate Training for Workers</u>. All construction and operations workers on shall be trained by a qualified biologist. The tailgate training shall include a description of the Migratory Bird Treaty Act, instructions on what to do if an active nest is located, and the importance of capping pipes and pipe-like structures standing upright in order to avoid birds falling into the pipes and getting stuck.
 - d. <u>Capping of Hollow Poles and Posts</u>. Should any vertical tubes, such as solar mount poles, chain link fencing poles, or any other hollow tubes or poles be utilized on a project site, the poles shall be capped immediately after installation to prevent entrapment of birds.

Impact BIO-4. Impacts to Swainson's Hawks

<u>Westlands Solar Park</u>. The WSP solar development could result in: 1) disturbance to Swainson's hawk breeding if active Swainson's hawk nests are found on or adjacent to the WSP plan area prior to solar development (*Less-than-Significant Impact with Mitigation*) and; 2) the loss of Swainson's hawk foraging habitat. (*Less-than-Significant Impact*)

<u>WSP Gen-Tie Corridors</u>. The construction of the WSP gen-tie projects could result in disturbance to Swainson's hawk breeding if active Swainson's hawk nests are found on or adjacent to the gen-tie corridors prior to construction (*Less-than-Significant Impact with Mitigation*). The gen-tie projects would not have an adverse effect on Swainson's hawk foraging habitat (*Less-than-Significant Impact*).

This impact analysis, together with related analyses, addresses significance criterion 'a' above.

Westlands Solar Park

Nesting Habitat

As discussed in Section 3.4.1. Environmental Setting, Swainson's hawks are known to nest within a halfmile of the plan area. Swainson's hawks were also observed over the off-site tailwater pond during the LOA field surveys in 2010-2014 and were observed landing in a tree at the pond in 2015. A few willows occur singly in plan area, but these trees provide unlikely nesting habitat for Swainson's hawks. Larger trees associated with agricultural and residential structures occur on lands adjacent to the plan area and gen-tie corridors. The most likely habitat for nesting Swainson's hawks occurs in large Gooding's willows in riparian habitat around the off-site tailwater pond and the cottonwood tree just east of the southern end of the project site, which has supported an active Swainson's hawk nest for several years. Projectrelated activities occurring near these areas, could result in the abandonment of active Swainson's hawk nests or direct mortality to these birds should they be nesting in onsite or adjacent trees. Construction activities that adversely affect their nesting success or result in mortality of individual birds constitute a violation of state and federal laws and would be considered a *significant impact* under CEQA. With the implementation of MM BIO-3 below, the potential impact would be reduced to *less than significant*.

Foraging Habitat

As discussed above, there is a cottonwood tree adjacent to the southern tip of the plan area that has been used by Swainson's hawks for nesting in recent years. There is also potential for Swainson's hawks to nest at the adjacent tailwater pond and possibly other trees in the immediate vicinity of the plan area. During the scheduled 12-year development period, WSP solar projects could result in the loss of Swainson's hawk foraging habitat. However, as discussed below, LOA biologists conducted a detailed analysis of foraging habitat within a 10-mile radius of the plan area and concluded that the abundant foraging habitat that would remain after development of the WSP, along with all the other cumulative projects within this 10 mile radius, would be more than sufficient to support all of the known Swainson's hawk nests within this radius, with surplus capacity to support additional nesting pairs. Based on this analysis, the impact of WSP solar development on Swainson's hawk foraging habitat would be *less than significant*.

Cumulative Impacts to Foraging Habitat

The biological evaluation by LOA included an analysis of whether the cumulative impacts to Swainson's hawk foraging habitat resulting from WSP solar projects and other pending, approved, and completed projects in the vicinity would represent a significant loss of foraging habitat. The following discussion summarizes the detailed discussion of study methodology, analysis, and findings contained in LOA's biological report in Appendix D.

The LOA analysis began with an inventory of known Swainson's hawk nests within a 10-mile radius of the plan area. As discussed, there are 32 documented nests within this radius, none of which are located within the WSP plan area. The next step was to map and categorize all the lands within the 10-mile radius study area by land use cover type, and calculate the total acreage of land use cover types that are considered suitable as foraging habitat for Swainson's hawk.

In its analysis of potential cumulative impacts to Swainson's hawk foraging habitat, LOA first made a determination as to the amount of surplus foraging habitat available that is not considered to be required by existing Swainson's hawks that are currently nesting in the area. LOA calculated that there is currently a surplus of 187,536 acres of suitable foraging habitat within the study area. Table BIO-2 contains a summary of LOA's detailed habitat calculations.

	Foraging Habitat	Acres	Percent
a.	Available Foraging Habitat within Study Area	340,304	-
b.	Unadjusted Foraging Habitat required to support 32 SWHA pairs	218,240	-
c.	Adjusted Foraging habitat required to support 32 SWHA pairs (adjusted for 30% range overlap)	152,768	-
d.	Surplus SWHA foraging habitat (a-c)	187,536	-
e.	Cumulative impact of WSP projects and 21 other solar projects (on foraging habitat)(assumes that all acreage within the cumulative projects is suitable		
	foraging habitat).	31,472	-
f.	Remaining available foraging habitat following cumulative impacts (a-e)	308,832	90.8%
g.	Remaining available surplus SWHA foraging habitat following cumulative impacts (d-e)	156,064	83.2%

TABLE BIO-2

CUMULATIVE SWAINSON'S HAWK FORAGING HABITAT CALCULATIONS – SUMMARY

Source: Live Oak Associates 2017

In order to determine the potential cumulative impacts to foraging habitat, all of the pending, approved, and completed solar projects within the study area were identified and mapped. It was determined that the 22 cumulative projects (including the WSP plan area) occupy a total of 31,472 acres within the study area. If it is assumed that 100 percent of the lands occupied by solar projects within the study area represent potential foraging habitat, these projects equal approximately 9.2 percent of the total foraging habitat and 16.8 percent of the surplus foraging habitat in the study area.

In order to determine if this cumulative loss of foraging habitat represented a significant cumulative impact, LOA applied the established threshold where a reduction of surplus habitat to less than 70 percent relative to pre-project conditions would represent a cumulatively significant impact. In other words, if the cumulative projects collectively reduced the surplus foraging habitat in the study area to less than 70 percent of 187,536 acres (or to less than 131,275 acres), this would constitute a cumulatively significant impact.

As shown in Table BIO-2, it was calculated that the cumulative projects would reduce the total surplus foraging habitat in the study area to 156,064 acres (i.e., 187,536-acre pre-project surplus minus 31,472 acres cumulative loss). This remaining acreage of surplus foraging area represents 83.2 percent of the pre-project total. Since the remaining surplus foraging acreage is greater than 70 percent of the pre-project surplus foraging acreage in the study area, the cumulative impact to the Swainson's hawk foraging acreage in the study area was determined to be *less than significant*.

WSP Gen-Tie Corridors

Nesting Habitat

Swainson's hawks are known to nest within the region of the gen-tie corridors. Although a ground survey has not been completed for the gen-tie corridors, several lone trees and groups of trees, especially along riparian areas or fence lines may provide suitable nesting habitat for Swainson's hawks. Construction-related activities occurring near these areas, could result in the abandonment of active Swainson's hawk nests or direct mortality to these birds should they be nesting in or near the gen-tie corridors. Construction activities that adversely affect Swainson's hawk nesting success or result in mortality of individual birds constitute a violation of state and federal laws and would be considered a *significant impact* under CEQA. With the implementation of MM BIO-3 below, the potential impact would be reduced to *less than significant*.

