BOWMAN SOLAR PROJECT

APRIL 2014

General Biological Resources Assessment

Goat Mountain United States Geological Survey 7.5-Minute Topographic Quadrangles San Bernardino Base and Meridian
Township 2 North, Range 6 East, Sections 9, 10, 14, 15 and 16

Assessor Parcel Number
0630-351-01,-02,-03,-04,-05,-06,-07,-08,-09,-10,-11,-12,-13,-14,-15

Conditional Use Permit Number
Unassigned

Owner
sPower
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1.0 EXECUTIVE SUMMARY

sPower, LLC (sPower) is an independent solar power producer and developer of distributed solar assets for utilities that are both municipally and investor owned. sPower strives to be a leader in wholesale solar power generation and the process of developing, building, and operating Solar Generating Facilities (SGFs). sPower is proposing to develop the Bowman Solar Project east of Yucca Valley, California (hereafter referred to as the Project) (Figure 1). This report documents the findings of baseline biological resources[1] surveys for the Project. The intended use of this document is to disclose and evaluate habitat conditions and determine the potential for occurrence of common and special-status species[2], and their habitats[3] within study area limits. For the purposes of this report, the "study area" includes the Project's proposed ground disturbance footprint (Project Site) and a buffer (Figure 2).

Two vegetation communities/land cover types were observed within the study area: Creosote Bush Scrub and Developed/Disturbed Lands. The Project is not collocated with any USFWS-designated critical habitat. However, notable quantities of mature Joshua Trees (*Yucca brevifolia*) were detected within the Project Site. No federal or state listed plant or wildlife species were observed within the Project Site during field surveys. Nonetheless, the study area includes the substantive habitat requirements needed to support several special status plant and wildlife species (i.e., rare plants, Burrowing Owl [*Athene cunicularia*] and Desert Tortoise [*Gopherus agassizii*]). Within the study area, but not within the Project Site, Burrowing Owls were observed, and a Desert Tortoise burrow without evidence of recent use was detected. Given the extent of anthropogenic disturbance (e.g., abundance of trash, cleared lots, and on- and off-highway vehicle and pedestrian-related traffic), any species currently using these lands are presumed to be acclimated to the disturbance regime present.

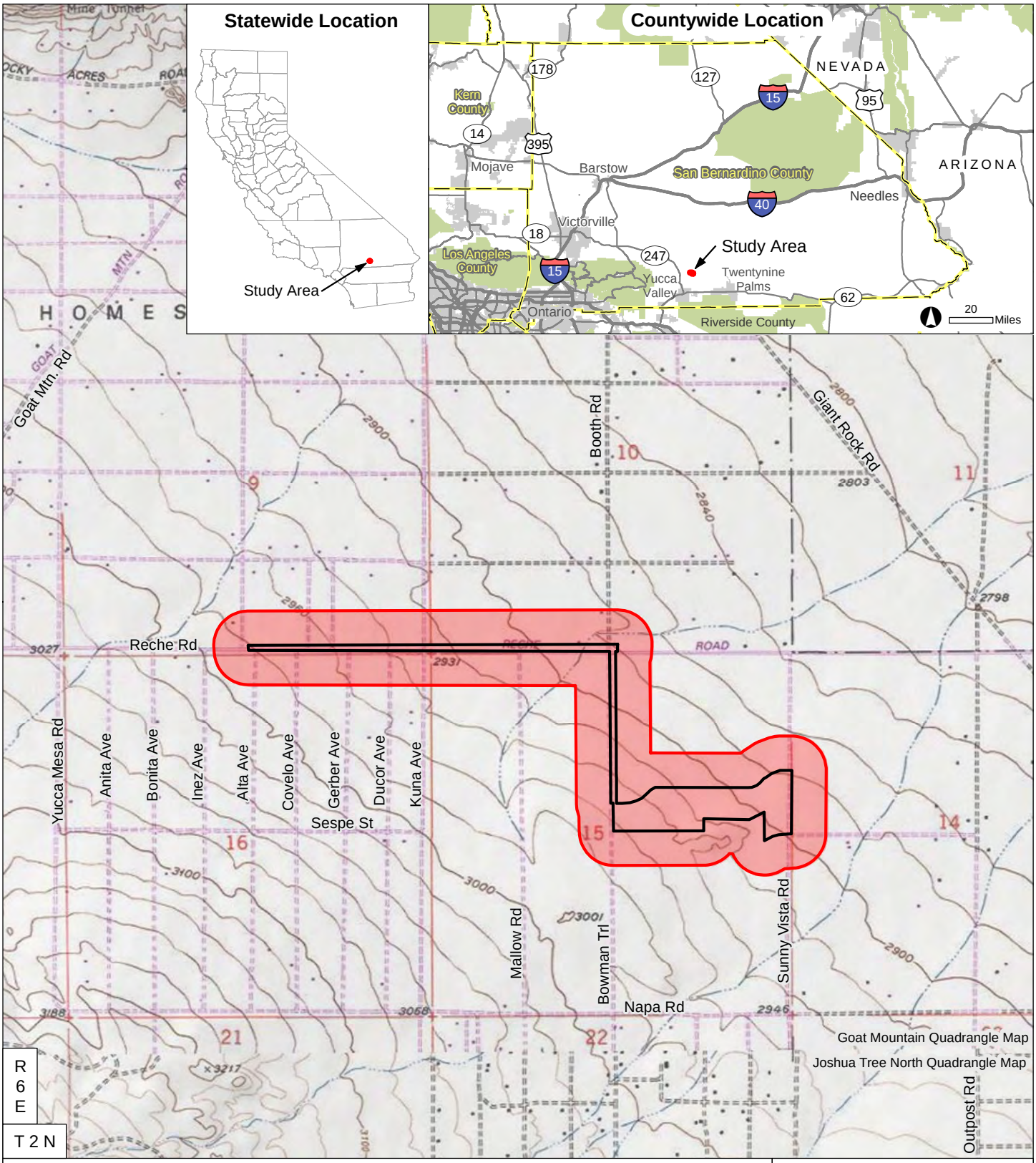
[1] For the purposes of this analysis, "biological resources" refers to the plants, wildlife, and habitats that occur, or have the potential to occur, within the study area.

