Biological Resources Report

Heber 1 Parasitic Solar Energy Project

December 18, 2023

Innovative solutions for a complex world

Catalyst
ENVIRONMENTAL SOLUTIONS

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SECTION 1 Introduction

The Heber Field Company (Applicant; a subsidiary of ORMAT) is proposing to develop the Heber 1 Parasitic Solar Energy Project (Project), which consists of a new 20 megawatt (MW) solar energy facility that would provide parasitic load to the existing Heber 1 geothermal complex in Imperial County, California.

Catalyst Environmental Solutions (Catalyst) has prepared this biological resources report with desktop analysis and a reconnaissance-level biological field survey performed by Catalyst biologists. The purpose of the field survey was to characterize existing biological communities and to determine if suitable habitat for special status plant and animal species is present, including western burrowing owl (*Athene cunicularia hypugaea*).

1.1 California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires public agencies in California to analyze and disclose potential environmental impacts associated with a project that the agency will carry out, fund, or approve. Any potentially significant impacts must be mitigated to the extent feasible. Project-specific CEQA mitigation is important for burrowing owls because most populations exist on privately owned parcels that, when proposed for development or modification, may be subject to the environmental review requirements of CEQA.

This biological resources survey report will be included as supporting material in the CEQA compliance document for the Project.

1.2 Project Location and Description

The proposed Project is located on approximately 127 acres of private land, in southern Imperial County (Figure 1-1). The proposed Project is situated in Township 17 South, Range 14 East of the U.S. Geographical Survey (USGS) Heber 7.5-minute topographic quadrangle.

The Project proposes to develop a 20MW solar energy facility that would provide parasitic load to the existing Heber 1 Geothermal Energy Facility. The proposed solar energy facilities will be developed immediately south of the proposed Dogwood/Heber 2 parasitic solar fields and will be connected by a buried medium-voltage interconnection line to the existing Heber 1 Geothermal Facility. The proposed Project footprint is shown in **Figure 1-2.**

The proposed Project would occur on Assessor's Parcel No. 059-020-001, which consists of a residence, geothermal pipeline, storage/laydown area, and alfalfa cultivation. The property is zoned as A-2-GU for agricultural use and is within the Heber geothermal unit and Imperial County renewable energy (GU) overlay zone.

Surrounding land uses in the Project vicinity are dominated by agricultural cultivation with solar facilities, a construction/aggregates company, a land and cattle company, and geothermal well pads and pipelines.

Interstate-8 (I-8; Kumeyaay Highway), located approximately four miles directly north, provides primary highway access to the Project site. Dogwood Road stems off of I-8 and provides immediate site access to the west. Additionally, West Cole Boulevard, which runs perpendicular to Dogwood Road, provides immediate site access to the south.

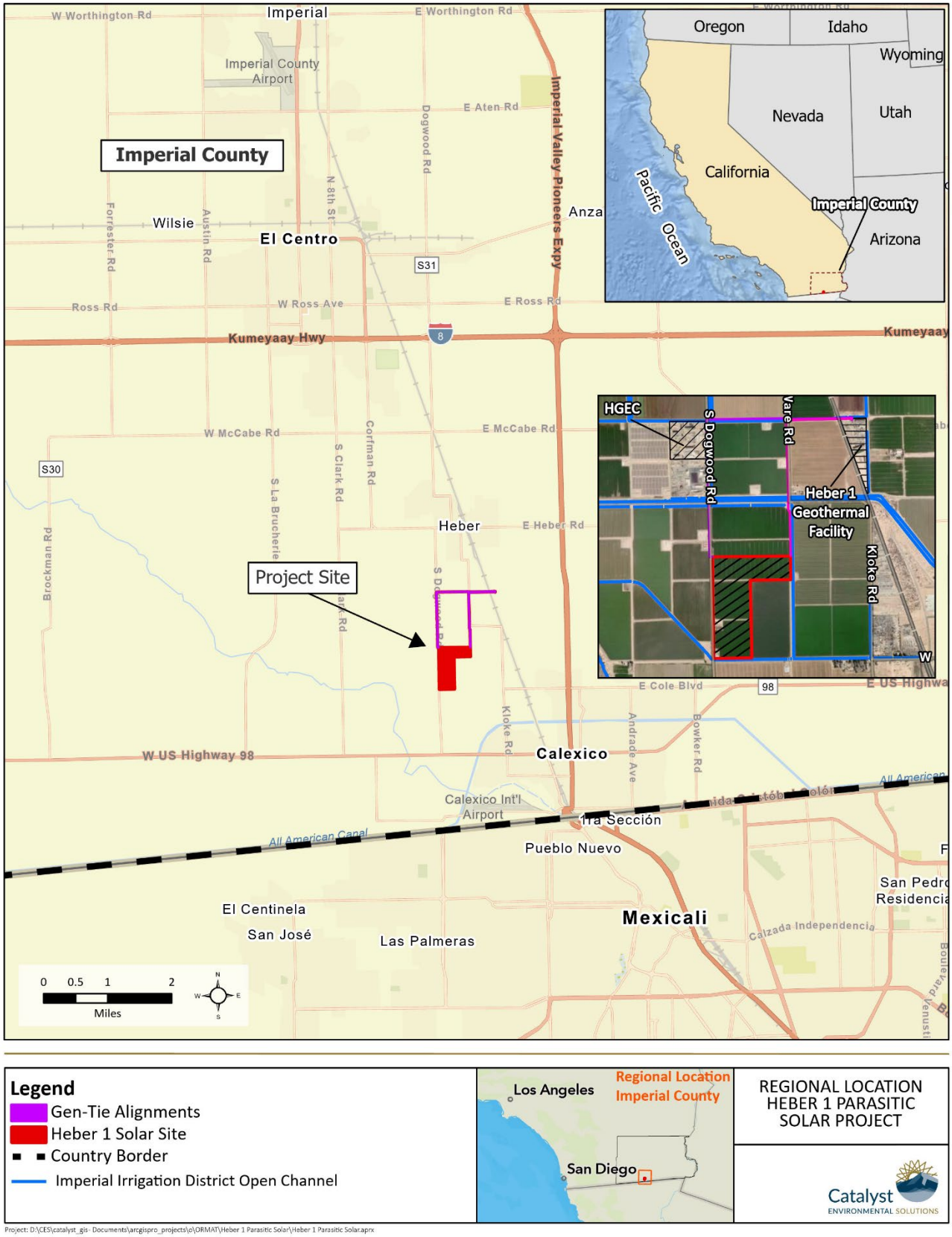

Figure 1-1. Regional Location Map

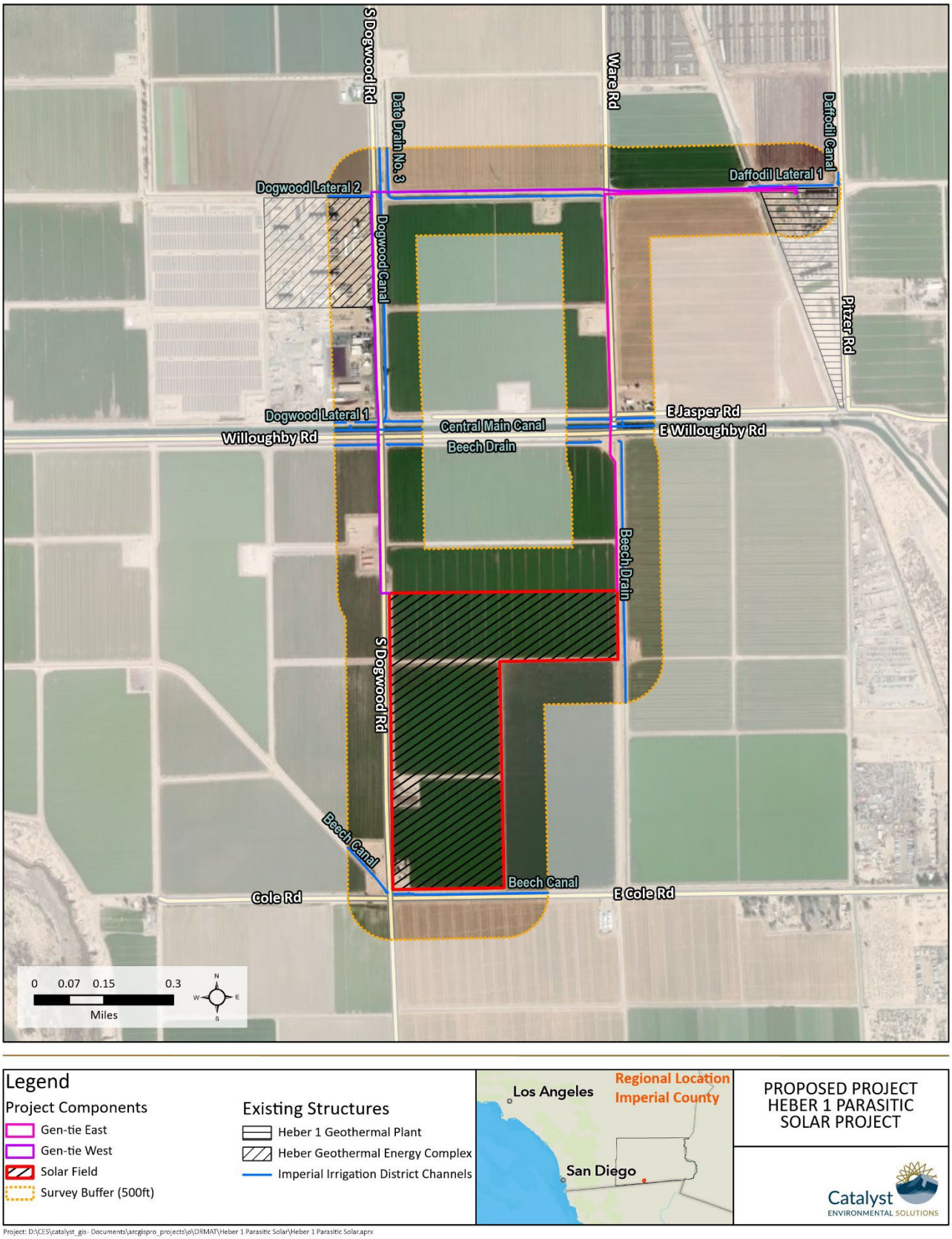

Figure 1-2. Existing Facilities and Proposed Heber 1 Solar Facilities

SECTION 2 Methods

2.1 Desktop Review

Catalyst staff reviewed available data sets and information to perform a desktop review of the soils, vegetation, and water resources present on the Project site as well as recent species occurrences within the vicinity. Catalyst staff reviewed data from the following sources:

- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) species list and critical habitat maps (USFWS 2023a)
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2023; **Appendix B**)
- USFWS National Wetlands Inventory (NWI) maps (USFWS 2023b)
- U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) soil profile (NRCS 2023)

2.2 Reconnaissance Level Habitat Survey

Catalyst biologists Hannah Donaghe, MS and Emily Merickel, MS performed a pedestrian survey on October 12-13, 2023 to photograph and document the general habitat present on the site as well as to record wildlife and vegetation observed during the visit. A photo log is provided in **Appendix A**. The Project Area as well as a 500-foot buffer area were surveyed (biological survey area; BSA). When not accessible due to private land, binoculars were used to survey the buffer area. No sampling was included as part of the survey. The reconnaissance-level survey included the following:

- Recording all plant and animal species observed within the boundaries of the Project site and immediate vicinity;
- Recording signs of animal presence, such as burrows, scat, tracks, vocalizations, etc.;
- Characterizing plant communities present in the Project site;
- Photographs of the Project site; and
- Recording weather data (time, temperature, cloud cover, wind speed).

Burrowing owls are year-round residents throughout much of California, with year-round residency demonstrated in Imperial Valley through observation of color-banded and radio-tagged individuals (Gervais et al. 2008). Burrowing owls have been documented within five miles of the Project Site (CDFW 2023) and suitable habitat is likely present along drainage canals. Biologists included burrowing owl peak detection times during the reconnaissance survey. Peak detection periods for burrowing owls are

described as between morning civil twilight[1] and 10 a.m. as well as two hours before sunset until evening civil twilight (CDFW 2012). Biologists mapped any potential burrows suitable for burrowing owls using a Juniper Systems Geode External GNSS Receiver global positioning system (GPS) and data were collected in Arc Field Maps.

[1] Morning civil twilight begins when the geometric center of the sun is 6 degrees below the horizon (civil dawn) and ends at sunrise. Evening civil twilight begins at sunset and ends when the geometric center of the sun reaches 6 degrees below the horizon (civil dusk). During this period there is enough light from the sun that artificial sources of light may not be needed to carry on outdoor activities (CDFW 2012).

SECTION 3 Existing Conditions

3.1 Topography and Surrounding Land Uses

The Project is located within the Imperial Valley south of the Salton Sea in the Colorado Desert. Topography within the BSA is generally flat with an elevation of -7 feet below mean sea level (msl). The surrounding lands primarily support agricultural cultivation, with solar facilities and a construction/aggregates company to the east, and geothermal well pads and pipelines present throughout the local Project vicinity. Unpaved and paved roads, irrigation ditches, and other farming infrastructure are present throughout the area. Lands within the BSA are zoned General Agricultural within the Heber geothermal unit and Imperial County renewable energy overlay zone (A-2-GU).

3.2 Soils

Soil data were obtained from the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) using the Web Soil Survey. These data were used to determine potential soil types, including where hydric soils have historically occurred. No hydric soils are expected in the Project Area. **Figure 3-1** shows the mapped extent of soils and **Table 3-1** provides a summary of the characteristics of soils which occur within the BSA. The full NRCS report is provided as **Appendix C**.

Table 3-1. Soil Units within Biological Survey Area

Map Unit Symbol	Map Unit Name	Description	Hydric Soil Rating
110	Holtville silty clay, wet	A moderately well-drained soil that occurs on basin floors at elevations between -230 to 200 feet; parent material consists of alluvium derived from mixed sources; low runoff; silty clay (0 to 17 inches), clay (17 to 24 inches), silt loam (24 to 35 inches), loamy very fine sand (35 to 60 inches)	No
114	Imperial silty clay, wet	A moderately well-drained soil that occurs on basin floors at elevations between -230 to 200 feet; parent material consists of clayey alluvium derived from mixed and/or clayey lacustrine deposits derived from mixed sources; silty clay (0 to 12 inches), silty clay loam (12 to 60 inches)	No
115	Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes	A moderately well-drained soil that occurs on basin floors at elevations between -230 to 200 feet; parent material consists of clayey alluvium derived from mixed and/or clayey lacustrine deposits derived from mixed sources; low runoff; silty clay loam (0 to 60 inches)	No
116	Imperial-Glenbar silty clay loams, 2 to 5 percent slopes	A moderately well-drained soil that occurs on basin floors at elevations between -230 to 200 feet; parent material consists of clayey alluvium derived from mixed and/or clayey lacustrine deposits derived from mixed sources; low runoff; silty clay loam (0 to 13 inches), clay loam (13 to 60 inches)	No

118	Indio loam, wet	A moderately well-drained soil that occurs on basin floors at elevations between -230 to 200 feet; parent material consists of alluvium derived from mixed and/or eolian deposits derived from mixed sources; low runoff; loam (0 to 12 inches), stratified loamy very fine sand to silt loam (12 to 72 inches)	No
144	Vint and Indio very fine sandy loams, wet	Vint, Wet (50%): A moderately well-drained soil that occurs on basin floors at elevations between -230 to 300 feet; parent material consists of alluvium derived from mixed and/or eolian deposits derived from mixed sources; very low runoff; very fine sandy loam (0 to 10 inches), loamy fine sand (10 to 40 inches), silty clay (40 to 60 inches) Indio, Wet (40%): A moderately well-drained soil that occurs on basin floors at elevations between -230 to 300 feet; parent material consists of alluvium and/or eolian deposits derived from mixed sources; very low runoff; very fine sandy loam (0 to 12 inches), stratified loamy very fine sand to silt loam (12 to 40 inches), silty clay (40 to 60 inches)	No
145	Water	NA	NA

Source: NRCS 2023

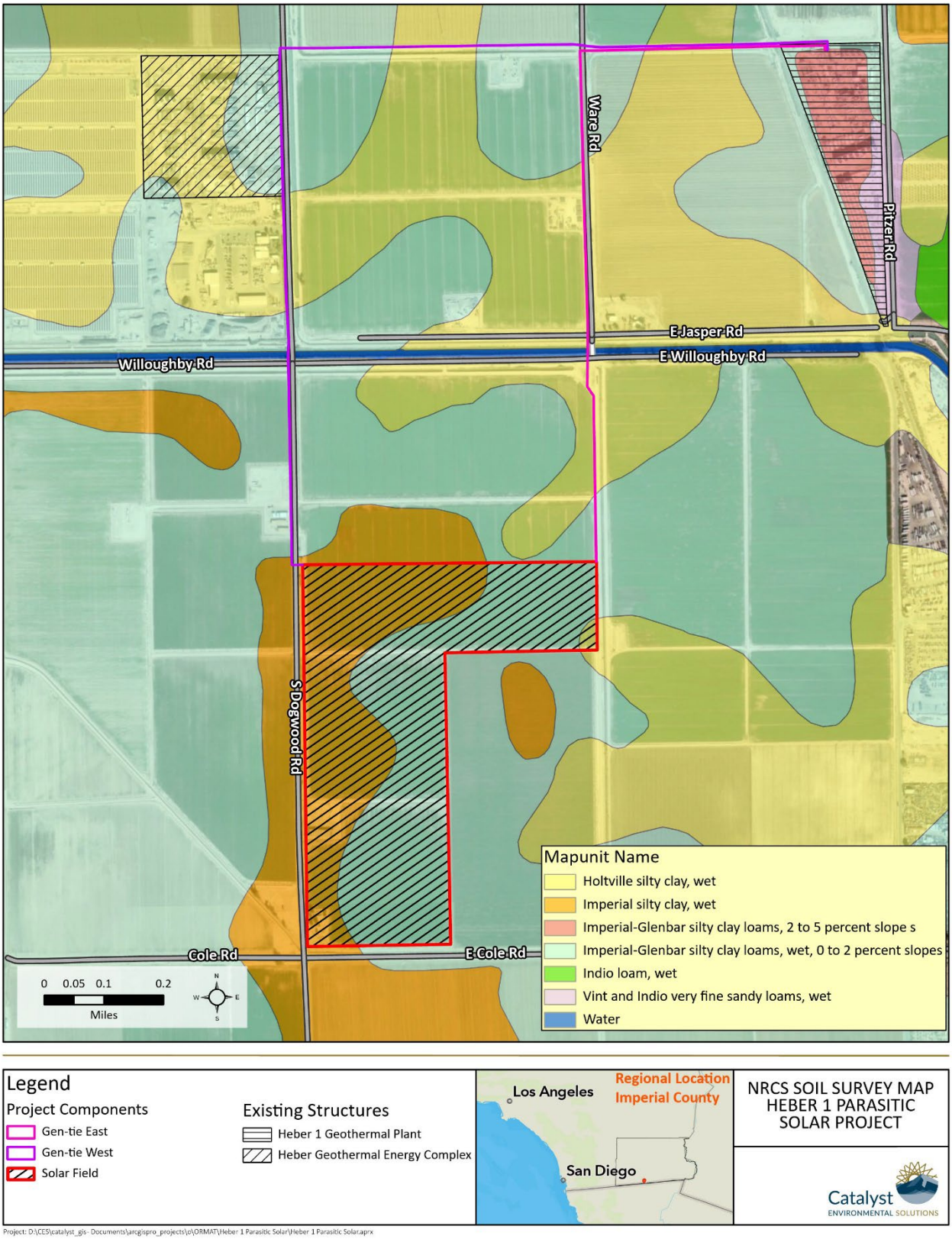

Figure 3-1. NRCS Soil Survey Map of Project Vicinity

3.3 Hydrology

The Project area is within the Colorado River Basin and is within the Imperial Hydrologic Unit (HUC8 18100204) (USGS 2023). Irrigation water is supplied to the surrounding agricultural fields by an engineered system of canals operated and maintained by the Imperial Irrigation District (IID). Water that flows through the Project area originates at Imperial Dam located north of Yuma, Arizona. Water diverted at Imperial Dam for use in the Imperial Valley passes through three desilting basins and is then delivered to the Imperial Valley via the All-American Canal.

