

Biological Resources and Burrowing Owl Survey Report

Dogwood Geothermal Energy Project

Prepared for ORMAT (dba OrHeber 3 LLC)

March 15, 2024

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SECTION 1 Introduction

The OrHeber 3 (OH), LLC, Heber Field Company, LLC (HFC), and the Second Imperial Geothermal Company (collectively, Applicants, subsidiaries of Ormat Technologies, Inc. [ORMAT]), are proposing to develop a new 25-megawatt (MW; net generation) geothermal energy facility (hereinafter, Dogwood Project), a 7-MW parasitic solar facility to support the Dogwood Project, a 15-MW solar facility to support the existing Heber 2 facility, one new injection well, and three new geothermal production wells in southern Imperial County, California. Collectively, the new geothermal and solar facilities and their components are referred to as the “proposed project” or “Project”.

Catalyst Environmental Solutions (Catalyst) performed biological surveys for the Project. This biological report was prepared through both desktop analysis and reconnaissance-level biological survey. 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 a survey protocol specific to burrowing owl (*Athene cunicularia*). A photo log is provided in **Appendix A**.

The burrowing owl is a California Species of Special Concern. It is not listed by either the federal or state Endangered Species Act; however, its potentially compromised status prompted a proposal for state listing in 2003. The species was not listed at that time; however, burrowing owl remains a high-profile species with resource agencies. It is also legally protected under the federal Migratory Bird Treaty Act and California Fish and Game Codes 3503, 3503.5, and 3513 (Native Bird Protection). To determine the presence or potential absence of burrowing owls and their habitat within the Project site, a focused burrowing owl survey was conducted on February 21, 2023. The results of the survey will be used to determine whether and to what extent this species would be affected by Project development.

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 and burrowing owl survey report will be included as supporting material during preparation of the Dogwood Geothermal Power Project Environmental Impact Report.

1.2 Project Location and Description

The proposed Project is located on private lands owned by ORMAT in southern Imperial County, as observed on **Figure 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. A geothermal power plant with new pipelines and an injection well would be built within the existing Heber 2 Geothermal Energy Complex (HGEC) fence line. The proposed new geothermal facility is referred to as the “Dogwood

Project” in this report. Two supplemental solar photovoltaic fields (herein referred to as “solar energy facilities”), substation, and gen-tie line with connection to Dogwood and the existing Heber 2 geothermal plant would be built in and outside of HGEC. The proposed facility footprints are shown in **Figure 2**.

The 25-megawatt geothermal power plant will occur within the existing HGEC footprint located at 855 Dogwood Road, Heber, CA. The proposed Dogwood geothermal energy facilities would be located within the existing fence line that accommodates existing ORMAT facilities. The geothermal plant site is north of Jasper Road and west of South Dogwood Road. The proposed geothermal development site is currently maintained as a materials storage area. Surrounding land uses in the Project vicinity are dominated by agricultural cultivation with solar facilities directly west, a construction/aggregates company to the south, and geothermal well pads and pipelines present throughout the local vicinity.

The accompanying solar photovoltaic fields (7 MW and 15 MW) are located south of East Willoughby Road and east of S. Dogwood Road on approximately 105 acres. The solar energy facilities will be constructed in an area that is currently used for agricultural crops (alfalfa). One new geothermal injection well will be used for the Project located in the HGEC. Three new production wells will be developed, two in the solar field and one directly east of the HGEC in an agricultural field.

The energy generated by the Dogwood solar facility would be collected at an on-site XMD and switch on the western edge of the site adjacent to South (S) Dogwood Road. A medium voltage distribution cable would cross Dogwood Road and be attached via trays to the existing pipeline that runs west before turning north to cross the Beech Drain and Main Canal at the existing above-ground pipeline span. The cable would continue to follow the existing pipeline alignment and connect into the new Dogwood OEC. No new footings or foundations are required for the cable trays.

Interstate 8 (I-8; Kumeyaay Highway), located approximately 4.5 miles directly north, provides primary highway access to the Project site. Dogwood Road stems off of I-8 and provides immediate site access. From the south, Willoughby Road runs west-east approximately 1,700 feet from the site and connects to Dogwood Road, providing immediate site access.

