

# **Appendix D-24**

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Botanical Inventory Report 2010

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**Botanical Inventory Report**  
for the  
**Sun Creek Wind Project**  
**Kern County, CA**

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*Prepared by:*

**Sycamore Environmental Consultants, Inc.**  
6355 Riverside Blvd., Suite C  
Sacramento, CA 95831  
Phone: 916/ 427-0703  
Contact: R. John Little, Ph.D.

*Prepared for:*

**CH2M Hill, Inc.**  
155 Grand Avenue  
Oakland, CA 94612  
Phone: 831/ 430-6326  
Contact: Ms. Bridget Canty

21 September 2010

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Botanical Inventory Report  
for the  
Sun Creek Wind Project

Kern County, CA

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## **I. EXECUTIVE SUMMARY**

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Botanical surveys of the approximately 1,424 ac Sun Creek Wind Project botanical study area (BSA) were conducted from 2 to 7 May 2010. An additional survey is scheduled to occur in late summer 2010. The BSA is located approximately 3 mi northwest of the community of Mojave in southeastern Kern County, CA. The BSA provides marginal to suitable habitat for 33 special-status plant species. No federal or state listed plants were observed in the BSA.

Approximately 30 to 40 individuals of Pringle's yampah (*Perideridia pringlei*), a CNPS list 4.3 species, were observed near the southwest corner of the BSA. No other special-status plant species were observed in the BSA.

The May 2010 surveys were conducted during the evident and identifiable period for 25 of the 27 special-status species with the potential to occur in the BSA. Because the May 2010 surveys were conducted outside the published blooming period for *Monardella linoides* ssp. *oblonga* and *Erigeron aequifolius*, it is recommended that surveys be conducted for them in late summer 2010.

Two biological communities in the BSA have a state rarity ranking of S3, Joshua tree woodland (432.35 ac) and Scale broom scrub (0.62 ac). The California Natural Diversity Database (CNDDDB) considers communities with state rarity rankings of S1-S3 to be of "high inventory priority" (DFG 2009a). A community with an S3 ranking is considered "rare and threatened" throughout its range by Sawyer et al. (2009).

A total of 107 genera representing 34 different plant families were observed in the BSA during the May 2010 botanical surveys. A total of 160 species were observed in BSA of which 146 are native, 12 are nonnative, and 2 are unknown. Of the 160 species observed, 90 were annual herbs, 60 were perennial herbs, shrubs, or small trees, 1 was a biennial, 1 species can be annual or perennial, and 8 species are unknown.

## **II. INTRODUCTION**

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### **A. Purpose of Report**

The purpose of this report is to document the results of botanical surveys conducted to identify special-status plant species that occur in the BSA. This report was prepared under contract to CH2M Hill, Inc., Oakland, CA. The Project contact Ms. Bridget Canty.

### **B. Project Location**

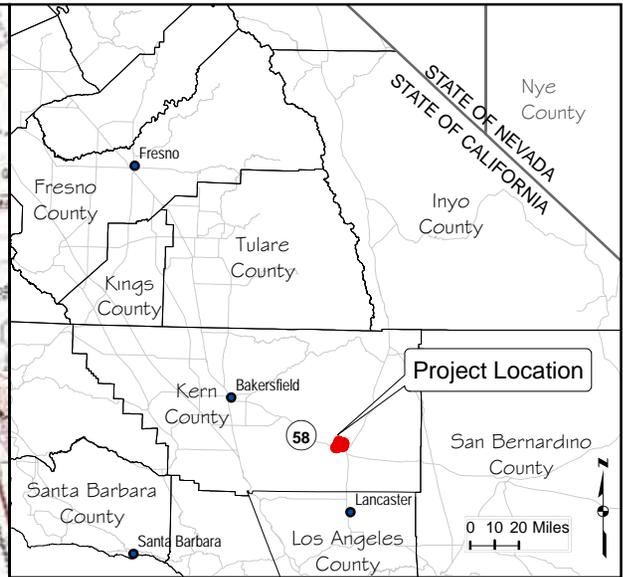
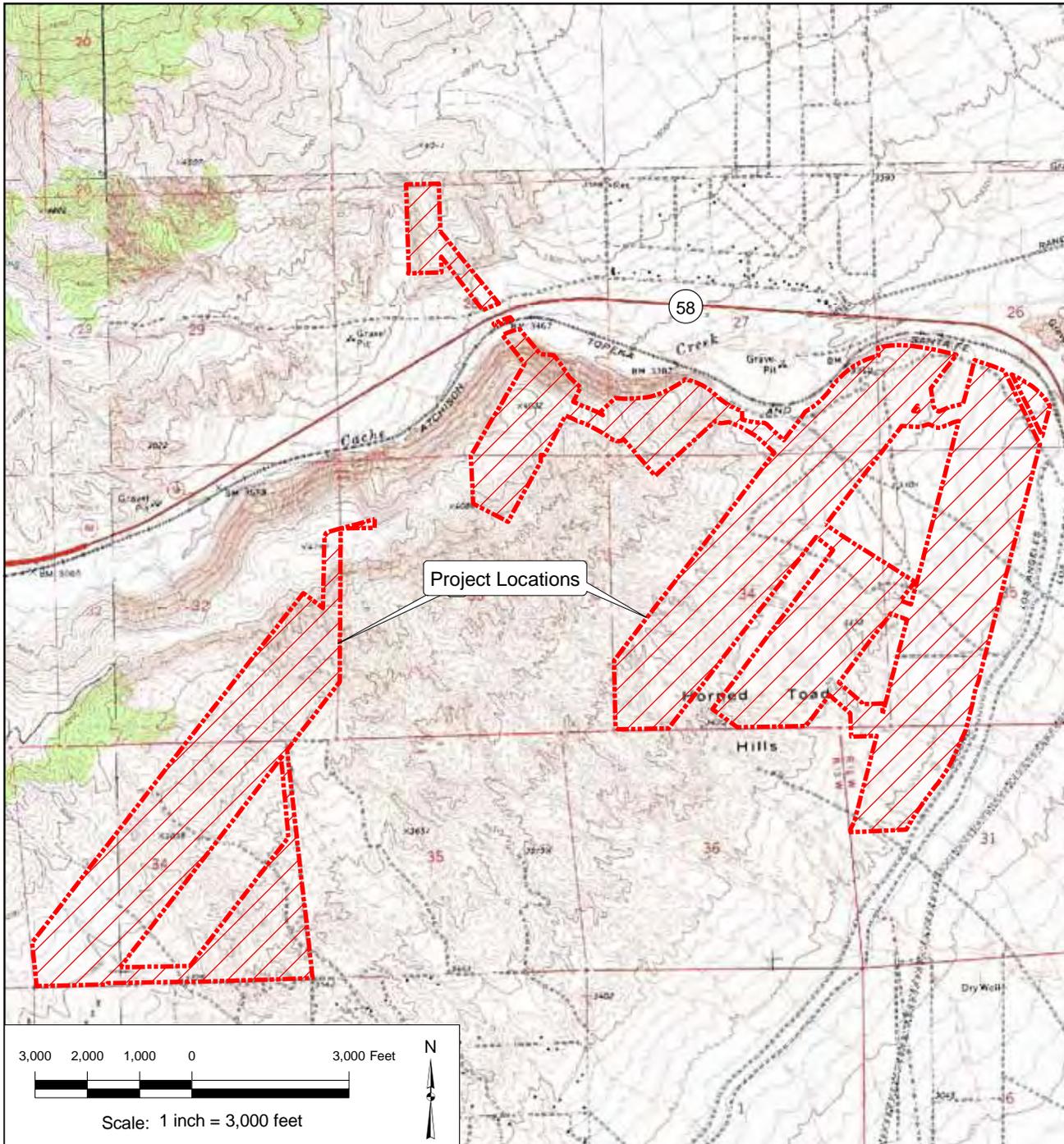
The ± 1,424 ac BSA is located in Kern County, CA on the Mojave and Monolith USGS topographic quads (Figure 1; Table 1). The BSA is located approximately 3 mi northwest of the community of Mojave and approximately 11 mi southeast of the City of Tehachapi in southeast Kern County. The BSA is in the Antelope-Fremont Valleys watershed (hydrologic unit code 18060009), and its centroid is 35.0984° north, -118.2170° west (UTM: Zone 11 S, 389,079 m E, 3,884,669 m W). Figure 2 is an aerial photograph of the BSA dated 18 June 2009.

Table 1. Project USGS quads.

<b>USGS Quad Name</b>	<b>Township, Range, and Sections</b>
Mojave	Portions of T32S, R35E, Sections 26, 27, 28, 32, 33, 34, and 35; T12N, R12W Section 31; T12N, R13W, Section 34
Monolith	Portions of T12N, R13W, Section 31

### **C. Project Description**

The applicant intends to develop a wind energy facility in the BSA. Project design has not yet been completed.



Sun Creek Wind Project  
 Kern County, California  
 9 July 2010

Figure 1. Location Map

 Botanical Study Area (BSA)



24K DRG:  
 California Spatial Information Library (CASIL)  
 Cache Peak (1980), Mojave (1973) # Monolith (1995), CA  
 USGS 7.5' Quad. DRG Mosaics  
 o\_se0305.sid

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Sun Creek Wind Project  
 Kern County, California  
 9 July 2010

- Botanical Survey Area (BSA)
- Corridor Boundaries



Aerial Photo:  
 18 June 2009  
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Figure 2. Aerial Photograph

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### III. STUDY METHODS

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The botanical inventory work for this report follows the guidelines set forth by BLM (BLM 2009), USFWS (1996), Department of Fish and Game (DFG 2009b), and the California Native Plant Society (CNPS 2001), where applicable. Scientific nomenclature primarily follows Hickman, ed. (1993).

#### A. Literature Search

Information on the biology, distribution, taxonomy, legal status, and other aspects of the special-status species was obtained from documents on file in the library of Sycamore Environmental. Standard references used for the biology and taxonomy of plants included Abrams (1923-1960); Baldwin et al. 2002; Hickman, ed. (1993); Jaeger (1969); Simpson and Hasenstab (2009); Munz (1959; 1974); and Sawyer et al. (2009). On-line references included CalPhotos (2010); California Native Plant Society (2010); and the Consortium of California Herbaria (CCH 2010).

Lists of DFG special-status species reviewed included Special Vascular Plants, Bryophytes, and Lichens List (DFG 2010a) and State and Federally Listed Endangered, Threatened, and Rare plants of California (DFG 2010b).

A search of the California Natural Diversity Database (CNDDDB, 1 May 2010 version; DFG 2010c) was conducted for the Mojave and Monolith USGS quads and the 10 adjacent USGS quads to determine known records of special-status species in or near the BSA. Table 2 lists the USGS quads evaluated.

Table 2. USGS Quads evaluated.

Tehachapi North	Tehachapi Northeast	Cache Peak	Mojave Northeast
Tehachapi South	<b>Monolith</b>	<b>Mojave</b>	Sanborn
Tylerhorse Canyon	Willow Springs	Soledad Mtn.	Bissell

The BSA is located in a portion of Kern County that is administered by the Ventura Fish and Wildlife Office (VFWO). Los Angeles and San Bernardino counties are located south and east of the BSA and are also in the area of responsibility of the VFWO. Because the BSA is adjacent to both Los Angeles and San Bernardino counties, Sycamore Environmental obtained lists from VFWO for Kern, Los Angeles, and San Bernardino counties that identify federal-listed plant species that potentially occur in or could be affected by projects in these counties (USFWS 2010).