Foraging Habitat

The gen-tie projects would result in a relative small loss of potential foraging habitat, with approximately 2 acres permanently occupied by transmission tower footings over a distance of 23 miles. Thus the impact of the gen-tie projects upon Swainson's hawk foraging habitat would be *less than significant*.

Mitigation Measures:

Westlands Solar Park. Implement MM BIO-3 (Swainson's hawk).

<u>WSP Gen-Tie Corridors</u>. Implement MM BIO-3 (Swainson's hawk).

- <u>MM BIO-3.</u> <u>Swainson's Hawk Mitigation</u>. In order to reduce the impacts of WSP solar and gentie projects to Swainson's hawk breeding habitat to less-than-significant levels, the following mitigation measures shall be implemented in conjunction with each project:
 - a. <u>Preconstruction Surveys for Swainson's Hawk</u>. During the nesting season prior to construction or decommissioning within 0.5 miles of a potential nest tree, preconstruction surveys shall be conducted within the project site and lands within a 0.5-mile radius of the site to identify any nesting pairs of Swainson's hawks. These surveys shall conform to the requirements of CDFW as presented in *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley*, Swainson's Hawk Technical Advisory Committee, May 31, 2000. Preconstruction surveys are not required for portions of projects that are more than 0.5 miles from a potential nest tree.

- b. <u>Nest Avoidance Measures</u>. If any active Swainson's hawk nests are discovered in within 0.5 miles of any planned construction or decommissioning activity, appropriate avoidance/protective measures shall be implemented as identified by a qualified biologist in consultation with the California Department of Fish and Wildlife. The avoidance/protective measures shall remain in place until the biologist has determined that the young have fledged.
- c. <u>Tailgate Training for Workers</u>. All workers shall attend a tailgate training session conducted by a qualified biologist. The training is to include a description of the species, a brief summary of their biology, and minimization measures and instructions on what to do if a Swainson's hawk is observed on a solar project site.

Impact BIO-5. Impacts to Burrowing Owls

<u>Westlands Solar Park</u>. The WSP solar development could result in the following impacts to burrowing owls: 1) disturbance to active nests of burrowing owls; 2) mortality of individual burrowing owls, and; 3) reduction of foraging habitat for burrowing owls. (*Less-than-Significant Impacts with Mitigation*)

<u>WSP Gen-Tie Corridors</u>. The WSP gen-tie projects could result in the following impacts to burrowing owls: 1) disturbance to active nests of burrowing owls, and; 2) mortality of individual burrowing owls (*Less-than-Significant Impacts with Mitigation*). The WSP gen-tie projects would not adversely affect foraging habitat for burrowing owls (*Less-than-Significant Impact*).

This impact analysis, together with related analyses, addresses significance criterion 'a' above.

Westlands Solar Park

A number of burrowing owls were observed occupying existing burrows within the WSP plan area during the field surveys conducted by LOA in 2010 through 2015. Many of these owls were paired and presumably nesting, with a minimum of 8 pair in 2011, a minimum of 12 pair in 2012, and a minimum of 8 pair in 2014. Since the entire WSP plan area was not surveyed for this programmatic review, the precise number of burrowing owls within the plan area is unknown. Suitable nesting habitat for burrowing owls was present in the fallow fields and along the canal banks in the form of California ground squirrel burrows.

Suitable foraging habitat is present over much of the WSP plan area. In order to identify the extent of suitable habitat within the WSP plan area, LOA used the most recently available USDA cropland data (2016) to map four categories of habitat suitability. The mapping indicated the following breakdown of habitat types within the WSP plan area: 1) year-round forage and burrow habitat -51 percent; 2) Seasonal forage habitat only -38 percent; 3) year-round burrow habitat only -2 percent; 4) no forage or burrow habitat -9 percent. The distribution of these habitat types within the WSP plan area are shown on Figure 9 in the LOA report in Appendix D.

The development of WSP solar projects could result in the loss of foraging and breeding habitat for burrowing owl. However, the WSP solar development would not affect existing canals and ditches, which would continue to be operated and managed as they are under current conditions. Since most known burrowing owl burrows within the WSP plan area are located along the canal banks, it is likely that most or all burrowing owl nests would be avoided by WSP solar development. Ground disturbance from project construction may also result in the mortality of burrowing owls, as they are known to retreat into their burrows ahead of approaching grading activity. These small raptors are protected under the federal Migratory Bird Treaty Act and the California Fish and Game Code. Mortality of individual birds would be a violation of state and federal law. The mortality of individual burrowing owls and the potential loss of known breeding and foraging habitat would constitute *significant impacts*. With the implementation of MM BIO-4 below, the potential impacts would be reduced to *less than significant*.

WSP Gen-Tie Corridors

The gen-tie projects would result in a limited amount of ground disturbance, primarily at the transmission tower construction sites. Ground disturbance from gen-tie project construction may result in the mortality of burrowing owls, which would constitute a *significant impact*. With the implementation of MM BIO-4 below, the potential impact would be reduced to *less than significant*.

The gen-tie projects would result in a relative small loss of potential foraging habitat, with approximately 2 acres permanently occupied by transmission tower footings over a distance of 23 miles. Thus the impact of the gen-tie projects upon burrowing owl foraging habitat would be *less than significant*.

Mitigation Measures:

<u>Westlands Solar Park</u>. Implement MM BIO-4 (a-e)(borrowing owls and habitat).

<u>WSP Gen-Tie Corridors</u>. Implement MM BIO-4 (a-d)(burrowing owls).

- <u>MM BIO-4.</u> <u>Burrowing Owl Mitigation</u>. The following measures shall be implemented to minimize impacts to the individual burrowing owls and burrowing owl breeding and foraging habitat, as necessary, prior to construction or decommissioning of any WSP solar or gen-tie project:
 - a. <u>Pre-Construction Surveys for Burrowing Owl</u>. Pre-construction surveys for burrowing owls shall be conducted by a qualified biologist no more than 14 days in advance of the on-set of ground-disturbing activity at each project site. These surveys shall be conducted according to methods described in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). The surveys shall cover all areas of suitable burrowing owl habitat within project site.
 - b. <u>Avoidance of Active Burrowing Owl Nests During Breeding Season</u>. If preconstruction surveys are undertaken during the breeding season (February through August) and active nest burrows are located within or near construction or decommissioning zones, a construction-free buffer of 250 feet shall be

established around all active owl nests. These exclusion zones shall be enclosed with temporary fencing, and construction equipment and workers shall not be allowed to enter the enclosed setback areas. Exclusion zones shall remain in place for the duration of the breeding season. After the breeding season (i.e., once all young have left the nest), passive relocation of any remaining owls may take place, but only under the conditions described below.

