ATTACHMENT L

BIOLOGICAL ASSESSMENT

Biological Resource Inventory and Evaluation for the Lancaster Energy Facility and Associated Gas Pipeline, Los Angeles and Kern Counties, California

By

Kenneth M. Burton, M.A.
and
Lisa Infante, M.S.

Prepared for

City of Lancaster

Contact: Robert Neal

Prepared by

Garcia and Associates
1 Saunders Avenue
San Anselmo, CA 94960-1719
(415) 458-5803
www.garciaandassociates.com

GANDA

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Executive Summary

The City of Lancaster plans to develop the Lancaster Energy Facility consisting of four power plants on a 20-acre parcel (hereafter "site") in northeastern Lancaster. An approximately 23-mile gas pipeline (hereafter "alignment") is planned to provide fuel to the facility. The site and alignment, collectively referred to as the "project area" (Figure 1), were surveyed for special-status plants and wildlife. One federal plant species of concern, the alkali mariposa lily (*Calochortus striatus)*, was found. Mitigation measures to prevent or reduce construction impacts to this plant species and to the potentially-occurring threatened desert tortoise (*Gopherus agassizii*) and Mohave ground squirrel (*Spermophilus mohavensis*) are described.

Figure 1. Hanover Lancaster Power Plant Project Area

Topographic Map: USGS 7.5 series Lancaster West, Rosamond, Soledad Mtn., and Mojave CA (1974 Editions)

0 4

miles
(scale for topographic map)

■ Alkali Mariposa Lily
★ Mohave Ground Squirrel

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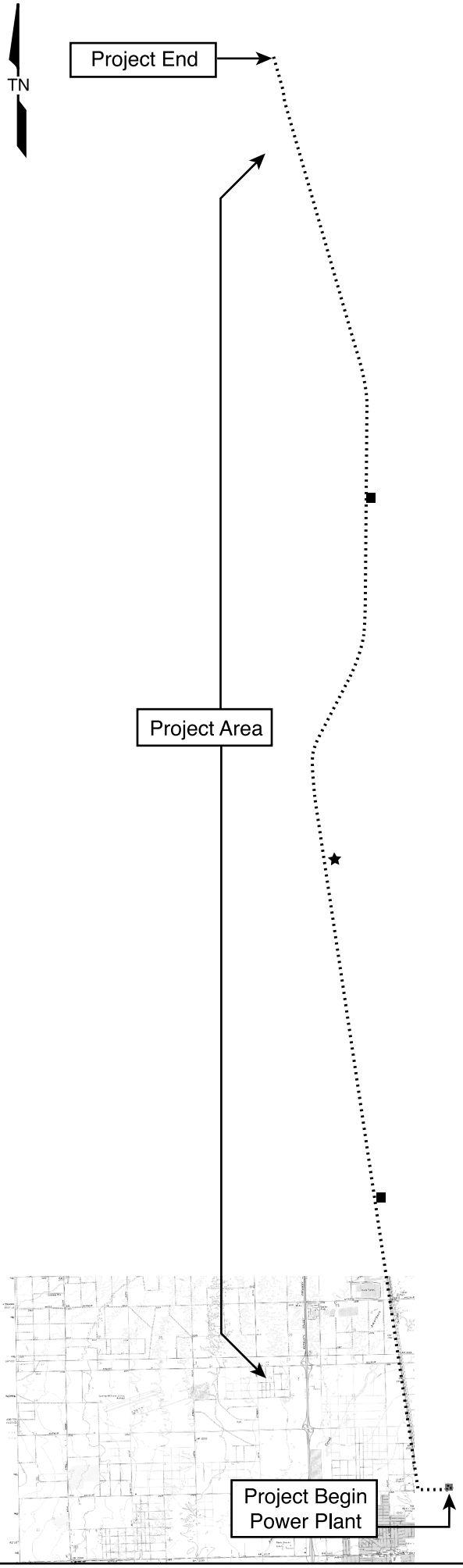


1.0 Introduction

The proposed natural-gas-fired Lancaster Energy Facility will occupy a 20-acre parcel on the north side of Avenue H and west of Division Street in the City of Lancaster, Los Angeles County, California (34° 43' N, 118° 8' W) (Figure 2). Natural gas will be supplied to the project site via a new 22.5-mile, 24-inch diameter, 700-psig gas line. The gas line will be constructed from the City of Mojave to the site and will interconnect to the Mohave-Kern River pipeline. The pipeline will extend from the site along an alignment that runs west for approximately ¼ mile along the north side of Avenue H, then north on the east side of the Sierra Highway about 20 miles to Fleta Station, and finally on the east side of Highway 14 about 2¾ miles to just south of Highway 58 in the City of Mojave (Figure 1). For almost its entire length, the pipeline will run between the highway and a railroad track along an existing fiber-optic cable alignment. The one canal crossing between the site and the Sierra Highway will be bridged.

2.0 Methods

To determine the presence or absence of special-status plant and animal species, the California Natural Diversity Database was searched for records on or near the site and the 35-foot alignment (Appendix A). A qualified botanist and wildlife biologist surveyed the site and alignment. Site surveys consisted of meandering transects approximately 20 to 30 meters apart. For wildlife surveys on the site, objects providing potential shelter for reptiles (such as downed Joshua trees and refuse) were overturned and the ground underneath examined. The alignment was surveyed for plants and animals by car, spot-checking areas of potential habitat. Both botanical and wildlife surveys were conducted on appropriate dates (March 27 and April 11 for wildlife, April 6 and 24 for plants) and in accordance with professionally-accepted protocols. Officials representing various local, regional, and state agencies were contacted regarding sensitive habitats and wildlife populations, habitat conservation plans, and local policies and ordinances with which the proposed project could conflict.

3.0 Results and Discussion

3.1 Soils and Topography

Within much of the project area, soils are hard and fine with a shallow hardpan. Small playas occur throughout the proposed power plant site, in which soils are relatively heavy and alkaline. These fine-grained soils form distinct "sink" zones with a high capacity to absorb and hold moisture.

The south end of the alignment is similar in nature to the site. Northward, it rises in elevation. Soils in this area are sandier, with less moisture-absorbing capacity.

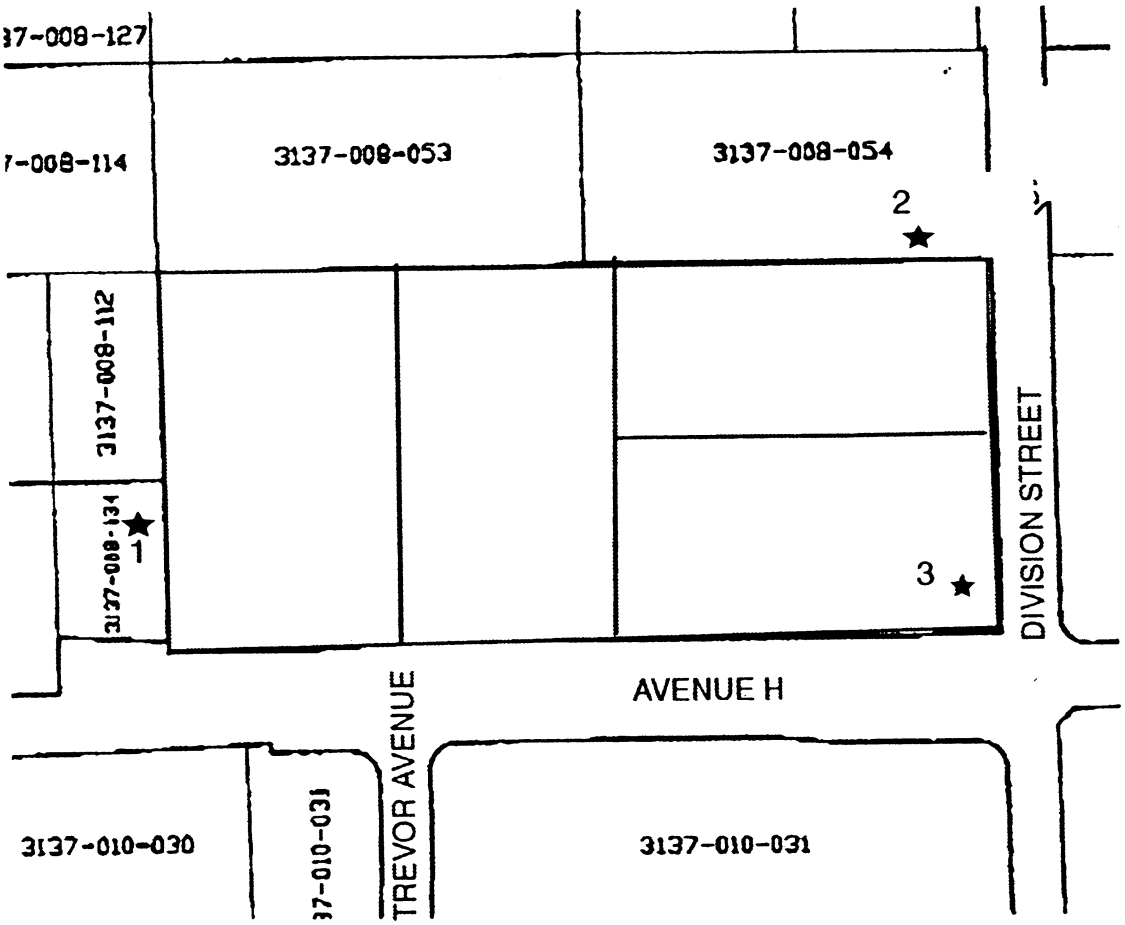


Figure 2. Lancaster Energy Facility site map showing alkali mariposa lily occurrences.

3.2 Habitats and Plant Communities

No riparian habitat or other sensitive natural community occurs on or near the site (CNDDB 2001, pers. obs.). The nearest Significant Ecological Area, Little Rock Wash, is over six miles away (City of Lancaster Master Environmental Assessment, 1997). The US Fish and Wildlife Service (USFWS) National Wetlands Inventory Center database (2001) shows no wetlands on or adjacent to the site; this was verified on the ground. The only catalogued wetland within a mile of the site is an artificial, seasonal pond about ½ mile south-southeast of the site.