#### B. Survey Dates and Personnel

Fieldwork was conducted by R. John Little, Ph.D., Chuck Hughes, M.S., and Michael Bower M.S., on 2, 3, 4, 5, 6, and 7 May 2010. Approximately 144 person-hours were spent in the field conducting the surveys. On 10 June 2010, Mr. Hughes and Mr. Bower conducted a follow-up site visit to collect mature specimens of two species that were not in flower or fruit during the surveys conducted from 2 through 7 May 2010.

### **C. Survey Methods**

Parallel transects were walked by the three botanists throughout the entire 1,424 ac BSA to search for special-status plants. Transect spacing was less than 200 ft to a maximum of 250 ft. All plant species observed were either identified on-site or were collected and identified later. All plants were identified to the level necessary to determine legal status. Appendix A lists the species observed. Fieldwork was conducted during May to coincide with the evident and identifiable period of special-status plants with the potential to occur in the BSA.

This report describes the results of the first round of surveys conducted in the BSA. An additional survey is scheduled to occur in late summer 2010 (pers. comm., B. Canty).

### **D. Mapping**

The location of BSA boundaries was determined using GIS boundary data provided by CH2M Hill that had been uploaded onto a Trimble GeoXT GPS unit. The 18 June 2009 aerial photo in Figures 2 and 4 was downloaded from GlobeXplorer® 2010.

The biological communities were mapped at the alliance level (Sawyer et al. 2009) based on field notes and interpretation of the 18 June 2009 aerial photo, at a scale of 1 inch = 400 ft. The shifts from one biological community to another are often subtle and indistinct, especially in desert areas. The communities are often defined based on the cover of a dominant species exceeding just 1%. In most instances, biological community boundaries represent gradual changes in structurally dominant vegetation, thus, the lines generally do not represent an abrupt change in vegetation on the ground.

### **E. Problems Encountered and Limitations That May Influence Results**

No problems or limitations were encountered that would influence the results of the botanical inventory.

## **IV. ENVIRONMENTAL SETTING**

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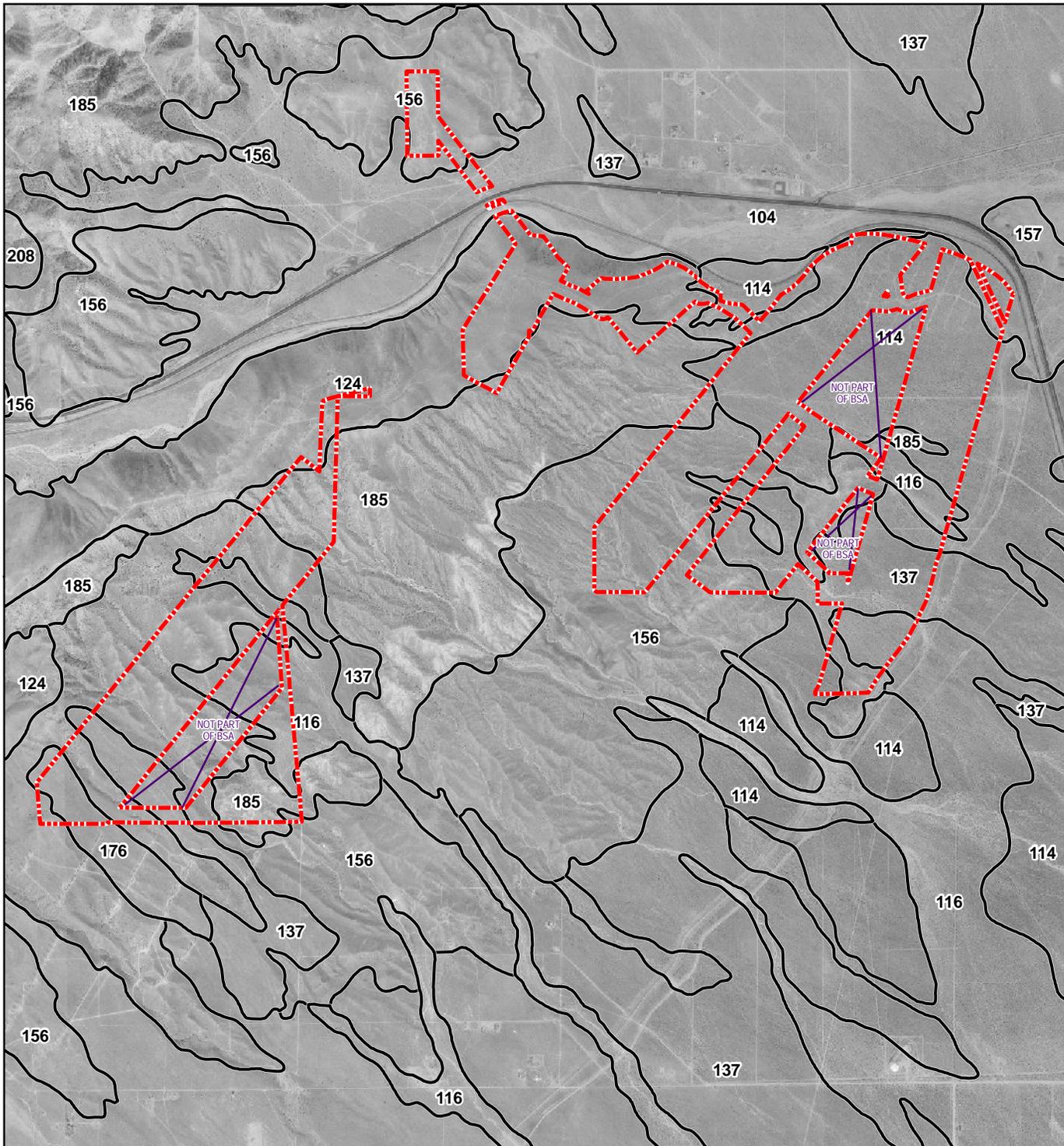
The BSA is located northwest of the community of Mojave in southeastern Kern County. Elevation in the BSA ranges from approximately 3,150 to 4,180 ft above sea level. Topography in the BSA consists of generally flat to steeply sloping terrain intersected by numerous ephemeral washes. Land use surrounding the BSA consists of existing wind energy facilities to the north and west, the Atchison-Topeka and Santa Fe (Burlington Northern-Santa Fe; BNSF) Railroad, the California Aqueduct, and Hwy. 58 to the north and east, and open land to the south. There are numerous trails throughout the BSA that are used recreationally by off-road recreational vehicles.

### **A. Soils**

Mapped soil units in the BSA include Arizo gravelly loamy sand, 2 to 9 percent slopes; Cajon loamy sand, 0 to 5 percent slopes; Cajon gravelly loamy sand, 0 to 9 percent slopes; Cinco gravelly loamy sand, 50 to 75 percent slopes; Garlock loamy sand, 2 to 9 percent slopes; Pajuela-Whitewolf association, steep; Steuber sandy loam, 5 to 9 percent slopes; Torriorthents-Rock outcrop complex, very steep; (Figure 3).

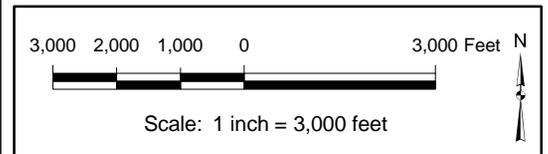
Sun Creek Wind Project  
 Kern County, California  
 9 July 2010

Figure 3. Soils Map



-  Botanical Survey Area (BSA)
-  Soil Boundary

- 104 - Anzo gravelly loamy sand,  
2 to 9 percent slopes
- 114 - Cajon loamy sand,  
0 to 5 percent slopes
- 116 - Cajon gravelly loamy sand,  
0 to 9 percent slopes
- 124 - Cinco gravelly loamy sand,  
50 to 75 percent slopes
- 137 - Garlock loamy sand,  
2 to 9 percent slopes
- 156 - Pajuela-Whitewolf association, steep
- 176 - Steuber sandy loam,  
5 to 9 percent slopes
- 185 - Tornorthents-Rock outcrop complex,  
very steep



**SYCAMORE**  
 Environmental  
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Soil Survey Geographic (SSURGO) database for  
 Kern County, CA, Southeastern Part (10 December 2007)  
 U.S.D.A., N.R.C.S., URL:<http://SoilDataMart.nrcs.usda.gov/>  
 Aerial Photo: 16 Sept. 1992  
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**Arizo gravelly loamy sand, 2 to 9 percent slopes:**

This series consists of very deep, excessively drained soils formed from mixed alluvium. The Arizo series occurs on recent alluvial fans, inset fans, fan apron, fan skirts, stream terraces, floodplains of intermittent streams and channels. Slopes range from 2 to 9 percent. The mean annual precipitation is about 7 inches and the mean annual temperature is about 62° F. Under natural conditions vegetation present consists of creosote bush (*Larrea tridentata*) and bur-sage (*Ambrosia* spp.) (NRCS 2010).

**Cajon loamy sand, 0 to 5 percent slopes and Cajon gravelly loamy sand, 0 to 9 percent slopes:**

This series consists of very deep, somewhat excessively drained soils that formed in sandy alluvium from dominantly granitic rocks. The Cajon series occurs on alluvial fans, fan aprons, fan skirts, inset fans and river terraces and slopes range from 0 to 9 percent. The average annual precipitation is about 6 inches and the mean annual temperature is about 65° F. Under natural conditions vegetation present consists of creosote bush, saltbush (*Atriplex* spp.), Mormon-tea (*Ephedra* spp.), Joshua tree (*Yucca brevifolia*), Indian ricegrass (*Achnatherum hymenoides*), and other annual grasses and forbs (NRCS 2010).

**Cinco gravelly loamy sand, 50 to 75 percent slopes:**

The Cinco series consists of deep, well drained soils that formed in material weathered from granitic rocks. Cinco soils occur in uplands and have slopes ranging from 50 to 75 percent. The mean annual precipitation is about 7 inches and the mean annual air temperature is about 60° F. Under natural conditions vegetation present consists of buckwheat (*Eriogonum* spp.), bursage, and sparse cover of annual grasses (NRCS 2010).

**Garlock loamy sand, 2 to 9 percent slopes:**

The Garlock series consists of very deep, well drained soils formed from mixed alluvial material. Garlock soils occur on old stream terraces and alluvial fans in the Mojave Desert and have slopes of 2 to 9 percent. The mean annual precipitation is approximately 6 inches and the mean annual air temperature is approximately 63° F. Under natural conditions vegetation present on Garlock loamy sand consists of creosote bush, bur-sage, filaree (*Erodium* spp.), buckwheat (*Eriogonum* spp.), desert needlegrass (*Achnatherum speciosum*), Indian ricegrass, and other shrubs and annual species (NRCS 2010).

**Pajuela-Whitewolf association, steep:**

The Pajuela series consists of deep, somewhat excessively drained soils that formed from mixed alluvium. Pajuela soils occur on old stream terraces at the western edge of the Mojave Desert on slopes ranging from 30 to 50 percent. The mean annual precipitation is about 6 inches, and the mean annual air temperature is about 65° F. Under natural conditions vegetation present on Pajuela series consists of rabbit brush (*Chrysothamnus* spp.), juniper (*Juniperus* spp.), and annual and perennial grasses (NRCS 2010).

The Whitewolf series consists of deep, somewhat excessively drained soils that formed in mixed alluvium. Whitewolf soils occur on flood plains and alluvial fans and have slopes ranging from 0 to 5 percent. The mean annual precipitation is 7 inches, and the mean annual temperature is 64° F. Under natural conditions vegetation present includes annual grasses (NRCS 2010).

**Steuber sandy loam, 5 to 9 percent slopes:**

The Steuber series consists of deep, well drained soils that formed in mixed alluvium, principally of granitic origin. Steuber soils occur on alluvial fans and stream flood plains and have slopes ranging from 0 to 9 percent. The mean annual precipitation is approximately 11 inches and the mean annual air temperature is about 61° F. Under natural conditions vegetation present includes scattered blue oak or valley oak trees (*Quercus douglasii* and *Q. lobata*) and annual grasses and forbs (NRCS 2010).