- c. <u>Avoidance of Occupied Burrows During Non-Breeding Season, and Passive</u> <u>Relocation of Burrowing Owls</u>. During the non-breeding season (September through January), any burrows occupied by resident owls in areas planned for construction or decommissioning disturbance shall be protected by a construction-free buffer with a radius of 250 feet around each burrow. Passive relocation of resident owls is not recommended by CDFW where it can be avoided. If passive relocation is not avoidable, resident owls may be relocated to alternative habitat nearby. The relocation of resident owls shall be conducted according to a relocation plan prepared by a qualified biologist.
- d. <u>Tailgate Training for Workers</u>. All workers shall attend a tailgate training session conducted by a qualified biologist. The training is to include a description of the species, a brief summary of their biology, and minimization measures and instructions on what to do if a burrowing owl is observed on a solar project site.
- e. <u>Mitigation for Loss of Burrowing Owl Habitat</u>. If it is determined that burrowing owl nest(s) are located on or near the solar project site, the biologist shall coordinate with the project applicant and resource agency to determine whether relocation of these nest(s) is unavoidable. If so, measure #1 below (restrictive covenants) would apply. If the on-site or nearby nest(s) are to remain in place, the biologist shall determine whether sufficient foraging habitat is available on adjacent or nearby lands, and if so, no further mitigation is required. (Approximately 200 acres of year-round foraging habitat within about 2 miles of the burrowing owl burrow is required to support a burrowing owl pair.) If it is determined that there is insufficient nearby foraging habitat, the biologist shall determine the amount of onsite foraging habitat that is required to sustain the burrowing owl nest. In this case, the potential impact to foraging habitat shall be either avoided through implementation of measure #2 below (onsite buffer zone), or compensated through implementation of measure #1 (restrictive covenants) or measure #3 (long-term agreement on adjacent lands) below:
 - 1) Establishment of restrictive covenants with a 1:1 ratio for foraging/breeding habitat preservation. These restrictive covenants would include habitats determined to be suitable for foraging and/or breeding year-round and seasonal use.
 - 2) Establishment of permanent buffer zones of adequate size around current burrowing owl locations. These buffer zones would require adequate management for the life of the project and buffer zones to ensure the buffer area remains suitable for burrowing owls. Annual monitoring of the suitability of management activities may be required by CDFW.

3) Short or long-term compensation for foraging habitat by providing farmers in adjacent lands incentives to plant particular crops known to be suitable forage habitat for burrowing owls (i.e. winter wheat, alfalfa, etc.) and to enact a farmer burrowing owl safety program where farmers are trained how to reduce burrowing owl mortalities on their lands and farm driveways. A 1:1 ratio would be required to be in the program as long as the project is active.

Impact BIO-6. Impacts to San Joaquin Kit Fox

<u>Westlands Solar Park</u>. The WSP solar development could result in potential impacts to individual kit foxes, and could result in impacts to kit fox habitat, if present. (*Less-than-Significant Impact with Mitigation*)

<u>WSP Gen-Tie Corridors</u>. The WSP gen-tie projects could result in potential impacts to individual kit foxes, and could result in impacts to kit fox habitat, if present. (*Less-than-Significant Impact*)

This impact analysis, together with related analyses, addresses significance criterion 'a' above.

Westlands Solar Park

As discussed in Section 3.4.1. Environmental Setting above, the majority of the plan area is in cultivated fields which provides poor habitat for kit fox, while the fallow fields and canals within the plan area offer marginal habitat for this species. There are no reported sightings of kit fox within plan area, and the multi-year surveys conducted by LOA included no kit fox observations within or near the plan area. A few burrows were observed which would be suitable for kit fox, but these burrows appeared to be occupied by California ground squirrels or burrowing owls. Although no comprehensive field surveys for kit fox were conducted, it is unlikely that kit fox have or would take up residence within the plan area under current site conditions which limit the prey base. It is possible that kit foxes from populations in the region may occasionally pass through and possibly forage within the plan area during regular dispersal movements.

Since comprehensive field surveys for kit fox have not been conducted in the WSP plan area, and given the potential for dispersing individual kit foxes to traverse the plan area during the multi-year buildout period for the WSP, the potential presence of kit fox within the plan area at some time during WSP solar development cannot be ruled out. As such, the WSP solar development could have a potentially *significant impact* upon the San Joaquin kit fox. With the implementation of MM BIO-5 below, the potential impact would be reduced to *less than significant*.

[Note: Potential impacts to movement of wildlife species, including kit fox, through the WSP Plan area are addressed in Impact BIO-8 below.]

WSP Gen-Tie Corridors

The gen-tie corridors primarily pass through agricultural fields, where it is unlikely that kit fox would take up residence. However, kit fox may pass through and possibly forage within the area from time to time during regular dispersal movements. Therefore, construction of the gen-tie projects could result in harm or injury to individuals of this species. The potential for kit foxes to suffer mortality during project construction would constitute a *significant impact*. With the implementation of MM BIO-5 below, the potential impact would be reduced to *less than significant*.

Mitigation Measures:

Westlands Solar Park. Implement MM BIO-5 (kit fox).

WSP Gen-Tie Corridors. Implement MM BIO-5 (kit fox).

- MM BIO-5. <u>San Joaquin Kit Fox Mitigation</u>. In order to minimize the potential for impacts to San Joaquin kit fox, the following measures shall be implemented in conjunction with the construction and decommissioning of each WSP solar and gen-tie project:
 - a. <u>Pre-Construction Surveys for Kit Fox</u>. Pre-construction surveys for San Joaquin kit fox shall be conducted by a qualified biologist no less than 14 days and no more than 30 days prior to the beginning of ground disturbance, construction or decommissioning activities, or any other activities likely to impact the San Joaquin kit fox. These surveys shall be conducted in accordance with the USFWS Standard Recommendations. The primary objective is to identify kit fox habitat features (e.g., potential dens and refugia) on the solar project and gen-tie sites and evaluate their use by kit foxes. If an active kit fox den is detected within or immediately adjacent to the area of work, the USFWS shall be contacted immediately to determine the best course of action.
 - b. <u>Kit Fox Avoidance Measures</u>. Should kit fox be found to be using a project site during preconstruction surveys, the project shall avoid the habitat occupied by kit fox and the Sacramento Field Office of the USFWS and the Fresno Field Office of CDFW shall be notified.
 - c. <u>Tailgate Training for Worker</u>. All workers on solar and gen-tie projects shall attend a tailgate training session conducted by a qualified biologist. The training is to include a description of the species, a brief summary of their biology, and minimization measures and instructions on what to do if a San Joaquin Kit Fox is observed on a project site.
 - d. <u>Minimization of Potential Disturbance to Kit Fox</u>. Whether or not kit foxes are found to be present, all permanent and temporary construction activities, decommissioning activities, and other types of project-related activities shall be carried out in a manner that minimizes potential disturbance to kit foxes. This shall be accomplished through implementation of the protection measures set forth in "U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior To or During Ground Disturbance" (USFWS 2011) which are set forth in full in Table BIO-3.

Table BIO-3

U.S. FISH AND WILDLIFE SERVICE STANDARDIZED RECOMMENDATIONS FOR PROTECTION OF THE ENDANGERED SAN JOAQUIN KIT FOX PRIOR TO OR DURING GROUND DISTURBANCE

CONSTRUCTION AND ON-GOING OPERATIONAL REQUIREMENTS

- 1. Project-related vehicles should observe a daytime speed limit of 20-mph throughout the site in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. Night-time construction should be minimized to the extent possible. However if it does occur, then the speed limit should be reduced to 10-mph. Off-road traffic outside of designated project areas should be prohibited.
- 2. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than 2-feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the Service and the California Department of Fish and Wildlife (CDFW) shall be contacted as noted under measure 13 referenced below.
- 3. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.
- 4. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or project site.
- 5. No firearms shall be allowed on the project site. (This prohibition does not apply to law enforcement personnel such as Sheriff's Deputies or the Fire Marshal.)
- 6. No pets, such as dogs or cats, should be permitted on the project site to prevent harassment, mortality of kit foxes, or destruction of dens.
- 7. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the USFWS.
- 8. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the USFWS. (Continued on next page.)