[2] For the purposes of this analysis, "special-status species" refers to any species that has been afforded special protection by federal, state, or local resource agencies (e.g., U.S. Fish and Wildlife Service, California Department of Fish and Wildlife) or resource conservation organizations (e.g., California Native Plant Society). The term "special-status species" excludes those avian species solely identified under Section 10 of the Migratory Bird Treaty Act (MBTA) for federal protection. Nonetheless, MBTA Section 10 protected species are afforded avoidance and minimization measures per state and federal requirements.

[3] A "habitat" is defined as the place or type of locale where a plant or animal naturally or normally lives and grows.

2.0 PROJECT AND PROPERTY DESCRIPTION

The proposed Project's purpose is energy generation, and it is located on approximately 50 acres of previously disturbed land in the County of San Bernardino (Figure 1). The proposed Project will consist of a 3 Mega Watt Alternating Current Solar Photovoltaic (PV) generating facility. The proposed generation-tie (gen-tie) line will connect the facility to Southern California Edison's (SCE) existing distribution line located to the north of the Project. The proposed facility will utilize PV technology on either fixed-tilt or tracker mounting supports. For the purposes of this report, the "study area" includes the Project's proposed ground disturbance footprint (Project Site) and a buffer (Figure 2). The Project can be found on the Goat Mountain United States Geological Survey 7.5-Minute Topographic Quadrangle Map within the San Bernardino Base and Meridian – Township 2 North, Range 6 East, Sections 9, 10, 14, 15 and 16 (USGS 1989). The majority of the study area is disturbed creosote bush scrub; the remainder includes developed lands.



The Study Area is located on the Goat Mountain USGS 7.5-minute quadrangle map; San Bernardino Base and Meridian, Township 2 North, Range 6 East, Sections 9, 10, 14, 15 and 16. Center coordinates are: Latitude 34.261802, Longitude -116.344193.