The shadscale scrub plant association dominates the currently undeveloped site (Figure 3). Also known as alkaline saltbush scrub, this plant association is typified by shadscale (*Atriplex confertifolia)* and fourwing saltbush (*Atriplex canescens).* The deep-rooted creosote bush (*Larrea tridentata),* ubiquitous throughout the Mojave desert, is found only rarely here due to the presence of shallow hardpan soils. Joshua tree (Y*ucca brevifolia*), Nevada ephedra (*Ephedra nevadensis),* and rabbitbrush (*Chrysothamnus nauseosus)* are common associates of shadscale, and this specialized plant community supports the rare alkali mariposa lily (*Calochortus striatus).* The area is zoned "Heavy Industrial" and is a patchwork of developed and undeveloped parcels. Most of the parcels surrounding the site are similar to the site in terms of state of development and plant cover. The parcels on the west side of Division Street have been developed.

Vegetation along the alignment is similar to that on the site at the south end of the alignment, but grades into a creosote-dominated scrub community towards the north. The lands adjacent to the alignment are mostly undeveloped but some sections are developed. The vegetation within the

Figure 3. Lancaster Energy Facility site looking northeast from near H and Trevor.

right-of-way is predominantly ruderal or in the early stages of recovery following construction of the fiber-optic line

3.3 Plant Species

Based on a review of the California Natural Diversity Database (Appendix A), six plant species have the potential to occur in vicinity of the project area (Table 1). Of these six, two have been found in the project area, specifically the alkali mariposa lily (*Calochortus striatus)* and Parry's spineflower *(Chorizanthe parryi* var. *parryi*). Below are descriptions and status of occurrence for each of the two species in the project area.

Alkali mariposa lily *(Calochortus striatus)* is a Federal Species of Concern and is considered extremely rare (List 1B) by the California Native Plant Society. This lavender-flowered lily is endemic to moist alkali places and is known to occur near the site along the Sierra Highway. Field surveys confirmed the presence of a "population" of approximately 400 individuals of this plant on the proposed power plant site (Occurrence 3) and offsite (Occurrences 1 and 2) (Figure 2). The three occurrences were located at the edge of small playas and found in association with rabbitbrush, shadscale; fourwing saltbush, cheatgrass (*Bromus tectorum*), Mediterranean grass *(Schismus* sp.), and other non-native annual grasses (Figure 2).

Occurrence 1 is on the extreme western edge of the parcel, just outside the proposed power plant site. Plants occur on both sides of a dirt road that intersects Avenue H approximately 450 feet west of Trevor Avenue. This is the largest group of plants (roughly 200 individuals) and is located on private land adjacent to the site. Occurrence 2 also is located on private land adjacent to the site. However, Occurrence 3, consisting of approximately 150 individuals, is located on the power plant site. Approximately twenty percent of Occurrence 3 is located within an area that may be designated for road development. Alkali mariposa lily seems to prefer cracked, silty and hardpacked soils and was typically found growing within shrubs.

Alkali mariposa lily was also recorded and confirmed by the GANDA botanist at two sites near the alignment (Figure 1). All plants occur east of the railroad tracks; none were found within the 35-foot alignment corridor. However, these populations are immediately adjacent to the corridor and it is reasonable to assume that they historically extended into the corridor, which has recently been cleared for a fiber-optic right-of-way.

Parry's spineflower (*Chroizanthe parryi* var. *parryi)* is also a Federal Species of Concern and is historically known to occur within the project area. However, CNPS reports that this species is often confused with a more common spineflower, and GANDA botanists did not find it at the site. Furthermore, Parry's spineflower was last recorded at this location in 1892; the species may be extirpated from Los Angeles County.

3.4 Wildlife Species

Wildlife on the site and along the alignment is a characteristic mix of desert-scrub and ruderal species. Although the project area offers habitat suitable for a few special-status species (Table 2), no signs of these species were detected during preliminary surveys. Local populations of

Table 1. Special-status plant species potentially occurring in the Lancaster Energy Facility project area.

Species	State/ Federal Status[1]	CNPS Status[2]	Bloom Period	Habitat
Lancaster milk-vetch *Astragalus preussii* var. *laxiflorus*		1B	March-May	Alkaline flats in chenopod scrublands. Known in CA only from near Lancaster; reported only once in recent years. Not found.
Alkali mariposa lily *Calochortus striatus*	FSC	1B	April-June	Moist alkali seeps or seasonally wet places in chaparral, chenopod scrub. **Found on the site.**
Parry's spineflower *Chorizanthe parryi* var. *parryi*	FSC	3	April-June	Sandy or rocky soils in openings in chaparral and coastal scrub. Possibly extirpated from Los Angeles County; not found.
Desert cymopterus *Cymopterus deserticola*	FSC	1B	March-May	Sandy soils in Joshua tree woodland or Mohavean desert scrub. No known occurrences in the vicinity of the project area; not found.
Sagebrush loeflingia *Loeflingia squarrosa* var. *artemisiarum*		2	April-May	Sand dunes or sandy flats in Great Basin or Sonoran desert scrub. No suitable habitat; not found.
Short-joint beavertail *Opunita basilaris* var. *brachyclada*	FSC	1B	April-May	Desert, chaparral, pinyon-juniper woodland, Mohavean desert scub. Not found.

[1]Status of all species is based on California Department of Fish and Game's list of special plants (July 2000).
FSC Federal Species of Concern (former Category 2 Candidate species).
[2]California Native Plant Society designations are based on the Inventory of Rare and Endangered Vascular Plants of California (Skinner and Pavlik 1994; electronic version 1999).
List 1B Plants rare, threatened, or endangered in California and elsewhere.
List 2 Plants rare or endangered in California but more common elsewhere.
List 3 Plants that require additional information to assess status: a watch list.

Table 2. Special-status animal species potentially occurring in the Lancaster Energy Facility project area.

Species[1]	Status[2]	Habitat
Desert tortoise ***Gopherus agassizii***	FT/ST/SP	Desert scrub (especially creosote), desert washes, Joshua-tree woodland. Not found.
White-tailed kite (nesting) *Elanus leucurus*	MNBMC/FP	Open areas with scattered tall trees. No suitable habitat; not found.
Swainson's hawk (nesting) *Buteo swainsoni*	ST	Sparse tree stands in desert, grassland, savanna, and riparian habitats. Very rare, occasional breeder in area. No suitable habitat; not found.
Burrowing owl (burrow sites) ***Athene cunicularia***	FSC/CSC/ MNBMC	Grassland, desert, low scrub. Dependent on presence of burrowing mammals. Not found.
Loggerhead shrike ***Lanius ludovicianus***	FSC/CSC/AS WL/MNBMC	Open country with perch sites and dense shrubs (including Joshua-tree woodland and desert scrub). Not found.
Le Conte's thrasher ***Toxostoma lecontei***	FSC/CSC/PIF WL/AS WL	Desert washes and desert scrub, including alkali scrub. Not found.
Tricolored blackbird (nesting colony) *Agelaius tricolor*	FSC/CSC/MNBMC/ AS WL	Freshwater marshes. No suitable habitat; not found.
Yellow-headed blackbird (nesting) *Xanthocephalus xanthocephalus*	CNDDB	Freshwater marshes. No suitable habitat; not found.
Mohave ground squirrel ***Spermophilus mohavensis***	FSC/ST	Open desert scrub, alkali scrub, Joshua-tree woodland, desert grassland. Not found but cannot assume absence.

[1]Species in bold print are those for which suitable habitat exists in the project area.
[2]Status of all species is based on California Department of Fish and Game's list of special animals (January 2001).

U.S. FISH AND WILDLIFE SERVICE

FT	Federally Threatened: Species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.
FSC	Federal Species of Concern (former Category 2 Candidate species).
MNBMC	Migratory Nongame Bird of Management Concern.: Species of concern due to population decline, small population, or dependence on vulnerable habitat.

CALIFORNIA DEPARTMENT OF FISH AND GAME

ST	State Threatened: Species likely to become endangered within the foreseeable future throughout all or a significant portion of its California range.
SP	State Protected: Species that cannot be taken in any manner at any time of the year except for scientific purposes under special permit.
CSC	California Special Concern species.
FP	Fully Protected.
CNDDB	Species appears on the CNDDB Special Animals List.

PARTNERS IN FLIGHT (PIF)

WL	Watch List: Species in need of help due to population decline, limited range, and/or other threats.

AUDUBON SOCIETY (AS)

WL	California Watch List: Same as PIF criteria.

special-status species have been reduced severely or extirpated by development and other disturbance. The area offers habitat suitable for two listed species, namely desert tortoise and Mohave ground squirrel. Both species prefer desert scrub and also occur on alkali flats (Zeiner et al. 1988, 1990). The tortoise may have been extirpated from Antelope Valley (BioSystems Analysis 1994) but persists in the Mojave area. A USFWS-protocol-level desert tortoise survey, conducted by a GANDA wildlife biologist on March 27, 2001, had negative results. No tortoises were found along the alignment during the installation of the fiber-optic cable in 2000 (Don Mitchell, pers. comm.). The California Natural Diversity Database (CNDDB, 2001; Appendix A) does not contain any records of special-status animal species in the site vicinity; however, there is one 1973 record of Mohave ground squirrel near the alignment (Figure 1).

The project area is typical of large expanses of surrounding habitat and does not constitute a wildlife corridor. It does not contain any fish habitat or wildlife nursery sites.

3.5 Conservation Plans and Local Ordinances

There are no conservation plans in place with which this project might conflict. The West Mojave Plan, which includes the project area and in which the City of Lancaster is a participating agency, has not been approved. The Plan is scheduled for completion in 2002 (Bureau of Land Management 2001). The site is outside the core area of the Plan and the project is not likely to conflict with the Plan, provided sensitive-species issues are dealt with appropriately (Scott Harris, pers. comm.).

