

APPENDIX B

SECTION 4.1 2

BIOLOGICAL RESOURCES (WITH REVISIONS FROM 201 2 SPRING SURVEYS)

SECTION 4.12

BIOLOGICAL RESOURCES

4.12 BIOLOGICAL RESOURCES

This section provides a background discussion of the regulatory framework and the affected environment. The regulatory framework discussion focuses on the federal, state, and local regulations that apply to plants, animals and sensitive habitats. The affected environment discussion focuses on the topography and soils, general vegetation, general wildlife, sensitive biological resources, riparian habitat and sensitive natural communities, jurisdictional waters, habitat connectivity and wildlife corridors. Information contained in this section is summarized from the *Biological Technical Report for the Campo Verde Solar Energy Project* prepared by Heritage Environmental Consultants, Inc., (Heritage, 2012). The Biological Technical Report (BTR) includes various attachments (Vegetation Mapbook, ACOE/CDFG Potentially Jurisdictional Waters Mapbook) and ~~two~~ appendices (Burrowing Owl Survey Report, ~~and~~ Jurisdictional Waters, [Avian Survey Report](#), [Mountain Plover Survey Report](#), and [the Rare Plant Survey Report](#)). The Biological Technical Report and its attachments and appendices are provided on the attached CD of Technical Appendices as **Appendix J** of this EIR.

4.12.1 REGULATORY FRAMEWORK

A. FEDERAL

Endangered Species Act

Endangered Species Act of 1973 (16 United States Code [USC] 1531–1544), as amended (ESA), protects federally listed threatened and endangered species from unlawful take. “Take” under ESA includes activities such as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” The United States Fish and Wildlife Service (USFWS) regulations define harm to include some type of “significant habitat modification or degradation.”

Section 7 of the ESA requires the BLM, as a federal agency, to ensure that any action authorized, funded, or carried out by the BLM is not likely to jeopardize the continued existence of listed species or modify their critical habitat. The BLM will engage the USFWS in the Section 7 consultation process as part of NEPA review in preparation of the Environmental Assessment (EA).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (MBTA; 16 USC 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive and listed at 50 Code of Federal Regulations (CFR) 10.13. The regulatory definition of “migratory bird” is broad, and includes any mutation or hybrid of a listed species and any part, egg, or nest of such birds (50 CFR 10.12). Migratory birds are not necessarily federally listed endangered or threatened species under the ESA. The MBTA, which is enforced by USFWS, makes it unlawful “by any means or in any manner, to pursue, hunt, take, capture, [or] kill” any migratory bird, or attempt such actions, except as permitted by regulation. The applicable regulations prohibit the take, possession, import, export, transport, sale, purchase, barter, or offering of these activities, except under a valid permit or as permitted in the implementing regulations (50 CFR 21.11).

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC 668-668c), enacted in 1940 and as amended, prohibits anyone, without a permit issued by the USFWS, from “taking” bald and golden eagles, including their parts, nests, or eggs. The Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” For purposes of these guidelines, “disturb” means: “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially

4.12 BIOLOGICAL RESOURCES

interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

Federal Water Pollution Control Act (Clean Water Act)

The Clean Water Act (CWA; 33 USC 1251 et seq.), as amended, provides a structure for regulating discharges into the waters of the U.S. Through this Act, the Environmental Protection Agency is given the authority to implement pollution control programs. These include setting wastewater standards for industry and water quality standards for contaminants in surface waters. The discharge of any pollutant from a point source into navigable waters is illegal unless a permit under its provisions is acquired. In California, the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) are responsible for implementing the CWA. Section 404 of the CWA regulates the discharge of dredged, excavated or fill material in wetlands, streams, rivers, and other waters of the U.S. The U.S. Army Corps of Engineers (ACOE) is the federal agency authorized to issue Section 404 Permits for certain activities conducted in wetlands or other waters of the U.S. Section 401 of the CWA grants each state the right to ensure that the State's interests are protected on any federally permitted activity occurring in or adjacent to Waters of the State. In California, the RWQCBs are the agencies mandated to ensure protection of the State's waters. For a proposed project that requires an ACOE CWA Section 404 permit and has the potential to impact Waters of the State, the RWQCB will regulate the project and associated activities through a Water Quality Certification determination (Section 401).

B. STATE

California Endangered Species Act

The California Endangered Species Act of 1984 (CESA) provides a framework for the listing and protection of wildlife species determined to be threatened or endangered in California.

California Fish and Game Code 3503.5

Raptors (birds of prey) and active raptor nests are protected by the California Fish and Game Code 3503.5, which states that it is "unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird" unless authorized.

California Fish and Game Code 3503

Bird nests and eggs are protected by the California Fish and Game Code 3503, which states "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto."

California Fish and Game Code 3513

Protects California's migratory birds by making it unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame birds.

State of California Fully Protected Species

The classification of Fully Protected was the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians and reptiles, birds, and mammals. Most fully protected species have also been listed as threatened or endangered species under ESA and/or California Endangered Species Act (CESA). Fully Protected species may not be taken or possessed at any time and no licenses or permits

4.12 BIOLOGICAL RESOURCES

may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

California Fish and Game Code, Section 1600, as amended

Under Section 1602 of the Fish and Game Code, CDFG regulates activities that would divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFG has jurisdiction over riparian habitats (e.g., southern willow scrub) associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. CDFG jurisdiction does not include tidal areas or isolated resources. Section 1602 of the Fish and Game Code requires any person who proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake or use materials from a streambed to notify the CDFG before beginning the project. If the CDFG determines that the project may adversely affect existing fish and wildlife resources within a CDFG-jurisdictional water, a Lake or Streambed Alteration Agreement is required.

Native Plant Protection Act

The Native Plant Protection Act (California Fish and Game Code Section. 1900-1913; NPPA) prohibits the taking, possessing, or sale within the state of any plant listed by CDFG as rare, threatened, or endangered. An exception to this prohibition in the Act allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify CDFG at least 10 days prior to the initiation of activities that would destroy them. The NPPA exempts from “take” prohibition “the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way.”

Porter-Cologne Water Quality Control Act, as amended

The Porter-Cologne Act grants the State Water Resource Control Board (SWRCB) and the RWQCBs power to protect water quality and is the primary vehicle for implementation of California’s responsibilities under the federal Clean Water Act. Any person proposing to discharge waste into a water of the State must file a report of waste discharge with the appropriate regional board.

C. LOCAL

Imperial County General Plan

Table 4.12-1 analyzes the consistency of the proposed project with the applicable policies relating to biological resources from the Imperial County General Plan. While this EIR analyzes the project’s consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS**

General Plan Policies	Consistent with General Plan?	Analysis
<p>Open Space Conservation Policy: The County shall participate in conducting detailed investigations into the significance, location, extent, and condition of natural resources in the County.</p> <p>Program: Notify any agency responsible for protecting plant and wildlife before approving a project which would impact a rare, sensitive, or unique plant or wildlife habitat.</p>	<p align="center">Yes</p>	<p>A biological technical study was prepared for the Project. The <i>Biological Technical Report for the Campo Verde Solar Energy Project</i> (Heritage, 2012) is a composite of several different surveys and studies that were performed in the project area in an effort to identify biological resources that are present and could be affected by the Project. Applicable agencies responsible for protecting plants and wildlife will be notified of the proposed project and provided an opportunity to comment on this EIR prior to the County's consideration of any project's approvals.</p>
<p>Land Use Element Policy: The General Plan covers the unincorporated area of the County and is not site specific, however, a majority of the privately owned land is located in the area identified by the General Plan as "Agriculture," which is also classified as important burrowing owl habitat, typically in the berms and banks of agricultural fields.</p> <p>Program: Prior to approval of development of existing agricultural land either in form of one parcel or a numerous adjoining parcels equally a size of 10 acres or more shall prepare a Biological survey and mitigate the potential impacts. The survey must be prepared in accordance with the United States Fish and Wildlife and California Department of Fish and Game regulations, or as amended.</p>	<p align="center">Yes</p>	<p>A biological technical study was prepared for the Project. The <i>Biological Technical Report for the Campo Verde Solar Energy Project</i> (Heritage, 2012) is a composite of several different surveys and studies, including a burrowing owl survey that was performed in the project area in an effort to identify biological resources that are present and could be affected by the Project. Applicable agencies responsible for protecting plants and wildlife will be notified of the proposed project and provided an opportunity to comment on this EIR prior to the County's consideration of any project's approvals.</p>

4.12.2 ENVIRONMENTAL SETTING

A. SOLAR GENERATION FACILITY

The survey area includes the solar generation facility site and a 1,000-foot buffer; the proposed gen-tie encompassing a 160-foot right-of-way (ROW) corridor on BLM land (**Figure 4.12-1**). In addition the survey area included the Alternative Gen-Tie across BLM land encompassing a 160-foot gen-tie right-of-way (ROW) corridor on BLM land, and the Private Land Gen-Tie Alternative encompassing a 200-foot buffer on both sides of the ROW. Alternatives are discussed in Section 6.0 of this EIR.

The survey area for most species/resources is defined as the project area plus a 1,000-foot buffer area. The survey area is 4,288 acres in size. Some species required different survey areas which are described on a case-by-case basis.

The following sections describe the existing conditions on lands associated with the solar generation facility (1,990 acres) and associated buffer areas on private lands.

Topography, Soils, Drainage

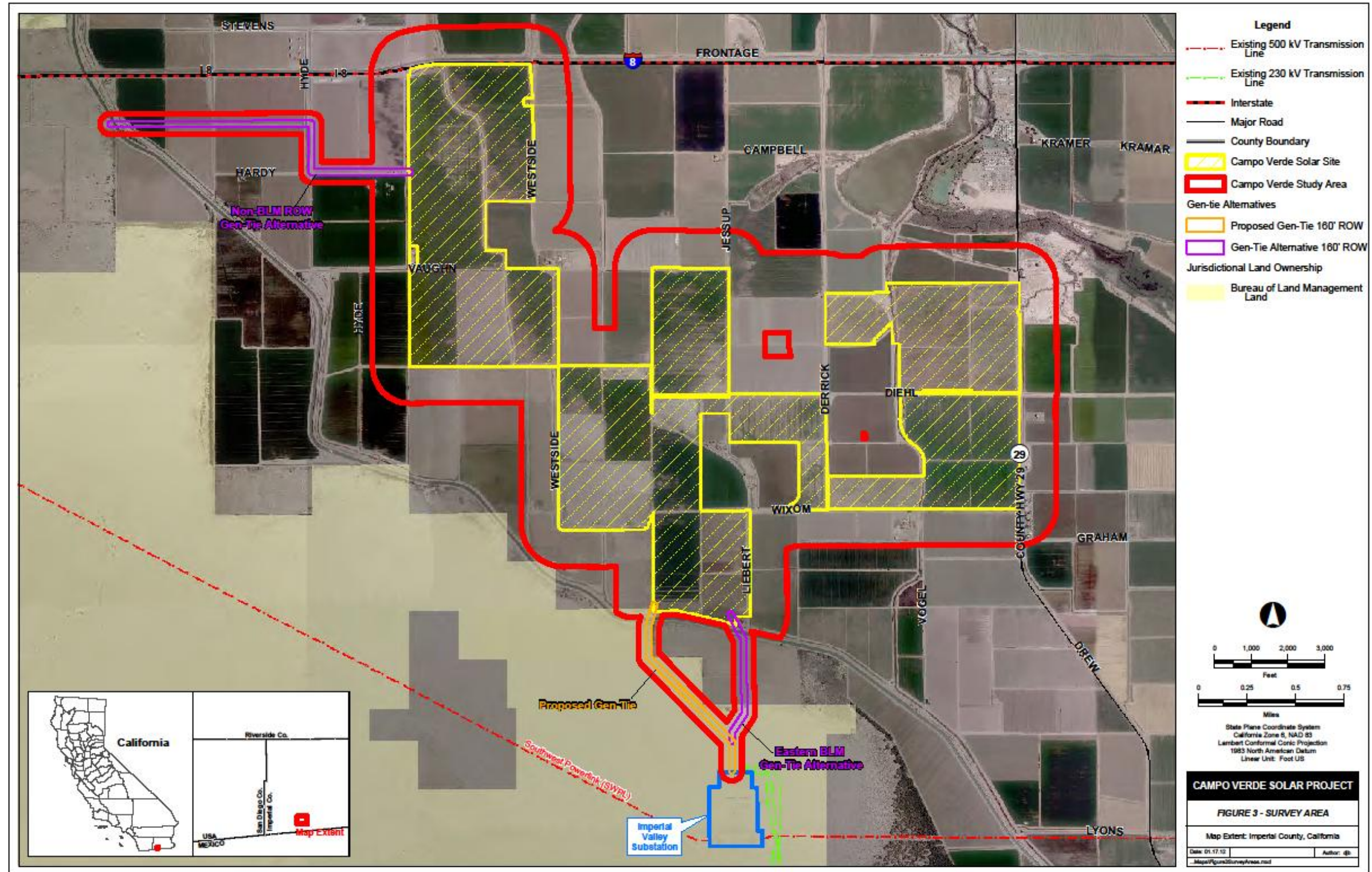
The survey area is located in the Yuha Basin of the Colorado Desert between agricultural lands to the north, east and west, and native desert to the south. The uplands are relatively flat, with sparse vegetation and sand that ranges from soft and rolling to flat and compact. Elevation of the survey area ranges from sea level to 46 feet below mean sea level.

There are ten major soil types found within the survey area, including Badland, Glenbar, Holtville, Imperial-Glenbar, Indio-Vint, Meloland-Holtville, Indio, Vint, Meloland, Rositas soils. These soils are primarily found on flat basin floors and are formed from clay, silt, and sandy alluvium materials.

The solar generation facility site is currently used for growing crops such as wheat, alfalfa, and Bermuda grass. Irrigation water is supplied by a complex, engineered system of concrete-lined canals or lateral canals operated and maintained by the Imperial Irrigation District (IID). The concrete-lined canals and lateral canals are used to deliver water to multiple farm fields and typically contain water at all times except during maintenance periods.

The farm fields are large (typically 80 acres) flat fields graded for flood irrigation. When a field is irrigated, an allocated quantity of water is allowed to flow from the IID delivery canal to a smaller ditch (locally referred to as a "head ditch"), which distributes the water evenly across the field. The head ditches are either earthen or concrete-lined. Another ditch (locally referred to as a "tail ditch") is located at the opposite, lower elevation side of the field. The tail ditch collects any excess irrigation water and directs it to an IID-operated and maintained drain. The tail ditches on the solar generation facility site are all earthen and are frequently rebuilt when the fields are plowed and disked. Water generally flows from south to north through the solar generation facility site; the IID drains flow to the New River which flows to the Salton Sea.

4.12 BIOLOGICAL RESOURCES



Source: Heritage, 2012.

FIGURE 4.12-1
BIOLOGICAL RESOURCES SURVEY AREA

4.12 BIOLOGICAL RESOURCES

General Vegetation

The solar generation facility site is comprised of active agricultural lands growing crops such as wheat, oats, alfalfa, and Bermuda grass. Native species of vegetation on the site are absent, with a few exceptions; no undisturbed native habitats are present on the site. Areas of native plants and disturbed vegetation communities occur in scattered areas including fallow fields, along “hedge rows,” or along irrigation drains and canals. The fields on the site are bordered by a series of earthen and concrete canals and drains that provide irrigation to the fields. Sporadic riparian and wetland vegetation occur along portions of some of the earthen canals and berms. This vegetation is a mixture of native and non-native species such as arrow weed (*Pluchea serricea*) and cattails (*Typha* sp.), two native species, and tamarisk (*Tamarix ramosissima*), bitter dock (*Rumex obtusifolius*), and sprangletop (*Leptochloa* sp.).

Routine maintenance of these drains and canals involves the periodic vegetation removal. Vegetation provides resistance to hydrologic flow. Thus, vegetation removal allows increased flow through reduced resistance. Because vegetation clearing is a routine activity, the wetland vegetation is mostly sparse and not well developed. The wetland vegetation along these canals and drains varies due to the periodic vegetation clearing activities.

The southwestern portion of the solar generation facility site contains several parcels that are fallow agriculture. Some native vegetation is beginning to recolonize fallow areas but does not represent native habitat. However, if not actively farmed, native species could eventually fully recolonize these areas. Vegetation was mapped on fallow parcels (see Vegetation Mapbook, Attachment 1, Figure 6 of the BTR included as **Appendix J** of this EIR); ~~but and a spring~~ rare plant survey was ~~not also~~ conducted. Given the absence of fall-blooming species in ~~2011, undisturbed native habitats on BLM lands,~~ the decision was made not to conduct ~~fall~~ rare plant surveys. ~~The field assessment consisted of spot-checking areas within these fields for evidence of fall germination. These areas will be surveyed during the spring of 2012.~~

Vegetation communities were mapped within the survey area on a one-inch-equals-400-foot color aerial photograph (see Vegetation Mapbook, Attachment 1, Figure 6 of the BTR included as **Appendix J** of this EIR). A total of ~~33-47~~ plant species, representing 17 plant families, were identified within the survey area during fall ~~and spring~~ surveys. **Table 4.12-2** provides a complete list of plant species observed in the project area.

**TABLE 4.12-2
PLANT SPECIES OBSERVED IN STUDY AREA**

<u>Family/Scientific Name</u>	<u>Common Name</u>	<u>Habitat</u>	<u>Observed in Campo Verde Project Area (BLM Lands)</u>
<u>Ephedraceae</u>			
<u><i>Ephedra trifurca</i></u>	<u>Three-fork ephedra</u>	<u>DS</u>	<u>Yes</u>
<u>Agavaceae</u>			
<u><i>Hesperocallis undulata</i></u>	<u>Desert lily</u>	<u>DS</u>	<u>Yes</u>
<u>Poaceae</u>			
<u><i>Cynodon dactylon</i></u>	<u>Bermuda grass</u>	<u>AD</u>	<u>Yes</u>
<u><i>Distichlis spicata</i></u>	<u>Salt grass</u>	<u>Canals</u>	<u>No</u>
<u><i>Phragmites australis</i></u>	<u>Common reed</u>	<u>Canals</u>	<u>No</u>

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-2
PLANT SPECIES OBSERVED IN STUDY AREA**

<u>Family/Scientific Name</u>	<u>Common Name</u>	<u>Habitat</u>	<u>Observed in Campo Verde Project Area (BLM Lands)</u>
<u><i>Schismus arabicus</i></u>	<u>Arabian schismus</u>	<u>DS</u>	<u>Yes</u>
<u><i>Sorghum bicolor</i></u>	<u>Sorghum</u>	<u>AD</u>	<u>No</u>
<u>Typhaceae</u>			
<u><i>Typha latifolia</i></u>	<u>Cattails</u>	<u>Canals</u>	<u>No</u>
<u><i>Atriplex lentiformis</i></u>	<u>Quailbush</u>	<u>Fallow Ag</u>	<u>No</u>
<u>Asteraceae</u>			
<u><i>Ambrosia dumosa</i></u>	<u>White Bursage</u>	<u>DS</u>	<u>Yes</u>
<u><i>Chaenactis stevioides</i></u>	<u>Desert pincushion</u>	<u>DS</u>	<u>Yes</u>
<u><i>Encelia frutescens</i></u>	<u>Rayless encelia</u>	<u>DS</u>	<u>Yes</u>
<u><i>Geraea canescens</i></u>	<u>Desert sunflower</u>	<u>DS</u>	<u>Yes</u>
<u><i>Isocoma acradenia</i></u>	<u>Goldenbush</u>	<u>DS</u>	<u>Yes</u>
<u><i>Malacothrix glabrata</i></u>	<u>Desert dandelion</u>	<u>DS</u>	<u>Yes</u>
<u><i>Palafoxia arida</i> var. <i>arida</i></u>	<u>Spanish needles</u>	<u>DS</u>	<u>Yes</u>
<u><i>Pluchea odorata</i> var. <i>odorata</i></u>	<u>Salt marsh fleabane</u>	<u>Canals</u>	<u>No</u>
<u><i>Pluchea serricea</i></u>	<u>Arrow-weed</u>	<u>Canal Banks</u>	<u>No</u>
<u><i>Rafinesquia neomeicana</i></u>	<u>Desert chicory</u>	<u>DS</u>	<u>Yes</u>
<u>Boraginaceae</u>			
<u><i>Cryptantha angustifolia</i></u>	<u>Narrow-leaf cryptantha</u>	<u>DS</u>	<u>Yes</u>
<u><i>Cryptantha maritima</i></u>	<u>White-hair cryptantha</u>	<u>DS</u>	<u>Yes</u>
<u><i>Cryptantha micrantha</i></u>	<u>Purple-root micrantha</u>	<u>DS</u>	<u>Yes</u>
<u><i>Pectocarya heterocarpa</i></u>	<u>Mixed-nut pectocarya</u>	<u>DS</u>	<u>Yes</u>
<u><i>Tiquilia palmeri</i></u>	<u>Palmer's coldenia</u>	<u>DS</u>	<u>Yes</u>
<u>Brassicaceae</u>			
<u><i>Brassica tournefortii</i></u>	<u>Sahara mustard</u>	<u>DS</u>	<u>Yes</u>
<u><i>Sisymbrium irio</i></u>	<u>London rocket</u>	<u>DS</u>	<u>Yes</u>
<u>Chenopodiaceae</u>			
<u><i>Atriplex canescens</i></u>	<u>Shadscale</u>	<u>DS</u>	<u>Yes</u>
<u><i>Atriplex lentiformis</i></u>	<u>Quailbush</u>	<u>DS</u>	<u>Yes</u>
<u><i>Bassia hyssopifolia</i></u>	<u>Five-hook bassia</u>	<u>AD</u>	<u>No</u>
<u><i>Chenopodium murale</i></u>	<u>Nettle-leaf goosefoot</u>	<u>AD</u>	<u>No</u>
<u><i>Salsola paulsenii</i></u>	<u>Barbwire Russian thistle</u>	<u>DS</u>	<u>Yes</u>
<u><i>Salsola tragus</i></u>	<u>Russina thistle</u>	<u>AD</u>	<u>No</u>
<u>Fabaceae</u>			

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-2
PLANT SPECIES OBSERVED IN STUDY AREA**

<u>Family/Scientific Name</u>	<u>Common Name</u>	<u>Habitat</u>	<u>Observed in Campo Verde Project Area (BLM Lands)</u>
<u><i>Dallea mollissima</i></u>	<u>Soft prairie clover</u>	<u>DS</u>	<u>Yes</u>
<u><i>Melilotus indicus</i></u>	<u>Indian sweetclover</u>	<u>AD</u>	<u>No</u>
<u><i>Prosopis glandulosa</i> var. <i>torreyana</i></u>	<u>Honey mesquite</u>	<u>Wash</u>	<u>Yes</u>
<u><i>Prosopis pubescens</i></u>	<u>Screw bean mesquite</u>	<u>Wash</u>	<u>No</u>
<u><i>Psoralea argemone</i></u>	<u>White dalea</u>	<u>DS</u>	<u>Yes</u>
<u>Nyctaginaceae</u>			
<u><i>Abronia villosa</i> var. <i>villosa</i></u>	<u>Desert sand verbena</u>	<u>DS</u>	<u>Yes</u>
<u>Onagraceae</u>			
<u><i>Chylismia brevipes</i></u>	<u>Sun cup</u>	<u>DS</u>	<u>Yes</u>
<u><i>Oenothera deltoides</i> ssp. <i>deltoides</i></u>	<u>Basket evening-primrose</u>	<u>DS</u>	<u>Yes</u>
<u>Plantaginaceae</u>			
<u><i>Plantago ovata</i></u>	<u>Woolly plantain</u>	<u>DS</u>	<u>Yes</u>
<u><i>Plantago patagonica</i></u>	<u>Desert plantain</u>	<u>DS</u>	<u>Yes</u>
<u>Polygonaceae</u>			
<u><i>Eriogonum thomasi</i></u>	<u>Thomas' wild buckwheat</u>	<u>DS</u>	<u>Yes</u>
<u>Resedaceae</u>			
<u><i>Oligomeris linifolia</i></u>	<u>Narrow-leaf oligomeris</u>	<u>DS</u>	<u>Yes</u>
<u>Solanaceae</u>			
<u><i>Lycium</i> sp.</u>	<u>Desert box- thorn</u>	<u>DS</u>	<u>Yes</u>
<u>Tamaricaceae</u>			
<u><i>Tamarix ramosissima</i></u>	<u>Tamarisk</u>	<u>Ditch, Canal</u>	<u>Yes</u>
<u><i>Tamarix aphylla</i></u>	<u>Athel</u>	<u>DS</u>	<u>Yes</u>
<u>Zygophyllaceae</u>			
<u><i>Larrea tridentata</i></u>	<u>Creosote bush</u>	<u>DS</u>	<u>Yes</u>

**TABLE 4.12-2
PLANT SPECIES OBSERVED IN STUDY AREA**

Family/Scientific Name	Common Name	Habitat	Observed in Campo Verde Project Area (BLM Lands)*

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-2
PLANT SPECIES OBSERVED IN STUDY AREA**

Family/Scientific Name	Common Name	Habitat	Observed in Campo Verde Project Area (BLM Lands)*
Ephedraceae			
— <i>Ephedra trifurca</i>	Three-fork ephedra	DS	Yes
Agavaceae			
— <i>Hesperocallis undulata</i>	Desert lily	DS	Yes
Poaceae			
— <i>Cynodon dactylon</i>	Bermuda grass	AD	Yes
— <i>Distichlis spicata</i>	Salt grass	Canals	No
— <i>Phragmites australis</i>	Common reed	Canals	No
— <i>Schismus arabicus</i>	Arabian schismus	DS	Yes
Typhaceae			
— <i>Typha latifolia</i>	Cattails	Canals	No
Amaranthaceae (inc. Chenopodiaceae)			
— <i>Atriplex canescens</i>	Shadscale	DS	Yes
— <i>Atriplex lentiformis</i>	Big saltbush	DS	Yes
— <i>Bassia hyssopifolia</i>	Five-hook bassia	AD	No
Asteraceae			
— <i>Ambrosia dumosa</i>	White Bursage	DS	Yes
— <i>Isocoma acradenia</i>	Goldenbush	DS	Yes
— <i>Palafoxia arida var. arida</i>	Spanish needles	DS	Yes
— <i>Pluchea odorata</i>	Salt marsh fleabane	Canals	No
— <i>Pluchea sericea</i>	Arrow weed	Canal Banks	No
Boraginaceae			
— <i>Cryptantha angustifolia</i>	Narrow-leaf cryptantha	DS	Yes
— <i>Cryptantha maritima</i>	White-hair cryptantha	DS	Yes
Brassicaceae			
— <i>Brassica tournefortii</i>	Sahara mustard	DS	Yes
Ehretiaceae			
— <i>Tiquilia palmeri</i>	Palmer's coldenia	DS	Yes
— <i>Tiquilia plicata</i>	Plicate coldenia	DS	Yes
Fabaceae			
— <i>Dallea mollissima</i>	Soft prairie clover	DS	Yes
— <i>Prosopis glandulosa var. torreyana</i>	Honey mesquite	Wash	Yes
— <i>Prosopis pubescens</i>	Screw bean mesquite	Wash	No
Onagraceae			
— <i>Camissonia brevipes</i>	Sun-cup	DS	Yes
— <i>Oenothera deltoides</i>	Basket evening-primrose	DS	Yes
Plantaginaceae			
— <i>Plantago ovata</i>	Woolly plantain	DS	Yes
— <i>Plantago patagonica</i>	Desert plantain	DS	Yes
Polygonaceae			

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-2
PLANT SPECIES OBSERVED IN STUDY AREA**

Family/Scientific Name	Common Name	Habitat	Observed in Campo Verde Project Area (BLM Lands)*
— <i>Eriogonum thomasii</i>	Buckwheat	DS	Yes
Resedaceae			
— <i>Oligomeris linifolia</i>	Narrow-leaf oligomeris	DS	Yes
Solanaceae			
— <i>Lycium sp.</i>	Desert thorn	DS	Yes
Tamaricaceae			
— <i>Tamarix ramosissima</i>	Tamarisk	Ditch, Canal	Yes
— <i>Tamarix aphylla</i>	Athel	DS	Yes
Zygophyllaceae			
— <i>Larrea tridentata</i>	Creosote bush	DS	Yes

Source: Heritage, 2012. Note: Yes = Observed on BLM land, No = Observed only on Private Lands

No sensitive species were observed in the project area. Fifteen vegetation communities were mapped within the private land survey area (i.e. the solar generation facility site and associated buffers on private land) (Table 4.12-3). Vegetation community classifications in the BTR follow A Manual of California Vegetation and Preliminary Descriptions of the Terrestrial Natural Communities of California. Communities that are similar in composition were lumped together in the discussion following Table 4.12-3.

**TABLE 4.12-3
VEGETATION COMMUNITIES/LAND COVER TYPES WITHIN THE SURVEY AREA**

Vegetation Community	Acres
Active Agriculture (AG-A)	3,780.3
Fallow Agriculture (AG-F)	134.8
Arrow Weed Thicket (AS)	9.3
Arrow Weed Thicket - Disturbed (AS-D)	11.3
Athel Tamarisk Type Woodland (AW)	1.5
Cattail Marsh (CM)	2.8
Cattail Marsh – Disturbed (CM-D)	0.6
Common Reed Marsh (CRM)	5.0
Common Reed Marsh - Disturbed (CRM-D)	9.6
Developed (DEV)	121.5
Disturbed Wetland (DW)	16.6
Open Water with Arrow Weed Thicket (OW)	1.3
Quailbush Scrub (BSS)	38.8
Quailbush Scrub - Disturbed (BSS-D)	27.9
Tamarisk Thicket (TS)	5.9
Total (Private Lands)	4,167.5

Source: Heritage, 2012.

4.12 BIOLOGICAL RESOURCES

Agriculture (Ag)/Fallow Agriculture (AG-F)

Active agricultural fields encompass 3,780.3 acres of the survey area (approximately 91 percent of the private land survey area). The vast majority of the proposed solar generation facility site occurs in this habitat type. Wheat, oats, alfalfa, and Bermuda grass are currently the primary crops within the fields. Agricultural weeds such as five-hook bassia are present along the edge of the fields.

Fallow agricultural areas are not currently under cultivation and are being invaded by non-native weeds such as five-hook bassia, tamarisk, Saharan mustard (*Brassica tournefortii*), and the native shrub quailbush. Though quailbush and tamarisk are facultative (i.e. species that usually occur in wetlands, but occasionally are found in nonwetlands) wetland species, there are no wetland areas in the fallow agricultural habitats. Areas qualifying as tamarisk thickets (and potential wetland areas) are addressed under "Cattail Marsh (CM and CM-D)," below. Fallow agricultural fields encompass 193.6 acres of the survey area (approximately 5 percent of the private land survey area).

Arrow Weed Thicket (AS and AS-D)

Arrow weed thicket is a shrub community dominated or co-dominated by arrow weed (*Pluchea serricea*). The canopy is intermittent to continuous with the shrub canopy usually less than 5 meters (or approximately 16 feet) in height. The herbaceous layer in these communities is generally sparse. This community occurs around springs, seeps, irrigation ditches, canyon bottoms, stream borders, and seasonally flooded washes in desert. The USFWS Wetland Inventory recognizes this as a facultative wetland species. The community occurs throughout the Mojave, Colorado and Sonoran deserts of California. Within the survey area, this community occurs along irrigation drains and canals or other areas with a high water table. Tamarisk (*Tamarix ramosissima*), cattails (*Typha* sp.), and common reed (*Phragmites australis*) are major associates or co-dominants in some areas. Salt grass (*Distichlis spicata*), salt marsh fleabane (*Pluchea odorata*) and goldenbush (*Isocoma acradenia*) are sporadic minor associates. In many instances these earthen irrigation canals and drains are routinely cleared of vegetation to facilitate hydrologic flow. Areas where the vegetation has not fully recovered from the previous clearing are classified as disturbed arrow weed thicket.

Approximately 20.6 acres of arrow weed thicket (including the disturbed component) is present along the IID-managed canals (0.5 percent of the private land survey area). Most of these areas are regularly cleared of this vegetation and they are constantly changing.

Tamarisk Woodland (AW) and Tamarisk Thicket (TS)

Individuals of athel (*Tamarix aphylla*) have been planted in large numbers as a windscreen along the edges of agricultural fields. This semi-evergreen or evergreen tree reaches a height of 12 meters (or approximately 39 feet). The herbaceous layer in these communities is generally sparse. Approximately 1.5 acres (< 0.1 percent of the private land survey area) is of tamarisk woodland.

Tamarisk thicket is a shrub community dominated or co-dominated by tamarisk (*Tamarix ramosissima*). This non-native species has invaded many areas of native riparian vegetation where they develop dense, monospecific stands across floodplains, wetlands, and lake margins. The USFWS Wetland Inventory recognizes this as a facultative species. The canopy is continuous to open with the shrub canopy usually less than 8 meters (approximately 26 feet) in height. The herbaceous layer in these communities is generally sparse. This community occurs throughout watercourses in the Mojave, Colorado and Sonoran deserts. Within the survey area, this community occurs within irrigation drains and canals, generally along the channel bottoms and lower slopes or within fallow fields with a high water table. Arrow weed (*Pluchea serricea*), cattails (*Typha* sp.), and common reed (*Phragmites australis*) are major

associates to co-dominants in some areas. Approximately 5.9 acres (0.1 percent of the private land survey area) of tamarisk thicket are present.

Quailbush Scrub (BSS and BSS-D)

Quailbush scrub encompasses 66.7 acres of the survey area (approximately 1.5 percent of the private land survey area). Quailbush scrub is a shrub community with quailbush (*Atriplex lentiformis* ssp. *lentiformis*), the sole dominant in this community. The canopy is less than 5 meters (or approximately 16 feet) in height and open to dense with a variable herbaceous layer. This community occurs in alkali sinks, flats, washes, wetlands and gentle to steep slopes, usually on saline or alkaline clays. This species is recognized as a USFWS Wetland Inventory facultative species. Fluvial disturbances and groundwater availability are primarily responsible for this species occurrence. Within the project area this community occurs in very dense stands along the borders of agriculture fields and in fallow agriculture fields. Though quailbush is a native shrub, it readily colonizes fallow fields; these patches still support a very high number and density of non-native invasive species, especially five-hook bassia (*Bassia hyssopifolia*). Native plant species diversity is low in this community.

Cattail Marsh (CM and CM-D)

Cattail marsh encompasses 3.4 acres of the survey area (< 0.1 percent of the private land survey area). These are semi-permanently flooded freshwater or brackish marshes that are dominated or co-dominated by cattails (*Typha latifolia*) throughout the state. Within the survey area, this community occurs along the channel bottoms of the earthen canals and drains where there is relatively permanent water source. Tamarisk (*Tamarix ramosissima*), arrow weed (*Pluchea serricea*) and common reed (*Phragmites australis*) are co-dominants or major associates in some areas. In many instances these earthen irrigation canals and drains are routinely cleared of vegetation to facilitate hydrologic flow. Areas where the vegetation has not fully recovered from the previous clearing are classified as disturbed cattail marsh.

Common Reed Marsh (CRM and CRM-D)

Common reed marsh encompasses 14.6 acres of the survey area (approximately 0.3 percent of the private land survey area). These are semi-permanently flooded and slightly brackish marshes, ditches and impoundments that are dominated or co-dominated by common reed (*Phragmites australis*). Native stands occur in wetlands throughout the Mojave, Colorado and Sonoran deserts. The USFSW Wetland Inventory recognizes common reed as a facultative wetland species. Within the survey area, these marshes occur along the channel bottoms of the canals and drains with a more permanent water source. Cattails (*Typha latifolia*), tamarisk (*Tamarix ramosissima*), and arrow weed (*Pluchea serricea*) are co-dominants or major associates. In many instances these earthen irrigation canals and drains are routinely cleared of vegetation to facilitate hydrologic flow. Areas where the vegetation has not fully recovered from the previous clearing are classified as disturbed common reed marsh.

Disturbed Wetland (DW)

Disturbed wetland encompasses 16.6 acres of the survey area (approximately 0.4 percent of the private land survey area). Earthen canals and drains that are regularly cleared of vegetation usually support herbaceous non-native species; these areas have been mapped as disturbed wetlands. Most of the species in the disturbed wetlands are non-native grasses and forbs; with the exception of salt grass, they were not identifiable at the time of the fall survey. Other species expected to occur in these drainages include sprangletop (*Leptochloa* spp.), umbrella sedge (*Cyperus* spp.) and dock (*Rumex* spp.).

4.12 BIOLOGICAL RESOURCES

Developed (DEV)

Approximately 121.5 acres of developed land occurs within the survey area (approximately 3 percent of the private land survey area). These areas contain little to no vegetation. Developed areas consist of residential dwellings, agricultural buildings, and storage areas.

Open Water with Arrow Weed Thicket (OW)

This habitat is restricted to the Westside Main Canal. Arrow weed thicket is restricted to a narrow band along the banks of this canal. Arrow weed is the dominant species and in many areas the only species along the banks of this canal. Approximately 20.6 acres (0.5 percent of the survey area) occur in this cover type.

D. GENERAL WILDLIFE

The wildlife species observed in and around the solar generation facility site survey area were typical of the disturbed and agricultural habitats, which provide cover, foraging, and breeding habitat for a variety of wildlife species. **Table 4.12-4** provides a list of all wildlife species observed in the survey area and some of the primary species are described below.