The 80-mile-long All-American Canal distributes water to three main canals, East Highline, Central Main, and Westside Main. These three main canals then distribute water to smaller lateral canals throughout the Imperial Valley. Farmers receive water in private ditches from the lateral canals. The lateral drain system operates by gravity flow drainage (IID 2023a). When a field is irrigated, water is allowed to flow from the IID delivery canal to a smaller earthen or concrete-lined v-ditch (i.e., a "head ditch"), which then distributes the water evenly across the field. At the opposite and lower elevation end of the field, excess water is collected in another ditch (i.e., a "tail ditch") and directed back into an IID drain (e.g., Beech Drain in the BSA). Some tail ditches are unlined and plowed over/filled in and then re-dug as needed for irrigation. All waters in the Project area ultimately drain to the Salton Sea via the New River (e.g., Beech Drain) or the Alamo River (e.g., Date Drain No. 3).

The Central Main Canal and several smaller IID canals and drains pass through the BSA. The alfalfa fields in the Project area are graded for flood irrigation, but most were not being irrigated during the survey. The hay field north of the proposed gen-tie line had some standing water present (**Appendix A, Photo 13**). Both concrete-lined and unlined v-ditches are present in the solar energy field.

The NWI (USFWS 2023b) has mapped and classified several of the waterways in or adjacent to the Project area (**Figure 3-2**). The Central Main Canal is classified as Riverine (R2UBHx: Lower Perennial, Unconsolidated Bottom Permanently Flooded Excavated). The Central Main Canal is a manmade channel excavated in previously upland areas and has a natural sediment bottom. The proposed buried transmission line would cross the Central Main Canal at one of two potential locations: along existing bridges located at Dogwood Road or Ware Road. West of Dogwood Road, the Dogwood Lateral 1 canal parallels the Central Main Canal for a short distance. The Project area does not otherwise intersect the Central Main Canal.

Dogwood Canal and Beech Drain are both classified as Riverine (R4SBCx: Intermittent Streambed Seasonally Flooded Excavated). Both feature natural sediment bottoms and varying densities of riparian vegetation below the top of bank; some portions of Dogwood Canal are concrete lined. Beech Drain has steep banks estimated to be approximately 15 feet from top-of-bank to the bottom of the channel. Beech Drain flows parallel to the eastern extent of the proposed solar energy field footprint but is separated from the solar field (presently planted with alfalfa) by an unpaved access road. Date Drain No. 3 is not mapped in the NWI, but also features a natural bottom. Daffodil Lateral 1 is concrete-lined and is located north of the existing Heber 1 Geothermal Facility. Daffodil Lateral 1 is not mapped in the NWI, but the larger canal it runs perpendicular to, Daffodil Canal, is classified as Riverine (R4SBCx: Intermittent Streambed Seasonally Flooded Excavated). Daffodil Canal is located just within the eastern extent of the BSA.

Beech Canal is located south of the proposed solar field, which is currently an active agricultural field. Beech Canal is classified as Riverine habitat (R4SBCx: Intermittent Streambed Seasonally Flooded Excavated) (USFWS 2023b). The NWI maps also show a canal mapped as Riverine (R4SBCx) that is connected and perpendicular to Beech Canal, which runs north for 0.5 mile parallel to Beech Drain and then ends; this feature is not mapped by IID (IID 2023b).

The unnamed concrete lined v-ditches that run east-west through the proposed solar energy facilities are not mapped or classified by the NWI. These function as head ditches and tail ditches and contain water only when ordered for irrigation.

The ground disturbance footprint for the solar facility is adjacent to but does not overlap the NWI-mapped canals and drains, as shown on **Figure 3-2**. The proposed gen-tie routes cross several NWI-mapped canals and drains. Where these overlap, the gen-tie line would be excavated below the canal and/or drain, to avoid any impacts on the IID infrastructure.

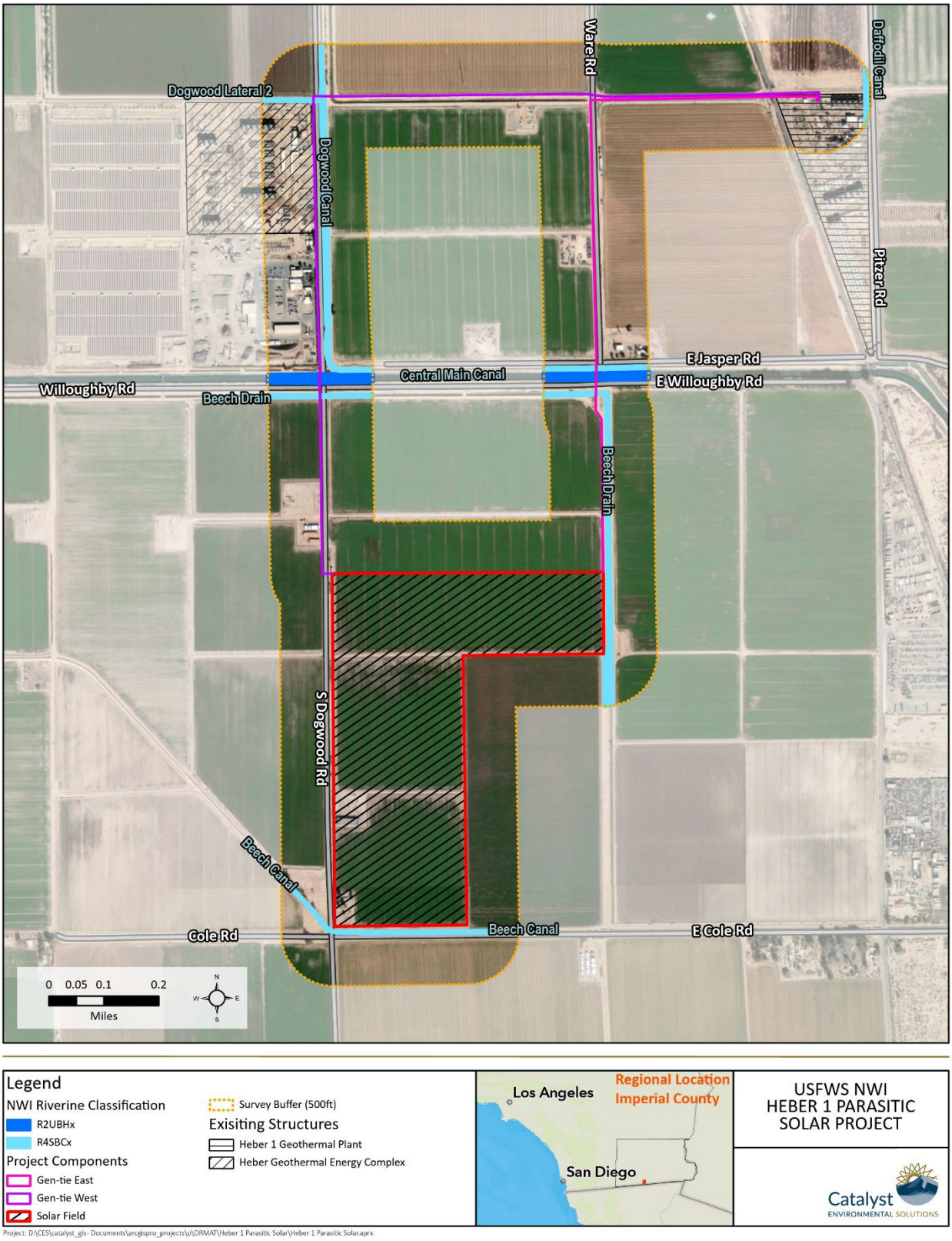

Figure 3-2. USFWS National Wetland Inventory Mapped Features

SECTION 4 Results and Discussion

4.1 Desktop Review

Results of the desktop review are provided in **Table 4-1** and **Table 4-2.** Species included in **Table 4-1** were included in search results from the CNDDB (CDFW 2023) or the USFWS IPaC species list (USFWS 2023a). One special-status species, burrowing owl, was determined to have a high likelihood of occurrence on the Project Site.

Table 4-1. Special-Status Wildlife Species Occurrence

Scientific Name	Common Name	Federal Status	State Status	CDFW Status	Habitat Description	Likelihood of Occurrence on Project Site
Birds						
Aechmophorus occidentalis	Western grebe	BCC	T	SSC	Obligate waterbird. Nest on the Salton Sea and along the Colorado River. Eat mostly fish and hunt by diving. Rest on open water, well offshore. Dive to escape danger. Nest in large stands of tall, emergent vegetation adjacent to large lakes (Kucera 2005).	**Low**. No suitable habitat present on Project Site. May fly or migrate over the area as the Project Site is within the yearlong range of the species (Hunting 2005).
Agelaius tricolor	Tricolored blackbird	BCC	T	SSC	Project is within the winter range for this species (Beedy 2008). Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs. Nests over or near fresh water in dense cattails or tules. Feeds in grassland and cropland habitats, including flooded lands, on insects and spiders as well as seeds and cultivated grains (Granholm 2008).	**Moderate**. Suitable breeding habitat is not present on the Project Site. Species could forage in the agricultural fields in the Project Area, particularly in winter.
Athene cunicularia	Burrowing owl	BCC	--	SSC	Live in open, treeless areas with sparse vegetation and gentle sloping terrain. Nests in a burrow, often dug by small mammals (CDFG 2012).	**Present**. Presence of burrowing owls confirmed on the Project Site and in the vicinity during survey.

Scientific Name	Common Name	Federal Status	State Status	CDFW Status	Habitat Description	Likelihood of Occurrence on Project Site
Calypte costae	Costa's hummingbird	BCC	--	--	Occurs in more arid habitats than other hummingbirds in California. Primary habitats are desert wash, edges of desert riparian and valley foothill riparian, coastal scrub, desert scrub, desert succulent shrub, lower-elevation chaparral, and palm oasis (Green nd-a). Feeds on various herbaceous and woody nectar plants and small insects and spiders. Requires shrubs and trees for cover.	**Low.** Few shrubs and trees in Project vicinity, mainly restricted to canals.
Melanerpes uropygialis	Gila woodpecker	BCC	E	--	Occurs mostly in desert riparian and desert wash habitats but also found in orchard-vineyard and urban habitats, particularly in shade trees and date palm groves. Formerly found in farm and ranchyards throughout the Imperial Valley, but most regularly now near Brawley. Eats insects, mistletoe berries, cactus fruits, corn and occasionally contents of galls on cottonwood leaves, bird eggs, acorns, cactus pulp. Gleans from trunks and branches of trees and shrubs. Cottonwoods and other desert riparian trees, shade trees, and date palms supply cover in California (Green nd-b).	**Low.** No suitable nesting, gleaning, or cover habitat on the Project Site. Could occur in the general vicinity on adjacent properties where date palms or other trees are present.
Rallus obsoletus yumanensis	Yuma Ridgway's Rail	E	T	FP	Species lives in freshwater marshes dominated by cattail (*Typha* sp.) with a mix of riparian tree and shrub species. Optimal habitat consists of a mosaic of emergent vegetation averaging >2 m (6 ft tall). Diet is dominated by crayfish, with small fish, tadpoles, clams, and other aquatic	**None**. None observed or heard during field surveys. Dense stands of cattails or other tall emergent vegetation are not present. No suitable habitat on site or in adjacent drains.

Scientific Name	Common Name	Federal Status	State Status	CDFW Status	Habitat Description	Likelihood of Occurrence on Project Site
					invertebrates also utilized (USFWS 2009).	
Setophaga petechia	Yellow warbler	--	--	SSC	Breed in lowland and foothill riparian woodlands with cottonwoods, willows, and other small trees.	**None**. CNDDB record >75 years. No suitable habitat present. Project Site is well outside of the current known range of the species (Shuford and Gardali 2008).
Mammals						
Lasiurus xanthinus	Western yellow bat	--	--	SSC	Feeds on flying insects. Forages over water and among trees. Roosts in trees, including palm trees (Harris 2008).	**Low**. Project is within species yearlong range, however, the species is uncommon in California (Harris 2008). CNDDB records from the 5-mile buffer >25 years old. Potential to roost in nearby palm trees and forage in area, but no roost trees on Project Site.
Nyctinomops femorosaccus	Pocketed free-tailed bat	--	--	SSC	Roosts in rock cliffs and crevices for roosting and forages over ponds, streams, or arid desert habitat. Must drop from the roost to gain flight speed. Habitats used include pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oasis (Harris 2000).	**Low**. Project is within species yearlong range, however, species is rare in California but more common in Mexico (Harris 2000). Agricultural fields of the Project Site are not preferred habitat. CNDDB record >25 years old.
Nyctinomops macrotis	Big free-tailed bat	--	--	SSC	Species prefers rugged rocky canyons and feeds principally on large moths (Harris 2002).	**Low**. Rare species in California (Harris 2002). CNDDB records > 35 years old Preferred habitat not present on the Project Site.
Taxidea taxus	American badger	--	--	SSC	Widespread but uncommon species found in a variety of habitats. Diet consists of	**Moderate.** CNDDB records > 100 years old. No evidence of the

Scientific Name	Common Name	Federal Status	State Status	CDFW Status	Habitat Description	Likelihood of Occurrence on Project Site
					rodents invertebrates, snakes, lizards, birds, and carrion. Prefers friable soils for digging burrows (Ahlborn nd).	species was found during biological surveys, but soils and prey base on the site provide potentially suitable habitat.
Amphibians						
Lithobates pipiens	Northern leopard frog	--	--	SSC	Needs permanent water for overwintering, floodplains, and marshes for breeding, and wet meadows for foraging. A very cold hardy species. California is at the extreme western extent of the species range (Nafis 2023).	**None**. CNDDB records >75 years old. This frog is native to California, but most native populations are now extinct (Thomson et al. 2016). The present range appears to be limited to a few locations in the Central Valley and northern California. The Project Site it well outside of the current known range of the species.
Reptiles						
Phrynosoma mcallii	Flat-tailed horned lizard	--	--	SSC	In California, species occurs in several Sonoran Desert habitat types, including sandy areas (flats, hills, and valleys), salt flats, badlands, and gravelly areas (Thomson et al. 2016). Prefers areas of fine sand and sparse vegetation in desert washes and desert flats (Marlow 2000). Most common in areas with a high density of ants and fine windblown sand (Nafis 2023).	**None.** Suitable habitat not present in Project Area.
Insects						
Danaus plexippus	Monarch butterfly	C	--	--	Widespread species that feeds on a variety of nectar plants but requires milkweed host plants for reproduction.	**Low**. Species life cycle requires host plants (milkweed species). No host plants are present to support reproduction.

Scientific Name	Common Name	Federal Status	State Status	CDFW Status	Habitat Description	Likelihood of Occurrence on Project Site

E = Endangered, T = Threatened, C = Candidate; BCC = Bird of Conservation Concern; FP = Fully Protected, SSC = Species of Special Concern

Table 4-2. Special-Status Plant Species Occurrence

Scientific Name	Common Name	Rare Plant Rank	Habitat Description	Likelihood of Occurrence on Project Site
Abronia villosa var. aurita	Chaparral sand-verbena	1B.1	Occurs within Chaparral, Coastal scrub, and Desert dunes, growing at elevations from 75 to 1600 meters in sandy loam and sand (CNPS 2023). Blooms March - September	**Low.** Suitable habitat is not present on Project Site. Species not observed during survey.
Astragalus sabulonum	Gravel milk-vetch	2B.2	General habitats of desert dunes, mojavean desert scrub, and sonoran desert scrub with microhabitats of flats, washes, roadsides, and sandy or occasionally gravelly elements (CNPS 2023). Blooms February - June	**Low.** Suitable habitat is not present on Project Site. Species not observed during survey.
Euphorbia abramsiana	Abram's spurge	2B.2	Found in Mojavean desert scrub, and Sonoran desert scrub, growing at elevations from -5 to 1310 meters, particularly in sandy microhabitats (CNPS 2023). Blooms August - November	**Low.** Suitable habitat is not present on Project Site. Species not observed during survey.
Imperata brevifolia	California satintail	2B.1	Occurs within Chaparral, Coastal scrub, Meadows and seeps (often alkali), Mojavean desert scrub, and Riparian scrub, growing at elevations from 0 to 1215 meters (CNPS 2023). Blooms September - May	**Low.** Suitable habitat is not present on Project Site. Species not observed during survey.