There are no local policies or ordinances protecting the site. The City of Lancaster has Open Space and Conservation General Plans; however, these plans do not apply to desert-scrub habitat in general nor to this site in particular (Brian Ludicke, pers. comm.). The City of Lancaster does not classify the site as desert woodland; thus, the Joshua trees on the site are not protected (Brian Ludicke, pers. comm.).

3.6 Resource Protection and Mitigation

The following resource protection and mitigation measures are applicable based on our findings under the conditions provided below:

Plants.

The alkali mariposa lily ranges across the deserts from its western limit in Kern County, California to Las Vegas, Nevada. According to the California Natural Diversity Database, known occurrences of this species are clustered on the border of Kern and Los Angeles Counties near the City of Lancaster and in northern Kern County near Tulare (Figure 4.) Therefore, the proposed project area is central to the known range of the species, and a loss of this population will not significantly impact the distribution of alkali mariposa lily.

The following resource protection and mitigation measures are applicable based on our findings under the conditions provided below.

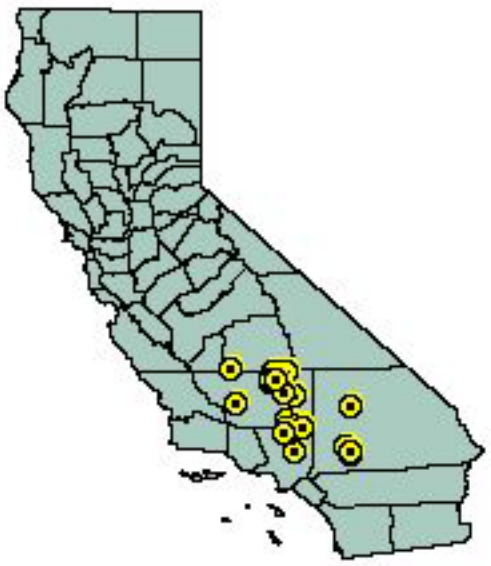
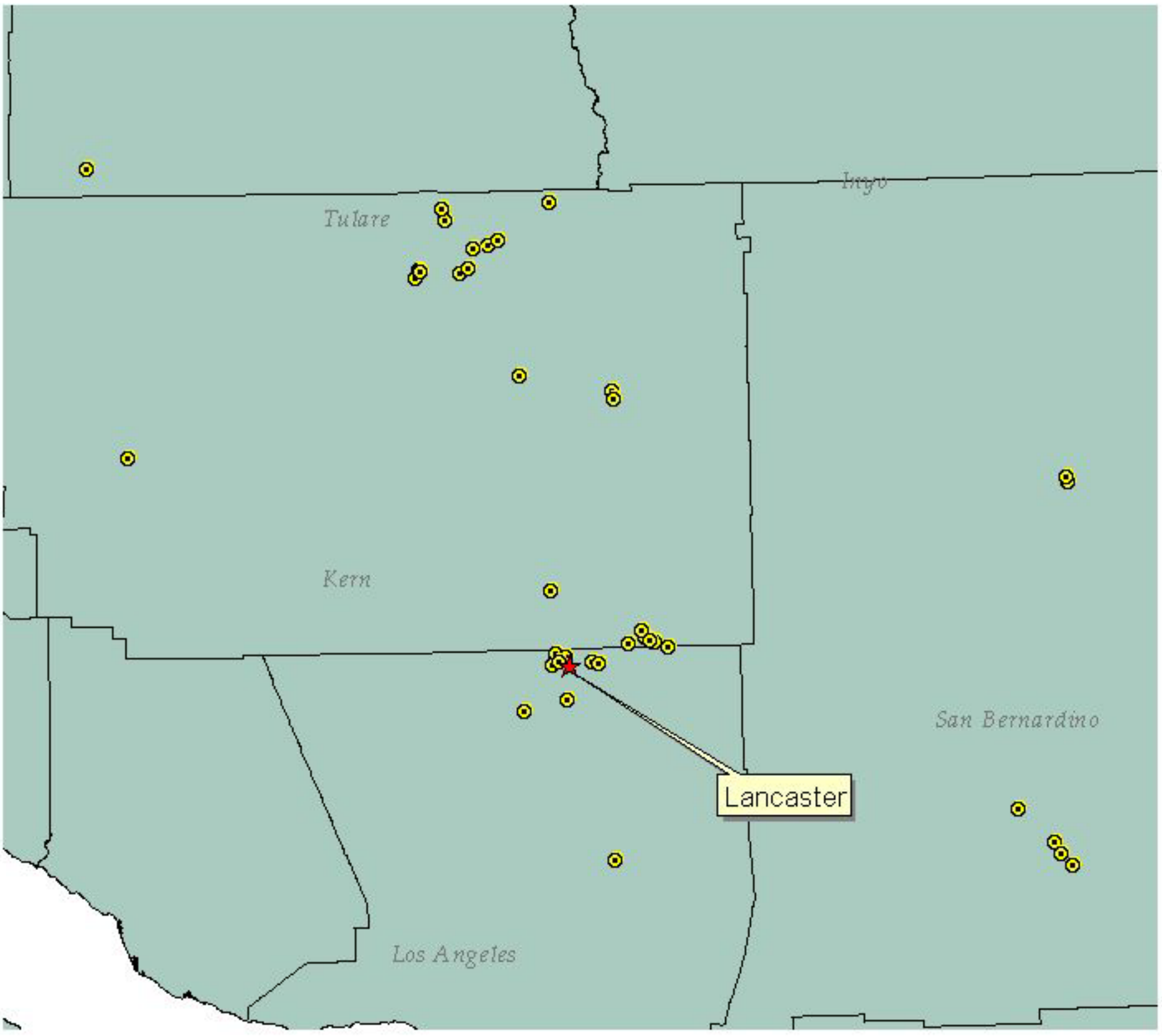


Figure 4.
Known occurrences of *Calochortus striatus* in California in relation to the Lancaster alignment



Known occurrence of *Calochortus striatus*

P-1: The occurrence of alkali mariposa lily on the site will be fenced by a qualified biologist prior to construction and a construction-monitoring program implemented to ensure that the area is avoided. If alkali mariposa lily can not be avoided during construction, mitigation for the loss will be discussed with the California Department of Fish and Game.

P-2: The population of alkali mariposa lily at the site is threatened not only by the proposed development but also by noxious weeds such as cheatgrass. Therefore, possible mitigation for loss of alkali mariposa lily will be the implementation of a noxious-weed eradication program around extant area occurrences.

P-3: Construction monitoring will occur during pipeline construction to protect the two known populations of alkali mariposa lily along the alignment.

Wildlife.

W-1: The absence of Mohave ground squirrel, a state-threatened species, cannot be "verified" without a protocol-level survey including live trapping. If pre-construction trapping surveys document the presence of this species, mitigation land will need to be purchased at a 1:1 ratio (Scott Harris, pers. comm.). Alternatively, presence can be assumed and mitigation land purchased up-front.

W-2: A construction-monitoring program should be implemented to protect sensitive animal species that might appear on the site. This can be performed by the qualified biologist monitoring the mariposa-lily occurrences.

W-3: Because the pipeline alignment passes through potential desert tortoise and Mohave ground squirrel habitat, particularly in its northern half, a construction monitor should be present during trenching. The monitor should determine absence of tortoises and squirrels before each stretch of trench is dug. The trench should not be left open unnecessarily. The monitor must check all open trench for trapped animals regularly and before it is filled.

W-4: Any pipeline laydown areas outside the right-of-way in desert tortoise habitat (creosote scrub) must be fenced to exclude tortoises and cleared by a qualified biologist before use. Fencing must be inspected frequently and any breaches repaired before work continues.

W-5: A worker-education program should be developed to inform workers of tortoise-protection measures. These measures are listed below.

- Check for tortoises under vehicles before moving them (outside fenced areas).
- No pets or firearms are allowed in the work area.
- All organic and inorganic litter and garbage (including cigarette butts) must be disposed of properly, in covered containers.
- Any tortoises encountered must be reported to the construction supervisor or biological monitor. No unauthorized person may touch a tortoise except to remove it from a paved road where it is in danger.
- Vehicle speeds in the work area should not exceed 20 mph.

4.0 References

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USFWS National Wetlands Inventory Center. 2001. Web site: http://www.nwi.fws.gov/.