Figure 1. Regional Location

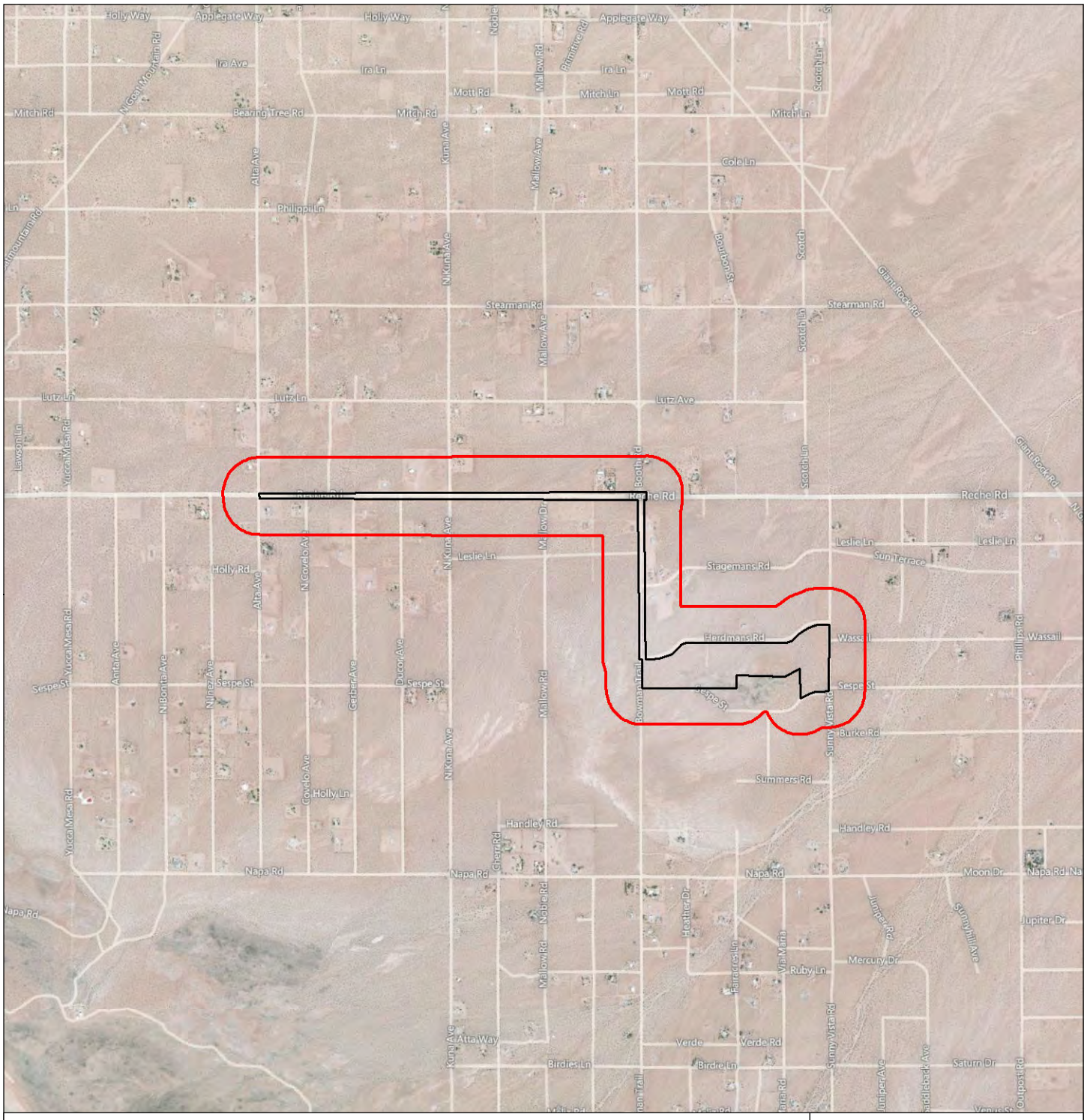


Figure 2. Site Vicinity

3.0 FOCUSED STUDY/SPECIES OF CONCERN

Prior to beginning field surveys, resource specialists were consulted and available information from resource management plans and relevant documents were reviewed to determine the locations and types of biological resources that have the potential to exist within and adjacent to the study area; resources were evaluated within several miles of the Project (Figures 4, 5, and 6). The materials reviewed included, but were not limited to, the following:

- ✓ U.S. Fish and Wildlife Service (USFWS) Critical Habitat Mapper and File Data (USFWS 2014a);
- ✓ USFWS Carlsbad Field Office Species List for San Bernardino County (2014b);
- ✓ California Natural Diversity Database maintained by the California Department of Fish and Wildlife (CDFW 2014);
- ✓ California Native Plant Society (CNPS) Electronic Inventory (CNPS 2014);
- ✓ U.S. Army Corps of Engineers (Corps) 16 May 2013 Tentative Tract 18036, U.S. Army Corps of Engineers Approved Jurisdictional Determination Form, SPL-2012-00461JD-BEM (Corps 2013); and
- ✓ Aerial Photographs (Microsoft Corporation 2014).

The Project Site was also assessed for its potential to support special-status species based on habitat suitability comparisons with reported occupied habitats as well (Appendix B). The following definitions were utilized within Appendix B:

- **Absent [A]** – Species distribution is restricted by substantive habitat requirements which do not occur within the Project Site, and no further survey or study is necessary to determine likely presence or absence of this species.

- **Low [L]** – Species distribution is restricted by substantive habitat requirements which are negligible within the Project Site, and no further survey or study is necessary to determine likely presence or absence of this species.

- **Habitat Present [HP]** – Species distribution is restricted by substantive habitat requirements which occur within the Project Site, and further study may be necessary to determine likely presence or absence of species.

- **Present [P]** – Species or species sign were observed within the Project Site, or historically has been documented within Project limits.

- **Critical Habitat [CH]** – The Project Site is located within a USFWS-designated critical habitat unit.

4.0 METHODS

To support the analysis detailed within Section 3.0 above, pedestrian-based field surveys were performed to assess general and dominant vegetation community types, community sizes, habitat types, and species present within communities[4]. Community type descriptions were based on observed dominant vegetation composition and derived from the criteria and definitions of widely accepted vegetation classification systems (Holland 1986; Sawyer et al. 2009).

Plants were identified to the lowest taxonomic level sufficient to determine whether the plant species observed were non-native, native, or special-status. Plants of uncertain identity were subsequently identified from taxonomic keys (Baldwin et al. 2012). Scientific and common species names were recorded according to Baldwin et al. (2012).

The presence of a wildlife species was based on direct observation and wildlife sign (e.g., tracks, burrows, nests, scat, or vocalization). Field data compiled for wildlife species included scientific name, common name, and evidence of sign when no direct observations were made. Wildlife of uncertain identity was documented and subsequently identified from specialized field guides and related literature (Burt and Grossenheider 1980; Halfpenny 2000; Sibley 2000; Elbroch 2003, and Stebbins 2003).

[4] Where 100% pedestrian coverage of the study area was not possible due to limited access (e.g., private property, physical barriers [vegetative cover, health and safety concerns, etc.]), field observations were made from the nearest appropriate vantage points via public right-of-ways with binoculars.

5.0 GENERAL BIOLOGICAL SURVEY RESULTS

Weather conditions during the March 2014 surveys included clear skies, temperatures ranging from 52–76 °F, and winds ranging from 0 to 5mph.

5.1 Vegetation Communities and Land Cover Types

Two vegetation communities/land cover types were observed within the study area: Creosote Bush Scrub and Developed/disturbed Lands (Figure 3). Vegetation communities/land cover types are described below. All plant species observed during the surveys are listed in Appendix C. Representative photographs of the study area are provided in Appendix A.

Creosote Bush Scrub

Creosote bush scrub within the study area was substantially disturbed, and dominated by widely spaced creosote (*Larrea tridentata*) and White bursage (*Ambriosa dumosa*) with bare ground between them (Holland 1986). Many species of herbs and annuals may appear depending on sufficient winter rains. Soils in this community are well drained, alluvial, sandy, and sometime underlain by a hardpan that may be calcareous and/or covered with desert pavement (Sawyer et al. 2009). Other common perennial species present include white ratany (*Krameria bicolor*), jointfir (*Ephedra* sp.*),* pencil cholla (*Cylindropuntia ramosissima*), and wire-lettuce (*Stephanomeria pauciflora*).

Disturbed and Developed Lands

Developed or disturbed lands include locales that have been disked, cleared, or otherwise altered by human activities. This cover type within the study area includes on- and off-highway vehicle roads, an abundance of trash, and cleared lots. Common non-native plants species within this land cover type included saharan mustard (*Brassica tournefortii*), annual bur-sage (*Ambrosia acanthocarpa*), and bristly fiddleneck (*Amsinckia tessellata*).

5.2 Wildlife

Wildlife species observed within the study area consisted of commonly-occurring species, including, but not limited to, Black-throated Sparrow (*Amphispiza bilineata*), Common Raven (*Corvus corax*), Say's Phoebe (*Sayornis saya*), and Side-blotched Lizard (*Uta stansburiana*). All wildlife observed during the surveys is identified in Appendix D.