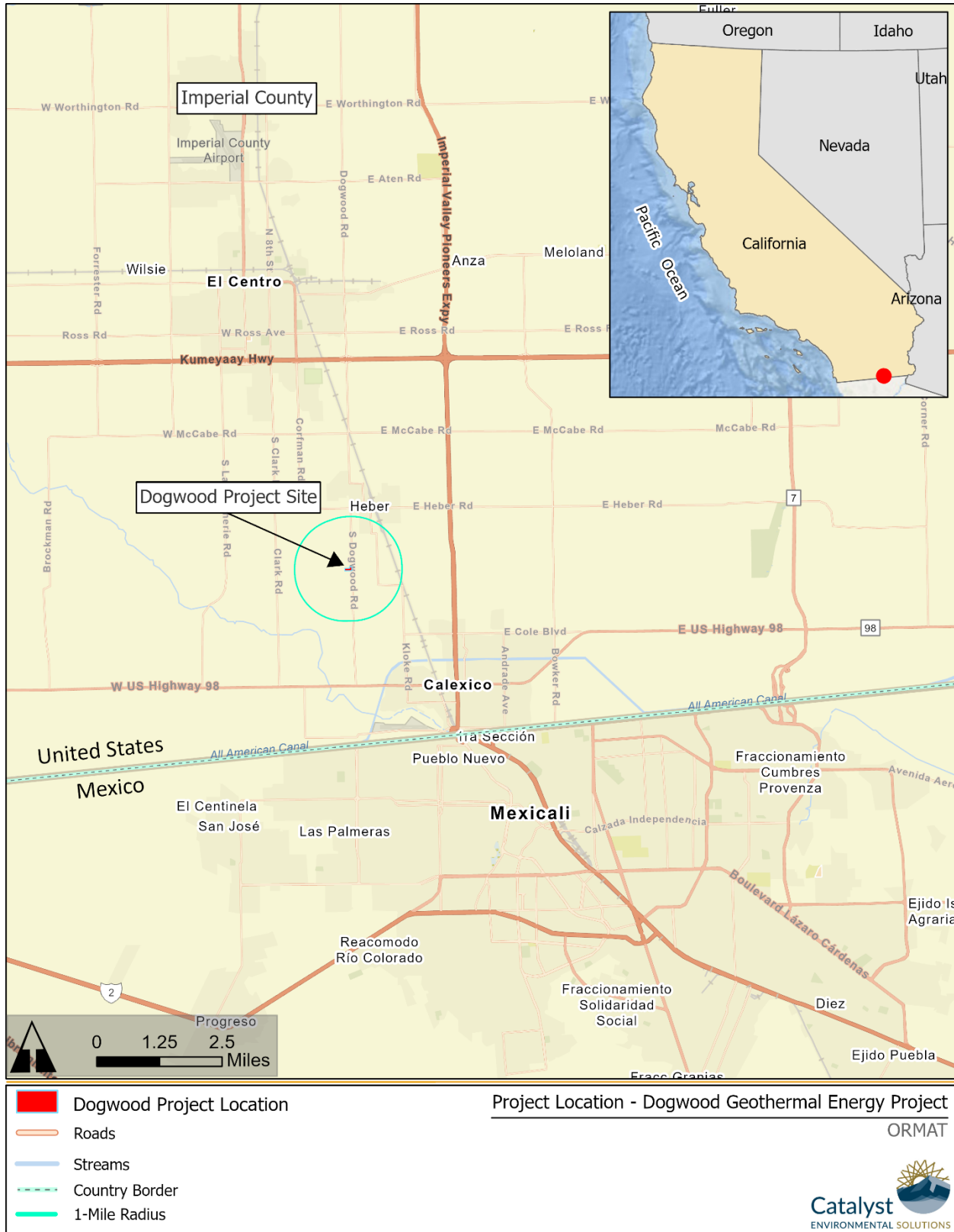


Figure 1. Regional Location Map

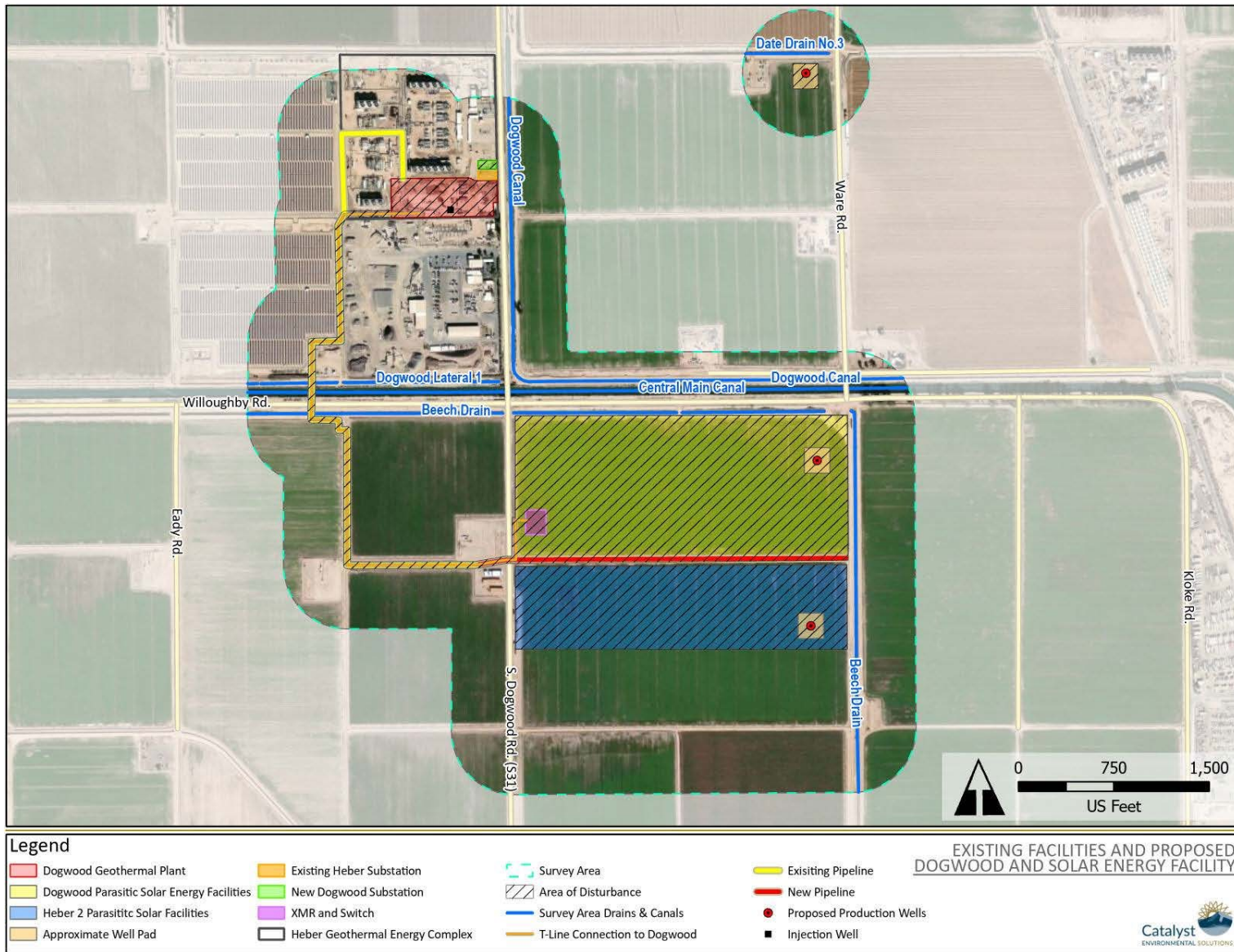


Figure 2. Existing Facilities and Proposed Dogwood Geothermal and Solar Facilities

SECTION 2

Field 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) (USFWS 2023)
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) (CDFW 2023; **Appendix B**)
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps (USFWS 2023)
- U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) soil profile (NRCS 2023)

2.2 Reconnaissance Level Habitat Survey

Catalyst biologists performed a pedestrian survey to photograph and document the general habitat present on the site as well as to record wildlife and vegetation observed during the visit. The Project area as well as a 500-foot buffer area were surveyed (survey area). 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:

- 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).