**TABLE 4.12-4
WILDLIFE SPECIES OBSERVED/DETECTED IN SURVEY AREA**

Common Name	Scientific Name
Birds	
American Coot	<i>Fulica americana</i>
American Kestrel	<i>Falco sparverius</i>
Barn Swallow	<i>Hirundo rustica</i>
Black Phoebe	<i>Sayornis nigricans</i>
Blue-gray Gnatcatcher	<i>Poliottila caerulea</i>
Burrowing Owl	<i>Athene cunicularia</i>
California Gull	<i>Larus californicus</i>
Cattle Egret	<i>Bubulcus ibis</i>
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>
Common Ground Dove	<i>Columbia passerina</i>
Common Raven	<i>Corvus corax</i>
European Starling	<i>Sturnus vulgaris</i>
Gambel's Quail	<i>Callipepla gambelii</i>
Great-tailed Grackle	<i>Quiscalus mexicanus</i>
Greater Roadrunner	<i>Geococcyx californianus</i>
Horned Lark	<i>Eremophila alpestris</i>
Killdeer	<i>Charadrius vociferus</i>
Loggerhead Shrike	<i>Lanius ludovicianus</i>
Long-billed Curlew	<i>Numenius americanus</i>
Mourning Dove	<i>Zenaida macroura</i>

TABLE 4.12-4
WILDLIFE SPECIES OBSERVED/DETECTED IN SURVEY AREA

Common Name	Scientific Name
Northern Harrier	<i>Circus cyaneus</i>
Northern Mockingbird	<i>Mimus polyglottos</i>
Prairie Falcon	<i>Falco mexicanus</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Rock Dove	<i>Columbia livia</i>
Rufous-crowned Sparrow	<i>Aimophila ruficeps</i>
Savannah Sparrow	<i>Passerculus sandwichensis</i>
Say's Phoebe	<i>Sayornis saya</i>
Snowy Egret	<i>Egretta thula</i>
Song Sparrow	<i>Melospiza melodia</i>
Turkey Vulture	<i>Cathartes aura</i>
Western Kingbird	<i>Tyrannus verticalis</i>
Western Meadowlark	<i>Sturnella neglecta</i>
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>
White-faced Ibis	<i>Plegadis chihi</i>
White-winged Dove	<i>Zenaida asiatica</i>
Yellow-rumped Warbler (Audubon's)	<i>Dendroica coronata auduboni</i>
Mammals	
Bobcat	<i>Lynx rufus</i>
Coyote	<i>Canis latrans</i>
Desert cottontail	<i>Sylvilagus audubonii</i>
Kangaroo rat	<i>Dipodomys</i> sp.
Round-tailed Ground Squirrel	<i>Xerospermophilus tereticaudus</i>
Reptiles	
Desert Iguana	<i>Dipsosaurus dorsalis</i>
Flat-tailed Horned Lizard	<i>Phrynosoma mcallii</i>
Gecko	<i>Coleonix</i> sp.
Western whiptail	<i>Cnemidophorus tigris</i>

Source: Heritage, 2012.

Invertebrates

The survey area contains suitable habitat for a wide variety of invertebrates. Within the agricultural fields that comprise the solar generation facility site and along portions of the gen-tie, harvester ants (*Pogonomyrmex spp.*), grasshoppers (*Orthoptera spp.*) and flies (*Diptera spp.*) were observed regularly. Cabbage white (*Pieris rapae*) and other butterflies and moths (*Lepidoptera spp.*) were also regularly observed in all portions of the survey area.

4.12 BIOLOGICAL RESOURCES

Amphibians

Most amphibians require moisture for at least a portion of their life cycle, with many requiring a permanent water source for habitat and reproduction. Terrestrial amphibians have adapted to more arid conditions and are not completely dependent on a perennial or standing source of water. These species avoid dehydration by burrowing beneath the soil or leaf litter during the day and during the dry season.

No amphibians were observed within the survey area. American Bullfrog (*Rana catesbeiana*) was observed in close vicinity to the survey area. Bullfrogs typically occupy the large drains that carry water relatively permanently.

Reptiles

The diversity and abundance of reptile species varies with habitat type. Many reptiles are restricted to certain plant communities and soil types, although some of these species would also forage in adjacent communities. Other species are more ubiquitous, using a variety of vegetation types for foraging and shelter. A diverse list of species of lizards and snakes could be expected to inhabit both agricultural and/or desert habitats.

No reptile species were observed in the survey area.

Birds

The diversity of bird species varies with respect to the character, quality, and diversity of vegetation communities. Due to the homogeneity of much of the habitat within the private land portions of the survey area, bird diversity was relatively low, but did increase in and around the larger drains.

During winter avian use surveys previously conducted in the area, Western Meadowlark (*Sturnella neglecta*) was the most frequently detected species as well as the most widespread. Other frequently detected species include Horned Lark (*Eremophila alpestris*), Black Phoebe (*Sayornis nigricans*), Long-billed Curlew (*Numenius americanus*), and Song Sparrow (*Melospiza melodia*). Other widespread species include Horned Lark, Black Phoebe, and Mourning Dove (*Zenaida macroura*). Horned Larks were by far the most numerous species during the survey. Long-billed Curlews were the second most numerous species. The most commonly observed species were birds typically found in agricultural areas.

During spring avian use surveys in the area, Red-winged Blackbird was the most frequently detected species. Other frequently detected species include Western Meadowlark (*Sturnella neglecta*), Long-billed Curlew (*Numenius americanus*), Mourning Dove (*Zenaida macroura*), Horned Lark (*Eremophila alpestris*) and Cliff Swallow (*Petrochelidon pyrrhonota*). Western Meadowlark was the most widespread species. Other widespread species includes Red-winged Blackbird, Horned Lark, Mourning Dove, Cliff Swallow, and Long-billed Curlew (*Numenius americanus*). Red-winged Blackbirds were the most numerous species during the survey. Other numerous species included Cattle Egrets (*Bubulcus ibis*) and Long-billed Curlews. As was observed in the winter surveys, the most common species were birds typically found in agricultural areas.

The only trees present in the area are associated with residences or other buildings. These trees are limited in number and distribution but could represent potentially suitable nesting substrate for several species of raptors. Possible nesting species include red-tailed hawk (*Buteo jamaicensis*) and great-horned owl (*Bubo virginianus*). No raptor nests were observed during any of the site visits. Other common raptors included American Kestrel, Prairie Falcon, Burrowing Owl, and Barn Owl.

Mammals

Suitable mammal habitat is limited in the agricultural lands within the survey area. Desert black-tailed jackrabbit (*Lepus californicus deserticola*), desert cottontail (*Sylvilagus audubonii*), round-tailed ground squirrel (*Spermophilus tereticaudus*), desert kangaroo rat (*Dipodomys deserti deserti*), and coyote (*Canis latrans*) were detected often within all project component survey areas through direct observation as well as burrows, tracks, and scat, though not as frequently as in native habitats. A bobcat (*Lynx rufus*) was also observed.

Sensitive Biological Resources

Special Status Plant Species

No sensitive plant species were observed on the solar generation facility site, private land portions of the gen-tie or associated buffers, and none are expected to occur given the limited amount of suitable native habitat and the ongoing disturbances related to the agricultural activities.

Federally Listed Species

Based on the literature review, no federally-listed threatened or endangered plant species were identified as having the potential to occur within the survey area. No federally-listed threatened or endangered species were observed during focused rare plant surveys.

State-listed Species

Based on the literature review, no state-listed plant species were identified as having the potential to occur within the survey area. No state-listed species were observed on-site during focused rare plant surveys.

BLM Sensitive Species

BLM sensitive species include all species currently on CNPS List 1B, as well as others that are designated by the California BLM State Director. No BLM sensitive species were identified as having the potential to occur within the survey area. No BLM sensitive species were observed during focused rare plant surveys.

Priority Plant Species

Priority plant species are rare, unusual, or key species that are not sensitive by BLM or listed as threatened and endangered. Priority plant species are specifically plants that are included on the CNPS Lists 2–4.

One priority plant species was identified as having the potential to occur within the survey area: California satintail (*Imperata brevifoila*). This species is discussed below.

California satintail (Imperata brevifoila)

California satintail has been reported southeast of the Imperial Valley Substation, approximately 3 miles from the solar generation facility site. This species occurs in desert wash and riparian scrub habitats. Few desert wash habitats occur in the survey area and none on the solar generation facility site. California satintail has a low to moderate potential to occur within the tributary of the New River northeast of the site. This species is not expected to occur within the drains and canals on the solar generation facility site. The riparian habitat along the larger canals and drains on the solar generation facility site support non-native (e.g., tamarisk) or native species that grow in very dense stands (cattails

4.12 BIOLOGICAL RESOURCES

and arrow weed). Due to the density of riparian vegetation, growth of other species is restricted. Furthermore, vegetation along canals is periodically removed. This species was not observed during the October 2011 or the March 2012 surveys both of which coincided with this species traditional blooming period (September-May). Therefore, California satintail is not anticipated to occur within drains and canals on the solar generation facility site.

Special Status Wildlife Species

Fourteen special status wildlife species were determined to have the potential to occur within the survey area. Species whose occurrence is most pertinent to the private land portions of the survey area are discussed in detail below. This includes federally listed species, state listed species, and BLM sensitive species that are known to occur in the Imperial Valley, as well as CDFG species of special concern that were observed during surveys.

Federally Listed Species

The following federally listed species are discussed in this section because their habitat requirements and/or potential for occurrence are most pertinent to the private land portion of the survey area. However, the following discussions evaluate the potential for occurrence in both the private land portion of the survey area as well as the BLM survey area. Peninsular bighorn sheep (*O. c. nelsoni*; endangered) is discussed under the Environmental Setting for the gen-tie, below.

Southwestern Willow Flycatcher

Species Profile. Southwestern Willow Flycatcher (SWFL) is federally listed as endangered. All willow flycatchers in California, including the southwestern and two other subspecies (*E. t. brewsteri* and *E. t. adastus*) are state-listed as endangered. Willow Flycatchers are in the Tyrannidae family and are one of ten species of Empidonax flycatchers in the United States. Empidonax flycatchers are difficult to distinguish visually but have distinctive songs. SWFL is generally paler than other willow flycatcher subspecies and differs in morphology (i.e. shape, form, size). SWFLs are migrants, arriving on their breeding grounds in mid-May to early June. SWFL migrates south from its breeding range in August or September. Several subspecies of Willow Flycatcher are known to migrate through southern California, with the most common migrant being *E. t. brewsteri*. It is virtually impossible to differentiate between subspecies of Willow Flycatcher during migration. SWFL requires riparian habitat with willow (*Salix* spp.) thickets for breeding. Understory species include mule fat (*Baccharis* sp.) and arrow weed (*Pluchea* sp.). SWFLs also nest in areas with tamarisk (*Tamarix* spp.) and Russian olive (*Eleagnus angustifolia*) where these species have replaced the native willow. Surface water is required at nesting sites. Estimated nesting habitat patch size varies from 0.2 to 1.5 acres. Nests are constructed in densely vegetated thickets with trees between 13 and 23 feet in height.

Threats in the United States include loss of riparian habitat due to water diversion, flood control, urbanization, grazing, and invasion of non-native species. Parasitism by brown-headed cowbirds (*Molothrus ater*) has been a significant factor in the decline of this species in California, Arizona and elsewhere.

SWFL breeds in southern California, Arizona, New Mexico, southern Nevada, southern Utah, western Texas, northwestern Mexico, and possibly southwestern Colorado. It winters in Mexico, Central America, and possibly northern South America. Historically common in all the lower-elevation riparian areas of southern California, the SWFL was found in the Los Angeles Basin, San Bernardino/Riverside County area, and San Diego County. SWFL persists in the Colorado, Owens, Kern, Mojave, Santa Ana,

4.12 BIOLOGICAL RESOURCES

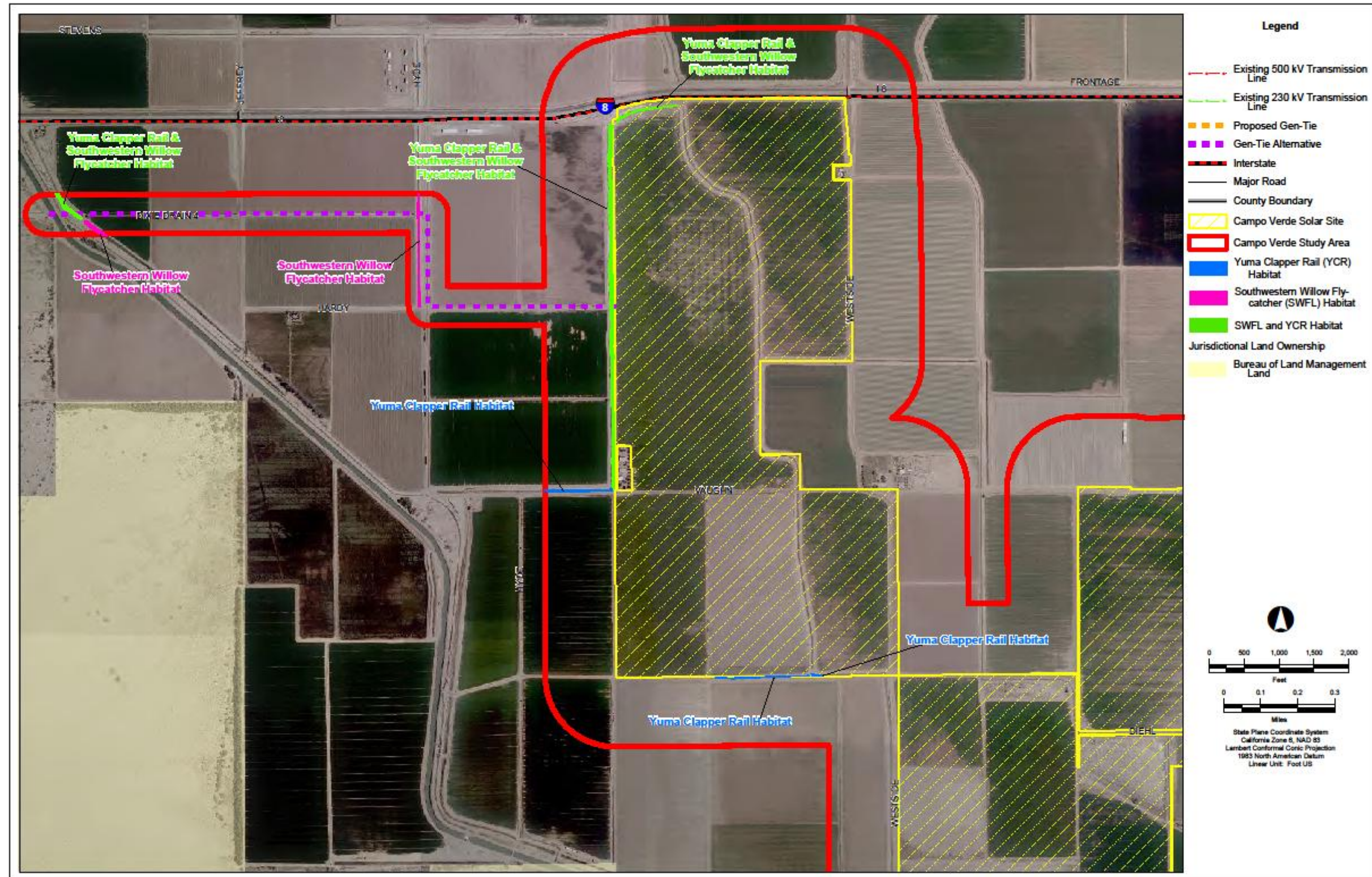
Santa Margarita, San Luis Rey, Santa Clara, Santa Ynez, Sweetwater, and San Dieguito river systems and in San Timeteo, Pilgrim, and Temecula Creeks.

Critical Habitat. Critical habitat was designated for the SWFL on October 19, 2005 in San Diego County, California and in Arizona. No critical habitat was designated within Imperial County, California.

Occurrence. SWFLs are not likely to nest within the survey area, but may migrate through the project area and possibly forage during migration within the arrow weed scrub and tamarisk scrub habitats associated with portions or all of Fig Drain, Diehl Drain, Wixom Drain, Dixie 3A Drain, Westside Drain, and Wormwood 7 Drain (**Figure 4.12-2A**, **Figure 4.12-2B** and **Figure 4.12-2C**). Flycatcher vocalizations have been heard during recent biological surveys (including protocol-level SWFL surveys) near the project area along the Westside Main Canal.

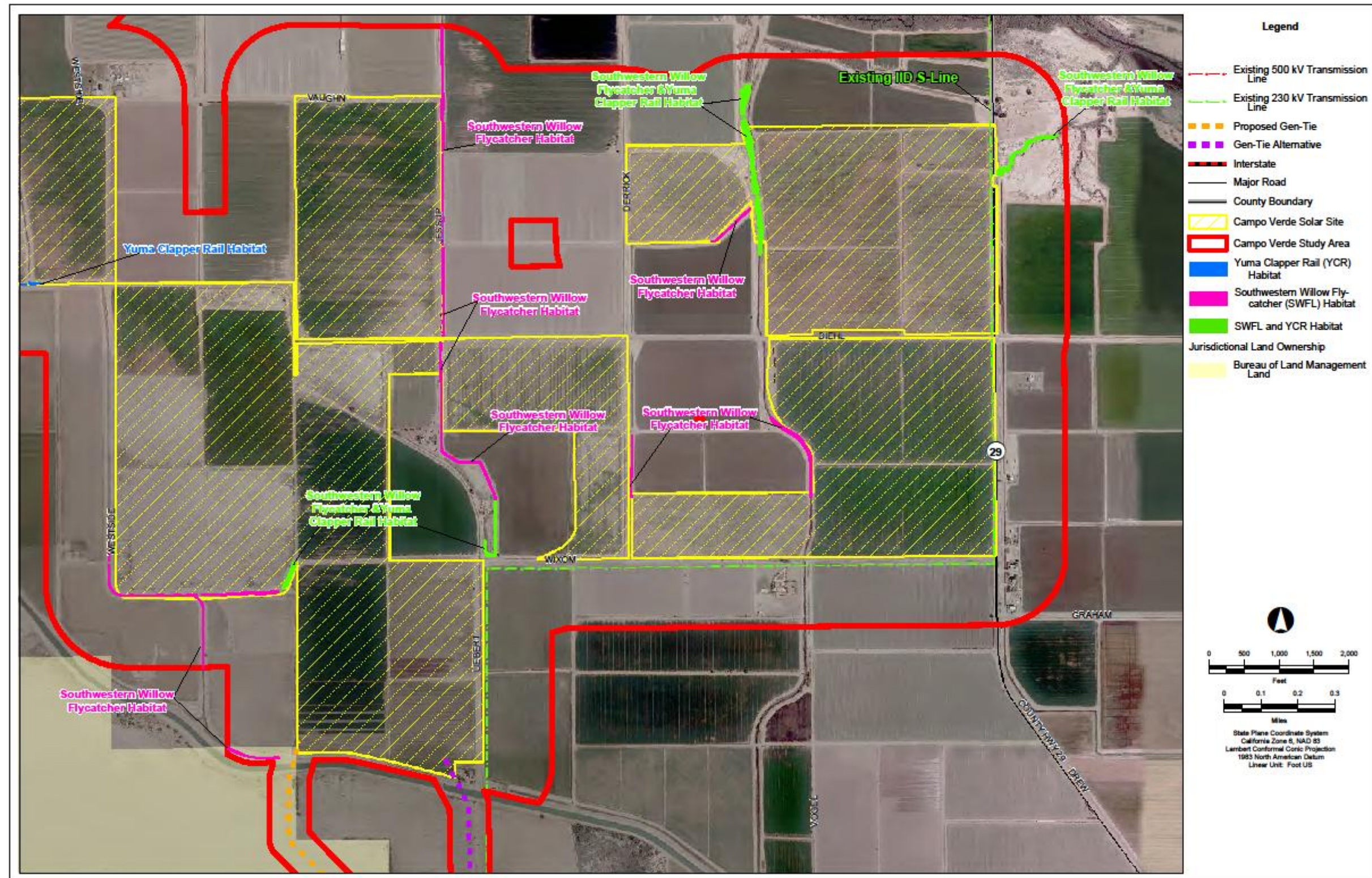
Two Willow Flycatcher subspecies are known to migrate through the Imperial Valley and in the vicinity of the Campo Verde Solar Project: SWFL (*Empidonax trailii extimus*) and Northwestern Willow Flycatcher (*Empidonax trailii brewsteri*). These two subspecies are nearly identical in appearance, have nearly identical vocalizations, and are, thus, nearly impossible to distinguish in the field.

Willow Flycatchers were detected during surveys conducted for other solar projects in the area. Protocol-level surveys were conducted to determine their subspecies and migration status. Based on



Source: Heritage 2012.

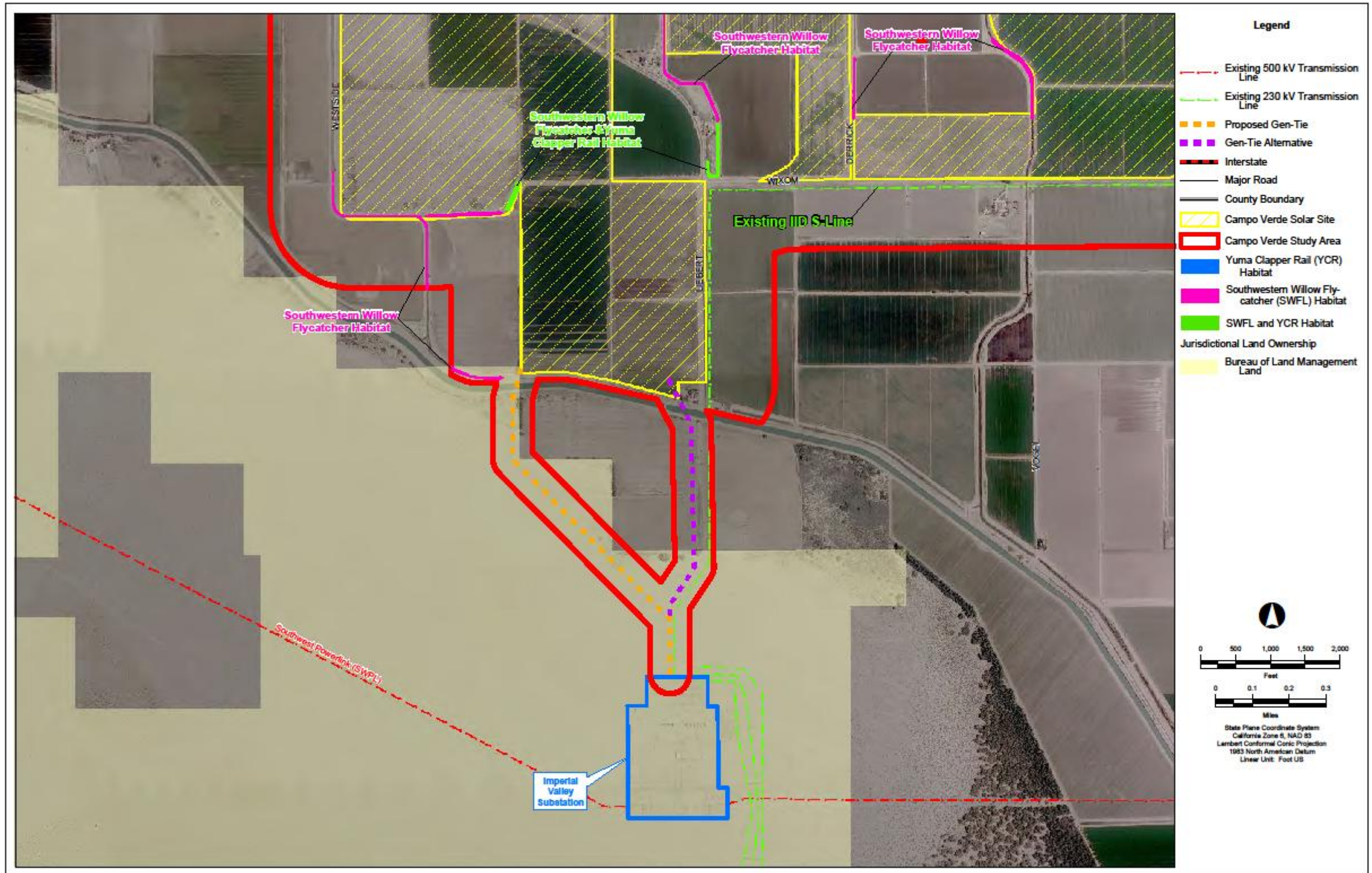
FIGURE 4.12-2A
 SOUTHWESTERN WILLOW FLYCATCHER AND YUMA CLAPPER RAIL HABITAT



Source: Heritage 2012.

FIGURE 4.12-2B
SOUTHWESTERN WILLOW FLYCATCHER AND YUMA CLAPPER RAIL HABITAT

4.12 BIOLOGICAL RESOURCES



Source: Heritage 2012.

FIGURE 4.12-2C
SOUTHWESTERN WILLOW FLYCATCHER AND YUMA CLAPPER RAIL HABITAT

4.12 BIOLOGICAL RESOURCES

the results, it was concluded that the Willow Flycatchers detected were migrants. No resident or nesting SWFLs were detected.

Breeding SWFLs are riparian obligates, typically nesting in relatively dense riparian vegetation where surface water is present or soil moisture is high enough to maintain the appropriate vegetation characteristics. While some of the vegetation communities within the solar generation facility site survey area include some species associated with riparian areas, and some of the canals and drains have surface water and high soil moisture, none of the areas support vegetation that is tall or dense enough for nesting. There is no Willow Flycatcher breeding habitat in the survey area. Additionally, species occurrence records from the California Natural Diversity Database do not indicate the presence of Willow Flycatchers in the vicinity of the survey area. Therefore, the available data, combined with the field surveys, indicate that there is no known suitable nesting habitat for SWFLs in or around the survey area. Furthermore, SWFLs would be expected to be present in the solar generation facility site survey area only as migrants in the vicinity of portions or all of Fig Drain, Diehl Drain, Wixom Drain, Dixie 3 Drain, Dixie 3A Drain, Dixie 3B Drain, Dixie 4 Drain, Westside Drain, Forget-Me-Not Drain 1, and Wormwood 7 Drain. These data indicate that Willow Flycatchers (*E.t. extimus*, *E.t. brewsteri* or both) migrate through the Westside Main Canal corridor and may forage in the tamarisk and arrow weed vegetation during migration. However, in order to provide the most conservative assessment, this analysis will assume they are the southwestern subspecies. Potential SWFL migration habitat in the project area is shown in **Figure 4.12-2A**, **Figure 4.12-2B** and **Figure 4.12-2C**.

Yuma Clapper Rail

Species Profile. The Yuma Clapper Rail (YCR) was federally listed as endangered March 11, 1967, under the Endangered Species Preservation Act of October 15, 1966, and state-listed as threatened February 22, 1978. The YCR is also protected under the Migratory Bird Treaty Act and similar State laws.

This bird breeds in freshwater marshes along the Colorado River from Needles, California, to the Colorado River delta and at the Salton Sea. The YCR breeds in freshwater marshes and brackish waters and nests on firm, elevated ground, often under small bushes. It typically occupies emergent marsh vegetation, such as pickleweed and cordgrass, as well as mature stands of bulrush and cattail around the Salton Sea. High water levels may force them into willow and tamarisk stands. Tamarisk is also used after breeding and in winter at some sites. Nests are built between March and late July in clumps of living emergent vegetation over shallow water. Typical home ranges exceed 17 acres, increasing after the breeding season.

Crayfish dominates the diet of YCR, though small fish, tadpoles, clams, and other aquatic invertebrates are also consumed. The seasonal availability of crayfish in different habitat locations corresponds to shifts in habitat use by YCRs.

YCRs are mostly active during daylight hours, with little to no activity after dark. Daily movement is lowest during the late breeding period (May-July) and highest during the late winter (January–February). Juvenile dispersal, movements by unpaired males during the breeding season and by both sexes post-breeding, and relocations in response to changing water levels are also documented. Studies to determine migratory patterns showed a difficulty in locating the YCR during winter months without telemetry. While the YCR was previously thought to be migratory, experts have determined that they are year-round residents, albeit discreet during winter months, of the lower Colorado River and Salton Sea.

Habitat destruction and depredation by mammals and raptors have caused population declines. It is also possible that increased selenium concentrations from agricultural runoff are affecting reproduction.

4.12 BIOLOGICAL RESOURCES

Critical Habitat. No critical habitat has been designated for YCR, and none is proposed.

Occurrence. This species is not likely to nest within the survey area. There are seven narrow patches of typha and typha/phragmites habitat in the project area associated with Fig Drain, Wixom Drain, Dixie 3A Drain, an unnamed wetland adjacent to Dixie 3A Drain, Dixie 4 Drain, Westside Drain and Wormwood 7 Drain (**Figure 4.12-2A**, **Figure 4.12-2B** and **Figure 4.12-2C**). These areas exhibit steep shelving to the water level, creating water depths deeper than those preferred by YCR. They are also narrow and linear in nature. The sides of the channels are steep and would inhibit nesting, and vehicles travel the elevated hard-packed dirt roads on either side of the channels regularly. Given the lack of suitable breeding habitat within the channels and the high level of human disturbance adjacent to the channels, this species is not likely to nest within this cattail marsh vegetation.

There is a low potential for YCR to forage in the cattail marsh vegetation or winter in the tamarisk thickets associated with Fig Drain, Wixom Drain, Dixie 3A Drain, an unnamed wetland adjacent to Dixie 3A Drain, Dixie 4 Drain, Westside Drain and Wormwood 7 Drain (**Figure 4.12-2A**, **Figure 4.12-2B** and **Figure 4.12-2C**). The active agricultural fields immediately adjacent to the cattail marshes provide a constant source of human disturbance in the area, and where these areas are located along the outside boundary of the project area, these practices will continue to occur after construction is completed. The nearest known location for this species is within Wixom Drain near Fig Lagoon, approximately 0.5 miles north of the project area. The New River is approximately 0.3 miles north and east of the project area and may provide the nearest suitable nesting habitat for this species. Given the distance from suitable and potential nesting habitat and level of existing human disturbance due to agricultural practices, there is a very low potential for YCR to forage within the isolated cattail marsh habitats or to winter in the tamarisk vegetation within the survey area. In addition, this species was not incidentally observed during numerous biological surveys conducted in and near these habitats for the other solar projects in the area.

State Listed Species

Four state-listed wildlife species were evaluated based on their known occurrences in Imperial County: greater Sandhill Crane (*Grus canadensis tabida*), YCR, barefoot banded gecko (*Coleonyx switaki*), and Peninsular bighorn sheep. Of these species, the YCR and Peninsular bighorn sheep are federally listed species. YCR is discussed above under “Federally Listed Species”; Peninsular bighorn sheep are discussed under “Federally Listed Species” in the Environmental Setting for the gen-tie later in this section. The greater Sandhill Crane and barefoot banded gecko species are discussed below.

Greater Sandhill Crane (*Grus canadensis tabida*)

Species. The Greater Sandhill Crane is state-listed as threatened and is protected under the federal MBTA and similar State legal protections. This species is known to winter in Imperial County California.

Habitat. Both Greater (*Grus canadensis tabida*) and Lesser (*G. c. canadensis*) Sandhill Cranes occur in California. Historically, *G. c. tabida* was a fairly common breeder on the northeastern plateau. It is now reduced greatly in numbers, and breeds only in Siskiyou, Modoc, Lassen, Sierra Valley, Plumas and Sierra counties. In summer, this subspecies occurs in and near wet meadows as well as shallow lacustrine, and freshwater emergent wetland habitats. It winters primarily in the Sacramento and San Joaquin valleys from Tehama County south to Kings County, where it frequents annual and perennial grassland habitats, moist croplands with rice or corn stubble, and open, emergent wetlands. It prefers relatively treeless plains. The migratory subspecies *G. c. canadensis* winters in similar habitats in the San Joaquin and Imperial valleys, and to a lesser extent in the Sacramento Valley. In southern

4.12 BIOLOGICAL RESOURCES

California, it concentrates on the Carrizo Plain, San Luis Obispo County, with smaller flocks near Brawley, Imperial County, and Blythe, Riverside County. The latter two flocks may be partly, or largely, *G. c. tabida*, which formerly wintered more commonly in southern California, but which has declined greatly there and throughout its range. Outside of known wintering grounds, *G. c. tabida* is extremely rare except that it migrates over much of interior California. A few coastal sightings of Greater Sandhill Crane exist from Marin County southward, but there are no records from offshore islands. When foraging, the Greater Sandhill Crane prefers open shortgrass plains, grain fields, and open wetlands, but it may also feed on dry plains far from water. The Greater Sandhill crane feeds on grasses, forbs, especially cereal crops (newly planted or harvested); and also uses its long bill to probe in soil for roots, tubers, seeds, grains, earthworms, and insects. It will also feed on larger prey, such as mice, small birds, snakes, frogs, and crayfish.

Occurrence. The greater sandhill crane is likely to forage within the agricultural fields within the private lands portion of the survey area at times during winter, but this species is not expected to breed in the survey area. This species was not observed during field surveys.

Barefoot Banded Gecko (*Coleonyx switaki*)

Species. The barefoot banded gecko is state-listed as threatened. Its known range occurs along the eastern face of the Peninsular Ranges in San Diego and Imperial Counties, and little information is known about its extended range or abundance.

Habitat. Habitat for the barefoot banded gecko is found in arid rocky areas on flatlands, canyons, and thornscrub, especially where there are large boulders and rock outcrops, and where vegetation is sparse. In California, this species inhabits the arid desert slopes of the eastern side of the Peninsular Ranges from Borrego Springs south to the Baja California border, and may occur at elevations from near sea level to over 2,000 feet (700 meters). An isolated population is known to occur in the Coyote Mountains of Imperial County. It ranges farther south in Baja California along the eastern edge of the mountains to near Santa Rosalia.

The barefoot banded gecko eats insects. Most likely, the breeding season lasts from spring to summer, May to July. Females lay one or two eggs, roughly 3 weeks after mating, and may lay eggs several times each season. Eggs hatch after around 2 months, in late summer to early fall (Murphy 1974).

Occurrence. No barefoot banded geckos are expected to occur within the survey area based on a lack of suitable habitat in the form of large boulders and rocky outcrops. This species was not observed during field surveys.

BLM Sensitive Wildlife

Seven BLM sensitive wildlife species were evaluated based on their presence on the BLM sensitive list within the El Centro Field Office's jurisdiction: Colorado Desert fringe-toed lizard (*Uma notata notata*), flat-tailed horned lizard, barefoot banded gecko, Western Burrowing Owl, Mountain Plover, California leaf-nosed bat (*Macrotus californicus*), and pallid bat (*Antrozous pallidus*). The barefoot banded gecko is also a state-listed species. Refer to discussion of this species above.

The following BLM sensitive species are discussed in this section because their habitat requirements and/or potential for occurrence are most pertinent to the private land portion of the survey area, though the following discussions evaluate the potential for occurrence in both the private land portion of the survey area as well as the gen-tie survey area. Colorado Desert fringe-toed lizard and flat-tailed horned lizard are discussed later in this section.

4.12 BIOLOGICAL RESOURCES

Burrowing Owl (*Athene cunicularia*)

Species. The Burrowing Owl is a California Species of Special Concern and a BLM sensitive species. It is protected by the MBTA and California Fish & Game Code Sections 3503, 3503.5, 3513. Nesting occurs from March through August. Burrowing Owls typically form a pair-bond for more than 1 year and exhibit high site fidelity, reusing the same burrow year after year. The female remains inside the burrow during most of the egg laying and incubation period and is fed by the male throughout brooding. Burrowing Owls are opportunistic feeders, consuming a diet that includes arthropods, small mammals, and birds, and occasionally amphibians and reptiles. Urbanization has greatly reduced the amount of suitable habitat for this species. Other contributions to the decline of this species include the poisoning of squirrels and prairie dogs, and collisions with automobiles. A survey effort carried out between 1991 and 1993 indicated that major population densities remain in the Central and Imperial valleys, where this species is a year-round resident in Imperial County.

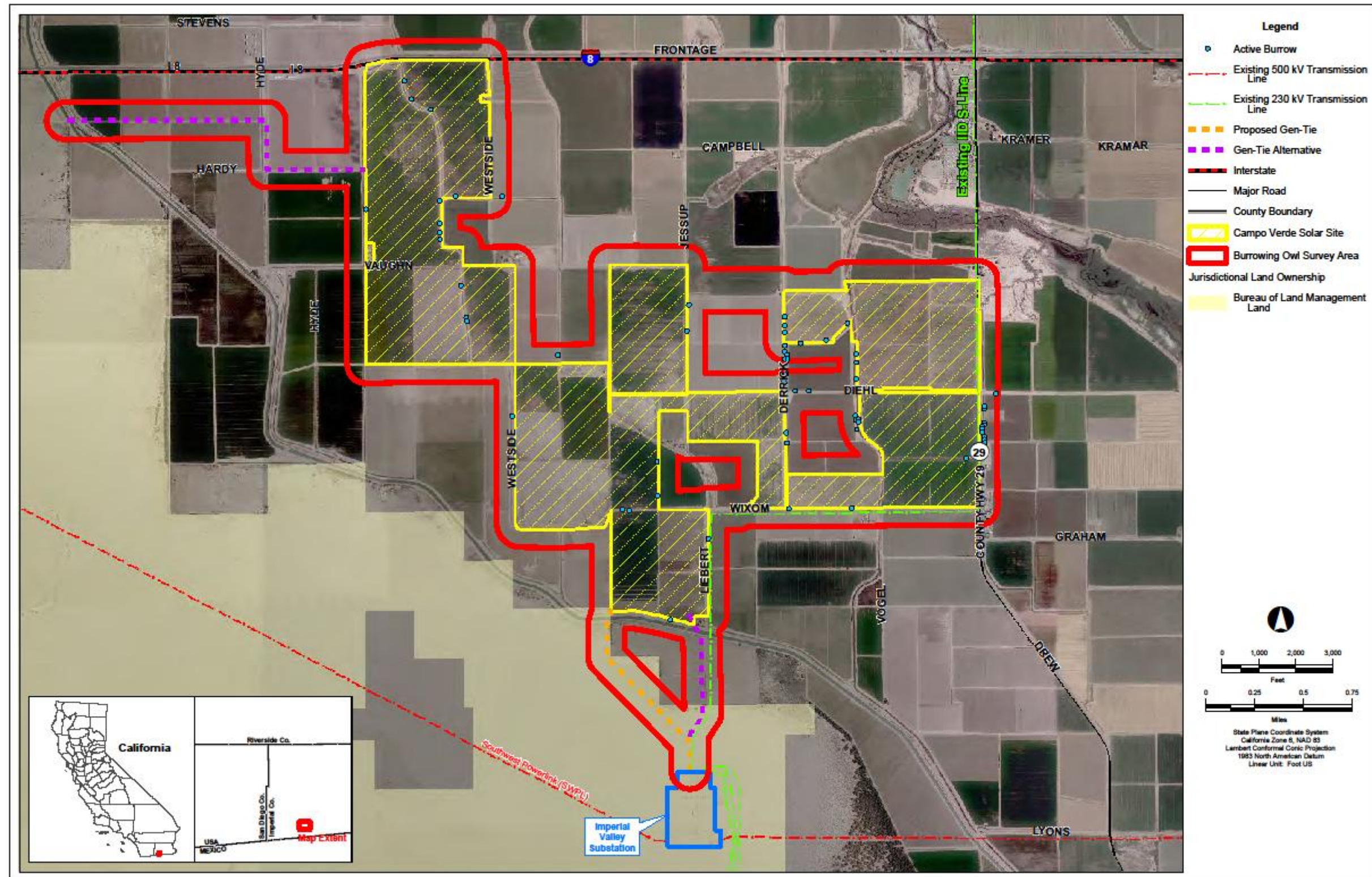
Habitat. The Burrowing Owl is primarily restricted to the western United States and Mexico. Habitat for the Burrowing Owl includes dry, open, short-grass areas often associated with burrowing mammals. In Imperial County it can be found in desert scrub, grassland, and agricultural areas, where it digs its own or occupies existing burrows.