5.3 Special-Status Plants

No federal or state listed plants were observed within the study area during the field surveys, and none have been documented within 5.5 miles (Figure 4). Nonetheless, the Project Site does include the substantive habitat requirements necessary to support several special status plant species identified in Appendix B. Furthermore, several mature Joshua Trees were detected within the Project Site. Special-status plant species known to occur within 10 miles of the Project and their potential for occurrence are detailed within Appendix B. The study area includes no USFWS-critical habitat for plants (Figure 5). All plant species observed during the surveys are listed in Appendix C.

5.4 Special-Status Wildlife

No federal or state listed wildlife species were observed within the Project Site during the 2014 field surveys. Nonetheless, two Burrowing Owls were observed utilizing burrows located outside of Project Site boundaries - southwest of the intersection of Reche Road and Bowman Trail. Additionally, a class

two Desert Tortoise burrow was detected outside of the Project Site and north of Herdmans Road. The US Fish and Wildlife Service (USFWS) defines a class two Desert Tortoise burrow as a burrow which is in good condition, and definitely desert tortoise; but includes no evidence of recent use. Special-status wildlife species known to occur within 10 miles of the Project and their potential for occurrence are detailed within Appendix B. The study area includes no USFWS-critical habitat for wildlife (Figure. 5). Any wildlife detected during the surveys is identified in Appendix D.

5.5 Wetland and Waterways

The Project is located in the Southern Mojave Basin, Goat Mountain-Keys Lake watershed (HUC 1810010012). The literature review and field data implies it is appropriate to characterize the Project Site as an upland which includes ephemeral swales and ditches (Corps 2013). No riparian habitats were observed within the Project Site, nor were there obvious indicators of well-defined water conveyance bed, bank or channel features that would be assumed to provide unique functions and values for wildlife. The swales and ditches appear isolated, without downstream connectivity to a navigable waterway, and lack an apparent nexus to interstate or foreign commerce. The topography of the Project Site and regional groundwater basin information reviewed suggests that the study area lacks waters which are typically subject to Clean Water Act, or Fish and Game Code jurisdiction. Furthermore, the National Wetland Inventory has no records of special aquatic resources within the study area (Figure 6).