Table BIO-3 (Cont'd)

U.S. FISH AND WILDLIFE SERVICE STANDARDIZED RECOMMENDATIONS FOR PROTECTION OF THE ENDANGERED SAN JOAQUIN KIT FOX PRIOR TO OR DURING GROUND DISTURBANCE

CONSTRUCTION AND ON-GOING OPERATIONAL REQUIREMENTS

- 9. An employee education program should be conducted for any project that has anticipated impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and/or agency personnel involved in the project. The program should include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information should be prepared for distribution to the previously referenced people and anyone else who may enter the project site.
- 10. Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc., should be re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with the USFWS, California Department of Fish and Wildlife (CDFW), and revegetation experts.
- 11. In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the USFWS should be contacted for guidance.
- 12. Any contractor, employee, or military or agency personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the CDFW immediately in the case of a dead, injured or entrapped kit fox. The CDFW contact for immediate assistance is State Dispatch at (916) 445-0045. They will contact the local warden or Mr. Paul Hoffman, the wildlife biologist, at (530) 934-9309. The USFWS should be contacted at the numbers below.
- 13. The Sacramento Fish and Wildlife Office and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact is Mr. Paul Hoffman at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.
- 14. New sightings of kit fox shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the Service at the address below.
- 15. Any project-related information required by the Service or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at:

Endangered Species Division 2800 Cottage Way, Suite W2605 Sacramento, California 95825-1846 (916) 414-6620 or (916) 414-6600

Impact BIO-7. Impacts to American Badgers

<u>Westlands Solar Park</u>. The WSP solar development could result in the following impacts to American badgers: 1) mortality of individual American badgers, and; 2) reduction of foraging, breeding, and denning habitat for American badgers. (*Less-than-Significant Impacts with Mitigation*)

<u>WSP Gen-Tie Corridors</u>. The WSP gen-tie projects could result in the following impacts to American badgers: 1) mortality of individual American badgers, and; 2) reduction of foraging, breeding, and denning habitat for American badgers. (*Less-than-Significant Impacts*) with Mitigation

This impact analysis, together with related analyses, addresses significance criterion 'a' above.

Westlands Solar Park

No badgers or badger burrows were observed within the WSP plan area during any of LOA's multi-year site surveys. There are no reported sightings of American badgers within or near the plan area, and the nearest reported sighting is 6 miles west. The LOA biological surveys identified potential on-site badger habitat in the form of fallow fields, although no burrows of the size and shape suitable for American badgers were found.

Comprehensive field surveys for American badger have not been conducted in the plan area, and it is possible this species may establish burrows in fallow fields with sparse to moderately dense vegetation within the plan area. Given the multi-year buildout period for the WSP, the potential presence of American badger within the plan area at some time during WSP solar development cannot be ruled out. As such, the WSP solar development could have a potentially *significant impact* upon the American badger. With the implementation of MM BIO-6 below, the potential impact would be reduced to *less than significant*.

WSP Gen-Tie Corridors

The major portions of the gen-tie corridors occur within agricultural fields where badgers are expected to follow linear features such as creeks, drainages, canals, and the California Aqueduct for movement through the highly disturbed agricultural lands. Badgers are expected to exist within and directly adjacent to natural and fallowed lands.

Therefore, construction of the gen-tie projects could result in loss of foraging, breeding and denning habitat, and may result in harm or injury to individuals of this species. The potential for badgers to suffer mortality during project construction would constitute a *significant impact*. With the implementation of MM BIO-6 below, the potential impact would be reduced to *less than significant*.

Mitigation Measures:

Westlands Solar Park. Implement MM BIO-6 (American badger).

<u>WSP Gen-Tie Corridors</u>. Implement MM BIO-6 (American badger).

- MM BIO-6. <u>American Badger Mitigation</u>. The following measures shall be implemented to minimize impacts to the American badger, as necessary prior to the construction and decommissioning of the WSP solar and gen-tie projects:
 - a. <u>Preconstruction Surveys for American Badger</u>. During the course of preconstruction surveys prescribed for other species, a qualified biologist shall also determine the presence or absence of badgers prior to the start of each individual project. If badgers are found to be absent, a report shall be written to the applicant so stating and no other mitigations for the protection of badgers would be warranted.
 - b. <u>Avoidance of Active Badger Dens and Monitoring</u>. If an active badger den is identified during pre-construction surveys within or immediately adjacent to an area subject to construction or decommissioning, a construction-free buffer of up to 300 feet (or distance specified by CDFW) shall be established around the den. Once the biologist has determined that badgers have vacated the burrow, the burrow can be collapsed or excavated, and ground disturbance can proceed. Should the burrow be determined to be a natal or reproductive den, and because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor shall be present onsite during construction activities in the vicinity of the burrows to ensure the buffer is adequate to avoid direct impact to individuals or natal/reproductive den abandonment. The monitor shall be required onsite until it is determined that young are of an independent age and construction or decommissioning activities would not harm individual badgers.
 - c. <u>Tailgate Training for Workers</u>. All workers on the solar and gen-tie projects shall attend a tailgate training session conducted by a qualified biologist. The training is to include a description of the species, a brief summary of their biology, and minimization measures and instructions on what to do if an American Badger is observed on a project site.

Impact BIO-8. Impacts to Wildlife Movement Corridors

<u>Westlands Solar Park</u>. WSP solar development would not interfere with the home range and dispersal movements of native wildlife. (*Less-than-Significant Impact with Mitigation*)

<u>WSP Gen-Tie Corridors</u>. The WSP gen-tie projects would not interfere with the home range and dispersal movements of native wildlife. (*Less-than-Significant Impact*)

This impact analysis, together with related analyses, addresses significance criterion 'd' above.

Westlands Solar Park

Given the large scale of the WSP plan area, it is likely that some species, such as San Joaquin kit fox may use on-site canals as movement corridors to cross the plan area. The large area comprising the plan area (approximately 33 sq. mi.) likely has value for the regional movements of some wildlife species, when placed in a regional context. However, the WSP solar development would retain the existing canals and ditches, which would continue to be operated and managed as they are under current conditions. Thus, it is expected that wildlife that currently uses the canals for movement will continue to use the canal system to move through the site at project build-out.

All WSP solar facilities will include perimeter fencing and internal fencing around facility subareas. This fencing could create a barrier to wildlife movement through the WSP plan area, which would represent a *significant impact*. With the implementation of MM BIO-7 below, the potential impacts of WSP solar development to wildlife movement would be reduced to *less than significant*.

WSP Gen-Tie Corridors

In the vicinity of the gen-tie corridors, the California Aqueduct is likely used as a movement corridor for local wildlife. However, given the very light footprint of the gen-tie lines, it is unlikely that they would affect local wildlife movement along the Aqueduct or any other linear feature. Wildlife currently using the gen-tie corridors area for movement is expected to continue to use the gen-tie corridors after they are completed. The gen-tie project impacts to movement corridors for local wildlife would *less than significant*.

Mitigation Measures:

Westlands Solar Park. Implement MM BIO-7.

WSP Gen-Tie Corridors. No mitigation is required.

- MM BIO-7. <u>Wildlife Movement Mitigation</u>. The following measure shall be implemented to ensure continued wildlife movement through the WSP plan area for the life of the WSP solar facilities:
 - a. <u>Wildlife Friendly Fencing</u>. To allow for ground movement of wildlife through the plan area, all fencing around and within the WSP solar facilities shall to consist of "wildlife friendly" fencing with a continuous 5-inch separation from the top of the ground to the lowest point of the bottom of the fence along all fencing. Such fencing shall not be electrified.

[Note: The CEQA Guidelines Appendix G checklist question 4.d. also states "...impede the use of native wildlife nursery sites." This is a broad question that encompasses the breeding habitat of all wildlife species including terrestrial, aquatic, and avian species. The impacts to breeding habitat for various wildlife species are addressed under Impact BIO-2 (special-status wildlife species), BIO-3 (raptors and migratory birds), BIO-4 (Swainson's hawk), BIO-5 (burrowing owls), BIO-6 (San Joaquin kit fox), BIO-7 (American badger), and BIO-9 (jurisdictional waters and riparian habitats.]