**Torriorthents-Rock outcrop complex, very steep:**

No descriptions are currently available for these soil types (NRCS 2010).

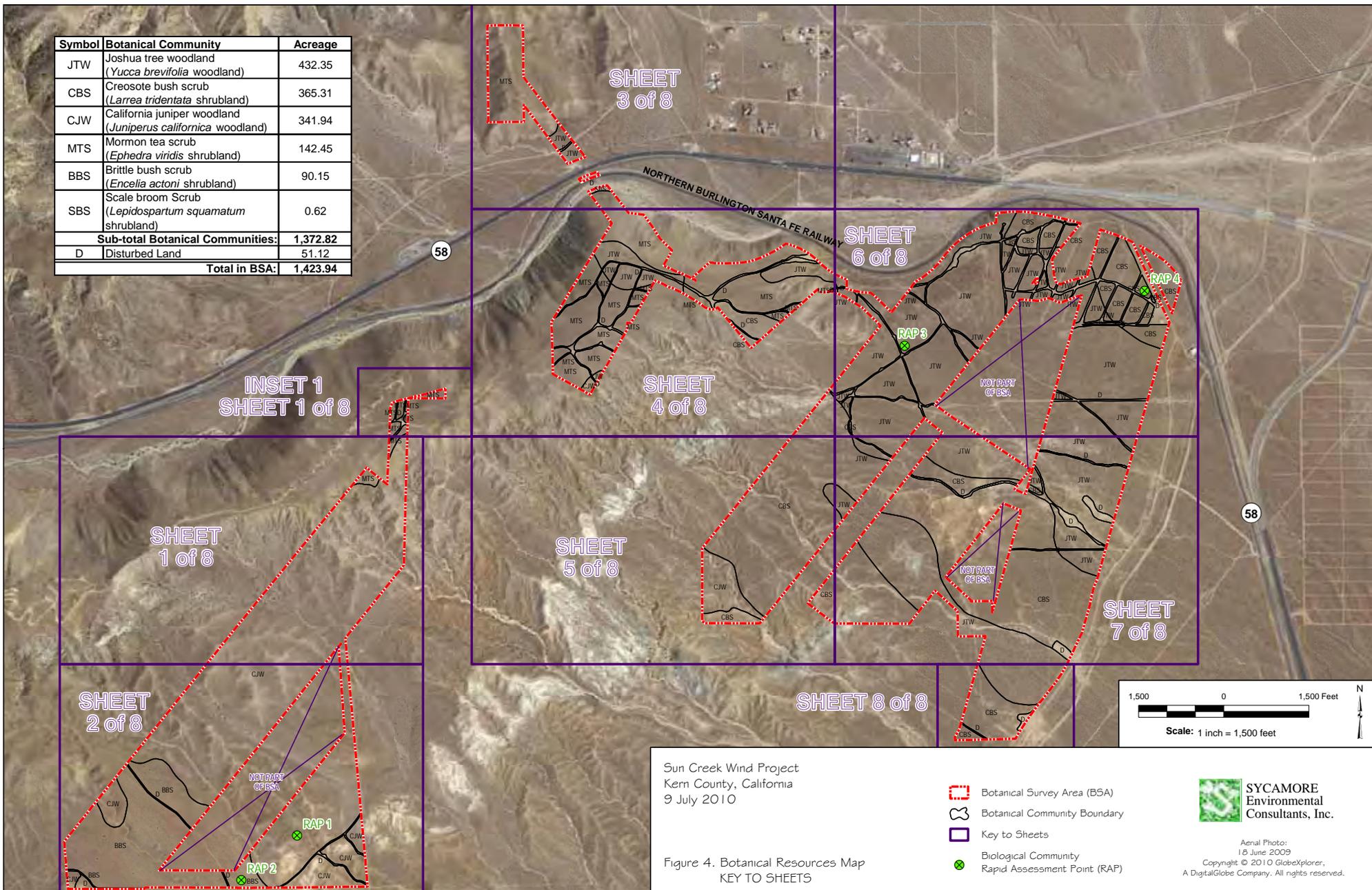
**B. Weather and Climate Conditions**

Botanical surveys were conducted on 2, 3, 4, 5, 6, and 7 May 2010. The historic (1982 to present) average precipitation for the Tehachapi gauge through April (based on a precipitation year beginning in October) is 9.67 inches (CDWR 2010). From October 2009 through April 2010 the Tehachapi Airport gauge (located immediately east of the Tehachapi gauge) received approximately 11.7 inches of rain (CDWR 2010), or approximately 121% of the average accumulated precipitation. The BSA had wetter than average spring hydrologic conditions prior to the botanical inventory fieldwork. The Tehachapi and Tehachapi Airport gauges are located approximately 12 mi west of the BSA.

**C. Biological Communities**

Biological communities are defined by species composition and relative abundance. Biological communities described in this section correlate where applicable with *A Manual of California Vegetation, 2<sup>nd</sup> Edition* (Sawyer et al. 2009). CNPS Rapid Assessment Protocol data sheets were completed to document biological community types in the BSA and are in Appendix B. Biological communities are mapped in Figure 4 and their acreages are in Table 3. Photographs of the BSA are in Appendix C.

Symbol	Botanical Community	Acreage
JTW	Joshua tree woodland ( <i>Yucca brevifolia</i> woodland)	432.35
CBS	Creosote bush scrub ( <i>Larrea tridentata</i> shrubland)	365.31
CJW	California juniper woodland ( <i>Juniperus californica</i> woodland)	341.94
MTS	Mormon tea scrub ( <i>Ephedra viridis</i> shrubland)	142.45
BBS	Brittle bush scrub ( <i>Encelia actoni</i> shrubland)	90.15
SBS	Scale broom Scrub ( <i>Lepidospartum squamatum</i> shrubland)	0.62
<b>Sub-total Botanical Communities:</b>		<b>1,372.82</b>
D	Disturbed Land	51.12
<b>Total in BSA:</b>		<b>1,423.94</b>



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Figure 4. Botanical Resources Map  
 KEY TO SHEETS

- Botanical Survey Area (BSA)
- Botanical Community Boundary
- Key to Sheets
- Biological Community Rapid Assessment Point (RAP)



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 18 June 2009  
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-  Botanical Survey Area (BSA)
-  Corridor Boundaries
-  Botanical Community Boundary



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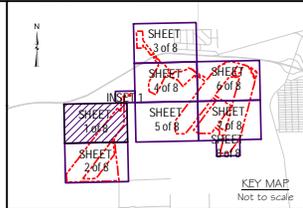
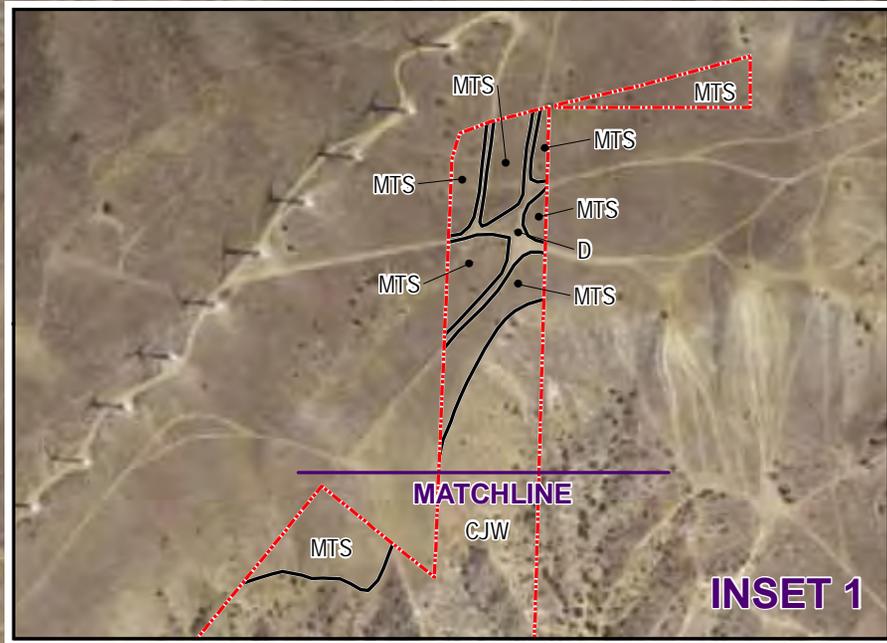
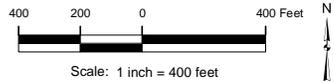


Figure 4. Botanical Resources Map  
 Sheet 1 of 8



Symbol	Botanical Community
CJW	California juniper woodland ( <i>Juniperus californica</i> woodland)
MTS	Mormon tea scrub ( <i>Ephedra viridis</i> shrubland)
D	Disturbed land



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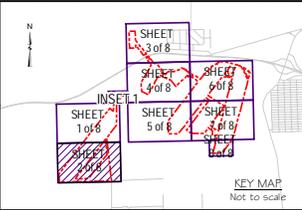
Figure 4. Botanical Survey  
Sheet 2 of 8

-  Botanical Survey Area (BSA)
-  Corridor Boundaries
-  Botanical Community Boundary
-  *Perideridia pringlei*
-  *Perideridia pringlei* (1 Plant)
-  Biological Community Rapid Assessment Point (RAP)

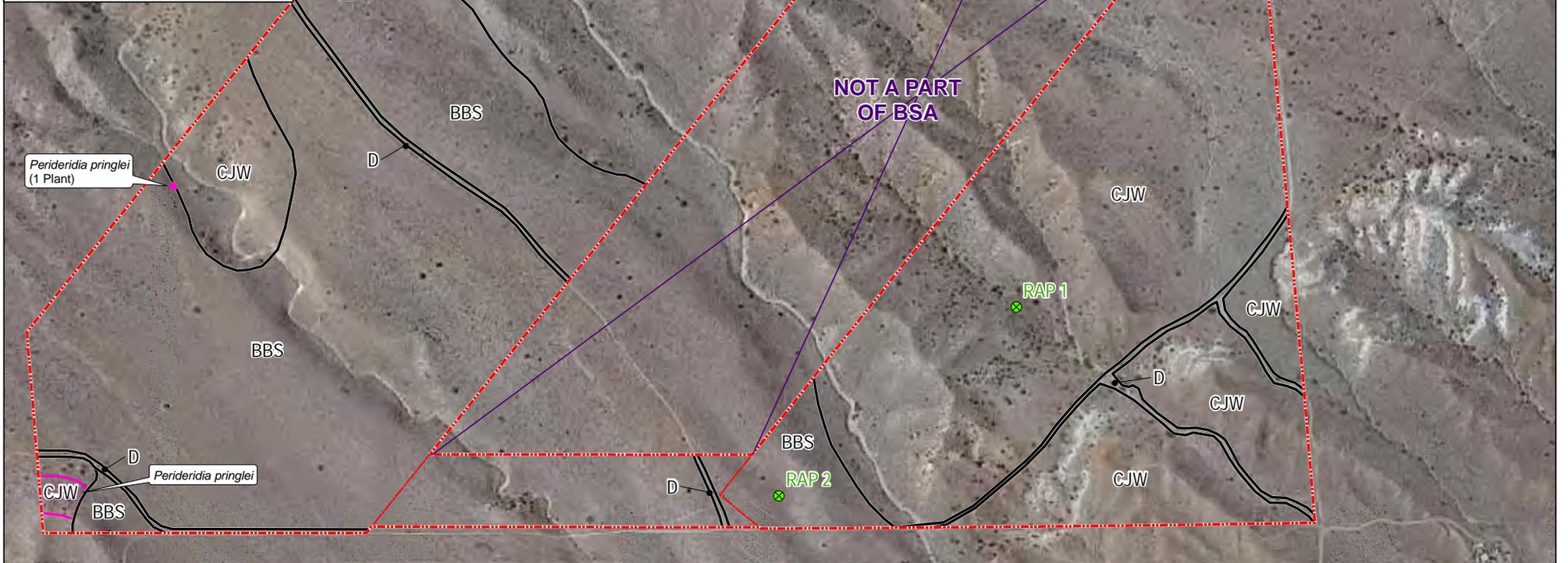
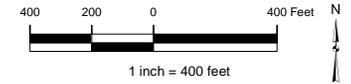