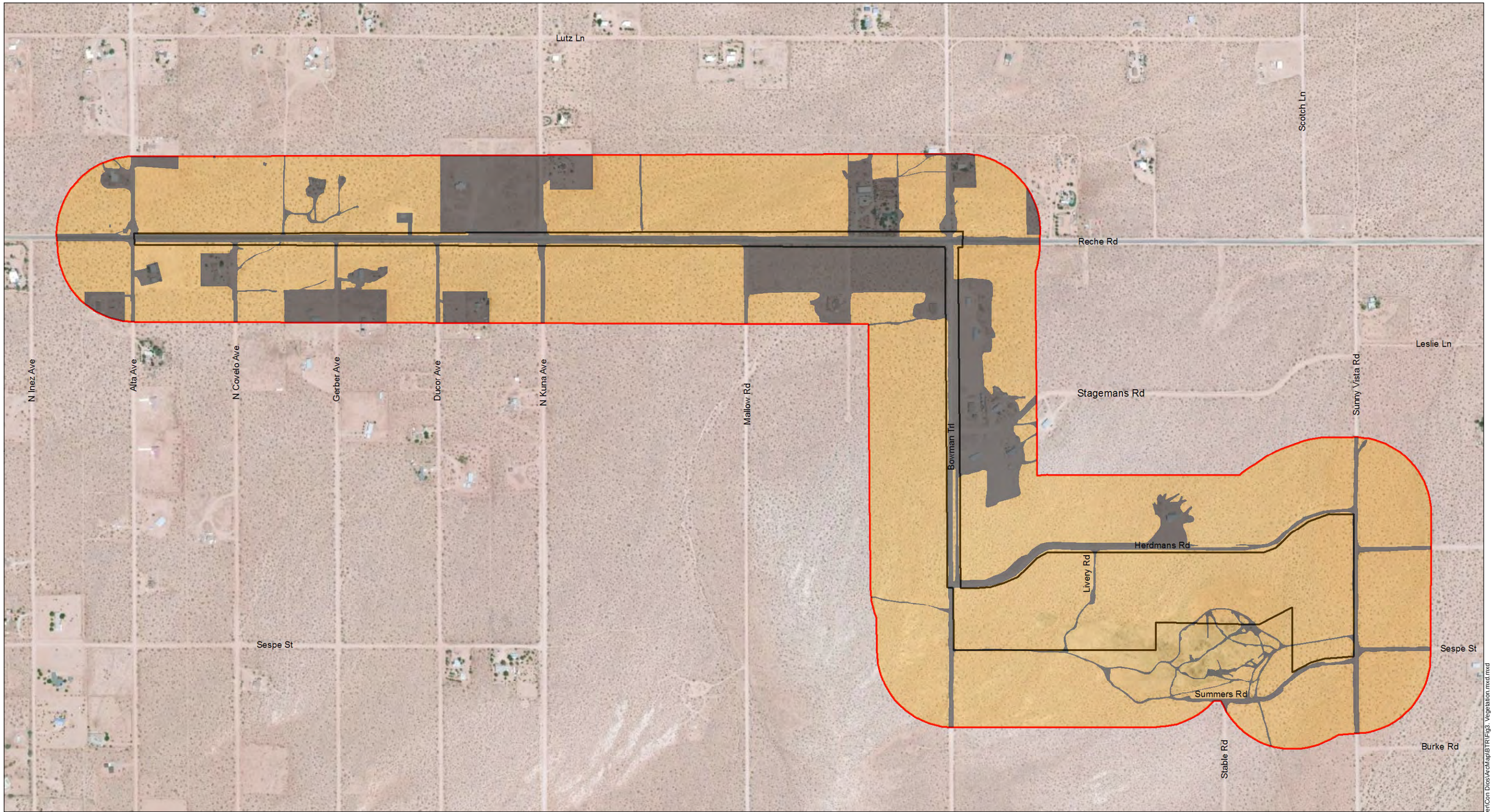


Figure 3. Vegetation Communities and Land Cover Types

Project Site

10-Mile Radius Around the Project Site

Special-Status Species Occurrences

Map Code	Common Name (Scientific Name)
	Plants
1	San Bernardino Milk-Vetch (*Astragalus bernardinus*)
2	Fremont Barberry (*Berberis fremontii*)
3	Pinyon Rockcress (*Boechera dispar*)
4	Purple-Nerve Cymopterus (*Cymopterus multinervatus*)
5	Parish's Daisy (*Erigeron parishii*)
6	Parish's Club-Cholla (*Grusonia parishii*)
7	Pioneertown Linanthus (*Linanthus bernardinus*)
8	Little San Bernardino Mtns. Linanthus (*Linanthus maculatus*)
9	Robison's Monardella (*Monardella robisonii*)
10	Latimer's Woodland-Gilia (*Saltugilia latimeri*)
11	Jackass-Clover (*Wislizenia refracta* ssp. *refracta)*
	Reptiles
12	Coast Horned Lizard (*Phrynosoma blainvillii*)
13	Desert Tortoise (*Gopherus agassizii*)
14	Mojave Fringe-Toed Lizard (*Uma scoparia*)
	Birds
15	Bendire's Thrasher (*Toxostoma bendirei*)
16	Burrowing Owl (*Athene cunicularia*)
17	Le Conte's Thrasher (*Toxostoma lecontei*)
	Mammals
18	Pallid San Diego Pocket Mouse (*Chaetodipus fallax pallidus*)

0 1 2 Miles

1:140,000

Data Sources:
- Bing accessed Apr 2014, imagery date: May 2010

Note: Resource specialists were consulted and readily available commercial data from resource management plans and other relevant documents were reviewed to determine the locations and types of resources that have the potential to exist in the region.

Prepared by:

NOREAS Environmental Engineering and Science

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Figure 4. Literature Review

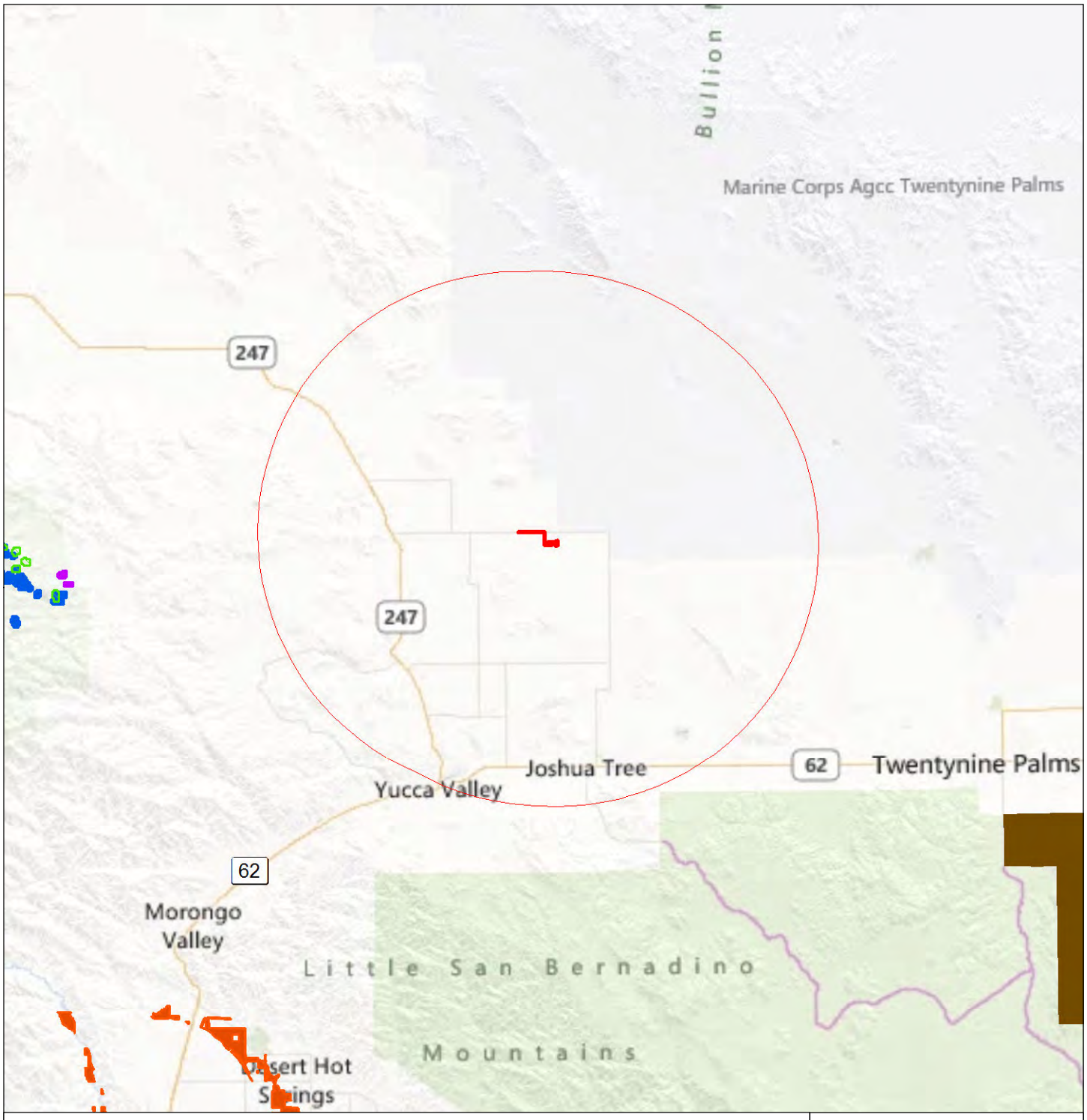

Figure 5. Critical Habitat

Study Area

Project Site

Major Road

National Hydrography Dataset Linear Features

National Wetland Inventory (NWI)