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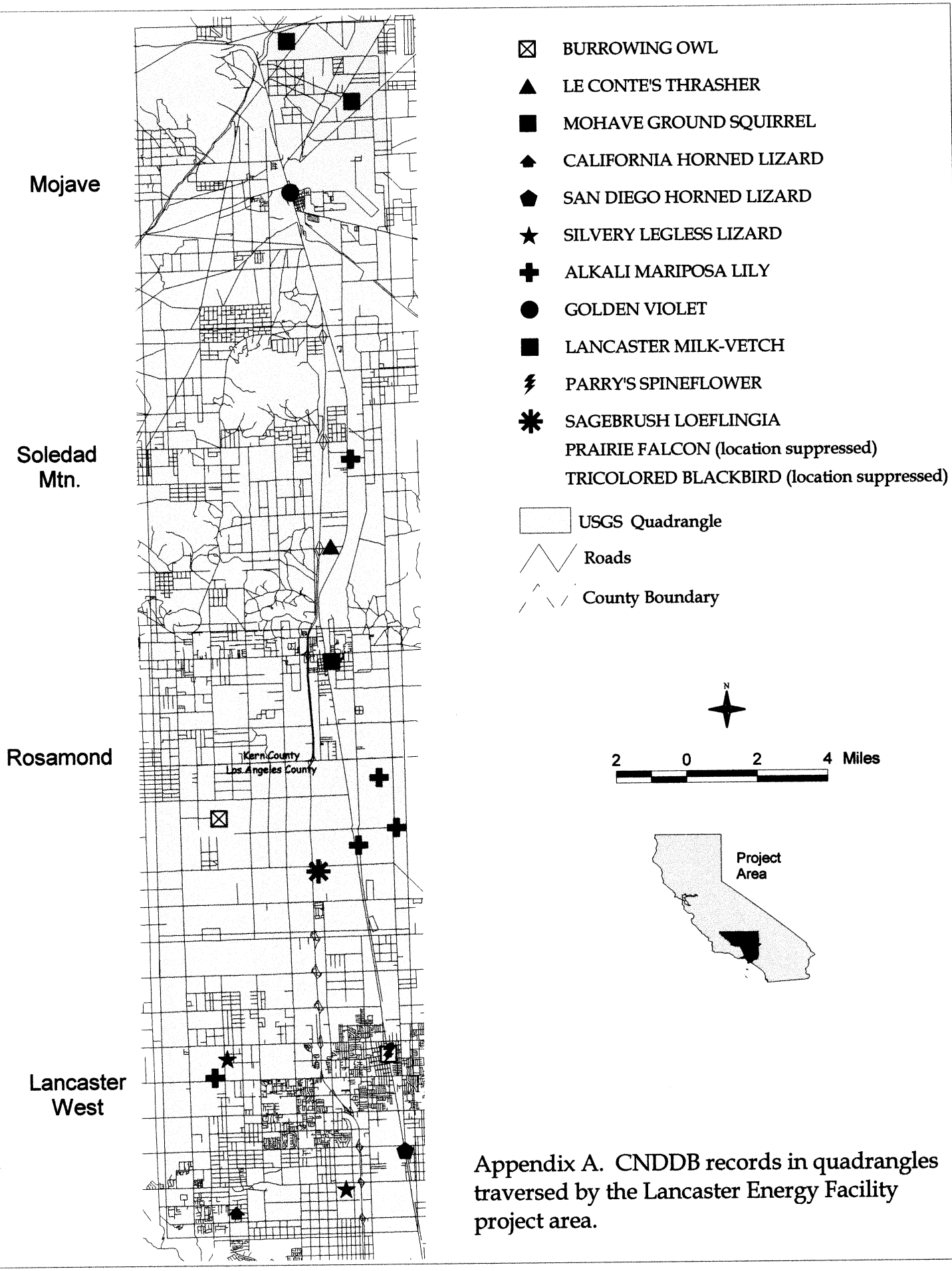
Appendix A

California Natural Diversity Database



Appendix A. CNDDB records in quadrangles traversed by the Lancaster Energy Facility project area.

Full Condensed Report – Multiple Records per Page

FALCO MEXICANUS (NESTING)
PRAIRIE FALCON
Element Code: ABNKD06090

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G5	CDFG Status: SC
State: None	State: S3	

Habitat Associations
General: INHABITS DRY, OPEN TERRAIN, EITHER LEVEL OR HILLY.
Micro: BREEDING SITES LOCATED ON CLIFFS. FORAGES FAR AFIELD, EVEN TO MARSHLANDS AND OCEAN SHORES.

*** SENSITIVE ***

Occurrence No. 405 Map Index:
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: CDFG RAPTOR NEST FILES 1981 (PERS)
Quad Summary: SOLEDAD MTN. (3411882/186B)
County Summary: KERN
SNA Summary:
Location: *SENSITIVE* Location information suppressed.

Dates Last Seen
Element: 1978-06-16
Site: 1978-06-16

Lat/Long: /
UTM:
Precision:
Symbol Type:
Radius:

Township:
Range:
Section: Qtr
Meridian:
Elevation:

Comments
Distribution: Please contact the Calfornia Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.
Ecological:
Threat:
General:
Owner/Manager:

ATHENE CUNICULARIA (BURROW SITES)
BURROWING OWL
Element Code: ABNSB10010

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4T2	CDFG Status: SC
State: None	State: S2	

Habitat Associations

General: FOUND IN OPEN, DRY ANNUAL OR PERENIAL GRASSLANDS, DESERTS & SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.
Micro: SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Occurrence No. 166 Map Index:23831
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: MALLORY, J. & I. ANDERSON 1993 (OBS)
Quad Summary: ROSAMOND (3411872/186C)
County Summary: LOS ANGELES
SNA Summary:
Location: EAST SIDE OF 50TH STREET WEST, 0.5 MILE SOUTH OF WEST AVENUE B, 5 MILES SW OF ROSAMOND.

Dates Last Seen
Element: 1993-06-28
Site: 1993-06-28

Lat/Long: 34°47'51" / 118°13'07"
UTM: Zone-11 N3851076 E388531
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1/5 mile

Township: 08N
Range: 13W
Section: 12 Qtr SW
Meridian: S
Elevation: 2360 ft

Comments

Distribution: BURROW SITE LOCATED ALONG ROAD BETWEEN AGRICULTURAL FIELD AND SALTBUSH SCRUB HABITAT.
Ecological: HABITAT CONSISTS OF SALTBUSH SCRUB, SURROUNDED BY AGRICULTURAL FIELDS AND IRRIGATION RUN-OFF AREAS.
Threat:
General: 10 FLEDGLINGS OBSERVED, SOME ROOSTING ON AN ATRIPLEX BUSH.
Owner/Manager: UNKNOWN

TOXOSTOMA LECONTEI
LE CONTE'S THRASHER
Element Code: ABPBK06100

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4	CDFG Status: SC
State: None	State: S3	

Habitat Associations

General: DESERT RESIDENT; PRIMARILY OF OPEN DESERT WASH, DESERT SCRUB, ALKALI DESERT SCRUB, AND DESERT SUCCULENT SCRUB HABITATS.
Micro: COMMONLY NESTS IN A DENSE, SPINY SHRUB OR DENSELY BRANCHED CACTUS IN DESERT WASH HABITAT, USUALLY 2-8 FEET ABOVE GROUND.

Occurrence No. 141 Map Index:02137
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: ENGLAND, S. 1987 (LIT)
Quad Summary: SOLEDAD MTN. (3411882/186B)
County Summary: KERN
SNA Summary:
Location: EAST OF ROSAMOND HILLS, DAWN ROAD, 0.3 MI E OF HWY 14.

Dates Last Seen
Element: 1986-06-01
Site: 1986-06-01

Lat/Long: 34°54'31" / 118°09'33"
UTM: Zone-11 N3863323 E394102
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1/5 mile

Township: 09N
Range: 12W
Section: 04 Qtr NW
Meridian: S
Elevation: 2550 ft

Comments

Distribution: ONE OBSERVED DURING 1986 BREEDING SEASON IN SUITABLE HABITAT.
Ecological: VEGETATION WITHIN A 50 M RADIUS INCLUDES YUCCA BREVIFOLIA, LARREA TRIDENTATA, AMBROSIA DUMOSA AND HYMENOCLEA SALSOLA.
Threat: DUMPING, CAMPING, AND OFF-ROAD VEHICLE ACTIVITY OCCUR IN HABITAT.
General:
Owner/Manager: PVT

AGELAIUS TRICOLOR (NESTING COLONY)
TRICOLORED BLACKBIRD
Element Code: ABPBXB0020

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CDFG Status: SC
State: None	State: S3	

Habitat Associations

General: HIGHLY COLONIAL SPECIES, MOST NUMBEROUS IN THE CENTRAL VALLEY & VICINITY. LARGELY ENDEMIC TO CALIFORNIA.
Micro: REQUIRES OPEN WATER, PROTECTED NESTING SUBSTRATE, & FORAGING AREA WITH INSECT PREY WITHIN A FEW KM OF THE COLONY.

*** SENSITIVE ***

Occurrence No. 205 Map Index:
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: CHICHESTER, M. 1992 (OBS)
Quad Summary: ROSAMOND LAKE (3411871/186D)*, ROSAMOND (3411872/186C)
County Summary: LOS ANGELES
SNA Summary:
Location: *SENSITIVE* Location information suppressed.

Dates Last Seen
Element: 1992-05-30
Site: 1992-05-30

Lat/Long: /
UTM:
Precision:
Symbol Type:
Radius:

Township:
Range:
Section: Qtr
Meridian:
Elevation:

Comments

Distribution: Please contact the Calfornia Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.
Ecological: FRESHWATER MARSH SURROUNDED BY SEMI-DESERT HABITAT.
Threat:
General:
Owner/Manager:

SPERMOPHILUS MOHAVENSIS
MOHAVE GROUND SQUIRREL
Element Code: AMAFB05150

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G2?	CDFG Status:
State: Threatened	State: S2?	

Habitat Associations
General: OPEN DESERT SCRUB, ALKALI SCRUB & JOSHUA TREE WOODLAND. ALSO FEEDS IN ANNUAL GRASSLANDS. RESTRICTED TO MOHAVE DESERT.
Micro: PREFERS SANDY TO GRAVELLY SOILS, AVOIDS ROCKY AREAS. USES BURROWS AT BASE OF SHRUBS FOR COVER. NESTS ARE IN BURROWS.

Occurrence No. 26 Map Index:02196
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: BUREAU OF LAND MANAGEMENT 1985 (LIT)
Quad Summary: LANCASTER EAST (3411861/161A)*, LANCASTER WEST (3411862/161B)
County Summary: LOS ANGELES
SNA Summary:
Location: VICINITY OF LANCASTER.
Dates Last Seen — Element: 1984-06-14 Site: 1984-06-14
Lat/Long: 34°40'26" / 118°07'14"
UTM: Zone-11 N3837246 E397332
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1 mile
Township: 07N
Range: 12W
Section: 26 Qtr XX
Meridian: S
Elevation: 2440 ft

Comments
Distribution: 1920 COLLECTION WAS IN SEC 26; 1984 DETECTION WAS IN SEC 23.
Ecological:
Threat:
General: ONE MALE COLLECTED ON 16 JUL 1920 (MVZ #31967); 1 SQUIRREL DETECTED 14 JUN 1984 BY MCKERNAN (DC #271).
Owner/Manager: UNKNOWN

Occurrence No. 281 Map Index:22839
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: CLARK, D. 1992 (PERS)
Quad Summary: ROSAMOND (3411872/186C)
County Summary: KERN
SNA Summary:
Location: ROSAMOND, APPROXIMATELY 100 METERS EAST OF SIERRA HIGHWAY.
Dates Last Seen — Element: 1973-XX-XX Site: 1973-XX-XX
Lat/Long: 34°51'39" / 118°09'37"
UTM: Zone-11 N3858042 E393949
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1/5 mile
Township: 09N
Range: 12W
Section: 21 Qtr NW
Meridian: S
Elevation: 2325 ft

Comments
Distribution:
Ecological:
Threat:
General: UNKNOWN NUMBER OF SQUIRRELS DETECTED BY RECHT IN 1973 (DC239).
Owner/Manager: UNKNOWN

Occurrence No. 284 Map Index:22844
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: CLARK, D. 1992 (PERS)
Quad Summary: MOJAVE (3511812/211C)*, CACHE PEAK (3511822/211B)
County Summary: KERN
SNA Summary:
Location: NEAR CACHE CREEK, 1.5 MI EAST OF JUNCTION OF HWY 58 AND RANDSBURG CUTOFF.
Dates Last Seen — Element: 1987-06-03 Site: 1987-06-03
Lat/Long: 35°07'03" / 118°10'28"
UTM: Zone-11 N3886511 E392989
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 3/5 mile
Township: 32S
Range: 35E
Section: 25 Qtr XX
Meridian: M
Elevation: 3100 ft

Comments
Distribution:
Ecological:
Threat:
General: TWO SQUIRRELS DETECTED BY MCKERNAN ON 3 JUN 1987 (DC266).
Owner/Manager: UNKNOWN

SPERMOPHILUS MOHAVENSIS (cont.)
MOHAVE GROUND SQUIRREL
Element Code: AMAFB05150

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G2?	CDFG Status:
State: Threatened	State: S2?	