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June 2008

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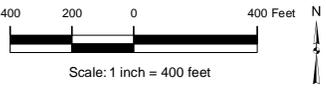
MATCHLINE - SEE SHEET 1 OF 8



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Symbol	Botanical Community
JTW	Joshua tree woodland ( <i>Yucca brevifolia</i> woodland)
MTS	Mormon tea scrub ( <i>Ephedra viridis</i> shrubland)
D	Disturbed land
SBS	Scale broom scrub ( <i>Lepidospartum squamatum</i> shrubland)



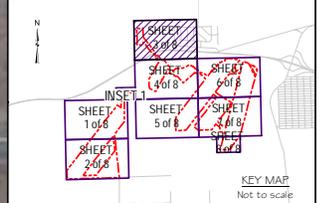
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Figure 4. Botanical Survey  
 Sheet 3 of 8

- Botanical Survey Area (BSA)
- Botanical Community Boundary
- Corridor Boundaries

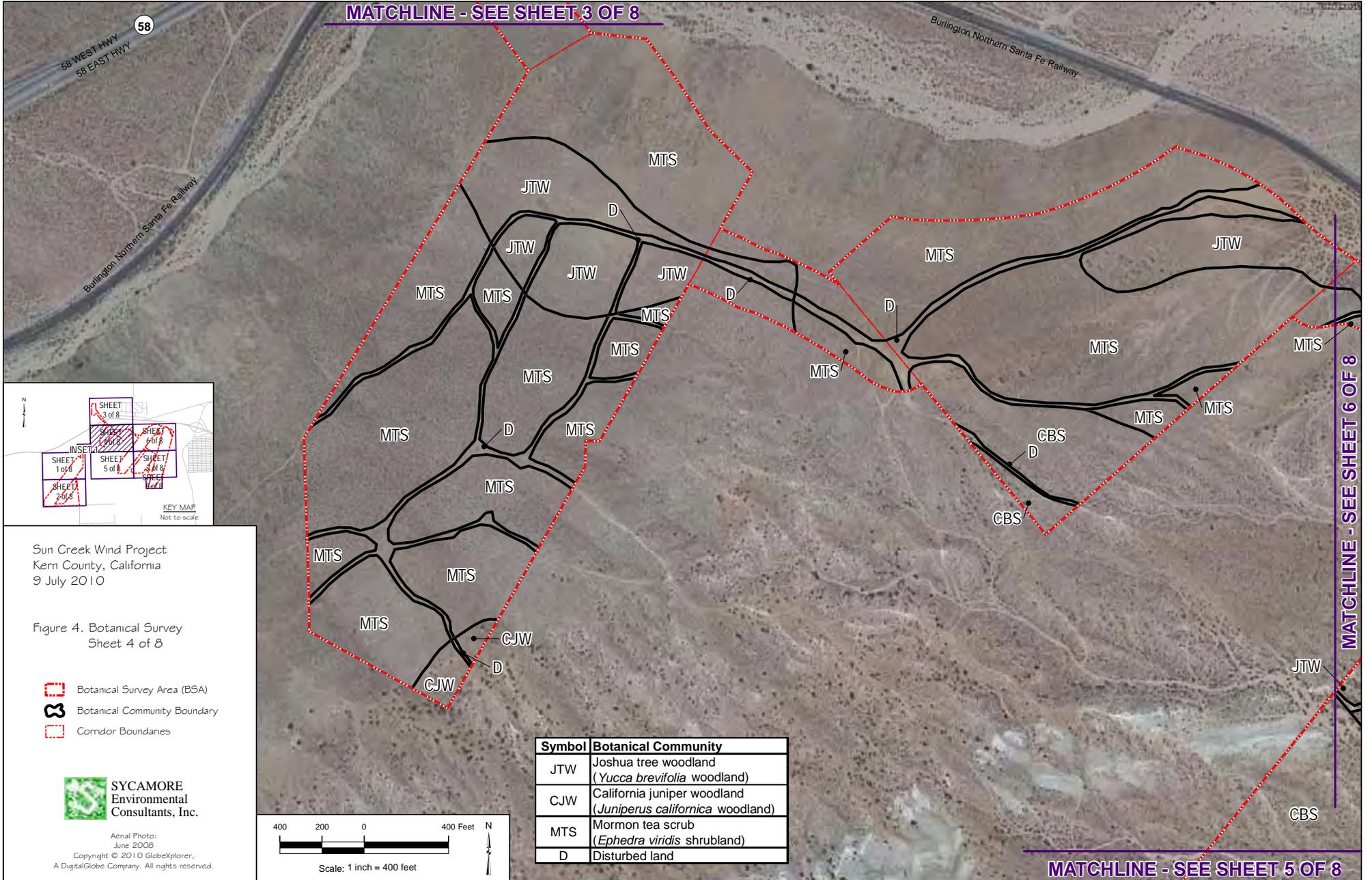


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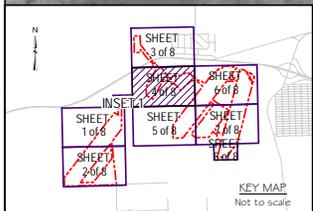
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MATCHLINE - SEE SHEET 3 OF 8



MATCHLINE - SEE SHEET 6 OF 8

MATCHLINE - SEE SHEET 5 OF 8



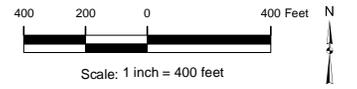
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Figure 4. Botanical Survey  
 Sheet 4 of 8

-  Botanical Survey Area (BSA)
-  Botanical Community Boundary
-  Corridor Boundaries



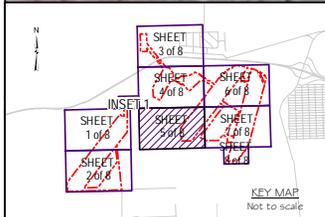
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Symbol	Botanical Community
JTW	Joshua tree woodland ( <i>Yucca brevifolia</i> woodland)
CJW	California juniper woodland ( <i>Juniperus californica</i> woodland)
MTS	Mormon tea scrub ( <i>Ephedra viridis</i> shrubland)
D	Disturbed land

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MATCHLINE - SEE SHEET 4 OF 8



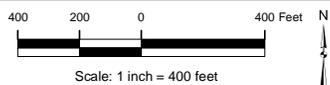
Sun Creek Wind Project  
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 9 July 2010

Figure 4. Botanical Survey  
 Sheet 5 of 8

-  Botanical Survey Area (BSA)
-  Botanical Community Boundary
-  Corridor Boundaries



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Symbol	Botanical Community
JTW	Joshua tree woodland ( <i>Yucca brevifolia</i> woodland)
CBS	Creosote bush scrub ( <i>Larrea tridentata</i> shrubland)
CJW	California juniper woodland ( <i>Juniperus californica</i> woodland)

MATCHLINE - SEE SHEET 7 OF 8

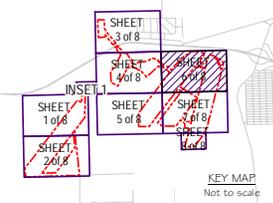
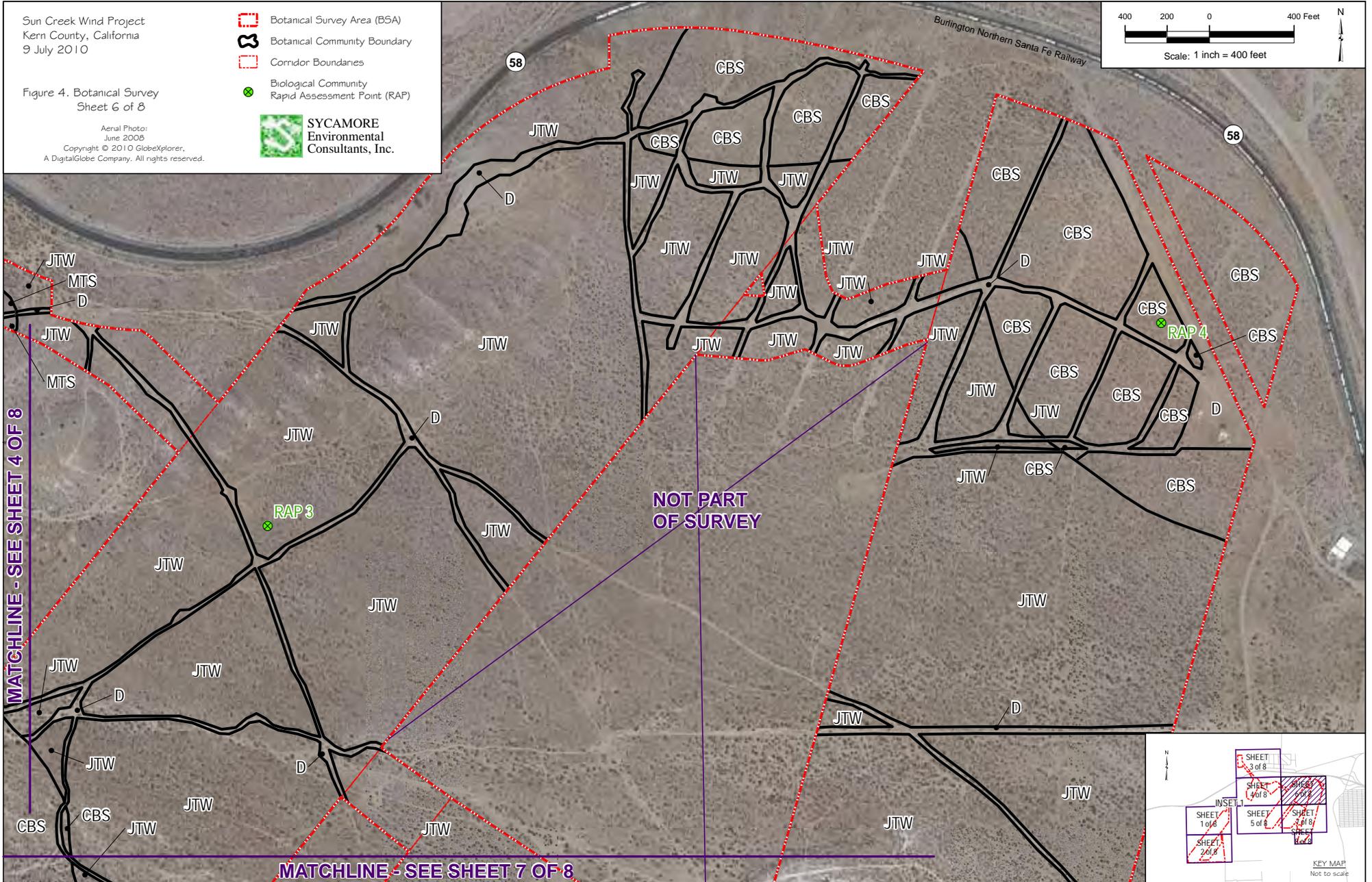
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 9 July 2010