2.3 Burrowing Owl Survey Methods

Burrows are the essential component of burrowing owl habitat, and both natural and artificial burrows provide protection, shelter, and nests. Burrowing owls typically use burrows made by fossorial mammals (e.g., ground squirrels), but also may use cement culverts, wood debris piles, or openings beneath pavement. A site should be assumed occupied if at least one burrowing owl has been observed occupying a burrow there within the last three years (CBOC 1993).

The California Department of Fish and Wildlife (CDFW) generally requires protocol surveys for burrowing owls that are consistent with the California Burrowing Owl Consortium (CBOC) Survey Protocol and Mitigation Guidelines (CBOC 1993). The guidelines recommend a set of consecutive surveys, each following the previous based on the results:

PHASE I: HABITAT ASSESSMENT – The “first step in the survey process is to assess the presence of burrowing owl habitat on the Project site, including an approximately 500-ft buffer zone around the Project boundary...”

A “Phase II burrow survey is required if burrowing owl habitat occurs on the sites. If burrowing owl habitat is not present on the Project site and within the buffer zones, the Phase II survey is not necessary.”

PHASE II: BURROW SURVEY – “A survey for burrows and owls should be conducted by walking through suitable habitat over the entire Project site and in areas within 500 feet of the Project impact zone. This 500-ft buffer zone is included to account for adjacent burrows and foraging habitat outside the Project area and impacts from factors such as noise and vibration due to heavy equipment which could impact resources outside the Project area.”

PHASE III: OWL PRESENCE – “If the Project site contains burrows that could be used by burrowing owls, then...surveys in the breeding season are required to describe if, when, and how the site is used by burrowing owls. If no owls are observed using the site during the breeding season, a winter survey is required.”

The Phase III survey methodology requires four site visits, each on a separate day. Birds are observed from two hours before sunset to one hour after sunset, or from one hour before sunrise to two hours after sunrise. The four visits are initially conducted during the nesting season, February 1 to August 31, although it is preferable to survey at the height of the breeding season, between April 15 and July 15. If no owls are observed during the nesting season, then “winter surveys should be conducted between December 1 and January 31... (in order to) count and map all owl sightings, occupied burrows, and burrows with owl sign.”

In spring 2023, surveys were generally conducted according to the CBOC guidelines with the exception of buffer surveys, which could not be conducted in some areas due to access constraints (e.g., fields flooded for irrigation were too muddy to walk across). Catalyst biologists Hannah Donaghe, MS, and Emily Merickel, MS, conducted the Phase I survey on February 21, 2023. Surveyors determined that potential burrowing owl habitat was present within the Project survey area and vicinity due to the presence of sandy banks along drainage canals and burrowing activity of local communities of ground squirrels. Within the Project footprint, potential habitat for burrowing owl was only observed within the area proposed for solar facilities. Based on the assumption that potential habitat was present a Phase II survey was conducted concurrently with the Phase I survey. The adjoining areas within 500 feet were not surveyed on foot, but were visually assessed using binoculars. Surveyors 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. As no burrowing owl or sign was observed during the Phase II survey, Phase III nesting-season surveys were not conducted.

SECTION 3

Results and Discussion

3.1 Survey Conditions

Field surveys were completed by two professional biologists on February 21, 2023. Weather conditions were generally clear with minimal cloud cover and temperatures around 75-79 degrees Fahrenheit (°F). Wind speed was minimal in the morning and early afternoon, approximately 5 mph, and increased up to a maximum of 15-20 mph in the late afternoon.

The weather conditions during the Phase I and Phase II survey for burrowing owl were within the recommended ranges for wind speed and temperature.

3.2 Existing Conditions

The Project is located within the Imperial Valley south of the Salton Sea in the Colorado Desert. Topography within the survey area is generally flat with an elevation of -7 feet below mean sea level (msl). The surrounding lands support solar facilities and agricultural cultivation in the west and southeast, a construction/aggregates company to the south, 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. Lands within the Study Area are zoned General Agricultural with a Renewable Energy Geothermal Overlay (A-2-G-SPA).

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 1**.

Plant community descriptions generally follow the MCV II classification system which is described in the second edition of *A Manual of California Vegetation* (Sawyer et al. 2009). The survey area supports three land cover types: agricultural land, developed/disturbed land, and arrow weed thickets.

- **Agricultural Land:** This land cover type is not described within *A Manual of California Vegetation* (Sawyer et al. 2009). 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 105 acres of agricultural land would be converted to install the solar energy facilities.
- **Developed/Disturbed Land:** This land cover type is not described within *A Manual of California Vegetation* (Sawyer et al. 2009), 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.
- **Arrow Weed Thicket:** 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). 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 survey area; however, none of the arrow weed thickets that occur within the survey area would be removed or disturbed by project activities with the exception of the thickets that would be spanned by the transmission line crossing of Beech Drain, Willoughby Road, Central Main Canal, and Dogwood Lateral 1.

Land cover within the survey area is shown in **Figure 3**. In the survey area, 59.3 percent of the land cover is agricultural (primarily alfalfa), 37.6 percent is developed/disturbed (including access roads), 0.2 percent is arrow weed thicket (along canals and drains below the ordinary high water mark), and 2.8 percent is water (canals and drains).