Impact BIO-9. Impacts to Jurisdictional Waters and Riparian Habitats

<u>Westlands Solar Park</u>. Although WSP solar development is intended to avoid the permanent canals, tailwater pond, and associated riparian zones and wetlands within the plan area, the WSP solar projects could potentially result in disturbance to Waters of the U.S., waters of California, and/or associated riparian habitat. (*Less-than-Significant Impact with Mitigation*)

<u>WSP Gen-Tie Corridors</u>. Although the WSP gen-tie corridors are intended to avoid permanent canals, ditches, and the California Aqueduct, and associated riparian zones and wetlands, the gen-tie projects could potentially result in disturbance to Waters of the U.S., waters of California, and/or associated riparian habitat. (*Less-than-Significant Impact with Mitigation*)

This impact analysis addresses significance criteria 'b' and 'c' above.

Westlands Solar Park

As discussed under *3.4.1. Environmental Setting* above, the water features present within the plan area, consisting of irrigation canals and the adjacent tailwater pond, do not appear to meet definition of "Waters of the United States" under the Clean Water Act, and therefore would not be subject to the permit jurisdiction of the U.S. Army Corps of Engineers (USACE). However, in the absence of a wetland delineation verified by the USACE, the jurisdictional status of onsite waters is unconfirmed. In addition, these features may be subject to the jurisdiction of the State of California under the Porter-Cologne Water Quality Act, the Clean Water Act, and/or the Fish and Game Code.

WSP solar development is not intended to encroach upon or physically alter the permanent canals or tailwater pond, or their associated riparian zones. However, should the detailed plan for individual WSP solar projects involve the placement of any fill or it is possible that new bridges may need to be constructed over canals or ditches to provide access to solar project sites or portions of sites. Should the detailed plans for individual WSP solar projects involve the placement of any such fill or structures in any of the permanent water features, this could constitute a *significant impact*. With the implementation of MM BIO-8 below, the potential impact would be reduced to *less than significant*.

WSP Gen-Tie Corridors

The WSP gen-tie corridors will at least cross over the California Aqueduct and possibly other canals, ditches or drainage features. While it is unlikely that any aquatic features within the gen-tie corridors is

a water of the United States, it is possible that any such features could be considered waters of the state of California and within the jurisdictions of the CDFW and RWQCB.

Should a given transmission tower be located within the bed and bank of one or more drainages, the project would result in permanent impact to the channel. Project impacts to the channels of these drainages could substantially alter flows within them with concomitant erosional effects on the channel banks at the tower location(s) and on downstream reaches of each affected drainage course. These erosional effects could in turn affect terrestrial vertebrate species using drainage channels as habitat.

Therefore, the construction of the gen-tie projects could potentially result in *significant impact* to federally protected wetlands, and other jurisdictional waters. With the implementation of MM BIO-8 below, the potential impact would be reduced to *less than significant*.

Mitigation Measures:

Westlands Solar Park. Implement MM BIO-8 (wetlands and riparian).

<u>WSP Gen-Tie Corridors</u>. Implement MM BIO-8 (wetlands and riparian).

- <u>MM BIO-8</u>. <u>Avoid Wetlands, Jurisdictional Waters, and Riparian Communities</u>. In order to avoid the potential for impacts to wetlands, jurisdictional waters, and riparian communities, the following measures shall be implemented in conjunction with the construction and decommissioning of each solar and gen-tie project:
 - a. <u>Survey All Defined Drainage Channels Subject to Encroachment</u>. Prior to the preparation of final project plans that establish the locations of solar facilities and gen-tie facilities, any channels that would likely be considered waters of the United States and waters of the state of California and are subject to potential encroachment shall be field-surveyed. The surveys shall be conducted by a wetland biologist capable of identifying ordinary high water (the limit of USACE and RWQCB jurisdiction) and top of bank (the limit of CDFW jurisdiction). All defined channels observed within the area of potential encroachment during this survey shall be mapped in detail and be suitable for purposes of planning the final locations of solar and gen-tie facilities.
 - b. <u>Avoidance of Drainage Channels</u>. Using the detailed mapping of drainage channels, each solar and gen-tie project shall be planned such that the placement of fill and structures shall avoid disturbance to the bed and bank of all defined canal or drainage channels to the extent feasible. Avoidance of defined channels may require the use of clear-span bridges for solar projects, or adjusting tower locations within the gen-tie corridors.
 - c. <u>Mitigate Unavoidable Impacts to Wetlands</u>. In the event that a canal or drainage channel cannot be feasibly avoided by project construction, i.e., where a solar project site would be inaccessible without constructing a new bridge over a canal or ditch, a wetland delineation shall be required to determine the extent of USACE and/or State jurisdiction over such features. If waters to be filled are determined

to be Waters of the U.S. or the State, the following permits may be required: 1) a Clean Water Act permit from the USACE, 2) a Water Quality Certification from the RWQCB, and/or 3) a Lake or Streambed Alteration Agreement from the CDFW. These permits are usually issued on the condition that a mitigation plan be prepared and approved by the applicable state and federal regulatory agencies noted above.

Impact BIO-10. Local Policies or Ordinances Protecting Biological Resources

<u>Westlands Solar Park</u>. The WSP solar development would not conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (*Less-than-Significant Impact*)

<u>WSP Gen-Tie Corridors</u>. The WSP gen-tie projects would not conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (*Less-than-Significant Impact*)

This impact analysis addresses significance criterion 'e' above.

Westlands Solar Park

Since the WSP plan area is entirely within Kings County, the WSP solar development would be subject only to the policies and regulations of Kings County. The Kings County General Plan includes a number of policies related to the protection of biological species and habitats, as enumerated in Section *3.4.2. Regulatory Context*. These policies provide for the protection of sensitive species and habitats by requiring biological surveys for discretionary projects, implementing mitigation for potential biological impacts in compliance with CEQA, and coordination with the resource agency in determining appropriate protection measures. Resource Conservation (RC) Policy E1.1.2 specifically provides for the protection of healthy native oaks and other healthy native trees during the course of development review.

The general biological resource impacts associated with WSP solar development are identified previously in this section. The mitigation measures specified for potential impacts provided detailed prescriptive actions to be undertaken at the project-specific review stage to avoid or mitigate potentially significant impacts to biological resources. At the project stage, intensive ground surveys will be conducted on each WSP solar project site to make specific findings of potential impact at those project sites and to identify specific mitigation measures to be implemented in conjunction with those projects. It is expected that these subsequent analyses will identify feasible mitigations for potential biological impacts, and that coordination with the appropriate resource agencies will take place to identify mitigation measures appropriate to that project, as needed. Any healthy native trees within the solar project sites would be identified in the course of biological site surveys, with appropriate protection measures identified, as needed. Therefore, it is expected that WSP solar development will take place in a manner that would not conflict with local policies or ordinances protecting biological resources. As

such, the impact of WSP solar development with respect to conflicts with local policies and ordinances protecting biological resources would be *less than significant*.

WSP Gen-Tie Corridors

As discussed in Section 3.4.2. Regulatory Context, local jurisdictions have limited authority over the construction of transmission lines and related facilities such as electrical substations and switching stations. These facilities are typically under the sole jurisdiction of the California Public Utilities Commission, although the CPUC is required to coordinate with local jurisdictions regarding consistency with plans and policies. This would include coordination with the counties of Kings, Fresno, and Merced.