Occurrence. During focused burrowing owl surveys several active Burrowing Owl burrows were observed within the survey area, primarily associated with berms and ditches lining the active agricultural fields. These surveys identified 565 active burrows, all of which are on private land, within the survey area and 153776 inactive burrows, 108 of which are on private land and 49 of which are on BLM land. **Figure 4.12-3** shows the location of active burrows in and around the project area.

Mountain Plover

Species Profile. On June 29, 2010, USFWS announced the proposed listing of the Mountain Plover as threatened under the Endangered Species Act (ESA) of 1973, as amended. The proposed rule to list the Mountain Plover as a threatened species was withdrawn by Federal Register dated May 12, 2011, Therefore, ESA Section 7 consultation is no longer required. The Mountain Plover (family Charadriidae) is a small terrestrial shorebird, which averages 8 inches in length. Mountain Plovers are light brown above and white below, and are distinguished from other plovers by the lack of a contrasting dark breast band. Mountain Plovers are migratory, wintering in California, southern Arizona, Texas, and Mexico, and breeding primarily in Colorado and Montana from April through June. Breeding also occurs in Arizona, Utah, Wyoming, Nebraska, Kansas, Oklahoma, Texas, and New Mexico. The Sacramento, San Joaquin, and Imperial valleys of California are thought to support the greatest number of wintering Mountain Plovers.

THIS PAGE INTENTIONALLY LEFT BLANK.



Source: Heritage 2012.

**FIGURE 4.12-3
BURROWING OWL OCCURRENCES**

4.12 BIOLOGICAL RESOURCES

Throughout their range, Mountain Plovers are found within sparsely vegetated areas such as xeric (i.e. dry, with little moisture) shrublands, shortgrass prairie, and barren agricultural fields, but rarely near water. They are a diurnal species, foraging during daylight hours for ants, beetles, and crickets, and grasshoppers with a series of short runs and stops.

Mountain Plovers nest in areas with short vegetation and bare ground, including near livestock watering tanks. Nests are constructed as a depression in the ground and lined with organic debris in areas with at least 30-percent bare ground and with nearby conspicuous objects such as rocks or forb clumps. Vegetation at nest sites is typically less than 4 inches in height and slope is less than 5 percent. Nest sites are typically dominated by needle-and-thread (*Stipa comata*), blue grama (*Bouteloua gracilis*), buffalo grass (*Buchloe dactyloides*), plains prickly pear cactus (*Opuntia polyacantha*), June grass (*Koeleria cristata*), and sagebrush (*Artemisia* sp.). Mountain Plovers have historically nested on black-tailed prairie dog (*Cynomys ludovicianus*) towns. Clutch size ranges from 1 to 4 eggs.

Mountain Plovers use non-breeding (wintering) habitats that are similar to those they use on breeding grounds: heavily grazed pastures, burned fields, fallow fields, and tilled fields. Mountain Plovers were historically associated with kangaroo rat (*Dipodomys*) precincts and California ground squirrel (*Spermophilus beecheyi*) colonies within the Central Valley of California. In California's Imperial Valley, they preferentially use alfalfa fields that have been harvested and grazed by domestic sheep, as well as Bermuda grass fields that have been burned post-harvest.

Mountain Plovers are considered to have been historically common in western and central Kansas; between Fort Supply, Oklahoma, and Dodge City, Kansas; western South Dakota; and they may have bred in northern Mexico. Information from the Breeding Bird Survey and Christmas Bird Count data shows a decline in the Mountain Plover at a rate of 2.7 to 2.8 percent per year from 1966 to 2007, although the data are characterized as having deficiencies.

Threats to the Mountain Plover include loss of habitat due to conversion of grasslands to urban and active agricultural uses in their breeding grounds, prairie dog control, domestic livestock management; human disturbance during the nesting season; grasshopper control measures; use of pesticides; and other land uses throughout their range. Specific conservation issues for the Mountain Plover in the Imperial Valley include the variable nature of agricultural crops; although cultivated fields are abundant in the Central and Imperial Valleys, varying proportions may be suitable in any given year. Economic forces in any given year dictate crop selection and livestock operations, which can positively or negatively affect Mountain Plover habitat.

Because Mountain Plovers are relatively tolerant of disturbance, human intrusion and disturbance have not been identified as major winter conservation threats, although response varies for individual birds. Mountain Plovers have been described as extremely tolerant of machinery, including off-road vehicles, tractors, and military aircraft. Plovers will quickly leave roost areas when approached by walking humans.

Critical Habitat. No critical habitat has been designated for the Mountain Plover, and none is proposed.

Occurrence. Mountain Plovers are known to over-winter in the Imperial Valley, foraging within the large agricultural complex that surrounds El Centro and spans from Mexico to the Salton Sea. In 2009, the Imperial County Agricultural Crop and Livestock Report identified approximately 353,128 acres of field crops to be grown within this large agricultural complex, including primarily alfalfa hay, Bermuda grass hay, Kleingrass hay, pastured crops, Sudan grass hay, and wheat. An additional 62,237 acres of primarily alfalfa and Bermuda grass were grown as seed crops, totaling over 415,365 acres of alfalfa and grass crops. Additional grass crop fields are present south of the border in Mexico. As discussed previously, Mountain Plovers forage in the fields at various stages of the crop rotation, including when soils are

4.12 BIOLOGICAL RESOURCES

freshly tilled prior to planting; when the crops are young and vegetative growth is still under 25 centimeters in height; after the crops have been harvested, and short stubble is present; and after the fields have been burned to prepare them for the next crop.

A survey conducted in 1999 by the Point Reyes Bird Observatory catalogued the avifauna (i.e. birds of a particular region or habitat) using the Salton Sea and surrounding agricultural complex. The survey counted approximately 2,486 Mountain Plovers in February, 2,790 in November, and 3,758 in December in the Imperial Valley in 1999. The mean number for these three surveys represents about 30 to 38 percent of the species' estimated population of 8,000 to 10,000 individuals. On prior surveys across the California wintering range, 2,072 Mountain Plovers were recorded in the Imperial Valley in 1994, and 755 Mountain Plovers were recorded in 1998. This represented 61 and 35 percent of the totals of 3,390 and 2,179 individuals found statewide, respectively.

The higher totals in the Imperial Valley in 1999 are thought to reflect an increase in observer coverage over prior years rather than a population increase. Plovers were distributed widely over the Imperial Valley with no consistent areas of concentration in 1999, presumably reflecting the shifting availability of suitable fields with the temporal and spatial variation in cultivation practices. Concentrations of Mountain Plovers in relatively few sites in February 1999 appeared to reflect a preference by plovers for burned fields during that season. The survey shows flocks foraging throughout the agricultural complex during the winter, including several flocks approximately within the study area ranging in size from 1 to 250 individuals.

A more recent survey, coordinated by the Natural History Museum of Los Angeles County (NHMLAC), was conducted throughout the Imperial Valley on January 21 to 23, 2011. This survey recorded 877 Mountain Plovers within approximately 20 percent of the 23 search areas; no Mountain Plovers were detected south of Interstate 8. This survey shows a marked decline in population numbers from previous surveys coordinated by the NHMLAC in 2007 (which yielded 4,687 birds within 86 percent of areas surveyed), and 2008 (which yielded 2,955 birds within 74 percent of the search areas).

This decline in population numbers does not appear to relate directly to the amount of foraging habitat available in the Imperial Valley. The acreage of agricultural fields fluctuated by tens of thousands of acres between 2005 and 2009, but the fluctuations in acreage remained within ± 15 percent of the average acreage every year (Table 4.12-5). The population numbers of Mountain Plover decreased from 2007 to 2008, while the acreage of field crops (foraging habitat) increased from 2007 to 2008.

**TABLE 4.12-5
AGRICULTURAL CROP HISTORY FOR 2005-2009 IN THE IMPERIAL VALLEY**

Year	Field Crop (acres)	Seed Crop (acres)	Total (Acres)	Estimated Habitat During Winter Months (50% of Total)	Variation From Prior Year	Variation From Average
2009	353,128	62,237	415,365	207,683	(30,759)	7,279
2008	412,335	64,547	476,882	238,441	31,583	23,480
2007	352,156	61,561	413,717	206,859	(11,179)	8,103
2006	361,383	74,691	436,074	218,037	14,249	3,076
2005	351,174	55,711	407,577	203,789	---	11,173
Average	366,174	63,749	429,923	214,962	---	10,622

Source: Imperial County (2006-2010) in *Heritage*, 2012.

Notes: Variation in acres of estimated foraging habitat varies year to year by 10,000 to 30,000 acres.

Total estimated foraging habitat has been relatively stable or increasing from 2005-2010.

As the crops and rotation schedules on any given field often differ from year to year, the amount of foraging habitat available to Mountain Plovers also differs from year to year and throughout the year. Given the constraints of available crop rotation history, information provided by landowners, and examination of the current conditions of the fields, a conservative approach was taken to estimating potential available habitat within the proposed solar generation facility site. Assuming that any given crop/field is suitable as foraging habitat for 50 percent of the wintering months of November through February (either providing habitat after being planted until it grows over 9.84 inches, or after the crops have been harvested and/or burned mid-winter in preparation for a spring crop) it is estimated that approximately 3,807 of the 4,268 acres would be available as moderate to highly suitable foraging habitat within the proposed survey area at any given time during winter. This assumes the current crop types (alfalfa, wheat, and Bermuda grass).

On January 18, 2011, USFWS provided the Interim-Survey Guidance for Wintering Mountain Plover (*Charadrius montanus*) in the Imperial Valley. This document provides guidance on conducting presence/absence surveys and determining winter population numbers for Mountain Plover. Surveys were conducted at two nearby solar projects: Centinela Solar Energy Project (located approximately 3.2 miles to the southeast) and the ISEC South project (located approximately 5.3 miles to the southeast). No Mountain Plovers were detected during surveys of these nearby projects. Surveys of the project site were conducted in February, 2012. Mountain plovers were observed on multiple occasions during field surveys for the proposed project.

California Leaf-nosed Bat (*Macrotus californicus*)

Species. The California leaf-nosed bat is a Species of Special Concern and a BLM sensitive species. This bat is found primarily in desert areas of the southwestern United States, and ranges through Imperial County and the eastern parts of Riverside and San Diego Counties in California.

Habitat. The California leaf-nosed bat is commonly found in desert habitats that include riparian, wash, scrub, succulent scrub, alkali scrub, and palm oasis. The species is non-migratory and active year-round, requiring rocky, rugged terrain, caves, or mine shafts for roosting. These gregarious bats have been observed in groups of up to 500, with both sexes roosting together during the non-breeding season and separately during spring and summer. It forages over flats and washes within one mile of its roost, and is a "gleaning" insectivore which captures prey such as crickets, grasshoppers, beetles, and sphinx moths straight from the ground or foliage rather than in flight. It typically hunts within a few feet of the ground using its superior eyesight to search for insects. Population declines are generally attributable to loss of roost sites resulting from human intrusion and physical alteration.

Occurrence. The thickets, agricultural fields and irrigation channels within the survey area offer foraging opportunities for this species. The nearest reported location for the California leaf-nosed bat is approximately 22 miles northwest of the proposed project. No known roosts occur in the survey area, and there is no suitable roosting habitat within or near the survey area.

Pallid Bat (*Antrozous pallidus*)

Species. The Pallid bat is a Species of Special Concern and a BLM sensitive species. It is a locally common yearlong resident of low elevations throughout most of California.

Habitat. This bat occupies a variety of habitats including grasslands, shrublands, woodlands, and forests at elevations ranging from sea level up through mixed conifer forests. The species occurs most commonly in open, dry habitats and prefers rocky areas for roosting. Pallid bats are social, commonly roosting in multi-species groups of 20 or more. The day roosts, such as caves, crevices, and mines, must

4.12 BIOLOGICAL RESOURCES

protect the bats from high temperatures. The bats forage low over open ground, and consume large, hard-shelled prey items such as beetles, grasshoppers, cicadas, spiders, scorpions, and Jerusalem crickets. Pallid bats are very sensitive to disturbance at the roosting sites as these roosts are crucial for metabolic economy and juvenile development. Population declines are generally attributable to loss of roost sites resulting from human intrusion and physical alteration.

Occurrence. The entire survey area offers foraging opportunities for this species. The nearest reported location for the pallid bat is approximately 22 miles west of the proposed project. Roosts are not known to occur in the survey area, and there is no suitable roosting habitat within or near the survey area.

California Species of Special Concern and Fully Protected Species

Three species that are classified as CDFG Species of Special Concern were observed within the survey area or were observed during surveys for nearby projects; Loggerhead Shrike, Crissal Thrasher (*Toxostoma crissale*), and LeConte's Thrasher (*T. lecontei lecontei*). Golden Eagle (*Aquila chrysaetos*), a CDFG Fully Protected Species, and protected under the Bald and Golden Eagle Protection Act, MBTA, and Fish & Game Code Sections 3503, 3503.5, and 3513, was also observed near the project area. The following discussions evaluate the potential for occurrence of California Species of Special Concern and Fully Protected Species in both the private land portion of the survey area as well as the gen-tie survey area.

Loggerhead Shrike (*Lanius ludovicianus*)

Species. The Loggerhead Shrike is a CDFG Species of Special Concern and is a year-round resident in Imperial County.

Habitat. The Loggerhead Shrike inhabits most of the continental United States and Mexico and is a year-round resident of southern California. The Loggerhead Shrike prefers open habitat with perches for hunting and fairly dense shrubs for nesting. In southern California, Loggerhead Shrikes inhabit grasslands, agricultural fields, chaparral, and desert scrub. Their breeding season is from March to August. Loggerhead Shrikes are highly territorial and usually live in pairs in permanent territories. Loggerhead Shrikes feed on small reptiles, mammals, amphibians, and insects that they often impale on sticks or thorns before eating. Loggerhead Shrike populations are declining, likely due to urbanization and loss of habitat and, to a lesser degree, pesticide use.

Occurrence. Loggerhead Shrikes were observed regularly within the private land portions of the survey area. The agricultural habitats associated with the solar generation facility site provide suitable foraging habitat for this species. No Loggerhead Shrike nests were identified, though the species may nest in mesquite or tamarisk habitats in the vicinity of the private land portions of the survey area.

Crissal Thrasher (*Toxostoma crissale*)

Species. The Crissal Thrasher is a CDFG Species of Special Concern and is a year-round resident in Imperial County.

Habitat. A resident of southeastern California deserts, it is still fairly common in Colorado River Valley but local and uncommon elsewhere. This species occupies dense thickets of shrubs or low trees in desert riparian and desert wash habitats. In eastern Mojave Desert of San Bernardino and southeastern Inyo counties, it also occurs in dense sagebrush and other shrubs in washes within juniper and pinyon-juniper habitats, up to 1,800 meters (5,900 feet). It is also a resident in the Imperial, Coachella, and Borrego valleys, but numbers have declined markedly in recent decades.

4.12 BIOLOGICAL RESOURCES

This species forages mostly on the ground, especially between and under shrubs. It uses its bill to dig in friable soil and to probe in litter. Its diet is poorly known, but includes insects, other invertebrates, berries, and other small fruits, seeds, and occasionally small lizards. Breeding season for the Crissal Thrasher lasts from February into June with a peak in March and April.

The Crissal Thrasher's numbers have been reduced greatly by removal of mesquite brushland for agricultural development and by introduction of tamarisk. Off-road vehicle activity also may also degrade habitat and disturb thrashers.

Occurrence. This species has been observed within mesquite thickets associated with nearby projects. The active agricultural areas within the private land portions of the survey area do not support suitable nesting or foraging habitat for this species due to the lack of suitable vegetation and the lack of loose, friable soils for foraging. Crissal Thrashers were not observed within the survey area.

Le Conte's Thrasher (*Toxostoma lecontei lecontei*)

Species. The Le Conte's Thrasher is a CDFG Species of Special Concern and a year-round resident in Imperial County.

Habitat. Le Conte's Thrasher is an uncommon to rare, local resident in southern California deserts from southern Mono County south to the Mexican border, and in western and southern San Joaquin Valley. It occurs primarily in open desert wash, desert scrub, alkali desert scrub, and desert succulent shrub habitats. Le Conte's Thrasher may also occur in Joshua tree woodlands with scattered shrubs.

This species feeds on a variety of insects and other terrestrial arthropods; occasionally on seeds, small lizards, and other small vertebrates. It primarily forages on ground by probing and digging in soil and litter with its bill. The Le Conte's Thrasher is a year-round, non-migratory species that breeds from late January into early June, with a peak from mid-March to mid-April.

Occurrence. This species was observed within desert wash vegetation associated with a nearby project. The active agricultural areas within the private land portions of the survey area do not support suitable nesting or foraging habitat for this species due to the lack of suitable vegetation and the lack of loose, friable soils for foraging. Le Conte's Thrashers were not observed within the survey area.

Golden Eagle (*Aquila chrysaetos*)

Species. This eagle occurs throughout the United States and is a rare resident in San Diego County and Imperial Counties.

Habitat. Golden Eagles nest on cliffs of all heights and in large trees in open areas, rugged, open habitats with canyons and escarpments are used most frequently for nesting. Alternative nest sites are maintained, and old nests are reused. Golden Eagles build large platform nests, often 3 meters (approximately 10 feet) across and 1 meter (approximately 3 feet) high, of sticks, twigs, and greenery.

This species forages over large areas of grassland, desert, and open chaparral or sage scrub where they primarily prey upon rabbits, ground squirrels and prairie dogs. Golden Eagles forage close to and far from their nests, i.e. < 6 kilometers from the center of their territories, but have been observed to move 9 kilometers (approximately 5.5 miles) from the center of their territories in favorable habitat. These distances may be greater in xeric habitats.

Occurrence. In San Diego County, Golden Eagles have been documented to be on the decline, which may represent regional trends. Golden Eagles are infrequently sited foraging over agricultural lands in the Imperial Valley in Imperial County. A Golden Eagle was observed foraging over the Mount Signal

4.12 BIOLOGICAL RESOURCES

Drain and adjacent agricultural fields during surveys associated with a nearby project, approximately 4.5 miles southeast of the Imperial Valley Substation. No previous records of this species were identified within the project vicinity. There is natural and manmade nesting habitat for Golden Eagle in the regional vicinity (mountains to the northwest and south in Mexico). The solar generation facility site itself provides low quality foraging habitat for the species.

Formal eagle surveys were not identified by the agencies as necessary for this project. Instead, for the purposes of this and other analyses, occasional eagle foraging activities are assumed to occur within and around the project area. No suitable nesting habitat is present within the survey area or the immediate vicinity. Therefore, Golden Eagles are not expected to nest within the survey area.

The nearest known Golden Eagle population is approximately 10 miles northwest of the survey area, in the Coyote Mountains. The In-Ko-Pah and Jacumba mountains, approximately 10 miles west of the proposed project, also provide suitable habitat for this species. Due to the distance from known territories, Golden Eagles are not expected to forage within or adjacent to the survey area. Mt. Signal, approximately 5.5 miles south of the project area, across the U.S.-Mexico border, may support suitable nesting habitat, although data for this area were not identified during the literature search. Individuals nesting in or around Mt. Signal could potentially use the survey area and surrounding vicinity for foraging activities.

Other Species

The following species are not special status species receiving additional legal protection. These species have the potential to occur within the project area

Desert Kit Fox (*Vulpes macrotis*)

Desert kit foxes (*Vulpes macrotis*) are widely distributed in desert scrub habitats in western North America including Sonoran creosote bush scrub. Portions of the survey area are considered potentially suitable habitat for the desert kit fox (agricultural drains). A formal kit fox burrow survey has not been conducted for the project area; potentially suitable burrows for this species may be present within the larger drains, though are most likely to occur in the native desert habitats south of the Westside Main Canal.

American Badger (*Taxidea taxus*)

The American badger is found in open habitats throughout much of western and central North America. Open habitats occupied by this species can include grasslands, shrublands and scrub habitats, including Sonoran creosote bush scrub. A formal American badger burrow survey has not been conducted for the project area; potentially suitable burrows for this species may be present within the larger drains, though are most likely to occur in the native desert habitats south of the Westside Main Canal.

Riparian Habitat or Sensitive Natural Communities

Special status natural communities are those communities “that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects.” There are approximately 20.6 acres of arrow weed thicket (approximately 11.3 acres of which are disturbed) and approximately 1.3 acres of open water with arrow weed thicket within the survey area (refer to **Table 4.12-3**).

There are several riparian habitats associated with the large irrigation drains present throughout the survey area. These communities include common reed marsh, cattail marsh, tamarisk thicket, and disturbed wetland. None of these communities are considered to be special status communities. There

are no other special status communities present within the survey area.

Jurisdictional Waters

A jurisdictional delineation was conducted to determine the extent of ACOE, CDFG, and RWQCB resources within the survey area. The private land survey area for potential jurisdictional waters was comprised of the solar generation facility site. A 200-foot buffer area was surveyed and analyzed for this resource. The delineation results for these surveys are included in Appendix 2 of **Appendix J** of this EIR. The jurisdictional delineation reports were submitted to the ACOE and CDFG in February 2012 for a determination of potential jurisdictional waters by the respective agencies. [The ACOE responded with a Preliminary Jurisdictional Determination \(PJD\) on April 23, 2012 agreeing with the determinations made in the PJD jurisdictional delineation report in Appendix J.](#) ~~The CDFG has given verbal concurrence~~ but no written response has been received to date. Therefore, the following discussion of jurisdictional waters may change pending ongoing consultation with ~~ACOE and~~ CDFG. The potentially jurisdictional ACOE and CDFG waters are shown in Attachment 1 [Figure 7] of **Appendix J** of this EIR.

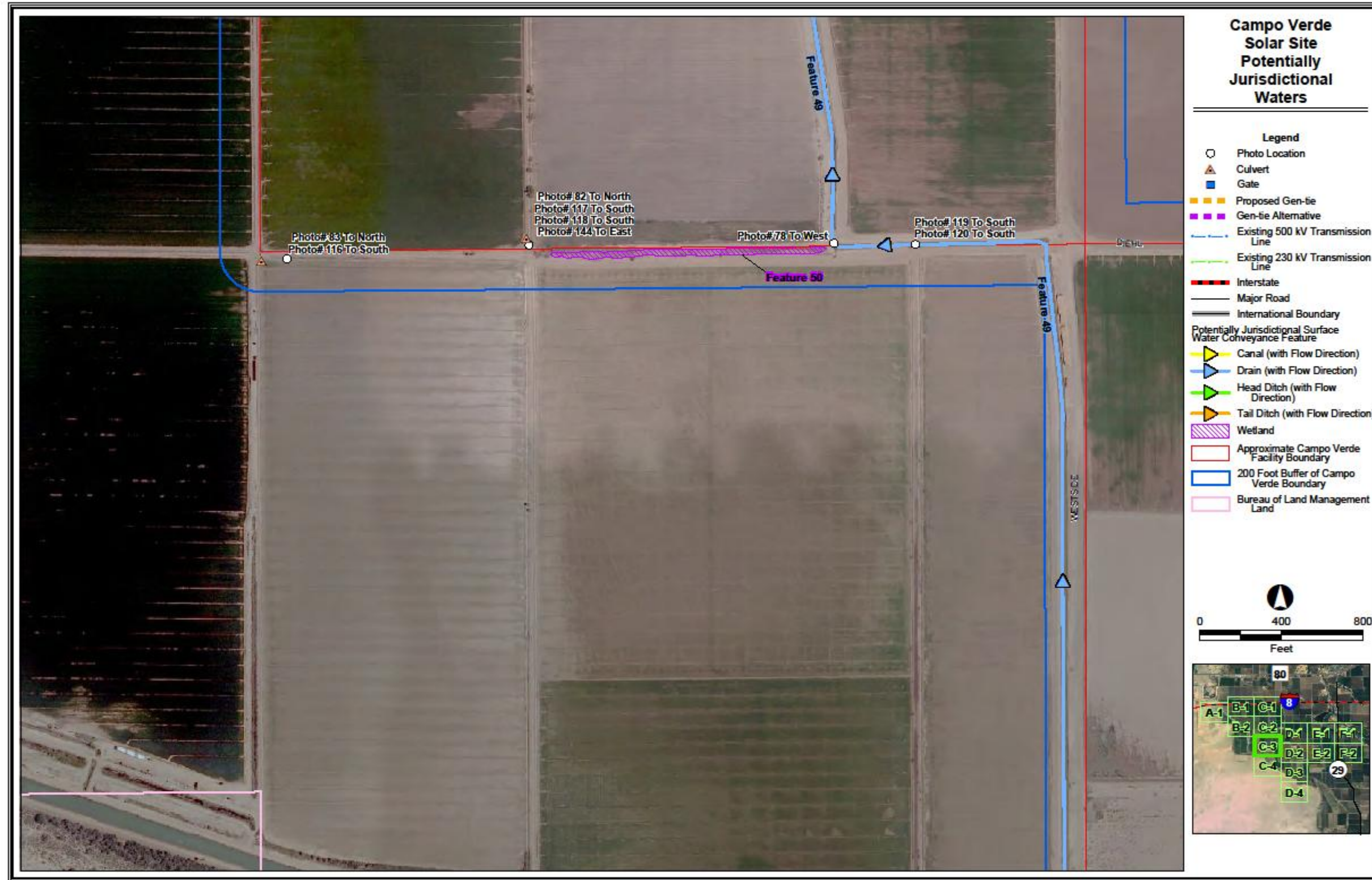
ACOE Jurisdictional Waters

Wetlands

Two ACOE wetland areas were identified within the private land portions of the survey area. The first (Feature 50) is immediately south and outside of the project area boundary, along Diehl Road (**Figure 4.12-4A**). This area is a defunct irrigation drain that receives water from an adjacent drain. The

4.12 BIOLOGICAL RESOURCES

THIS PAGE INTENTIONALLY LEFT BLANK



Source: Heritage 2012.

FIGURE 4.12-4A
POTENTIAL JURISDICTIONAL WATERS

4.12 BIOLOGICAL RESOURCES



Source: Heritage 2012.

FIGURE 4.12-4B
POTENTIAL JURISDICTIONAL WATERS

second (Feature 11A) is located just west of Drew Road in the northeast corner of the project area (**Figure 4.12-4B**). Formal wetland delineations were not performed in these areas. However, based on wetland vegetation (cattail, phragmites, etc.) and wetland hydrology (inundation), the features are assumed to be jurisdictional wetlands. All other ACOE jurisdictional areas delineated are preliminarily considered non-wetland waters of the U.S. comprised of irrigation canals and drains.

Non-wetland Waters of the U.S.

Non-wetland waters within the private land portion of the survey area are primarily associated with the larger irrigation canals and drains. A total of 18 features were identified as potentially federally jurisdictional (Attachment 1 [Figure 7] of **Appendix J** of this EIR), while 98 features were identified as not federally jurisdictional. All of the features on the solar generation facility site are man-made features constructed wholly within uplands. These features are used for agricultural irrigation (supply and drainage). Typically the head ditches used to irrigate individual fields, as well as the tail ditches used to drain individual fields, convey water during periodic and infrequent irrigation events. Head ditches are typically dry and would not meet the definition of a Relatively Permanent Water (RPW) and, thus, would not be jurisdictional. The larger, IID-maintained, concrete-lined canals and lateral canals convey water for most of the year and would likely be considered federally jurisdictional. Similarly, the larger IID-maintained drains that collect tail water from multiple fields convey water at all times of the year and would likely be considered federally jurisdictional. More detailed information including location, name of the feature, width of the ordinary high water mark, and a detailed mapbook is included in Appendix 2 – Jurisdictional Waters Report of **Appendix J** of this EIR.

CDFG Jurisdictional Waters

CDFG generally takes jurisdiction of all stream features including drains and canals. The CDFG jurisdiction extends from the top of bank to the opposite top of bank on these features or the limits of riparian vegetation if this vegetation extends beyond the top of the banks. Wetlands need to only fulfill one of the three aforementioned ACOE (hydrology, hydric soils, wetland vegetation) criteria to be considered CDFG jurisdictional wetlands.

Under Section 1600 of the CDFG Code, CDFG jurisdiction includes "...bed, channel or bank of any river, stream or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit..." Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation or stream dependent terrestrial benefit.

Generally speaking, most canals, head and tail ditches do not support riparian habitat. Larger drains, however, typically do support some riparian habitat and are often considered state jurisdictional. Drainage features were considered potentially jurisdictional if they exhibited naturally occurring bed and bank, riparian vegetation potentially providing wildlife habitat, and/or evidence of regular flow. A total of 23 features were identified as potentially state jurisdictional (Attachment 1 [Figure 7] of **Appendix J** of this EIR). Features occurring within the solar generation facility site that did not satisfy these criteria were very small tail ditches and concrete lined head ditches. The tail ditches were frequently isolated within individual fields, did not support distinct bed and bank, riparian vegetation or evidence of regular flow, or are plowed under and re-created each time the field is replanted. The head ditches convey water during periodic and infrequent irrigation events and are typically dry. The larger, IID-maintained, concrete-lined canals and lateral canals used to convey water to multiple fields convey water for most of the year, sometimes support riparian vegetation and/or fisheries, and would likely be considered CDFG

4.12 BIOLOGICAL RESOURCES

jurisdictional. Similarly, the larger IID-maintained drains that collect tail water from multiple fields convey water for most of the year and would likely be considered CDFG jurisdictional.

More detailed information including location, name of the feature, width of bank to bank, and a detailed mapbook is included in Appendix 2 – Jurisdictional Waters Report of **Appendix J** of this EIR.

Habitat Connectivity and Wildlife Corridors

Wildlife movement corridors and habitat linkages are areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Corridors are generally local pathways connecting short distances usually covering one or two main types of vegetation communities. Linkages are landscape level connections between very large core areas and generally span several thousand feet and cover multiple habitat types. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors and linkages for wildlife travel. The habitat connectivity provided by corridors and linkages is important in providing access to mates, food, and water, allowing the dispersal of individuals away from high-density areas, and facilitating the exchange of genetic traits between populations.

Both avian and terrestrial wildlife species are able to move freely throughout the survey area and are not restricted to a specific corridor or linkage.

B. GEN-TIE

The following sections describe the existing conditions on lands associated with the proposed gen-tie and associated buffer areas. This area is referred to as the “gen-tie survey area”.

Soils and Topography

The gen-tie survey area is located in the Yuha Basin of the Colorado Desert between agricultural lands to the north and east and native desert to the south and west. No alluvial fans or small washes are present in the gen-tie corridor. The area is relatively flat, with sparse vegetation and sand that ranges from soft and rolling to flat and compact. The gen-tie survey area (including the survey areas for the Gen-Tie Alternatives discussed in Section 6.0) is comprised of native desert, active agricultural fields, and fallow agricultural fields.

There are ten major soil types found within the survey area, including Badland, Glenbar, Holtville, Imperial-Glenbar, Indio-Vint, Meloland-Holtville, Indio, Vint, Meloland, Rositas soils. These soils are primarily found on flat basin floors and are formed from clay, silt, and sandy alluvium materials.

The elevation trends downward from the south to the north. Soils are very permeable and there are no drainages or washes present in the gen-tie corridor on BLM lands. Presumably, most surface water is absorbed into the ground or sheet flows to the Westside Main Canal just north of the BLM lands.

General Vegetation

~~Thirteen-Ten~~ vegetation communities were mapped within the gen-tie survey area. The following sections describe existing vegetation in the gen-tie survey area. Communities that are similar in composition were lumped together in the discussion.

Table 4.12-6 shows the ten vegetation communities that occur within the survey area for the proposed gen-tie. The vegetation communities are mapped in Attachment 1 [Figure 6] of **Appendix J** of this EIR.

**TABLE 4.12-6
VEGETATION COMMUNITIES/LAND COVER TYPES
PROPOSED GEN-TIE**

Vegetation Community	BLM Land (Acres)	Private Land (Acres)
Active Agriculture (AG-A)	1.49	2.22
Fallow Agriculture (AG-F)	0.79	0.96
Arrow Weed Thicket (AS)	0.41	0.44
Arrow Weed Thicket - Disturbed (AS-D)	0.21	0.50
Athel Tamarisk Type Woodland (AW)	0.42	0.52
Creosote Bush - White Bursage Scrub (CBS)	35.14	0.00
Creosote Bush - White Bursage Scrub - Disturbed (CBS-D)	1.82	2.33
Developed (DEV)	2.19	0.00
Open Water with Arrow Weed Thicket (OW)	0.71	0.44
Stabilized Desert Dunes - Disturbed (SDD-D)	22.28	0.00
Total	65.46	7.41

Source: Heritage, 2012.

Creosote Bush-White Bursage Scrub (CBS and CBS-D)

Creosote bush–white bursage scrub (including the disturbed component) is the major component of the survey area. This community is dominated by creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*) with relatively sparse vegetative cover and flat topography. Four-wing saltbush (*Atriplex canescens*) and plicate tiquilia (*Tiquilia palmeri*) are present as sporadic minor associates. This community occurs in minor washes and rills, alluvial fans, bajadas, upland slopes, usually on well-drained alluvial, colluvial and sandy soils. It covers approximately 67% of the central Mojave Desert and 70% of the Colorado and Sonoran deserts in California. Plantain (*Plantago* sp.), narrow-leaf cryptantha (*Cryptantha angustifolia*), basket evening-primrose (*Oenothera deltoides*) and narrow-leaf oligomeris (*Oligomeris linifolia*) are very common in the herbaceous layer. Other ephemeral species expected to occur within this community include: short-ray desert marigold (*Baileya pauciradiata*), desert dandelion (*Malacothrix glabrata*), spectacle-pod (*Dithyrea californica*), onyx flower (*Achyronychia cooperi*) and bajada lupine (*Lupinus cocinnus*). Areas of high human disturbance are classified as disturbed creosote bush-white bursage scrub.

Agriculture (Ag) and Fallow Agriculture (AG-F)

Active agricultural fields primarily consist of alfalfa and Bermuda grass Agricultural weeds such as five-hook bassia are present along the edge of the fields.

Fallow agricultural fields are being invaded by non-native weeds such as five-hook bassia, tamarisk, Saharan mustard (*Brassica tournefortii*), and the native shrub quailbush.

Arrow Weed Thicket (AS and AS-D)

This species has been previously described under subsection 4.12.2 Environmental Setting, “A. Solar Generation Facility Site.” Refer to this discussion for additional details on Arrow Weed Thicket. Within the gen-tie survey area, this community occurs along irrigation drains and canals. Areas where the vegetation has not fully recovered from the previous clearing are classified as disturbed arrow weed thicket. Most of these areas are regularly cleared of this vegetation and they are constantly changing.

4.12 BIOLOGICAL RESOURCES

Stabilized Desert Dunes – Disturbed (SDD-D)

Stabilized desert dunes in the survey area are the result of several types of windbreaks that have been created to prevent sand from blowing into the agricultural fields. These windbreaks include plantings of athel (*Tamarix aphylla*), soil berms and hay bale/soil berms. These berms have created stabilized sand dunes primarily on the windward sides of these features. The vegetation in these areas is dominated by creosote bush, four-wing saltbush and three-fork ephedra (*Ephedra trifurca*). Ephemeral species expected to occur here are the same as those described previously for the creosote bush scrub, especially basket evening-primrose (*Oenothera deltoides*), dicoria (*Dicoria canescens*) and parch locoweed (*Astragalus aridus*) and desert locoweed (*Astragalus didymocarpus*). Because these dunes are an artifact of human creation and the foreign materials that are a part of this dune system, these have been classified as disturbed dunes.

Athel Tamarisk Type Woodland (AW)

Individuals of athel (*Tamarix aphylla*) have been planted as a windscreen along the edges of agricultural fields. This semi-evergreen or evergreen tree reaches a height of 12 meters (approximately 39 feet). The herbaceous layer in these communities is generally sparse.

Tamarisk Thicket (TS)

This species has been previously described under subsection 4.12.2 Environmental Setting, “A. Solar Generation Facility Site.” Refer to this discussion for additional details on Tamarisk Thicket. Within the survey area, this community occurs within irrigation drains and canals, generally along the channel bottoms and lower slopes or within fallow fields with a high water table. Arrow weed (*Pluchea serricea*), cattails (*Typha* sp.), and common reed (*Phragmites australis*) are major associates to co-dominants in some areas.

Developed/Disturbed (DEV/DH)

Developed/disturbed land occurs within the survey area. These areas contain little to no vegetation. Disturbed areas include areas adjacent to the Imperial Valley Substation on BLM land and one residence on private land within the buffer. These areas are usually kept bare of vegetation by constant vehicle traffic but may support non-native weed species.

Open Water with Arrow Weed Thicket (OW)

This habitat is restricted to the Westside Main Canal. Arrow weed thicket is restricted to a narrow band along the banks of this canal. Arrow weed is the dominant species and in many areas the only species along the banks of this canal.

Common Reed Marsh – Disturbed (CRM-D)

This species has been previously described under subsection 4.12.2 Environmental Setting, “A. Solar Generation Facility Site.” Refer to this discussion for additional details on Common-Reed Marsh - Disturbed. Within the gen-tie survey area, these marshes occur along the channel bottoms of the canals and drains with a more permanent water source. Cattails (*Typha latifolia*), tamarisk (*Tamarix ramosissima*), and arrow weed (*Pluchea serricea*) are co-dominants or major associates. In many instances these earthen irrigation canals and drains are routinely cleared of vegetation to facilitate hydrologic flow. Areas where the vegetation has not fully recovered from the previous clearing are classified as disturbed common reed marsh.

Disturbed Wetland (DW)

This species has been previously described under subsection 4.12.2 Environmental Setting, “A. Solar Generation Facility Site.” Refer to this discussion for additional details on Disturbed Wetland. Disturbed wetland included earthen canals and drains that are regularly cleared of vegetation usually support herbaceous non-native species; these areas have been mapped as disturbed wetlands.