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Lake

Riverine

0 1 2 3 4 Miles

1 inch = 4 miles

Data Sources:
- BingMaps accessed Apr 2014, image date: May 2010
- USDA-NRCS, USGS, EPA National Hydrography Dataset accessed Apr 2014 (Data Date: Dec 2013)
- US Fish and Wildlife Service National Wetland Inventory accessed Apr 2014 (Data Date: Oct 2013)

Map Prepared: 4-8-14

Prepared by: NOREAS Environmental Engineering and Science

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Figure 6. National Wetland Inventory

6.0 IMPACTS AND RECOMMENDATIONS

The majority of the Project Site consists of creosote bush scrub. Given the extent of anthropogenic disturbance (e.g., abundance of trash, cleared lots and on- and off-highway vehicle traffic), any species currently using these lands are presumed to be acclimated to the disturbance regime present. No federal or state listed plant or wildlife species have been documented within the Project Site, nor does it include any USFWS-designated critical habitat. Nonetheless, special status species were detected within the study area and the Project Site has the potential – albeit marginal, to support rare plants, Burrowing Owl and Desert Tortoise. Several species of common passerines and raptors could also utilize the study area as low quality nesting, roosting, refuge, and foraging habitats. With that said, the likelihood of avian species electing to utilize the Project Site as functional nesting habitat is small, as a result of the amount of similar but higher-quality habitats available within the region (i.e., similar habitats which are adjacent to irrigated agricultural fields, etc.).

Focused surveys for rare plants, Desert Tortoise and Burrowing Owl are recommended to ascertain the presence or absence of the aforementioned species. NOREAS also recommends measures within Section 7 of this document to further avoid and minimize adverse impacts to protected resources that have the potential to occur within the Project Site and on adjacent lands.

7.0 PROPOSED MITIGATION MEASURES

The following measures are recommended as a means of avoiding and minimizing adverse impacts to protected resources that have the potential to occur within the Project Site and on adjacent lands:

- Adverse effects to regulated desert native plants (e.g., Joshua Trees) should be avoided to the maximum extent practical. If adverse impacts cannot be avoided, then sPower should census the resources within the Project Site and develop a plan in concert with the County of San Bernardino to offset unavoidable affects.

- In order to comply with Section 10 of the Migratory Bird Treaty Act and relevant sections of the California Fish and Game Code, any vegetation clearing within the Project Site should take place outside of the typical avian nesting season (e.g., March 15th until September 1st) – to the maximum extent practical. If work needs to take place between March 15th and September 1st, a pre-construction survey for nesting passerines and raptors should be completed prior to the onset of Project activities. To the maximum extent practicable, a buffer zone from occupied nests should be maintained during physical ground disturbing activities. Once nesting has ended, the buffer may be removed.

- The Project Site includes the substantive habitat requirements needed to support rare plants, Burrowing Owl and Desert Tortoise. If adverse impacts cannot be avoided to these species potential habitat, then sPower should survey for these resources within the Project Site to determine their presence or absence.

The services performed and documented in this report have been conducted in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representations are either expressed or implied and no warranty or guarantee is included or intended in this report. Opinions relating to presence, absence, or potential for occurrence of biological resources are based on limited data and actual conditions may vary from those encountered at the times and locations where the data were obtained despite due professional care.

8.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached figures present the data and information required for this resource assessment, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this investigation was performed by me or under my direct supervision. I certify that I have not signed a nondisclosure or consultant confidentiality agreement with the sPower or sPower's representative, and that I have no financial interest in the Project.

DATE: _____ SIGNED: _____

Lenny Malo

The following NOREAS employees performed the field work and/or participated in preparation of this report: Lenny Malo MS, Lincoln Hulse BS, Erin Serra BS, Ben Zamora BS, Onkar Singh BS, and Ken Hashagen BS.

9.0 REFERENCES

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APPENDIX A

PHOTOGRAPH LOG

APPENDIX A

PHOTOGRAPH LOG

	**Photograph: 1, facing south east.**
	**Photograph: 2, facing north east.**

APPENDIX A

PHOTOGRAPH LOG

	**Photograph: 3, facing west.**
	**Photograph: 4, facing west.**

APPENDIX B

SPECIAL-STATUS SPECIES POTENTIAL FOR OCCURRENCE WITHIN THE PROJECT SITE

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SPECIAL-STATUS SPECIES POTENTIAL FOR OCCURRENCE WITHIN THE PROJECT SITE