Since the CPUC also requires environmental review of transmission projects, it is expected that potential biological impacts would be identified and appropriate mitigations be required to be implemented in conjunction with the transmission projects. The information in this EIR would be used by the CPUC in its project-specific environmental reviews, so it is expected that the prescriptive measures identified in this section would be carried forward and be provided with further specificity, as informed by ground surveys and required coordination with the resource agencies, for implementation at the project level. Since the policies of the respective counties with respect to biological resources are consistent with the requirements of CEQA and other state laws and regulations related to biological resources, with which the gen-tie projects would be required to be consistent, it is expected that the gen-tie projects would therefore not conflict with local policies and ordinances protecting biological resources.

For the instances where transmission segments, such as gen-ties, may be privately owned and not subject to CPUC jurisdiction, these transmission segments would be subject to local county discretionary approval. As with the transmission projects under CPUC jurisdiction, discussed above, it is expected that project-specific biological surveys would be conducted, with impacts identified and mitigation measures required, as appropriate, such that these gen-tie projects would not conflict with county policies or ordinance protecting biological resources,

In summary, the impact due to potential conflicts of the WSP Gen-tie projects with local policies and ordinances protecting biological resources would be *less than significant*.

Mitigation Measures:

Westlands Solar Park. No mitigation is required.

WSP Gen-Tie Corridors. No mitigation is required.

Impact BIO-11. Habitat Conservation Plans

<u>Westlands Solar Park</u>. The WSP solar development would not conflict with adopted habitat conservation plan areas or other approved local, regional or state habitat conservation plans. (*Less-than-Significant Impact*)

<u>WSP Gen-Tie Corridors</u>. The WSP gen-tie projects would not conflict with adopted habitat conservation plans or other approved local, regional or state habitat conservation plans. (*Less-than-Significant Impact*)

This impact analysis addresses significance criterion 'f' above.

Westlands Solar Park

The USFWS has adopted the *Recovery Plan for Upland Species of the San Joaquin Valley* which covers 34 species of plants and animals that occur in the San Joaquin Valley. The majority of these species occur in arid grasslands and scrublands of the San Joaquin Valley and the adjacent foothills and valleys. The plan area includes information on recovery criteria, habitat protection, umbrella and keystone species, monitoring and research program, adaptive management, and economic and social considerations. The only species addressed in the recovery plan that potentially occurs in the WSP vicinity is the San Joaquin kit fox, although no sightings of this species have been recorded in the immediate vicinity of the WSP plan area, as discussed above. The Recovery Plan does not identify the WSP plan area or any other lands in the vicinity as areas that should be protected as Specialty Reserve Areas, Wildlife-Compatible Farmland to be Maintained, or Areas Where Connectivity and Linkages Should be Promoted (USFWS 1998).

The PG&E San Joaquin Valley Operation and Maintenance HCP is the only HCP that covers the area of the Westlands Solar Park. While some elements of the WSP solar projects (e.g., substations) may be constructed and/or operated by PG&E, the HCP would not cover construction (but only operation and maintenance) of these major facilities; therefore, this HCP does not apply to the Westlands Solar Park.

The WSP plan area is not covered by any existing Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP), or any other conservation plan area adopted at the local, regional, state, or federal level. Therefore, WSP solar development would not conflict with any such plans.

WSP Gen-Tie Corridors

The only species addressed in the *Recovery Plan for Upland Species of the San Joaquin Valley* that potentially occurs in the WSP and gen-tie corridors vicinity is the San Joaquin kit fox. Although no sightings of this species have been recorded in the immediate vicinity of the WSP plan area, there are several sightings from 1981 near the California Aqueduct in the vicinity of the gen-tie corridors. The Recovery Plan does not identify any lands in the immediate vicinity of the WSP plan area or gen-tie corridors as areas that should be protected as Specialty Reserve Areas, Wildlife-Compatible Farmland to be Maintained, or Areas Where Connectivity and Linkages Should be Promoted. The nearest area identified as a connectivity and linkage area is the Kettleman Hills to Anticline Ridge Movement Corridor, located west of I-5, approximately 4 miles west of the western end of the gen-tie corridors at the Gates Substation (USFWS 1998). The gen-tie projects would not hinder the functionality of this movement corridor.

The PG&E San Joaquin Valley Operation and Maintenance HCP is the only HCP that covers the area of the gen-tie corridors. While some elements of the gen-tie projects (e.g., transmission lines, substations)

may be constructed and/or operated by PG&E, the HCP would not cover construction of these major facilities; therefore, this HCP does not apply to the WSP gen-tie corridors.

The WSP gen-tie corridors area is not covered by any existing Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP), or any other conservation plan adopted at the local, regional, state, or federal level. Therefore, the gen-tie projects would not conflict with any such plans.

Mitigation Measures:

Westlands Solar Park. No mitigation is required.

WSP Gen-Tie Corridors. No mitigation is required.

Cumulative Impacts

Impact BIO-12. Cumulative Impacts to Biological Resources

<u>Westlands Solar Park</u>. Upon mitigation for biological impacts associated with WSP solar development and other cumulative projects in the vicinity, the cumulative biological impacts would be less than significant, and the contribution from WSP solar development would be not cumulatively considerable. (*Less-than-Significant Cumulative Impact with Mitigation*)

<u>WSP Gen-Tie Corridors</u>. Upon mitigation for biological impacts associated with WSP gen-tie projects and other cumulative projects in the vicinity, the cumulative biological impacts would be less than significant, and the contribution from the gen-tie projects would be not cumulatively considerable. (*Less-than-Significant Cumulative Impact with Mitigation*)

Geographic Scope of Cumulative Impact Analysis

The study area for cumulative biological impacts is variable depending on the species or resource under consideration. For example, the study area for cumulative impacts to Swainson's hawk is generally considered to encompass lands within a 10-mile radius of a project site, while the study areas for other species are usually smaller. Therefore, the geographic scope of this cumulative analysis varies depending on the species or resource under consideration, with the maximum extent being 10 miles from the WSP plan area.

Westlands Solar Park

Near Term

Under near-term conditions, there are 21 pending, approved, or completed projects on lands within 10 miles of the WSP plan area. (Note: The Westside Solar project and Westlands Aquamarine solar project, shown in Figure PD-9, are located within the WSP plan area. However, since the impacts associated with

these projects are addressed in the WSP impact analysis, they are not included again in the list of cumulative projects below.) All of these projects comprise solar PV developments. These solar projects are listed below and described in Section 2.5. Completed, Approved and Pending Projects/ Introduction to Cumulative Impact Analysis.

- Mustang	- Java
- Orion	- Aurora
- Kent South	- 2275 Hattesen
- American Kings	- Avenal Park
- Mustang 2	- Sun City
- Kettleman	- Sand Drag
- Kansas	- Westlands Solar Farm
- Kansas South	- PG&E Gates
- Lemoore 14	- PG&E Huron
- Henrietta (Riverwest)	- SC&R
- NAS Lemoore	

The WSP plan area includes habitat for Swainson's hawks, burrowing owls, and other raptors and migratory bird species. The plan area may also provide habitat for San Joaquin kit fox and American badger. Prior to construction of each WSP solar project, full coverage ground surveys will be undertaken to determine the presence or absence of these species at the given project site, as specified above in MMs BIO-1 through BIO-8. If individuals of these species are found to be present, then the avoidance measures specified in the above Mitigation Measures for each species would be implemented to prevent direct impacts to the species. With respect to habitat impacts, the WSP solar development would not have a significant impact upon foraging habitat of Swainson's hawks, other raptors or migratory bird species, San Joaquin kit fox, or American badger, given the abundance of available foraging habitat in the area. Individual solar projects within the WSP plan area may result in impacts to burrowing owl foraging habitat, if active burrowing owl burrows are identified at specific solar project sites prior to development. Depending on the availability of other foraging habitat nearby, compensatory mitigation may be required in the form of restrictive covenants or similar habitat protection measures on adjacent or nearby lands in order to mitigate the impact to burrowing owl habitat, as specified in MM BIO-4. The potential impacts of WSP solar development upon wildlife movement through the plan area would be mitigated through implementation of MM BIO-7. WSP solar projects could result in potential impacts to jurisdictional wetlands or riparian habitat, but any such impacts would be mitigated through implementation of MM BIO-8. In summary, all potential impacts to special status animal species and habitats as a result of WSP solar development would be avoided or reduced to less-than-significant levels through required mitigations. The WSP solar development would not have a significant impact on special status plant species, or habitat conservation plans. The potential cumulative impacts associated with near-term WSP solar development are discussed below.