Occurrence No. 300 Map Index:39875
Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: PHILPOTT, W. 1998 (OBS)
Quad Summary: MOJAVE (3511812/211C)
County Summary: KERN
SNA Summary:
Location: SE SIDE OF HWY 14, 3 MILES NE OF MOJAVE

Dates Last Seen
Element: 1998-08-12
Site: 1998-08-12

Lat/Long: 35°05'31" / 118°08'32"
UTM: Zone-11 N3883649 E395871
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1/5 mile

Township: 12N
Range: 12W
Section: 34 Qtr NW
Meridian: S
Elevation: 2850 ft

Comments
Distribution:
Ecological: HABITAT CONSISTS OF MOJAVE CREOSOTE BUSH SCRUB.
Threat: THREATENED BY THE CONSTRUCTION OF THE MOJAVE BYPASS FREEWAY.
General: 1 INDIVIDUAL OBSERVED ON 12 AUG 1998.
Owner/Manager: PVT-SOUTHERN PACIFIC RR

ANNIELLA PULCHRA PULCHRA
SILVERY LEGLESS LIZARD
Element Code: ARACC01012

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4QT3	CDFG Status: SC
State: None	State: S3	

Habitat Associations

General: SANDY OR LOOSE LOAMY SOILS UNDER SPARSE VEGETATION.
Micro: SOIL MOISTURE IS ESSENTIAL. THEY PREFER SOILS WITH A HIGH MOISTURE CONTENT.

Occurrence No. 8 Map Index:38704
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: MULLEN, D. 1988 (PERS)
Quad Summary: LANCASTER WEST (3411862/161B)
County Summary: LOS ANGELES
SNA Summary:
Location: 6.4 KILOMETERS SSW OF LANCASTER (LOCATION DISTANCE TAKEN FROM LANCASTER POST OFFICE), NOT ABLE TO DETERMINE ACTUAL SITE.

Dates Last Seen
Element: 1988-03-28
Site: 1988-03-28

Lat/Long: 34°38'36" / 118°09'37"
UTM: Zone-11 N3833903 E393664
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1 mile

Township: 06N
Range: 12W
Section: 04 Qtr XX
Meridian: S
Elevation: 2530 ft

Comments

Distribution: LOCATION MAPPED AS A 1 MILE CIRCLE DUE TO NON-SPECIFIC DIRECTIONS.
Ecological:
Threat:
General: ID VERIFIED BY LAWRENCE E. HUNT, SPECIMENS IN SANTA BARBARA VERTEBRATE MUSEUM (UCSBVM 21272-21274). PREVIOUSLY NOT KNOWN FROM DESERT FLOOR OF ANTELOPE VALLEY. PROBABLY REPRESENTS EASTERN LIMIT OF SPECIES, LIMITING CLIMATIC CONDITIONS.
Owner/Manager: UNKNOWN

Occurrence No. 9 Map Index:38705
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: MULLEN, D. 1988 (PERS)
Quad Summary: LANCASTER WEST (3411862/161B)
County Summary: LOS ANGELES
SNA Summary:
Location: 7.2 KILOMETERS W OF LANCASTER, MIRA LOMA DETENTION FACILITY (LOCATION DISTANCE MEASURED FROM LANCASTER POST OFFICE).

Dates Last Seen
Element: 1988-01-22
Site: 1988-01-22

Lat/Long: 34°41'54" / 118°13'03"
UTM: Zone-11 N3840058 E388476
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1 mile

Township: 07N
Range: 13W
Section: 13 Qtr XX
Meridian: S
Elevation: 2345 ft

Comments

Distribution: LOCATION MAPPED AS A 1 MILE CIRCLE DUE TO NON-SPECIFIC DIRECTIONS, UNCERTAIN IF SPECIMEN WAS FOUND IN THE FACILITY.
Ecological:
Threat:
General: JUVENILE CAPTURED & RELEASED. PREVIOUSLY NOT KNOWN FROM DESERT FLOOR OF ANTELOPE VALLEY. PROBABLY REPRESENTS EASTERN LIMIT OF SPECIES RANGE AS CLIMATIC CONDITIONS RAPIDLY BECOME LIMITING TO THE EAST IN THE MOJAVE DESERT.
Owner/Manager: UNKNOWN

PHRYNOSOMA CORONATUM BLAINVILLEI
SAN DIEGO HORNED LIZARD
Element Code: ARACF12021

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4T3T4	CDFG Status: SC
State: None	State: S2S3	

Habitat Associations

General: INHABITS COASTAL SAGE SCRUB AND CHAPARRAL IN ARID AND SEMI-ARID CLIMATE CONDIT
Micro: PREFERS FRIABLE, ROCKY, OR SHALLOW SANDY SOILS.

Occurrence No. 147 Map Index:02186
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: BRODE, J. 1986 (PERS)
Quad Summary: LANCASTER WEST (3411862/161B)*, LANCASTER EAST (3411861/161A)
County Summary: LOS ANGELES
SNA Summary:
Location: 2 MI S LANCASTER ON HWY 6.

Dates Last Seen
Element: XXXX-XX-XX
Site: XXXX-XX-XX

Lat/Long: 34°39'30" / 118°07'49"
UTM: Zone-11 N3835539 E396428
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1 mile

Township: 07N
Range: 12W
Section: 34 Qtr NE
Meridian: S
Elevation: 2480 ft

Comments

Distribution:
Ecological:
Threat:
General: LACM SPECIMEN; DATE OF COLLECTION UNKNOWN.
Owner/Manager: UNKNOWN

PHRYNOSOMA CORONATUM FRONTALE
CALIFORNIA HORNED LIZARD
Element Code: ARACF12022

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4T3T4	CDFG Status: SC
State: None	State: S3S4	

Habitat Associations

General: FREQUENTS A WIDE VARIETY OF HABITATS, MOST COMMON IN LOWLANDS ALONG SANDY WASHES WITH SCATTERED LOW BUSHES.
Micro: OPEN AREAS FOR SUNNING, BUSHES FOR COVER, PATCHES OF LOOSE SOIL FOR BURIAL, & ABUNDANT SUPPLY OF ANTS & OTHER INSECTS.

Occurrence No. 8 Map Index:39837
Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: YORKE, C. 1991 (OBS)
Quad Summary: LANCASTER WEST (3411862/161B)
County Summary: LOS ANGELES
SNA Summary:
Location: 4733 WEST AVE., M-12, 0.15 MILE EAST OF JUNCTION WITH 50TH STREET WEST, QUARTZ HILL.

Dates Last Seen
Element: 1991-05-15
Site: 1991-05-15

Lat/Long: 34°38'04" / 118°12'54"
UTM: Zone-11 N3833009 E388630
Precision: SPECIFIC
Symbol Type: POINT
Radius: 80 meters

Township: 06N
Range: 13W
Section: 01 Qtr SW
Meridian: S
Elevation: 2585 ft

Comments

Distribution: IN FRONT YARD NEAR HIGH DENSITY POPULATION OF ANTS.
Ecological: LAWNS, GARDENS, SINGLE FAMILY RESIDENCES ON 3/4 ACRE LOTS IN OLD ALMOND ORCHARD. SEVERAL VACANT OR OVERGROWN LOTS ON M-12, COULD SUPPORT A VIABLE POPULATION OF P.CORONATUM HERE.
Threat: DEVELOPMENT.
General: 1 OBSERVED, 1991. IT WAS STATED THAT MORE SURVEYS NEEDED IN THE QUARTZ HILL AREA; PREVIOUS RECORDS OF P.C. BLAINVILLEI COULD BE ERRONEOUS.
Owner/Manager: PVT

LOEFLINGIA SQUARROSA VAR ARTEMISIARUM
SAGEBRUSH LOEFLINGIA
Element Code: PDCAR0E011

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G5T4	CNPS List: 2
State: None	State: S2.2	R-E-D Code: 2-2-1

Habitat Associations
General: GREAT BASIN SCRUB, SONORAN DESERT SCRUB, DESERT DUNES.
Micro: SANDY FLATS AND DUNES. SANDY AREAS AROUND CLAY SLICKS W/SARCOBATUS, ATRIPLEX, TETRADYMIA, ETC. 700-1200M.

Occurrence No. 2 Map Index:35325
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: HOFFMANN SN SBM (HERB)
Quad Summary: ROSAMOND (3411872/186C)
County Summary: LOS ANGELES
SNA Summary:
Location: 5 MILES NORTH OF LANCASTER.