Special Status Plant Species

Table 4.12-7 lists all the Special Status Plants that are known from the vicinity of the Campo Verde Project area. Surveys of the BLM lands were conducted in October 2011 and March 2012. The fall surveys were conducted to capture fall-blooming ephemeral species and woody perennial species (trees and shrubs), which may not bloom in the fall but would have been observable during this survey window. The March 2012 surveys were conducted to capture early spring ephemeral blooming species as well as the aforementioned woody perennial species, many of which bloom during the spring. Many of the special status species have a long blooming period that extends from the fall through the spring encompassing both the fall and spring survey periods and would have been detectable, if present during both of these surveys. No Special Status Plants were observed on the BLM lands during either the October or March surveys. This area of Imperial County experienced very little summer/fall rainfall. As a result, there was no evidence that any fall blooming, ephemeral species germinated during the fall 2011. Because of the low amount of rainfall, fall blooming Special Status Plants that could be present onsite may not have been observable. Despite this, approximately one-half of the Campo Verde Project area on the BLM lands was surveyed in November 2010 for the Centinela Solar Energy Project (Heritage 2011); no Special Status Species were observed in this area at that time and fall blooming species were present in this area in 2010 either.

Though other portions of the Sonoran Desert had reported low representation of spring blooming ephemerals during spring of 2012, the BLM lands within the Campo Verde Project area exhibited a good representation of the very common spring blooming annuals and herbaceous perennials in early March. High cover of plantain, narrow-leaf cryptantha, as well as lesser coverage of desert lily, basket evening-primrose (*Oenothera deltoides* ssp. *deltoides*) desert sunflower (*Geraea canescens*), and desert dandelion (*Malacothrix glabrata*) indicate that rainfall was sufficient for germination of these early ephemeral species and suggests that conditions were sufficient for germination of early-spring ephemeral special status plant species if present. Most of the Special Status Species assessed in this report are either not expected to occur or would have a low potential to occur, within the BLM lands. The majority of the species are not expected to occur because of lack of appropriate habitat, or lack of known or historical populations from the vicinity. Species with a low potential for occurrence have suitable habitat present within the Campo Verde Project area on BLM lands, but due to the relatively small amount of habitat, the proximity to agricultural fields, the Imperial Valley substation, and several existing transmission lines, their potential for occurrence is much less likely.

Fall Blooming and/or Woody Perennial Special Status Plants

~~Most of the Special Status Species that are known from the vicinity of the project area are either not expected to occur or would have a low potential to occur within the BLM lands. The majority of the species are not expected to occur because of lack of appropriate habitat, or lack of known or historical populations from the vicinity. Species with a low potential for occurrence have suitable habitat present within the survey areas on BLM lands, but due to the relatively small amount of habitat, the proximity to agricultural fields, the Imperial Valley substation, and several existing transmission lines, their potential for occurrence is much less likely.~~

4.12 BIOLOGICAL RESOURCES

~~Table 4.12-7 lists all the fall blooming Special Status Plants that are known in the vicinity of the project area or the Imperial Valley. No Special Status Plants were observed during this survey. This area of Imperial County experienced very little summer/fall rainfall. As a result, there was no evidence that any fall blooming, ephemeral species germinated during the fall 2011. Because of the low amount of rainfall, fall blooming Special Status Plants that could be present onsite may not have been observable.~~

~~Approximately one half of the gen-tie survey area on BLM lands was surveyed in November 2010 by Heritage Environmental Consultants, Inc., for the Centinela Solar Energy Project. No Special Status Species were observed in this area during the survey even though fall blooming species were present in this area in 2010.~~

~~A total of 8 fall-blooming Special Status Species were assessed for their potential for occurrence in the gen-tie survey area (Table 4.12-7) including: Abram's spurge (*Chamaesyce abramsiana*) (Priority Plant Species), California ditaxis (*Ditaxis serrata* var. *californica*) (Priority Plant Species), glandular ditaxis (*Ditaxis claryana*) (Priority Plant Species), Algodones Dunes sunflower (*Helianthus niveus* ss. *tephrodes*) (State Endangered), pink velvet mallow (*Horsfordia alata*) (Priority Plant Species), Newberry's velvet mallow (*Horsfordia newberryi*) (Priority Plant Species), California satintail (*Imperata brevifolia*) (Priority Plant Species) and dwarf germander (*Teucrium cubense* ssp. *depressum*) (Priority Plant Species). These species are discussed in detail following Table 4.12-7.~~

**TABLE 4.12-7:
SPECIAL STATUS PLANT SPECIES OCCURRING OR POTENTIALLY OCCURRING WITHIN THE CAMPO VERDE
FACILITY AND GEN-TIE LINE CORRIDORS**

Species Name	Sensitivity Status	Potential for Occurrence
<u>Pygmy lotus (<i>Acmispon haydonii</i>)</u>	<u>CNPS Rare Plant Rank 1B.3</u>	<u>Occurs in rocky Sonoran Desert scrub. Herbaceous perennial; blooms January – June. Known from In-Ko-Pah Gorge quad (CNPS 2011). Suitable habitat (i.e., rocky/gravelly desert scrub) absent. Site outside of current known range of species and well below reported lower elevational range (520m) (CNPS 2011). This species was not observed during the March 2012 surveys which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Chaparral sand verbena (<i>Abronia villosa</i> var. <i>aurita</i>)</u>	<u>BLM: Sensitive</u> <u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 1B.1</u>	<u>Occurs in sandy floodplains or flats in generally, inland arid areas of sage scrub and open chaparral and desert dunes (Reiser 2001; CNPS 2011). Annual; blooms January – September (CNPS 2011). Known from Calexico, Seeley, and Superstition Mountains quads (CNPS, 2010). Marginal dune habitat present within native habitats in Campo Verde project area. This species was not observed during the March 2012 surveys which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Watson's amaranth (<i>Amaranthus watsonii</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 4.3</u>	<u>Occurs in Sonoran Desert Scrub. Annual; blooms August – September. Not observed but survey occurred outside of traditional blooming period. Suitable habitat present within native desert scrub in Campo Verde project area. Known from Calexico and Heber quads (CNPS 2011). Low to moderate potential for occurrence within desert scrub habitats but were not observed during spring or fall surveys.</u>
<u>Salton milk vetch (<i>Astragalus crotalariae</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 4.3</u>	<u>Occurs in sandy or gravelly Sonoran Desert scrub habitat and is known from the Superstition Mountains quad. This herbaceous perennial blooms from January to April (CNPS 2011). Potential habitat present within Campo Verde project area. This species was not observed during</u>

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-7:
SPECIAL STATUS PLANT SPECIES OCCURRING OR POTENTIALLY OCCURRING WITHIN THE CAMPO VERDE
FACILITY AND GEN-TIE LINE CORRIDORS**

Species Name	Sensitivity Status	Potential for Occurrence
		<u>the March 2012 surveys which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Harwood's milk vetch (<i>Astragalus insularis</i> var. <i>harwoodii</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank: 2.2</u>	<u>Occurs in Sonoran Desert scrub with gravelly, sandy washes or dunes (Reiser, 2001). Annual; blooms January-May (CNPS 2011). Known from southwest of Plaster City between S-80 and I-80 (URS 2010). Also known from In-Ko-Pah Gorge and Coyote Wells quads (CNPS 2011). Habitat (sandy dunes) present within native desert scrub in survey. Known from Coyote Wells quad (CNPS 2011). This species was not observed during the March 2012 surveys which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Borrego milk vetch (<i>Astragalus lentiginosus</i> var. <i>borreganus</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 4.3</u>	<u>Occurs in sandy Sonoran Desert scrub habitat and is known from the Shell Reef quad in upper Borrego Valley and from the Algodones Dunes on East Mesa. This herbaceous perennial blooms from February to May (CNPS 2011). Potential habitat present This species was not observed during the March 2012 surveys which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Peirson's milk vetch (<i>Astragalus magdalenae</i> var. <i>peirsonii</i>)</u>	<u>USFWS: Threatened</u> <u>CDFG: Endangered</u> <u>BLM: Sensitive</u> <u>CNPS Rare Plant Rank 1B.2</u>	<u>Occurs in desert dunes habitat, this species is known from fewer than 10 occurrences. Known from Algodones Dunes on East Mesa and upper Borrego Valley. A herbaceous perennial that blooms from December to April (CNPS 2011). Marginal dune habitat present. This species was not observed during the March 2012 surveys which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Desert ayenia (<i>Ayenia compacta</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank: 2.3</u>	<u>Occurs in rocky Sonoran Desert scrub. An herbaceous perennial that blooms from March to April (CNPS 2011). Closest reported populations include Jacumba and Sweeney Pass. This species not expected to occur in the Campo Verde project area due to the lack of suitable habitat, i.e., rocky areas. Known populations are well west of the corridor in the rocky mountains above the Yuha Basin. This species was not observed during the March 2012 surveys which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Little-leaf elephant (<i>Bursera microphylla</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank: 2.3</u>	<u>Occurs in alluvial fan scrub (Reiser 2001) and rocky areas in Sonoran Desert scrub. Deciduous tree; blooms June-July (CNPS 2011). Not observed within Campo Verde project area during survey. Distinctive tree species would have been observed during surveys if present. Nearest location in In-Ko-Pah Gorge, Sweeney Pass and Arroyo Tapiado quads (CNPS, 2011). Alluvial fan scrub habitat and rocky scrub absent in the Campo Verde project area. Closest sites are in rocky desert foothills to west of site. Species is not expected to occur within project area.</u>
<u>Fairy duster (<i>Calliandra eriophylla</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 2.3</u>	<u>Occurs in Sonoran Desert scrub primarily on rocky hillsides and bajadas (Reiser, 2001; CNPS 2011). Deciduous shrub; blooms January – March (CNPS 2011). One CNDDDB occurrence south of the Campo Verde project area which is also likely the Yuha Basin Quad location reported by CNPS</u>

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-7:
SPECIAL STATUS PLANT SPECIES OCCURRING OR POTENTIALLY OCCURRING WITHIN THE CAMPO VERDE
FACILITY AND GEN-TIE LINE CORRIDORS**

Species Name	Sensitivity Status	Potential for Occurrence
		<u>(2011). Most occurrences of this species in East Mesa of Imperial County (CNPS 2011). Not observed during the March 2012 surveys which were conducted during this species traditional flowering period. Not expected to occur due to absence of suitable habitat in Campo Verde project area.</u>
<u>Crucifixion thorn (<i>Castela emoryi</i>)</u>	<u>CDFG: Special Plant CNPS Rare Plant Rank 2.3</u>	<u>Occurs in playas and gravelly areas in Sonoran Desert scrub. Deciduous shrub; blooms April – July (CNPS 2011). Not observed during the surveys. Distinctive shrub species would have been observed if present. Not expected to occur. Suitable habitat (i.e., playas and gravelly areas) absent in Campo Verde project area. Known from Yuha Basin and Coyote Wells quads (CNPS 2011).</u>
<u>Peirson’s pincushion (<i>Chaenactis carphoclinia</i> var. <i>peirsonii</i>)</u>	<u>BLM: Sensitive CDFG: Special Plant CNPS Rare Plant Rank 1B.3</u>	<u>Occurs in sandy Sonoran Desert scrub. Annual; blooms March-April. Known only from the eastern Santa Rosa Mountains with closest reported location from the Borrego Mountain SE quad (CNPS 2011). Suitable habitat present in Campo Verde project area. This species was not observed during the March 2012 surveys which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Abram’s spurge (<i>Chamaesyce abramsiana</i>)</u>	<u>CDFG: Special Plant CNPS Rare Plant Rank 2.2</u>	<u>Occurs in sandy Sonoran Desert scrub. Annual; blooms September – November (CNPS 2011). Suitable habitat present in Campo Verde project area. Historical collections known from Calexico, Heber and Brawley quads (CNPS, 2011). Not observed during focused survey for this species in October 2011 which was conducted during this species’ traditional flowering period. However, late summer and fall rains may have been insufficient for seeds to germinate this year. Low potential to occur in native desert scrub habitats in Campo Verde project area.</u>
<u>Arizona spurge (<i>Chamaesyce arizonica</i>)</u>	<u>CDFG: Special Plant CNPS Rare Plant Rank 2.3</u>	<u>Occurs in sandy Sonoran Desert scrub. Known from the In-Ko-Pah Gorge Quad, this species is undocumented in Imperial County. This herbaceous perennial blooms from March to April (CNPS 2011). Not expected to occur within Campo Verde project area. Though suitable habitat is present, Campo Verde project area is outside of this species current known range. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Flat-seeded spurge (<i>Chamaesyce platysperma</i>)</u>	<u>BLM: Sensitive CDFG: Special Plant CNPS Rare Plant Rank 1B.2</u>	<u>Occurs in desert dunes and sandy Sonoran Desert scrub. Known in California from only four herbarium collections and one collection from Imperial County in 1987 (CNPS 2011). Annual; blooms February – September. Known from Superstition Mountain and Kane Springs quads in Imperial County (CNPS 2011). Not expected to occur within Campo Verde project area. Though marginal suitable habitat for this species exists, species is very rare in Imperial County. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-7:
SPECIAL STATUS PLANT SPECIES OCCURRING OR POTENTIALLY OCCURRING WITHIN THE CAMPO VERDE
FACILITY AND GEN-TIE LINE CORRIDORS**

Species Name	Sensitivity Status	Potential for Occurrence
<u>Sand evening primrose (<i>Chylismia arenaria</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 2.2</u>	<u>Occurs in sandy or rocky Sonoran Desert scrub. This annual/herbaceous perennial blooms from November–May and is reported from the Quartz Peak quad in the Chocolate Mountains (CNPS 2011). Though suitable habitat is present the reported occurrences of this species are distant from the Campo Verde project area. Low potential for occurrence. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Las Animas colubrina (<i>Colubrina californica</i>)</u>	<u>CNPS Rare Plant Rank 2.3</u>	<u>Occurs in Sonoran Desert scrub (CNPS 2001) often localized around springs and mesic rocky canyon bottoms (Reiser 2001). This deciduous shrub blooms from April-June and is reported from Picacho Peak and Quartz Peak in the Chocolate Mountains (CNPS, 2001). Suitable habitat lacking and site is outside known current distribution. Not expected to occur within Campo Verde project area. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.</u>
<u>Spiny abrojo (<i>Condalia globosa</i> var. <i>pubescens</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 4.2</u>	<u>Occurs in Sonoran Desert scrub. This deciduous shrub blooms from March-May. This species is reported from Imperial County but no quad data is available (CNPS 2011). Suitable habitat is present in the Campo Verde project area. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Wiggins croton (<i>Croton wigginsii</i>)</u>	<u>BLM: Sensitive</u> <u>CDFG Rare</u> <u>CNPS Rare Plant Rank 2.2</u>	<u>Occurs in desert dunes and Sonoran Desert scrub. Shrub; blooms March – May. CNPS reports species restricted to Algodones Dunes and all CNPS locations are on the East Mesa (CNPS 2011). Known from near Plaster City between S-80 and I-80 (URS, 2010). Marginal suitable habitat present (i.e. desert dunes), but dunes are result of human creation and site and is outside of species range. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Ribbed cryptantha (<i>Cryptantha costata</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank: 4.3</u>	<u>Occurs in desert sand dunes and sandy desert scrub. Annual; blooms February – May (CNPS 2011). Reiser (2001) reports an old historical collection from Pinto Wash. Marginal suitable habitat within Campo Verde project area. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Wolf's cholla (<i>Cylindropuntia wolfii</i>)</u>	<u>BLM: Sensitive</u> <u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 4.3</u>	<u>Occurs in Sonoran Desert scrub, usually on alluvial fans or rocky slopes (Reiser 2001). Stem succulent that blooms from March-May. Known from San Diego and Imperial counties and Baja, California (CNPS 2011). Known from Pinto Wash south of the IV substation. This species was not observed during the March 2012 surveys, which were conducted during this species traditional flowering period. This species is not expected to occur within Campo Verde project area.</u>
<u>Glandular ditaxis (<i>Ditaxis claryana</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank</u>	<u>Occurs in sandy Sonoran Desert scrub. Herbaceous perennial; blooms October – March. Known from Algodones Dunes. Ogliby and Iris quads are closest reported populations (CNPS 2011). Not observed during the</u>

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-7:
SPECIAL STATUS PLANT SPECIES OCCURRING OR POTENTIALLY OCCURRING WITHIN THE CAMPO VERDE
FACILITY AND GEN-TIE LINE CORRIDORS**

<u>Species Name</u>	<u>Sensitivity Status</u>	<u>Potential for Occurrence</u>
	<u>2.2</u>	<u>October 2011 or the March 2012 surveys were both conducted during this species traditional blooming period. This species is not expected to occur, as Campo Verde project area is outside of known range.</u>
<u>California ditaxis (<i>Ditaxis serrata</i> var. <i>californica</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 3.2</u>	<u>Sonoran Desert scrub. Herbaceous perennial, blooms March-December. Nearest known occurrence Clark Lake Quad in northern Anza Borrego State Park. Most of the other locations reported along the I-10 corridor between Indio and Blythe (CNPS 2011). Not observed during the October 2011 or the March 2012 surveys both of which were conducted during this species traditional flowering period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Rock nettle (<i>Eucnide rupestris</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 2.2</u>	<u>Sonoran Desert scrub. Annual; blooms December – April. Known from Mount Signal and Coyote Wells quads (CNPS 2011). CNDDDB occurrence in Yuha Basin (likely CNPS Coyote Wells quad location). Suitable habitat present in Campo Verde project area. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Utah vine milkweed (<i>Funastrum utahense</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank: 4.2</u>	<u>Occurs in sandy or gravelly Sonoran Desert Scrub. Herbaceous, perennial growing on desert shrubs; blooms April – June (CNPS 2011). Known from southwest of Plaster City between S-80 and I-80 (URS 2010). Suitable habitat present in Campo Verde project area. Known from Yuha Basin south of S80. Low to moderate potential for occurrence. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.</u>
<u>Algodones Dunes sunflower (<i>Helianthus niveus</i> ssp. <i>tephrodes</i>)</u>	<u>CDFG: Endangered</u> <u>CNPS Rare Plant Rank 1B.2</u>	<u>Occurs in desert dunes and is restricted to the Algodones Dunes of East Mesa. This herbaceous perennial blooms from September-May. Not observed during October 2011 survey or the March 2012 surveys and not expected to occur in Campo Verde project area. Marginal suitable habitat present (i.e. desert dunes), but dunes are result of human creation and site and is outside of species range.</u>
<u>Curly herissantia (<i>Herissantia crispa</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 2.3</u>	<u>Occurs in Sonoran Desert scrub. Annual- herbaceous perennial; Blooms August – September. Only known from two locations in California, both in San Diego County (Pinto Wash and Mountain Springs Grade) (CNPS 2011). Not known from Imperial County. Suitable habitat present in Campo Verde project area. However, site is well below reported lower elevational range (700m) (CNPS 2011). Not expected to occur due to species known range. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.</u>
<u>Pink velvet mallow (<i>Horsfordia alata</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 4.3</u>	<u>Occurs in rocky Sonoran Desert scrub. This perennial shrub blooms almost year round from February-December. This species is reported from Imperial County but no quad data is available (CNPS 2011). Suitable habitat (rocky desert scrub) is absent from Campo Verde project area. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-7:
SPECIAL STATUS PLANT SPECIES OCCURRING OR POTENTIALLY OCCURRING WITHIN THE CAMPO VERDE
FACILITY AND GEN-TIE LINE CORRIDORS**

Species Name	Sensitivity Status	Potential for Occurrence
<u>Newberry's velvet mallow (<i>Horsfordia newberryi</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 4.3</u>	<u>Occurs in rocky Sonoran Desert scrub. This perennial shrub blooms almost year round from February-December. This species is reported from the Carrizo Mountain Quad (CNPS 2011). Suitable habitat i.e. rocky areas, is absent in the Campo Verde project area. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>California satintail (<i>Imperata brevifolia</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 2.1</u>	<u>Riparian scrub; desert scrub. Herbaceous perennial; blooms September – May (CNPS 2011). CNDDDB occurrence immediately east of Campo Verde project area between Greeson Wash and New River. Not observed during October 2011 survey. Not expected to occur in the BLM lands Campo Verde project area due to the lack of suitable habitat. This species is not expected to occur in the project area as all of the riparian scrub habitats within the project area are associated with irrigation canals and drains that are frequently cleared of vegetation. This species is not expected to occur within the Campo Verde project area.</u>
<u>Baja California ipomopsis (<i>Ipomopsis effusa</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 2.1</u>	<u>Occurs in washes in Sonoran desert scrub. Annual; blooms April – June. Only known location in California from Pinto Wash west of the site. Considered a waif in California, more common in Baja, California (CNPS 2011). Suitable habitat present in Campo Verde project area. Not expected in the Campo Verde project area due to known range and rarity in California and not observed during fall and spring surveys.</u>
<u>Slender-leaved ipomopsis (<i>Ipomopsis tenuifolia</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 2.3</u>	<u>Occurs in rocky/gravelly Sonoran Desert scrub. Herbaceous perennial; blooms March – May. Known from In-Ko-Pah Gorge and Jacumba quads (CNPS 2011). Suitable habitat, (i.e., rocky/gravelly desert scrub) absent. Site outside of known current range of species. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Mountain Springs bush lupine (<i>Lupinus excubitus</i> var. <i>medius</i>)</u>	<u>BLM: Sensitive</u> <u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 1B.3</u>	<u>Occurs in Sonoran Desert scrub. Perennial shrub; blooms March – May. Known from In-Ko-Pah Gorge and surrounding quads of desert transition areas (CNPS 2011). Marginal habitat (species range is more in desert transition habitats). Site outside of current species known range and well below reported lower elevational range (425m) (CNPS 2011). This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Parish's desert-thorn (<i>Lycium parishii</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank: 2.3</u>	<u>Occurs in Sonoran Desert scrub with sandy plains and washes. Shrub; blooms March – April. Known from In-Ko-Pah Gorge and Carrizo Mountain quads (CNPS 2011). Reported south of Hwy 98. Suitable habitat present. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-7:
SPECIAL STATUS PLANT SPECIES OCCURRING OR POTENTIALLY OCCURRING WITHIN THE CAMPO VERDE
FACILITY AND GEN-TIE LINE CORRIDORS**

<u>Species Name</u>	<u>Sensitivity Status</u>	<u>Potential for Occurrence</u>
<u>Coulter's lyrepod (<i>Lyrocarpa coulteri</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 4.3</u>	<u>Occurs in rocky or gravelly Sonoran Desert scrub. This herbaceous perennial; blooms January – June (Reiser 2001; CNPS 2001). Reiser (2001) reports this species from a number of rocky desert canyons in eastern San Diego County. Suitable habitat (i.e., rocky/boulders) absent. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Brown turbans (<i>Malperia tenuis</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank: 2.3</u>	<u>Occurs in sandy, Sonoran Desert scrub. Annual, blooms March – April (CNPS 2011). Several CNDDDB locations in Yuha Basin which correspond to CNPS locations for the Mount Signal, Painted Gorge and Yuha Basin quads (CNPS 2011). Suitable habitat present. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species would still have a low to moderate potential to occur within the Campo Verde project area due to its inconspicuous nature.</u>
<u>Hairy stickleaf (<i>Mentzelia hirsutissima</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank: 2.3</u>	<u>Occurs in Sonoran Desert Scrub on rocky hillsides and desert mesas (Reiser 2001; CNPS 2011). Annual; blooms March – May. Known from Mount Signal quad (CNPS 2011). Rocky hillsides absent but desert mesas present. Most of this species' localities in the desert transition areas to the east of the site including localities from In-Ko-Pah Gorge and Sweeny Pass quads (CNPS 2011). This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Creamy blazing star (<i>Mentzelia tridentata</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 1B.3</u>	<u>Occurs in rocky, gravelly and sandy desert scrub. Annual; blooms March – May. Known from In-Ko-Pah Gorge quad (CNPS 2011). Suitable sandy scrub habitat present in Campo Verde project area. However, site outside of known range in California and well below lower elevational limit (700 meters) reported for this species (CNPS 2011). This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Slender-lobed four o'clock (<i>Mirabilis tenuiloba</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank: 4.3</u>	<u>Occurs in Sonoran Desert Scrub. A herbaceous perennial that blooms March – May. This species is reported from the 17 Palms Quad (CNPS 2011). Suitable desert scrub habitat present in Campo Verde project area. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Slender wooly-heads (<i>Nemacaulis denudata</i> var. <i>gracilis</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank: 2.2</u>	<u>Occurs in desert dunes and Sonoran Desert scrub. Annual; blooms March – May. Known from Coyote Wells quad. Most of locations for this species are in Algodones Dunes of East Mesa (CNPS 2011). Marginal dune habitat present. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-7:
SPECIAL STATUS PLANT SPECIES OCCURRING OR POTENTIALLY OCCURRING WITHIN THE CAMPO VERDE
FACILITY AND GEN-TIE LINE CORRIDORS**

Species Name	Sensitivity Status	Potential for Occurrence
<u>Giant Spanish-needle (<i>Palafoxia arida</i> var. <i>gigantea</i>)</u>	<u>BLM: Sensitive</u> <u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 1B.3</u>	<u>Occurs in desert dunes. Annual- herbaceous perennial; blooms March – May. Known from Algodones Dunes on the East Mesa (CNPS 2011). Marginal desert dune habitat present. Site is well west of reported range of species. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.</u>
<u>Sand food (<i>Pholisma sonorae</i>)</u>	<u>BLM: Sensitive</u> <u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 1B.2</u>	<u>Occurs in desert dunes and sandy Sonoran Desert scrub. This herbaceous perennial is parasitic on native desert shrubs and blooms from March – May. This species is known from the Holtville West Quad just east of the corridors and most of the locations are in the Algodones Dunes of the East Mesa (CNPS 2011). Suitable habitat (sandy areas and dunes) is marginal. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species would have a low to moderate potential for occurrence, as a parasitic plant, it is not always observable and there are numerous host plants present.</u>
<u>Thurber’s pilostyles (<i>Pilostyles thurberi</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank: 4.3</u>	<u>Herbaceous perennial parasitic on <i>Psoralea emoryi</i> a few individuals were observed within the project area; blooms January. Known from Plaster City and Mount Signal (Reiser 2001). Known from southwest of Plaster City between S-80 and I-80 (URS 2010). Known from Pinto Wash south of the IV Substation. Not observed during the surveys, which were not conducted during this species traditional blooming period. Three to five individuals of its host <i>Psoralea emoryi</i> were observed along the Proposed Gen-Tie route just north of the IV substation. Though no individuals of Thurber’s pilostyles were observed on these individuals, the flowers of Thurber’s pilostyles may have already been absent. There is a low to moderate potential for this species to occur, and if it does it would be at very low numbers given the population size of its host.</u>
<u>Desert unicorn-plant (<i>Proboscidea althaeifolia</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank 4.3</u>	<u>Occurs in sandy, Sonoran Desert scrub. Herbaceous perennial; blooms May – August (CNPS 2011). There are no CNPS or CNDDDB locations for this species in the vicinity of the project. Suitable habitat present, low to moderate potential for occurrence within Campo Verde project area but was not observed during spring or fall surveys.</u>
<u>Desert spike-moss (<i>Selaginella eremophila</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank: 2.2</u>	<u>Occurs in rocky or gravelly terrain in Sonoran Desert scrub (Reiser 2001; CNPS 2011). Herbaceous perennial is most conspicuous in May-July (CNPS 2011). Closest reported populations in rocky desert scrub of In-Ko-Pah and Sweeney Pass quads (CNPS 2011). Not expected to occur within Campo Verde project area due to the lack of suitable habitat.</u>
<u>Dwarf germander (<i>Teucrium cubense</i> ssp. <i>depressum</i>)</u>	<u>CDFG: Special Plant</u> <u>CNPS Rare Plant Rank: 2.2</u>	<u>Occurs in sandy washes, streams and wet soils, Sonoran Desert scrub. Annual; blooms March – May (September- November if fall rains occur). Known from Coyote Wells quad (CNPS 2011). Not observed or expected in Campo Verde project area. Suitable habitat (i.e., sandy washes) absent. Not observed during surveys. October 2001 survey and March 2012 surveys conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde Project</u>

4.12 BIOLOGICAL RESOURCES

TABLE 4.12-7:
SPECIAL STATUS PLANT SPECIES OCCURRING OR POTENTIALLY OCCURRING WITHIN THE CAMPO VERDE FACILITY AND GEN-TIE LINE CORRIDORS

Species Name	Sensitivity Status	Potential for Occurrence
		<u>area.</u>
<u>Mecca aster (<i>Xylorhiza cognata</i>)</u>	CDFG: Special Plant CNPS Rare Plant Rank 1B.2	Occurs in Sonoran Desert scrub. This species is known from 17 Palms Quad. This herbaceous perennial blooms from January-June. Most of the reported occurrences are in the Indio and Mecca Hills surrounding Palm Springs and Indio (CNPS 2011). Suitable habitat present, but site may also be at limits of known species range. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.
<u>Orcutt's woody-aster (<i>Xylorhiza orcuttii</i>)</u>	BLM: Sensitive CDFG: Special Plant CNPS Rare Plant Rank: 1B.2	Occurs in Sonoran Desert scrub in rocky canyons and sandy washes (Reiser 2001). Herbaceous perennial; blooms March – April (CNPS 2011). Closest reported localities are Carrizo and Borrego Mountain quads, areas of rocky terrain. Suitable habitat absent. This species was not observed during the March 2012 surveys, which were conducted during this species traditional blooming period. This species is not expected to occur within the Campo Verde project area.

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-7
SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE GEN-TIE SURVEY AREA**

Special Status Plant Species that were Focus of Fall Survey		
Species Name	Sensitivity Status	Potential for Occurrence
Little-leaf elephant (<i>Bursera microphylla</i>)	CDFG: Special Plant CNPS Rare Plant Rank: 2.3	Occurs in alluvial fan scrub and rocky areas in Sonoran Desert scrub. Deciduous tree; blooms June-July. Not observed within project area during survey. Distinctive tree species would have been observed during surveys if present. Nearest location in In-Ko-Pah Gorge, Sweeney Pass and Arroyo Tapiado quads. Alluvial fan scrub habitat and rocky scrub absent in the project area. Closest sites are in rocky desert foothills to west of site. Species is not expected to occur within project area.
Fairy duster (<i>Calliandra eriophylla</i>)	CDFG: Special Plant CNPS Rare Plant Rank 2.3	Occurs in Sonoran Desert scrub primarily on rocky hillsides and bajadas. Deciduous shrub; blooms January – March. Not observed during survey but would have been observable if present. Not expected to occur due to absence of suitable habitat in the project area. One CNDDDB occurrence south of the project area which is also likely the Yuha Basin Quad location reported by CNPS. Most occurrences of this species in East Mesa of Imperial County.
Crucifixion thorn (<i>Castela emoryi</i>)	CDFG: Special Plant CNPS Rare Plant Rank 2.3	Occurs in playas and gravelly areas in Sonoran Desert scrub. Deciduous shrub; blooms April – July. Not observed during survey. Distinctive shrub species would have been observed if present. Not expected to occur. Suitable habitat (i.e., playas and gravelly areas) absent in project area. Known from Yuha Basin and Coyote Wells quads.
Abram's spurge (<i>Chamaesyce abramsiana</i>)	CDFG: Special Plant CNPS Rare Plant Rank 2.2	Occurs in sandy Sonoran Desert scrub. Annual; blooms September – November. Suitable habitat present in project area. Historical collections known from Calexico, Heber and Brawley quads. Not observed during focused survey for this species in October 2011 which was conducted during this species' traditional flowering period. However, late summer and fall rains may have been insufficient for seeds to germinate this year. Low potential to occur in native desert scrub habitats in project area.
Wiggins croton (<i>Croton wigginsii</i>)	BLM: Sensitive CDFG Rare CNPS Rare Plant Rank 2.2	Occurs in desert dunes and Sonoran Desert scrub. Shrub; blooms March – May. CNPS reports species restricted to Algodones Dunes and all CNPS locations are on the East Mesa. Known from near Plaster City between S-80 and I-80. Not observed and not expected to occur in the project area. Marginal suitable habitat present (i.e. desert dunes), but dunes are result of human creation and site and is outside of species range.

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-7
SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE GEN-TIE SURVEY AREA**

Special Status Plant Species that were Focus of Fall Survey		
Species Name	Sensitivity Status	Potential for Occurrence
Wolf's cholla (<i>Cylindropuntia wolfii</i>)	BLM: Sensitive CDFG: Special Plant CNPS Rare Plant Rank 4.3	Occurs in Sonoran Desert scrub, usually on alluvial fans or rocky slopes. Stem succulent that blooms from March-May. Known from San Diego and Imperial counties and Baja, California. Known from Pinto Wash south of the Imperial Valley Substation. No individuals of this genus observed within project area. Species not expected to occur within project area.
Glandular ditaxis (<i>Ditaxis claryana</i>)	CDFG: Special Plant CNPS Rare Plant Rank 2.2	Occurs in sandy Sonoran Desert scrub. Herbaceous perennial; blooms October - March. Known from Algodones Dunes. Ogliby and Iris quads are closest reported populations. Not observed during survey. October 2011 survey conducted during this species traditional blooming period. However, late summer and fall rains may have been insufficient for this year. Despite this, the species is not expected to occur, as project area is outside of known range.
California ditaxis (<i>Ditaxis serrata</i> var. <i>californica</i>)	CDFG: Special Plant CNPS Rare Plant Rank 3.2	Occurs in Sonoran Desert scrub. Herbaceous perennial, blooms March-December. Nearest known occurrence Clark Lake Quad in northern Anza Borrego State Park. Most other reported locations along the I-10 corridor between Indio and Blythe. Not observed during survey. October 2001 survey conducted during this species traditional blooming period. However, late summer and fall rains may have been insufficient this year. Despite this, the species is not expected to occur, as project area is well south of reported range of this species in California.
Algodones Dunes sunflower (<i>Helianthus niveus</i> ssp. <i>tephrodes</i>)	CDFG: Endangered CNPS Rare Plant Rank 1B.2	Occurs in desert dunes and is restricted to the Algodones Dunes of East Mesa. This herbaceous perennial blooms from September-May. Not observed during October 2011 survey nor expected to occur in project area. However, late summer and fall rains may have been insufficient for species to grow this year. Marginal suitable habitat present (i.e. desert dunes), but dunes are result of human creation and site and is outside of species range.
Pink velvet mallow (<i>Horsfordia alata</i>)	CDFG: Special Plant CNPS Rare Plant Rank 4.3	Occurs in rocky Sonoran Desert scrub. This perennial shrub blooms almost year round from February-December. This species is reported from Imperial County but no quad data is available. Suitable habitat (rocky desert scrub) is absent from project area. As a shrub, this species is not expected to occur in the project area because it would have been observable during October 2011 survey if present.

**TABLE 4.12-7
SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE GEN-TIE SURVEY AREA**

Special Status Plant Species that were Focus of Fall Survey		
Species Name	Sensitivity Status	Potential for Occurrence
Newberry's velvet mallow (<i>Horsfordia newberryi</i>)	DFG: Special Plant CNPS Rare Plant Rank 4.3	Occurs in rocky Sonoran Desert scrub. This perennial shrub blooms almost year round from February-December. This species is reported from the Carrizo Mountain Quad. Suitable habitat i.e. rocky areas, is absent in the project area. As a shrub, this species is not expected to occur in the project area because it would have been observable during October 2011 survey if present.
California satintail (<i>Imperata brevifolia</i>)	CDFG: Special Plant CNPS Rare Plant Rank 2.1	Riparian scrub; desert scrub. Herbaceous perennial; blooms September - May. CNDDDB occurrence immediately east of project area between Greeson Wash and New River. Not observed during October 2011 survey. Not expected to occur in the BLM lands project area due to the lack of suitable habitat. This species is not expected to occur in the project area but has a low to moderate potential for occurrence in a side tributary of the New River on the private lands immediately along the northeastern boundary of the solar site within the project's buffer area. This species was not observed along that tributary though a focused survey was not conducted due to health hazards posed by pollutants in the New River.
Thurber's pilostyles (<i>Pilostyles thurberi</i>)	CDFG: Special Plant CNPS Rare Plant Rank: 4.3	Herbaceous perennial parasitic on <i>Psoralea</i> spp.; blooms January. Known from Plaster City and Mount Signal. Known from southwest of Plaster City between S-80 and I-80. Known from Pinto Wash south of the Imperial Valley Substation. Not expected to occur in project area due to the absence of this species host plants in the project area.
Dwarf germander (<i>Teucrium cubense</i> ssp. <i>depressum</i>)	CDFG: Special Plant CNPS Rare Plant Rank: 2.2	Occurs in sandy washes, streams and wet soils, Sonoran Desert scrub. Annual; blooms March - May (September-November if fall rains occur). Known from Coyote Wells quad. Not observed or expected in project area. Suitable habitat (i.e., sandy washes) absent. Not observed during survey. October 2001 survey conducted during this species traditional blooming period. However, late summer and fall rains may have been insufficient for seeds to germinate this year.
Spring Blooming Special Status Plant Species		
Chaparral sand verbena (<i>Abronia villosa</i> var. <i>aurita</i>)	BLM: Sensitive CDFG: Special Plant CNPS Rare Plant Rank 1B.1	Occurs in sandy floodplains or flats in generally, inland arid areas of sage scrub and open chaparral and desert dunes. Annual; blooms January - September. Known from Calexico, Seeley, and Superstition Mountains quads. Marginal dune habitat present within native habitats in

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-7
SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE GEN-TIE SURVEY AREA**

Special Status Plant Species that were Focus of Fall Survey		
Species Name	Sensitivity Status	Potential for Occurrence
		project area. Low to moderate potential for occurrence. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Watson's amaranth (<i>Amaranthus watsonii</i>)	CDFG: Special Plant CNPS Rare Plant Rank 4.3	Occurs in Sonoran Desert Scrub. Annual; blooms August – September. Not observed but survey occurred outside of traditional blooming period. Suitable habitat present within native desert scrub in project area. Known from Calexico and Heber quads. Low to moderate potential for occurrence within desert scrub habitats. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Salton milk vetch (<i>Astragalus crotalariae</i>)	CDFG: Special Plant CNPS Rare Plant Rank 4.3	Occurs in sandy or gravelly Sonoran Desert scrub habitat and is known from the Superstition Mountains quad. This herbaceous perennial blooms from January to April. Potential habitat present within project area. Low to moderate potential for occurrence within desert scrub habitats. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Harwood's milk vetch (<i>Astragalus insularis</i> var. <i>harwoodii</i>)	CDFG: Special Plant CNPS Rare Plant Rank: 2.2	Occurs in Sonoran Desert scrub with gravelly, sandy washes or dunes. Annual; blooms January-May. Known from southwest of Plaster City between S-80 and I-80. Also known from In-Ko-Pah Gorge and Coyote Wells quads. Habitat (sandy dunes) present within native desert scrub in survey. Known from Coyote Wells quad. Low to moderate potential for occurrence within desert scrub habitats. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Borrego milk vetch (<i>Astragalus lentiginosus</i> var. <i>borreganus</i>)	CDFG: Special Plant CNPS Rare Plant Rank 4.3	Occurs in sandy Sonoran Desert scrub habitat and is known from the Shell Reef quad in upper Borrego Valley and from the Algodones Dunes on East Mesa. This herbaceous perennial blooms from February to May. Potential habitat present. Low potential for occurrence within project area. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Peirson's milk vetch (<i>Astragalus magdalenae</i> var. <i>peirsonii</i>)	USFWS: Threatened CDFG: Endangered BLM: Sensitive CNPS Rare Plant Rank 1B.2	Occurs in desert dunes habitat, this species is known from fewer than 10 occurrences. Known from Algodones Dunes on East Mesa and upper Borrego Valley. A herbaceous perennial that blooms from December to April. Marginal dune habitat present. Low potential for occurrence within the project area. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.