Overall, the survey area features many burrows likely excavated by ground squirrels and berms along drainages and field edges. Very few perching areas for burrowing owls (e.g., fences, posts, debris piles, high berms, wires, shrubs) were observed in the survey area. 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.

3.2.1 Proposed Geothermal Plant Site and New Substation Site

The proposed geothermal facilities and new substation are located within the existing Heber 2 Geothermal Energy Complex fence line. The area is currently being used as material storage, and a large soil stockpile is located in the middle of the area proposed for geothermal facilities. The Dogwood geothermal development site is developed/disturbed land cover type and is nearly devoid of vegetation. The perimeter fence supported narrow strips of vegetation, including apricot globemallow (*Sphaeralcea ambigua*), Mexican fan palm (*Washingtonia robusta*), and nettle-leaved goosefoot (*Chenopodium murale*). A few willow acacia (*Acacia salicina*) and a solitary mesquite (*Prosopis* sp.) were identified within the fenced area as well. Photos of this area are provided in **Appendix A** (Photos 1-4).

No habitat which would support burrowing owls was observed within the proposed geothermal plant or the new substation sites.

3.2.2 Proposed Solar Energy Facilities

The area proposed for the solar energy facilities consists of agricultural fields and associated irrigation canals adjacent to and bisecting fields. The alfalfa fields in the project area are graded for flood irrigation and some areas were undergoing irrigation during the survey and were either very muddy or had standing water. The ditches present in the solar energy field are all concrete lined. Unpaved access roads are also present within this area. Photos of this area are provided in **Appendix A** (Photos 5-13)

The Central Main Canal parallels E. Willoughby Road along the north edge of the proposed solar energy facility fields but is outside the project area. Just south of the Central Main Canal is Beech Drain, which is adjacent to the northern boundary of 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. Beech Drain flows just outside of the solar energy field footprint along its eastern and northern edges (Photos 11-13).

Potentially suitable burrowing owl habitat was observed along the earthen banks of Beech Drain as well as the drainage ditch which runs through the existing alfalfa fields. Several burrows in these areas with openings greater than 4 inches in diameter were observed, which would support nesting burrowing owl (Photo 7). However, no sign of burrowing owl was observed in this area or at the individual burrow sites.

3.2.3 Transmission Line Connection

The energy generated by the Dogwood solar facility would be collected at an on-site XMD and switch on the western edge of the site adjacent to Dogwood Road. A medium voltage distribution cable would cross Dogwood Road and be attached via trays to the existing pipeline that runs west before turning north to cross the Beech Drain and Main Canal at the existing above-ground pipeline span (**Figure 2**). The cable would continue to follow the existing pipeline alignment and connect into the new Dogwood OEC. No new footings or foundations are required for the cable trays. The pipeline is above ground except where it crosses Beech Drain, Willoughby Road, Central Main Canal, and Dogwood Lateral 1 (Photos 14-15). The transmission line would not be underground and would instead span these obstacles aerially. All three waterbodies are manmade channels excavated in previously upland areas and has a natural sediment bottom. The project disturbance area does not otherwise intersect the any drains or canals. Arrow weed thickets and salt cedar are present in the vicinity of the crossing; however, no vegetation would be removed for construction of the crossing.

Potential habitat for burrowing owls was observed in this area. Several small burrows were observed along the drainage ditch just south of the fenceline, but the openings were approximately 3 inches in diameter. None of the burrows in this area had openings with a diameter greater than 4 inches, which would support nesting burrowing owls. No sign of burrowing owl was observed in the vicinity of burrows in this area.

3.2.4 Northern Production Well Area

The existing Heber 1 production well site is a flat, unpaved well pad with gravel in some areas and associated infrastructure. The area is mostly surrounded by a small earthen berm and access is provided from an unpaved road north of the site. The area is surrounded by agricultural fields planted with alfalfa. At the time of the survey the alfalfa fields were flooded with water from the adjacent irrigation ditches. The northern production well area is shown in **Appendix A** (Photos 19-20).

No burrows which would support nesting burrowing owls were observed at the well site or the surrounding area.

Table 1: Plant Species Observed in the Project Area

Common Name	Scientific Name	Plant Indicator Status ¹
Trees		
Mesquite spp.	<i>Prosopis spp.</i>	FAC/FACU
Willow acacia	<i>Acacia salicina</i>	NA
Shrubs, Forbs, and Grasses		
Alfalfa	<i>Medicago sativa</i>	UPL

Arrow weed	<i>Pluchea sericea</i>	FACW
Cattail	<i>Typha spp.</i>	OBL
Common sow-thistle	<i>Sonchus oleraceus</i>	UPL
Desert globemallow	<i>Sphaeralcea ambigua</i>	NA
Nettle-leaved goosefoot	<i>Chenopodium murale</i>	FACU
Saltcedar	<i>Tamarix ramosissima</i>	FAC
Washington fan palm	<i>Washingtonia robusta</i>	FACW

Table Notes:

¹ National Wetland Plant List (USACE 2020)