CRPR California Rare Plant Rank: 1A: Plants presumed extirpated in California and either rare or extinct elsewhere; 1B: Considered rare, threatened, or endangered in California and elsewhere; 2A: Plants presumed extirpated in California, but more common elsewhere; 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere; 3: Plants About Which More Information is Needed – A Review List; 4: Plants of Limited Distribution - A Watch List

Threat Ranks/ Decimal notations - A California Native Plant Society extension added to the SSRPR: .1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat); .2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat); .3 Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

4.2 Reconnaissance Level Survey

4.2.1 Survey Conditions

The reconnaissance-level field survey was completed by two professional biologists on October 12-13, 2023. Weather conditions were clear with no cloud cover and high visibility throughout the survey.

Temperatures ranged from 66-92 degrees Fahrenheit (°F). Wind speed was minimal in the morning and evening. The maximum wind speed recorded was 8.5 mph midday on October 12, 2023. Surveys occurred between 0700 and 1840 on October 12, 2024 and between 0700 and 1300 on October 13, 2023.

4.2.2 Vegetation Communities Observed

The Project site is primarily characterized by disturbed/developed areas and agricultural fields. A full list of plant species observed during the field survey is included in **Table 4-3**.

Plant community descriptions generally follow the MCV II classification system which is described in the second edition of A Manual of California Vegetation (MCV; Sawyer et al. 2009). The BSA supports the four following land cover types:

- Agricultural Land: This land cover type is not described in the MCV. At the time of survey, this land cover type was observed to contain primarily active alfalfa (*Medicago sativa*) cultivation and harvest, and associated irrigation canals were present adjacent to and bisecting fields. Approximately 122 acres of agricultural land and a residence would be converted to install the solar energy facilities.
- Developed/Disturbed Land: This land cover type is not described in the MCV but includes developed areas like roads and existing solar/geothermal facilities. These areas are predominantly devoid of vegetation, but can support ruderal herbaceous scrub, including non-native grasses and other weed species, and planted or landscape trees/shrubs. A small area of annual grasses (sprangletop [*Leptochloa fusca*]) is present along the berm just north of Date Drain No.3. This annual grass species is not assigned an alliance in the MCV. Because it is growing in the disturbed, presently dry v-ditch, it is included within the developed/disturbed community type.
- Arrow Weed Thicket: Arrow weed (*Pluchea sericea*) is the dominant vegetation on the steep banks of Beech Drain, Date Drain No. 3, and the Dogwood Canal. Other species such as cattails (*Typha* spp.) and saltcedar (*Tamarisk ramosissima*) are also present but less dominant. The *Pluchea sericea* Shrubland Alliance (arrow weed thickets) occur around springs, seeps, irrigation ditches, canyon bottoms, stream borders, and seasonally flooded washes (Sawyer et al. 2009). Vegetation is dense in some areas along the canals and very sparse in others. Arrow weed thickets are recognized by CDFW as a sensitive vegetation type. The canals fall within the 500-foot buffer of the project footprint and thus within the BSA. Most of the mapped arrow weed thickets that occur within the BSA are located outside the presumed Project area disturbance footprint. However, a narrow area along the proposed gen tie line in the vicinity of the Heber 1 Geothermal Facility overlaps a portion of this vegetation type and would be removed or disturbed by Project activities (Photo 14-15).
- Tamarisk Thicket: The *Tamarix* spp. Shrubland Semi-natural Alliance (tamarisk thickets) occur along arroyo margins, lake margins, ditches, washes, rivers, and other watercourses. This community (*Tamarix ramosissima*) was observed along a portion of Date Drain No. 3 adjacent to the proposed gen-tie line. Additionally, an area of both tamarisk and arrow weed was observed along Dogwood Lateral 1 near Dogwood Road.

Land cover within the BSA is shown in **Figure 4-1**. In the BSA, 74 percent (432.1 acres) of the land cover is agricultural (primarily alfalfa), 24 percent (137.6 acres) is developed/disturbed (including access roads), 0.2 percent (1.1 acre) is arrow weed thicket (along canals and drains below the ordinary high water mark), less than 0.1 percent (0.3 acres) is tamarisk thicket (along Date Drain No. 3), less than 0.1 percent (0.02 acres) percent is arrow weed and tamarisk thicket, and 2 percent (11.0 acres) is water (canals and drains).

1.1.1.1 Proposed Solar Energy Facilities

The area proposed for the solar energy facilities consists of agricultural fields and associated irrigation canals adjacent to the fields. The alfalfa fields in the Project area are graded for flood irrigation, but most were not being irrigated during the survey. Several concrete-lined v-ditches as well as unlined ditches are present along the edges of the alfalfa fields. Unpaved access roads are also present within this area. Photos of this area are provided in **Appendix A** (Photos 1-4).

Beech Drain, located south of E. Willoughby Road, runs east to west and then turns south where it is located adjacent to the proposed solar field site. Beech Drain has steep banks estimated to be approximately 15 feet from the top of bank to the bottom of the channel. Beech Drain has a natural sediment bottom and varying densities of riparian vegetation below the top of bank. Arrow weed (*Pluchea sericea*) is the dominant vegetation on the steep banks of Beech Drain. Other species such as cattails (*Typha* spp.) and saltcedar (*Tamarisk ramosissima*) are also present but in much smaller numbers (Photo 20). Beech Drain flows just outside of the solar energy field footprint along its eastern edge.

Beech Canal is located south of the solar field, which is currently an active agricultural field. The project would not result in disturbance to this canal, which is concrete-lined and has limited ruderal vegetation present (Photo 10).

1.1.1.2 Gen-Tie Line

The Project would include ground disturbance for a buried transmission line, which would run from the proposed solar field to the Heber 1 Geothermal Facility. Currently, two potential routes are being analyzed, both of which have been included in the proposed Project area. One route would run north from the western edge of the proposed solar field (along a portion of Dogwood Road), and the other would run north from the eastern edge (along a portion of Ware Road), then both would run east to connect to the existing Heber 1 Geothermal Facility. The western alignment would cross portions of Beech Drain, Central Main Canal, Dogwood Lateral 1 and 2, and Date Drain No. 3. The eastern alignment would cross different portions of Beech Drain, Central Main Canal, and Dogwood Canal.

Dogwood Canal has a natural sediment bottom through most of its path through the Project area and varying densities of riparian vegetation below the top of bank. Arrow weed is the dominant vegetation on the banks of Dogwood Canal. Other species such as cattails and saltcedar are also present but in much smaller numbers. The potential route along the west side of Dogwood Rd. would run north from the solar site through recently disturbed bare ground (Photo 11) and cross the Dogwood Canal near the northeast boundary of the existing Heber 2 Geothermal Energy Complex. Minimal vegetation was present near this location in the canal (Photo 19). East of the Dogwood Canal is an unpaved access road, Date Drain No. 3, and agricultural fields. This potential gen-tie route would also cross Date Drain No. 3,

near the Dogwood Canal crossing and then continue east, running north of Date Drain No. 3. Tamarisk thickets are present along a portion of Date Drain No. 3, which is unlined and has a natural sediment bottom (Photos 17-18). The eastern alignment would cross Dogwood Canal at its intersection with Ware Rd. and continue north along this roadside where no vegetation is present. The route is between Ware Rd. and a concrete-lined ditch in this area (Photo 12).

The proposed gen-tie line would also cross under the Central Main Canal at one of two locations, where bridge crossings exist along Dogwood Road or Ware Road. The Central Main Canal parallels E. Willoughby Road. Just south of the Central Main Canal is Beech Drain, which runs east to west and then turns south and runs parallel with the eastern proposed gen-tie route. The Central Main Canal is a manmade channel excavated in previously upland areas and has a natural sediment bottom. Vegetation in this area appeared to be minimal due to frequent inundation, which almost reached the top of bank at the time of the survey (Photo 21). The western alignment also crosses Dogwood Lateral 1 just north of the Central Main Canal, where a patch of arrow weed thickets is present as well as a strip of both arrow weed and tamarisk along the bank.

The potential gen-tie route would be located just south of the nearby Daffodil Lateral 1, which is a concrete-lined canal. Dense arrow weed thickets are present adjacent to Daffodil Lateral 1, along both sides of the railroad tracks which run through the Project area (Photos 14-15).

The area is surrounded by agricultural fields planted primarily with alfalfa, and some hay fields. At the time of the survey, the alfalfa fields did not appear to be flooded with water from the adjacent irrigation ditches, but some flood irrigation was observed in the hay fields near the northern extent of the proposed gen-tie line route.

Table 4-3. Plant Species Observed in the Project Area

Common Name	Scientific Name	Plant Indicator Status[1]
Trees		
Eucalyptus spp.*	*Eucalyptus spp.*	FAC
Mesquite spp.	*Prosopis spp.*	FAC/FACU
Shrubs, Forbs, and Grasses		
Prostrate pigweed, tumbleweed*	*Amaranthus albus*	FACU
Careless weed	*Amaranthus palmeri*	FACU
Big saltbush	*Atriplex lentiformis*	FACU
Bindweed, orchard morning-glory*	*Convolvulus arvensis*	NA
Purple flat sedge*	*Cyperus rotundus*	FAC
Jungle rice*	*Echinochloa colona*	FAC
Sprangletop	*Leptochloa fusca*	NA
Alfalfa*	*Medicago sativa*	UPL
Alkali mallow	*Malvella leprosa*	FACU
Date palm*	*Phoenix dactylifera*	NA

Arrow weed	*Pluchea sericea*	FACW
Purslane, little hogweed*	*Portulaca oleracea*	FAC
White horse-nettle*	*Solanum elaeagnifolium*	NA
Sorghum spp.*	*Sorghum spp.*	FACU
Saltcedar*	*Tamarix ramosissima*	FAC
Puncturevine, goat head*	*Tribulus terrestris*	NA
Cattail	*Typha spp.*	OBL
Mexican fan palm*	*Washingtonia robusta*	FACW

Table Notes:
[1] National Wetland Plant List (USACE 2020): FAC = Facultative, FACW = Facultative Wetland, OBL = Obligate Wetland, UPL = Upland, NA = no indicator status assigned.
*Denotes non-native or naturalized species

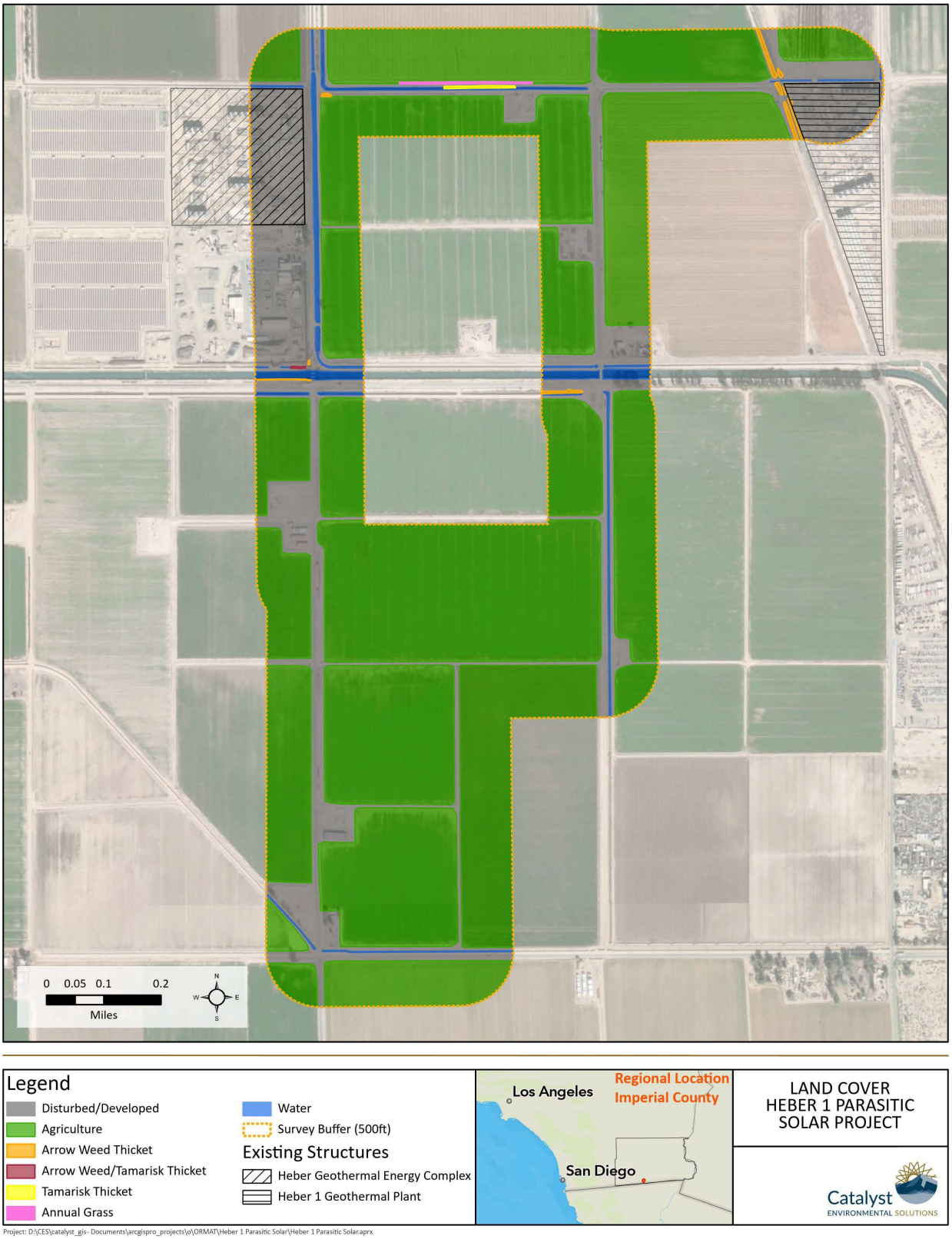

Figure 4-1. Land Cover in the Biological Survey Area

4.2.3 Wildlife Species Observed

Common bird and mammal species for the area were observed or signs (scat, tracks) observed during the field survey. Birds were the most abundant and active animals observed during the field survey. The alfalfa fields provided forage habitat for numerous species of birds, including western meadowlarks (*Sturnella neglecta*), great-tailed grackles (*Quiscalus mexicanus*), and red-winged blackbirds (*Agelaius phoeniceus*). Several species of wading birds were observed near canals and fields throughout the project area, including great egrets (*Ardea alba*), snowy egrets (*Egretta thula*), and cattle egrets (*Bubulcus ibis*). Raptors, including red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*) were observed circling over the alfalfa fields. No raptor nests were observed in the BSA. Some mammals, primarily round-tailed ground squirrels (*Xerospermophilus tereticaudus*) or signs were also observed. Several reptiles and invertebrates were observed. Several western side-blotched lizards (*Uta stansburiana elegans*) and Great Basin whiptails (*Aspidoscelis tigris tigris*) were observed throughout the BSA. No signs of bat roosting habitat were observed on the Project Site. Direct or indirect observations of wildlife within the Project area and the 500-foot buffer area are provided in **Table 4-3**.

Burrowing owls were observed within the Project area. Suitable and occupied habitat is located along the berm near the southern extent of the proposed solar facilities footprint, as described below. However, no habitat that would support other special status species was observed within the Project area. No designated critical habitat is mapped by USFWS within or in the vicinity of the Project area.

Table 4-4. Wildlife Observed in the Project Area

Common Name	Scientific Name
Birds	
Red-winged blackbird	*Agelaius phoeniceus*
Great egret	*Ardea alba*
Burrowing owl	*Athene cunicularia*
Cattle egret	*Bubulcus ibis*
Red-tailed hawk	*Buteo jamaicensis*
Green heron	*Butorides virescens*
Turkey vulture	*Cathartes aura*
Killdeer	*Charadrius vociferus*
Rock pigeon*	*Columba livia*
American crow	*Corvus brachyrhynchos*
Common raven	*Corvus corax*
Snowy egret	*Egretta thula*
American kestrel	*Falco sparverius*
Greater roadrunner	*Geococcyx californianus*

Song sparrow	*Melospiza melodia*
Savannah sparrow	*Passerculus sandwichensis*
Great-tailed grackle	*Quiscalus mexicanus*
Black phoebe	*Sayornis nigricans*
Eurasian collared-dove*	*Streptopelia decaocto*
Western meadowlark	*Sturnella neglecta*
European starling*	*Sturnus vulgaris*
Mourning dove	*Zenaida macroura*
Mammals	
Desert cottontail	*Sylvilagus audubonii*
Round-tailed ground squirrel	*Xerospermophilus tereticaudus*
Reptiles	
Spiny softshell turtle*	*Apalone spiniferus*
Great Basin whiptail	*Aspidoscelis tigris tigris*
Western side-blotched lizard	*Uta stansburiana elegans*
Amphibians	
Rio Grande leopard frog*	*Lithobates berlandieri*
Invertebrates	
Western honeybee	*Apis mellifera*
Checkered skipper	*Burnsius* sp.
Orange sulphur	*Colias eurytheme*
Asian clam shells*	*Corbicula fluminea*
Lady beetle (ladybug)	Family Coccinellidae
California harvester ant	*Pogonomyrmex californicus*
Painted lady butterfly	*Vanessa cardui*

Table Notes:
* Denotes non-native species

Burrowing Owls

Burrowing owls occupy a wide range of habitats such as open, treeless areas within grassland, steppe, and desert biomes with low, sparse vegetation. The Project site has been most recently used to cultivate alfalfa; however, the irrigation canals and roads through the area provide sandy embankments where burrows may be present. Burrowing owls in agricultural environments nest along roadsides and water conveyance structures, including open canals, ditches, and drains, surrounded by crops (DeSante et al. 2004, Rosenberg and Haley 2004 as cited in Gervais et al. 2008).