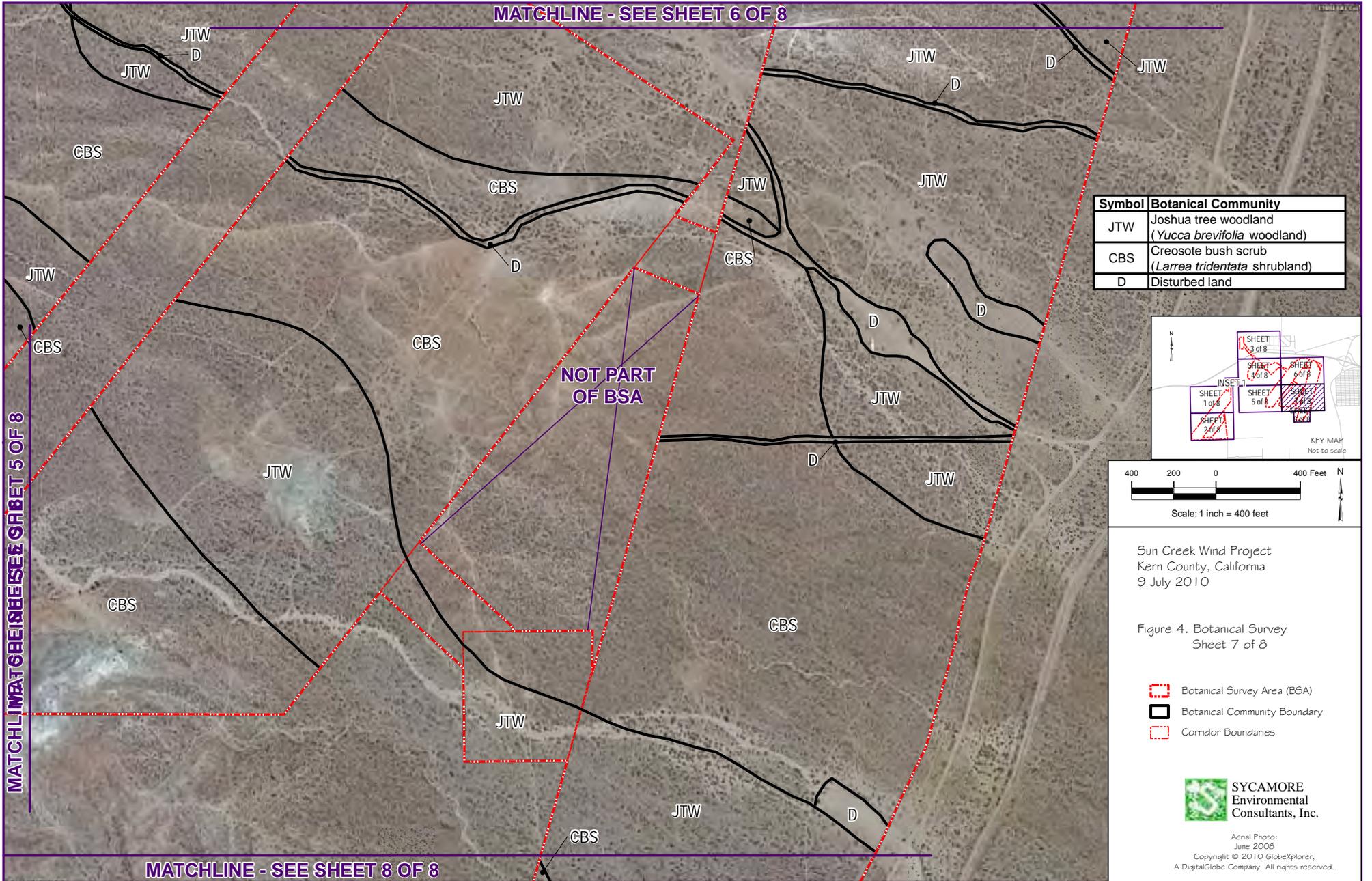
Figure 4. Botanical Survey  
 Sheet 6 of 8

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-  Botanical Survey Area (BSA)
  -  Botanical Community Boundary
  -  Corridor Boundaries
  -  Biological Community Rapid Assessment Point (RAP)
-  SYCAMORE  
 Environmental  
 Consultants, Inc.



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Symbol	Botanical Community
JTW	Joshua tree woodland ( <i>Yucca brevifolia</i> woodland)
CBS	Creosote bush scrub ( <i>Larrea tridentata</i> shrubland)
D	Disturbed land

Sun Creek Wind Project  
Kern County, California  
9 July 2010

Figure 4. Botanical Survey  
Sheet 8 of 8

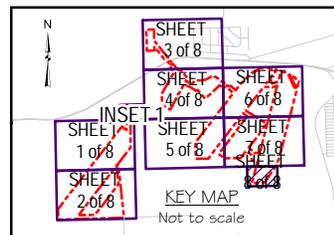
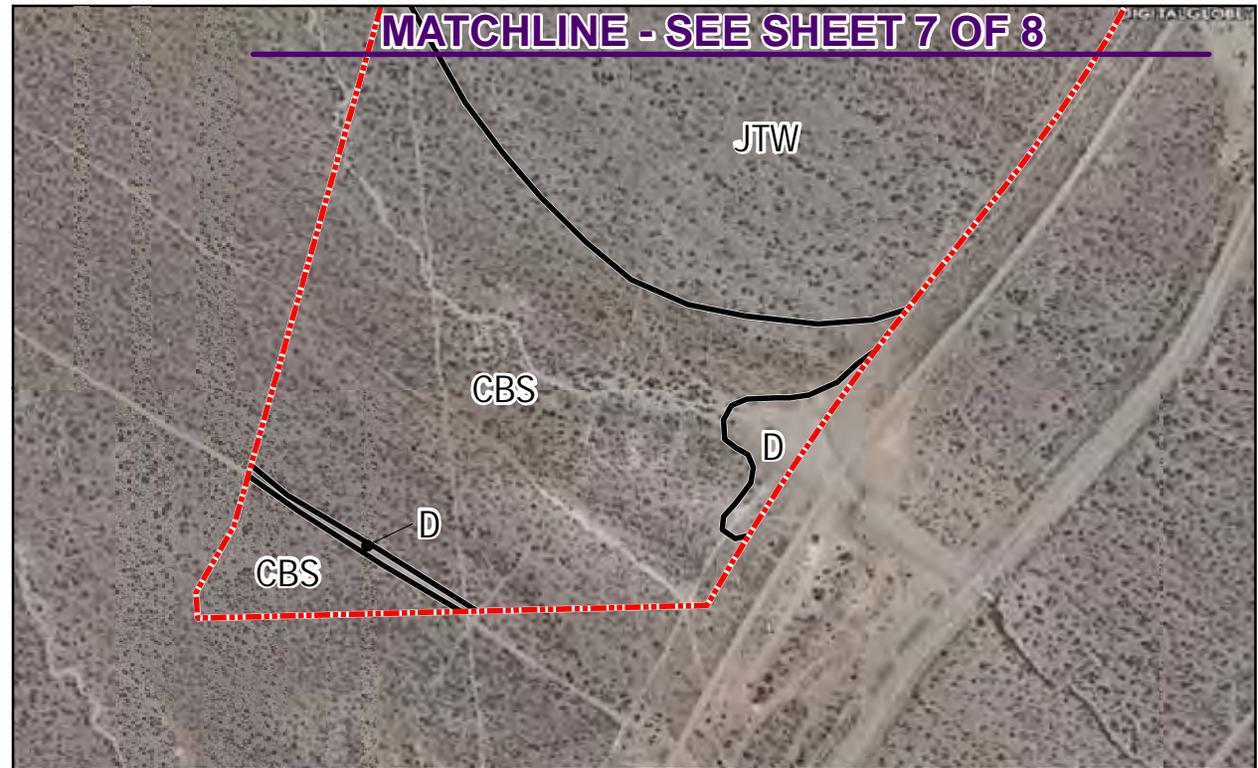
-  Botanical Survey Area (BSA)
-  Botanical Community Boundary
-  Corridor Boundaries



**SYCAMORE**  
Environmental  
Consultants, Inc.

Aerial Photo:  
June 2008

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Table 3. Biological and other communities.

Biological Community	Global & State Rarity Rank <sup>1</sup>	Acreage <sup>2</sup>
Joshua tree woodland ( <i>Yucca brevifolia</i> woodland)	G4 S3	432.35
Creosote bush scrub ( <i>Larrea tridentata</i> shrubland)	G5 S5	365.31
California juniper woodland ( <i>Juniperus californica</i> woodland)	G4 S4	341.94
Mormon tea scrub ( <i>Ephedra viridis</i> shrubland)	G4 S4	142.45
Brittle bush scrub <sup>3</sup> ( <i>Encelia actoni</i> shrubland)	--	90.15
Scale broom scrub ( <i>Lepidospartum squamatum</i> shrubland)	G3 S3	0.62
<b>Other Communities</b>		
Disturbed Land	--	51.12
<b>Total:</b>		<b>1,423.94</b>

<sup>1</sup> DFG (2009a).

<sup>2</sup> Acreages were calculated using AutoCAD<sup>®</sup> functions.

<sup>3</sup> There is no biological community at the alliance level that is defined by *Encelia actoni* in Sawyer et al. 2009. Three other alliances are defined by other species of *Encelia*.

## 1. Joshua Tree Woodland

This is the dominant community in the BSA and has greater than 1% cover of Joshua trees (*Yucca brevifolia*) and less than 1% cover of California juniper (*Juniperus californica*) (Appendix C, Photo 2). The Joshua trees are emergent through an open shrub canopy that has much greater cover than the Joshua trees. Common shrubs include creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), goldenbush (*Ericameria* spp.), Mormon tea (*Ephedra viridis*), California buckwheat (*Eriogonum fasciculatum* var. *polifolium*), winter fat (*Krascheninnikovia lanata*), burrobrush (*Hymenoclea salsola*), hop-sage (*Grayia spinosa*), and peppergrass (*Lepidium fremontii* var. *fremontii*). Common plants in the herb layer are foxtail chess (*Bromus madritensis* ssp. *rubens*), filaree (*Erodium cicutarium*), pincushion (*Chaenactis* spp.), *Cryptantha* spp., and sun cup (*Camissonia* spp.). Joshua tree woodland has a state rarity rank of S3 and is considered of high inventory priority to CNDDDB (DFG 2009a).

## 2. Creosote Bush Scrub

This community is similar to Joshua tree woodland in the shrub and herb layers, but Joshua trees are mostly absent (Appendix C, Photo 1). Overall Joshua tree cover is less than 1% and creosote bush is the shrub with the greatest cover. Creosote bush scrub has a state rarity rank of S5 and is not considered to be of high inventory priority to CNDDDB (DFG 2009a).

### 3. California Juniper Woodland

This community has at least 1% cover of California juniper. Joshua tree is often present, but overall has less cover than California juniper (Appendix C, Photo 3). Common shrubs include goldenbush, California buckwheat, Mormon tea, and brittle bush (*Encelia actoni*). The herb layer is similar to Joshua tree woodland, except that where the California juniper woodland borders brittle bush scrub, foxtail chess and filaree have substantially invaded and replaced the native herb community. In the BSA, California juniper woodland tends to occur upslope of and west of the Joshua tree woodland and creosote bush scrub. California juniper woodland has a state rarity rank of S4 and is not considered to be of high inventory priority to CNDDDB (DFG 2009a).