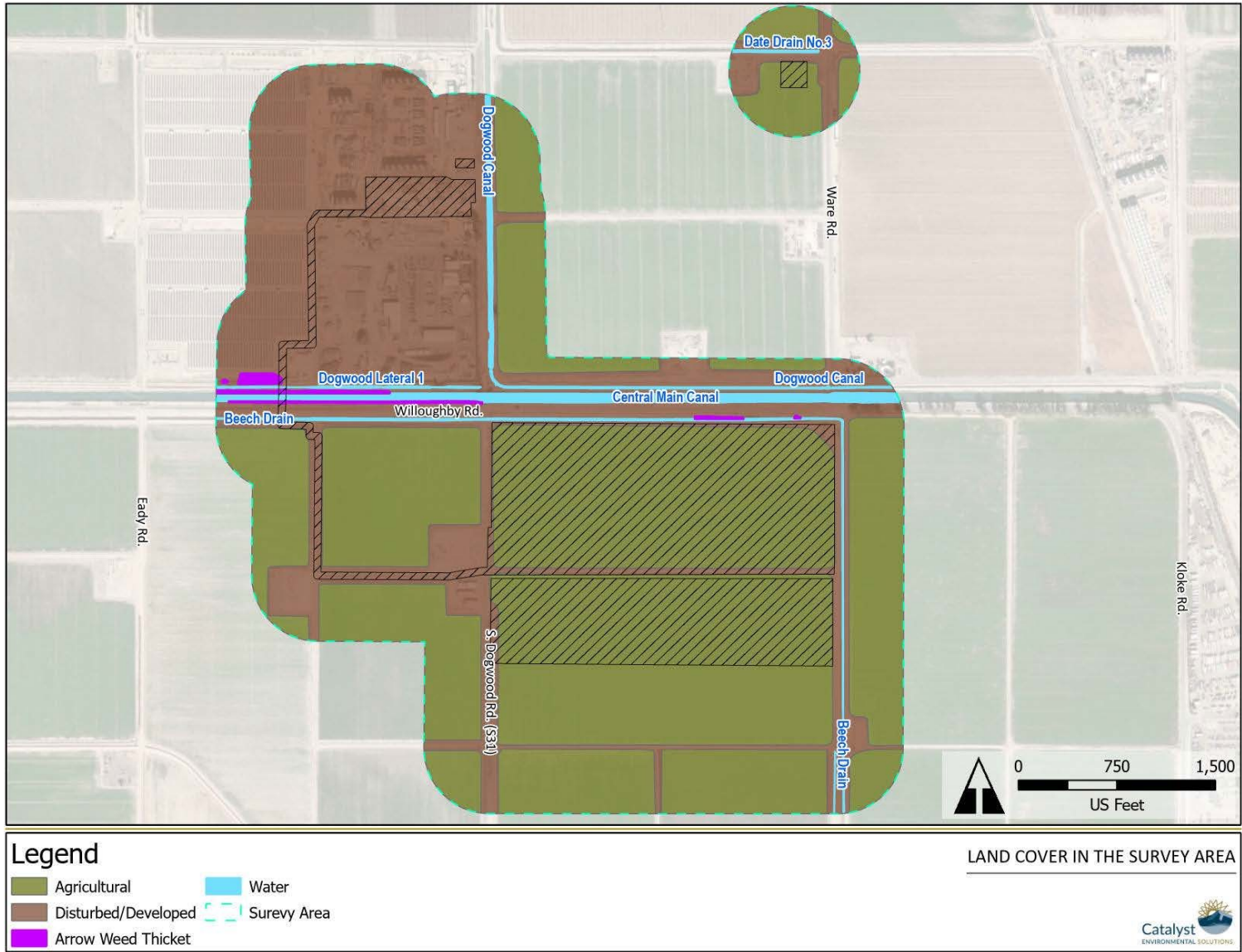


Figure 3. Land Cover in the Survey Area

3.3 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 flooded for irrigation provided forage habitat for numerous species of wading birds, including white-faced ibis (*Plegadis chihi*), long-billed curlew (*Numenius americanus*), greater yellowlegs (*Tringa melanoleuca*), and cattle egrets (*Bubulcus ibis*). Raptors, including American kestrel (*Falco sparverius*), northern harrier (*Circus hudsonius*), and white-tailed kite (*Elanus leucurus*) were observed circling over the alfalfa fields. No raptor nests were observed in the survey area. Some mammals or signs were also observed. Several reptiles and invertebrates were observed. A small population of western side-blotched lizard (*Uta stansburiana elegans*) occurs in the rubble piled up from the removal of the concrete v-ditch that once paralleled the south end of the existing solar field. Direct or indirect observations of wildlife within the Project area and the 500-foot buffer area are provided in **Table 2**.

No special status species were observed within the project area. Potentially suitable burrowing owl habitat was observed within the Project area, as described in the above sections. However, no habitat that would support other special status species was observed within the Project area.

Table 2: Wildlife Observed in the Project Area

Common Name	Scientific Name
Birds	
American coot	<i>Fulica americana</i>
American crow	<i>Corvus brachyrhynchos</i>
American kestrel	<i>Falco sparverius</i>
Black phoebe	<i>Sayornis nigricans</i>
Cattle egret	<i>Bubulcus ibis</i>
Eurasian collared-dove*	<i>Streptopelia decaocto</i>
Great egret	<i>Ardea alba</i>
Greater yellowlegs	<i>Tringa melanoleuca</i>
Great-tailed grackle	<i>Quiscalus mexicanus</i>
Killdeer	<i>Charadrius vociferus</i>
Long-billed curlew	<i>Numenius americanus</i>
Mallard	<i>Anas platyrhynchos</i>
Mourning dove	<i>Zenaida macroura</i>
Northern harrier	<i>Circus hudsonius</i>
Northern mockingbird	<i>Mimus polyglottos</i>
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>

Red-winged blackbird	<i>Agelaius phoeniceus</i>
Rock pigeon*	<i>Columba livia</i>
Snowy egret	<i>Egretta thula</i>
Song sparrow	<i>Melospiza melodia</i>
Turkey vulture	<i>Cathartes aura</i>
Western meadowlark	<i>Sturnella neglecta</i>
White-faced ibis	<i>Plegadis chihi</i>
White-tailed kite	<i>Elanus leucurus</i>
Mammals	
Round-tailed ground squirrel	<i>Xerospermophilus tereticaudus</i>
Raccoon (carcass)	<i>Procyon lotor</i>
Reptiles	
Western side-blotched lizard	<i>Uta stansburiana elegans</i>
Red-eared slider*	<i>Trachemys scripta elegans</i>
Invertebrates	
California harvester ant	<i>Pogonomyrmex californicus</i>
Checkered skipper	<i>Burnsius sp.</i>
Asian clam shells*	<i>Corbicula fluminea</i>
Wolf spider	Lycosidae

Table Notes:

* Denotes non-native species

3.4 Burrowing Owl Survey

Although the surveyors did not observe any burrowing owls or sign during the 2023 survey, the Project site contains potentially suitable burrowing owl habitat, as described in the sections above. 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).