Dates Last Seen
Element: XXXX-XX-XX
Site: XXXX-XX-XX

Lat/Long: 34°46'28" / 118°10'11"
UTM: Zone-11 N3848465 E392960
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1 mile

Township: 08N
Range: 12W
Section: 20 Qtr XX
Meridian: S
Elevation: 2325 ft

Comments
Distribution:
Ecological:
Threat:
General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS UNDATED COLLECTION BY HOFFMANN CITED IN "NOTES ON LOEFLINGA" BY BARNABY AND TWISSELMANN IN MADRONO 20 (1970). NEED BETTER LOCATION INFO.
Owner/Manager: UNKNOWN

ASTRAGALUS PREUSSII VAR LAXIFLORUS
LANCASTER MILK-VETCH
Element Code: PDFAB0F721

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4T2T3	CNPS List: 1B
State: None	State: S1.1	R-E-D Code: 3-3-2

Habitat Associations
General: CHENOPOD SCRUB. IN CALIFORNIA, ONLY KNOWN FROM ONE AREA NEAR LANCASTER, LAX COUNTY. RANGES INTO NEVADA AND ARIZONA.
Micro: ALKALINE CLAY FLATS OR GRAVELLY OR SANDY WASHES AND ALONG DRAWS IN GULLIED BADLANDS. 725M IN CALIFORNIA.

Occurrence No. 1 Map Index:27633
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: ELMER, A. #3669 POM #49666 (HERB)
Quad Summary: LANCASTER WEST (3411862/161B)*, LANCASTER EAST (3411861/161A)
County Summary: LOS ANGELES
SNA Summary:
Location: LANCASTER, ANTELOPE VALLEY.

Dates Last Seen
Element: 1902-06-XX
Site: 1902-06-XX

Lat/Long: 34°41'54" / 118°08'14"
UTM: Zone-11 N3839978 E395845
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1 mile

Township: 07N
Range: 12W
Section: 15 Qtr XX
Meridian: S
Elevation: 2400 ft

Comments
Distribution:
Ecological:
Threat:
General: VICINITY REPORTED IN TWO COLLECTIONS; ELMER #3669 POM IN 1902 AND DAVIDSON SN RSA, UNDATED.
Owner/Manager: UNKNOWN

CHORIZANTHE PARRYI VAR PARRYI
PARRY'S SPINEFLOWER
Element Code: PDPGN040J2

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G2T2?	CNPS List: 3
State: None	State: S2.1	R-E-D Code: ?-2-3

Habitat Associations

General: COASTAL SCRUB, CHAPARRAL.
Micro: DRY SLOPES AND FLATS; SOMETIMES AT INTERFACE OF 2 VEG TYPES, SUCH AS CHAP AND OAK WDLAND; DRY, SANDY SOILS. 40-1705M.

Occurrence No. 38 Map Index:42078
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: DAVIDSON, A. SN UC #52602 (HERB)
Quad Summary: LANCASTER WEST (3411862/161B)*, LANCASTER EAST (3411861/161A), ROSAMOND LAKE (3411871/186D), ROSAMOND (3411872/186C)
County Summary: LOS ANGELES
SNA Summary:
Location: LANCASTER.

Dates Last Seen
Element: 1896-06-XX
Site: 1896-06-XX

Lat/Long: 34°41'55" / 118°08'13"
UTM: Zone-11 N3840039 E395866
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 5 mile

Township: 07N
Range: 12W
Section: 15 Qtr XX
Meridian: S
Elevation: 2350 ft

Comments

Distribution: EXACT LOCATION NOT KNOWN; MAPPED IN GENERAL VICINITY OF LANCASTER.
Ecological:
Threat:
General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1892 COLLECTION BY A. DAVIDSON.
Owner/Manager: UNKNOWN

VIOLA AUREA
GOLDEN VIOLET
Element Code: PDVIO04420

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3G4	CNPS List: 2
State: None	State: S2S3	R-E-D Code: 2-2-1

Habitat Associations
General: GREAT BASIN SCRUB, PINYON-JUNIPER WOODLAND.
Micro: DRY, SANDY SLOPES. 835-1800M.

Occurrence No. 4 Map Index:28078
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: BAKER, M. 1953 (LIT)
Quad Summary: MOJAVE (3511812/211C)
County Summary: KERN
SNA Summary:
Location: MOJAVE STATION.

Dates Last Seen
Element: XXXX-XX-XX
Site: XXXX-XX-XX

Lat/Long: 35°03'19" / 118°10'28"
UTM: Zone-11 N3879591 E392902
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1 mile

Township: 11N
Range: 12W
Section: 08 Qtr XX
Meridian: S
Elevation: 2760 ft

Comments
Distribution:
Ecological:
Threat:
General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS SITE NAME NOTED BY BAKER IN MADRONO VOL. 12 (1953).
Owner/Manager: UNKNOWN

CALOCHORTUS STRIATUS
ALKALI MARIPOSA LILY
Element Code: PMLIL0D190

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G2	CNPS List: 1B
State: None	State: S2.2	R-E-D Code: 2-2-2

Habitat Associations
General: CHAPARRAL, CHENOPOD SCRUB, MOJAVEAN DESERT SCRUB, MEADOWS.
Micro: ALKALINE MEADOWS AND EPHEMERAL WASHES. 90-1595M.

Occurrence No. 20 Map Index:02182
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: U.S. AIR FORCE 1984 (MAP)
Quad Summary: ROSAMOND (3411872/186C)
County Summary: LOS ANGELES
SNA Summary:
Location: JUNCTION OF WEST AVE & DIVISION STREET - EDWARDS AFB.

Dates Last Seen
Element: 1988-05-01
Site: 1988-05-01

Lat/Long: 34°47'31" / 118°07'48"
UTM: Zone-11 N3850356 E396620
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1/5 mile

Township: 08N
Range: 12W
Section: 15 Qtr NE
Meridian: S
Elevation: 2290 ft

Comments
Distribution:
Ecological:
Threat: LITTER AND SMALL AMOUNTS OF TRASH DUMPING ADJACENT TO ROAD.
General: FEW DOZEN PLANTS SEEN IN 1978, 26 PLANTS COUNTED IN 1988, BUT MANY MORE SEEN.
Owner/Manager: DOD-EDWARDS AFB

Occurrence No. 21 Map Index:02168
Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: U.S. AIR FORCE 1984 (MAP)
Quad Summary: ROSAMOND (3411872/186C)
County Summary: LOS ANGELES
SNA Summary: Division Street
Location: 0.5 MI W OF DIVISION ST & 0.5 MI N OF WEST AVE - EDWARDS AFB.

Dates Last Seen
Element: 1988-05-01
Site: 1988-05-01

Lat/Long: 34°48'46" / 118°08'17"
UTM: Zone-11 N3852674 E395909
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1/5 mile

Township: 08N
Range: 12W
Section: 03 Qtr SE
Meridian: S
Elevation: 2295 ft

Comments
Distribution:
Ecological:
Threat:
General: FEW DOZEN PLANTS SEEN IN 1978, 289 SEEN IN 1988.
Owner/Manager: DOD-EDWARDS AFB

Occurrence No. 23 Map Index:02152
Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: BROWN, L. ET AL 1995 (OBS)
Quad Summary: ROSAMOND (3411872/186C)*, LANCASTER WEST (3411862/161B)
County Summary: KERN, LOS ANGELES
SNA Summary:
Location: ALONG THE SIERRA HIGHWAY NORTH OF LANCASTER, FROM JUST SOUTH OF AVENUE G NORTH PAST PATTERSON ROAD.

Dates Last Seen
Element: 1995-05-12
Site: 1995-05-12

Lat/Long: 34°47'06" / 118°08'57"
UTM: Zone-11 N3849617 E394851
Precision: SPECIFIC
Symbol Type: POLYGON
Area: 524.8 ac

Township: 08N
Range: 12W
Section: 16 Qtr E
Meridian: S
Elevation: 2310 ft

Comments
Distribution: FREQUENT FOR ABOUT 8 MILES ALONG THE HIGHWAY, MOSTLY ALONG THE EAST SIDE OF THE SOUTHERN PACIFIC RAIL ROAD RIGHT OF WAY, WITH A FEW PLANTS TO THE WEST.
Ecological: FOUND ON SILT/CAKED MUD, IN OPEN SPACES BETWEEN SHRUBS AND ON EDGES OF SALT PANS AND MINI ALKALI PLAYAS. ASSOCIATED WITH ANNUAL GRASSES, ATRIPLEX CANESCENS, CHRYSOTHAMNUS NAUSEOSUS, DISTICHLIS SPICATA, LASTHENIA CALIFORNICA, AND WEEDY SPP.
Threat: MOSTLY IN ROAD AND RR RIGHT OF WAY, SOME GRADING AND TRASH DUMPING, POSSIBLE DEVELOPMENT.
General: THOUSANDS OF PLANTS OBSERVED IN 1995. LEAVES OF SEVERAL HUNDRED PLANTS FREQUENTLY OBSERVED IN GROUPS IN THIS AREA. INCLUDES FORMER OCCURRENCE #24.
Owner/Manager: PVT

CALOCHORTUS STRIATUS (cont.)
ALKALI MARIPOSA LILY
Element Code: PMLIL0D190

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G2	CNPS List: 1B
State: None	State: S2.2	R-E-D Code: 2-2-2

Occurrence No. 39 Map Index:24272
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: VILLASENOR, R. 1988 (OBS)
Quad Summary: LANCASTER WEST (3411862/161B)
County Summary: LOS ANGELES
SNA Summary:
Location: ANTELOPE VALLEY; JUST SOUTH OF THE MIRA LOMA DETENTION CENTER, WEST OF LANCASTER.