Overall, the BSA features many burrows likely excavated by ground squirrels and berms along drainages and field edges. Limited perching areas for burrowing owls (e.g., fences, posts, debris piles, high berms, wires, shrubs) were observed in the BSA. The majority of burrows observed along the edges of fields and canals/drains were less than 3 inches in diameter, which is smaller than the preferred burrows used by owls. Suitable burrows for burrowing owl are greater than 11 centimeters (4.3 inches) in diameter (height and width) and greater than 150 centimeters (59 inches) in depth (Johnson et al. 2010 as cited in CDFW 2012).

There is a colony of occupied burrows located north of Cole Road/Beech Canal and south of the alfalfa field where the proposed solar field would be located. Several adult pairs were observed. Based on the timing of the survey and the peak nesting season, it is likely that if present, any juveniles would have fledged prior to the survey. Juvenile burrowing owls are capable of strong flight at about 6 weeks old, when they are able to leave the nest. However, they remain with parents until they can feed themselves, generally at around 12 weeks old (USFWS n.d.). The burrows within the Project area are located in the sandy embankment on the south side of the concrete v-ditch overlooking the alfalfa field (Photos 5-7). A second part of the colony is located immediately east in the sandy embankment overlooking the adjacent field, which was recently disked (Photos 8-9). This second area is outside the project footprint but within the 500-foot BSA. All of the burrows are situated facing north towards the fields. Burrowing owls were present in both of these areas. There were also several large burrows observed along the unpaved road adjacent to the southern alfalfa field, but no sign of owls was observed in this area, which is north of the occupied burrowing owl habitat (Photo 22).

In addition to the occupied area within the southern extent of the Project area, potentially suitable burrowing owl habitat was observed along the northern extent of the BSA along the berm of Date Drain No. 3 as well as the area north of the drain. Several burrows in these areas with openings greater than 4 inches in diameter were observed, which could support nesting burrowing owl (Photos 16-18). However, no sign of burrowing owl was observed in these areas or at the individual burrow sites.

Burrowing owls have been mapped previously in the vicinity of the Project site. The closest occurrence was recorded in 1991, located approximately 0.7 miles northwest of the Project site (northwest extent of gen-tie line). The most recent occurrence is from 2007 and is located approximately 1.2 miles east of the Project area. Additional occurrence records located within approximately 2.5 miles to the northeast and northwest of the Project site were recorded in 2006 and 1991, respectively. Three occurrences mapped in 2006 are located approximately 3 miles north of the Project area (CDFW 2023). The southern portion of the BSA is currently occupied by a colony of burrowing owls, and other areas have potentially suitable habitat, but no individuals or sign of owls were observed. Based on the area with a current population, historic observations within 3 miles of the Project area, and presence of suitable habitat, it is possible that burrowing owls could inhabit those currently unoccupied areas within the BSA in the future.

SECTION 5 Impact Assessment and Recommendations

Numerous special-status species have been documented in the Project vicinity based on desktop review (**Table 4-1** and **Table 4-2**). One special-status species, western burrowing owl, was observed in the BSA during the reconnaissance-level field survey (**Figure 5-1**). Rapid urbanization of farmland resulting in habitat loss and degradation in the core areas of the Central and Imperial valleys is the greatest of many threats to burrowing owls in California (Shuford and Gardali 2008). The southern portion of the Project area contains suitable habitat that is currently occupied by burrowing owls. There is also suitable habitat present in the northern extent of the project area along the proposed gen-tie line route. However, no individuals were observed in this area during the survey. If burrowing owls are found onsite prior to or during construction, they could be affected by Project activities. Impacts could include injury or fatality by construction equipment, which should be avoided and/or minimized by implementing appropriate avoidance and minimization measures and best management practices. Impacts on burrowing owl could also include loss of foraging and nesting habitat present along the ditches within the area proposed for solar field development.

Catalyst recommends that focused burrowing owl surveys be conducted for the Project Area following the methods described in Appendix D of the Staff Report on Burrowing Owl Mitigation (CDFG 2012). Catalyst recommends that CDFW be consulted to determine the needed avoidance and mitigation measures to protect and minimize impacts to burrowing owls on the Project Site. CDFW recommended setback distances are provided in **Table 5-1**.

Catalyst recommends that avian point count surveys and bat acoustic surveys be conducted to document the presence of potential special-status birds and bats not identified during desktop review and this reconnaissance-level survey. The presence of special-status birds or bats may result in required consultation with CDFW and/or USFWS.

Catalyst recommends that pre-construction surveys be conducted for nesting birds to ensure that impacts to nesting special-status birds are avoided.

Catalyst also recommends that pre-construction surveys for special-status botanical species be conducted.

Figure 5-1. Burrowing Owl Observed in the Biological Survey Area.

Table 5-1. CDFW Recommended Restricted Activity Dates and Setback Distances for Burrowing Owls by Level of Disturbance[2]

Location	Time of Year	Level of Disturbance		
		Low	Medium	High
Nesting sites	April 1-Aug 15	200 m (656 ft)	500 m	500 m (1,640 ft)
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m (164 ft)	100 m (328 ft)	500 m

Source: Scobie and Faminow 2000 as cited in CDFW 2012

[2] CDFW does not include definitions for activity level. Definitions from a related petroleum industry reference (Environment Canada 2009), which also cites the same Scobie and Faminow 2000 document, are included as examples:
Low: Example activities include surveying, drive by, low-use trails (less than one pass per week), flowline 2 inches or less, plowed in.
Medium: Example activities include pipeline 10 inches or less, plowed in; pipeline 6 inches or less, trenched; seismic, low footprint; trails, less than 50km/hr, all season, one or more passes per day.
High: Permanent structures (e.g., roads, buildings, compressor/pump stations, oil batteries, straddle plants, power lines); oil or gas well with associated activities/infrastructure; pipeline 8 inches or greater, trenched; well servicing greater than two hours, greater than 49 dBA, summer.

SECTION 6

Certification

Certification: “I hereby certify that the statements provided above and in the appendices present the data and information required for this biological evaluation, and the facts, statements, and information presented are true and correct to the best of my knowledge and professional judgement. Field work conducted for this assessment was performed by me or under my direct supervision. I certify that I have no financial interest in the project.”

Date: December 18, 2023 Signed: 

Emily Merickel, MS
Project Scientist
Catalyst Environmental Solutions

Date: December 18, 2023 

Hannah Donaghe, MS
Senior Biologist
Catalyst Environmental Solutions

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Appendix A Photo Log

Photo 1: Proposed solar facilities site currently planted with alfalfa, looking southwest toward existing residence located at the intersection of Dogwood Rd. and Cole Rd. Unlined v-ditch shown in foreground adjacent to access road (10/12/23).

Photo 2. Concrete ditch located north of the existing residence within the proposed solar facility footprint, looking east across existing alfalfa fields (10/12/23).

Photo 3. Looking northwest from edge of project area near Beech Drain at northern extent of proposed solar facility footprint (10/12/23).

Photo 4. Looking west from edge of project area near Beech Drain. Existing residence is located in the left background (10/12/23).

Photo 5. Berm located within southern extent of proposed solar site with occupied burrowing owl habitat present. Owls observed within one burrow and outside another nearby burrow. Photo taken looking west along berm toward existing residence and Dogwood Rd. (10/12/23).

Photo 6. Occupied burrowing owl habitat along berm, looking southwest from within the proposed solar facility area (10/13/23).

Photo 7. Two burrowing owls observed at burrow openings along berm at southern edge of the proposed solar facility area, near crossing over concrete ditch (10/12/23).

Photo 8. Occupied burrowing owl habitat along berm located east of the proposed solar site within the 500-foot buffer area. Photo taken looking south, with disked field in foreground (10/13/23).

Photo 9. Burrowing owl at entrance of burrow along berm within buffer area, looking south. Two occupied burrows observed along this berm (10/12/23).

Photo 10: Beech Canal located south of proposed solar facility, looking east along E. Cole Rd. with agricultural fields shown in the background to the left (10/12/23)

Photo 11: Limited vegetation present in vicinity of proposed cable route (Route 3) near existing above-ground pipeline span with Dogwood Rd. shown to the left, looking south (10/12/23).

Photo 12: Proposed cable route (Route 1 and 2) located west of and along Ware Rd., looking south (10/12/23).

Photo 13. Looking southwest at proposed cable routes and flooded field in foreground. Photo taken from east of the railroad tracks which Heber 1 geothermal facility abuts (10/12/23).

Photo 14: Daffodil Lateral 1 (perpendicular to Daffodil Canal) located north of proposed cable routes, with arrow weed thickets present in vicinty, looking east toward Heber 1 geothermal facility and railroad tracks (10/12/23).

Photo 15: Arrow weed thickets located adjacent to railroad tracks and the proposed cable routes near Heber 1 geothermal facility, looking south (10/12/23).

Photo 16. Potential burrowing owl habitat located north of the northern edge of the proposed cable route (Route 3), looking east toward Heber 1 geothermal facility (10/12/23).

Photo 17. Unlined Date Drain No. 3 with tamarisk present located north of and parallel to the northern extent of the proposed cable route (Route 3), looking west. Several large burrows observed along the berm in this area (10/12/23).

Photo 18. Area north of the proposed cable route (Route 3) along Date Drain No. 3 east of Dogwood Canal, looking east toward Heber 1 geothermal facility. Proposed route shown to the right. Several large burrows observed along berms in this area and suitable burrowing owl habitat (10/12/23).

Photo 19. Proposed cable route (Route 3) at crossing with Dogwood Canal, looking west toward Dogwood Rd. (10/12/23).

Photo 20. Arrow weed thickets within survey area along Beech Drain near cable route (Route 1), looking east toward proposed cable route which continues north along Ware Rd. (Route 2) (10/12/23).

Photo 21. Proposed cable route at Ware Rd. bridge crossing (Route 2) of Central Main Canal, looking south (10/12/23).

Photo 22. Large burrows observed on edge of access road and agricultural fields located near the southeastern extent of the proposed solar facility. No sign of burrowing owls observed, looking north. Area is north of the occupied habitat (10/13/23).

Photo 23. Drainage ditch located south of the existing solar field which is adjacent to the existing Heber 2 Geothermal Energy Complex on Dogwood Road. Potential burrowing owl habitat, but no burrows greater than 3 inches in diameter observed in this area. Located near proposed cable route (Route 3) (2/21/23).

Photo 24. Existing pipeline location south of the Heber 2 Geothermal Energy Complex and adjacent to existing solar field, looking west. Old drainage ditch is shown on the left (2/21/23).

Appendix B California Department of Fish and Wildlife California Natural Diversity Database Occurrence Report

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: BIOS selection

Map Index Number:	58808	**EO Index:**	74659
Key Quad:	El Centro (3211575)	**Element Code:**	AAABH01170
Occurrence Number:	8	**Occurrence Last Updated:**	2009-02-27

Scientific Name: *Lithobates pipiens* **Common Name:** northern leopard frog

Listing Status: **Federal:** None
State: None

Rare Plant Rank:

Other Lists: CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern

CNDDB Element Ranks: **Global:** G5
State: S2

General Habitat:

NATIVE RANGE IS EAST OF SIERRA NEVADA-CASCADE CREST. NEAR PERMANENT OR SEMI-PERMANENT WATER IN A VARIETY OF HABITATS.

Micro Habitat:

HIGHLY AQUATIC SPECIES. SHORELINE COVER, SUBMERGED AND EMERGENT AQUATIC VEGETATION ARE IMPORTANT HABITAT CHARACTERISTICS.

Last Date Observed:	1929-04-15	**Occurrence Type:**	Transplant Outside of Native Hab./Range
Last Survey Date:	1929-04-15	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

EL CENTRO.

Detailed Location:

LOCATION GIVEN AS, "EL CENTRO, IMPERIAL CO, CALIF".

Ecological:

Threats:

General:

2 INDIVIDUALS (CAS #3052-53) COLLECTED ON 15 APR 1929 BY G.M. KRANZTHOR AND G.S. MYERS. TRANSPLANT OUTSIDE OF NATIVE RANGE.

PLSS:	T16S, R14E, Sec. 06 (S)	**Accuracy:**	1 mile	**Area (acres):**	0
UTM:	Zone-11 N3629101 E634594	**Latitude/Longitude:**	32.79162 / -115.56261	**Elevation (feet):**	-40

County Summary:	**Quad Summary:**
Imperial	El Centro (3211575)

Sources:

HER07S0001 HERPNET - PRINTOUT OF RANA PIPIENS RECORDS FROM CALIFORNIA. 2007-08-08

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 49116
EO Index: 49116
Key Quad: Heber (3211565)
Element Code: ABNSB10010
Occurrence Number: 526
Occurrence Last Updated: 2002-10-23

Scientific Name: *Athene cunicularia*
Common Name: burrowing owl

Listing Status: **Federal:** None
State: None
CNDDB Element Ranks: **Global:** G4
State: S2

Rare Plant Rank:
Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern
USFWS_BCC-Birds of Conservation Concern

General Habitat:
OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.

Micro Habitat:
SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Last Date Observed: 1991-04-01
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1991-04-01
Occurrence Rank: Excellent
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:
0.3 MILE WEST OF DELIVERY GATE 23 OF THE DAHLIA MAIN CANAL, SOUTH OF EL CENTRO.

Detailed Location:
BURROW IS LOCATED ON THE PERIMETER OF AN ALFALFA FIELD ON THE NORTH AND A COUNTY ROAD AND TOMATO FIELD ON THE SOUTH.

Ecological:

Threats:
THREATENED BY AGRICULTURAL MACHINERY OPERATION.

General:
1 ADULT AND BURROW OBSERVED ON 1 APR 1991.

PLSS: T16S, R13E, Sec. 24 (S)
Accuracy: 2/5 mile
Area (acres): 0
UTM: Zone-11 N3623453 E633718
Latitude/Longitude: 32.74080 / -115.57279
Elevation (feet): -20

County Summary:
Imperial

Quad Summary:
Heber (3211565)

Sources:

REM91F0001	REMINGTON, M. (IMPERIAL IRRIGATION DISTRICT) - FIELD SURVEY FORM FOR ATHENE CUNICULARIA (BURROW SITE) 1991-04-01

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 49169
EO Index: 49169
Key Quad: Heber (3211565)
Element Code: ABNSB10010
Occurrence Number: 533
Occurrence Last Updated: 2002-10-29

Scientific Name: *Athene cunicularia*
Common Name: burrowing owl

Listing Status: **Federal:** None
State: None
Rare Plant Rank:

CNDDB Element Ranks: **Global:** G4
State: S2
Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern
USFWS_BCC-Birds of Conservation Concern

General Habitat:

OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.

Micro Habitat:

SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Last Date Observed: 1991-04-01
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1991-04-01
Occurrence Rank: Excellent
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:

200 FEET EAST OF CENTRAL MAIN CANAL, ALONG MCCABE ROAD, 2.25 MILES SSW OF EL CENTRO.

Detailed Location:

BURROW IS LOCATED ALONG THE FARMER'S CONCRETE DELIVERY CANAL, EVERGREEN CANAL, GATE 13.

Ecological:

BURROW IS LOCATED ALONG A CANAL, ON THE PERIMETER OF AN ALFALFA FIELD ON THE NORTH AND A COUNTY ROAD AND ALFALFA FIELD ON THE SOUTH.

Threats:

General:

2 JUVENILES AND AN ACTIVE BURROW SITE OBSERVED ON 1 APR 1991.

PLSS: T16S, R13E, Sec. 23 (S)
Accuracy: 1/5 mile
Area (acres): 0
UTM: Zone-11 N3623905 E631973
Latitude/Longitude: 32.74509 / -115.59135
Elevation (feet): -20

County Summary:	Quad Summary:
Imperial	Heber (3211565)

Sources:

REM91F0003 REMINGTON, M. (IMPERIAL IRRIGATION DISTRICT) - FIELD SURVEY FORM FOR ATHENE CUNICULARIA (BURROW SITE) 1991-04-01

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 49174
EO Index: 49174
Key Quad: Heber (3211565)
Element Code: ABNSB10010
Occurrence Number: 534
Occurrence Last Updated: 2002-10-29

Scientific Name: *Athene cunicularia*
Common Name: burrowing owl

Listing Status: **Federal:** None
State: None
Rare Plant Rank:

CNDDB Element Ranks: **Global:** G4
State: S2
Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern
USFWS_BCC-Birds of Conservation Concern

General Habitat:
OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.

Micro Habitat:
SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Last Date Observed: 1991-04-01
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1991-04-01
Occurrence Rank: Excellent
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:
200' EAST OF DELIVERY GATE 8 OF EUCALYPTUS MAIN CANAL, ALONG FARMER'S CONCRETE DELIVERY CANAL, 3 MILES SW OF EL CENTRO.

Detailed Location:

Ecological:
BURROW IS LOCATED ON THE PERIMETER OF AN ALFALFA FIELD TO THE NORTH AND A SUDAN GRASS FIELD TO THE SOUTH.

Threats:
THREATENED BY AGRICULTURAL MACHINERY OPERATION.

General:
2 ADULTS AND AN ACTIVE BURROW OBSERVED ON 1 APR 1991.

PLSS: T16S, R13E, Sec. 23 (S)
Accuracy: 1/5 mile
Area (acres): 0
UTM: Zone-11 N3623097 E631165
Latitude/Longitude: 32.73790 / -115.60008
Elevation (feet): -20

County Summary:
Imperial

Quad Summary:
Heber (3211565)

Sources:

REM91F0004	REMINGTON, M. (IMPERIAL IRRIGATION DISTRICT) - FIELD SURVEY FORM FOR ATHENE CUNICULARIA (BURROW SITE) 1991-04-01

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 51277
EO Index: 51277
Key Quad: Heber (3211565)
Element Code: ABNSB10010
Occurrence Number: 583
Occurrence Last Updated: 2003-05-14

Scientific Name: *Athene cunicularia*
Common Name: burrowing owl

Listing Status: **Federal:** None
State: None
Rare Plant Rank:

CNDDB Element Ranks: **Global:** G4
State: S2
Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern
USFWS_BCC-Birds of Conservation Concern

General Habitat:
OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.