Potential for occurrence	Common name (Scientific name)	Federal listing status	State listing status	Global rank [a]	State rank [b]	CNPS list [c]	Number of records within 10 miles	Year(s) sighted	Distance from site to nearest occurrence (miles)
HP	Desert Tortoise (*Gopherus agassizii*)	Threatened	Threatened	G3	S2	N/A	6	1988-2014	<0.1
HP	Burrowing Owl (Athene cunicularia)	None	None	G4	S2	N/A	5	2005 & 2014	<0.1
HP	Le Conte's Thrasher (*Toxostoma lecontei*)	None	None	G4	S3	N/A	7	1986-1991	2.3
L	Mojave Fringe-Toed Lizard (*Uma scoparia*)	None	None	G3G4	S3S4	N/A	1	1983	5.0
A	San Bernardino Milk-Vetch (*Astragalus bernardinus*)	None	None	G2G3	S2S3	1B.2	3	1914-1992	5.5
L	Little San Bernardino Mtns. Linanthus (*Linanthus maculatus*)	None	None	G2	S2	1B.2	8	1937-2011	5.7
HP	Jackass-Clover (*Wislizenia refracta ssp. refracta*)	None	None	G5T5	S1	2B.2	1	1998	6.6
HP	Purple-Nerve Cymopterus (*Cymopterus multinervatus*)	None	None	G5	S2	2B.2	1	2011	7.1
A	Robison's Monardella (*Monardella robinsonii*)	None	None	G3	S3	1B.3	5	1935-2013	7.9
HP	Parish's Club-Cholla (*Grusonia parishii*)	None	None	G3G4	S2?	2B.2	1	1932	8.4
HP	Bendire's Thrasher (*Toxostoma bendirei*)	None	None	G4G5	S3	N/A	2	1991	8.5
HP	Pioneertown Linanthus (*Linanthus bernardinus*)	None	None	G2	S2	1B.2	1	2004	9.0
HP	Latimer's Woodland-Gilia (*Saltugilia latimeri*)	None	None	G2	S2.2	1B.2	1	1964	9.1
HP	Coast Horned Lizard (*Phrynosoma blainvillii*)	None	None	G3G4	S3S4	N/A	1	1890s	9.2
L	Pallid San Diego Pocket Mouse (*Chaetodipus fallax pallidus*)	None	None	G5T3	S3	N/A	2	1903-1969	9.2
HP	Pinyon Rockcress (*Boechera dispar*)	None	None	G3	S3	2B.3	2	1983-1988	9.5
HP	Parish's Daisy (*Erigeron parishii*)	Threatened	None	G2	S2	1B.1	3	1988-2011	9.5
HP	Fremont Barberry (*Berberis fremontii*)	None	None	G5	S2	N/A	1	2003	9.6

[a] GLOBAL RANKING

The global rank (G-rank) is a reflection of the overall condition of an element throughout its global range.

SPECIES OR NATURAL COMMUNITY LEVEL

G1 = Less than 6 viable element occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres.

G2 = 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres.

G3 = 21-100 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres.

G4 = Apparently secure; this rank is clearly lower than G3 but factors exist to cause some concern; i.e., there is some threat, or somewhat narrow habitat.

G5 = Population or stand demonstrably secure to ineradicable due to being commonly found in the world.

SUBSPECIES LEVEL

Subspecies receive a T-rank attached to the G-rank. With the subspecies, the G-rank reflects the condition of the entire species, whereas the T-rank reflects the global situation of just the subspecies or variety. For example: Chorizanthe robusta var. hartwegii. This plant is ranked G2TI. The G-rank refers to the whole species range i.e., Chorizanthe robusta. The T-rank refers only to the global condition of var. hartwegii.

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Potential for occurrence	Common name (Scientific name)	Federal listing status	State listing status	Global rank [a]	State rank [b]	CNPS list [c]	Number of records within 10 miles	Year(s) sighted	Distance from site to nearest occurrence (miles)

[b] STATE RANKING

The state rank is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank.

S1 = Less than 6 EOs OR less than 1,000 individuals OR less than 2,000 acres
S1.1 = very threatened
S1.2 = threatened
S1.3 = no current threats known
S2 = 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres
S2.1 = very threatened
S2.2 = threatened
S2.3 = no current threats known
S3 = 21-100 EOs or 3,000-10,000 individuals OR 10,000-50,000 acres
S3.1 = very threatened
S3.2 = threatened
S3.3 = no current threats known
S4 - Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat. NO THREAT RANK.
S5 - Demonstrably secure to ineradicable in California. NO THREAT RANK.

[c] CNPS LIST - Indicates the California Native Plant Society (CNPS) list to which the taxon is assigned (plants only).

List 1A: Plants presumed extinct in California
List 1B.1: Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California
List 1B.2: Plants rare, threatened, or endangered in California and elsewhere, fairly threatened in California
List 1B.3: Plants rare, threatened, or endangered in California and elsewhere, not very threatened in California
List 2.1: Plants rare, threatened, or endangered in California, but more common elsewhere; seriously threatened in California
List 2.2: Plants rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California
List 2.3: Plants rare, threatened, or endangered in California, but more common elsewhere; not very threatened in California
List 3.1: Plants about which we need more information; seriously threatened in California
List 3.2: Plants about which we need more information; fairly threatened in California
List 3.3: Plants about which we need more information; not very threatened in California
List 4.1: Plants of limited distribution; seriously threatened in California
List 4.2: Plants of limited distribution; fairly threatened in California
List 4.3: Plants of limited distribution; not very threatened in California

Absent [A] – Species distribution is restricted by substantive habitat requirements, which do not occur within the Project Site, and no further survey or study is obligatory to determine likely presence or absence of this species.

Low [L] – Species distribution is restricted by substantive habitat requirements, which are negligible within the Project Site, and no further survey or study is obligatory to determine likely presence or absence of this species.

Habitat Present [HP] – Species distribution is restricted by substantive habitat requirements, which occur within the Project Site, and further survey or study may be necessary to determine likely presence or absence of species.

Present [P] – Species or species sign were observed within the Project Site, or historically has been

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SPECIAL-STATUS SPECIES POTENTIAL FOR OCCURRENCE WITHIN THE PROJECT SITE

Potential for occurrence	Common name (Scientific name)	Federal listing status	State listing status	Global rank [a]	State rank [b]	CNPS list [c]	Number of records within 10 miles	Year(s) sighted	Distance from site to nearest occurrence (miles)

documented within Project limits

Critical Habitat [CH] – The Project Site is located within a USFWS-designated critical habitat unit.