Dates Last Seen
Element: 1988-06-05
Site: 1988-06-05

Lat/Long: 34°41'26" / 118°13'26"
UTM: Zone-11 N3839205 E387889
Precision: SPECIFIC
Symbol Type: POLYGON
Area: 117.8 ac

Township: 07N
Range: 13W
Section: 14 Qtr S
Meridian: S
Elevation: 2340 ft

Comments
Distribution: LOCATED BETWEEN 50TH AND 60TH STREETS AND ALONG EITHER SIDE OF AVENUE J.
Ecological: SHADSCALE SCRUB ON ALKALI SOILS. ASSOCIATES INCLUDE ATRIPLEX CONFERTIFOLIA, CHRYSOTHAMNUS, EPHEDRA, LYCIUM, AND CHORIZANTHE SPINOSA.
Threat: TWO CONSTRUCTION PROJECTS TARGETED FOR THIS SITE; MIRA LOMA BOYS CAMP AND NEW L.A. COUNTY PRISON.
General: APPROX. 200 PLANTS OBSERVED IN 1988. ONLY 15% OF POPULATION FLOWERED, DUE IN PART TO APPARENT GRAZING (RABBITS?). NO ADDITIONAL INFORMATION ON THE STATUS OF THIS SITE SINCE 1988, NEEDS FIELDWORK.
Owner/Manager: LAX COUNTY?

Occurrence No. 40 Map Index:28333
Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: BROWN, L. & M. DUNGEN 1995 (OBS)
Quad Summary: SOLEDAD MTN. (3411882/186B)
County Summary: KERN
SNA Summary:
Location: SIERRA HIGHWAY BETWEEN SOPP ROAD AND BACKUS ROAD, SOUTH OF ACTIS AND SOUTHEAST OF SOLEDAD MOUNTAIN.

Dates Last Seen
Element: 1995-05-12
Site: 1995-05-12

Lat/Long: 34°56'40" / 118°08'52"
UTM: Zone-11 N3867290 E395184
Precision: SPECIFIC
Symbol Type: POLYGON
Area: 62.4 ac

Township: 10N
Range: 12W
Section: 22 Qtr W
Meridian: S
Elevation: 2555 ft

Comments
Distribution: EAST OF HIGHWAY, ALONG BOTH SIDES OF SPRR TRACKS.
Ecological: FOUND ON SILT/CAKED MUD, IN OPEN SPACES BETWEEN SHRUBS AND ON EDGES OF SALT PANS AND MINI ALKALI PLAYAS. ASSOCIATED WITH ANNUAL GRASSES, ATRIPLEX CANESCENS, CHRYSOTHAMNUS NAUSEOSUS, DISTICHLIS SPICATA, LASTHENIA CALIFORNICA, AND WEEDY SPP.
Threat: THREATENED BY ACTIVITY WITHIN ROAD AND RR RIGHT OF WAY AS WELL AS UTILITY CORRIDOR.
General: ABOUT 100 PLANTS OBSERVED IN 1995.
Owner/Manager: PVT

Appendix B

Plants Identified in the Proposed Lancaster Energy Facility Project Area

Plant species observed during surveys on April 6 and April 24, 2001.

Species nomenclature follows Hickman (1993). Common names are taken from Twisselmann (1995).

ANGIOSPERMAE: DICOTYLEDONES	DICOT FLOWERING PLANTS
Asteraceae	Sunflower Family
Artemisia spinescens	Bud sagebrush
Chrysothamnus nauseosus	Rabbitbrush
Gutierrezia microcephala	Matchweed
Hemizonia pungens	Common spikeweed
Lasthenia californica	California goldfields
Boraginaceae	Borage Family
Amsinckia tessellata	Desert fiddleneck
Cryptantha angustifolia	Panamint catseye
Cryptantha intermedia	Forget-me-not
Plagiobothrys sp.	Popcorn flower
Brassicaceae	Mustard Family
Lepdium flavum	Peppergrass
Lepidium perfoliatum	Shield-cress
Chenopodiaceae	Goosefoot Family
Atriplex canescens	Four wing saltbush
Atriplex confertifolia	Shadscale
Chenopodium album	Lamb's quarters
Salsola tragus	Russian thistle
Compositae	Aster Family
Rafnesquia neomexicana	Desert chicory
Ephedraceae	Ephedra Family
Ephedra nevadensis	Nevada ephedra
Fabaceae	Pea Family
Lupinus bicolor	Miniature lupine
Geraniaceae	Geranium Family
Erodium cicutarium	Red-stemmed filaree
Hydrophyllaceae	Waterleaf Family
Phacelia tenacetifolia	Lacy-leafed phacelia
Nama demissum	Desert mat

Loasaceae	Loasa Family
Mentzelia albicaulis	Small flowered blazing star
Malvaceae	Mallow Family
Sphaeralcia ambigua var. *ambigua*	Apricot globemallow
Onagraceae	Evening Primrose Family
Camissonia brevipes	Suncup
Polemoniaceae	Phlox Family
Gilia latiflora ssp. *excellens*	Broad-flowered gilia
Polemonium micranthum	Annual sky pilot
Polygonaceae	Buckwheat Family
Chorizanthe spinosa	Mojave spineflower
Scrophulariaceae	Figwort Family
Mimulus bigelovii	Bigelow Monkey Flower

ANGIOSPERMAE: MONOCOTYLEDONES	MONOCOT FLOWERING PLANTS
Liliaceae	Lily Family
Calochortus striatus	Alkali mariposa lily
Yucca brevifolia	Joshua tree
Yucca schidigera	Mojave yucca
Poaceae	Grass Family
Bromus madritensis var. *rubens*	Red brome
Bromus tectorum	Cheatgrass
Hordium murinum ssp. *leporinum*	Mediterrean barley
Lolium perenne	Wild rye
Schismus sp.	Mediterrean grass

Appendix C

Animals Identified on the Proposed Lancaster Energy Facility Project Site

Animal species observed at the Lancaster Energy Facility site, City of Lancaster, CA, on March 27, 2001.

Reptiles
Desert spiny lizard (*Sceloporus magister*)
Side-blotched lizard (*Uta stansburiana*)
Desert night lizard (*Xantusia vigilis*)
Glossy snake (*Arizona elegans*)

Birds
Great horned owl (*Bubo virginianus*) (pellet only)
Say's phoebe (*Sayornis saya*)
Western kingbird (*Tyrannus verticalis*)
Common raven (*Corvus corax*)
Cactus wren (*Campylorhynchus brunneicapillus*)
European starling (*Sturnus vulgaris*)
Savannah sparrow (*Passerculus sandwichensis*)
Western meadowlark (*Sturnella neglecta*)
House sparrow (*Passer domesticus*)

Mammals
Man (*Homo sapiens*)
Coyote (*Canis latrans*) (scat only)
House cat (*Felis catus*) (skulls only)
White-tailed antelope squirrel (*Ammospermophilus leucurus*)
Black-tailed hare (*Lepus californicus*)

Appendix D

Resumes

GANDA

LISA INFANTE

Botanist

- Plant Ecology
- Plant Pathology (specialization in soil pathogens)
- Forest Micrometeorology
- Tropical Ecology
- Habitat Mapping
- Rare plant surveys

EDUCATION

M.S.	Environmental Science	University of California, Berkeley 1999
B.S.	Natural Resources	Cornell University, Ithaca, New York 1994

Employment History

Spring 2000-Present	Botanist	Garcia and Associates San Anselmo, CA
2000	Project Manager	Tulane University Santa Rosa National Park, Costa Rica
1997-2000	Graduate Student Researcher	University of California, Berkeley Berkeley, CA, Panamá, Costa Rica
1997	Assistant Biologist	United States Fish and Wildlife Service Freemont, CA
1996	Research technician	University of Puerto Rico Rio Piedras, Puerto Rico
1993-1996	Forestry technician	Cornell University Ithaca, NY

Professional Profile

Ms. Infante is a plant ecologist with over six years of experience in field botany and plant community ecology research. Her work with GANDA has focussed on the flora of the northern Sierra Nevada and southern Cascade habitats, and includes rare plant survey work, noxious weed surveys, riparian habitat assessment, aerial photo interpretation, and vegetation mapping. Ms. Infante's knowledge of Geographic Information Systems complements her ecological expertise;

she has analyzed and prepared spatial data for report presentation. Prior to joining GANDA, Ms. Infante studied the ecology of the montane tropical forests of Panamá, Colombia, Costa Rica, Puerto Rico, and the Dominican Republic; she has served as field manager for a multi-national research project, conducted independent studies in tropical forest restoration and forest pathology, and served on biodiversity assessment teams.

(1) Selected Experience

***Botanist,* GANDA**. Perform field botany investigations in northern California. Projects include:

- Pacific Gas and Electric. 2000. Rare plant surveys and GPS mapping, vegetation mapping of the Pit River watershed (including interpretation of aerial photography), and riparian habitat classification in support of the Pit 3, 4, 5 relicensing. Prepared digital maps and research report.
- Pacific Gas and Electric. 2000. Transmission Line Separation Project. Rare plant surveys, noxious weed surveys, GPS mapping on over 70 miles of transmission line.
- Pacific Gas and Electric. 2000. Upper North Fork Feather River Project. Rare plant surveys, noxious weed surveys, research report preparation.

1993 Pacific Gas and Electric. 2000. Poe Powerhouse. Rare plant and noxious weed surveys (riparian corridor); riparian habitat assessment and mapping.

***Project Manager*, Tulane University, University of Costa Rica**. *Ecophysiology and Fine Root Dynamics of Tropical Dry Forest Trees.* (Santa Rosa National Park, Costa Rica.)
Coordinated set-up and use of project equipment and infrastructure, serving as a link between park staff, graduate students, and primary investigators; supervised field and lab technicians, initiated and advised short-term research; managed project finances.

***Researcher.* University of California.** *Soil-borne plant pathogens and tree seedling regeneration in the transition of forest to pasture.* .Measured microenvironmental changes caused by forest fragmentation; determined the effect of soil pathogens on seedling regeneration in the pasture/forest transition zone.

***Researcher*, University of California, Berkeley**, and **University of the Andes, Colombia.** Received a grant to study the cause of the decline of Colombia's national tree, *Ceroxylon quinduense.* Created a spatial dataset of affected trees to determine rate of spread; collected and analyzed samples to determine disease vector. Worked with local farmers and university professors.

***Botanist*, University of Puerto Rico**
Conducted botanical surveys in order to create a flora of the Los Haitises National Park, Dominican Republic, a United Nations-sponsored project. Participated in a forest inventory project in the El Yunque rainforest, Puerto Rico; designed and implemented a study to determine the role of a pioneer tree species in the recovery of forest following disturbance.