### 4. Mormon Tea Scrub

In this community Mormon tea is the most common shrub and has a cover of greater than 1% (Appendix C, Photo 4). Other common shrubs include goldenbush, brittle bush, peppergrass, and California buckwheat. Joshua tree and California juniper are occasional but very sparse. The herb layer is similar to Joshua tree woodland, except that in some areas desert needlegrass (*Achnatherum speciosum*) is much more common. This community tends to occur on or near ridge tops in the highest elevations of the BSA. Mormon tea scrub has a state rarity rank of S4 and is not considered to be of high inventory priority to CNDDDB (DFG 2009a).

### 5. Brittle Bush Scrub

In this community brittle bush is the most common shrub and has a cover of greater than 1% (Appendix C, Photo 5). Other common shrubs include goldenbush and California buckwheat. Joshua tree and California juniper are occasional, but very sparse. In the BSA, foxtail chess and filaree have substantially invaded and replaced the native herb community, although the native perennial bunchgrass desert needlegrass is still common.

### 6. Scale Broom Scrub

Scale broom (*Lepidospartum squamatum*) has greater than 1% cover and is the most common shrub in this community. This community occurs in one small area where the BSA includes a segment of Cache Creek near the BNSF railroad tracks (Figure 4). Cache Creek is the largest wash in the BSA and its boundary is very distinct due to a very steep slope immediately south of and adjacent to the wash. Scale broom scrub has a state rarity rank of S3 and is considered a high inventory priority to CNDDDB (DFG 2009a).

### 7. Disturbed Land

The vegetation and soil surface in areas mapped as disturbed land have been severely disturbed by human activity. This area contains wide dirt roads and several areas of intense off-road vehicle and camping use where vegetation is mostly lacking.

## D. The Existing Level of Disturbance

Aside from the areas specifically mapped as “disturbed land,” much of the western area of the BSA contains roads, trails, and clearings used by off-road vehicles (ORV) and campers. A few areas have very concentrated ORV use, but still contain substantial vegetation and were not mapped as “disturbed land.” Part of the northeastern area of the BSA once contained windmills and their concrete footings and dirt access roads to them are still present.

## **V. BOTANICAL RESOURCES IN THE BOTANICAL STUDY AREA**

### **A. Determination of Special-Status Plants in the Botanical Study Area**

File data from CNDDDB, USFWS, BLM, and CH2M Hill were used to determine the special-status plants that could potentially occur in the BSA. A CNDDDB summary report for the Mojave, Monolith and the 10 surrounding USGS quads is in Appendix D. The USFWS lists of special-status species that could occur in or be affected by the project is in Appendix E. Lists of BLM sensitive species are in Appendix F. CH2M Hill provided a list of special-status plants species that were also evaluated (Appendix G). Kern County does not maintain a list of plant species that are of local concern (pers. comm., C. Casdorff).

Field surveys were conducted by Sycamore Environmental botanists to determine if habitat for special-status species identified in the file data was present in the BSA. Special-status species for which suitable habitat is present in the BSA are listed in Table 4. Special-status species are defined as those listed, candidate, or proposed under the federal or state endangered species acts; species listed under the California Native Plant Protection Act; species identified as sensitive by the BLM, and species that are in the CNPS Inventory of Rare and Endangered Plants of California (CNPS 2010). The DFG California Natural Diversity Database (CNDDDB) tracks special-status species as well as species that have not been designated as special-status by DFG. Species that do not have formal state or federal special-status designations are not evaluated in this report.

### **B. Special-Status Plant Species not in the Botanical Study Area**

Special-status plant species for which suitable habitat is not present, or whose distributional limits preclude the possibility of their occurrence in the BSA, are not discussed in Section V.C of this report. An evaluation of these species is in Appendix H.

### **C. Evaluation of Special-Status Plants**

#### **Spanish Needle onion (*Allium shevockii*)**

**HABITAT AND BIOLOGY:** A bulbiferous herb found on rocky substrates in pinyon and juniper woodland and upper montane coniferous forest from 2,700 to 8,300 ft. Blooms May through June (CNPS 2010).

**RANGE:** In CA, known from fewer than 10 occurrences in Kern County (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave or Monolith quads. The closest CNDDDB record for this species is from 1995, located approximately 6.45 mi northwest of the BSA on the Tehachapi Northeast quad.

**HABITAT PRESENT IN THE BSA:** Upper montane coniferous forest does not occur in the BSA. The California juniper woodland in the BSA provides marginal habitat for this species.

**DISCUSSION:** Spanish Needle onion was not observed in the BSA during botanical surveys that were conducted during the evident and identifiable period. *Allium fimbriatum* var. *fimbriatum* was observed in the BSA. No other species of *Allium* were observed in the BSA.

Table 4. Special-status plants with the potential to occur in the BSA.

Special-Status Plant Species	Common Name	Federal Status <sup>a</sup> / BLM <sup>a</sup>	State Status <sup>a</sup> / CNPS <sup>b</sup>	Source <sup>c</sup>	Observed in the BSA
<i>Allium shevockii</i>	Spanish Needle onion	--/ Sensitive	--/ 1B.3	2, 3	No
<i>Astragalus albens</i>	Cushenbury milk-vetch	E/ --	--/ 1B.1	1	No
<i>Astragalus atratus</i> var. <i>mensanus</i>	Darwin Mesa milk-vetch	--/ Sensitive	--/ 1B.1	3	No
<i>Astragalus jaegerianus</i>	Lane Mountain milk-vetch	E/ --	--/ 1B.1	1	No
<i>Canbya candida</i>	White pygmy-poppy	--/ Sensitive	--/ 4.2	2, 3	No
<i>Cymopterus deserticola</i>	Desert cymopterus	--/ Sensitive	--/ 1B.2	3	No
<i>Enceliopsis covillei</i>	Panamint daisy	--/ Sensitive	--/ 1B.2	3	No
<i>Erigeron aequifolius</i>	Hall's daisy	--/ Sensitive	--/ 1B.3	3	No
<i>Erigeron parishii</i>	Parish's daisy	T, CH/ --	--/ 1B.1	1	No
<i>Eriogonum contiguum</i>	Reveal's buckwheat	--/ --	--/ 2.3	3	No
<i>Eriogonum kennedyi</i> var. <i>pinicola</i>	Kern buckwheat	--/ Sensitive	--/ 1B.1	2, 3	No
<i>Eriophyllum mohavense</i>	Barstow woolly sunflower	--/ Sensitive	--/ 1B.2	2, 3	No
<i>Eschscholzia minutiflora</i> ssp. <i>twisselmannii</i>	Red Rock poppy	--/ Sensitive	--/ 1B.2	2, 3	No
<i>Layia heterotricha</i>	Pale-yellow layia	--/ Sensitive	--/ 1B.1	2	No
<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>	Sagebrush loeflingia	--/ Sensitive	--/ 2.2	2	No
<i>Lupinus magnificus</i> var. <i>magnificus</i>	Panamint Mountains lupine	--/ Sensitive	--/ 1B.2	3	No
<i>Mimulus pictus</i>	Calico monkeyflower	--/ Sensitive	--/ 1B.2	2	No
<i>Mimulus shevockii</i>	Kelso Creek monkeyflower	--/ Sensitive	--/ 1B.2	3	No
<i>Monardella linoides</i> ssp. <i>oblonga</i>	Flax-like (=Tehachapi) monardella	--/ Sensitive	--/ 1B.3	2, 3	No
<i>Opuntia basilaris</i> var. <i>treleasei</i>	Bakersfield cactus	E/ Sensitive	E/ 1B.1	3	No
<i>Oxytheca parishii</i> var. <i>goodmaniana</i>	Cushenbury oxytheca	E/ --	--/ 1B.1	1	No
<i>Petalonyx thurberi</i> ssp. <i>gilmanii</i>	Death Valley sandpaper plant	--/ Sensitive	--/ 1B.3	3	No
<i>Perideridia pringlei</i>	Adobe yampah	--/ --	--/ 4.3	4	Yes
<i>Phacelia mustelina</i>	Round-leaved phacelia	--/ Sensitive	--/ 1B.3	3	No
<i>Phacelia nashiana</i>	Charlotte's phacelia	--/ Sensitive	--/ 1B.2	2, 3	No
<i>Streptanthus cordatus</i> var. <i>piutensis</i>	Piute Mountains jewel-flower	--/ Sensitive	--/ 1B.2	2, 3	No
<i>Viola aurea</i>	Golden violet	--/ --	--/ 2.2	2, 3	No

<sup>a</sup> **Listing Status.** Federal status determined from USFWS letter (USFWS 2010). State status determined from DFG (20010a, b, and c). BLM status determined from BLM website (BLM 2010). Codes include:

**E** = Endangered; **T** = Threatened; **P** = Proposed; **C** = Candidate; **R** = California Rare; **\*** = Possibly extinct; Sensitive = BLM Sensitive.

<sup>b</sup> **Codes** in table are as follows:

**CNPS List:** **1A** = Presumed Extinct in CA; **1B** = Rare or Endangered (R/E) in CA and elsewhere; **2** = R/E in CA and more common elsewhere; **3** = Need more information; **4** = Plants of limited distribution.

**CNPS List Decimal Extensions:** **.1** = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat); **.2** = Fairly endangered in CA (20-80% of occurrences threatened); **.3** = Not very endangered in CA (< 20% of occurrences threatened or no current threats known).

<sup>c</sup> **Sources** **1** = From USFWS letters (USFWS 2010), **2** = From CNDDDB (DFG 2010), **3** = From list provided by CH2M Hill (pers. comm., B. Canty; see Appendix G), **4** = Observed by Sycamore Environmental.

**Cushenbury milk-vetch (*Astragalus albens*)**

**HABITAT AND BIOLOGY:** A perennial herb found in Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland usually on carbonate substrate (rarely granitic) from 3,600 to 6,600 ft elevation. Blooms March through June (CNPS 2010).

**RANGE:** In CA, known from fewer than 20 occurrences in San Bernardino County (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave, Monolith, and 10 adjacent quads. The closest CNDDDB record for this species is from 1996, located approximately 88.5 mi southeast of the BSA on the Fawnskin quad.

**HABITAT PRESENT IN THE BSA:** The BSA is outside the known geographic range of this species. Habitat for this species occurs in the BSA.

**DISCUSSION:** Cushenbury milk-vetch was not observed in the BSA during botanical surveys conducted during the evident and identifiable period. *Astragalus didymocarpus* var. *didymocarpus*, *A. pachypus* var. *pachypus*, and *A. purshii* var. *tinctus* were observed in the BSA. No other species of *Astragalus* were observed in the BSA.

**Darwin Mesa milk-vetch (*Astragalus atratus* var. *mensanus*)**

**HABITAT AND BIOLOGY:** A perennial herb found in Great Basin scrub, Joshua tree woodland, and on volcanic clay and gravelly soils in pinyon and juniper woodland from 5,380 to 7,600 ft. Blooms April through June (CNPS 2010).

**RANGE:** In CA, known from Inyo County (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave, Monolith, and 10 adjacent quads. The closest CNDDDB record for this species is from 2001, located approximately 66.7 mi northeast of the BSA on the Cactus Peak quad.

**HABITAT PRESENT IN THE BSA:** The BSA is outside the known geographic and elevation range of this species. The Joshua tree woodland in the BSA provides marginal habitat for this species.

**DISCUSSION:** Darwin Mesa milk-vetch was not observed in the BSA during botanical surveys conducted during the evident and identifiable period. *Astragalus didymocarpus* var. *didymocarpus*, *A. pachypus* var. *pachypus* and *A. purshii* var. *tinctus* were observed in the BSA. No other species of *Astragalus* were observed in the BSA.

**Lane Mountain milk-vetch (*Astragalus jaegerianus*)**

**HABITAT AND BIOLOGY:** A perennial herb found in Joshua tree woodland and Mojavean desert scrub on granitic sandy or gravelly substrate from 2,900 to 3,900 ft. Blooms April through June (CNPS 2010).