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 north of the Project site. Additional occurrence records located within approximately 2 miles east and 3 miles northwest of the Project site were recorded in 2007 and 1991, respectively (CDFW 2023). Regardless of the lack of current occupation, it is possible that burrowing owls could inhabit the Project area in the future due to the presence of suitable habitat and the presence of recorded observations within 3 miles of the Project area.

SECTION 4

Impact Assessment and Recommendations

Based on the lack of observations/sign of burrowing owls during the survey conducted, the potential for burrowing owls to occur within the Project site is low. However, if 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. However, because there is similar and potentially higher quality foraging and nesting habitat present in the surrounding area, the loss of habitat due to Project development is not expected to result in population-level impacts on burrowing owl.

The following avoidance and minimization measures described by CDFW (2012) are recommended:

1. **Pre-construction avoidance surveys.** Surveys should be completed according to CDFW guidance within 14 days prior to site grading to detect any owls using the Project site at the time of construction and determine any additional avoidance measures required.
2. **Seasonal timing restrictions.** To the extent feasible, vegetation removal should take place outside of the breeding season, which is February 1 to August 31 (CDFW 2012). This would avoid harming owls during vegetation removal activities, which include grubbing, blading, and grading.
3. **Worker awareness program.** Develop and implement a worker awareness program to increase the onsite worker's recognition of and commitment to burrowing owl protection.

Other standard best management practices such as speed limits, limiting the area of disturbance, restoring temporarily disturbed areas, implementing weed management measures, and having a biological monitor present during construction would contribute to avoidance and minimization of any potential impacts to burrowing owl and their habitat.

Additionally, if any active burrowing owl nests are present within the Project construction area, they must be avoided by establishing a non-disturbance buffer until the young fledge or the nest fails (CDFW 2012). Any nesting owls that are adjacent to construction will also be avoided by establishing buffer areas. Buffer areas should be marked using flagging to facilitate avoidance. If burrowing owls are present and cannot be avoided, a Project-specific burrowing owl management plan should be developed in consultation with CDFW.

SECTION 5

Certification

Certification: "I hereby certify that the statements provided above and in the appendix 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: May 11, 2023

Signed: 

Emily Merickel, MS
Project Scientist
Catalyst Environmental Solutions

Date: May 11, 2023

Signed: 

Hannah Donaghe, MS
Senior Biologist
Catalyst Environmental Solutions

SECTION 6 References

- California Burrowing Owl Consortium (CBOC). 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. April 1993. Available online: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83842&inline>. Accessed June 15, 2022.
- California Department of Fish and Wildlife (CDFW). 2012. Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency. 34 pp.
- California Department of Fish and Wildlife (CDFW). 2023. California Natural Diversity Database (CNDDDB) - Commercial Version. Version 5.108.157. Retrieved January 1, 2023. Available online: <https://wildlife.ca.gov/Data/CNDDDB/Maps-and-Data#43018408-cnddb-in-bios>.
- Gervais, J.A., Rosenberg, D.K, and Comrack, L.A. 2008. Burrowing Owl (*Athene cunicularia*). Studies of Western Birds 1:218-226, 2008.
- Sawyer, J.O., Keeler-Wolf, T., and J.M. Evans. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento, CA. 1300 pp. Website: <https://vegetation.cnps.org/>.
- U.S. Army Corps of Engineers (USACE). 2020. National Wetland Plant List. Website: https://wetland-plants.usace.army.mil/nwpl_static/v34/home/home.html#. Accessed March 30, 2023.
- U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). 2023. Web Soil Survey. Soil Resource Report for Imperial County, California, Imperial Valley Area.
- U.S. Fish and Wildlife Service (USFWS). 2023. National Wetland Inventory. Available at: <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>. Accessed January 5, 2023.
- U.S. Fish and Wildlife Service (USFWS). 2023. Information for Planning and Consultation (IPaC). Available at: <https://ipac.ecosphere.fws.gov/>. Accessed January 10, 2023.

Appendix A Photo Log



Photo 1: Proposed geothermal energy facilities area located within the existing fenceline, looking east toward Dogwood Rd.



Photo 2: Vegetation present within the fenceline and area proposed for geothermal energy facilities, looking north.



Photo 3: Taken from the southeast corner looking toward the area proposed for geothermal energy facilities with tree canopy shown on the left.



Photo 4: Proposed geothermal facility area looking north from the middle of the southern edge. Existing cooling towers in background.



Photo 5: New pipeline alignment, showing the middle of the proposed solar field with agricultural fields (alfalfa) on both sides and lined canal through the middle, looking west.



Photo 6: Existing agricultural field and canal located within the proposed solar field, looking northwest. Potential burrowing owl habitat.



Photo 7: Potential burrowing owl habitat located along canal berm in the middle of the proposed solar field site (greater than 3 inches in diameter).



Photo 8: Taken from the southwest corner of the proposed solar field, looking north.



Photo 9: Agricultural canal located on the eastern edge of the area proposed for solar field development.



Photo 10: Unnamed concrete lined irrigation ditches run east-west through the proposed solar energy fields which are currently planted with alfalfa. View looking east along the canal that bisects the alfalfa fields proposed for solar energy facility development.



Photo 11: Beech Drain located just north of the agricultural fields where the proposed solar field would be sited, looking west.



Photo 12: Beech Drain with arrow weed thickets occurring along the banks below OHWM. Cattails were present in small patches in the wetted channel and saltcedar. Many wading birds and a turtle were observed in this drain area.



Photo 13: Beech Drain, looking west towards Dogwood Road. Alfalfa field to the left of the canal is the proposed site of the solar energy facility and is physically separated from Beech Drain by an unpaved road. East Willoughby Road is to the right (north) and runs parallel to Beech Drain.