***Assistant Biologist*, United States Fish and Wildlife Service**
Helped create a restoration plan for the Antioch Dunes National Wildlife Refuge. Developed propagation and planting scheme for the endangered Antioch Dunes Evening Primrose. Coordinated volunteers in seed collection, exotic species removal, and planting.

Professional Affiliations

- Ecological Society of America
- Association for Tropical Biology
- California Native Plant Society

KENNETH MICHAEL BURTON

Wildlife Ecologist

GANDA

- Research
- Inventory
- Monitoring
- Training

Specializing in
- Wildlife surveys
- Bird banding techniques and training
- Database management

EDUCATION

M.A.	Ecology and Evolutionary Biology, 1990	Indiana University, Bloomington
B.A.	Biology and Natural History, 1983	University of California, Santa Cruz

CERTIFICATIONS

North American Banding Council Bander and Trainer Certifications, 1999
Medic First Aid Care Initiator Certification, 1999
FCC Radiotelephone Operator's Permit, 1991
Federal Bird Marking and Salvage Permit, 1988
Advanced SCUBA Certification, 1979
University of California Research Diving Certification, 1979

PROFESSIONAL EXPERIENCE

Domestic:

- Garcia and Associates (GANDA), Wildlife Ecologist. 2000-present. Training-program development, biological assessment and evaluation, sensitive-species (including giant kangaroo rat, blunt-nosed leopard lizard, San Joaquin kit fox, California spotted owl, **desert tortoise**, western snowy plover, and California red-legged frog) surveys, environmental monitoring, and mitigation planning.

- Research Assistant - Cypress Grove Research Center, California - 1992-pres. Assist in censuses of shorebirds and waterbirds and banding of shorebirds.

- Field Trip Leader - Smithsonian Study Tours; Western Bird Banding Association; Ecotours International; Marin County Open Space District; Golden Gate, Marin, Napa-Solano, Sacramento, and Sequoia Audubon Societies; Point Reyes Bird Observatory; Santa Cruz Bird Club; and Sierra Pacific Educational Adventures; San Francisco Tour Guide Guild (CA);

USDA Forest Service and Petersburg Bird Club (AK); Corvallis Audubon Society (OR); Sassafras Audubon Society (IN) - 1984-pres.

- Tour Guide/Interpretive Naturalist - St. Paul Island Tour, Alaska - 1999. Presented interpretive information on flora and fauna, geology, history, and culture to diverse visitors from many nations. Compiled promotional packets for travel agents, created database of bird sightings, and summarized seasonal bird information.

- Training and Outreach Program Director/MAPS Program Coordinator - The Institute for Bird Populations, California - 1992-1998. Developed bander-training materials and curricula; designed, scheduled, advertised, conducted, and evaluated bird-banding classes nationwide. Experience in grant-proposal writing. Coordinated nearly 500 bird-banding stations continent-wide for the Monitoring Avian Productivity and Survivorship Program. Developed program protocols and materials; managed data; conducted regional analyses; wrote reports; hired, trained, and supervised field interns; presented program results at scientific meetings; editorial assistant for Bird Populations; editor of MAPS Chat.

- Wildlife Technician - USDA Forest Service, Alaska - 1991-92. Conducted field research on wildlife populations and communities, particularly concerning habitat relationships. Work included aerial, marine, and terrestrial wildlife surveys; radio telemetry; pro- and retroactive environmental impact assessment; and development of a bird-banding program.

- Site Consultant - Indiana University Computing Services - 1990-91. Provided assistance to students, faculty, and staff in public computing sites. Required knowledge of word-processing, spreadsheet, database, educational, and communications software on IBM-PCs, Macs, and mainframe computers.

- Research Assistant - Dept. of Forest Science, Oregon State University - 1990. Studied coastal forest bird-habitat relationships to determine effects of forest fragmentation on, and importance of riparian areas to, bird communities. Study funded by Coastal Oregon Productivity Enhancement Program.

- Principal Investigator - "An Investigation of Population Status and Breeding Biology of the Loggerhead Shrike (*Lanius ludovicianus*) in Indiana" - 1988-90. This project, funded jointly by the U.S. Fish and Wildlife Service and Indiana Dept. of Natural Resources, examined the distribution, productivity, and habitat requirements of this endangered species throughout the state. Work involved collection of data; selection, training, and supervision of assistants; solicitation of information from birders statewide; and grant-proposal and report writing.

- Associate Biology Instructor - Indiana University - 1987-89. Courses taught: Evolution and Diversity, Laboratory and Field Ecology, and Man and the Biological World.

- Biological Technician - USDA Forest Service, California - 1987. Collected field data for use in developing methods and guidelines for monitoring wildlife populations; primary fieldwork was point-counting and spot-mapping studies of Sierra Nevada bird communities.

- Coordinator - Resource inventory of Scott Park/Freedom Lake as intern for County of Santa Cruz, California, Dept. of Parks, Open Space & Cultural Services - 1983-84. Selected and supervised four-person survey team, inventoried all tetrapod vertebrates, and edited final report.

- Teaching Assistant - University of California - 1981-84. Courses taught: Natural History of Reptiles and Amphibians, Natural History of Vertebrates, Natural History of Birds, Scuba Diving.

International:

- Banding Workshop Facilitator - Canadian Wildlife Service - 1996-pres. Design and facilitate workshops for Canadian bird banders. These workshops are intended to raise the level of banding and bander training in the western provinces and focus on identification, ageing, sexing, and training techniques as well as banding theory and ethics and bander and trainer certification.

- Research Assistant - Tortuguero Bird Monitoring Program, Costa Rica - 2000. Operated five bird-banding stations and conducted standardized migration counts.

- Ornithologist/Mammalogist - Palmer LTER Research Cruise, Antarctica - 1996. Censused birds and mammals as part of long-term ecological research project. Conducted research on Adélie penguin nesting and foraging ecology, including tracking foraging groups by Zodiac, analyzing stomach contents, and collecting fledging weights.

- Research Assistant - The Xerces Society, Madagascar - 1991-92. Assisted in biodiversity surveys of birds and butterflies.

- Consultant - The Green Indonesia Foundation, Indonesia - 1986. Served as English-language resource person, helped develop environmental education and fundraising programs, and organized reference library.

- Ornithologist/Interpreter - Project Barito Ulu reconnaissance survey, Indonesia - 1986. Conducted a baseline survey preparatory to long-term studies of the ecology of frugivores and forest regeneration.

- Participant - Marine Birds of Baja California project, Mexico - 1983. Under University of California Research Expeditions Program. Collected field data on nesting and migration of brown pelicans and on occurrence and density of other species in relation to environmental variables.

- Assistant - A study of chameleon ecology and compilation of A Bird Atlas of Kenya - 1982.

- Exchange Student - Manaus, Brazil, with Youth for Understanding - 1977.

Volunteer:

- Research Assistant - Point Reyes Bird Observatory, California - 1982-pres. Assist in studies of bird and pinniped populations.

- Intern - The Institute for Bird Populations, California - 1992. Worked on statewide Burrowing Owl census, including GIS habitat analysis, mapping, proofing field data, designing data forms, editing manuscripts, and presenting results of study to Audubon members.

- Volunteer - Indiana Breeding Bird Atlas project - 1988-89. Collected field data for use in compilation of atlas.

- Volunteer - The Wildlife Center, California - 1981-89. Worked in clinic and served as photographer and bird-bander.

- Volunteer Research Assistant - Golden Gate Raptor Migration Observatory, California - 1986. Trapped and banded migrating raptors in Golden Gate National Recreation Area.

- Bird-banding Program Assistant Coordinator - University of California - 1982-84.

- Volunteer - Native Animal Rescue, California - 1982-84. Clinic worker and bird-bander.

PUBLICATIONS

Burton, K. M., and D. F. DeSante. 2000. Volunteers and training in MAPS. Pp. 239-241 *in* R. Bonney, D. N. Pashley, R. J. Cooper, and L. Niles, eds., Strategies for Bird Conservation: The Partners in Flight Planning Process. Rocky Mountain Research Station, USDA Forest Service, Ogden.

Burton, K. M. 2000. Food habits of the loggerhead shrike in Indiana. Indiana Audubon Quarterly 78:69-72.

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DeSante, D.F., E.D. Ruhlen, S.L. Adamany, K.M. Burton and S. Amin. 1997. A census of burrowing owls in central California in 1991. Pp. 38-48. *in* J.L. Lincer and K. Steenhof, eds., The burrowing owl, its biology and management including the proceedings of the first international burrowing owl symposium. Raptor Research Foundation, Inc., Raptor Research Report No. 9.

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Martin, T. E., D. F. DeSante, C. R. Paine, T. Donovan, R. Dettmers, J. Manolis, and K. Burton. 1995. Breeding productivity and adult survival in nongame birds. Pp. 23-26 *in* E. T. LaRoe, G. S. Farris, C. E. Puckett, P. D. Doran, and M. J. Mac, eds., Our Living Resources. USDI National Biological Service, Washington.

DeSante, D. F., and K. M. Burton. 1994. The Monitoring Avian Productivity and Survivorship (MAPS) Program third annual report (1992). Bird Populations 2:62-89.

Burton, K. M. 1993. The history of the loggerhead shrike (*Lanius ludovicianus*) in Indiana. Indiana Audubon Quarterly 71:43-46.

DeSante, D. F., K. M. Burton, and O. E. Williams. 1993. The Monitoring Avian Productivity and Survivorship (MAPS) Program second annual report (1990-1991). Bird Populations 1:68-97.

DeSante, D. F., E. Ruhlen, S. Amin and K. M. Burton. 1993. Results of the 1991 census of burrowing owls in central California: an alarmingly small and declining population. Journal of Raptor Research 27:59.

DeSante, D. F., O. E. Williams, and K. M. Burton. 1993. The Monitoring Avian Productivity and Survivorship (MAPS) Program: Overview and progress. Pp. 208-222 *in* D. M. Finch and P. W. Stangel, eds., Status and Management of Neotropical Migratory Birds. Rocky Mountain Forest and Range Experiment Station, USDA Forest Service, Fort Collins.

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