**RANGE:** In CA, known from fewer than 10 occurrences in San Bernardino County totaling near 1,000 individual plants in 2001 (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave, Monolith, or 10 adjacent quads. The closest CNDDDB record for this species is from 2001, located approximately 64.8 mi east of the BSA on the Mud Hills quad.

**HABITAT PRESENT IN THE BSA:** The BSA is outside the known geographic range of this species. The BSA provides marginal habitat for this species.

**DISCUSSION:** Lane Mountain milk-vetch was not observed in the BSA during botanical surveys that were conducted during the evident and identifiable period. *Astragalus didymocarpus* var.

*didymocarpus*, *A. pachypus* var. *pachypus* and *A. purshii* var. *tinctus* were observed in the BSA. No other species of *Astragalus* were observed in the BSA.

### **White pygmy-poppy (*Canbya candida*)**

**HABITAT AND BIOLOGY:** An annual herb found on gravelly, sandy, and granitic substrates in Joshua tree “woodland,” Mojavean desert scrub, and pinyon and juniper woodland from 1,900 to 4,800 ft. Blooms March through June (CNPS 2010).

**RANGE:** In CA, known from Imperial, Inyo, Kern, Los Angeles, and San Bernardino counties (CNPS 2010).

**KNOWN RECORDS:** The closest CNDDDB record is from 1935. The CNDDDB record polygon is geographically imprecise and has a radius of 1 mi. The outer edge of the polygon intersects the southeast tip of the BSA.

**HABITAT PRESENT IN THE BSA:** Habitat for this species occurs in the BSA.

**DISCUSSION:** White pygmy-poppy was not observed in the BSA during botanical surveys conducted during the evident and identifiable period. (*Canbya candida* is the only species in the genus *Canbya*.)

### **Desert cymopterus (*Cymopterus deserticola*)**

**HABITAT AND BIOLOGY:** A perennial herb found on sandy substrates in Joshua tree woodland and Mojavean desert scrub from 2,000 to 5,000 ft. Blooms March through May (CNPS 2010).

**RANGE:** In CA, known from Kern, Los Angeles, and San Bernardino counties (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave, Monolith, or 10 adjacent quads. The closest CNDDDB record for this species is from 1995, located approximately 17.2 mi southeast of the BSA on the Edwards quad.

**HABITAT PRESENT IN THE BSA:** Habitat for this species occurs in the BSA.

**DISCUSSION:** Desert cymopterus was not observed in the BSA during botanical surveys conducted during the evident and identifiable period. No species of *Cymopterus* were observed in the BSA.

### **Panamint daisy (*Enceliopsis covillei*)**

**HABITAT AND BIOLOGY:** A perennial herb found in Mojavean desert scrub from 1,300 to 6,000 ft. This species is also known to occur on clayey or rocky subalkaline canyon sides and sandy washes (BLM 2010). Blooms March through June (CNPS 2010).

**RANGE:** In CA, known from Inyo County (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave, Monolith, or 10 adjacent quads. The closest CNDDDB record has no date and is located approximately 21.9 mi northeast of the BSA on the Ballarat quad.

**HABITAT PRESENT IN THE BSA:** Habitat for this species occurs in the BSA.

**DISCUSSION:** Panamint daisy was not observed in the BSA during botanical surveys conducted during the evident and identifiable period. No species of *Enceliopsis* were observed in the BSA.

### **Hall’s daisy (*Erigeron aequifolius*)**

**HABITAT AND BIOLOGY:** A rhizomatous herb found in broadleaved upland forest, lower montane coniferous forest, pinyon and juniper woodland, and upper montane coniferous forest from 4,920 to 7,870 ft. Blooms July through August (CNPS 2010).

**RANGE:** In CA, known from fewer than 20 occurrences in Fresno, Kern, and Tulare counties (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave, Monolith, or 10 adjacent quads. The closest CNDDDB record is from 1986, approximately 44.5 mi northeast of the BSA on the Owens Peak quad.

**HABITAT PRESENT IN THE BSA:** Marginal habitat for this species occurs in the BSA. The BSA is located outside the known elevation range of this species (CNPS 2010).

**DISCUSSION:** Because the May 2010 surveys were conducted outside its published blooming period, it is recommended that surveys be conducted for this species in late summer 2010. No species of *Erigeron* were observed in the BSA during the May 2010 botanical surveys.

### **Parish's daisy (*Erigeron parishii*)**

**HABITAT AND BIOLOGY:** A perennial herb usually found on carbonate substrate (sometimes granitic) in Mojavean desert scrub and pinyon and juniper woodland from 2,600 to 6,600 ft. This species also occurs in upper montane coniferous forests (BLM 2010). Blooms May through August (CNPS 2010).

**RANGE:** In CA, known from Riverside and San Bernardino counties around the northern base of the San Bernardino Mountains near Cushenbury Canyon; in the Little San Bernardino Mountains; and in the hills around Yucca Valley (CNPS 2010; BLM 2010). Not known from Kern County (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave, Monolith, or 10 adjacent quads. The closest CNDDDB record is from 1988, approximately 84.2 mi southeast of the BSA on the Butler Peak quad.

**HABITAT PRESENT IN THE BSA:** Marginal habitat for this species occurs in the BSA. The BSA is located outside the known geographic range of this species (CNPS 2010).

**DISCUSSION:** Parish's daisy was not observed in the BSA during botanical surveys conducted during the evident and identifiable period. No species of *Erigeron* were observed in the BSA.

### **Reveal's buckwheat (*Eriogonum contiguum*)**

**HABITAT AND BIOLOGY:** An annual herb found in Mojavean desert scrub from 100 to 4,350 ft. Blooms March through May (CNPS 2010).

**RANGE:** In CA, known from Inyo and San Bernardino counties (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave, Monolith, or 10 adjacent quads. The closest CNDDDB record is from 1977, approximately 84.9 mi southeast of the BSA on the Manly Peak quad.

**HABITAT PRESENT IN THE BSA:** The BSA is outside the known geographic range of this species. Habitat for this species occurs in the BSA.

**DISCUSSION:** Reveal's buckwheat was not observed in the BSA during botanical surveys conducted during the evident and identifiable period. *Eriogonum angulosum*, *E. fasciculatum* var. *polifolium*, *E. gracillimum*, *E. nudum* var. *westonii*, *E. pusillum*, *E. reniforme*, *E. trichopes*, and *E. viridescens* were observed in the BSA. A ninth species of *Eriogonum*, a perennial shrub, was also observed in the BSA, but could not be identified to species due to the lack of flowers. This unknown species of *Eriogonum* is a perennial shrub. Morphological characteristics observed in collected specimens and photographs confirm that this shrub is not *E. contiguum*.

**Kern buckwheat (*Eriogonum kennedyi* var. *pinicola*)**

**HABITAT AND BIOLOGY:** A perennial herb found on clay substrates in chaparral and pinyon and juniper woodland from 4,300 to 6,400 ft. Blooms May through June (CNPS 2010).

**RANGE:** In CA, known from only three occurrences in the Sweet Ridge area of Kern County (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave or Monolith quads. The closest CNDDDB record is from 1996, approximately 2.3 mi north of the BSA on the Cache Peak quad.

**HABITAT PRESENT IN THE BSA:** Chaparral does not occur in the BSA. The BSA is slightly lower in elevation than the known elevation range of this species. The California juniper woodland in the BSA provides marginal habitat for this species.

**DISCUSSION:** Kern buckwheat was not observed in the BSA during botanical surveys conducted during the evident and identifiable period. *Eriogonum angulosum*, *E. fasciculatum* var. *polifolium*, *E. gracillimum*, *E. nudum* var. *westonii*, *E. pusillum*, *E. reniforme*, *E. trichopes*, and *E. viridescens* were observed in the BSA. A ninth species of *Eriogonum*, a perennial shrub, was also observed in the BSA, but could not be identified to species due to the lack of flowers. This unknown species of *Eriogonum* is a perennial shrub. Morphological characteristics observed in collected specimens and photographs confirm that this shrub is not *E. kennedyi* var. *pinicola*.

**Barstow woolly sunflower (*Eriophyllum mohavense*)**

**HABITAT AND BIOLOGY:** An annual herb found in chenopod scrub, Mojavean desert scrub and playas from 1,600 to 3,200 ft. Blooms April through May (CNPS 2010).

**RANGE:** In CA, known from Fresno, Kern, Los Angeles, and San Bernardino counties (CNPS 2010).

**KNOWN RECORDS:** The closest CNDDDB record is from 2003, approximately 8.1 mi southeast of the BSA on the Sanborn quad.

**HABITAT PRESENT IN THE BSA:** Habitat for this species occurs in the BSA.

**DISCUSSION:** Barstow woolly sunflower was not observed in the BSA during the botanical inventory conducted during the evident and identifiable period. *Eriophyllum wallacei* and *Eriophyllum pringlei* were observed in the BSA. No other species of *Eriophyllum* were observed in the BSA.

**Red Rock poppy (*Eschscholzia minutiflora* ssp. *twisselmannii*)**

**HABITAT AND BIOLOGY:** An annual herb found on volcanic tuff substrates in Mojavean desert scrub from 2,200 to 4,100 ft. Blooms March through May (CNPS 2010).

**RANGE:** In CA, known from the Rand and El Paso mountains in Kern and San Bernardino counties (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave, Monolith, or 10 adjacent quads. The closest CNDDDB record is from 1988, approximately 13.8 mi northeast of the BSA on the Cinco quad.

**HABITAT PRESENT IN THE BSA:** Marginal habitat for this species occurs in the BSA. The BSA is located outside the known geographic range of this species (CNPS 2010).

**DISCUSSION:** Red Rock poppy was not observed in the BSA during the botanical inventory conducted during the evident and identifiable period. *Eschscholzia minutiflora* ssp. *covillei* was observed in the BSA. No other species of *Eschscholzia* were observed in the BSA.

**Pale-yellow layia (*Layia heterotricha*)**

**HABITAT AND BIOLOGY:** An annual herb found on alkaline or clay substrates in cismontane woodland, coastal scrub, pinyon and juniper woodland, and Valley and foothill grassland from 900 to 5,600 ft. Blooms March through June (CNPS 2010).

**RANGE:** In CA, known from Fresno, Los Angeles, Monterey, Santa Barbara, and Ventura counties. Extirpated or uncertain records exist from Kings, Kern, San Benito, and San Luis Obispo counties (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave or Monolith quads. The closest CNDDDB record is from 1988, approximately 5.4 mi northwest of the BSA on the Tehachapi Northeast quad.

**HABITAT PRESENT IN THE BSA:** The BSA provides marginal habitat for this species.

**DISCUSSION:** Pale-yellow layia was not observed in the BSA during the botanical inventory conducted during the evident and identifiable period. *Layia glandulosa* was observed in the BSA. No other species of *Layia* were observed in the BSA.

**Sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*)**

**HABITAT AND BIOLOGY:** An annual herb found on sandy substrates in desert dunes, Great Basin scrub, and Sonoran desert scrub from 2,200 to 5,300 ft. Blooms April through May (CNPS 2010).

**RANGE:** In CA, known from Inyo, Kern, Lassen, Los Angeles, and San Bernardino counties (CNPS 2010). This species is also known to occur in Nevada, Oregon, and Wyoming (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave or Monolith quads. The closest CNDDDB record is from 1998, approximately 8.5 mi southeast of the BSA on the Soledad Mountain quad.