Micro Habitat:
SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Last Date Observed: 1991-04-19
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1991-04-19
Occurrence Rank: Excellent
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:
SOUTH OF DOGWOOD LATERAL 2, GATE 8A, ALONG DATE DRAIN NO 3, SSW OF HEBER.

Detailed Location:
BURROW IS LOCATED ALONG A DRAIN BANK WITH A WHEAT FIELD TO THE WEST AND ALFALFA FIELD TO THE EAST.

Ecological:
HABITAT SURROUNDING BURROW IS PRIMARILY AGRICULTURAL.

Threats:
POSSIBLE THREAT OF BURROW DESTRUCTION DURING DRAIN MAINTENANCE.

General:
1 ADULT OBSERVED AT THE BURROW SITE.

PLSS: T16S, R14E, Sec. 29, SE (S)
Accuracy: 1/10 mile
Area (acres): 0
UTM: Zone-11 N3621748 E636564
Latitude/Longitude: 32.72508 / -115.54267
Elevation (feet): -15

County Summary:
Imperial

Quad Summary:
Heber (3211565)

Sources:

REM91F0001	REMINGTON, M. (IMPERIAL IRRIGATION DISTRICT) - FIELD SURVEY FORM FOR ATHENE CUNICULARIA (BURROW SITE) 1991-04-01

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 51610
EO Index: 51610
Key Quad: Heber (3211565)
Element Code: ABNSB10010
Occurrence Number: 598
Occurrence Last Updated: 2003-06-23

Scientific Name: *Athene cunicularia*
Common Name: burrowing owl

Listing Status: **Federal:** None
State: None
CNDDB Element Ranks: **Global:** G4
State: S2

Rare Plant Rank:
Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern
USFWS_BCC-Birds of Conservation Concern

General Habitat:
OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.

Micro Habitat:
SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Last Date Observed: 2003-06-03
Occurrence Type: Natural/Native occurrence
Last Survey Date: 2003-06-03
Occurrence Rank: Excellent
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:
WEST SIDE OF ROCKWOOD ROAD, 0.1 MILE NORTH OF LYONS ROAD, SW OF EL CENTRO.

Detailed Location:
BURROW LOCATED BETWEEN DIRT ROAD AND VERY NARROW CONCRETE LINED IRRIGATION DITCH PARALLELING WEST SIDE OF ROAD.

Ecological:
BURROW SITES ARE SURROUNDED BY IRRIGATED CROPLAND, OATS TO THE WEST, AND GRASSY TO THE EAST.

Threats:

General:
1 ADULT AND 1 EGG VISIBLE AT THE BURROW MOUTH OBSERVED ON 3 JUN 2003.

PLSS: T16S, R13E, Sec. 34 (S)
Accuracy: 80 meters
Area (acres): 0
UTM: Zone-11 N3620854 E629270
Latitude/Longitude: 32.71789 / -115.62060
Elevation (feet): -20

County Summary:
Imperial

Quad Summary:
Heber (3211565)

Sources:
RES03F0007 RESSEGUIE, L. - FIELD SURVEY FORM FOR ATHENE CUNICULARIA (BURROW SITE) 2003-06-03

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 51611
EO Index: 51611
Key Quad: Heber (3211565)
Element Code: ABNSB10010
Occurrence Number: 599
Occurrence Last Updated: 2010-08-12

Scientific Name: *Athene cunicularia*
Common Name: burrowing owl

Listing Status: **Federal:** None
State: None
CNDDB Element Ranks: **Global:** G4
State: S2

Rare Plant Rank:
Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern
USFWS_BCC-Birds of Conservation Concern

General Habitat:
OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.

Micro Habitat:
SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Last Date Observed: 2007-06-27
Occurrence Type: Natural/Native occurrence
Last Survey Date: 2007-06-27
Occurrence Rank: Excellent
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:
EAST SIDE OF ROCKWOOD RD, JUST N AND S OF INTERSECTIONS WITH PRESTON RD, 1 MI WSW OF LYONS CROSSING, CALEXICO.

Detailed Location:
SOUTHERN POLYGON: BURROW LOCATED IN BARE DIRT ON THE WEST BANK OF AN IRRIGATION DITCH, ON THE EAST SIDE OF ROCKWOOD ROAD. NORTHERN POLYGON HAS BLOCK CODE 3615-625 - LOCATION CODE C; MAPPED TO PROVIDED COORDINATES.

Ecological:
SOUTHERN POLYGON: BURROW SITES ARE SURROUNDED BY IRRIGATED CROPLAND, PROBABLE SUDAN GRASS TO THE WEST, AND ALFALFA TO THE EAST. NORTHERN POLYGON: BREEDING LOCATION IN LOWLAND ELEVATION SUBREGION.

Threats:

General:
1 ADULT OBSERVED AT A BURROW IN SOUTHERN POLYGON ON 3 JUN 2003. 1 ADULT OBSERVED AT BLOCK C AND ESTIMATED TO HAVE 1 BREEDING PAIR ON 27 JUN 2007.

PLSS: T16S, R13E, Sec. 34, SW (S)
Accuracy: specific area
Area (acres): 10
UTM: Zone-11 N3620010 E629308
Latitude/Longitude: 32.71028 / -115.62032
Elevation (feet): -10

County Summary:	Quad Summary:
Imperial	Heber (3211565)

Sources:

RES03F0008	RESSEGUIE, L. - FIELD SURVEY FORM FOR ATHENE CUNICULARIA (BURROW SITE) 2003-06-03
WIL09D0003	WILKERSON, R. & R. SIEGEL (THE INSTITUTE FOR BIRD POPULATIONS) - DATABASE AND DATA DICTIONARY FOR IBP'S 2006-2007 STATEWIDE BURROWING OWL SURVEY 2009-09-29

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 69261
EO Index: 70041
Key Quad: El Centro (3211575)
Element Code: ABNSB10010
Occurrence Number: 922
Occurrence Last Updated: 2007-05-15

Scientific Name: *Athene cunicularia*
Common Name: burrowing owl

Listing Status: **Federal:** None
State: None
Rare Plant Rank:

CNDDB Element Ranks: **Global:** G4
State: S2
Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern
USFWS_BCC-Birds of Conservation Concern

General Habitat:
OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.

Micro Habitat:
SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Last Date Observed: 2007-01-04
Occurrence Type: Natural/Native occurrence
Last Survey Date: 2007-01-04
Occurrence Rank: Poor
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:
EL CENTRO, SOUTH OF I-8, EAST OF 8TH STREET/CLARK ROAD.

Detailed Location:
MAPPED ACCORDING TO LAT/LONG COORDINATES PROVIDED BY SOURCE. ADULT OBSERVED JUST NORTH OF BURROW.

Ecological:
DISTURBED, UNVEGETATED ROADSIDE SLOPE.

Threats:
RESIDENTIAL/COMMERICAL DEVELOPMENT.

General:
UNOCCUPIED BURROW WITH FEATHERS AND WHITEWASH OBSERVED, 1 ADULT OBSERVED NEAR BURROW ON 4 JAN 2007.

PLSS: T16S, R14E, Sec. 07, SE (S)
Accuracy: 80 meters
Area (acres): 0
UTM: Zone-11 N3626990 E634766
Latitude/Longitude: 32.77256 / -115.56108
Elevation (feet): -30

County Summary:
Imperial

Quad Summary:
El Centro (3211575)

Sources:

GAL07F0001	GALLOWAY, M. (CALIFORNIA DEPARTMENT OF TRANSPORTATION) - FIELD SURVEY FORM FOR ATHENE CUNICULARIA 2007-01-04

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 69263
EO Index: 70043
Key Quad: El Centro (3211575)
Element Code: ABNSB10010
Occurrence Number: 925
Occurrence Last Updated: 2007-07-13

Scientific Name: *Athene cunicularia*
Common Name: burrowing owl

Listing Status: **Federal:** None
State: None
Rare Plant Rank:

CNDDB Element Ranks: **Global:** G4
State: S2
Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern
USFWS_BCC-Birds of Conservation Concern

General Habitat:

OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.

Micro Habitat:

SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Last Date Observed: 2006-11-21
Occurrence Type: Natural/Native occurrence
Last Survey Date: 2006-11-21
Occurrence Rank: Good
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:

SE OF EL CENTRO, JUST WEST OF INTERSECTION OF I-111 AND MCCABE RD.

Detailed Location:

MAPPED ACCORDING TO LAT/LONG COORDINATES PROVIDED BY SOURCE. OWLS OBSERVED NEAR BURROWS IN BERMS ADJACENT TO CONCRETE-LINED IRRIGATION CHANNELS IN AGRICULTURAL FIELD. BURROW OBSERVED WEST OF SR 111 AND SOUTH OF MCCABE RD.

Ecological:

Threats:

FURTHER AGRICULTURAL DEVELOPMENT, ROADWAY WIDENING.

General:

BURROW SITE. 1 PAIR AND 2 INDIVIDUALS OBSERVED ON 21 NOV 2006.

PLSS: T16S, R14E, Sec. 14, SW (S)
Accuracy: specific area
Area (acres): 12
UTM: Zone-11 N3624835 E640327
Latitude/Longitude: 32.75243 / -115.50206
Elevation (feet): -20

County Summary:	Quad Summary:
Imperial	Holtville West (3211574), El Centro (3211575)

Sources:

GAL06F0022 GALLOWAY, M. (CALIFORNIA DEPARTMENT OF TRANSPORTATION) - FIELD SURVEY FORM FOR ATHENE CUNICULARIA (BURROW SITE) 2006-11-21

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	70858	**EO Index:**	71840
Key Quad:	El Centro (3211575)	**Element Code:**	ABNSB10010
Occurrence Number:	1004	**Occurrence Last Updated:**	2010-10-14

Scientific Name: *Athene cunicularia*

Common Name: burrowing owl

Listing Status: **Federal:** None

State: None

CNDDB Element Ranks: **Global:** G4

State: S2

Rare Plant Rank:

Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern
USFWS_BCC-Birds of Conservation Concern

General Habitat:

OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.

Micro Habitat:

SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Last Date Observed:	2006-06-20	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2006-06-20	**Occurrence Rank:**	Excellent
Owner/Manager:	PVT	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

0.8 MI NNE OF IMPERIAL COUNTY HOSPITAL, 1.1 MI S OF I-8 AND 0.3 MI W OF SR-86 (CORFMAN RD), S OF EL CENTRO.

Detailed Location:

THE BURROWS ARE ON IMPERIAL IRRIGATION DISTRICT UNVEGETATED BERMS. BLOCK CODE 3625-635 - LOCATION CODES F (NORTH), G (CENTER) AND H (SOUTH).

Ecological:

DEVELOPMENT TO THE NORTH AND AGRICULTURE TO ALL OTHER SIDES. SURROUNDING HABITAT AND LAND USE CONSISTS OF ALFALFA AND DRAIN DITCH. LOWLAND ELEVATION SUBREGION. NO GROUND SQUIRRELS DETECTED WITHIN 100 M RADIUS OF BREEDING LOCATIONS.

Threats:

AREA TO THE EAST PROPOSED FOR DEVELOPMENT (DEVELOPED IN 2009 AERIAL). RESIDENTIAL DISTURBANCES- DOGS AND HUMANS.

General:

A PAIR OF BUOWS WAS SEEN AT 1 BURROW (CENTER) & A SINGLE BUOW WAS SEEN AT ANOTHER BURROW (NORTH) ON 2 NOV 2005. 1 ADULT OBSERVED AT EACH BLOCK (F, G AND H), AND ESTIMATED THAT EACH REPRESENTED A BREEDING PAIR ON 20 JUN 2006.

PLSS:	T16S, R14E, Sec. 18, SE (S)	**Accuracy:**	specific area	**Area (acres):**	16
UTM:	Zone-11 N3625380 E635233	**Latitude/Longitude:**	32.75799 / -115.55634	**Elevation (feet):**	-20

County Summary:	**Quad Summary:**
Imperial	El Centro (3211575)

Sources:

ROM05F0005	ROMICH, M. (MICHAEL BRANDMAN ASSOCIATES) - FIELD SURVEY FORM FOR ATHENE CUNICULARIA 2005-11-02
WIL09D0003	WILKERSON, R. & R. SIEGEL (THE INSTITUTE FOR BIRD POPULATIONS) - DATABASE AND DATA DICTIONARY FOR IBP'S 2006-2007 STATEWIDE BURROWING OWL SURVEY 2009-09-29

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 70860
Key Quad: El Centro (3211575)
Occurrence Number: 1005
EO Index: 71842
Element Code: ABNSB10010
Occurrence Last Updated: 2008-02-26

Scientific Name: *Athene cunicularia*
Common Name: burrowing owl

Listing Status: **Federal:** None
State: None
CNDDB Element Ranks: **Global:** G4
State: S2
Rare Plant Rank:
Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern
USFWS_BCC-Birds of Conservation Concern

General Habitat:
OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.

Micro Habitat:
SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Last Date Observed: 2005-11-02
Last Survey Date: 2005-11-02
Owner/Manager: PVT
Presence: Presumed Extant
Occurrence Type: Natural/Native occurrence
Occurrence Rank: Excellent
Trend: Unknown

Location:
EL CENTRO, 1.2 MI NNE OF IMPERIAL COUNTY HOSPITAL.

Detailed Location:
THE BURROWS ARE ON IMPERIAL IRRIGATION DISTRICT UNVEGITATED BERMS.

Ecological:
DEVELOPMENT TO THE NORTH AND AGRICULTURE TO ALL OTHER SIDES.

Threats:
AREA TO THE EAST PROPOSED FOR DEVELOPMENT. RESIDENTIAL DISTURBANCES- DOGS AND HUMANS.

General:
2 PAIRS OF BUOW WERE SEEN AT 2 BURROWS ON 02 NOV 2005.

PLSS: T16S, R14E, Sec. 17 (S)
Accuracy: specific area
Area (acres): 10
UTM: Zone-11 N3626015 E635408
Latitude/Longitude: 32.76370 / -115.55438
Elevation (feet): 30

County Summary:
Imperial

Quad Summary:
El Centro (3211575)

Sources:
ROM05F0005 ROMICH, M. (MICHAEL BRANDMAN ASSOCIATES) - FIELD SURVEY FORM FOR ATHENE CUNICULARIA 2005-11-02

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	70867	**EO Index:**	71847
Key Quad:	Calexico (3211564)	**Element Code:**	ABNSB10010
Occurrence Number:	1008	**Occurrence Last Updated:**	2008-02-26

Scientific Name: *Athene cunicularia*

Common Name: burrowing owl

Listing Status: **Federal:** None

State: None

CNDDB Element Ranks: **Global:** G4

State: S2

Rare Plant Rank:

Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern
USFWS_BCC-Birds of Conservation Concern

General Habitat:

OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.

Micro Habitat:

SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Last Date Observed:	2007-01-23	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2007-01-23	**Occurrence Rank:**	Poor
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

NW CORNER OF THE INTERSECTION OF JASPER RD AND STATE ROUTE 111, 2 MI. N OF CALEXICO.

Detailed Location:

Ecological:

Threats:

THREATENED BY AUTOMOBILES AND FUTURE ROADWAY WIDENING.

General:

A BUOW PAIR WAS OBSERVED IN A BURROW IN THE MIDDLE OF A GRAVEL PULL-OUT AREA. SEVERAL TIRE TRACKS WERE OBSERVED NEAR THE BURROW.

PLSS:	T16S, R14E, Sec. 35 (S)	**Accuracy:**	80 meters	**Area (acres):**	0
UTM:	Zone-11 N3620042 E640613	**Latitude/Longitude:**	32.70918 / -115.49972	**Elevation (feet):**	0

County Summary:	**Quad Summary:**
Imperial	Calexico (3211564)

Sources:

GAL07F0002	GALLOWAY, M. (CALIFORNIA DEPARTMENT OF TRANSPORTATION) - FIELD SURVEY FORM FOR ATHENE CUNICULARIA (BURROW SITE) 2007-01-23

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 79616
Key Quad: Heber (3211565)
Occurrence Number: 1290
EO Index: 80604
Element Code: ABNSB10010
Occurrence Last Updated: 2010-08-12

Scientific Name: *Athene cunicularia*
Common Name: burrowing owl

Listing Status: **Federal:** None
State: None
CNDDB Element Ranks: **Global:** G4
State: S2
Rare Plant Rank:
Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern
USFWS_BCC-Birds of Conservation Concern

General Habitat:
OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.

Micro Habitat:
SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Last Date Observed: 2007-06-27
Last Survey Date: 2007-06-27
Owner/Manager: UNKNOWN
Presence: Presumed Extant
Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
0.6 MI SE KUBLER RD AT ROCKWOOD RD, 1.5 MI NE MOUNT SIGNAL, CALEXICO ZC.

Detailed Location:
BLOCK CODE 3615-625 - LOCATION CODE D. MAPPED TO PROVIDED COORDINATES.

Ecological:
LOWLAND ELEVATION SUBREGION.

Threats:

General:
1 ADULT OBSERVED AT D; 1 BREEDING PAIR ESTIMATED TO OCCUR IN AREA ON 27 JUN 2007.

PLSS: T17S, R13E, Sec. 11, NW (S)
Accuracy: 80 meters
Area (acres): 0
UTM: Zone-11 N3617642 E629858
Latitude/Longitude: 32.68886 / -115.61478
Elevation (feet): -10

County Summary:	Quad Summary:
Imperial	Heber (3211565)

Sources:

WIL09D0003 WILKERSON, R. & R. SIEGEL (THE INSTITUTE FOR BIRD POPULATIONS) - DATABASE AND DATA DICTIONARY FOR IBP'S 2006-2007 STATEWIDE BURROWING OWL SURVEY 2009-09-29

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 79730
EO Index: 80725
Key Quad: El Centro (3211575)
Element Code: ABNSB10010
Occurrence Number: 1301
Occurrence Last Updated: 2010-08-26

Scientific Name: *Athene cunicularia*
Common Name: burrowing owl

Listing Status: **Federal:** None
State: None
CNDDB Element Ranks: **Global:** G4
State: S2
Rare Plant Rank:
Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern
USFWS_BCC-Birds of Conservation Concern

General Habitat:
OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.