With respect to impacts to <u>individuals of special status animal species</u>, it is anticipated that any impacts to individual animals would be avoided at the cumulative project sites through the same avoidance measures to be implemented in conjunction with WSP solar development, as specified in MMs BIO-1 through 6. Since these impacts would be avoided for each project, the near-term cumulative impacts to individuals of special status animal species would be *less than significant* and the impact of WSP solar development would be *not cumulatively considerable with mitigation*.

Regarding impacts to <u>Swainson's hawk foraging habitat</u>, these impacts are considered in the context of the 10-mile foraging radius for a typical Swainson's hawk pair. The full development of the WSP plan area, combined with the development of the cumulative projects listed above, would result in a reduction of about 31,500 acres in available foraging habitat for Swainson's hawks. However, as discussed under Impact BIO-4 above, approximately 156,000 acres of foraging habitat would still remain after this cumulative development to support the existing Swainson's hawks within a 10-mile radius, and would also provide abundant surplus habitat to support additional pairs of Swainson's hawks. Therefore, the near-term cumulative impact to Swainson's hawk foraging habitat would be *less than significant* and the impact of WSP solar development would be *not cumulatively considerable*.

With respect to <u>foraging habitat for burrowing owls</u>, it is possible that one or more of the cumulative projects in the region may include burrowing owl burrows within their sites. If so, it is expected that determinations would be made in each case as to whether sufficient foraging habitat would remain in the vicinity after project development. If it is determined that insufficient foraging habitat would be available, it is expected that such a project would be required to provide replacement habitat nearby in the form of a restrictive covenant or similar measure, as specified in MM BIO-4, to reduce the impact to a less than significant level. In anticipation that this would occur wherever necessary, the near-term cumulative impact to burrowing owl habitat would be *less than significant*. The residual impact attributable to WSP solar development in the near-term would be *not cumulatively considerable with mitigation*.

WSP solar development could have potential impacts to <u>wetlands</u>, <u>jurisdictional waters</u>, <u>streams or</u> <u>riparian areas</u>, but any such impacts would be mitigated through avoidance or mitigation measures specified in MM BIO-8. It is expected that any other cumulative projects that would have potential impacts to wetland or riparian habitats would be subject to similar mitigation measures. Therefore, the near-term cumulative impact to wetland and riparian habitat would be *less than significant* and the impact of WSP solar development would be *not cumulatively considerable with mitigation*.

Neither the WSP solar projects nor any other cumulative projects would interfere with <u>wildlife</u> <u>movement corridors or migration patterns</u>. All of the cumulative projects would include wildlife friendly fencing, as specified in MM BIO-7, to allow through movement of San Joaquin kit foxes or other species that may be dispersing through the area. Therefore, the near-term cumulative impact to wildlife movement corridors would be *less than significant*, and the contribution of the WSP solar development would be *not cumulatively considerable with mitigation*.

None of the cumulative projects, including WSP solar projects, would <u>conflict with local plans and</u> <u>policies</u> protecting biological resources, or conflict with an applicable <u>habitat conservation plan</u> or a natural community conservation plan. As such, there would be no cumulative impact in this regard, and the project would make *no contribution* to any such cumulative impact in the near term.

In summary, the near-term cumulative impact to biological resources would be *less than significant*, and the project *contribution would not be considerable with implementation of the mitigation measures identified above*.

Far Term

To evaluate far-term conditions, the cumulative analysis of biological impacts considers the full buildout of land uses in the vicinity of the WSP plan area as shown on the 2035 Kings County General Plan and the Fresno County General Plan (which covers lands immediately to the west of WSP). The 'Kings County Land Use Map' of the Land Use Element shows that Kings County lands near the WSP plan area are designated as either 'General Agriculture 40 ac.' or 'Exclusive Agriculture 40 ac.' Similarly, the Fresno County General Plan shows the lands near the WSP plan area are designated 'Agriculture.' Thus it is reasonable to assume that agricultural production will remain the dominant land use in surrounding lands for the life of the General Plans.

It is important to note that, as with the lands of the WSP plan area, the agricultural designations of the 2035 Kings County General Plan allow the installation of utility-scale PV solar generating facilities (KC 2010). Thus it is possible that additional solar development projects could be proposed in the WSP vicinity within the remaining 20-year planning horizon of the General Plan. Since the adjacent lands to the west of the WSP plan area are located within Fresno County, the corresponding General Plan designations for Fresno County lands would guide permitted uses on adjacent lands to the west. While the Fresno County General Plan does not specifically allow PV solar development on agriculturally-designated lands, the County has initiated a process for considering solar PV development on agriculturally-designated lands, and has approved a number of solar PV projects under this process (FC 2011). Few solar projects have been proposed or approved by Fresno County in the nearby areas to date (only the Westlands Solar Farm and SC&R solar are located within 10 miles of the WSP boundary; as are 2 PG&E solar facilities but they were not subject to County approval). Since Fresno County has approved a number of solar projects on other agricultural lands in the western portion of the County, it is reasonable to assume that the County would consider proposals for PV solar development on agricultural lands near the WSP plan area. Thus it is anticipated that any development on nearby lands would consist predominantly, if not exclusively, of solar PV projects.

Since the lands in the WSP vicinity are very similar in character to the WSP lands, and are also removed from multiple species habitats in the foothills to the west, it is expected that the same general biological resource conditions prevail on these lands as on the WSP plan area. Thus it is anticipated that very few special status species, apart from burrowing owls, occur on these lands. San Joaquin kit foxes and American badgers may potentially occur on these lands, and these lands provide foraging habitat for Swainson's hawks and other raptors and migratory birds.

With respect to impacts to <u>individuals of special status animal species</u>, it is anticipated that any impacts to individual animals would be avoided at future cumulative project sites through the same avoidance and protection measures to be implemented in conjunction with WSP solar development, as specified in *MMs BIO-1* through 6. As such, the far-term cumulative impacts to individuals of special status animal species would be *less than significant* and the contribution of the WSP solar development would be *not cumulatively considerable with mitigation*.

Regarding <u>Swainson's hawk foraging habitat</u>, it estimated that there will be a surplus of approximately 156,000 acres of foraging habitat within a 10-mile radius of the WSP Plan area after completion of the near-term cumulative development discussed above. This represents five times the acreage of foraging habitat that will be removed by the near-term cumulative solar projects. It is not anticipated that this amount of foraging habitat would be converted to solar or other development projects under far-term conditions. As such, the far-term cumulative impacts to Swainson's hawk foraging habitat would be *less than significant*, and the WSP contribution would be *not cumulatively considerable*.