APPENDIX C

PLANT SPECIES OBSERVED WITHIN THE STUDY AREA

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PLANT SPECIES OBSERVED WITHIN THE STUDY AREA

Scientific Name	***Common Name***
GYMNOSPERMS	
Ephedraceae (Mormon-tea family)	
Ephedra sp.	Jointfir
EUDICOTS	
Asteraceae (Aster family)	
Ambrosia acanthicarpa	Annual bur-sage
Ambrosia dumosa	White bursage
Ambrosia salsola	Burrobush
Baccharis brachyphylla	Shortleaf baccharis
Bahiopsis parishii	Parish's goldeneye
Chaenactis fremontii	Pincushion flower
Encelia frutescens	Button brittlebush
Malacothrix coulteri	Snake's head
Palafoxia arida var. arida	Desert palafox
Pectis papposa var. papposa (d)	Manybristle chinchweed
Porophyllum gracile	Slender poreleaf
Stephanomeria pauciflora	Wire-lettuce
Tetradymia stenolepis	Mojave cottonthorn
Xylorhiza tortifolia var. tortifolia	Mojave woodyaster
Boraginaceae (Borage family)	
Amsinckia tessellata var. tessellata	Bristly fiddleneck
Cryptantha circumscissa var. circumscissa	Cushion cryptantha
Cryptantha nevadensis var. nevadensis	Nevada cryptantha
Cryptantha pterocarya var. pterocarya	Wingnut cryptantha
Pectocarya penicillata	Sleeping combseed
Brassicaceae (Mustard family)	
*Brassica tournefortii **	Saharan mustard
Streptanthella longirostris	Longbeak streptanthella
Cactaceae (Cactus family)	
Cylindropuntia echinocarpa	Silver cholla
Cylindropuntia ramosissima	Pencil cholla
Echinocactus polycephalus var. polycephalus	Cottontop cactus
Euphorbiaceae (Spurge family)	
Chamaesyce albomarginata	Whitemargin sandmat
Croton californicus	California croton
Stillingia linearifolia	Queen's-root

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PLANT SPECIES OBSERVED WITHIN THE STUDY AREA

Scientific Name	***Common Name***
Fabaceae (Pea family)	
Astragalus layneae	Widow's milkvetch
Parkinsonia aculeata *	Jerusalem thorn
Senna armata	Desert senna
Geraniaceae (Geranium family)	
Erodium cicutarium *	Redstem stork's bill
Krameriaceae (Krameria family)	
Krameria bicolor	White ratany
Krameria erecta	Littleleaf ratany
Lamiaceae (Mint family)	
Scutellaria mexicana	Mexican bladdersage
Loasaceae (Loasa family)	
Petalonyx thurberi subsp. thurberi	Death Valley sandpaper
Malvaceae (Mallow family)	
Sphaeralcea ambigua	Desert globemallow
Nyctaginaceae (Four o'clock family)	
Mirabilis laevis	Desert wishbone-bush
Onagraceae (Evening Primrose family)	
Eremothera boothii (d)	Booth's evening primrose
Papaveraceae (Poppy family)	
Eschscholzia minutiflora	Pygmy golden poppy
Polemoniaceae (Phlox family)	
Eriastrum sp.	Woollystar
Polygonaceae (Buckwheat family)	
Chorizanthe rigida (d)	Devil's spineflower
Eriogonum sp.	Buckwheat
Eriogonum fasciculatum var. polifolium	Eastern Mojave buckwheat
Eriogonum inflatum	Desert trumpet
Eriogonum nidularium	Birdnest buckwheat
Eriogonum trichopes (d)	Little desert trumpet
Rubiaceae (Madder family)	
Galium sp.	Bedstraw
Solanaceae (Potato family)	
Datura wrightii	Sacred thorn-apple
Zygophyllaceae (Creosote-bush family)	
Larrea tridentata	Creosote bush

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PLANT SPECIES OBSERVED WITHIN THE STUDY AREA

Scientific Name	***Common Name***
MONOCOTS	
Agavaceae (Century-plant family)	
Yucca brevifolia	Joshua tree
Poaceae (Grass family)	
Hilaria rigida	Big galleta
*Schismus arabicus**	Arabian schismus
Stipa sp.	Feather grass

Nomenclature follows the Jepson Manual, Second Edition (Baldwin et al 2011).
d = plant species that were identified with previous seasons material; no live plants of these species observed.
* = naturalized, non- native plant species.

APPENDIX D

WILDLIFE SPECIES OBSERVED WITHIN THE STUDY AREA

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WILDLIFE SPECIES OBSERVED WITHIN THE STUDY AREA

Scientific name	Common name
Reptiles	
Uta stansburiana	Common Side-blotched Lizard
Cnemidophorus tigris	Western Whiptail
Callisaurus draconoides	Zebra-tailed Lizard
Birds	
Falco sparverius	American Kestrel
Amphispiza bilineata	Black-throated Sparrow
Athene cunicularia	Burrowing Owl
Campylorhynchus brunneicapillu	Cactus Wren
Corvus corax	Common Raven
Streptopelia decaocto	Eurasian Collared-Dove
Callipepla gambelii	Gambel's Quail
Eremophila alpestris	Horned Lark
Carpodacus mexicanus	House Finch
Passer domesticus	House Sparrow
Picoides scalaris	Ladder-backed woodpecker
Lanius ludovicianus	Loggerhead Shrike
Pandion haliaetus	Osprey
Buteo jamaicensis	Red-Tailed Hawk
Sayornis saya	Say's Phoebe
Cathartes aura	Turkey Vulture
Auriparus flaviceps	Verdin
Zonotrichia leucophrys	White-crowned Sparrow
Mammals	
Ammospermophilus leucurus	Antelope Ground Squirrel
Lepus californicus	Black-tailed Jackrabbit
Canis latrans	Coyote (Indirect, Scat)