Micro Habitat:
SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Last Date Observed: 2006-06-20
Occurrence Type: Natural/Native occurrence
Last Survey Date: 2006-06-20
Occurrence Rank: Unknown
Owner/Manager: PVT-IMPERIAL IRRIGATION DIST
Trend: Unknown
Presence: Presumed Extant

Location:
0.3 MI SE STARK FIELD, 0.3 MI E SR-86 (S 4TH ST) AND 0.5 MI N I-8. W OF SOUTHERN PACIFIC RR, EL CENTRO.

Detailed Location:
BLOCK CODE 3625-635 - LOCATION CODE A. MAPPED TO PROVIDED COORDINATES.

Ecological:
ALFALFA AGRICULTURE AND DRAIN DITCH IN AREA. LOWLAND ELEVATION SUBREGION. NO GROUND SQUIRRELS DETECTED WITHIN 100 M RADIUS OF BREEDING LOCATION.

Threats:

General:
1 BREEDING PAIR ESTIMATED TO OCCUR IN AREA ON 20 JUN 2006. 1 ADULT OBSERVED AT LOCATION A.

PLSS: T16S, R14E, Sec. 08, NW (S)
Accuracy: 80 meters
Area (acres): 0
UTM: Zone-11 N3627912 E636056
Latitude/Longitude: 32.78072 / -115.54718
Elevation (feet): -30

County Summary:	Quad Summary:
Imperial	El Centro (3211575)

Sources:

WIL09D0003 WILKERSON, R. & R. SIEGEL (THE INSTITUTE FOR BIRD POPULATIONS) - DATABASE AND DATA DICTIONARY FOR IBP'S 2006-2007 STATEWIDE BURROWING OWL SURVEY 2009-09-29

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	79732	**EO Index:**	80727
Key Quad:	El Centro (3211575)	**Element Code:**	ABNSB10010
Occurrence Number:	1302	**Occurrence Last Updated:**	2010-08-26

Scientific Name: *Athene cunicularia* **Common Name:** burrowing owl

Listing Status: **Federal:** None
State: None

CNDDB Element Ranks: **Global:** G4
State: S2

Rare Plant Rank:

Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern
USFWS_BCC-Birds of Conservation Concern

General Habitat:

OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.

Micro Habitat:

SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Last Date Observed:	2006-06-20	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2006-06-20	**Occurrence Rank:**	Unknown
Owner/Manager:	PVT-IMPERIAL IRRIGATION DIST	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

0.5 MI E HWY 86 & 0.6-0.9 MI S I-8. 1.5 MI NE IMPERIAL CO HOSPITAL, W OF SOUTHERN PACIFIC RR, S OF EL CENTRO.

Detailed Location:

BETWEEN FARMSWORTH LN AND DATE DRAIN THREE (RUNS PARALLEL). BLOCK CODE 3625-635 - LOCATION CODES B (N OF NORTHERN POLYGON), C (S OF NORTHERN POLYGON), D (N OF SOUTHERN POLYGON) AND E (S OF SOUTHERN POLYGON). MAPPED TO PROVIDED COORDINATES.

Ecological:

ALFALFA AGRICULTURE AND DRAIN DITCH IN AREA. LOWLAND ELEVATION SUBREGION. NO GROUND SQUIRRELS DETECTED WITHIN 100 M RADIUS OF BREEDING LOCATIONS. RESIDENTIAL DEVELOPMENT LOCATED ON THE WEST SIDE OF SOUTHERN POLYGON (AERIAL IMAGE, 2009).

Threats:

General:

1 BREEDING PAIR ESTIMATED TO OCCUR AT EACH LOCATION B, C, D AND E ON 20 JUN 2006. 1 ADULT AND 2 JUVENILES OBSERVED AT B. 1 ADULT EACH OBSERVED AT C, D AND E.

PLSS:	T16S, R14E, Sec. 17, NE (S)	**Accuracy:**	specific area	**Area (acres):**	17
UTM:	Zone-11 N3625826 E636438	**Latitude/Longitude:**	32.76186 / -115.54341	**Elevation (feet):**	-30

County Summary:	**Quad Summary:**
Imperial	El Centro (3211575)

Sources:

WIL09D0003	WILKERSON, R. & R. SIEGEL (THE INSTITUTE FOR BIRD POPULATIONS) - DATABASE AND DATA DICTIONARY FOR IBP'S 2006-2007 STATEWIDE BURROWING OWL SURVEY 2009-09-29

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	79733	**EO Index:**	80728
Key Quad:	El Centro (3211575)	**Element Code:**	ABNSB10010
Occurrence Number:	1303	**Occurrence Last Updated:**	2010-08-26

Scientific Name: *Athene cunicularia* **Common Name:** burrowing owl

Listing Status: **Federal:** None

State: None

CNDDB Element Ranks: **Global:** G4

State: S2

Rare Plant Rank:

Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern
USFWS_BCC-Birds of Conservation Concern

General Habitat:

OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.

Micro Habitat:

SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Last Date Observed:	2006-06-21	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2006-06-21	**Occurrence Rank:**	Unknown
Owner/Manager:	PVT-IMPERIAL IRRIGATION DIST	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

JUST S OF I-8, 0.2 MI W SR-86 (CORFMAN RD), 1.8 MI NNE IMPERIAL CO HOSPITAL, 0.7 MI W OF SOUTHERN PACIFIC RR, EL CENTRO.

Detailed Location:

BLOCK CODE 3625-635 - LOCATION CODE I. MAPPED TO PROVIDED COORDINATES.

Ecological:

ALFALFA AGRICULTURE, DRAIN DITCH IN AREA. LOWLAND ELEVATION SUBREGION. NO GROUND SQUIRRELS DETECTED WITHIN 100 M RADIUS OF BREEDING LOCATION. INTERSTATE & RESIDENTIAL LOCATED TO THE N, PAVED PARKING LOT LOCATED TO S (AERIAL IMAGE, 2009).

Threats:

General:

1 BREEDING PAIR ESTIMATED TO OCCUR IN AREA ON 21 JUN 2006. 1 ADULT OBSERVED AT I.

PLSS:	T16S, R14E, Sec. 07, SE (S)	**Accuracy:**	80 meters	**Area (acres):**	0
UTM:	Zone-11 N3627053 E635269	**Latitude/Longitude:**	32.77307 / -115.55570	**Elevation (feet):**	-30

County Summary:	**Quad Summary:**
Imperial	El Centro (3211575)

Sources:

WIL09D0003 WILKERSON, R. & R. SIEGEL (THE INSTITUTE FOR BIRD POPULATIONS) - DATABASE AND DATA DICTIONARY FOR IBP'S 2006-2007 STATEWIDE BURROWING OWL SURVEY 2009-09-29

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 79734
EO Index: 80729
Key Quad: El Centro (3211575)
Element Code: ABNSB10010
Occurrence Number: 1304
Occurrence Last Updated: 2010-08-30

Scientific Name: *Athene cunicularia*
Common Name: burrowing owl

Listing Status: **Federal:** None
State: None
Rare Plant Rank:

CNDDB Element Ranks: **Global:** G4
State: S2
Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern
USFWS_BCC-Birds of Conservation Concern

General Habitat:

OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.

Micro Habitat:

SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Last Date Observed: 2006-06-21
Occurrence Type: Natural/Native occurrence
Last Survey Date: 2006-06-21
Occurrence Rank: Unknown
Owner/Manager: PVT-IMPERIAL IRRIGATION DIST
Trend: Unknown
Presence: Presumed Extant

Location:

JUST S OF I-8, N OF CHICK RD, W OF PITZER RD AND 0.5 MI E S DOGWOOD RD. 1 MI E OF SOUTHERN PACIFIC RR, SE EL CENTRO.

Detailed Location:

BLOCK CODE 3625-635 - LOCATION CODES J (N OF NW POLYGON), K (CIRCLE), L (W OF E POLYGON), M (E OF E POLYGON), P (S OF S POLYGON), Q (N OF S POLYGON) AND R (S OF NW POLYGON). SE 1/4 SEC 9 AND SW 1/4 SEC 10. MAPPED TO PROVIDED COORDINATES.

Ecological:

ALFALFA AGRICULTURE AND DRAIN DITCH IN AREA. LOWLAND ELEVATION SUBREGION. NO GROUND SQUIRRELS DETECTED WITHIN 100 M RADIUS OF BREEDING LOCATIONS.

Threats:

General:

1 BREEDING PAIR ESTIMATED TO OCCUR IN EACH LOCATION J, K, L, M, P, Q AND R ON 21 JUN 2006. 1 ADULT OBSERVED EACH AT J, M, P, Q AND R. 2 ADULTS AND 3 JUVENILES OBSERVED AT K. 2 ADULTS OBSERVED AT L.

PLSS: T16S, R14E, Sec. 09, SE (S)
Accuracy: specific area
Area (acres): 34
UTM: Zone-11 N3627067 E638328
Latitude/Longitude: 32.77281 / -115.52305
Elevation (feet): -30

County Summary:	Quad Summary:
Imperial	El Centro (3211575)

Sources:

WIL09D0003 WILKERSON, R. & R. SIEGEL (THE INSTITUTE FOR BIRD POPULATIONS) - DATABASE AND DATA DICTIONARY FOR IBP'S 2006-2007 STATEWIDE BURROWING OWL SURVEY 2009-09-29

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	79736	**EO Index:**	80730
Key Quad:	El Centro (3211575)	**Element Code:**	ABNSB10010
Occurrence Number:	1305	**Occurrence Last Updated:**	2010-08-26

Scientific Name: *Athene cunicularia*

Common Name: burrowing owl

Listing Status: **Federal:** None

State: None

CNDDB Element Ranks: **Global:** G4

State: S2

Rare Plant Rank:

Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern
USFWS_BCC-Birds of Conservation Concern

General Habitat:

OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS, AND SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.

Micro Habitat:

SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Last Date Observed:	2006-06-21	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2006-06-21	**Occurrence Rank:**	Unknown
Owner/Manager:	PVT-IMPERIAL IRRIGATION DIST	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

E SIDE OF HEBER DRAIN, ABOUT 0.25 MI E OF IMPERIAL VALLEY MALL, 0.8 MI S OF I-8, SE EL CENTRO.

Detailed Location:

BLOCK CODE 3625-635 - LOCATION CODES N (SOUTH) AND O (NORTH). MAPPED TO PROVIDED COORDINATES.

Ecological:

ALFALFA AGRICULTURE AND DRAIN DITCH IN AREA. LOWLAND ELEVATION SUBREGION. NO GROUND SQUIRRELS DETECTED WITHIN 100 M RADIUS OF BREEDING LOCATIONS.

Threats:

General:

1 BREEDING PAIR ESTIMATED TO OCCUR IN EACH LOCATION N AND O ON 21 JUN 2006. 2 ADULTS OBSERVED AT N. 1 ADULT OBSERVED AT O.

PLSS:	T16S, R14E, Sec. 16, NE (S)	**Accuracy:**	specific area	**Area (acres):**	9
UTM:	Zone-11 N3625871 E638041	**Latitude/Longitude:**	32.76207 / -115.52629	**Elevation (feet):**	-25

County Summary:	**Quad Summary:**
Imperial	El Centro (3211575)

Sources:

WIL09D0003 WILKERSON, R. & R. SIEGEL (THE INSTITUTE FOR BIRD POPULATIONS) - DATABASE AND DATA DICTIONARY FOR IBP'S 2006-2007 STATEWIDE BURROWING OWL SURVEY 2009-09-29

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 06328
EO Index: 24911
Key Quad: Calexico (3211564)
Element Code: ABPBX03010
Occurrence Number: 32
Occurrence Last Updated: 1989-08-10

Scientific Name: *Setophaga petechia*
Common Name: yellow warbler

Listing Status: **Federal:** None
State: None
Rare Plant Rank:
Other Lists: CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern

CNDDB Element Ranks: **Global:** G5
State: S3

General Habitat:

RIPARIAN PLANT ASSOCIATIONS IN CLOSE PROXIMITY TO WATER. ALSO NESTS IN MONTANE SHRUBBERY IN OPEN CONIFER FORESTS IN CASCADES AND SIERRA NEVADA.

Micro Habitat:

FREQUENTLY FOUND NESTING AND FORAGING IN WILLOW SHRUBS AND THICKETS, AND IN OTHER RIPARIAN PLANTS INCLUDING COTTONWOODS, SYCAMORES, ASH, AND ALDERS.

Last Date Observed: 1921-05-08
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1921-05-08
Occurrence Rank: Unknown
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:

CALEXICO.

Detailed Location:

Ecological:

Threats:

General:

UCLA #J648.

PLSS: T17S, R14E, Sec. 13, SE (S)
Accuracy: 1 mile
Area (acres): 0
UTM: Zone-11 N3615677 E641015
Latitude/Longitude: 32.66977 / -115.49610
Elevation (feet): 10

County Summary:

Imperial, Mexico

Quad Summary:

Calexico (3211564), Heber (3211565)

Sources:

BLM80S0001 BLM - DESERT PLAN STAFF - COMPILATION OF HISTORIC MUSEUM SPECIMEN INFORMATION FOR DENDROICA PETECHIA, COLLECTED DURING THE PREPARATION OF "THE CALIFORNIA DESERT PLAN" 1980-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 06328
EO Index: 58841
Key Quad: Calexico (3211564)
Element Code: AMACC05070
Occurrence Number: 2
Occurrence Last Updated: 2004-12-21

Scientific Name: *Lasiurus xanthinus*
Common Name: western yellow bat

Listing Status: **Federal:** None
State: None
Rare Plant Rank:
Other Lists: CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern

CNDDB Element Ranks: **Global:** G4G5
State: S3

General Habitat:

FOUND IN VALLEY FOOTHILL RIPARIAN, DESERT RIPARIAN, DESERT WASH, AND PALM OASIS HABITATS.

Micro Habitat:

ROOSTS IN TREES, PARTICULARLY PALMS. FORAGES OVER WATER AND AMONG TREES.

Last Date Observed: 1977-08-12
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1977-08-12
Occurrence Rank: Unknown
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:

CALEXICO.

Detailed Location:

EXACT LOCATION UNKNOWN. MAPPED IN THE VICINTY OF CALEXICO.

Ecological:

Threats:

General:

ONE FEMALE SPECIMEN COLLECTED 12 AUG 1977 BY D. CONSTANTINE AT "CALEXICO." DEPOSITED AT MVZ #181868.

PLSS: T17S, R14E, Sec. 13 (S)
Accuracy: 1 mile
Area (acres): 0
UTM: Zone-11 N3615677 E641015
Latitude/Longitude: 32.66977 / -115.49610
Elevation (feet): 10

County Summary:

Imperial, Mexico

Quad Summary:

Calexico (3211564), Heber (3211565)

Sources:

MAN04S0014 MAMMAL NETWORKED INFORMATION SYSTEM (MANIS) - PRINTOUT OF LASIURUS XANTHINUS SPECIMEN RECORDS FROM MANIS. THIS INCLUDES RECORDS FROM LACM & MVZ. 2004-12-20

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 58808
EO Index: 58844
Key Quad: El Centro (3211575)
Element Code: AMACC05070
Occurrence Number: 3
Occurrence Last Updated: 2004-12-20

Scientific Name: *Lasiurus xanthinus*
Common Name: western yellow bat

Listing Status: **Federal:** None
State: None
Rare Plant Rank:
Other Lists: CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern

CNDDB Element Ranks: **Global:** G4G5
State: S3

General Habitat:

FOUND IN VALLEY FOOTHILL RIPARIAN, DESERT RIPARIAN, DESERT WASH, AND PALM OASIS HABITATS.

Micro Habitat:

ROOSTS IN TREES, PARTICULARLY PALMS. FORAGES OVER WATER AND AMONG TREES.

Last Date Observed: 1999-08-25
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1999-08-25
Occurrence Rank: Unknown
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:

EL CENTRO.

Detailed Location:

EXACT LOCATION NOT GIVEN. MAPPED IN THE VICINTY OF EL CENTRO.

Ecological:

Threats:

General:

ALL SPECIMENS COLLECTED IN "EL CENTRO." 1 FEMALE IN DEC 1980 (MVZ), 1 FEMALE IN JUL 1987 (MVZ), 5 FEMALES & 4 MALES IN JUN, AUG & SEP 1990 (LACM), 1 MALE IN SEP 1994 (MVZ), 1 FEMALE IN AUG 1999 (MVZ), 1 UNDATED FEMALE (LACM).

PLSS: T16S, R14E, Sec. 06 (S)
Accuracy: 1 mile
Area (acres): 0
UTM: Zone-11 N3629101 E634594
Latitude/Longitude: 32.79162 / -115.56261
Elevation (feet): -40

County Summary:

Imperial

Quad Summary:

El Centro (3211575)

Sources:

MAN04S0014 MAMMAL NETWORKED INFORMATION SYSTEM (MANIS) - PRINTOUT OF LASIURUS XANTHINUS SPECIMEN RECORDS FROM MANIS. THIS INCLUDES RECORDS FROM LACM & MVZ. 2004-12-20

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 45965
EO Index: 58845
Key Quad: Heber (3211565)
Element Code: AMACC05070
Occurrence Number: 4
Occurrence Last Updated: 2004-12-21

Scientific Name: *Lasiurus xanthinus*
Common Name: western yellow bat

Listing Status: **Federal:** None
State: None
Rare Plant Rank:
Other Lists: CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern

CNDDB Element Ranks: **Global:** G4G5
State: S3

General Habitat:

FOUND IN VALLEY FOOTHILL RIPARIAN, DESERT RIPARIAN, DESERT WASH, AND PALM OASIS HABITATS.