Photo 14: Drainage ditch located south of the existing solar field which is adjacent to the proposed geothermal site. Potential burrowing owl habitat, no burrows greater than 3 inches in diameter observed in this area. Located near the transmission line crossing.



Photo 15: Existing pipeline location south of the geothermal site and adjacent to existing solar field, looking west. Old drainage ditch is shown on the left. Transmission line would span the road and canals/drains aerially, then rejoin the existing pipeline using trays.



Photo 16: Existing transmission line looking south along Dogwood Rd., with Dogwood Canal to the left and agricultural fields to the left of access road.



Photo 17: Central Main Canal looking south toward proposed solar energy facility fields. Dogwood Road crosses the Central Main Canal on the right side of the photo. Existing transmission lines currently span the canal.



Photo 18: Existing Heber substation and transmission line located adjacent to the proposed geothermal facilities area.



Photo 19: Heber 1 production well site, surrounded by access roads and agricultural fields, looking south.



Photo 20: Alfalfa field located east of Heber 1 production well, looking west toward well site.



Photo 21: Concrete-lined v-ditch and existing pipeline, looking south. Proposed transmission line would be mounted to the green pipeline on the left side of the frame. Wading birds congregated in the irrigated field on the right (west) field during site visit in February 2023.



Photo 22: Dogwood Lateral 1, looking east. Taken from just west and south of the solar field.

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



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

Rare Plant Rank:

State: None

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

CNDDDB 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 PAPIENS 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: <i>Athene cunicularia</i>	Common Name: burrowing owl
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	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.
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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)
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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: <i>Athene cunicularia</i>	Common Name: burrowing owl
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	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.
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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: Imperial	Quad Summary: Heber (3211565)
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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: <i>Athene cunicularia</i>	Common Name: burrowing owl
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	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.
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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)
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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
Key Quad: Heber (3211565)
Occurrence Number: 583

EO Index: 51277
Element Code: ABNSB10010
Occurrence Last Updated: 2003-05-14

Scientific Name: *Athene cunicularia*

Common Name: burrowing owl

Listing Status:
Federal: None
State: None
CNDDB Element Ranks:
Global: G4
State: S3

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: 1991-04-19
Last Survey Date: 1991-04-19
Owner/Manager: UNKNOWN
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Excellent
Trend: Unknown

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)
UTM: Zone-11 N3621748 E636564

Accuracy: 1/10 mile
Latitude/Longitude: 32.72508 / -115.54267

Area (acres): 0
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: <i>Athene cucularia</i>	Common Name: burrowing owl
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	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.
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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)
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Sources:
RES03F0007 RESSEGUE, 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: <i>Athene cunicularia</i>	Common Name: burrowing owl
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	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.
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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:
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Imperial	Heber (3211565)
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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: EI Centro (3211575)	Element Code: ABNSB10010
Occurrence Number: 922	Occurrence Last Updated: 2007-05-15

Scientific Name: <i>Athene cunicularia</i>	Common Name: burrowing owl
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	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.
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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: EI Centro (3211575)
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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: <i>Athene cunicularia</i>	Common Name: burrowing owl
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	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.
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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: Imperial	Quad Summary: Holtville West (3211574), El Centro (3211575)
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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: <i>Athene cunicularia</i>	Common Name: burrowing owl
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	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.
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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: Imperial	Quad Summary: El Centro (3211575)
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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	EO Index: 71842	
Key Quad: EI Centro (3211575)	Element Code: ABNSB10010	
Occurrence Number: 1005	Occurrence Last Updated: 2008-02-26	

Scientific Name: <i>Athene cunicularia</i>	Common Name: burrowing owl
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	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.
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Last Date Observed: 2005-11-02	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2005-11-02	Occurrence Rank: Excellent
Owner/Manager: PVT	Trend: Unknown
Presence: Presumed Extant	

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: EI Centro (3211575)
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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: <i>Athene cunicularia</i>	Common Name: burrowing owl
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	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.
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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: Imperial	Quad Summary: Calexico (3211564)
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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: 79615
Key Quad: Heber (3211565)
Occurrence Number: 1289

EO Index: 80602
Element Code: ABNSB10010
Occurrence Last Updated: 2010-08-12

Scientific Name: *Athene cucularia*

Common Name: burrowing owl

Listing Status: **Federal:** None
 State: None
CNDDDB Element Ranks: **Global:** G4
 State: S3

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:
 0.2 MI NNW JUNCTION OF ROCKWOOD RD AND HIGHWAY 98, 1 MI ENE MOUNT SIGNAL, CALEXICO ZC.

Detailed Location:
 ALONG W SIDE OF GREESON DRAIN. BLOCK CODE 3615-625 - LOCATION CODE E. MAPPED TO PROVIDED COORDINATES.

Ecological:
 LOWLAND ELEVATION SUBREGION.

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

PLSS: T17S, R13E, Sec. 10, SE (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3616808 E629214	Latitude/Longitude: 32.68141 / -115.62176	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: 79616	EO Index: 80604
Key Quad: Heber (3211565)	Element Code: ABNSB10010
Occurrence Number: 1290	Occurrence Last Updated: 2010-08-12

Scientific Name: <i>Athene cucularia</i>	Common Name: burrowing owl
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	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.
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Last Date Observed: 2007-06-27	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2007-06-27	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

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: Imperial	Quad Summary: Heber (3211565)
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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: EI Centro (3211575)	Element Code: ABNSB10010
Occurrence Number: 1301	Occurrence Last Updated: 2010-08-26

Scientific Name: <i>Athene cucularia</i>	Common Name: burrowing owl
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	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.
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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: Imperial	Quad Summary: EI Centro (3211575)
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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: <i>Athene cucularia</i>	Common Name: burrowing owl
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	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.
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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: Imperial	Quad Summary: El Centro (3211575)
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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: EI Centro (3211575)	Element Code: ABNSB10010	
Occurrence Number: 1303	Occurrence Last Updated: 2010-08-26	