With respect to <u>foraging habitat for burrowing owls</u>, it is possible that far term cumulative development projects in the region may include burrowing owl burrows within their sites. If so, it is expected that determinations would be made in each case as to whether sufficient foraging habitat would remain in the

vicinity after project development. If it is determined that insufficient foraging habitat would be available, it is expected that such projects would be required to provide replacement habitat nearby in the form of a restrictive covenants or similar measure, as specified in MM BIO-4, to reduce the impact to a less than significant level. As such, the far-term cumulative impact to burrowing owl habitat would be *less than significant*. Since any WSP solar projects with potentially significant impacts to burrowing owl habitat would be subject to similar compensatory mitigation, the impact attributable to WSP solar development under far-term conditions would be *not cumulatively considerable with mitigation*.

WSP solar development could result in potential impacts to <u>wetlands</u>, <u>jurisdictional waters</u>, <u>streams or</u> <u>riparian areas</u>, but any such impacts would be mitigated through avoidance or mitigation measures specified in MM BIO-8. It is expected that any other cumulative projects that would have potential impacts to wetland or riparian habitats would be subject to similar mitigation measures. Therefore, the far-term cumulative impact to wetland and riparian habitat would be *less than significant* and the impact of WSP solar development would be *not cumulatively considerable with mitigation*.

As is the case with the WSP solar projects, it is possible that far-term cumulative development in the vicinity would interfere with <u>wildlife movement corridors or migration patterns</u>. Cumulative solar projects would be expected to include wildlife friendly fencing, similar to the fencing prescribed in MM BIO-7, to allow through movement of San Joaquin kit foxes or other species that may be dispersing through the area. Therefore, the far-term cumulative impact to wildlife movement corridors would be *less than significant*, and the contribution of the WSP solar development would be *not cumulatively considerable with mitigation*.

Under current plans and policies, none of the cumulative projects, including WSP solar projects, would <u>conflict with local plans and policies</u> protecting biological resources, or conflict with an applicable <u>habitat conservation plan</u> or a natural community conservation plan. While it is possible that new plans, policies, or HCPs may be adopted in the future, any attempt to predict the nature and applicability of such plans, policies, or HCPs would be speculative. As such, there would be no foreseeable cumulative impact in this regard, and the project would make *no contribution* to any such cumulative impact in the far term.

In summary, the cumulative impact to biological resources under far-term cumulative conditions would be *less than significant*, and the WSP *contribution would be not considerable with implementation of mitigation measures identified above*.

WSP Gen-Tie Corridors

Since the physical footprint of the gen-tie projects would be very small, during both construction and operation, the area subject to potential biological impacts from the gen-tie projects is limited. Therefore, the geographic scope of this cumulative analysis extends to lands adjacent to the gen-tie corridors, and includes the cumulative projects on those adjacent lands.

Under near-term conditions, there are two pending transmission projects, and one pending solar project on lands adjacent to the WSP gen-tie corridors. These projects are listed below and shown in Figures PD-10, and described in Section 2.5. Completed, Approved, and Pending Projects/Introduction to Cumulative Impact Analysis.

- Central Valley Power Connect transmission project (Gates to Gregg Substation)
- Westside Transmission Project (Gates to Dos Amigos/Los Banos Substation)
- SC&R Solar

Near Term

As discussed previously in this section, the WSP gen-tie projects could result in potential impacts to special-status plant and animal species, and their habitats. Potentially affected special-status animal species include mammals (e.g., Joaquin kit fox), and raptors and migratory birds. The gen-tie projects could potentially result in the loss of wetlands and riparian habitat. However, all of these potential impacts would be avoided or reduced to less than significant levels through mitigation measures to be implemented in conjunction with the gen-tie projects. These measures include pre-project surveys to identify sensitive habitats and the avoidance of these habitats through flexible design and siting of towers and other facilities. Impacts to foraging habitats would be minimized due to the inherently small footprints of the gen-tie projects, and the very small amount of permanently disturbed acreage involved in these projects. Pre-construction surveys would be required to identify individuals of special-status species that may be subject to disturbance, and appropriate mitigations would be implemented to avoid or minimize impacts. Therefore, all potential impacts to biological resources associated with the WSP gen-tie projects would be avoided or reduced to less-than-significant levels with mitigation.

The adjacent and nearby cumulative projects that consist of two transmission projects and one solar project. These projects would have relatively light footprints, and potential impacts to biological resources at those project sites would be readily avoidable or mitigable as they are for the WSP solar projects and gen-tie projects. Thus the cumulative impacts to <u>special-status species and their habitats</u> would be *less than significant*, and the contribution of the WSP gen-tie projects to any such cumulative impacts would be *not cumulatively considerable*.

The WSP gen-tie projects could result in potential impacts to <u>wetlands</u>, jurisdictional waters, streams or <u>riparian areas</u>, but any such impacts would be mitigated through avoidance or mitigation measures specified in MM BIO-8. It is expected that any other far-term cumulative projects that would have potential impacts to wetland or riparian habitats would be subject to similar mitigation measures. Therefore, the far-term cumulative impact to wetland and riparian habitat would be *less than significant* and the impact of the WSP gen-tie projects would be *not cumulatively considerable* with mitigation.

Regarding <u>wildlife movement corridors</u>, the WSP gen-tie projects would not adversely affect wildlife movement due their small footprint and profile; and the cumulative solar projects would be expected to include wildlife friendly fencing to allow unimpeded wildlife movements through those facilities, similar to the fencing specified in MM BIO-7. Therefore, the impacts to wildlife movement corridors associated with the Westlands gen-tie projects would be *less than cumulatively significant* and the contribution of the WSP gen-tie projects to any such cumulative impacts would be *not cumulatively considerable*.

None of the cumulative projects, including WSP gen-tie projects, would <u>conflict with local plans and</u> <u>policies</u> protecting biological resources, or conflict with an applicable <u>habitat conservation plan</u> or a natural community conservation plan. As such, there would be no cumulative impact in this regard, and the project would make *no contribution* to any such cumulative impact in the near term.

In summary, the cumulative impact to biological resources under near-term cumulative conditions would be *less than significant*, and the WSP gen-tie projects' *contribution would be not considerable with implementation of mitigation measures identified above*.

Far Term

Under far-term conditions, it is assumed that all cumulative projects, including the WSP gen-tie projects, and also the solar projects considered in the near-term analysis will be completed. The far-term cumulative analysis of biological impacts assumes the full buildout of land uses adjacent to the WSP gen-tie corridors as shown on the General Plans of Kings and Fresno counties. All adjacent lands are designated for agricultural uses in the county general plans. While both counties allow solar PV projects on agriculturally-designated lands, it is not foreseeable which lands, if any, adjacent to the gen-tie corridors will be proposed for solar PV development in the far term. Also, additional transmission facilities or other public utility uses could be planned for adjacent lands, but this eventuality is also unforeseeable at this time. However, this far-term analysis assumes that some solar PV development and additional transmission projects would be constructed in the project vicinity in the far term. However, it is not anticipated that other non-agricultural development would occur in the vicinity of the WSP gen-tie corridors under far-term conditions.

Given the light footprints and low profiles of the cumulative development anticipated in the far term, i.e., transmission and solar projects, any impacts to biological resources would be readily avoidable or mitigable, as discussed above for near-term conditions. As such, the cumulative impacts to biological resources would be *less than significant*, and the contribution of the WSP gen-tie projects would be *not cumulatively considerable with implementation of mitigation measures identified above*.

Mitigation Measures:

Westlands Solar Park. Implement MMs BIO-1 through BIO-8. No additional mitigation is required.

WSP Gen-Tie Corridors. Implement MMs BIO-1 through BIO-8. No additional mitigation is required.

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