Micro Habitat:

ROOSTS IN TREES, PARTICULARLY PALMS. FORAGES OVER WATER AND AMONG TREES.

Last Date Observed: 1985-06-17
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1985-06-17
Occurrence Rank: Unknown
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:

HEBER, IMPERIAL VALLEY.

Detailed Location:

NON-SPECIFIC LOCALE, THUS MAPPED TO LAT/LONG COORDINATES PROVIDED BY MANIS. LOCATION UNCERTAINTY GIVEN AS 1400.1293 M (0.87 MI).

Ecological:

Threats:

General:

ONE MALE SPECIMEN COLLECTED 17 JUN 1985 BY D. CONSTANTINE AT "BETWEEN EL CENTRO & CALEXICO." DEPOSITED AT MVZ #181872.

PLSS: T16S, R14E, Sec. 28 (S)
Accuracy: 3/5 mile
Area (acres): 0
UTM: Zone-11 N3622409 E637770
Latitude/Longitude: 32.73088 / -115.52971
Elevation (feet): -10

County Summary:	Quad Summary:
Imperial	Heber (3211565)

Sources:

MAN04S0014 MAMMAL NETWORKED INFORMATION SYSTEM (MANIS) - PRINTOUT OF LASIURUS XANTHINUS SPECIMEN RECORDS FROM MANIS. THIS INCLUDES RECORDS FROM LACM & MVZ. 2004-12-20

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 58812
EO Index: 58848
Key Quad: El Centro (3211575)
Element Code: AMACC05070
Occurrence Number: 5
Occurrence Last Updated: 2004-12-20

Scientific Name: *Lasiurus xanthinus*
Common Name: western yellow bat

Listing Status: **Federal:** None
State: None
Rare Plant Rank:
Other Lists: CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern

CNDDB Element Ranks: **Global:** G4G5
State: S3

General Habitat:

FOUND IN VALLEY FOOTHILL RIPARIAN, DESERT RIPARIAN, DESERT WASH, AND PALM OASIS HABITATS.

Micro Habitat:

ROOSTS IN TREES, PARTICULARLY PALMS. FORAGES OVER WATER AND AMONG TREES.

Last Date Observed: 1977-04-25
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1977-04-25
Occurrence Rank: Unknown
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:

LOCATED ABOUT 3 MILES SOUTHWEST OF EL CENTRO.

Detailed Location:

MAPPED AT THE LAT-LONG COORDINATES GIVEN. LOCATION UNCERTAINTY GIVEN AS 1207.008 M (0.75 MI).

Ecological:

Threats:

General:

ONE MALE SPECIMEN COLLECTED 25 APR 1977 BY D. CONSTANTINE AT "3 MI SW EL CENTRO." DEPOSITED AT MVZ #181871.

PLSS: T16S, R13E, Sec. 14 (S)
Accuracy: 1 mile
Area (acres): 0
UTM: Zone-11 N3626105 E630512
Latitude/Longitude: 32.76510 / -115.60662
Elevation (feet): -25

County Summary:	Quad Summary:
Imperial	El Centro (3211575)

Sources:

MAN04S0014 MAMMAL NETWORKED INFORMATION SYSTEM (MANIS) - PRINTOUT OF LASIURUS XANTHINUS SPECIMEN RECORDS FROM MANIS. THIS INCLUDES RECORDS FROM LACM & MVZ. 2004-12-20

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 06328
EO Index: 66376
Key Quad: Calexico (3211564)
Element Code: AMACD02011
Occurrence Number: 49
Occurrence Last Updated: 2007-03-26

Scientific Name: *Eumops perotis californicus*
Common Name: western mastiff bat

Listing Status: **Federal:** None
State: None
Rare Plant Rank:
Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern

CNDDB Element Ranks: **Global:** G4G5T4
State: S3S4

General Habitat:

MANY OPEN, SEMI-ARID TO ARID HABITATS, INCLUDING CONIFER AND DECIDUOUS WOODLANDS, COASTAL SCRUB, GRASSLANDS, CHAPARRAL, ETC.

Micro Habitat:

ROOSTS IN CREVICES IN CLIFF FACES, HIGH BUILDINGS, TREES AND TUNNELS.

Last Date Observed: 1996-10-07
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1996-10-07
Occurrence Rank: Unknown
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:

CALEXICO.

Detailed Location:

Ecological:

Threats:

General:

1 MALE SPECIMEN COLLECTED BY DENNY G. CONSTANTINE FROM"CALEXICO", DEPOSITED AT MVZ #186385.

PLSS: T17S, R14E, Sec. 13 (S)
Accuracy: 1 mile
Area (acres): 0
UTM: Zone-11 N3615677 E641015
Latitude/Longitude: 32.66977 / -115.49610
Elevation (feet): 5

County Summary:

Imperial, Mexico

Quad Summary:

Calexico (3211564), Heber (3211565)

Sources:

MAN04S0027 MAMMAL NETWORKED INFORMATION SYSTEM (MANIS) - PRINTOUT OF EUMOPS PEROTIS CALIFORNICUS SPECIMEN RECORDS FROM MANIS. INCLUDES RECORDS FROM MVZ, CAS, TTU, ROM, LACM, KU, MSU AND FMNH. 2004-12-10

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 06328
EO Index: 68714
Key Quad: Calexico (3211564)
Element Code: AMACD04010
Occurrence Number: 13
Occurrence Last Updated: 2007-03-27

Scientific Name: *Nyctinomops femorosaccus*
Common Name: pocketed free-tailed bat

Listing Status: **Federal:** None
State: None
Rare Plant Rank:
Other Lists: CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern

CNDDB Element Ranks: **Global:** G5
State: S3

General Habitat:
VARIETY OF ARID AREAS IN SOUTHERN CALIFORNIA; PINE-JUNIPER WOODLANDS, DESERT SCRUB, PALM OASIS, DESERT WASH, DESERT RIPARIAN, ETC.

Micro Habitat:
ROCKY AREAS WITH HIGH CLIFFS.

Last Date Observed: 1995-10-03
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1995-10-03
Occurrence Rank: Unknown
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:
CALEXICO.

Detailed Location:

Ecological:

Threats:

General:
1 MALE SPECIMEN (MVZ #186401) COLLECTED AT "CALEXICO" BY DENNY G. CONSTANTINE ON 3 OCT 1995.

PLSS: T17S, R14E, Sec. 13 (S)
Accuracy: 1 mile
Area (acres): 0
UTM: Zone-11 N3615677 E641015
Latitude/Longitude: 32.66977 / -115.49610
Elevation (feet): 5

County Summary:
Imperial, Mexico

Quad Summary:
Calexico (3211564), Heber (3211565)

Sources:

MAN05S0014 MAMMAL NETWORKED INFORMATION SYSTEM (MANIS) - PRINTOUT OF NYCTINOMOPS FEMOROSACCUS SPECIMEN RECORDS FROM MANIS. INCLUDES RECORDS FROM LACM, MVZ, FMNH AND KU. 2005-01-06

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 58808
EO Index: 59560
Key Quad: El Centro (3211575)
Element Code: AMACD04020
Occurrence Number: 2
Occurrence Last Updated: 2005-01-21

Scientific Name: *Nyctinomops macrotis*
Common Name: big free-tailed bat

Listing Status: **Federal:** None
State: None
Rare Plant Rank:
Other Lists: CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern

CNDDB Element Ranks: **Global:** G5
State: S3

General Habitat:
LOW-LYING ARID AREAS IN SOUTHERN CALIFORNIA.

Micro Habitat:
NEED HIGH CLIFFS OR ROCKY OUTCROPS FOR ROOSTING SITES. FEEDS PRINCIPALLY ON LARGE MOTHS.

Last Date Observed: 1987-03-31
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1987-03-31
Occurrence Rank: Unknown
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:
EL CENTRO.

Detailed Location:
EXACT LOCATION NOT GIVEN. LOCATION ONLY GIVEN AS "EL CENTRO". MAPPED IN THE VICINTY OF EL CENTRO. LAT/LONG COORDINATES PROVIDED BY MANIS FALL WITHIN THIS CIRCLE AND HAVE AN UNCERTAINTY OF 30 METERS (ABOUT 0.18 MILES).

Ecological:

Threats:

General:
ONE MALE SPECIMEN COLLECTED 31 MAR 1987 BY D. CONSTANTINE AT "EL CENTRO." DEPOSITED AT MVZ #181981.

PLSS: T16S, R14E, Sec. 06 (S)
Accuracy: 1 mile
Area (acres): 0
UTM: Zone-11 N3629101 E634594
Latitude/Longitude: 32.79162 / -115.56261
Elevation (feet): -40

County Summary:	Quad Summary:
Imperial	El Centro (3211575)

Sources:

MAN05S0005	MAMMAL NETWORKED INFORMATION SYSTEM (MANIS) - PRINTOUT OF NYCTINOMOPS MACROTIS SPECIMEN RECORDS FROM MANIS. THIS INCLUDES RECORDS FROM LACM & MVZ. 2005-01-06

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 06328
EO Index: 57376
Key Quad: Calexico (3211564)
Element Code: AMAJF04010
Occurrence Number: 258
Occurrence Last Updated: 2004-10-13

Scientific Name: *Taxidea taxus*
Common Name: American badger

Listing Status: **Federal:** None
State: None
Rare Plant Rank:
Other Lists: CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern

CNDDB Element Ranks: **Global:** G5
State: S3

General Habitat:

MOST ABUNDANT IN DRIER OPEN STAGES OF MOST SHRUB, FOREST, AND HERBACEOUS HABITATS, WITH FRIABLE SOILS.

Micro Habitat:

NEEDS SUFFICIENT FOOD, FRIABLE SOILS AND OPEN, UNCULTIVATED GROUND. PREYS ON BURROWING RODENTS. DIGS BURROWS.

Last Date Observed: 1922-08-14
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1922-08-14
Occurrence Rank: Unknown
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:

CALEXICO.

Detailed Location:

Ecological:

Threats:

General:

UNIVERSITY OF WASHINGTON BURKE MUSEUM #6889. SPECIMEN COLLECTED BY W. E. HUMPHREY ON 14 AUG 1922.

PLSS: T17S, R14E, Sec. 13 (S)
Accuracy: 1 mile
Area (acres): 0
UTM: Zone-11 N3615677 E641015
Latitude/Longitude: 32.66977 / -115.49610
Elevation (feet): 0

County Summary:

Imperial, Mexico

Quad Summary:

Calexico (3211564), Heber (3211565)

Sources:

MAN04S0002 MAMMAL NETWORKED INFORMATION SYSTEM (MANIS) - PRINTOUT OF TAXIDEA TAXUS SPECIMENS FOR CALIFORNIA FROM MANIS. THIS INCLUDES RECORDS FROM UWBM, LACM, CAS AND UMMZ. 2004-10-07

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 06328
EO Index: 82788
Key Quad: Calexico (3211564)
Element Code: ARACF12040
Occurrence Number: 218
Occurrence Last Updated: 2015-07-30

Scientific Name: *Phrynosoma mcallii*
Common Name: flat-tailed horned lizard

Listing Status: **Federal:** None
State: None
Rare Plant Rank:

CNDDB Element Ranks: **Global:** G3
State: S3
Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_NT-Near Threatened

General Habitat:

RESTRICTED TO DESERT WASHES AND DESERT FLATS IN CENTRAL RIVERSIDE, EASTERN SAN DIEGO, AND IMPERIAL COUNTIES.

Micro Habitat:

CRITICAL HABITAT ELEMENT IS FINE SAND, INTO WHICH LIZARDS BURROW TO AVOID TEMPERATURE EXTREMES; REQUIRES VEGETATIVE COVER AND ANTS.

Last Date Observed: 1969-05-XX
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1969-05-XX
Occurrence Rank: None
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Possibly Extirpated

Location:

VICINITY OF CALEXICO.

Detailed Location:

TYPE LOCALITY GIVEN AS "GREAT DESERT OF THE COLORADO BETWEEN VALLICITA AND CAMP YUMA, ABOUT 160 MILES EAST OF SAN DIEGO;" KLAUBER (1932) PLACES THIS NEAR CALEXICO. 1967 AND 1969 COLLECTIONS DESCRIBE LOCALITIES AS "NEAR CALEXICO."

Ecological:

Threats:

CALEXICO HAS BEEN DEVELOPED AND THE SURROUNDING AREA CONVERTED TO AGRICULTURE.

General:

TYPE SPECIMEN CAUGHT IN 1852. 2 COLLECTED ON 20 MAY 1967. 2 COLLECTED DURING MAY 1969.

PLSS: T17S, R14E, Sec. 13 (S)
Accuracy: 1 mile
Area (acres): 0
UTM: Zone-11 N3615677 E641015
Latitude/Longitude: 32.66977 / -115.49610
Elevation (feet): 0

County Summary:

Imperial, Mexico

Quad Summary:

Calexico (3211564), Heber (3211565)

Sources:

HAL52A0001	HALLOWELL, E. - DESCRIPTIONS OF NEW SPECIES OF REPTILES INHABITING NORTH AMERICA. PROCEEDINGS OF THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA VOL 6, P177-182. 1852-10-XX
KLA32A0001	KLAUBER, L. - THE FLAT-TAILED HORNED TOAD IN LOWER CALIFORNIA. COPEIA 1932(2):100 1932-07-01
MAH67S0001	MAHRDT, C. - SDNHM #49068 & 49069 COLLECTED FROM NEAR CALEXICO 1967-05-20
MAH69S0002	MAHRDT, C. - SDNHM #49059 & 49060 COLLECTED FROM NEAR CALEXICO 1969-05-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 06328
EO Index: 45963
Key Quad: Calexico (3211564)
Element Code: PDEUP0D010
Occurrence Number: 1
Occurrence Last Updated: 2012-11-26

Scientific Name: *Euphorbia abramsiana*
Common Name: Abrams' spurge

Listing Status: **Federal:** None
State: None
Rare Plant Rank: 2B.2
Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden

CNDDB Element Ranks: **Global:** G4
State: S2

General Habitat:
MOJAVEAN DESERT SCRUB, SONORAN DESERT SCRUB.

Micro Habitat:
SANDY SITES. -45-1445 M.

Last Date Observed: 1903-07-25
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1903-07-25
Occurrence Rank: Unknown
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:
NEAR CALEXICO, IMPERIAL VALLEY.

Detailed Location:
EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS AROUND CALEXICO.

Ecological:

Threats:

General:
ONLY SOURCES OF INFORMATION FOR THIS SITE ARE A 1903 ABRAMS COLLECTION FROM "NEAR CALEXICO" AND A 1902 ABRAMS COLLECTION FROM "CALEXICO-IMPERIAL." NEEDS FIELDWORK.

PLSS: T17S, R14E, Sec. 13 (S)
Accuracy: 1 mile
Area (acres): 0
UTM: Zone-11 N3615677 E641015
Latitude/Longitude: 32.66977 / -115.49610
Elevation (feet):

County Summary:
Imperial, Mexico

Quad Summary:
Calexico (3211564), Heber (3211565)

Sources:

ABR02S0030 ABRAMS, L. - ABRAMS SN POM #161127 1902-09-27

ABR03S0041 ABRAMS, L. - ABRAMS #3995 DS #33274 1903-07-25

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 45965
EO Index: 45965
Key Quad: Heber (3211565)
Element Code: PDEUP0D010
Occurrence Number: 3
Occurrence Last Updated: 2012-11-26

Scientific Name: *Euphorbia abramsiana*
Common Name: Abrams' spurge

Listing Status: **Federal:** None
State: None
Rare Plant Rank: 2B.2
Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden

CNDDB Element Ranks: **Global:** G4
State: S2

General Habitat:
MOJAVEAN DESERT SCRUB, SONORAN DESERT SCRUB.

Micro Habitat:
SANDY SITES. -45-1445 M.

Last Date Observed: 1904-06-XX
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1904-06-XX
Occurrence Rank: Unknown
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:
HEBER, IMPERIAL VALLEY.

Detailed Location:
MAPPED BY CNDDB AS BEST GUESS AROUND THE TOWN OF HEBER.

Ecological:

Threats:

General:
TYPE LOCALITY. SITE BASED ON A 1904 ABRAMS COLLECTION. A 1902 ABRAMS COLLECTION FROM "4 MILES NORTH OF CALEXICO" IS ALSO ATTRIBUTED TO THIS SITE. NEEDS FIELDWORK. INCLUDES FORMER OCCURRENCE #2.

PLSS: T16S, R14E, Sec. 28 (S)
Accuracy: 3/5 mile
Area (acres): 0
UTM: Zone-11 N3622409 E637770
Latitude/Longitude: 32.73088 / -115.52971
Elevation (feet):

County Summary:	Quad Summary:
Imperial	Heber (3211565)

Sources:

ABR02S0005	ABRAMS, G. - ABRAMS SN DS #73634 1902-09-27
ABR04S0001	ABRAMS, L. - ABRAMS #4097 DS #33555, GH #47638 1904-06-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 06328
EO Index: 85298
Key Quad: Calexico (3211564)
Element Code: PDFAB0F7R0
Occurrence Number: 1
Occurrence Last Updated: 2011-11-16

Scientific Name: *Astragalus sabulonum*
Common Name: gravel milk-vetch

Listing Status: **Federal:** None
State: None
Rare Plant Rank: 2B.2
Other Lists:

CNDDB Element Ranks: **Global:** G4G5
State: S2

General Habitat:
DESERT DUNES, MOJAVEAN DESERT SCRUB, SONORAN DESERT SCRUB.

Micro Habitat:
SANDY OR GRAVELLY FLATS, WASHES, AND ROADSIDES. -60-885 M.

Last Date Observed: 1902-01-13
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1902-01-13
Occurrence Rank: Unknown
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:
CALEXICO.

Detailed Location:
EXACT LOCATION UNKNOWN. MAPPED BY CNDDB CENTERED ON THE CITY OF CALEXICO.

Ecological:

Threats:

General:
ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1902 COLLECTION BY ABRAMS. NEEDS FIELDWORK.