**TABLE 4.12-7
SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE GEN-TIE SURVEY AREA**

Special Status Plant Species that were Focus of Fall Survey		
Species Name	Sensitivity Status	Potential for Occurrence
Desert ayenia (<i>Ayenia compacta</i>)	CDFG: Special Plant CNPS Rare Plant Rank: 2.3	Occurs in rocky Sonoran Desert scrub. A herbaceous perennial that blooms from March to April. Closest reported populations include Jacumba and Sweeney Pass. This species not expected to occur in the project area due to the lack of suitable habitat, i.e., rocky areas. Known populations are well west of the corridor in the rocky mountains above the Yuha Basin. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Sand evening primrose (<i>Camissonia arenaria</i>)	CDFG: Special Plant CNPS Rare Plant Rank 2.2	Occurs in sandy or rocky Sonoran Desert scrub. This annual/herbaceous perennial blooms from November-May and is reported from the Quartz Peak quad in the Chocolate Mountains. Though suitable habitat is present the reported occurrences of this species are distant from the project area. Low potential for occurrence. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Peirson's pincushion (<i>Chaenactis carphoclinia</i> var. <i>peirsonii</i>)	BLM: Sensitive CDFG: Special Plant CNPS Rare Plant Rank 1B.3	Occurs in sandy Sonoran Desert scrub. Annual; blooms March-April. Known only from the eastern Santa Rosa Mountains with closest reported location from the Borrego Mountain SE quad. Suitable habitat present in project area. However, species not expected to occur within project area due to its present known range. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Arizona spurge (<i>Chamaesyce arizonica</i>)	CDFG: Special Plant CNPS Rare Plant Rank 2.3	Occurs in sandy Sonoran Desert scrub. Known from the In-Ko Pah Gorge Quad, this species is undocumented in Imperial County. This herbaceous perennial blooms from March to April. Not expected to occur within project area. Though suitable habitat is present, project area is outside of this species current known range. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Flat-seeded spurge (<i>Chamaesyce platysperma</i>)	BLM: Sensitive CDFG: Special Plant CNPS Rare Plant Rank 1B.2	Occurs in desert dunes and sandy Sonoran Desert scrub. Known in California from only four herbarium collections and one collection from Imperial County in 1987. Annual; blooms February - September. Known from Superstition Mountain and Kane Springs quads in Imperial County. Not expected to occur within project area. Though marginal suitable habitat for this species exists, species is very rare in Imperial County. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-7
SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE GEN-TIE SURVEY AREA**

Special Status Plant Species that were Focus of Fall Survey		
Species Name	Sensitivity Status	Potential for Occurrence
Las Animas colubrinia {<i>Colubrinia californica</i>}	CNPS Rare Plant Rank 2.3	Occurs in Sonoran Desert scrub often localized around springs and mesic rocky canyon bottoms. This deciduous shrub blooms from April-June and is reported from Picacho Peak and Quartz Peak in the Chocolate Mountains. Suitable habitat lacking and site is outside known current distribution. Not expected to occur within project area. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Spiny abrojo {<i>Condalia globosa</i> var. <i>pubescens</i>}	CDFG: Special Plant CNPS Rare Plant Rank 4.2	Occurs in Sonoran Desert scrub. This deciduous shrub blooms from March-May. This species is reported from Imperial County but no quad data is available. Suitable habitat is present in the project area. Low potential for occurrence. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Ribbed cryptantha {<i>Cryptantha costata</i>}	CDFG: Special Plant CNPS Rare Plant Rank: 4.3	Occurs in desert sand dunes and sandy desert scrub. Annual; blooms February - May. Marginal suitable habitat within project area. Low potential for occurrence. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Rock nettle (<i>Eucnide rupestris</i>)	CDFG: Special Plant CNPS Rare Plant Rank 2.2	Occurs in Sonoran Desert scrub. Annual; blooms December - April. Known from Mount Signal and Coyote Wells quads. CNDDDB occurrence in Yuha Basin (likely CNPS Coyote Wells quad location). Suitable habitat present in the project area. Low to moderate potential for occurrence. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Utah vine milkweed {<i>Funastrum (=Cynachum) utahense</i>}	CDFG: Special Plant CNPS Rare Plant Rank: 4.2	Occurs in sandy or gravelly Sonoran Desert Scrub. Herbaceous, perennial growing on desert shrubs; blooms April - June. Known from southwest of Plaster City between S 80 and T 80. Suitable habitat present in project area. Known from Yuha Basin south of S 80. Low to moderate potential for occurrence. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Curly herissantia {<i>Herissantia crispa</i>}	CDFG: Special Plant CNPS Rare Plant Rank 2.3	Occurs in Sonoran Desert scrub. Annual herbaceous perennial; Blooms August - September. Only known from two locations in California, both in San Diego County (Pinto Wash and Mountain Springs Grade). Not known from Imperial County. Suitable habitat present in project area. However, site is well below reported lower elevational range (700 meters or approximately 2,296 feet). Not expected to occur due to species known range. Surveys for this species will be conducted in appropriate habitat

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-7
SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE GEN-TIE SURVEY AREA**

Special Status Plant Species that were Focus of Fall Survey		
Species Name	Sensitivity Status	Potential for Occurrence
		within its blooming season in 2012.
Baja California ipomopsis (<i>Ipomopsis effusa</i>)	CDFG: Special Plant CNPS Rare Plant Rank 2.1	Occurs in washes in Sonoran desert scrub. Annual; blooms April – June. Only known location in California from Pinto Wash west of the site. Considered a waif in California, more common in Baja, California. Suitable habitat present in the project area. Not expected in the project area due to known range and rarity in California. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Slender leaved ipomopsis (<i>Ipomopsis tenuifolia</i>)	CDFG: Special Plant CNPS Rare Plant Rank 2.3	Occurs in rocky/gravelly Sonoran Desert scrub. Herbaceous perennial; blooms March – May. Known from In-Ko-Pah Gorge and Jacumba quads. Suitable habitat, (i.e., rocky/gravelly desert scrub) absent. Site outside of known current range of species. Not expected to occur within the project area.
Pygmy lotus (<i>Lotus haydonii</i>)	CNPS Rare Plant Rank 1B.3	Occurs in rocky Sonoran Desert scrub. Herbaceous perennial; blooms January – June. Known from In-Ko-Pah Gorge quad. Suitable habitat (i.e., rocky/gravelly desert scrub) absent. Site outside of current known range of species and well below reported lower elevational range (520 meters or approximately 1,706 feet). Not expected to occur within project area. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Mountain Springs bush lupine (<i>Lupinus excubitus</i> var. <i>medius</i>)	BLM: Sensitive CDFG: Special Plant CNPS Rare Plant Rank 1B.3	Occurs in Sonoran Desert scrub. Perennial shrub; blooms March – May. Known from In-Ko-Pah Gorge and surrounding quads of desert transition areas. Marginal habitat (species range is more in desert transition habitats). Site outside of current species known range and well below reported lower elevational range (425 meters or approximately 1,394). Not expected to occur within project area. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Parish’s desert thorn (<i>Lycium parishii</i>)	CDFG: Special Plant CNPS Rare Plant Rank: 2.3	Occurs in Sonoran Desert scrub with sandy plains and washes. Shrub; blooms March – April. Known from In-Ko-Pah Gorge and Carrizo Mountain quads. Reported south of Highway 98. Suitable habitat present. Low to moderate potential for occurrence within project area. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Coulter’s lyreped (<i>Lyrocarpa coulteri</i> var. <i>palmeri</i>)	CDFG: Special Plant CNPS Rare Plant	Occurs in rocky or gravelly Sonoran Desert scrub. This herbaceous perennial; blooms January – June. Suitable habitat (i.e., rocky/boulders) absent. Not expected to

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-7
SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE GEN-TIE SURVEY AREA**

Special Status Plant Species that were Focus of Fall Survey		
Species Name	Sensitivity Status	Potential for Occurrence
	Rank 4.3	occur within project area. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Brown turbans (<i>Malperia tenuis</i>)	CDFG: Special Plant CNPS Rare Plant Rank: 2.3	Occurs in sandy, Sonoran Desert scrub. Annual, blooms March – April. Several CNDDDB locations in Yuha Basin which correspond to CNPS locations for the Mount Signal, Painted Gorge and Yuha Basin quads. Suitable habitat present. Low to moderate potential for occurrence within project area. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Hairy stickleaf (<i>Mentzelia hirsutissima</i>)	CDFG: Special Plant CNPS Rare Plant Rank: 2.3	Occurs in Sonoran Desert Scrub on rocky hillsides and desert mesas. Annual; blooms March – May. Known from Mount Signal quad. Rocky hillsides absent but desert mesas present. Most of this species' localities in the desert transition areas to the east of the site including localities from In-Ko-Pah Gorge and Sweeny Pass quads. Low to moderate potential for occurrence within project area. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Creamy blazing star (<i>Mentzelia tridentata</i>)	CDFG: Special Plant CNPS Rare Plant Rank 1B.3	Occurs in rocky, gravelly and sandy desert scrub. Annual; blooms March – May. Known from In-Ko-Pah Gorge quad. Suitable sandy scrub habitat present in project area. However, site outside of known range in California and well below lower elevational limit (700 meters or approximately 1,394 feet) reported for this species. Not expected to occur within project area. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Slender lobed four o'clock (<i>Mirabilis tenuiloba</i>)	CDFG: Special Plant CNPS Rare Plant Rank: 4.3	Occurs in Sonoran Desert Scrub. A herbaceous perennial that blooms March – May. This species is reported from the 17 Palms Quad. Suitable desert scrub habitat present in project area. Low to moderate potential for occurrence. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Slender wooly heads (<i>Nemacaulis denudata</i> var. <i>gracilis</i>)	CDFG: Special Plant CNPS Rare Plant Rank: 2.2	Occurs in desert dunes and Sonoran Desert scrub. Annual; blooms March – May. Known from Coyote Wells quad. Most of locations for this species are in Algodones Dunes of East Mesa. Marginal dune habitat present. Low to moderate potential for occurrence within project area. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.

4.12 BIOLOGICAL RESOURCES

**TABLE 4.12-7
SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE GEN-TIE SURVEY AREA**

Special Status Plant Species that were Focus of Fall Survey		
Species Name	Sensitivity Status	Potential for Occurrence
Giant Spanish needle (<i>Palafoxia arida</i> var. <i>gigantea</i>)	BLM: Sensitive CDFG: — Special Plant CNPS Rare Plant Rank 1B.3	Occurs in desert dunes. Annual herbaceous perennial; blooms March — May. Known from Algodones Dunes on the East Mesa. Marginal desert dune habitat present. Site is well west of reported range of species. Not expected to occur within project area. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Sand food (<i>Pholisma sonorae</i>)	BLM: Sensitive CDFG: — Special Plant CNPS Rare Plant Rank 1B.2	Occurs in desert dunes and sandy Sonoran Desert scrub. This herbaceous perennial is parasitic on native desert shrubs and blooms from March — May. This species is known from the Holtville West Quad just east of the corridors and most of the locations are in the Algodones Dunes of the East Mesa. This species would have a low to moderate potential for occurrence in the project area. Suitable habitat (sandy areas and dunes) is marginal. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Desert unicorn plant (<i>Proboscidea althaeifolia</i>)	CDFG: — Special Plant CNPS Rare Plant Rank 4.3	Occurs in sandy, Sonoran Desert scrub. Herbaceous perennial; blooms May — August. There are no CNPS or CNDDB locations for this species in the vicinity of the project. Suitable habitat present, low to moderate potential for occurrence within the project area. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Desert spike moss (<i>Selaginella eremophila</i>)	CDFG: — Special Plant CNPS Rare Plant Rank: 2.2	Occurs in rocky or gravelly terrain in Sonoran Desert scrub. Herbaceous perennial is most conspicuous in May July. Closest reported populations in rocky desert scrub of In-Ko-Pah and Sweeney Pass quads. Not expected to occur within the project area due to the lack of suitable habitat. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.
Mecca aster (<i>Xylorhiza cognata</i>)	CDFG: — Special Plant CNPS Rare Plant Rank 1B.2	Occurs in Sonoran Desert scrub. This species is known from 17 Palms Quad. This herbaceous perennial blooms from January June. Most of the reported occurrences are in the Indio and Mecca Hills surrounding Palm Springs and Indio. Suitable habitat present, but site may also be at limits of known species range. Not expected to occur within the project area. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.

4.12 BIOLOGICAL RESOURCES

TABLE 4.12-7
SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE GEN-TIE SURVEY AREA

Special Status Plant Species that were Focus of Fall Survey		
Species-Name	Sensitivity-Status	Potential for Occurrence
Orcutt's woody aster (<i>Xylorhiza orcuttii</i>)	BLM: Sensitive CDFG: — Special Plant CNPS Rare Plant Rank: 1B.2	Occurs in Sonoran Desert scrub in rocky canyons and sandy washes. — Herbaceous perennial; blooms March — April. Closest reported localities are Carrizo and Borrego Mountain quads, areas of rocky terrain. Suitable habitat absent. — Not expected to occur within the project area. Surveys for this species will be conducted in appropriate habitat within its blooming season in 2012.

Source: Heritage, 2012.

Notes to Table 4.12-7

Sensitivity Status Codes used in this table:

USFWS: Endangered- Plant taxa that are listed as threatened under the Federal Endangered Species Act

CDFG: Endangered- Plant taxa that are listed as endangered with extinction under the California Endangered Species Act

Special Plant: Plant taxa that are inventoried by the CNDDB

BLM: Sensitive- Plants that are designated by the State Director for special management consideration.

CNPS: Rare Plant Rank 1: Rare, Threatened or Endangered in California and elsewhere

Rare Plant Rank 2: Rare, Threatened or Endangered in California, more common elsewhere

Rare Plant Rank 3: Plants for which more information is needed

Rare Plant Rank 4: Plants of Limited Distribution

Threat extension: 1- Seriously endangered in California

2- Fairly endangered in California

3- Not very endangered in California

~~In addition to the 8 fall blooming species, six other perennial species would have been observable (or their host would have been observable in the case of the parasitic plants) if present, because of their life-forms, (e.g. shrubs, stem succulents or parasitic plants) even though they would not have been blooming at the time of the survey. These species include: Wolf's cholla (*Cylindropuntia wolfii*) (BLM Sensitive), little leaf elephant tree (*Bursera microphylla*) (Priority Plant Species), fairy duster (*Calliandra eriophylla*) (Priority Plant Species), crucifixion thorn tree (*Castela emoryi*) (Priority Plant Species), Wiggins croton (*Croton wigginsii*) (BLM Sensitive), and Thurber's pilostyles (*Pilostyles thurberi*) (Priority Plant Species). These species are discussed below:~~

Spring blooming Special Status Plants

~~Some species with the potential to occur in the project area are spring ephemerals (Table 4.12-7). Many of these species have a low potential for occurrence because they occur in specialized habitats (e.g., rocky desert scrub) that are absent from this portion of the Yuha Basin, or they are species that do not have reported populations or suitable habitats near the project site.~~

~~Surveys during the traditional blooming period of these spring ephemeral species will be conducted during the spring 2012. However, based on literature review of biological technical reports and personal observations, populations of brown turbans (*Malperia tenuis*) (Priority Plant Species), Parish's desert thorn (*Lycium parishii*) (Priority Plant Species), Utah vine milkweed (*Funastrum utahense*) (Priority Plant Species), hairy stickleaf (*Mentzelia hirsutissima*) (Priority Plant Species) and rock nettle (*Eucnide rupestris*) (Priority Plant Species) are known to occur the vicinity of the gen tie. Furthermore, habitats for these species are present within the gen tie survey area.~~

~~Refer to Table 4.12-7 provides a detailed analysis of all special status plant species evaluated for the gen tie survey area.~~

Federally-listed Species

Based on the literature review and field surveys, no federally listed threatened or endangered plant species were identified as having the potential to occur within the gen-tie survey area. No federally listed threatened or endangered species were observed during focused rare plant surveys.

State-listed Species

~~Algodones Dunes sunflower is a California state listed endangered species and a California Native Plant Society's (CNPS) Rare Plant Rank 1.2 (Rare, Threatened or Endangered in California, and elsewhere/fairly endangered in California) species. This species was not observed during the survey which coincided with its blooming period (September – May). There is very marginal suitable habitat (desert dunes) within the project area on BLM lands. As mentioned previously, these dunes are the result of human created windbreaks. This species is also only known from the Algodones Dunes; the site is well outside of the known range of this species. This species was not observed during the October 2011 or the March 2012 surveys both of which coincided with this species traditional blooming period (September – May). As such, this species is not expected to occur within the Campo Verde Project area on the BLM or private lands.~~

~~Wiggins' croton is a California state listed rare species and a BLM sensitive species that was historically considered restricted to the Algodones Dunes on East Mesa, though this species has recently been reported near Plaster City. Individuals of croton previously observed around the IV Substation adjacent to the Campo Verde project area are California croton (*Croton californicus*) (John Messina pers obs). No individuals in the genus *Croton* were observed within the Campo Verde Project area during the October 2011 or the March 2012 the latter of which coincided with this species traditional flowering period (March-May). Wiggins' croton is not expected to occur within the BLM lands Campo Verde Project area.~~

~~odones Dunes sunflower is a California state listed endangered species and a California Native Plant Society's (CNPS) Rare Plant Rank 1.2 (Rare, Threatened or Endangered in California, and elsewhere/fairly endangered in California) species. This species was not observed during the survey which coincided with its blooming period (September – May). There is very marginal suitable habitat (desert dunes) within the project area on BLM lands. These dunes are the result of human created windbreaks. This species is also only known from the Algodones Dunes. The project site is well outside of the known range of this species. Despite the lack of sufficient rainfall that might have made detection of this species inconclusive, this is not expected to occur within the project area on the BLM or private lands.~~

No state-listed species were observed on-site during focused rare plant surveys.

BLM Sensitive Species

~~A total of 10 BLM sensitive species are known from the Campo Verde Project area: Peirson's milk vetch and Wiggins' croton mentioned in the previous subsection, chaparral sand verbena (*Abronia villosa* var. *aurita*), Peirson's pincushion (*Chaenactis carphoclinia* var. *peirsonii*), flat-seeded spurge (*Chamaesyce platysperma*), Wolf's cholla (*Cylindropuntia wolfii*), Mountain Springs bush lupine (*Lupinus excubitus* var. *medius*), giant Spanish needle (*Palafoxia arida* var. *gigantea*), sand food (*Pholisma sonora*) and Orcutt's woody-aster (*Xylorhiza orcuttii*). Below is a brief discussion of these species, additional information is included in Table 4.12-7.~~

~~No BLM sensitive species were observed during either the October 2011 or March 2012 surveys. The October 2011 and March 2012 surveys both coincided with the blooming periods of chaparral sand verbena, and flat-seeded spurge. The March 2012 survey coincided with the blooming periods of~~

4.12 BIOLOGICAL RESOURCES

Peirson's pincushion, Wolf's cholla, Mountain Springs bush lupine, giant Spanish needle, sand food, and Orcutt's woody-aster.

Chaparral sand verbena is a BLM Sensitive Species, a CNPS Rare Plant Rank 1B.1 species, and a CNDDDB special plant. This annual occurs in sandy areas including desert dunes. This species was not observed during the March surveys which coincided with its traditional flowering period (January – September). Marginal dune habitat occurs along the Preferred Gen Tie route just north of the IV Substation, but this species is not expected to occur within the project area.

Peirson's pincushion is a BLM Sensitive Species, a CNPS Rare Plant Rank 1B.3 species, and a CNDDDB special plant. This annual grows in sandy areas. This species was not observed during the March surveys which coincided with its traditional flowering period (March - April). Most reported occurrences of this species are not close to the site. As such this species has a low potential for occurrence within the project area.

Flat-seeded spurge is a BLM Sensitive Species, a CNPS Rare Plant Rank 1B.2 species, and a CNDDDB special plant. This annual occurs in sandy areas but is only known from a few historical locations. The March survey coincided with this species traditional blooming period (February – September) but due to its rarity is not expected to occur within the project area.

Wolf's cholla is a BLM Sensitive Species, a CNPS Rare Plant Rank 4.3 species, and a CNDDDB special plant. Wolf's cholla is a small, multi-branched cactus with cylindrical stem segments. This species is known from Pinto Wash south of the Project area. This species was not observed during the October 2011 or the March 2012 surveys the latter of which coincided with this species traditional blooming period (March-May). As such, this species is not expected to occur within the Campo Verde Project area on the BLM or private lands.

Mountain Springs bush lupine is a BLM Sensitive Species, a CNPS Rare Plant Rank 1B.3 species, and a CNDDDB special plant. This perennial shrub blooms from March – May which coincides with the March surveys. This species was not observed during the surveys and is not expected to occur within the Campo Verde Project area as the project area is well east of the reported range of this species (i.e. Mountain Springs Grade).

Giant Spanish needles is a BLM sensitive species, a CDFG special plant and a CNPS Rare Plant Rank 1B.3 species. This species occurs in desert dunes. There is marginal dune habitat within the project area, specifically along the Proposed Gen Tie route on the BLM lands. This species was not observed during the March surveys, which were conducted during the traditional flowering period of this species (March – May). This species is not expected to occur within the Campo Verde Project area as most of the reported localities for this species are in the Algodones Dunes of East Mesa.

Sand food is a BLM sensitive species, a CDFG special plant and a CNPS Rare Plant Rank 1B.2 species. This herbaceous perennial is parasitic on other desert shrub species generally occurring in very sandy areas. Though this species was not observed during the surveys, which coincided with this species traditional flowering period (March – May), there is a low to moderate potential for its occurrence within the Campo Verde Project area especially in the sandy areas along the Proposed Gen-Tie route since it is a parasitic plant and the flowers are not always present.

Orcutt's woody-aster is a BLM sensitive species, a CDFG special plant and a CNPS Rare Plant Rank 1B.2 species. This herbaceous perennial was not observed during the March 2012 surveys which coincided with this species traditional blooming period (March – April). Rocky canyons and sandy washes are its

typical habitat which are absent from the project area. As such this species is not expected to occur within the project area.

BLM sensitive species include all species currently on CNPS List 1B, as well as others that are designated by the California BLM State Director. Based on the literature review, three BLM sensitive plant species have the potential to occur within the gen-tie survey area: Algodones Dunes sunflower, Wiggins' croton and Wolf's cholla. Algodones Dunes sunflower was discussed above under "State listed Species." Wiggins' croton and Wolf's cholla are discussed below.

Wiggins' croton is a California state listed rare species and a BLM sensitive species that was historically considered restricted to the Algodones Dunes on East Mesa, though this species has recently been reported near Plaster City. Individuals of croton previously observed around the Imperial Valley Substation adjacent to the gen-tie survey area are California croton (*Croton californicus*). No individuals in the genus *Croton* were observed within the gen-tie survey area during the survey. Wiggins' croton is not expected to occur within the gen-tie survey area.

Wolf's cholla is a BLM Sensitive Species, a CNPS Rare Plant Rank 4.3 species (Plants of limited distribution/ not endangered in California), and a CNDDDB special plant. Wolf's cholla is a small, multi-branched cactus with cylindrical stem segments. This species is known from Pinto Wash south of the project area. Though the survey did not coincide with its flowering period, no cactus species were observed within the gen-tie survey area. As such this species is not expected to occur within the gen-tie survey area.

No other BLM Sensitive Species are expected to occur within the gen-tie survey area.

Priority Plant Species

The remaining 37 plants assessed for the Campo Verde Project are CDFG Special Plants and are contained within the CNPS Inventory. All of these plants are assessed in Table 4.12-7. Those species with the highest potential for occurrence or with reported occurrences near the Campo Verde Project area are discussed below. The remaining species are discussed in Table 3.

Brown turbans (*Malperia tenuis*) is a CNPS Rare Plant Rank 2.3 species and CNDDDB special plant. This species occurs in Sonoran Desert scrub and is known from the Yuha Basin. This inconspicuous species is very difficult to observe. Though no individuals were observed during the March survey, which coincided with its traditional flowering period (March-April), this species would still have a low-moderate potential for occurrence due to its very inconspicuous nature.

Parish's desert-thorn (*Lycium parishii*) is a CNPS Rare Plant Rank 2.3 species and CNDDDB special plant. One individual of desert thorn (*Lycium* sp.) was observed during the October 2011 survey along the Preferred Gen-Tie route just north of the IV Substation. This individual was not in flower during this survey and could not be identified. Attempts to relocate this individual during the March survey were not successful. This species would have a low potential for occurrence within the project area.

Thurber's pilostyles is a CNPS Rare Plant Rank 4.3 species (Plants of limited distribution/not very endangered in California) and a CNDDDB special plant. Thurber's pilostyles is a parasitic plant of the genus *Psorothamnus*. This species is known from Pinto Wash south of the Project area. Several individuals of white dalea (*Psorothamnus emoryi*) were observed along the southern portion of the Proposed Gen-Tie route just north of the IV Substation. No individuals of Thurber's pilostyles were observed on these individuals though this species may not have been observable at the time of the survey as this parasitic flower is usually only present in January and February. However, this species

4.12 BIOLOGICAL RESOURCES

would have a low potential for occurrence within the BLM lands portion of the Campo Verde Project area due to the small population size of its host.

Utah vine milkweed (*Funastrum utahense*) is a CNPS Rare Plant Rank 4.2 species. This species is an herbaceous vine that grows on other desert shrubs and was not observed during either survey. The second March survey may have been a little too early to detect this species, which typically blooms from April-June. Despite this, Utah vine milkweed would have a low to moderate potential for occurrence within the Campo Verde Project area on BLM lands.

California satintail (*Imperata brevifolia*) is a CNPS Rare Plant Rank 2.1 species (Rare, Threatened or Endangered in California, more common elsewhere/seriously endangered in California) and a CNDDDB special plant. This tall perennial grass occurs in riparian scrub and mesic habitats, which are not present along the gen-tie corridors on the BLM lands. This species was not observed during the October 2011 or the March 2012 surveys both of which coincided with this species traditional blooming period (September-May). As such, these species are not expected to occur within the Campo Verde Project area on the BLM or private lands.

Abram's spurge (*Chamaesyce abramsiana*) is known from several historical locations from the vicinity of the Campo Verde Project area. Abram's spurge is a CNPS 2.2 species (Rare, Threatened or Endangered in California, more common elsewhere/fairly endangered in California) and a CNDDDB special plant that is a fall/winter blooming species (September – November). This species was not observed during the October 2011 survey which though conducted during this species traditional flowering period (September-November) may be inconclusive due to the lack of summer/fall precipitation in the Campo Verde project area. Despite this, Abram's spurge is not expected to occur within the project area given the lack of known populations near the project site and because much of the suitable habitat is adjacent to agricultural activities, a substation and transmission line corridors.

Little-leaf elephant tree (*Bursera microphylla*), fairy duster (*Calliandra eriophylla*), crucifixion thorn tree (*Castela emoryi*) are all CNPS Rare Plant Rank 2.3 and CNDDDB special plants. All are perennial trees or shrubs and would have been observable during the time of the survey during both the October 2011 and March 2012 surveys. The March 2012 surveys coincided with the traditional flowering period of the fairy duster. No individuals of these species were observed during the surveys. In addition, preferred habitats for these species are typically more rocky or gravelly bajadas or playas that are not present within the Campo Verde Project area. As such the little-leaf elephant tree, fairy duster, and crucifixion thorn tree are not expected to occur within the BLM lands Campo Verde Project area.

The remainder of the species in Table 4.12-7 either have a very low potential for occurrence or are not expected to occur within the Campo Verde Project area on BLM lands because of the absence of suitable habitat of the site is outside of the known range of these species.

Priority plant species are rare, unusual, or key species that are not sensitive by BLM or listed as threatened and endangered. Priority plant species are specifically plants that are included on the CNPS Lists 2-4. Several priority plant species were identified as having the potential to occur within the survey area. **Table 4.12-7** provides additional detail about the potential for priority plant species to occur within the survey area.

California satintail is a CNPS Rare Plant Rank 2.1 species (Rare, Threatened or Endangered in California, more common elsewhere/seriously endangered in California) and a CNDDDB special plant. This tall perennial grass occurs in riparian scrub and mesic (i.e. characterized by, or adapted to a moderately moist) habitats, which are not present along the gen tie corridors (of the proposed gen tie and alternative gen tie alignments discussed in Section 6.0) on the BLM lands. This species was not

~~observed during the fall survey, which coincided with this species blooming period (September-May) and is not expected to occur on BLM lands.~~

~~Abram's spurge is known from several historical locations from the vicinity of the project area. Abram's spurge is a CNPS 2.2 species (Rare, Threatened or Endangered in California, more common elsewhere/fairly endangered in California) and a CNDDDB special plant that is a fall/winter blooming species (September—November). This species was not observed during the fall survey, which may be inconclusive due to the lack of summer/fall precipitation in the project area. Despite this, Abram's spurge would have a low potential for occurrence within the BLM lands because much of the suitable habitat is adjacent to agricultural activities, a substation and transmission line corridors.~~

~~Glandular ditaxis (*Ditaxis claryana*) is a CNPS Rare Plant Rank 2.2 species (Rare, Threatened or Endangered in California, more common elsewhere/fairly endangered in California) and a CNDDDB special plant. The fall survey coincided with this herbaceous perennial blooming period (October through March). This species was not observed during the fall survey, which may be inconclusive due to the lack of summer/fall precipitation in the project area. Despite this, glandular ditaxis would have a low potential for occurrence within the BLM lands because much of the suitable habitat is adjacent to agricultural activities, a substation and transmission line corridors. There are also no known reported populations within the vicinity of the project area.~~

~~Dwarf germander (*Teucrium cubense* ssp. *depressum*) is a CNPS Rare Plant Rank 2.2 species (Rare, Threatened or Endangered in California, more common elsewhere/fairly endangered in California) and a CNDDDB special plant that blooms March—May and September—November (if fall rains occur). There is no suitable habitat for this species (sandy washes and wet soils) within the survey area. Though summer and fall rains may not have been sufficient for seed germination, this species is not expected to occur within the survey area due to the lack of suitable habitat.~~

~~California ditaxis (*Ditaxis serrata* var. *californica*) is a CNPS Rare Plant Rank 3.2 species (Plants for which more information is needed/fairly endangered in California) and a CNDDDB special plant. The fall survey coincided with this herbaceous perennial blooming period from March through December. This species was not observed during the fall survey, which may be inconclusive due to the lack of summer/fall precipitation in the project area. Despite this, California ditaxis would have a low potential for occurrence within the BLM lands because much of the suitable habitat is adjacent to agricultural activities, a substation and transmission line corridors. There are also no known reported populations within the vicinity of the project area.~~

~~Pink velvet mallow and Newberry's velvet mallow are both CNPS Rare Plant Rank 4.3 species (Plants of limited distribution/not very endangered in California) and CNDDDB special plants. These species are both sub-shrubs that bloom throughout the year (February—December), including the time of the survey. These species are members of the Malvaceae Family, which have distinctive leaf features that also aid with their identification. No members of this family were observed during the time of the survey. In addition, rocky desert scrub is absent from the survey area so these species are not expected to occur.~~

~~Thurber's pilostyles is a CNPS Rare Plant Rank 4.3 species (Plants of limited distribution/not very endangered in California) and a CNDDDB special plant. Thurber's pilostyles is a parasitic plant of the genus *Psorothamnus*. This species is known from Pinto Wash south of the Project area. Though this species would not have been observable at the time of the survey, its host plant would have been observable if present. No individuals of the genus *Psorothamnus* were observed during the survey. As such Thurber's pilostyles is not expected to occur within the survey area. Thurber's pilostyles, a parasitic~~

4.12 BIOLOGICAL RESOURCES

~~species, would not have been observable at the time of the survey, as it blooms in January but its host plant, woody shrubs or trees in the genus *Psoralea*, would have been observable.~~

~~Little-leaf elephant tree, fairy duster, and crucifixion thorn tree are all CNPS Rare Plant Rank 2.3 species (Rare, Threatened or Endangered in California, more common elsewhere/not very endangered in California) and CNDDDB special plants. All are perennial trees or shrubs and would have been observable during the time of the survey. In addition, preferred habitats for these species are typically more rocky or gravelly bajadas or playas that are not present within the project area. As such these species are not expected to occur within the survey area.~~

~~Rock nettle is a CNPS Rare Plant Rank 2.2 species (Rare, Threatened or Endangered in California, more common elsewhere/fairly endangered in California) and a CNDDDB special plant. Brown turbans, Parish's desert thorn and hairy stickleaf are all CNPS Rare Plant Rank 2.3 species (Rare, Threatened or Endangered in California, more common elsewhere/not very endangered in California) and CNDDDB special plants. Utah vine milkweed is a CNPS Rare Plant Rank 4.2 species (Plants of limited distribution/fairly endangered in California). These species have a low to moderate potential for occurrence within the BLM lands associated with the gen-tie. Though suitable habitat is present, it is adjacent to agricultural activities, a substation and transmission line corridors.~~

~~The remainder of the plants on List 2 either has a very low potential for occurrence or are not expected to occur within the BLM lands associated with the gen-tie because of the absence of suitable habitat of the site is outside of the known range of these species. Spring rare plant surveys will be conducted in the spring of 2012 (March, April and possibly May depending on conditions and guidance from the BLM).~~

Special Status Wildlife Species

Fifteen special status wildlife species were determined to have the potential to occur within survey area and those whose potential occurrence is most pertinent to the gen-tie survey area are discussed in detail below. These species include federally listed species, state listed species, and BLM sensitive species that are known to occur in the Imperial Valley, as well as CDFG species of special concern that were observed during surveys.

Federally-listed Species

Peninsular Bighorn Sheep

Species Profile. Peninsular bighorn sheep, formerly known as *O. c. cremnobates*, was federally listed endangered on March 18, 1998, and state-listed threatened on June 27, 1971. Previously, *O. c. cremnobates* was considered to be distinct from the other subspecies of *Ovis canadensis*. However, new deoxyribonucleic acid (DNA) analysis has concluded that *O. c. cremnobates* are genetically indistinct from Nelson's bighorn sheep (*Ovis canadensis nelsoni*); *O. c. cremnobates* was taxonomically reclassified as *O. c. nelsoni* and designed as a "distinct vertebrate population segment." The Peninsular DPS occurs within the Peninsular Ranges and was listed as federally endangered. Critical habitat was designated in 2009 and includes portions of western Imperial County, approximately 12 miles west of the project area. A recovery plan was also prepared for the bighorn sheep in the Peninsular Ranges in 2000.

Peninsular bighorn sheep prefer steep, open slopes, canyons, and washes in hot and dry desert regions where the land is rough, rocky, and sparsely vegetated. Open terrain with good visibility is critical, because bighorn sheep primarily rely on their sense of sight to detect predators. Most Peninsular bighorn sheep live between 300 and 4,000 feet in elevation, where average annual precipitation is less than four inches and daily high temperatures average 104 degrees Fahrenheit (°F) in the summer. Caves

and other forms of shelter (e.g., rock outcrops) are used during inclement weather and for shade during hotter months. In the Peninsular Ranges, bighorn sheep browse on a wide variety of plants, including shrubs, forbs, cacti, and grasses. Although steep escape route terrain is closely associated with bighorn sheep, low rolling and flat terrain including foothills and washes provide an alternative source of high quality browse forage during times when resources become limited. Lambing areas are associated with ridge benches or canyon rims adjacent to steep slopes or escarpments. Alluvial fans (sloping deposits of gravel, sand, clay, and other sediments that spread fanlike at the base of canyons and washes) are also used for breeding, feeding, and movement.

Peninsular bighorn sheep are closely associated with mountainous habitat and often are hesitant to venture far from escape terrain. Although they have been documented to move great distances from escape terrain on rare occasions, it is common to observe animals moving a short distance from escape terrain in search of forage or water sources, or moving between neighboring mountains. Researchers have documented animals ranging at a variety of distances from mountainous terrain (greater than 20 percent slope), from 0.5 to 1.6 miles, but Peninsular bighorn sheep were most frequently found within 0.5 miles of the mountainous terrain.

Historically, bighorn sheep have been documented in the Peninsular Ranges since early explorers such as Anza observed them in the 1700s. The distribution of Peninsular bighorn sheep has become more fragmented in the recent past, possibly due to the construction of roads that bisect ancestral bighorn trails and restrict bighorn movement. Bighorn sheep exhibit a naturally patchy distribution as a result of natural breaks in mountainous habitat. Currently, the Peninsular bighorn is distributed in fragmented populations from the Jacumba Mountains in San Diego County near the U.S./Mexico border to the San Jacinto Mountains in Riverside County.

Critical Habitat. Critical habitat for Peninsular bighorn sheep was designated in 2009 and includes portions of western Imperial County. The closest DCH is approximately 12 miles west of the project area in the Jacumba Mountains.

Occurrence. The nearest recorded location for this species was approximately 16 miles west of the survey area, in the rocky hills southwest of Ocotillo, California. The survey area does not contain the steep, rocky terrain that typically provides cover and habitat for the Peninsular bighorn sheep. The Coyote, In-Ko-Pah, and Jacumba mountains that provide suitable year-round habitat for this species are located 11 to 14 miles from the survey area. The project is situated in the large agricultural complex that surrounds El Centro on the eastern edge of the Yuha Desert, and does not function as a movement corridor for Peninsular bighorn sheep between the Peninsular mountain ranges in western Imperial Valley. In addition, the site is too far from the Peninsular ranges and the corridors between the ranges to serve as a source habitat for foraging or water. The location of the survey area within predominantly agricultural lands also reduces the likelihood of use by Peninsular bighorn sheep, which are sensitive to human activity and disturbance.