Scientific Name: <i>Athene cunicularia</i>	Common Name: burrowing owl
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	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.
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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: Imperial	Quad Summary: EI Centro (3211575)
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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: <i>Athene cunicularia</i>	Common Name: burrowing owl
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	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.
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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: <i>Athene cucularia</i>	Common Name: burrowing owl
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	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.
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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: Imperial	Quad Summary: El Centro (3211575)
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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: <i>Setophaga petechia</i>	Common Name: yellow warbler
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: CDFW_SSC-Species of Special Concern
CNDDDB Element Ranks:	IUCN_LC-Least Concern
Global: G5	
State: S3S4	

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.
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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: <i>Lasiurus xanthinus</i>	Common Name: western yellow bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: CDFW_SSC-Species of Special Concern
CNDDB Element Ranks:	IUCN_LC-Least Concern
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.
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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 VICINITY 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)
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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: <i>Lasiurus xanthinus</i>	Common Name: western yellow bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: CDFW_SSC-Species of Special Concern
CNDDB Element Ranks:	IUCN_LC-Least Concern
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.
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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 VICINITY 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)
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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: <i>Lasiurus xanthinus</i>	Common Name: western yellow bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: CDFW_SSC-Species of Special Concern
CNDDDB Element Ranks:	IUCN_LC-Least Concern
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.
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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:
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Imperial	Heber (3211565)
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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: <i>Lasiurus xanthinus</i>	Common Name: western yellow bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: CDFW_SSC-Species of Special Concern
CNDDB Element Ranks:	IUCN_LC-Least Concern
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.
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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: <i>Eumops perotis californicus</i>	Common Name: western mastiff bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: BLM_S-Sensitive
CNDDDB Element Ranks:	CDFW_SSC-Species of Special Concern
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.
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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: <i>Nyctinomops femorosaccus</i>	Common Name: pocketed free-tailed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: CDFW_SSC-Species of Special Concern
CNDDDB Element Ranks:	IUCN_LC-Least Concern
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.
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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: <i>Nyctinomops macrotis</i>	Common Name: big free-tailed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: CDFW_SSC-Species of Special Concern
CNDDDB Element Ranks:	IUCN_LC-Least Concern
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.
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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 VICINITY 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: Imperial	Quad Summary: El Centro (3211575)
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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: <i>Taxidea taxus</i>	Common Name: American badger
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern
CNDDDB 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.
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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)
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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: <i>Phrynosoma mcallii</i>	Common Name: flat-tailed horned lizard
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G3	CDFW_SSC-Species of Special Concern
State: S3	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.
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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)
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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: <i>Euphorbia abramsiana</i>	Common Name: Abrams' spurge
Listing Status:	Rare Plant Rank: 2B.2
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDDB Element Ranks:	
Global: G4	
State: S2	

General Habitat: MOJAVEAN DESERT SCRUB, SONORAN DESERT SCRUB.	Micro Habitat: SANDY SITES. -45-1445 M.
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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 CNDDDB 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)
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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: <i>Euphorbia abramsiana</i>	Common Name: Abrams' spurge
Listing Status:	Rare Plant Rank: 2B.2
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDDB Element Ranks:	
Global: G4	
State: S2	

General Habitat: MOJAVEAN DESERT SCRUB, SONORAN DESERT SCRUB.	Micro Habitat: SANDY SITES. -45-1445 M.
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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 CNDDDB 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: Imperial	Quad Summary: Heber (3211565)
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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: <i>Astragalus sabulorum</i>	Common Name: gravel milk-vetch
Listing Status:	Rare Plant Rank: 2B.2
Federal: None	Other Lists:
State: None	
CNDDDB 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.
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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 CNDDDB 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)
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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: 37025	EO Index: 32022
Key Quad: Mount Signal (3211566)	Element Code: PDLOA030K0
Occurrence Number: 1	Occurrence Last Updated: 1997-10-03

Scientific Name: <i>Mentzelia hirsutissima</i>	Common Name: hairy stickleaf
Listing Status:	Rare Plant Rank: 2B.3
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture
State: None	
CNDDB Element Ranks:	
Global: G4?	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: WASHES, FANS, SLOPES; COARSE RUBBLE AND TALUS SLOPES; ROCKY SITES. -5-720 M.
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Last Date Observed: 1961-03-04	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1961-03-04	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
2 MILES NORTH OF MOUNT SIGNAL, WEST OF CALEXICO OFF OF HIGHWAY 98.

Detailed Location:
ON DIRT ROAD.

Ecological:
Threats:

General:
ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1961 COLLECTION BY CORFMAN; MENTIONED AS "NOT ABUNDANT."

PLSS: T17S, R13E, Sec. 03 (S)	Accuracy: 1 mile	Area (acres): 0
UTM: Zone-11 N3619803 E627488	Latitude/Longitude: 32.70862 / -115.63976	Elevation (feet): -20

County Summary: Imperial	Quad Summary: Heber (3211565), Mount Signal (3211566)
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Sources:
COR61S0002 CORFMAN, N. - CORFMAN #47 UCSB #12479 1961-03-04



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: <i>Abronia villosa var. aurita</i>	Common Name: chaparral sand-verbena
Listing Status:	Rare Plant Rank: 1B.1
Federal: None	Other Lists: BLM_S-Sensitive
State: None	SB_CalBG/RSABG-California/Rancho Santa Ana
CNDDDB Element Ranks:	Botanic Garden
Global: G5T2?	USFS_S-Sensitive
State: S2	

General Habitat: CHAPARRAL, COASTAL SCRUB, DESERT DUNES.	Micro Habitat: SANDY AREAS. -60-1570 M.
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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 CNDDDB 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)
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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
Key Quad: Heber (3211565)
Occurrence Number: 1

EO Index: 69816
Element Code: PMPOA3D020
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
Last Survey Date: 1963-06-05
Owner/Manager: UNKNOWN
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

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