PLSS: T17S, R14E, Sec. 13 (S)
Accuracy: 1 mile
Area (acres): 0
UTM: Zone-11 N3615677 E641015
Latitude/Longitude: 32.66977 / -115.49610
Elevation (feet):

County Summary:
Imperial, Mexico

Quad Summary:
Calexico (3211564), Heber (3211565)

Sources:
ABR02S0032 ABRAMS, G. - ABRAMS SN POM #50469 1902-01-13

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 06328
EO Index: 45033
Key Quad: Calexico (3211564)
Element Code: PDNYC010P1
Occurrence Number: 1
Occurrence Last Updated: 2010-06-29

Scientific Name: *Abronia villosa var. aurita*
Common Name: chaparral sand-verbena

Listing Status: **Federal:** None
State: None
Rare Plant Rank: 1B.1

CNDDB Element Ranks: **Global:** G5T2?
State: S2
Other Lists: BLM_S-Sensitive
SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
USFS_S-Sensitive

General Habitat:
CHAPARRAL, COASTAL SCRUB, DESERT DUNES.

Micro Habitat:
SANDY AREAS. -60-1570 M.

Last Date Observed: 1912-10-19
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1912-10-19
Occurrence Rank: Unknown
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:
SALTON BASIN, CALEXICO.

Detailed Location:
EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS AT THE TOWN OF CALEXICO.

Ecological:

Threats:

General:
ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1912 PARISH COLLECTION. NEEDS FIELDWORK.

PLSS: T17S, R14E, Sec. 13 (S)
Accuracy: 1 mile
Area (acres): 0
UTM: Zone-11 N3615677 E641015
Latitude/Longitude: 32.66977 / -115.49610
Elevation (feet): 10

County Summary:
Imperial, Mexico

Quad Summary:
Calexico (3211564), Heber (3211565)

Sources:

JEP09B0001 JEPSON, W. - FLORA OF CALIFORNIA, VOL. 1 1909-XX-XX

PAR12S0004 PARISH, S. - PARISH #8294 JEPS #61232, GH #376169 1912-10-19

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 69048
EO Index: 69816
Key Quad: Heber (3211565)
Element Code: PMPOA3D020
Occurrence Number: 1
Occurrence Last Updated: 2016-11-28

Scientific Name: *Imperata brevifolia*
Common Name: California satintail

Listing Status: **Federal:** None
State: None
CNDDB Element Ranks: **Global:** G3
State: S3

Rare Plant Rank: 2B.1
Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
SB_SBBG-Santa Barbara Botanic Garden
USFS_S-Sensitive

General Habitat:

COASTAL SCRUB, CHAPARRAL, RIPARIAN SCRUB, MOJAVEAN DESERT SCRUB, MEADOWS AND SEEPS (ALKALI), RIPARIAN SCRUB.

Micro Habitat:

MESIC SITES, ALKALI SEEPS, RIPARIAN AREAS. 3-1495 M.

Last Date Observed: 1963-06-05
Occurrence Type: Natural/Native occurrence
Last Survey Date: 1963-06-05
Occurrence Rank: Unknown
Owner/Manager: UNKNOWN
Trend: Unknown
Presence: Presumed Extant

Location:

WISTARIA 212, CIRCA 6 MILES NW OF CALEXICO.

Detailed Location:

EXACT LOCATION UNKNOWN. CANNOT LOCATE WISTARIA CANAL #212. MAPPED BY CNDDB AS A BEST GUESS 6 AIR MILES WNW OF CALEXICO BASED ON THE FACT THAT THE WISTARIA CANAL SYSTEM IS LOCATED BETWEEN NEW RIVER AND GREESON WASH.

Ecological:

Threats:

General:

ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1963 COLLECTION BY WAEGNER. NEEDS FIELDWORK.

PLSS: T17S, R13E, Sec. 12 (S)
Accuracy: 1 mile
Area (acres): 0
UTM: Zone-11 N3617608 E631561
Latitude/Longitude: 32.68835 / -115.59663
Elevation (feet): 10

County Summary:

Imperial

Quad Summary:

Heber (3211565)

Sources:

WAE63S0001 WAEGNER, C. - WAEGNER SN CDA #32416 & #32417 1963-06-05

Appendix C Natural Resources Conservation Service Soil Resource Report

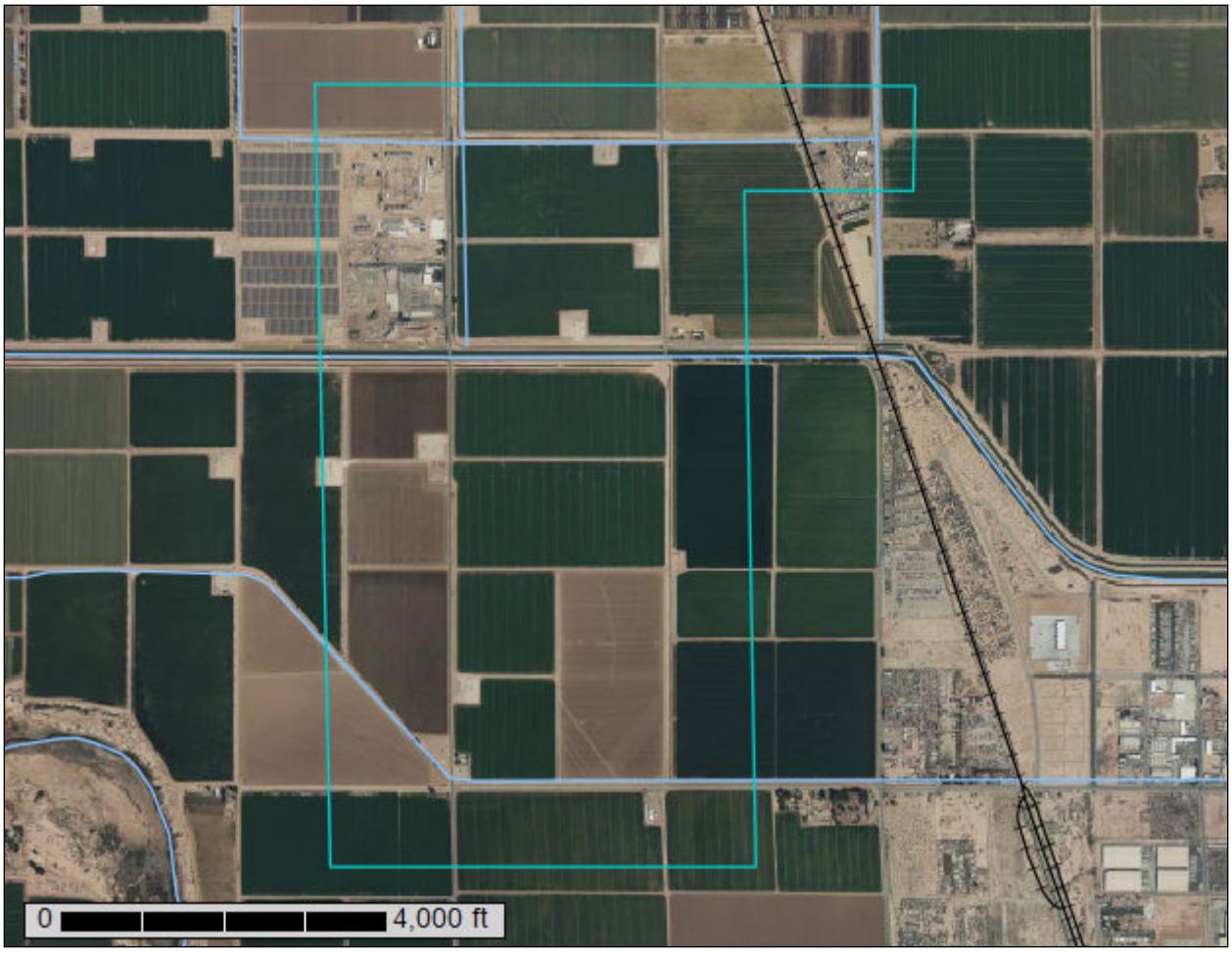
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Imperial County, California, Imperial Valley Area



October 2, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

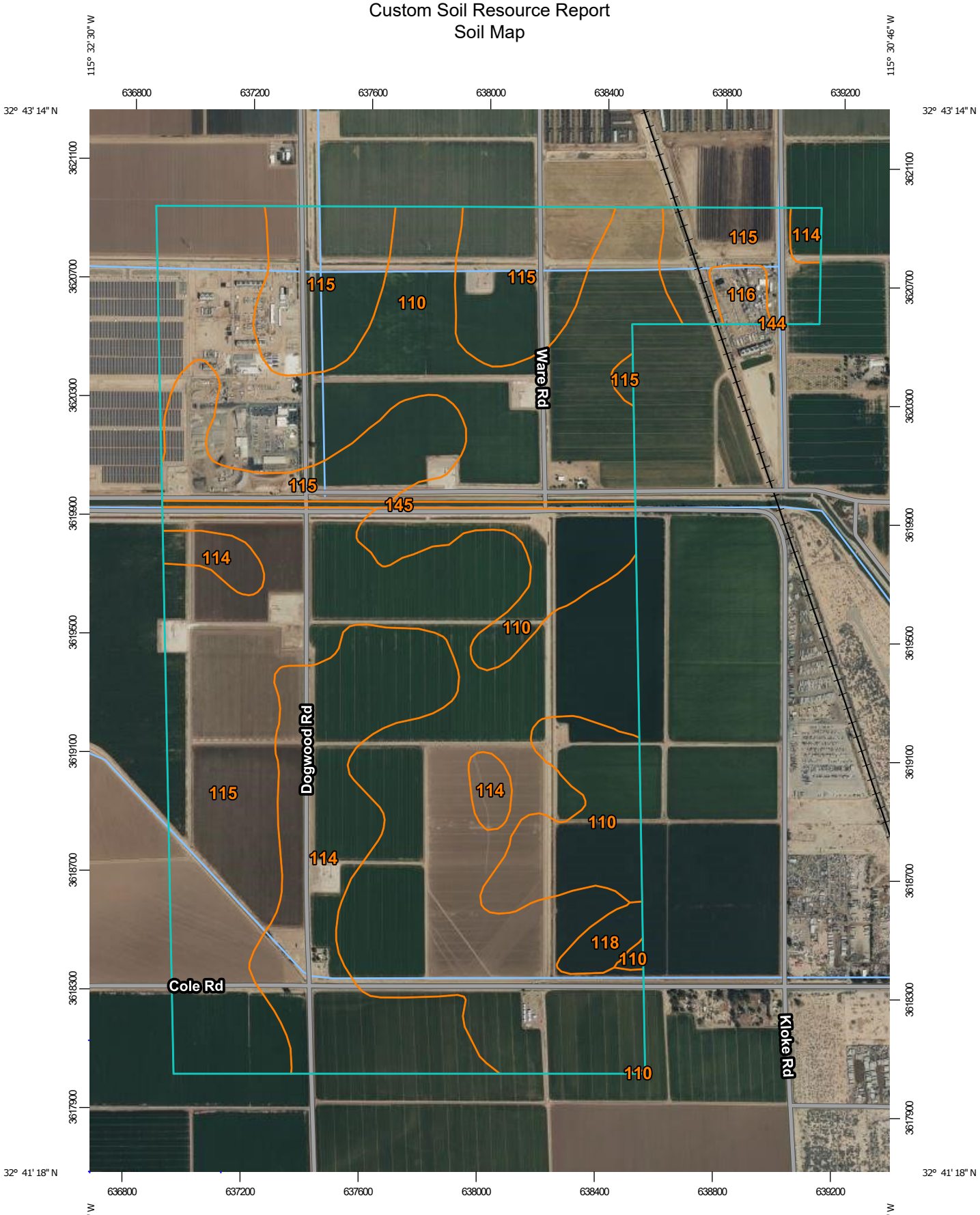
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:17,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 250 500 1000 1500

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 15, Aug 30, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 17, 2021—May 22, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
110	Holtville silty clay, wet	347.8	28.4%
114	Imperial silty clay, wet	169.8	13.9%
115	Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes	678.7	55.5%
116	Imperial-Glenbar silty clay loams, 2 to 5 percent slope s	8.6	0.7%
118	Indio loam, wet	10.1	0.8%
144	Vint and Indio very fine sandy loams, wet	0.0	0.0%
145	Water	8.6	0.7%
Totals for Area of Interest		**1,223.7**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Imperial County, California, Imperial Valley Area

110—Holtville silty clay, wet

Map Unit Setting

National map unit symbol: h8zj
Elevation: -230 to 200 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Prime farmland if irrigated and drained

Map Unit Composition

Holtville, wet, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Holtville, Wet

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed sources

Typical profile

H1 - 0 to 17 inches: silty clay
H2 - 17 to 24 inches: clay
H3 - 24 to 35 inches: silt loam
H4 - 35 to 60 inches: loamy very fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: D
Ecological site: R040XD007CA - Lacustrine Basin and Large RIver Floodplain
Hydric soil rating: No

Minor Components

Imperial
Percent of map unit: 5 percent
Hydric soil rating: No

Glenbar
Percent of map unit: 5 percent
Hydric soil rating: No

Indio
Percent of map unit: 3 percent
Hydric soil rating: No

Vint
Percent of map unit: 2 percent
Hydric soil rating: No

114—Imperial silty clay, wet

Map Unit Setting
National map unit symbol: h8zn
Elevation: -230 to 200 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Imperial, wet, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Imperial, Wet

Setting
Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium derived from mixed and/or clayey lacustrine deposits derived from mixed

Typical profile
H1 - 0 to 12 inches: silty clay
H2 - 12 to 60 inches: silty clay loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups
Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C
Ecological site: R040XD007CA - Lacustrine Basin and Large RIver Floodplain
Hydric soil rating: No

Minor Components

Meloland
Percent of map unit: 4 percent
Hydric soil rating: No

Glenbar
Percent of map unit: 4 percent
Hydric soil rating: No

Holtville
Percent of map unit: 4 percent
Hydric soil rating: No

Niland
Percent of map unit: 3 percent
Hydric soil rating: No

115—Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: h8zp
Elevation: -230 to 200 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Imperial, wet, and similar soils: 41 percent
Glenbar, wet, and similar soils: 40 percent
Minor components: 19 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Imperial, Wet

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium derived from mixed and/or clayey lacustrine deposits derived from mixed

Typical profile

H1 - 0 to 12 inches: silty clay loam
H2 - 12 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Moderate (about 8.6 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C
Ecological site: R040XD007CA - Lacustrine Basin and Large RIver Floodplain
Hydric soil rating: No

Description of Glenbar, Wet

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed

Typical profile

H1 - 0 to 13 inches: silty clay loam
H2 - 13 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 15.0
Available water supply, 0 to 60 inches: High (about 10.8 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C
Ecological site: R040XD007CA - Lacustrine Basin and Large RIver Floodplain
Hydric soil rating: No

Minor Components

Meloland

Percent of map unit: 10 percent
Hydric soil rating: No

Holtville

Percent of map unit: 9 percent
Hydric soil rating: No

116—Imperial-Glenbar silty clay loams, 2 to 5 percent slope s

Map Unit Setting

National map unit symbol: h8zq
Elevation: -230 to 200 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Imperial and similar soils: 41 percent
Glenbar and similar soils: 40 percent
Minor components: 19 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Imperial

Setting

Landform: Basin floors
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium derived from mixed and/or clayey lacustrine deposits derived from mixed

Typical profile

H1 - 0 to 13 inches: silty clay loam
H2 - 13 to 60 inches: silty clay loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Moderate (about 8.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: R040XD007CA - Lacustrine Basin and Large RIver Floodplain
Hydric soil rating: No

Description of Glenbar

Setting

Landform: Basin floors
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed

Typical profile

H1 - 0 to 13 inches: silty clay loam
H2 - 13 to 60 inches: clay loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water supply, 0 to 60 inches: High (about 10.8 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: C
Ecological site: R040XD007CA - Lacustrine Basin and Large RIver Floodplain
Hydric soil rating: No

Minor Components

Meloland
Percent of map unit: 10 percent
Hydric soil rating: No

Holtville
Percent of map unit: 9 percent
Hydric soil rating: No

118—Indio loam, wet

Map Unit Setting
National map unit symbol: h8zs
Elevation: -230 to 200 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Prime farmland if irrigated and drained

Map Unit Composition
Indio, wet, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Indio, Wet

Setting
Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed and/or eolian deposits derived from mixed

Typical profile
H1 - 0 to 12 inches: loam
H2 - 12 to 72 inches: stratified loamy very fine sand to silt loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: B
Ecological site: R040XD007CA - Lacustrine Basin and Large RIver Floodplain
Hydric soil rating: No

Minor Components

Vint

Percent of map unit: 6 percent
Hydric soil rating: No

Glenbar

Percent of map unit: 3 percent
Hydric soil rating: No

Meloland

Percent of map unit: 3 percent
Hydric soil rating: No

Holtville

Percent of map unit: 3 percent
Hydric soil rating: No

144—Vint and Indio very fine sandy loams, wet

Map Unit Setting

National map unit symbol: h90m
Elevation: -230 to 300 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Prime farmland if irrigated and drained

Map Unit Composition

Vint, wet, and similar soils: 50 percent
Indio, wet, and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Vint, Wet

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed sources and/or eolian deposits derived from mixed sources

Typical profile

H1 - 0 to 10 inches: very fine sandy loam
H2 - 10 to 40 inches: loamy fine sand
H3 - 40 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water supply, 0 to 60 inches: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: B
Ecological site: R040XD007CA - Lacustrine Basin and Large RIver Floodplain
Hydric soil rating: No

Description of Indio, Wet

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium and/or eolian deposits derived from mixed

Typical profile

H1 - 0 to 12 inches: very fine sandy loam
H2 - 12 to 40 inches: stratified loamy very fine sand to silt loam
H3 - 40 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: B
Ecological site: R040XD007CA - Lacustrine Basin and Large RIver Floodplain
Hydric soil rating: No

Minor Components

Meloland

Percent of map unit: 5 percent
Hydric soil rating: No

Rositas

Percent of map unit: 5 percent
Hydric soil rating: No

145—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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