Peninsular bighorn sheep were not detected in the survey area during numerous biological surveys. Given the distance from suitable rocky terrain; agricultural lands within the survey area; distance of suitable foraging habitat from the Jacumba Mountains; lack of detection within the survey area; and the unlikelihood of the survey area to function as a movement corridor for this species, Peninsular bighorn sheep are not expected to occur within the survey area or the vicinity.

State-listed Species

State listed species with the potential to occur within the gen-tie survey area include: greater Sandhill Crane (*Grus canadensis tabida*), barefoot-banded gecko (*Coleonyx switaki*), and Peninsular bighorn

4.12 BIOLOGICAL RESOURCES

sheep. Sandhill crane and barefoot-banded gecko were previously discussed under “State-Listed Species” listed for the Solar Generation Facility Site, above. Peninsular bighorn sheep are discussed in above, under “Federally Listed Species.”

BLM Sensitive Species

Colorado Desert fringe-toed lizard (*Uma notata notata*)

Species. The Colorado Desert fringe-toed lizard is a CDFG Species of Special Concern and a BLM sensitive species. This species is primarily insectivorous, but will also feed on plant material. This species’ diet consists of ants, beetles, antlion larvae, hemipterans, grasshoppers, and caterpillars. Plant foods include buds, flowers, leaves, and seeds. Conspecifics and other lizards are also eaten occasionally. Sight is most frequently used to find food on the surface of sand. Buried fringe-toed lizards also use hearing to detect prey on the sand surface, or to find buried prey when above ground.

Fringe-toed lizards usually seek refuge from enemies by burrowing in the sand ("sand swimming") within 5 to 6 centimeters (2 to 2.4 inches) of the surface. They are usually buried on the lee sides of dunes and hummocks to prevent excavation by wind. Rodent burrows and the bases of shrubs are also used for cover and thermoregulation. Lizards usually hibernate in sand 30 centimeters (12 inches) deep, but juveniles and subadults may be found closer to the surface.

Habitat. The Colorado Desert fringe-toed lizard is found in the Colorado desert, south of the Salton Sea in Imperial and San Diego Counties. Its elevational range extends from sea level up to 180 meters (590 feet). The Colorado Desert fringe-toed lizard is restricted to fine, loose, wind-blown sand dunes, dry lakebeds, sandy beaches or riverbanks, desert washes, and sparse desert scrub.

Occurrence. This species has a moderate potential to occur within Creosote Bush – White Bursage Scrub and Stabilized Sand Dune habitats present in the survey area, but none were observed during surveys. This species is known to occur approximately three miles south of the survey area. Some of the area within the Creosote Bush – White Bursage Scrub habitat represents potentially suitable habitat although loose sandy areas are limited in depth and extent and are not highly suitable. The Stabilized Sand Dune habitat represents higher quality habitat for this species due the greater depth and extend of loose sandy areas.

Flat-tailed Horned Lizard (*Phrynosoma mcallii*)

Species. In California, the flat-tailed horned lizard (FTHL) was designated a sensitive species by the BLM in 1980. In 1988, a petition was submitted to the California Fish and Game Commission (CFGC) to list the species as endangered. In 1989, the commission voted against the proposed listing. In 1993, the USFWS published a proposed rule to list the FTHL as a threatened species. In 2006, the USFWS withdrew its proposal. On March 2, 2010, USFWS re-instated the 1993 proposed listing of the FTHL as federally threatened. The Ninth Circuit Court of Appeals ordered the USFWS to make a final listing determination by November 3, 2010. On March 15, 2011, the USFWS again withdrew its proposal to list the FTHL under the Endangered Species Act.

FTHL has the typical flattened body shape of horned lizards. It is distinguished from other species in its genus by its dark dorsal stripe, lack of external openings, broad flat tail, and comparatively long spines on the head. The FTHL has two rows of fringed scales on each side of its body. The species has cryptic coloring, ranging from pale gray to light rust brown dorsally and white or cream ventrally with a prominent umbilical scar. The only apparent external difference between males and females is the presence of enlarged postanal scales in males. Maximum snout-vent length for the species is 3.3 inches.

FTHLs escape extreme temperatures by digging shallow burrows in the loose sand. Adults are primarily inactive from mid-November to mid-February. Juvenile seasonal activity is often dependent on temperature fluctuations. Breeding activity takes place in the spring with young hatching in late July and September. The diet of horned lizards typically consists of greater than 95 percent native ant species, mostly large harvester ants (*Pogonomyrmex* spp.).

Habitat. The FTHL is found in the low deserts of southwestern Arizona, southeastern California, and adjacent portions of northwestern Sonora and northern Baja California, Mexico. In California, the FTHL is restricted to desert washes and desert flats in central Riverside, eastern San Diego, and Imperial counties. The majority of the habitat for the species is in Imperial County.

The lizard is known to inhabit sand dunes, sheets, and hummocks, as well as gravelly washes. The species is thought to be most abundant in creosote bush scrub vegetation communities. However, this species may also be found in desert scrub, desert wash, succulent shrub, alkali scrub, and sparsely vegetated sandy flats. It is typically found in dry, hot areas of low elevation (less than 800 feet).

Occurrence. The BLM gen-tie survey area is located with the Yuha Desert Management Area (MA). The Creosote Bush – White Bursage Scrub and, especially, Stabilized Sand Dune habitats associated with the BLM gen-tie survey area have the potential to support FTHL. Furthermore, FTHL are known to occur in this area.

Focused surveys for FTHL were performed as part of a nearby project immediately south of the gen-tie survey area. A total of 14 observations of potential FTHL sign were recorded during those surveys. FTHL sign was not limited to the sandiest portions of the survey area, and FTHL sign was found in disturbed areas in several instances (e.g. on an existing road), often times in areas with compacted and/or gravelly soils.

Flat-tailed horned lizard density in the survey area appears to be low. FTHL are apparently not limited to the most highly suitable habitats, and have been observed in disturbed habitats. Thus, the entire BLM gen-tie survey area can be considered occupied, although at low densities compared to areas with greater expanses of higher-quality habitat in other portions of the MA. The Stabilized Sand Dune habitats likely represent the highest quality habitat for this species, based on the depth and extent of loose sandy area associated with this habitat type.

California Species of Special Concern and Fully Protected Species

Three species that are classified as CDFG Species of Special Concern were observed within the survey area or were observed during surveys for nearby projects: Loggerhead Shrike, Crissal Thrasher (*Toxostoma crissale*), and LeConte's thrasher (*T. lecontei lecontei*). Golden eagle (*Aquila chrysaetos*), a CDFG Fully Protected Species, and protected under the Bald and Golden Eagle Protection Act, MBTA, and Fish & Game Code Sections 3503, 3503.5, and 3513, has also been observed near the survey area. Each of these species were previously discussed as part of the Environmental Setting for the Solar Generation Facility Site. Refer to descriptions under "California Species of Special Concern and Fully Protected Species."

Other Species

Desert Kit Fox (*Vulpes macrotis*)

Desert kit foxes (*Vulpes macrotis*) are widely distributed in desert scrub habitats in western North America including Sonoran creosote bush scrub. Portions of the gen-tie survey area are considered potentially suitable habitat for the desert kit fox. A formal kit fox burrow survey has not been

4.12 BIOLOGICAL RESOURCES

conducted for the project area; potentially suitable burrows for this species may be present throughout the survey area though are most likely to occur along the northern portion of the proposed gen-tie alternative.

American Badger (*Taxidea taxus*)

The American badger is found in open habitats throughout much of western and central North America. Open habitats occupied by this species can include grasslands, shrublands and scrub habitats, including Sonoran creosote bush scrub. A formal American badger burrow survey has not been conducted for the project area; potentially suitable burrows for this species may be present throughout the survey area though are most likely to occur along the northern portion of the proposed gen-tie alternative.

Riparian Habitat or Sensitive Natural Communities

As described as part of the Environmental Setting for the SolarGeneration Facility Site, special status natural communities are those communities “that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects.” The arrow weed thicket associated with the Westside Main Canal near the north end of the proposed gen-tie is considered a special status natural community. ~~There are approximately 0.6 acres of arrow weed thicket (0.12 acres of which are disturbed) and 2.1 acres of open water with arrow weed thicket (none of which are disturbed) present within the gen-tie survey area.~~ There are no other special status natural communities or other riparian habitats within the survey area.

The arrow weed thicket associated with the Westside Main Canal near the north end of the proposed gen-tie is considered a special status natural community. There are approximately 1.6 acres of arrow weed thicket and 1.2 acres of open water with arrow weed thicket present within the proposed gen-tie survey area.

Jurisdictional Waters

The gen-tie survey area for potential jurisdictional waters was comprised of the BLM ROW and a 200-foot buffer area. (The delineation results for these surveys are included in Appendix 2 of the BTR which is included as **Appendix J** of this EIR.) The jurisdictional delineation reports were submitted to the ACOE or CDFG in February 2012 for a determination of potential jurisdictional waters by the respective agencies. ~~The ACOE responded with a PJD on April 23, 2012 agreeing with the determinations made in the PJD report in **Appendix J**. The CDFG has given verbal concurrence but no written response has been received to date. Therefore, the following discussion of jurisdictional waters may change pending ongoing consultation CDFG. The potentially jurisdictional ACOE and CDFG waters are shown in Attachment 1 [Figure 7] of **Appendix J** of this EIR. Therefore, the following discussion of jurisdictional waters may change pending ongoing consultation with ACOE and CDFG. The **Vegetation Mapbook** included as Attachment 1 to **Appendix J** shows the potentially jurisdictional ACOE and CDFG waters.~~

ACOE Jurisdictional Waters

No ACOE wetlands were identified within the proposed gen-tie survey area. The Westside Main Canal was the only jurisdictional water of the U.S. (non-wetland) identified within the gen-tie ROW survey area. This feature crosses a small portion of BLM-managed lands near the northern terminus of the proposed gen-tie.

CDFG Jurisdictional Waters

CDFG jurisdictional waters were described as part of the Environmental Setting for the Solar Generation Facility Site. Please refer to this discussion as it is also applicable to the gen-tie. The Westside Main Canal represents the only potentially state jurisdictional feature within the gen-tie survey area. The Westside Main Canal would be spanned by the gen-tie.

Habitat Connectivity and Wildlife Corridors

Habitat Connectivity and Wildlife Corridors were described as part of the Environmental Setting for the Solar Generation Facility Site. Please refer to this discussion as it is also applicable to the gen-tie. As with the solar generation facility site, both avian and terrestrial wildlife species are able to move freely throughout the gen-tie survey area and are not restricted to a specific corridor or linkage.

California Desert Conservation Area

The proposed gen-tie survey area lies within the California Desert Conservation Area (CDCA). This area is within a designated utility corridor (Utility Corridor N) and within the Yuha Basin Area of Critical Environmental Concern (ACEC) as designated by the CDCA.

4.12.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following State CEQA Guidelines, as listed in Appendix G. The project would result in a significant impact to biological resources if it would result in any of the following:

- 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?
- 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?
- 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?
- d) Interfere substantially with the movement of any 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?
- e) Conflict with any local policies or ordinances protecting biological resource, such as a tree preservation policy or ordinance?
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

4.12 BIOLOGICAL RESOURCES

B. METHODOLOGY

Field Surveys

The 4,288-acre survey area encompasses the entire Campo Verde Solar Project (solar generation facility site, proposed gen-tie and gen-tie alternatives discussed in Section 6.0), the 160-foot-wide ROWs along the proposed gen-tie route, and buffer areas that varied for several surveys based on the target species and include 4,201 acres of private land and 87 acres of BLM-administered land.

General Biological Survey

Habitat assessments and general biological surveys of the proposed solar generation facility site were conducted on May 5 and September 30, 2010, March 28 through April 5, 2011, and October 23 through 27, 2011. The associated gen-tie facilities surveys were conducted from October 23 through 27, 2011. The focus of these surveys was twofold: 1) to document the botanical resources and potentially jurisdictional state and federal waters and wetlands, and 2) to document suitable threatened, endangered, and sensitive wildlife species habitats on the proposed solar generation facility site and along the proposed and alternative gen-tie corridors. The field surveys were conducted by surveying naturally vegetated areas with public access on foot and surveying the remainder of the area from public roads. The earthen drains and canals on the solar generation facility site were surveyed for indications of wetland vegetation and wildlife use. High quality aerial photography was used to map habitats and other features in areas that couldn't be accessed from public roads. These areas were examined with binoculars and vegetation communities were interpreted and mapped on the aerials.

Focused Rare Plant Survey

~~Fall~~Rare plant surveys were performed on October 23 and 24, 2011, [March 3 and 4, 2012, and March 30 and 31, 2012](#) in accordance with Survey Protocols Required for NEPA/ESA Compliance for BLM Special Status Plant Species and the Protocols for Surveying and Evaluating Impacts to Special Status native Plant Populations and Natural Communities. The surveys ~~were~~ [were](#) conducted during the traditional blooming periods of ~~several fall-blooming, numerous~~ sensitive species known from the vicinity of the project. Spring ~~and fall~~ rare plant surveys were [also](#) conducted for several nearby projects in the same corridor and those data were available and used for this analysis. ~~Surveys for spring ephemeral species will be conducted during traditional blooming periods of species known or potentially occurring within the survey area (March to May, 2012).~~

The entire rare plant survey area on BLM lands was examined on foot using transects. Approximate 30-meter transects were walked within the survey area that encompassed the various gen-tie alignments.

Private lands were evaluated for suitability to support rare plants; it was determined that the private lands have been intensively cultivated for decades, which has resulted in a change to the natural soil profile and limited potential for growth of native plants. As such, it ~~has been~~ [was](#) determined that the private lands do not support suitable habitat for rare plants, ~~though spring surveys were conducted in this area.~~ The natural vegetation along the Westside Main Canal and the adjacent canals and drains was also surveyed to assess potential to support rare plants.

Rare plant surveys of the fallow agricultural areas were not conducted [in the fall](#) because these areas were determined to have no potential to support sensitive rare plants at the time of fall survey. Fall-germinating and blooming ephemeral plant species were absent from the undisturbed native habitats (e.g. public lands between the Imperial Valley Substation and the Westside Main Canal) due to the lack of sufficient summer and early fall rains for seed germination. Spot field checks of the disturbed native

habitats in the private agricultural lands north of the Westside Main Canal also revealed the absence of fall germinating and blooming ephemeral plant species. The absence of these species in higher quality native habitats led to the conclusion that these species were also absent from the previously cultivated habitats because fall germinating species did not sprout in this portion of the Yuha Desert in the fall of 2011. These low quality habitats ~~will be~~ surveyed in the spring of 2012.

A database search using the California Natural Diversity Database (CNDDDB) RareFind indicated that five rare plant species are known from the project vicinity: brown turbans (*Malperia tenuis*) a CNPS List 2.3 species, hairy stickleaf (*Mentzelia hirsutissima*) a CNPS List 2.3 species, fairy duster (*Calliandra eriophylla*) a CNPS List 2.3 species, rock nettle (*Eucnide rupestris*) a CNPS List 2.2 species and Thurber's pilostyles (*Pilostyles thurberi*) a CNPS List 4.3 species. In addition, other sensitive species are known to potentially occur within the survey area and were included in the survey.

Phenology of common species at the time of the survey was used to verify that the survey was conducted within the period when rare plants would be observable. Shape files depicting survey area boundaries were uploaded onto GPS units. Transect locations were determined using UTM's. Track logs depicting transects were recorded on the GPS units.

Focused Burrowing Owl Surveys

Burrowing Owl surveys were conducted following California Burrowing Owl Consortium *Burrowing Owl Survey Protocol and Mitigation Guidelines* and ~~CDFG's Staff Report on Burrowing Owl Mitigation (CDFG 1995)~~ [CDFG's 2012 Staff Report on Burrowing Owl Mitigation \(March 7, 2012\).](#)"

Phase I and Phase II surveys of the solar generation facility site were conducted simultaneously by qualified biologists during the 2011 breeding season (March-April). Phase I and II surveys of the gen-tie corridors for the proposed project and alternative gen-tie alignments were conducted simultaneously during the fall of 2011 (October). The Phase I habitat assessments determined that most of the study area contains suitable Burrowing Owl habitat, and Phase II burrow surveys were conducted.

Phase II surveys covered the entire study area and potentially suitable burrows were recorded. Transects at 10-meter spacing were walked within the gen-tie corridor (including a 500-foot buffer around the project area) to ensure that all suitable burrows were identified. Within agricultural lands, a combination of vehicular and pedestrian surveys was conducted along roads and irrigation infrastructure.

Burrows that had the potential to be used by Burrowing Owls were marked using a handheld global positioning system (GPS) unit. Photos were taken of representative potential burrows and owl observations were noted. "Burrow Clusters" were recorded in areas that supported high densities of burrow entrances that were either: 1) multiple entrances associated with a single burrow; or 2) separate burrows that were located too close together to support more than one breeding pair of owls (burrows within 5 meters [or approximately 16 feet] of each other).

The Burrowing Owl nesting season begins as early as February 1 and continues through August 31. The timing of nesting activities varies with latitude and climatic conditions. Phase III surveys were conducted on the solar generation facility site during the breeding season, beginning March 1 and ending August 31. All Burrowing Owl sightings were recorded (including occupied burrows and burrows with sign) and mapped. Numbers of adults and juveniles were recorded, as well as behavior such as courtship and copulation. Territory boundaries and foraging areas were not mapped, mainly because of the difficulty posed by the active nests being so close together where home-ranges potentially overlap.

4.12 BIOLOGICAL RESOURCES

Surveys were conducted in the morning and evening (one-half hour before to two hours after sunrise and two hours before to one-half hour after sunset). Burrows were examined for owl sign during the first observation of suitable burrows (typically during Phase II surveys). Subsequent observations were conducted from fixed points that provided visual coverage of the burrows using spotting scopes or binoculars. When possible, observers remained in vehicles to minimize disturbance to the birds as much as possible.

Surveys were conducted at each burrow on four separate days in order to minimize the likelihood of false-negative results. Phase III surveys were ~~not~~ conducted along the proposed gen-tie corridor and the solar generation facility site in 2011 though they will be conducted during the spring of 2012 in accordance with the protocol.

Winter resident surveys ~~are being~~ were conducted during December 2011 and January 2012. Winter survey methodologies ~~will follow~~ ed Phase III protocol and were conducted on four separate days during the 2011/2012 Winter Season. This survey was completed at the end of January 2012. Breeding season surveys ~~will be~~ were conducted for the second time on the solar generation facility site and along the proposed gen-tie and alternative routes ~~from in~~ March 5 through ~~and~~ April 6, 2012.

Avian Use Surveys

Winter avian use surveys were completed in December 2011 and January 2012. Spring avian use surveys ~~were completed in~~ will begin ~~March 5~~ and ~~end~~ April 6, 2012. They ~~are all being~~ were performed by qualified biologists experienced in the identification of North American birds by sight and sound, and in accordance with *BLM's Solar Facility Point Count Protocol*. Point-count stations were located along 4 transects placed throughout the proposed project area (solar generation facility and gen-tie). Transect locations were designed to sample all habitat types present within the project area with a focus on areas most likely to contain a high abundance and/or diversity of birds, while maintaining adequate spatial coverage of the entire solar generation facility site and proposed gen-tie corridor. Each transect was approximately 1,250-meters in length with point-count locations spaced every 250-meters along transects. A total of 24 point-count stations were sampled during each survey event, with a total of four survey events during the winter survey season (December 2011 to January 2012) and four survey events during the spring season (March ~~to~~ -April 2012).

At each point count station, biologists recorded all birds seen or heard within a 100-meter radius over a 10-minute sampling period. Pairs or groups of birds were recorded as single detections to avoid issues resulting from statistical dependence. Birds seen or heard outside of the 100-meter radius were recorded as incidental observations and contributed to the overall project species list, but were excluded from analyses aimed at quantifying avian abundance. Birds that were seen or heard along transects, but between point-count stations, were also recorded as incidental observations. Point counts were generally performed no earlier than 30-minutes prior to sunrise and ended within four hours of sunrise. Surveys were not performed during inclement weather conditions (e.g. more than light or intermittent rain, winds greater than 15 miles-per-hour).

Jurisdictional Delineation

The project area (solar generation facility site and gen-tie) was evaluated for drainage features during field visits performed on April 4 - 5, 2011, October 25 - 27, 2011 and December 19 - 20, 2011. Additional information was gathered using a Geographic Information System (GIS) and aerial imagery. Determinations regarding the potential jurisdictional status of the various features located within the project area are based on the applicable regulations and associated guidance documents as well as on personal communications with Lanika Cervantes, Project Manager in the Regulatory Division of the US Army Corps of Engineers (ACOE) and Magdalena Rodriguez, Wildlife Biologist, from the California

Department of Fish and Game (CDFG). The Applicant submitted a report for a Preliminary Jurisdictional Determination to the ACOE and a determination of the extent of potential CDFG-jurisdictional waters during the first quarter of 2012; ~~the ACOE concurred with those findings in a letter dated April 23, 2012.~~ The Applicant ~~will follow-up with any risks not required to obtain a 404 permit but may be required to obtain a Streambed Alteration Agreement from CDFGs identified by either agency.~~

Literature Review

Determination of the potential occurrence for listed, sensitive, or noteworthy species is based upon known ranges and habitat preferences for the species, species occurrence records from the California Natural Diversity Database (CNDDDB), the BLM Special Status plant and wildlife species website, and species occurrence records from other sites in the vicinity of the survey area.

Additional resources that were consulted included the Biological Technical Report for the Imperial Solar Energy Center West, Biological Technical Report for the Imperial Solar Energy Center South, the Biological Technical Report for the Centinela Solar Energy Project, Draft Environmental Impact Report/Environmental Assessment for the Centinela Solar Energy Project, and the Draft Environmental Impact Statement for the SES Solar Two.

C. ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

No checklist criteria were eliminated from further evaluation as part of the Initial Study. Each checklist item is discussed in the analysis of impacts for the solar generation facility site and the gen-tie, as appropriate.

D. PROJECT IMPACTS AND MITIGATION MEASURES

Impacts to Special-Status Species – Plants

Impact 4.12.1 The proposed solar generation facility site has been previously disturbed in association with past and current agricultural operations. The gen-tie corridor is not anticipated to contain special-status plants based on previous surveys within the corridor. Therefore, **no impacts** to special status plant species are expected to occur as a result of project implementation.

Solar Generation Facility Site

The solar generation facility site consists of disturbed agricultural lands with very little native vegetation. As shown, approximately 1,852 acres of the site would be temporarily and permanently disturbed consisting of primarily active agriculture. The site is regularly tilled, planted, and harvested/mowed. As a result, no special status plant species are expected to occur on the solar generation facility site and no impact is identified.

Gen-Tie

Special status plants within the gen-tie corridor on BLM lands will be addressed in a separate Environmental Assessment prepared by the BLM. However, based on the biological studies prepared for this project, no federally listed, state-listed or BLM sensitive plant species are known or expected to occur within the proposed gen-tie corridor based on spring surveys completed for projects in the same corridor. ~~Abram's spurge (CNPS 2.2), glandular ditaxis (CNPS 2.2), and California ditaxis (CNPS 3.2) have~~ a low potential for occurrence within the proposed gen-tie survey area. ~~Rock nettle (CNPS 2.2 and CNDDDB special plant), Brown turbans, Parish's desert thorn and hairy stickleaf (CNPS 2.3 and CNDDDB special plants),~~ and Utah vine milkweed (CNPS 4.2) have a low to moderate potential for occurrence.

4.12 BIOLOGICAL RESOURCES

Impacts to these species are not anticipated because they were not observed during surveys and habitat is of low quality. However, if impacts occur, they will be relatively minor based on the small impact areas (7.4069 acres of temporary impacts and 0.05 acre of permanent impacts).

Though considered sensitive species, the relatively low ranking status of these species means that mitigation for these species' habitats (e.g., mitigation for the creosote bush – white bursage scrub habitat would mitigate for impacts to the preferred habitats for these species) would be sufficient to reduce impacts to **less than significant** levels. Species-specific mitigation requirements would not be necessary. Therefore, impacts to special status species plants are considered less than significant.

Mitigation Measures

None required.

Significance After Mitigation
Not applicable.

Impacts on Special Status Species – Birds (Southwestern Willow Flycatcher)

Impact 4.12.2 Implementation of the proposed project has the potential to impact SWFL. This is considered a **potentially significant impact**.

Solar Generation Facility Site

Construction of the proposed project is not likely to directly affect SWFL individuals because there is no nesting habitat in the survey area. Furthermore, no habitat used during migration will be removed to accommodate the proposed project. However, **potentially significant** impacts to SWFLs may occur in association with light and noise generated during construction.

Light and noise from heavy equipment may result in short-term avoidance by SWFL of small areas of foraging habitat near construction activities. These would be short-term impacts given the brief amount of time (likely two weeks or less) this species may forage in the project vicinity during migration. Work in the immediate vicinity of potentially suitable SWFL habitat will be conducted primarily during daylight hours. If it becomes necessary to conduct work at night, lighting will be needed for worker safety. Light could spill on to foraging areas potentially disturbing foraging activities.

Generally, noise from the construction of solar facilities similar to the proposed project may exceed 60 dB(A) for a distance of up to 1,280 feet from the source. These noise levels could potentially impact SWFL if they are foraging in the area during migration.

The O&M activities of the proposed project are not likely to adversely impact SWFL that may forage within migration habitats adjacent to the solar generation facility site (**Figure 4.12-2A, Figure 4.12-2B** and **Figure 4.12-2C**). Noise and lighting during operations will be minimal and directed toward the interior of the solar generation facility site where the operations facilities are located and would be similar in nature to noise associated with current agricultural activities. Therefore, O&M activities are not expected to provide a significant source of disturbance to avian species, including SWFL, outside of the solar generation facility site.

Suitable migration habitat exists in the vicinity of portions or all of Fig Drain, Diehl Drain, Wixom Drain, Dixie 3A Drain, Westside Drain, and Wormwood 7 Drain (**Figure 4.12-2A, Figure 4.12-2B** and **Figure 4.12-2C**). The project will not directly disturb acreage inside these habitats. No project features will be built within, over or under any of the drains or wetlands containing potentially suitable migratory habitat for

the SWFL. The solar panels will be installed in areas that are actively farmed and fencing will be installed near existing field edges to prevent equipment from entering drains and wetlands or associated riparian habitats during construction and operations.

The solar generation facility site will include several earthen stormwater retention/detention basins to manage stormwater flows. Run-off flows from the solar generation facility site will be directed to these basins where water will be allowed to percolate through the soil. The detention basins will be sized to meet county and RWQCB standards. The O&M building and delivery areas will also be designed to accommodate storm water runoff in accordance with County guidelines. No indirect effects to SWFL foraging habitat along the portions of Fig Drain, Diehl Drain, Wixom Drain, Dixie 3 Drain, Dixie 3A Drain, Dixie 3B Drain, Dixie 4 Drain, Westside Drain, Forget-Me-Not Drain 1, and Wormwood 7 Drain supporting potentially suitable SWFL migratory habitat are expected to occur.

Gen-Tie

Construction of the proposed gen-tie is not likely to directly affect SWFL individuals because there is no nesting habitat in the survey area. Suitable SWFL migration habitat in the proposed gen-tie survey area occurs only in the vicinity of Dixie 3B Drain, just west of the Westside Main crossing (**Figure 4.12-2C**). The proposed gen-tie will not disturb acreage inside these habitats, nor would the gen-tie be built across this habitat. No project features will be built within, over or under any of the drains or wetlands containing potentially suitable migratory habitat for the SWFL.

Potential impacts to the SWFL would be limited to the risk that night-migrating SWFL individuals could collide with the gen-tie. Likewise, temporal displacement of migrant willow flycatchers could occur if nearby construction activities temporarily deter foraging. This impact is considered **potentially significant**.

Mitigation Measures

MM 4.12.2 Implement the following measures to address potential impacts to avian species, including SWFLs:

- The Applicant shall prepare and implement a Bird and Bat Conservation Strategy (BBCS) outlining conservation measures for construction and O&M activities that reduce potential impacts to migratory birds, bats and raptors. Conservation measures shall be developed based on, USFWS guidelines and input from the USFWS. Construction conservation measures to be addressed in the BBCS include:
 - Minimizing disturbance to vegetation to the maximum extent practicable.
 - Clearing vegetation outside of the breeding season. If construction occurs between February 1 and September 15, an approved biologist shall conduct a pre-construction clearance survey for nesting birds in suitable nesting habitat that occurs within the proposed area of impact. Pre-construction nesting surveys will identify any active migratory birds (and other sensitive non-migratory birds) nests. Direct impact to any active migratory bird nest should be avoided.
 - Minimize wildfire potential.
 - Minimize activities that attract prey and predators.
 - Control of invasive plants.

4.12 BIOLOGICAL RESOURCES

- Apply APLIC design guidelines for overhead utilities by incorporating recommended or other methods that enhance the visibility of the lines to avian species.

Operations and maintenance conservation measures to be incorporated into the BBCS include:

- Preparation of a Raven Control Plan that avoids introducing water and food resources in the area surrounding the solar generation facility.
- Incorporate APLIC guidelines for overhead utilities as appropriate to minimize avian collisions with Gen-tie Line facilities.
- Minimize noise.
- Minimize use of outdoor lighting.
- Implement post—construction avian monitoring that will incorporate the Wildlife Mortality Reporting Program.

The BBCS shall also address disturbance minimization, timing of construction, minimization of activities that would attract prey and predators, lighting, noise, and incorporation of a Wildlife Mortality Reporting Program and Raven Control Plan discussed below.

- The Applicant shall prepare a *Raven Control Plan* that details specific measures for storage and disposal of all litter and trash produced by the Campo Verde Solar project site and its employees. This plan shall be designed to discourage scavengers that may also prey on wildlife in the vicinity. All employees shall be familiar with this plan and littering shall be prohibited. This plan will be reviewed and approved by the BLM and CDFG.
- Prepare a *Wildlife Mortality Reporting Program* to identify and report any dead or injured animals observed by personnel conducting O&M activities within the solar generation facility and along the gen-tie line. An appropriate reporting format for dead or injured special status wildlife observed within the solar generation facility and along the gen-tie line shall be developed in coordination with CDFG, USFWS and the BLM. In addition, reporting of any dead or injured avian species found along the gen-tie line shall follow the existing USFWS Bird Fatality/Injury Reporting Program (<https://birdreport.fws.gov/>). Species requiring reporting will be decided in consultation with CDFG, BLM and USFWS.
- Establish annual formal Worker Education Training for all employees and any subcontractors at the Campo Verde Solar project site to provide instruction on sensitive species identification; measures to avoid contact, disturbance, and injury; and reporting procedures in the case of dead and/or injured wildlife species. The USFWS and the BLM shall be notified per approved guidelines and channels of authority if mortality should occur. Species requiring reporting will be decided in consultation with CDFG, BLM and USFWS and will be detailed in the *Wildlife Mortality Reporting Program*.
- Project impacts shall not occur in potential southwestern willow flycatcher or Yuma clapper rail riparian habitat.

- To mitigate disturbance to southwestern willow flycatcher, nighttime construction (work outside 7 AM - 7 PM time frames) shall be restricted during the spring (March 1 -June 15) and fall migration periods (August 2 - October 15), so that no nighttime construction shall occur within 250-feet of potential southwestern willow flycatcher habitat during those periods. These environmentally sensitive areas (ESA) consisting of southwestern willow flycatcher habitat shall be established and flagged.
- To mitigate disturbance to Yuma Clapper Rail during construction activities, environmentally sensitive area (ESA) shall be established and flagged within 250-feet of potential Yuma Clapper rail habitat during the breeding season (February 15 - June 30). No project-related construction, clearing or ground disturbing activities shall occur within 250-feet of potential Yuma clapper rail habitat during breeding season.
- Project electric transmission lines spanning or aligning adjacent to southwestern willow flycatcher or Yuma Clapper Rail habitat shall be equipped with flight diverters for overhead crossings.”

Timing/Implementation: Prior to issuance of grading permits, and maintained throughout the operations and maintenance process.

Enforcement/Monitoring: Project Applicant in collaboration with CDFG, BLM and USFWS.

Significance After Mitigation

Implementation of **MM 4.12.2** would reduce impacts to SWFLs as well as well other bird populations and important avian habitats. These measures would include conservation measures, such as development of a BBCS, Raven Control Plan, Wildlife Mortality Reporting Program, and Worker Education Training. Implementation of these measures would reduce potential impacts to SWFLs throughout the construction and the operations and maintenance processes to **less than significant** levels.

Impacts on Special Status Species – Birds (Yuma Clapper Rail)

Impact 4.12.3 Implementation of the proposed project has the potential to impact YCR. This is considered a **potentially significant impact**.

Solar Generation Facility Site

Construction of the proposed project is unlikely to have an adverse impact on YCR individuals. The nearest known occurrence of YCR is approximately 0.5 miles north of the survey area. Potential YCR habitat in the project area is limited, isolated and of poor quality. No potential foraging or wintering habitat will be removed during construction or grading. No impacts to YCR due to habitat loss will occur.

Potential for YCR to forage or winter in the cattail marsh or common reed marsh vegetation associated with Fig Drain, Wixom Drain, Dixie 3A Drain, and an unnamed wetland adjacent to Dixie 3A Drain, Dixie 4 Drain, Westside Drain and Wormwood 7 Drain is low (refer to **Figure 4.12-2A**, **Figure 4.12-2B** and **Figure 4.12-2C**). Thus, this species is not expected to nest within the survey area.

Temporary light and noise from heavy equipment during construction is unlikely to impact YCR given the low potential for this species to forage or winter adjacent to and/or within the solar generation facility

4.12 BIOLOGICAL RESOURCES

site. Work will be conducted primarily during daylight hours. If it becomes necessary to conduct work at night, lighting will be needed for worker safety. Lighting could impact YCR in the unlikely event that they are present when night construction is occurring.

In general, noise from the construction of solar facilities similar to the proposed project may exceed 60 dB(A) for a distance of up to 1,280 feet from the source. Although it is unlikely that YCR forages or winters in the small habitat patches within the survey area, construction noise could potentially impact this species if it is present.

The O&M activities of the project would not affect YCR in the unlikely event that this species forages within the cattail marsh adjacent to and/or within the proposed solar generation facility site. Any noise and lighting during operations will be minimal, and the level of human disturbance is not expected to increase significantly above the agricultural practices that are currently taking place and will continue to take place. Therefore, O&M activities are not expected to affect YCR.

The solar generation facility site will include several earthen detention basins to manage stormwater flows. Run-off from the solar generation facility site will be directed to these basins where water will be allowed to percolate through the soil. The detention basins will be sized to meet county and RWQCB standards. The O&M building and delivery areas will be provided with stormwater containment designed to accommodate runoff in accordance with County guidelines. No indirect effects to YCR foraging habitat or wintering habitat along the with Fig Drain, ~~Wixom Drain~~, Dixie 3A Drain, an unnamed wetland adjacent to Dixie 3A Drain, Dixie 4 Drain, Westside Drain or Wormwood 7 Drain are expected to occur as a result of run-off.

Unpaved roads exist adjacent to the Fig Drain, Wixom Drain, Dixie 3A Drain, an unnamed wetland adjacent to Dixie 3A Drain, Dixie 4 Drain, Westside Drain and Wormwood 7 Drain. These roads provide access to these facilities and no additional grading beyond standard maintenance of solar generation facility site access roads adjacent to potential foraging or winter habitat is anticipated. Impacts to these habitats resulting from sedimentation are not expected to occur. ~~Because downstream flows are expected to be maintained at current levels, effects to downstream YCR habitat are not anticipated.~~

Flows to Wixom Drain may be reduced below current levels, which may indirectly impact YCR habitat downstream in Wixom Marsh. Implementation of Mitigation Measure 4.12.3 will ensure that impacts to YCR are less than significant.

Gen-Tie

There is no habitat for Yuma Clapper Rail along the proposed gen-tie. No impact would occur.

Mitigation Measures

Implement MM 4.12.2

Timing/Implementation: Prior to issuance of grading permits, and maintained throughout the operations and maintenance process.

Enforcement/Monitoring: Project Applicant in collaboration with CDFG, BLM and USFWS.

Implement new Mitigation Measure (MM 4.12.3)

- The Applicant shall provide a habitat monitoring plan for the Wixom Marsh located at the terminus of Wixom Drain for Yuma ~~e~~Clapper ~~r~~Rail habitat. The monitoring plan section shall include dimensions and contours of Yuma ~~e~~Clapper ~~r~~Rail habitat features and describe the current plant species composition, density and percent

cover. The plan to be approved by the U.S. Fish and Wildlife Service (USFWS) will meet performance criteria for plant species survival and species composition. The performance criteria will ensure that the current habitat composition, density, and area is maintained. The Applicant shall coordinate with USFWS on any adaptive management changes needing to be incorporated into the plan.

The plan will ensure that plant species composition will be maintained at level equal to at least 50 percent of the existing plant species composition (those that are beneficial to YCR), at least 60 percent of the existing plant density, and 80 percent of the area that is currently suitable YCR habitat.

- Project impacts shall not occur in potential southwestern willow flycatcher or Yuma Clapper Rail riparian habitat.
- To mitigate disturbance to Yuma Clapper Rail during construction activities, environmentally sensitive area (ESA) shall be established and flagged within 250-feet of potential Yuma clapper rail habitat during the breeding season (February 15 - June 30). No project-related construction, clearing or ground disturbing activities shall occur within 250-feet of potential Yuma Clapper Rail habitat during breeding season.
- Project electric transmission lines spanning or running adjacent to Yuma Clapper Rail habitat shall be equipped with flight diverters for overhead crossings.

Timing/Implementation: Prior to issuance of grading permits, and maintained throughout the operations and maintenance process.
Enforcement/Monitoring: Project Applicant in collaboration with USFWS.

Significance After Mitigation

Implementation of MM 4.12.2 would reduce impacts to bird populations, including YCRs and other important avian habitats. These measures would include conservation measures, such as development of a BBCS, Raven Control Plan, Wildlife Mortality Reporting Program, and Worker Education Training. Implementation of MM 4.12.3 would reduce impacts to YCR specifically, as described above. Implementation of these measures would reduce potential impacts to YCRs throughout the construction and the operations and maintenance processes to less than significant levels.

~~Implementation of MM 4.12.2 would reduce impacts to bird populations, including YCRs and other important avian habitats. These measures would include conservation measures, such as development of a BBCS, Raven Control Plan, Wildlife Mortality Reporting Program, and Worker Education Training. Implementation of these measures would reduce potential impacts to YCRs throughout the construction and the operations and maintenance processes to less than significant levels.~~

Impacts on Special Status Species – Birds (Greater Sandhill Crane)

Impact 4.12.4 Implementation of the proposed project has the potential to impact Greater Sandhill Crane. This is considered a **potentially significant impact**.

Solar Generation Facility Site

Greater Sandhill Cranes may forage during the winter in the active agricultural habitats present within the survey area. Approximately 1,677.5 acres of agricultural land would be removed to accommodate the proposed project (refer to **Table 4.12-10**). Given the large amount of potentially suitable foraging

4.12 BIOLOGICAL RESOURCES

habitat in the immediate vicinity of the project area and the Imperial Valley, it is unlikely that the loss of this potentially suitable foraging habitat would significantly impact wintering Greater Sandhill Cranes.

Light and noise from heavy equipment during construction is not expected to adversely modify the behavioral patterns of foraging Sandhill Cranes given the vast amount of foraging habitat in the immediate vicinity of the survey area. Work will be conducted primarily during daylight hours. If it becomes necessary to conduct work at night, lighting will be needed for worker safety. This lighting will be directed toward the interior of the solar generation facility site in order to minimize effects to Sandhill Cranes that may be roosting in adjacent fields. The Sandhill Crane is a diurnal species and is not expected to be active at night.

Generally, noise from the construction of solar facilities similar to the solar generation facility site may exceed 60 dB(A) for a distance of up to 1,280 feet from the source. While the Sandhill Crane is relatively tolerant of disturbance on its wintering grounds, noise during construction has the potential to impact this species.

The O&M activities are unlikely to affect Sandhill Cranes that may be foraging adjacent to the solar generation facility site during the winter. Noise and lighting during operations will be minimal and directed toward the interior of the solar generation facility site where the operations facilities are located. General O&M activities that may be conducted within the solar generation facility site include equipment inspection and/or repairs, solar panel washing, weed abatement activities, and security guard duties involving the use of motor vehicles. Panel washing may also require a water truck access. These O&M activities are anticipated to be at the same level of intensity as the current agricultural operations and are not expected to affect the overall behavioral patterns of Sandhill Cranes within the survey area.

Gen-Tie

Sandhill Cranes are only active during daylight hours, and no collisions with the solar panels or other facility structures are anticipated, as they will be visible, and therefore avoidable. The potential for collisions with the proposed gen-tie would be low as APLIC guidelines for overhead utilities will be incorporated as appropriate to minimize this risk.

Mitigation Measures

Implement MM 4.12.2

Timing/Implementation: Prior to issuance of grading permits, and maintained throughout the operations and maintenance process.

Enforcement/Monitoring: Project Applicant in collaboration with CDFG, BLM and USFWS.

Significance After Mitigation

Implementation of **MM 4.12.2** would reduce impacts to bird populations, including Greater Sandhill Cranes and other important avian habitats. These measures would include conservation measures, such as development of a BBCS, Raven Control Plan, Wildlife Mortality Reporting Program, and Worker Education Training. Implementation of these measures would reduce potential impacts to Greater Sandhill Cranes throughout the construction and the operations and maintenance processes to **less than significant** levels.

Impacts on Special Status Species – Birds (Mountain Plover)

Impact 4.12.5 Implementation of the proposed project has the potential to impact Mountain Plover during construction, and operation and maintenance. This is considered a **potentially significant impact**.

Solar Generation Facility Site

The risk of death or injury to Mountain Plover resulting from the project is unlikely for the following reasons:

- This species does not nest within the survey area or in the Imperial Valley; therefore, there is no risk of destroying nests or eggs, harming chicks, or discouraging parents from returning to the nest.
- The species is naturally evasive and will readily move out of harm's way to avoid construction activities. They would likely find suitable fields nearby for foraging.
- Foraging habitat would be removed permanently on the solar generation facility site; therefore, Mountain Plovers would not attempt to forage on the site and there would be no risk of collision with solar panels and other components.

The Mountain Plover is protected under the MBTA. As such, it is unlawful to kill this species. Therefore, the Applicant must avoid killing Mountain Plover and employ avoidance measures necessary to avoid killing or injuring any Mountain Plover.

Light and noise from heavy equipment during construction is expected to be of short duration and should not adversely modify the behavioral patterns of foraging Mountain Plover in the region given the vast amount of foraging habitat in the immediate vicinity of the survey area. Work will be conducted primarily during daylight hours. If it becomes necessary to conduct work at night, lighting will be needed for worker safety. Lighting has the potential to impact Mountain Plover that may be roosting in adjacent fields. However, Mountain Plover is a diurnal species and is not expected to be active at night.

Generally, noise from the construction of solar facilities similar to the solar generation facility site may exceed 60 dB(A) for a distance of up to 1,280 feet from the source. While the Mountain Plover is relatively tolerant of disturbance on its wintering grounds, noise could potentially impact this species during the brief periods when plovers may forage within any given field in the vicinity of the survey area.

The O&M activities are unlikely to affect Mountain Plovers that may be foraging adjacent to the solar generation facility site during the winter. Noise and lighting during operations will be minimal and directed toward the interior of the solar generation facility site where the operations facilities are located. General O&M activities that may be conducted within the solar generation facility site include equipment inspection and/or repairs, solar panel washing, weed abatement activities, and security guard duties involving the use of motor vehicles. Panel washing may also require a water truck access. These O&M activities are anticipated to be at the same level of intensity as the current agricultural operations and are not expected to affect the overall behavioral patterns of Mountain Plovers within the survey area.

Mountain Plover is only active during daylight hours, and no collisions with solar panels, or other facility structures are anticipated, as they will be visible, and therefore avoidable, if Mountain Plovers are actively moving in and around the solar generation facility site. In addition, Therefore, O&M activities would have **less than significant** impact on Mountain Plover foraging within or adjacent to the survey area.

4.12 BIOLOGICAL RESOURCES

Approximately 1,677.5 acres of potential foraging habitat for Mountain Plover would be permanently removed. Conservatively assuming that entire acreage is suitable foraging habitat at any given time, this loss of foraging habitat would account for less than 0.8 percent of the estimated foraging habitat (using the five-year average of 214,962 acres) available in the Imperial Valley. This does not take into account the likely significant acreage of suitable foraging habitat in Mexico, just across the border. The permanent loss of less than 0.8 percent of suitable foraging habitat in the Imperial Valley represents minute portion of the loss of total habitat in the Imperial Valley.

Large avian predators such as ravens (genus *Corvus*), Loggerhead Shrikes (*Lanius ludovicianus*), and Prairie Falcon (*Falco mexicanus*) may be drawn to the solar generation facility site due to the increase in food sources such as garbage cans and nesting/perching areas such as the perimeter fence. This potential increase in avian predators may indirectly affect Mountain Plover within and adjacent to the solar generation facility site.

No indirect effects to Mountain Plover due to herbicide use are anticipated. The timing and formula of any herbicide used for control of weeds will be in accordance with the Weed Management Plan (refer to **MM 4.12.12a**, **4.12.13a** and **MM 4.12.12b**, **4.12.13b**), which will conform to resource agency standards to minimize impacts to sensitive biological resources.

Gen-Tie

Mountain Plover is only active during daylight hours, and no collisions with the gen-tie are anticipated as this feature will be visible and therefore avoidable. Impacts to Mountain Plover are expected to be **less than significant**.

Mitigation Measures

Implement MM 4.12.2

Timing/Implementation: Prior to issuance of grading permits, and maintained throughout the operations and maintenance process.

Enforcement/Monitoring: Project Applicant in collaboration with CDFG, BLM and USFWS.

Significance After Mitigation

Implementation of **MM 4.12.2** would reduce impacts to bird populations, including Mountain Plover and other important avian habitats. These measures would include conservation measures, such as development of a BBCS, Raven Control Plan, Wildlife Mortality Reporting Program, and Worker Education Training. Implementation of these measures would reduce potential impacts to Mountain Plover throughout the construction and the operations and maintenance processes to **less than significant** levels.

Impacts on Special Status Species – Raptors (Burrowing Owls)

Impact 4.12.6 Implementation of the proposed project has the potential to impact Burrowing Owls during construction, and operation and maintenance. This is considered a **potentially significant impact**.

Solar Generation Facility Site

The ~~1995 California Department of Fish and Game's Staff Report on Burrowing Owl Mitigation~~ [CDFG's 2012 Staff Report on Burrowing Owl Mitigation \(March 7, 2012\)](#) defines impact to Burrowing Owl as:

- Disturbance within 50 meters (approximately 160 feet.) which may result in harassment of owls at occupied burrows;
- Destruction of natural and artificial burrows (culverts, concrete slabs, and debris piles that provide shelter to Burrowing Owls); and
- Destruction and/or degradation of foraging habitat adjacent (within 100 meters or approximately 328 feet) of an occupied burrow(s).

~~Sixty~~Fifty-five occupied Burrowing Owl burrows were observed within the survey area. While direct removal of these burrows are not anticipated as the result of project implementation, adjacent agricultural fields, which represent suitable foraging habitat for these burrows will be graded during construction activities. Based on the criteria above, impacts to any Burrowing Owl individuals and/or active Burrowing Owl burrows would be considered **potentially significant**. In accordance with the ~~1995 California Department of Fish and Game's Staff Report on Burrowing Owl Mitigation~~, impacts to foraging habitat within 100 meters (approximately 300 feet) of each active burrow would be considered **significant**.

After construction is complete, Burrowing Owls may occur along the remaining earthen lined canals and drains in and around the project area. All permanent lighting within the solar generation facility site will be low profile fixtures that point inward toward the solar generation facility site with directional hoods or shades to reduce light from shining into the adjacent habitat. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. Thus, impacts to Burrowing Owl due to lighting are expected to be **less than significant**.

No equipment or components of the solar generation facility site are expected to produce noise that would exceed ambient noise in the vicinity. Thus, noise impacts to Burrowing Owl are expected to be **less than significant**.

Gen-Tie

~~Thirty~~Forty-~~nine~~ suitable but unoccupied Burrowing Owl burrows were observed within the survey area, though ~~they~~most but not all are located within the unstable desert dunes and are regularly filled in because of the structural instability of the sand. Removal of these burrows is not anticipated to occur as the result of implementation of the proposed gen-tie because the burrows would be spanned and adjacent suitable foraging habitat for these burrows would not be removed during construction activities.

No equipment or components of the gen-tie are expected to produce noise either during construction or operation that would exceed ambient noise in the vicinity. Therefore, noise impacts to Burrowing Owls during construction and operation of the gen-tie would be **less than significant**.

Mitigation Measures

MM 4.12.6a The following measures will avoid, minimize, or mitigate potential impacts to Burrowing Owls during construction activities:

- 1) To the extent practicable, initial grading and clearing within the project footprint shall occur between September 1 and January 31 to avoid impacts to any breeding Burrowing Owls. Occupied burrows shall not be removed during the

4.12 BIOLOGICAL RESOURCES

nesting season (February 1 through August 31) unless a qualified biologist approved by CDFG verifies through non-invasive methods that either: (a) the birds have not begun egg-laying and incubation; or (b) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

If initial grading and clearing within the project footprint is to begin during the breeding season (February 1 through August 31), measures 2 through 4 below will be implemented.

- 2) Within ~~30~~ 14-days prior to initiation of initial grading and clearing, pre-construction clearance surveys for Burrowing Owl shall be conducted by qualified and agency-approved biologists to determine the presence or absence of this species within the grading area. The proposed grading areas shall be clearly demarcated in the field or via GPS by the project engineers and Designated Biologist prior to the commencement of the pre-construction clearance survey. The surveys shall follow the protocols provided in the *Burrowing Owl Survey Protocol and Mitigation Guidelines*.
- 3) When removal of occupied burrows is unavoidable, the following mitigation measures shall be implemented outside of the breeding season:
 - Passive relocation methods are to be used by the biological monitors to move the owls out of the impact zone. This includes covering or excavating all burrows and installing one-way doors into occupied burrows. This will allow any animals inside to leave the burrow, but will exclude any animals from re-entering the burrow. A period of at least one week is required after the relocation effort to allow the birds to leave the impacted area before excavation of the burrow can begin. The burrows should then be excavated and filled in to prevent their reuse.
 - The removal of active burrows on-site requires construction of new burrows or the enhancement of existing unsuitable burrows (i.e., enlargement or clearing of debris) at a mitigation ratio of 2:1 at least 50 meters from the impacted area and must be constructed as part of the above-described relocation efforts.
- 4) As the project construction schedule and details are finalized, an approved biologist shall prepare a Burrowing Owl Mitigation and Monitoring Plan that will detail the approved, site-specific methodology proposed to minimize and mitigate impacts to this species. Passive relocation, destruction of burrows, and construction of artificial burrows can only be completed upon prior approval by and in cooperation with the CDFG.

Timing/Implementation: Prior to issuance of grading permits.

Enforcement/Monitoring: Project Applicant in collaboration with CDFG, BLM and USFWS.

MM 4.12.6b The Applicant shall consult with CDFG to determine the amount and conditions of compensatory mitigation for foraging habitat lost as a result of project implementation. A mitigation and monitoring plan shall be prepared that could include a combination of (or one of) on-site mitigation, off-site mitigation, or contributions to

National Fish and Wildlife Foundation's Impact-Directed Environmental Accounts program. Exact mitigation acreages will be determined in consultation with CDFG [and in accordance with CDFG's 2012 guidance for Burrowing Owl Mitigation](#).

Timing/Implementation: Prior to issuance of grading permits.

Enforcement/Monitoring: Project Applicant in collaboration with CDFG, BLM and USFWS.

Significance After Mitigation

Implementation of **MM 4.12.6a** and **MM 4.12.6b** would reduce impacts to Burrowing Owls. These mitigation measures would include pre-construction clearance surveys, relocation of owls whose burrows would be directly removed by construction activities and compensatory mitigation acreage. Consultation with CDFG regarding on-site mitigation is ongoing and agency approval of the project Burrowing Owl Mitigation Plan would be required before the start of construction. Exact mitigation acreages will be determined in consultation with CDFG. Implementation of these measures would reduce potential impacts to Burrowing Owl throughout the construction and the operations and maintenance processes to **less than significant** levels.

Impacts on Special Status Species – Raptors (Golden Eagles)

Impact 4.12.7 Implementation of the proposed project has the potential to impact Golden Eagles during operation and maintenance. This is considered a **potentially significant impact**.

Solar Generation Facility Site

Suitable nesting habitat is not present within the survey area and Golden Eagles are not expected to nest within or in the immediate vicinity of the survey area. However, the project vicinity contains habitat features that could be conducive to eagle use and foraging. Furthermore, occasional foraging may occur on the project site. Suitable foraging habitat would be removed by the project. However, the amount of habitat that would be removed would be minimal compared to the amount of suitable foraging habitat available in and around the Imperial Valley. In addition, prey availability in agricultural habitats is low compared to the surrounding native desert. Thus, the loss of habitat necessary to accommodate the proposed project is unlikely to disturb Golden Eagles that may occasionally use the project area for foraging. Incidental observations within the valley suggest that the most suitable foraging habitat within the agricultural lands may be the larger IID-maintained drains. No large drains would be removed as a result of project implementation.

Historical records and results of the BTR analysis indicate that impacts to eagles as a result of the proposed project are unlikely due to the low numbers of eagles that may use the area for foraging. Likewise, tubular steel structures included as part of the project would decrease the potential for perching and nesting. Additionally, the amount of suitable foraging habitat (1,852 acres) that would be removed by the project is small relative to the amount of habitat available in and around the Imperial Valley (refer to **Table 4.12-10**). This would not represent a significant impact to this species given the vast amounts of suitable foraging habitat in the surrounding vicinity and in the Imperial Valley (essentially all agricultural lands) and the relative infrequency with which the species has been observed in the survey area and vicinity. Therefore, impacts to Golden Eagle are considered **less than significant**.

Gen-Tie

The proposed gen-tie poses a potential impact to Golden Eagles by presenting a risk of collisions. This is considered a **potentially significant impact**.

4.12 BIOLOGICAL RESOURCES

Mitigation Measures

Implement MM 4.12.2

Timing/Implementation: Prior to issuance of grading permits, and maintained throughout the operations and maintenance process.

Enforcement/Monitoring: Project Applicant in collaboration with CDFG, BLM and USFWS.

Significance After Mitigation

Implementation of **MM 4.12.2** would reduce impacts to Golden Eagles and other bird populations. These mitigation measures would include preconstruction surveys, appropriately timed construction, and conservation measures, such as development of a Bird and Bat Conservation Strategy (BBCS), Raven Control Plan, Wildlife Mortality Reporting Program, and Worker Education Training. These measures are intended to minimize potential impacts throughout the operations and maintenance process. With the implementation of these mitigation measures the residual impact to Golden Eagles is **less than significant**.

Impacts to Nesting Raptors

Impact 4.12.8 Implementation of the proposed project has the potential to impact nesting raptors during construction, operations and maintenance. This is considered a **potentially significant impact**.

Solar Generation Facility Site and Gen-Tie

Raptors and active raptor nests are protected under California Fish and Game Code Sections 3503.5, 3503, 3513. While the project site is devoted to agricultural fields, the limited number of trees in the project vicinity (located on properties with homes, the Westside Elementary School, etc.) could potentially provide suitable nesting substrate for several species of raptors. Possible nesting species include red-tailed hawk (*Buteo jamaicensis*) and great-horned owl (*Bubo virginianus*). Other common raptors included American Kestrel, Prairie Falcon, Burrowing Owl, and Barn Owl. Although no raptor nests were observed during any of the site visits, potential to disturb nesting raptors during construction, operations and maintenance is considered a **potentially significant impact**.

Mitigation Measures

Implement MM 4.12.2.

MM 4.12.8 To prevent nesting raptors from noise associated with project construction, the following shall be implemented:

- To the extent practicable, initial grading and clearing within the project site shall take place outside the raptors' breeding season of February 1 to July 15.
- If construction occurs between February 1 and July 15, an approved biologist shall conduct a pre-construction clearance survey for nesting raptors in suitable nesting habitat (e.g., tall trees or transmission towers) that occurs within 500 feet of the survey area. If any active raptor nest is located, the nest area will be flagged, and a 500-foot buffer zone delineated, flagged, or otherwise marked. No work activity may occur within this buffer area, until an approved biologist determines that the fledglings are independent of the nest.

Timing/Implementation: Prior to issuance of grading permits, and maintained throughout the operations and maintenance process.

Enforcement/Monitoring: Project Applicant in collaboration with CDFG, BLM and USFWS.

Significance After Mitigation

Implementation of **MM 4.12.8** would reduce potential impacts to nesting raptors. These mitigation measures would include avoiding construction during breeding season and establishing buffers around any nests that are discovered during pre-construction surveys. These measures are intended to minimize potential impacts throughout construction. During operations and maintenance, impacts to raptors and nesting birds would be addressed through implementation of a BBPS which would mitigate potential for collision with the proposed gen-tie (**MM 4.12.2**).

Impacts on Special Status Species – Mammals (Pallid Bats and California Leaf-nosed Bats)

Impact 4.12.9 Implementation of the proposed project has the potential to impact pallid bats and California leaf-nosed bats during construction, and operation and maintenance. This is considered a **potentially significant impact**.

Solar Generation Facility Site

Pallid bats and California leaf-nosed bats may use all or portions of the project area for foraging, though neither is expected to roost within the project area or immediate vicinity. Project implementation would result in the permanent disturbance of approximately 1,852 acres of potentially suitable foraging habitat (refer to **Table 4.12-10**). This disturbance would reduce the quality of the foraging habitat, but is not expected to totally eliminate it. The potential for continued foraging following project implementation would be supported by the larger drains and canals within the solar generation facility site that would remain undisturbed and could continue to support prey populations for both species. Given the large amount of suitable foraging habitat in the immediate vicinity of the project and in the Imperial Valley (essentially all agricultural lands) and the continued foraging opportunities following project implementation, the proposed project is not expected to significantly impact either the pallid bat or the California leaf-nosed bat.

Gen-Tie

Pallid bats and California leaf-nosed bats may use the northern portion of the proposed gen-tie survey area for foraging (along the Westside Main Canal), though neither is expected to roost in the vicinity. Construction of the proposed gen-tie would not result in the temporary or permanent direct removal of potentially suitable foraging habitat because the canal would be spanned. Following construction, the span of the canal by the gen-tie could pose a minor collision risk to foraging bats but this would be considered less than significant because of the distance to known populations of these species and the species' inherent ability to avoid obstructions through the use of echolocation. The potential for continued foraging following project implementation would continue to be supported by the larger drains and canals that support prey populations for both species. Given that the project will not remove any suitable habitat for either pallid Bats or California leaf-nosed bats, the large amount of suitable foraging habitat available throughout Imperial County, and the continued foraging opportunities following project implementation, the proposed project is not expected to significantly impact either the pallid bat or the California leaf-nosed bat.

4.12 BIOLOGICAL RESOURCES

Mitigation Measures

Implement MM 4.12.2

Timing/Implementation: Prior to issuance of grading permits, and maintained throughout the operations and maintenance process.

Enforcement/Monitoring: Project Applicant in collaboration with CDFG, BLM and USFWS.

Significance After Mitigation

Implementation of **MM 4.12.2** would reduce impacts to bird populations, including pallid bats and California leaf-nosed bats, among other important avian habitats. These mitigation measures would include conservation measures, such as development of a Bird and Bat Conservation Strategy (BBCS), Raven Control Plan, Wildlife Mortality Reporting Program, and Worker Education Training. These measures are intended to minimize potential impacts throughout the operations and maintenance process. With the implementation of these mitigation measures the residual impact is **less than significant**.

Impacts on Special Status Species – Reptiles (Flat tailed horned lizard)

Impact 4.12.10 Implementation of the proposed project has the potential to impact Flat tailed horned lizard during construction, and operation and maintenance. This is considered a **potentially significant impact**.

Solar Generation Facility Site

The proposed solar generation facility site is located outside of the Yuha MA, within active agricultural fields. The solar generation facility site as agricultural lands do not provide habitat for FTHL. Therefore, no impacts to FTHL would occur in association with the solar generation facility site.

Gen-Tie

Impacts to FTHL may occur during construction of the gen-tie. Activities such as the movement of construction vehicles or heavy equipment and the installation of electric line towers or project facilities may result in the direct mortality, injury, or harassment of FTHLs. These impacts are considered **significant**.

The proposed gen-tie is within the Yuha Desert Flat-tailed Horned Lizard Management Area (MA), as designated in the 2003 *Flat-tailed Horned Lizard Rangelwide Management Strategy* (RMS) (ICC, 2003). The creosote bush–white bursage scrub vegetation and stabilized desert dune habitat within the MA provides habitat for this species. Impacts to these habitats are considered **potentially significant**. In accordance with the *Flat-tailed Horned Lizard Rangelwide Management Strategy*, compensation would be required for impacts to FTHL habitat. In accordance with the RMS, the proposed impacts to the MA have been reduced through limiting disturbance to short overland travel extending from existing access roads without constructing new access roads. Electric line components have been sited to create the least amount of disturbance to resources. Whenever possible, vegetation removal will be in the form of trimming instead of root grubbing to allow shrubs to readily re-sprout. The only soil removal necessary during gen-tie construction will be during excavation of tower footings and trenching.

Proposed impacts to FTHL habitat within the MA for the proposed gen-tie are 0.05 acres of permanent impact and 7.16 acres of temporary impact (refer to **Table 4.12-8**). Disturbance of soil and vegetation will take place during construction, which can encourage invasive, exotic plant species to encroach into

FTHL habitat. In addition, construction vehicles and equipment can transport seeds and vegetation from other regions within their tires and other various parts under the vehicles. This potential increase in invasive, exotic plant species would be considered a **significant** impact to FTHL due to construction of the proposed project.

**TABLE 4.12-8
POTENTIAL IMPACTS TO FTHL HABITAT FOR PROPOSED GEN-TIE**

	Gen-Tie
Permanent Impacts	0.05
Temporary Impacts	7.16

Source: Heritage, 2012.

General O&M activities that may be conducted along the gen-tie include equipment inspection and/or repairs, tower washing, and weed abatement activities. These O&M activities will require vehicles to occasionally drive the existing access roads in the area and travel overland to structure sites if needed.

FTHL injury or mortality could potentially occur due to occasional travel to the structure sites, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads. Frequency of travel to gen-tie structure sites is expected to be negligible compared to the ongoing traffic associated with construction and maintenance of the Imperial Valley Substation, Border Patrol activity and off-highway vehicle (OHV) use of the area.

Mitigation Measures

The following mitigation measures would be applied on the portion of the gen-tie located on BLM managed lands. Although the impacts and mitigations to FTHL would not occur on lands within the jurisdiction of Imperial County, they are documented as part of this EIR because the gen-tie is part of the proposed project. Impacts and mitigations to FTHL resulting from the gen-tie on BLM managed lands are also addressed as part of the separate environmental analysis being prepared by the BLM to satisfy the requirements of NEPA.

MM 4.12.10a In accordance with the *FTHL Rangelwide Management Strategy*, the measures proposed below are designed to avoid, minimize, and/or compensate for potential direct and indirect effects construction of the proposed project may have on FTHL. The following will be implemented when conducting construction activities within the creosote bush-white burr sage scrub and other native vegetation types in the gen-tie ROW:

1. Prior to ground-disturbing activities, an individual shall be designated and approved by the BLM as the Designated Biologist¹ (i.e. field contact representative) along with approved Biological Monitors as needed for construction, particularly within the Yuha MA. The Designated Biologist will be designated for the period during which on-going construction and post-construction monitoring and reporting by an

¹ A qualified Designated Biologist must have (1) a bachelor’s degree with an emphasis in ecology, natural resource management, or related science; (2) three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or the Wildlife Society (3) previous experience with applying terms and conditions of a biological opinion; and, (4) the appropriate permit and/or training if conducting focused or protocol surveys for listed or proposed species.

4.12 BIOLOGICAL RESOURCES

approved biologist is required, such as annual reporting on habitat restoration. Each successive Designated Biologist will be approved by the BLM's Authorized Officer (i.e., BLM field manager, El Centro). The Designated Biologist will have the authority to ensure compliance with the conservation measures for the FTHL and will be the primary agency contact for the implementation of these measures. The Designated Biologist will organize and oversee the work of the biological monitors and have the authority and responsibility to halt activities that are in violation of the conservation measures. An organizational chart shall be provided to BLM prior to ground-disturbing activities with a clear chain of command and contact information (cell phones). A detailed list of responsibilities for the Designated Biologist is summarized below. To avoid and minimize impacts to biological resources, the Designated Biologist will:

- Notify BLM's Authorizing Officer at least 14 calendar days before initiating ground disturbing activities.
 - Immediately notify BLM's Authorized Officer in writing if the project Applicant is not in compliance with any conservation measures, including but not limited to any actual or anticipated failure to implement conservation measures within the time periods specified.
 - Conduct compliance inspections at a minimum of once per month during on-going construction after clearing, grubbing, and grading are completed, and submit a monthly compliance report to BLM's Authorized Officer until construction is complete.
2. The boundaries of all areas to be disturbed (including staging areas, access roads, and sites for temporary placement of spoils) will be delineated with stakes and flagging prior to construction activities. Where feasible, the areas shall be cleared of FTHL and fenced (according to the Strategy) to exclude FTHL from re-entering these construction areas, particularly in the MA and other high-use areas such as for staging of equipment or parking areas. Spoils will be stockpiled in disturbed areas lacking native vegetation or where habitat quality is poor, such as the agricultural fields rather than native desert. To the extent possible, disturbance of shrubs and surface soils due to stockpiling will be minimized. All disturbances, vehicles, and equipment will be confined to the flagged and cleared areas. To the extent possible, surface disturbance will be timed to minimize mortality to FTHL.
 3. Approved Biological monitor(s) will assist the Designated Biologist in conducting pre-construction surveys and in monitoring of mobilization, ground disturbance, grading, construction, operation, closure, and restoration activities. The biological monitor(s) will have experience conducting FTHL field monitoring, have sufficient education and field experience to understand FTHL biology, be able to identify FTHL scat, and be able to identify and follow FTHL tracks. The Designated Biologist will submit the resume, at least three references, and contact information of the proposed biological monitors to the BLM for approval. To avoid and minimize impacts to biological resources, the Biological Monitors will assist the Designated Biologist with the following activities on BLM managed lands:

4.12 BIOLOGICAL RESOURCES

- Be present during construction (e.g., grubbing, grading,) activities that take place in FTHL habitat to avoid or minimize take of FTHL. Activities include, but are not limited to, ensuring compliance with all impact avoidance and minimization measures, monitoring for FTHLs and removing lizards from harm's way, and checking avoidance areas (e.g., washes) to ensure that signs, and stakes are intact and that human activities are restricted in these avoidance zones.
 - At the end of each work day, inspect all potential wildlife pitfalls (trenches, bores and other excavations) for wildlife and then backfill. If backfilling is not feasible, all trenches, bores, and other excavations will be contoured at a 3:1 slope at the ends to provide wildlife escape ramps, or completely and securely covered to prevent wildlife access.
 - During construction, examine areas of active surface disturbance periodically, at least hourly, when surface temperatures exceed 29°C (85°F) for the presence of FTHL.
4. Prior to project initiation of construction of the gen-tie on BLM managed lands, a Worker Environmental Awareness Program (WEAP) will be developed and implemented, and will be available in both English and Spanish. Wallet-sized cards summarizing this information will be provided to all construction, operation, and maintenance personnel. The education program will include the following aspects:
- biology and status of the FTHL,
 - protection measures designed to reduce potential impact to the species,
 - function of flagging designating authorized work areas,
 - reporting procedures to be used if a FTHL is encountered in the field, and
 - driving procedures and techniques, for commuting to, and driving on, the Project site, to reduce mortality of FTHL on roads.
5. FTHLs will be removed from harm's way during all construction activities, per item #6 below. To the extent feasible, methods to find FTHLs will be designed to achieve a maximal capture rate and will include, but not be limited to using strip transects, tracking, and raking around shrubs. During construction, the minimum survey effort will be 30 minutes per 0.40 ha (30 minutes per 1 ac). Persons that handle FTHLs will first obtain all necessary permits and authorization from the CDFG. If the species is federally listed, only persons authorized by both CDFG and USFWS will handle FTHLs. FTHL removal surveys will also include:
- A Horned Lizard Observation Data Sheet and a Project Reporting Form, per Appendix 8 of the RMS, will be completed. During construction, quarterly reports describing FTHL removal activity, per the reporting requirements, will be submitted to the BLM.
6. The removal of FTHLs out of harm's way will include relocation to nearby suitable habitat in low-impact (e.g., away from roads and solar panels) areas of the Yuha MA. Relocated FTHLs will be placed in the shade of a large shrub in undisturbed habitat. If surface temperatures in the sun are less than 24°C (75°F)

4.12 BIOLOGICAL RESOURCES

Fahrenheit (F) or exceed 38°C (100° F), the Designated Biologist or biological monitor, if authorized, will hold the FTHL for later release. Initially, captured FTHLs will be held in a cloth bag, cooler, or other appropriate clean, dry container from which the lizard cannot escape. Lizards will be held at temperatures between 75° F and 90° F and will not be exposed to direct sunlight. Release will occur as soon as possible after capture and during daylight hours. The Designated Biologist or biological monitor will be allowed some judgment and discretion when relocating lizards to maximize survival of FTHLs found in the project area.

7. To the maximum extent practicable, grading in FTHL habitat will be conducted during the active season, which is defined as March 1 through September 30, or if ground temperatures are between 24°C (75° F) and 38 °C (100° F). If grading cannot be conducted during this time, any FTHLs found will be removed to low-impact areas (see above) where suitable burrowing habitat exists, (e.g., sandy substrates and shrub cover).
8. Temporarily disturbed areas associated with gen-tie construction and staging areas on federal lands, will be re-vegetated according to the Site Reclamation and Revegetation Plan (SRRP) approved by the BLM. The SRRP must be approved in writing by the BLM prior to any vegetation-disturbing activities. Restoration involves re-contouring the land, replacing the topsoil (if it was collected), and maintaining (i.e., weeding, replacement planting, supplemental watering, etc.), and monitoring the restored area for a period of 5 years (or less if the restoration meets all success criteria). Components of the SRRP will typically include:
 - The incorporation of Desert Bioregion Revegetation/Restoration Guidance measures. These measures generally include alleviating soil compaction, returning the surface to its original contour, pitting or imprinting the surface to allow small areas where seeds and rain water can be captured, planting seedlings that have acquired the necessary root mass to survive without watering, planting seedlings in the spring with herbivory cages, broadcasting locally collected seed immediately prior to the rainy season, and covering the seeds with mulch.

Timing/Implementation: *Prior to issuance of grading permits.*

Enforcement/Monitoring: *Project Applicant in collaboration with the BLM.*

MM 4.12.10b In accordance with the *FTHL Rangewide Management Strategy*, the measures proposed below are designed to avoid, minimize, and/or compensate for potential direct and indirect effects operations and maintenance of the proposed project may have on FTHL. In order to reduce the potential impact to FTHL during O&M, the following will be implemented when conducting O&M along the gen-tie:

1. At least 15 days prior to the commencement of construction and within 15 days following completion of construction activities, the Designated Biologist will provide the BLM a Project FTHL Status Report, which will include, at a minimum:
 - A general description of the status of the project site within the MA.
 - A copy of the table in the project biological monitoring report with notes showing the current implementation status of each conservation measure.

4.12 BIOLOGICAL RESOURCES

- An assessment of the effectiveness of each completed or partially completed measure in avoiding and minimizing project impacts.
 - A completed a Project Reporting Form from the Flat-tailed Horned Lizard Rangewide Management Strategy.
 - A summary of information regarding any FTHL mortality in conjunction with the Project’s Wildlife Mortality Reporting Program.
 - Recommendations on how conservation measures might be changed to more effectively avoid, minimize, and offset future project impacts on the FTHL.
2. The Designated Biologist or biological monitor(s) will evaluate and implement the best measures to reduce FTHL mortality along access and maintenance roads, particularly during the FTHL active season (March 1 through September 30). These measures will include:
- A speed limit of 15 miles per hour when driving access roads within suitable FTHL habitat. The Designated Biologist may reduce this speed limit to 10 mph in areas identified as active wildlife corridors as needed to reduced mortality. All vehicles required for O&M within suitable FTHL habitat must remain on the designated access/maintenance roads. Cross country vehicle and equipment use outside of designated work areas in suitable FTHL habitat shall be prohibited.
 - O&M activities occurring within suitable FTHL habitat including weed abatement or any other O&M activity that may result in ground disturbance will be conducted outside of the FTHL active season whenever feasible. If any O&M activities must be conducted during the FTHL active season that may result in ground disturbance within suitable FTHL habitat, such as weed abatement or vehicles requiring access outside of a designated access road, a biological monitor will be present during activities to reduce FTHL impacts.

Timing/Implementation: *Prior to issuance of grading permits for the gen-tie.*
Enforcement/Monitoring: *Project Applicant in collaboration with the BLM.*

MM 4.12.10c In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, compensatory mitigation would be required for impacts to FTHL habitat. FTHL are known to occur in the native vegetation along the proposed gen-tie ROW. In accordance with the *Rangewide Management Strategy*, compensation for permanent impact to this habitat within the MA will be at a 6:1 ratio. Acreages of proposed disturbance to FTHL habitat can be found in **Table 4.12-98**.

TABLE 4.12-9
VEGETATION COMMUNITIES/LAND COVER TYPES – PROPOSED GEN-TIE

Vegetation Community	BLM Land (Acres)	Private Land (Acres)
Active Agriculture (AG-A)	1.49	2.22
Fallow Agriculture (AG-F)	0.79	0.96

4.12 BIOLOGICAL RESOURCES

Arrow Weed Thicket (AS)	0.41	0.44
Arrow Weed Thicket – Disturbed (AS-D)	0.21	0.50
Athel Tamarisk Type Woodland (AW)	0.42	0.52
Creosote Bush – White Bursage Scrub (CBS)	35.14	0.00
Creosote Bush – White Bursage Scrub – Disturbed (CBS-D)	1.82	2.33
Developed (DEV)	2.19	0.00
Open Water with Arrow Weed Thicket (OW)	0.71	0.44
Stabilized Desert Dunes – Disturbed (SDD-D)	22.28	0.00
Total	65.46	7.41

Source: Heritage, 2012.

Timing/Implementation: Prior to issuance of grading permits.

Enforcement/Monitoring: Project Applicant in collaboration with the BLM.

Implementation of **MM 4.12.112**, below, would address impacts to FTHL as a result of invasive, exotic plant species.

Significance After Mitigation

Implementation of **MM 4.12.10a**, **MM 4.12.10b** and **MM 4.12.10c** would avoid, minimize, and/or compensate for potential direct and indirect effects to FTHL as a result of construction, operation and maintenance of the proposed project. In addition, **MM 4.12.12** would reduce impacts to FTHL as a result of invasive and exotic plant species. With the implementation of these mitigation measures the residual impacts to FTHL would be **less than significant**.

Impacts on Special Status Species – Reptiles (Colorado Desert fringe-toed lizard)

Impact 4.12.11 Implementation of the proposed project has the potential to impact Colorado Desert fringe-toed lizard during construction, and operation and maintenance. This is considered a **potentially significant impact**.

Solar Generation Facility Site

Agricultural lands do not provide habitat for Colorado Desert fringe-toed lizard. Therefore, no impacts to FTHL would occur in association with the solar generation facility site.

Gen-Tie

Direct impacts to Colorado Desert fringe-toed lizard may occur during construction of the gen-tie. Construction activities such as the movement of construction vehicles or heavy equipment and the installation of electric line towers may result in the direct mortality, injury, or harassment of Colorado Desert fringe-toed lizards. These impacts would be considered **significant**.

Extensive resource surveys have been conducted to facilitate the siting of the electric line components to insure they are located in a manner that creates the least amount of disturbance to resources. To avoid potential harm to Colorado Desert fringe-toed lizard during construction, no new access roads are proposed and disturbance would be limited to short overland travel extending from existing access roads. Whenever possible, any removal of vegetation will be in the form of trimming instead of root grubbing, to allow shrubs to readily re-sprout. The only soil removal necessary for gen-tie construction will be excavation of tower footings and trenching.

4.12 BIOLOGICAL RESOURCES

The creosote bush–white bursage scrub vegetation and stabilized desert dunes within the gen-tie corridor provides habitat for this species, and impacts to this habitat could be **potentially significant** for the Colorado Desert fringe-toed lizard.

The proposed gen-tie may permanently impact approximately 0.05 acres of suitable Colorado Desert fringe-toed lizard habitat and temporarily impact approximately 7.16 acres of suitable Colorado Desert fringe-toed lizard habitat (refer to **Table 4.12-8**).

Disturbance of soil and vegetation will take place during construction, which can encourage invasive, exotic plant species to encroach into Colorado Desert fringe-toed lizard habitat. In addition, construction vehicles and equipment can transport seeds and vegetation from other regions within their tires and other various parts under the vehicles. This potential increase in invasive, exotic plant species would be considered a **significant** impact to Colorado Desert fringe-toed lizard due to construction of the proposed project.

General O&M activities that may be conducted along the gen-tie include equipment inspection and/or repairs, tower washing, and weed abatement activities. These O&M activities will require vehicles to occasionally drive the existing access roads along the gen-tie and travel overland.

Colorado Desert fringe-toed lizard injury or mortality could potentially occur due to occasional use of the transmission line access roads, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads. The anticipated frequency of travel along gen-tie access roads is expected to represent a negligible increase in traffic compared to the ongoing traffic associated with construction and maintenance of the Imperial Valley Substation, Border Patrol activity and OHV use of the area.

Mitigation Measures

Implement **MM 4.12.10a**, **MM 4.12.10b**, and **MM 4.12.10c**. Mitigation for FTHL would be considered sufficient mitigation for Colorado Desert fringe-toed lizard habitat because these species occupy similar habitats.

Timing/Implementation: Prior to issuance of grading permits, and maintained throughout the operations and maintenance process.

Enforcement/Monitoring: Project Applicant in coordination with the BLM.

Significance After Mitigation

Mitigation measures **MM 4.12.10a**, **MM 4.12.10b**, and **MM 4.12.10c** that will be implemented for FTHL would also act as mitigation for Colorado Desert fringe-toed lizard habitat because suitable habitat for both species overlap. With the implementation of these mitigation measures the residual impact to Colorado Desert fringe-toed lizard habitat is **less than significant**.

Impacts on Special Status Species – Mammals (Desert kit fox and American Badger)

Impact 4.12.12 Implementation of the proposed project has the potential to impact desert kit fox and American badger during construction, and operation and maintenance. This is considered a **potentially significant impact**.

Solar Generation Facility Site

Suitable habitats for these species on agricultural lands are concentrated on the agricultural drains that would not be impacted by the Project. Therefore, no impacts to desert kit fox or American badger would occur in association with the solar generation facility site.

4.12 BIOLOGICAL RESOURCES

Gen-Tie

Potential impacts to desert kit fox could include temporary displacement from the project area and/or surrounding vicinity, increased stress resulting from nearby construction activity, direct removal of burrows, vehicle collisions and habitat loss. The project area represents potentially suitable habitat for this species, though kit foxes have not been observed in or around the project area. Implementation of the Applicant Proposed pre-construction burrow surveys would identify any potentially active kit fox burrows and burrows identified would be avoided by construction activities; therefore, impacts would be less than significant.

Potential impacts to the American badger could include temporary displacement from the project area and/or surrounding vicinity, increased stress resulting from nearby construction activity, direct removal of burrows, vehicle collisions and habitat loss. The project area represents potentially suitable habitat for this species, though American badgers have not been observed in or around the project area. Implementation of the Applicant proposed pre-construction burrow surveys for Burrowing Owl and FTHL would identify any potentially active kit fox burrows; any active kit fox burrows identified would be avoided by construction activities; therefore, impacts would be less than significant.

Mitigation Measures

No additional mitigation required.

Significance After Mitigation

Not applicable.

Substantial Adverse Effect on Riparian Habitat or Other Sensitive Natural Community

Impact 4.12.12-13 Implementation of the proposed project has the potential to impact riparian habitat or special status communities. This is considered a **potentially significant impact**.

Solar Generation Facility Site

Arrow weed thicket is the only special status natural community potentially affected by the proposed project. Impacts to arrow weed thicket are detailed in **Table 4.12-109** (**Figure 4.12-2A**, **Figure 4.12-2B** and **Figure 4.12-2C**). This community is considered sensitive regardless of if it has been disturbed. Although only 2.27 acres would be permanently disturbed, this impact is considered **potentially significant**.

TABLE 4.12-109
TEMPORARY AND PERMANENT ACREAGE DISTURBANCE TO VEGETATION COMMUNITIES
SOLAR GENERATION FACILITY SITE

Vegetation Community	Temporary	Permanent
Active Agriculture (AG-A)	1,677.45	1,677.45
Arrow Weed Thicket (AS)	0.08	0.08
Arrow Weed Thicket Disturbed (AS-D)	2.19	2.19
Athel Tamarisk Type Woodland (AW)	1.25	1.25
Common Reed Marsh- Disturbed (CRM-D)	--	--
Creosote Bush - White Bursage Scrub (CBS)	--	--
Creosote Bush - White Bursage Scrub - Disturbed (CBS-D)	--	--
Developed (DEV)	0.30	0.30
Disturbed Wetland (DW)		

4.12 BIOLOGICAL RESOURCES

Fallow Agriculture (AG-F)	123.13	123.13
Open Water with Arrow Weed Thicket (OW)		
Quailbush Scrub (BSS)	31.68	31.68
Quailbush Scrub- Disturbed (BSS-D)	15.51	15.51
Tamarisk Thicket (TS)	0.40	0.40
Stabilized Desert Dunes- Disturbed (SDD-D)	--	--
Total Permanent Impacts	1,852	1,852

Source: Heritage, 2012.

For purposes of this discussion, sensitive vegetation communities (i.e., natural communities) are those identified by the CDFG and CEQA. Reasons for the designation as “sensitive” include restricted range, cumulative losses throughout the region, and a high number of endemic sensitive plant and wildlife species that occur in the vegetation communities. Riparian habitats occur on the perimeters of surface or near-surface waters and provide a transition zone between aquatic and terrestrial zones. In the survey area, three communities would be characterized as riparian: arrow weed thicket, common reed marsh, and disturbed wetland. Arrow weed thicket is the only special status natural community potentially affected by the proposed project. This community is considered sensitive whether or not it has been disturbed. Though very limited in extent (2.27 acres of permanent impact and 0.22 acres of temporary disturbance), these impacts could be considered **potentially significant**.

Soil disturbed due to grading during construction and continued use of the solar generation facility site may result in the introduction or increased density of non-native invasive plant species. These species can undermine the habitat quality and integrity of the native plant communities. Non-native invasive plant species are considered a **potentially significant** impact.

Gen-Tie

Special status plants within the gen-tie corridor on BLM lands will be addressed in a separate Environmental Assessment prepared by the BLM. Based on results of fall 2011 surveys, spring 2012 surveys, and other surveys completed in the vicinity of~~While, spring surveys have not been completed for~~ this project, no federally listed, state-listed or BLM sensitive plant species are known or expected to occur within the proposed gen-tie corridor ~~based on spring surveys completed for projects in the same corridor.~~

For purposes of this discussion, special status vegetation communities (i.e., natural communities) are those communities “that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects”. The project would have a **significant** impact if it would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFG or USFWS.

Abram’s spurge (CNPS 2.2), ~~glandular ditaxis (CNPS 2.2), and California ditaxis (CNPS 3.2) have~~ has a low potential for occurrence within the proposed gen-tie survey area. ~~Rock nettle (CNPS 2.2 and CNDDDB special plant), Brown turbans, Parish’s desert thorn and hairy stickleaf (CNPS 2.3 and CNDDDB special plants), and Utah vine milkweed (CNPS 4.2) have a low to moderate potential for occurrence. Watson’s amaranth, sand food, Thurber’s pilostyles, and desert unicorn plant have~~ a low to moderate potential for occurrence within the gen-tie survey area. Though considered sensitive, the relatively low ranking status of these species s indicate that mitigation for these species’ habitats (e.g., mitigation for the creosote bush – white bursage scrub habitat) l would mitigate for impacts to the preferred habitats for these species and would be considered sufficient mitigation for species. No species s-specific mitigation would be necessary. Furthermore, if impacts occur, they will be relatively minor based on the small size

4.12 BIOLOGICAL RESOURCES

of the affected areas (7.4069 acres of temporary impacts and 0.05 acre of permanent impacts as shown in **Table 4.12-110**).

TABLE 4.12-110

TEMPORARY AND PERMANENT ACREAGE DISTURBANCE TO VEGETATION COMMUNITIES - PROPOSED GEN-TIE

Vegetation Community	Temporary	Permanent
Active Agriculture (AG-A)	--	--
Arrow Weed Thicket (AS)	0.21	--
Arrow Weed Thicket Disturbed (AS-D)	--	--
Athel Tamarisk Type Woodland (AW)	0.03	--
Common Reed Marsh- Disturbed (CRM-D)	--	--
Creosote Bush - White Bursage Scrub (CBS)	5.2554	0.03
Creosote Bush - White Bursage Scrub - Disturbed (CBS-D)	--	--
Developed (DEV)	--	--
Disturbed Wetland (DW)	--	--
Fallow Agriculture (AG-F)	--	--
Open Water with Arrow Weed Thicket (OW)	--	--
Quailbush Scrub (BSS)	--	--
Quailbush Scrub- Disturbed (BSS-D)	--	--
Tamarisk Thicket (TS)	--	--
Stabilized Desert Dunes- Disturbed (SDD-D)	1.91	0.02
Total Permanent Impacts	7.4069	0.05

Source: Heritage, 2012.

As shown in **Table 4.12-110**, during construction, approximately 7.4069 acres would be temporarily disturbed consisting of 0.21 acre of arrow weed thicket, 0.03 acre of athel tamarisk type woodland, 5.2554 acre of creosote bush - white bursage scrub, and 1.91 acre of stabilized desert dunes – disturbed. Soil disturbed due to continued use of access roads along the gen-tie may result in the introduction or increased density of non-native invasive plant species. These species can undermine the habitat quality and integrity of the native plant communities. Non-native invasive plant species are considered a **potentially significant impact**.

Mitigation Measures

Implement MM 4.12.10a, MM 4.12.10b, and MM 4.12.10c.

MM 4.12.1213a To minimize the introduction and spread of weed species, a Weed Management Plan shall be developed and implemented. The weed management plan shall include a discussion of specific weeds identified on site that will be targeted for eradication or control as well as a variety of measures that will be undertaken during construction and O&M activities to prevent the introduction and spread of new weed species as a result of the project. A *Weed Management Plan* for the solar generation facility will be prepared and implemented that describes specific on-going measures to remove invasive plant species from the solar generation facility. This plan will be approved by the County. A companion Weed Management Plan will be prepared for the gen-tie that will be approved by BLM.

Timing/Implementation: Prior to issuance of grading permits, and maintained throughout the operations and maintenance process.

Enforcement/Monitoring: Project Applicant in collaboration with the BLM.

MM 4.12.1213b The following measures shall be implemented to prevent the spread of weeds:

- Limit disturbance areas during construction to the minimal required to perform work and limit ingress and egress to defined routes
- Implement vehicle wash and inspection procedures and closely monitor the types of materials brought onto the site to minimize the potential for weed introduction
- Use of certified weed free mulch, straw wattles, hay bales and seed mixes
- Reestablish native vegetation along the gen-tie as quickly as practicable on disturbed sites to avoid weed invasions
- Monitor and rapidly implement control measures to ensure early detection and eradication for weed invasions

Weed control methods that may be used include both physical and chemical control. Physical control methods include manual hand pulling of weeds, or the use of hand and power tools to uproot, girdle, or cut plants. Herbicide applications are a widely used, effective control method for removing infestations of invasive weed species. However, inadvertent application of herbicide to adjacent native plants must be avoided, which can often be challenging when weeds are interspersed with native cover. Before applying herbicide, contractors will be required to obtain any required permits from state and local authorities. Only a State of California and federally certified contractor will be permitted to perform herbicide applications. All herbicides will be applied in accordance with applicable laws, regulations, and permit stipulations. Only herbicides and adjuvants approved by the State of California and Imperial County will be used to control invasive species at the energy facility site. Invasive plants species on BLM lands would be prevented, controlled, and treated through an Integrated Pest Management approach per the *Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report*. Only herbicides approved by BLM in California will be used on BLM lands. Herbicide application can only occur on BLM lands with an approved Pesticide Use Proposal (PUP).

Timing/Implementation: Prior to issuance of grading permits, and maintained throughout the operations and maintenance process.

Enforcement/Monitoring: Project Applicant in collaboration with the BLM.

Significance After Mitigation

Mitigation for permanent and temporary impacts to native habitats on BLM land shall be accomplished via the mitigation for FTHL (**MM 4.12.10a, MM 4.12.10b, and MM 4.12.10c**) because these native habitats are considered potentially suitable flat-tailed horned lizard habitat and are within a designated management area on BLM land.

Implementation of **MM 4.12.1213a** and **MM 4.12.1213b** would reduce the introduction and spread of weed species. This includes the development of a Weed Management Plan that will include a discussion of specific weeds identified on site that will be targeted for eradication or control. The Weed Management Plan will present a variety of measures that will be undertaken during construction and O&M activities to prevent the introduction and spread of new weed species as a

4.12 BIOLOGICAL RESOURCES

result of the project. With the implementation of these mitigation measures the residual impact to riparian habitat or other sensitive natural community would be **less than significant**.

Substantial Adverse Effect on Federally Protected Wetlands

Impact 4.12.13~~13~~14 Implementation of the proposed project has the potential to impact jurisdictional waters. This is considered a **potentially significant impact**.

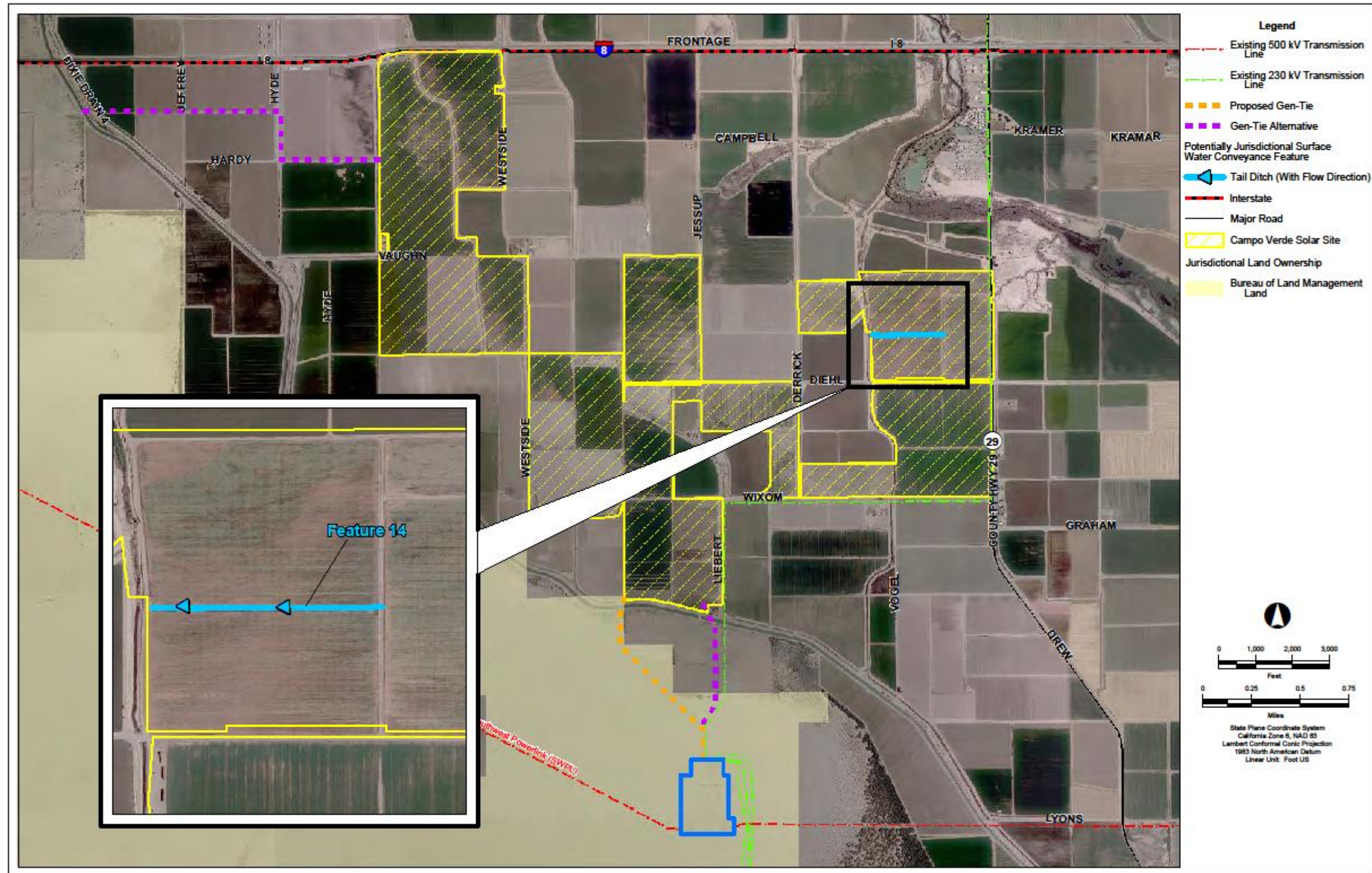
Solar Generation Facility Site

The jurisdictional waters report for the proposed project has been submitted to the appropriate agencies in order to verify the jurisdictional status of the drainage features present within the project area. ~~To date, the agencies have not responded~~The ACOE agreed with the jurisdictional determinations; and CDFG has verbally agreed indicated their concurrence as well. No ACOE jurisdictional waters would be impacted by the solar generation facility (**Figure 4.12-5**). However, one CDFG jurisdictional feature, an agricultural tail ditch (Feature #14) supporting a small amount of riparian vegetation (primarily arrow weed) could be removed entirely. This feature is approximately 6 feet wide (bank to bank). Removal of this feature would result in the loss of approximately 0.26 acres of CDFG jurisdictional waters. This impact is considered **potentially significant**.

Gen-Tie

The final jurisdictional waters report for the proposed project was submitted to the ACOE and CDFG in order to verify the jurisdictional status of the features present within the project area. Based on the final jurisdictional waters report, all potentially state and federal jurisdictional waters will be spanned. Thus, the proposed gen-tie would result in no impacts to state or federal jurisdictional water.

4.12 BIOLOGICAL RESOURCES



Source: Heritage 2012.

FIGURE 4.12-5
POTENTIALLY IMPACTED JURISDICTIONAL WATERS

Mitigation Measures

MM 4.12.13~~13~~14 The Applicant shall coordinate with the CDFG to obtain a Section 1600 Streambed Alteration Agreement as necessary to address any impacted CDFG-jurisdictional water, and provide the appropriate (CDFG approved) compensatory mitigation for permanent and temporary impacts to CDFG jurisdictional riparian habitat. Mitigation for permanent impacts to CDFG riparian habitat is typically at a 2:1 ratio, while mitigation for temporary impacts to CDFG riparian habitat is typically at a 1:1 ratio.

Timing/Implementation: Prior to issuance of grading permits.

Enforcement/Monitoring: Project Applicant and in collaboration with CDFG, BLM and USFWS.

Significance After Mitigation

Implementation of **MM 4.12.13~~13~~14** would require a Section 1600 Streambed Alteration Agreement to be obtained prior to any impacts to CDFG resources. Additionally, the mitigation requires compensation for permanent and temporary impacts to CDFG riparian habitat. With the implementation of this mitigation measures the residual impact to federally protected wetlands and jurisdictional waters would be **less than significant**.

Interfere with Migratory Fish or Wildlife Movement/Impede the Use of Native Wildlife Nursery Sites

Impact 4.12.14~~14~~15 Implementation of the project would inhibit the ability of medium and large mammals to move through the solar generation facility site. However, the proposed project would not inhibit wildlife movement through the Yuha Basin or surrounding agricultural lands. Therefore, this impact is considered **less than significant**.

Solar Generation Facility Site

Wildlife movement corridors are considered sensitive by resource and conservation agencies. The impact analysis provided below is based on the CEQA thresholds of significance. The project would have a **significant impact** if it would: 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.

A chain link perimeter fence is proposed to surround the solar generation facility site. The fence would impact the ability of medium and large mammals to move through the solar generation facility site. However, the fence should not inhibit of movement of medium and large mammals through the Yuha Basin or surrounding agricultural lands. **No impact** to nursery sites is anticipated. Therefore, this impact is considered **less than significant**.

Gen-Tie

The proposed gen-tie would not inhibit the movement of wildlife in and around the gen-tie survey area. No fencing or other terrestrial obstructions would be installed. Moreover, the proposed gen-tie would be located in a designated utility corridor along with several other existing transmission lines and would not represent a novel feature on the landscape. Thus, no impact to wildlife movement or nursery sites is anticipated.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Conflict with Local Policies or Ordinances Protecting Biological Resources

Impact 4.12.15~~15~~16 Implementation of the project is not anticipated to conflict with any local polices or ordinances protecting biological resources. Therefore, this impact is considered **less than significant**.

Solar Generation Facility Site

The Imperial County General Plan Open Space Conservation Policy requires detailed investigations to be conducted to determine the significance, location, extent, and condition of natural resources in the County. If any rare, sensitive, or unique plant or wildlife habitat would be impact by a project, the County must notify the agency responsible for protecting plant and wildlife before approving the project. Consistent with this policy, the County is requiring the Applicant to prepare all appropriate studies and co-ordinate with the appropriate agencies.

Likewise, the Imperial County General Plan Land Use Element Policy notes that the majority of the privately owned land in the County is designated "Agriculture," which is also the predominate area where burrowing owls create habitats. Consistent with this policy, BUOW surveys have been conducted and the results included in this EIR. No impact would occur relative to the policies of the Imperial County General Plan.

Gen-Tie

The proposed project would also be consistent with the California Desert Conservation Area Plan, Yuha Basin Area of Critical Environmental Concern; and the 2003 *Flat-tailed Horned Lizard Rangelwide Management Strategy* (RMS). Therefore, no impact would occur with regard to conflicts with local policies or ordinances protecting biological resources.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Conflict with the Provisions of a Habitat Conservation Plan

Impact 4.12.16~~16~~17 Implementation of the project would is not anticipated to conflict with the California Desert Conservation Area Plan. Therefore, this impact is considered **less than significant**.

Solar Generation Facility Site

The County of Imperial does not have an adopted Habitat Conservation Plan or Natural Community Conservation Plan. No impact would occur.

4.12 BIOLOGICAL RESOURCES

Gen-Tie

The proposed gen-tie is an allowable use under the CDCA, as the proposed ROW falls within the CDCA designated "Utility Corridor N." This area is also designated as an ACEC and the BLM manages all land uses within the ACEC in order to minimize impact to this sensitive area. All proposed impacts to resources are in conformance with the CDCA and maintain the integrity and intent of the Conservation Plan. Therefore, no impact would occur.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

4.12.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The cumulative setting for biological resources is the Imperial County region. Within this region, the geographic scope for cumulative impacts varies for each species. The geographic scope for considering cumulative impacts on flat-tailed horned lizard (FTHL) includes the creosote bush-white burr sage scrub and desert wash vegetation communities contiguous to and within the Yuha Basin FTHL Management Area (MA). The geographic scope for considering cumulative impacts for migratory birds, including raptors, is the Imperial Valley, which is part of the Pacific Migration Flyway for birds migrating between as far south as South America and as far north as the arctic circle, and serves as an important stopover site for many species for rest and foraging, and, for some, as breeding grounds. Although burrowing owls and some raptors do not migrate along the Pacific Migration Flyway, the species occur throughout the Imperial Valley; therefore, the Imperial Valley is the geographic scope considered for the evaluation of cumulative impacts for burrowing owl. The geographic scope for considering cumulative impacts for jurisdictional waters is the Imperial Hydrologic Unit of the Salton Sea watershed in the Colorado River region.

Development anticipated as part of the cumulative setting is reflected in the land uses shown on the County's General Plan Land Use Map, and the existing, planned, proposed, and reasonably foreseeable projects as identified in Table 3.0 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Impacts to Biological Resources

Impact 4.12.1718 Implementation of the proposed project could have cumulative impacts on special status species, sensitive natural communities, and protected waters. However, mitigation measures are proposed to help ensure that the proposed project does not cumulatively affect any of these biological resources. Therefore, cumulative impacts are considered **less than cumulatively considerable**.

Construction

Construction activities could result in cumulative impacts on federal and/or state listed species, as well as BLM sensitive wildlife species, including Flat-tailed Horned Lizard, Burrowing owl, nesting raptors, migratory birds, sensitive vegetation communities and jurisdictional waters.

4.12 BIOLOGICAL RESOURCES

Flat-tailed Horned Lizard (FTHL)

Flat-tailed Horned Lizard receives protection via the BLM's FTHL RMS. The Flat-tailed Horned Lizard Interagency Coordinating Committee (ICC)'s FTHL RMS designated five Management Areas (MAs) to help focus conservation and management of FTHL key populations. The BLM has designated the Yuha Basin Management Area, the area in which the gen-tie would be located, as a management unit. FTHL habitat disturbances will be mitigated in accordance with the RMS, thereby reducing cumulative impacts to a **less than significant** level.

As shown in **Table 4.12-121**, the habitat disturbances that have occurred since the adoption of the FTHL Rangewide Management Strategy (RMS) and those that could result from the proposed project and cumulative projects identified in Table 3.0-1 are estimated to impact a total of 467.49 acres of the 57,304-acre Yuha Basin MA. These habitat disturbances constitute approximately 0.8 percent of the 1 percent of habitat disturbance allowable within the Yuha Basin MA. Even though the area impacted is under the 1 percent threshold for acreage impacted, disturbance for each cumulative project will be mitigated in accordance with the RMS thereby reducing cumulative impacts to a **less than significant** level.

TABLE 4.12-121
HABITAT DISTURBANCES
APPROVED, PROPOSED AND REASONABLY FORESEEABLE PROJECTS IN THE IMPERIAL VALLEY

Project Name (Project Proponent)	Impacts to Private Lands (acres)	Impacts to BLM Land (acres)	Impacts to Yuha FTHL MA (acres)
Sunrise 500-kV Line IV West Solar Farm Interconnection to Imperial Valley Substation	0	1,423	46.41
"S" Line Upgrade 230-kV Transmission Line Project	106	2	2
Imperial Valley Solar	360	6,140	92.9
Imperial Solar Energy Center South	837.5	10.1	3
Imperial Solar Energy Center West	1,071.5	13.7	13.7
SDG&E Photovoltaic Solar Field	0	100	115
North Gila to Imperial Valley #2 Transmission Line	N/A	1,903	3
Dixieland Connection to Imperial Irrigation District Transmission System	19.19	44.34	42
Solar Reserve Imperial Valley	0	2,000	5
Centinela Solar Energy			23
Mount Signal Solar Farm I ¹	1,408 ¹		
Calexico I-A ¹			
Calexico I-B ¹	1,298 ¹ *	10.2 ¹	10.2 ¹
Calexico II-A ¹			
Calexico II-B ¹	1,438 ¹ **		
Other Proposed ²	N/A	N/A	25.93
Existing disturbance ²	N/A	N/A	88.34
Proposed Project	N/A	N/A	7.21
Total			477.69

Source: County of Imperial, 2011.

*Includes both Calexico I A & B; ** Includes both Calexico II A & B.

¹ HDR, 2012 p. 4.4-28 and 4.4-36.

² The projects that are included in the "Existing Disturbance" and "Other Proposed" categories are not included in the list of cumulative projects; however, the cumulative impact of these projects is considered in this analysis.

4.12 BIOLOGICAL RESOURCES

Based on the USFWS determination not to list the FTHL, the success of BLM's FTHL RMS, implementation of mitigation measures MM 4.12.10a, MM 4.12.10b and MM 4.12.10c, and the compensatory mitigation requirements, the proposed project, when combined with the cumulative projects, would result in a **less than cumulatively considerable impact** to FTHL.

Burrowing Owl

Burrowing owls are relatively widespread throughout the Imperial Valley. Sixty-five occupied Burrowing Owl burrows were observed within the survey area. The number of active burrowing owl burrows within the cumulative projects is not available for this analysis. Burrowing owls are protected by the California Department of Fish and Game mitigation guidelines for burrowing owl (1995) and Consortium guidance (1993), which require a suite of mitigation measures to ensure direct effects to burrowing owls during construction activities are avoided and indirect effects through burrow destruction and loss of foraging habitat are mitigated at prescribed ratios. BLM also considers burrowing owls a sensitive species, and generally follows CDFG recommendations for burrowing owl issues occurring under BLM jurisdiction.

Mitigation measures MM 4.12.6a and MM 4.12.6b are consistent with the CDFG mitigation guidelines for burrowing owls. MM 4.12.6b identifies that compensatory mitigation is required for burrowing owl. The Applicant has prepared a draft compensatory mitigation plan that includes several options for mitigation, including on-site mitigation. Consultation with CDFG regarding on-site mitigation is ongoing and agency approval of the project Burrowing Owl Mitigation Plan would be required before the start of construction. If on-site mitigation is not possible, the applicant would mitigate for impacts to foraging habitat either through the National Fish and Wildlife Foundation's Impact-Directed Environmental Accounts program, a similar program with another organization, or independent acquisition of like habitat. Exact mitigation acreages will be determined in consultation with CDFG in accordance with the CDFG Staff Report Guidelines on Burrowing Owl Mitigation (2012).

Cumulative projects have the potential to impact burrowing owls through direct impacts to burrowing owls and their burrows. It is anticipated that many of the cumulative projects would also have indirect impacts to burrowing owls through conversion of foraging habitat, such as creosote bush-white burrsage scrub vegetation and agricultural fields. With implementation of mitigation measure MM 4.12.6 and MM 4.12.6b, the proposed project, when combined with the cumulative projects, would result in a **less than cumulatively considerable impact** to burrowing owl.

Nesting Raptors

Raptors are known to occur throughout the geographic scope for cumulative projects identified in Table 3.0-1. Raptors and active raptor nests are protected under California Fish and Game Code 3503.5, 3503, 3513. The number of nesting raptors within the geographic scope is not available and therefore cannot be quantified as part of this analysis.

Mitigation measure MM 4.12.8 requires construction to avoid the raptor breeding season from February 1 to July 15, and if it cannot be avoided, an approved biologist will conduct a pre-construction clearance survey, which would include a 500-foot no-work buffer zone around any raptor nest until the fledglings leave the nest. This measure is standard for all cumulative projects. In addition, mitigation measure MM 4.12.2 is intended to reduce impacts to bird populations and important avian habitats. These measures would include conservation measures, such as development of a BCS, Raven Control Plan, Wildlife Mortality Reporting Program, and Worker Education Training. MM 4.12.2 is intended to reduce the impact to raptors and other avian species resulting from collision with the proposed gen-tie. Any cumulative projects that include a transmission line are required to implement a similar measure. With

implementation of these mitigation measures, the proposed project, when combined with the cumulative projects, would result in a less than cumulatively considerable impact to nesting raptors.

Migratory Birds

The proposed project and cumulative projects could have direct impacts on migratory birds as a result of vehicle strikes, nest crushing, or collisions. Indirect impacts may occur from noise and lighting impacts, making mating calls hard to hear or frightening birds from foraging activities. Birds listed at 50 CFR 10.3 are protected by the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.), a Federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The geographic scope includes the Pacific Flyway, which is a major north–south migration route for birds that travel between North and South America.

Mitigation measure MM 4.12.2 is provided to reduce the potential impacts to migratory birds, bats and raptors by preparing and implementing a Bird and Bat Conservation Strategy (BBCS). This BBCS will outline conservation measures for construction and O&M activities that would reduce potential impacts to bird populations and will be developed by the Applicant in conjunction with and input from the USFWS. With implementation of mitigation measure MM 4.12.2, the proposed project, when combined with other cumulative projects, would result in a **less than cumulatively considerable impact** to migratory birds.

Sensitive Vegetation Communities

Sensitive vegetation communities (i.e., natural communities) are designated by the CDFG for various reasons including: restricted range, cumulative losses throughout the region, and a high number of endemic sensitive plant and wildlife species that occur in the vegetation communities. Soil disturbed due to grading during construction and continued use of the proposed project and cumulative projects could result in the introduction or increased density of non-native invasive plant species. The extent of the cumulative project's impacts to sensitive vegetation communities is not available for this analysis.

Arrow weed thicket is the only special status natural community potentially affected by the proposed project. This community is considered sensitive whether or not it has been disturbed. The proposed project would result in permanent impacts to 2.27 acres and temporary impacts to 0.22 acres. Mitigation for permanent and temporary impacts to creosote bush-white ~~burr sage~~ bursage scrub, ~~arrow weed scrub, tamarisk scrub~~, shall be accomplished through the mitigation for FTHL (MM 4.12.10a, MM 4.12.10b, and MM 4.12.10c) because these native habitats are considered potentially suitable flat-tailed horned lizard habitat and are within a designated management area on BLM land. In addition, sensitive vegetation communities would be protected through implementation of mitigation required under the SAA for the project (CDFG jurisdictional drain), and implementation of MM 4.12.12a4.12.13a and MM 4.12.12b4.12.13b which would reduce the introduction and spread of weed species. These measures include development of a Weed Management Plan that will include a discussion of specific weeds identified on site that will be targeted for eradication or control. The Plan will also include measures that will be undertaken during construction and O&M activities to prevent the introduction and spread of new weed species as a result of the project. Cumulative projects are individually required to implement similar mitigation to avoid noxious, invasive and non-native weeds thereby reducing impacts to sensitive vegetation communities. With implementation of these measures, the proposed project, when combined with other cumulative projects, would result in a **less than cumulatively considerable impact** to sensitive vegetation communities.

4.12 BIOLOGICAL RESOURCES

Jurisdictional Waters

Construction activities could result in cumulative impacts on protected waters. The proposed project is not anticipated to impact ACOE jurisdictional waters. The estimated impact of the proposed project to CDFG jurisdictional waters is 0.26 acres. [The ACOE issued a PJD agreeing with the jurisdictional determination and CDFG has indicated their concurrence as well.](#)~~The final determination of impacts of the proposed project is subject to the ACOE and CDFG during their review process.~~

There are 24 cumulative projects, 10 of which do not have published environmental documents available so it is not possible to provide a definitive conclusion regarding the cumulative impacts of these projects on jurisdictional waters (refer to Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used). Of the fourteen cumulative projects with published environmental documents, three have impacts to jurisdictional waters. The Imperial Valley Solar Project has potential impacts to 312 acres of CDFG jurisdictional waters (County of Imperial, 2011, p. 5.0-201); the Centinela Solar Energy Project would impact 6.27 acres of CDFG jurisdictional habitat on BLM managed lands (6.14 acres of fill to manmade systems and 0.09 acre of permanent impacts and 0.04 acre of temporary disturbance to CDFG jurisdictional habitat on BLM managed lands) (County of Imperial, 2011, p. 5.0-201); and the Mount Signal and Calexico Solar Farm Projects (I-A, I-B, II-A, II-B) would impact 7.3 acres of USACOE jurisdictional areas assumed to be non-wetland waters and 45.1 acres of CDFG jurisdictional waters (including 44.6 acres of riparian and 0.5 acre of streambed (HDR, 2012, p. 4.4-21)).

Mitigation measure ~~MM 4.12.13~~[MM 4.12.14](#) requires the Applicant to coordinate with the CDFG to obtain a Section 1600 Streambed Alteration Agreement to address any impacted CDFG-jurisdictional water, and provide the appropriate (CDFG approved) compensatory mitigation for permanent (2:1 ratio) and temporary (1:1 ratio) impacts to CDFG jurisdictional riparian habitat. Final approval of mitigation of any project impacting CDFG jurisdictional waters comes in the form of a Section 1600 Streambed Alteration Agreement. Any cumulative project that results in an impact to jurisdictional waters would be required to implement a similar measure to reduce the impact in accordance with federal and state law. With implementation of mitigation measures, the proposed project, when combined with the cumulative projects, would result in less than cumulatively considerable impact to jurisdictional waters.

Operations and Maintenance

As described above, the construction phase of the proposed project would directly impact biological resources. While these impacts would take place during the construction phase, some would continue to exist throughout the operations and maintenance phase of the project. Additional impacts could occur during the operational phase from a variety of maintenance activities including lighting and traffic generated by night time work. However, the light and traffic generated during the night would be similar to the agricultural activities associated with harvesting alfalfa after dark. Specific mitigation measures ([MM 4.12.2](#), [4.12.10b](#), ~~4.12.12a~~[4.12.13a](#) and ~~4.12.12b~~[4.12.13b](#)) are proposed to help ensure that the proposed project does not cumulatively affect any of these biological resources during the operations and maintenance phase.

Mitigation Measures

As discussed throughout this section, the proposed project would be subject to all mitigation measures identified with regard to project-specific impacts. These include [MM 4.12.2](#) (to mitigate impacts to special status birds including SWFL [and YCR](#)), [MM 4.12.3](#), [MM 4.12.6a](#) and [MM 4.12.6b](#) (to mitigate impacts to BUOW), [MM 4.12.8](#) (to mitigate impacts to nesting raptors), [MM 4.12.10a](#), [MM 4.12.10b](#) and [MM 4.12.10c](#) (to mitigate impacts to FTHL), [MM 4.12.11](#) (to mitigate impacts to Colorado Desert fringe-

toed lizard), MM ~~4.12.12a~~4.12.13a, MM ~~4.12.12b~~4.12.13b (to mitigate impacts to riparian habitat or other sensitive natural community) and MM ~~4.12.13~~14 (to mitigate impacts to CDFG jurisdictional waters).

Significance After Mitigation

Following implementation of the mitigation measures identified above, impact to biological resources including special status birds, special status raptors, nesting raptors, FTHL, Colorado Desert fringe-toed lizard, riparian habitat or other sensitive natural community and CDFG jurisdictional waters would be reduced to **less than significant** levels. Cumulative impacts would be less than cumulatively considerable following mitigation.

Habitat Connectivity and Wildlife Corridors

The Solar Generation Facility Site is composed of multiple parcels that make up the Project. Each parcel (unless contiguous with another) will be fenced. These parcels currently consist of hay crops that are in various stages of growth; they generally do not provide good cover or provide movement corridors or linkages for wildlife. The most valuable movement corridors and linkages are medium and large IID-maintained drains. The project would not impact any of these and would therefore not interfere substantially with wildlife movement or corridors. Most of the proposed and existing solar projects in the Imperial Valley are designed in a similar manner.

The Gen-Tie Line would not impact habitat connectivity or wildlife corridors.

Cumulative projects have a low potential to impact habitat connectivity and wildlife corridors because the most valuable habitat features will not be impacted. The proposed project, when combined with the cumulative projects, would result in a **less than cumulatively considerable impact** to habitat connectivity and wildlife corridors.

THIS PAGE INTENTIONALLY LEFT BLANK.