**HABITAT PRESENT IN THE BSA:** Habitat for this species occurs in the BSA.

**DISCUSSION:** Sagebrush loeflingia was not observed in the BSA during the botanical inventory conducted during the evident and identifiable period. No varieties of *Loeflingia squarrosa* were observed in the BSA.

**Panamint Mountains lupine (*Lupinus magnificus* var. *magnificus*)**

**HABITAT AND BIOLOGY:** A perennial herb found in Great Basin scrub, Mojavean desert scrub, and upper montane coniferous forest from 3,280 to 7,500 ft. Blooms April through June (CNPS 2010).

**RANGE:** In CA, known from about 10 occurrences in Inyo County (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave, Monolith, or 10 adjacent quads. The closest CNDDDB record is from 1995, approximately 87 mi northeast of the BSA on the Panamint quad.

**HABITAT PRESENT IN THE BSA:** Marginal habitat for this species occurs in the BSA. The BSA is located outside the known geographic range of this species (CNPS 2010).

**DISCUSSION:** Panamint Mountains lupine was not observed in the BSA during the botanical inventory conducted during the evident and identifiable period. *Lupinus bicolor*, *L. concinnus*, *L. excubitus* var. *austromontanus*, *Lupinus microcarpus* var. *horizontalis*, and *L. microcarpus* var. *microcarpus* were observed in the BSA. No other species of *Lupinus* were observed in the BSA.

**Calico monkeyflower (*Mimulus pictus*)**

**HABITAT AND BIOLOGY:** An annual herb found on disturbed or granitic substrates in broadleaved upland forest and cismontane woodland from 300 to 4,300 ft. Blooms March through May (CNPS 2010).

**RANGE:** In CA, known from Kern and Tulare counties (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave or Monolith quads. The closest CNDDDB record is from 1993, approximately 5.6 mi northwest of the BSA on the Tehachapi Northeast quad.

**HABITAT PRESENT IN THE BSA:** Marginal habitat for this species occurs in the BSA.

**DISCUSSION:** Calico monkeyflower was not observed in the BSA during the botanical inventory conducted during the evident and identifiable period. No species of *Mimulus* were observed in the BSA.

**Kelso Creek monkeyflower (*Mimulus shevockii*)**

**HABITAT AND BIOLOGY:** An annual herb found on metamorphic, sandy, or gravelly substrates in pinyon and juniper woodland and Joshua tree woodland from 2,625 to 4,400 ft. Blooms March through May (CNPS 2010).

**RANGE:** In CA, known from about ten occurrences in Kern County (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave, Monolith, or 10 adjacent quads. The closest CNDDDB record is from 2008, approximately 19.7 mi north of the BSA on the Pinyon Mtn. quad.

**HABITAT PRESENT IN THE BSA:** Habitat for this species occurs in the BSA.

**DISCUSSION:** Kelso Creek monkeyflower was not observed in the BSA during the botanical inventory conducted during the evident and identifiable period. No species of *Mimulus* were observed in the BSA.

**Flax-like (=Tehachapi) monardella (*Monardella linoides* ssp. *oblonga*)**

**HABITAT AND BIOLOGY:** A rhizomatous herb found in upper and lower montane coniferous forest and pinyon and juniper woodland from 2,950 to 8,100 ft. Blooms June through August (CNPS 2010).

**RANGE:** In CA, known from Kern, Tulare, and Ventura counties (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave or Monolith quads. The closest CNDDDB record is from 1889, approximately 10.4 mi west of the BSA on the Tehachapi South quad.

**HABITAT PRESENT IN THE BSA:** Habitat for this species occurs in the BSA.

**DISCUSSION:** The published blooming period for this species is June through August (CNPS 2010). Because the May 2010 surveys were conducted outside its published blooming period, it is recommended that surveys be conducted for this species in late summer 2010. No species of *Monardella* were observed in the BSA during the May 2010 botanical surveys.

**Bakersfield cactus (*Opuntia basilaris* var. *treleasei*)**

**HABITAT AND BIOLOGY:** A stem succulent found in chenopod scrub, cismontane woodland, and Valley and foothill grassland from 400 to 1,800 ft. Blooms April through May (CNPS 2010).

**RANGE:** In CA, known from Kern County (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave, Monolith, or 10 adjacent quads. The closest CNDDDB record is from 1989, approximately 21.8 mi northwest of the BSA on the Oiler Peak quad.

**HABITAT PRESENT IN THE BSA:** Habitat for this species occurs in the BSA.

**DISCUSSION:** Bakersfield cactus was not observed in the BSA during the botanical inventory conducted during the evident and identifiable period. *Opuntia basilaris* var. *basilaris* was observed in the BSA. No other varieties of *Opuntia basilaris* were observed in the BSA.

### **Cushenbury oxytheca (*Oxytheca parishii* var. *goodmaniana*)**

**HABITAT AND BIOLOGY:** An annual herb found in pinyon and juniper woodland on sandy, carbonate substrate from 4,000 to 7,800. Blooms May to October (CNPS 2010).

**RANGE:** In CA, known from 15 occurrences in San Bernardino County (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave, Monolith, or 10 adjacent quads. The closest CNDDDB record is from 2005, approximately 83 mi southeast of the BSA on the Butler Creek quad.

**HABITAT PRESENT IN THE BSA:** Marginal habitat for this species occurs in the BSA. The BSA is located outside the known geographic range of this species (CNPS 2010).

**DISCUSSION:** Cushenbury oxytheca was not observed in the BSA during the botanical inventory conducted during the evident and identifiable period. *Oxytheca perfoliata* was observed in the BSA. No other species of *Oxytheca* were observed in the BSA.

### **Death Valley sandpaper plant (*Petalonyx thurberi* ssp. *gilmanii*)**

**HABITAT AND BIOLOGY:** An evergreen shrub found in desert dunes and Mojavean desert scrub from 850 to 4,750 ft. Blooms May through September (CNPS 2010).

**RANGE:** In CA, known from fewer than 20 occurrences in Inyo and San Bernardino counties (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave, Monolith, or 10 adjacent quads. The closest CNDDDB record is from 1986, approximately 82 mi northeast of the BSA on the Maturango Peak Southeast quad.

**HABITAT PRESENT IN THE BSA:** Marginal habitat for this species occurs in the BSA. The BSA is located outside the known geographic range of this species (CNPS 2010).

**DISCUSSION:** Death Valley sandpaper plant was not observed in the BSA during the botanical inventory conducted during the evident and identifiable period. *Petalonyx thurberi* ssp. *thurberi* was observed in the BSA. No other species of *Petalonyx* were observed in the BSA.

### **Adobe yampah (*Perideridia pringlei*)**

**HABITAT AND BIOLOGY:** A perennial herb found in chaparral, cismontane woodland, coastal scrub, and pinyon and juniper woodland from 985 to 5,900 ft. Blooms April through June (CNPS 2010).

**RANGE:** In CA, known from Kern, Los Angeles, Monterey, Santa Barbara, San Luis Obispo, Tulare, and Ventura counties (CNPS 2010).

**KNOWN RECORDS:** No CNDDDB records exist for this species because does not track CNPS List 4 species in their database.

**HABITAT PRESENT IN THE BSA:** Habitat for this species occurs in the BSA.

**DISCUSSION:** A species of *Perideridia* was observed in the BSA during botanical surveys conducted from 2 to 7 May 2010. However, the identity of this species could not be verified because the plants were not yet in flower or fruit. A follow-up site visit was conducted on 10 June 2010 to collect the species in fruit. Approximately 30 to 40 individuals were observed on 10 June 2010 near the southwest corner of the BSA (Figure 4, Sheet 2 of 8). Although the fruits were still not completely mature, based on examination of the available fruits and herbarium specimens of species that occur in the region, the species was determined to be *P. pringlei*, a CNPS list 4.3 species. A CNDDDB Field Form for this species is in Appendix I.

### **Round-leaved phacelia (*Phacelia mustelina*)**

**HABITAT AND BIOLOGY:** An annual herb found in carbonate or volcanic, gravelly or rocky Mojavean desert scrub and pinyon and juniper woodland from 2,400 to 8,600 ft. Blooms May through July (CNPS 2010).

**RANGE:** In CA, known from fewer than 20 occurrences in Inyo and San Bernardino counties (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave, Monolith, or 10 adjacent quads. The closest CNDDDB record is from 1998, approximately 57.8 mi northeast of the BSA on the Pilot Knob quad.

**HABITAT PRESENT IN THE BSA:** Marginal habitat for this species occurs in the BSA. The BSA is located outside the known geographic range of this species (CNPS 2010).

**DISCUSSION:** Round-leaved phacelia was not observed in the BSA during the botanical inventory conducted during the evident and identifiable period. *Phacelia distans*, *P. cf. fremontii*, and *P. imbricata* ssp. *imbricata* were observed in the BSA. No other species of *Phacelia* were observed in the BSA.

### **Charlotte's phacelia (*Phacelia nashiana*)**

**HABITAT AND BIOLOGY:** An annual herb found on granitic or sandy substrates in Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland from 1,900 to 7,300 ft. Blooms March through June (CNPS 2010).

**RANGE:** In CA, known from Inyo, Kern, and Tulare counties (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave or Monolith quads. The closest CNDDDB record is from 1988, approximately 6.3 mi northeast of the BSA on the Mojave Northeast quad.

**HABITAT PRESENT IN THE BSA:** Habitat for this species occurs in the BSA.

**DISCUSSION:** Charlotte's phacelia was not observed in the BSA during the botanical inventory conducted during the evident and identifiable period. *Phacelia distans*, *P. cf. fremontii*, and *P. imbricata* ssp. *imbricata* were observed in the BSA. No other species of *Phacelia* were observed in the BSA.

### **Piute Mountains jewel-flower (*Streptanthus cordatus* var. *piutensis*)**

**HABITAT AND BIOLOGY:** A perennial herb found on clay or metamorphic substrates in broadleaved upland forest, closed-cone coniferous forest, and pinyon and juniper woodland from 3,500 to 5,700 ft. Blooms May through July (CNPS 2010).

**RANGE:** In CA, known from fewer than five occurrences in Kern County (CNPS 2010).

**KNOWN RECORDS:** There are no CNDDDB records for this species on the Mojave or Monolith quads. The closest CNDDDB record is from 1966, approximately 3.7 mi northeast of the BSA on the Cache Peak quad.

**HABITAT PRESENT IN THE BSA:** Habitat for this species occurs in the BSA.

**DISCUSSION:** Piute Mountains jewel-flower was not observed in the BSA during the botanical inventory conducted during the evident and identifiable period. No species of *Streptanthus* were observed in the BSA.

### **Golden violet (*Viola aurea*)**

**HABITAT AND BIOLOGY:** A perennial herb found on sandy substrates in Great Basin scrub and pinyon and juniper woodland from 3,200 to 6,700 ft. Blooms April through June (CNPS 2010).

**RANGE:** In CA, known from Kern, Lassen, Los Angeles, Mono, San Bernardino, San Diego, and Sierra counties (CNPS 2010). This species is also known to occur in Nevada (CNPS 2010).

**KNOWN RECORDS:** The closest CNDDDB record is located approximately 1.8 mi southeast of the BSA on the Mojave quad. The only source of information for this occurrence is the site name noted by Milo Baker in “Studies in Western Violets” in Madroño, Vol. 12, 1953.

**HABITAT PRESENT IN THE BSA:** Habitat for this species occurs in the BSA.

**DISCUSSION:** Golden violet was not observed in the BSA during the botanical inventory conducted during the evident and identifiable period. No species of *Viola* were observed in the BSA. (Note: *Viola aurea* is treated as a subspecies of *V. purpurea* in the *Second Edition of The Jepson Manual*; Little 2010).

## **D. Evaluation of Special-Status Natural Communities**

Two biological communities in the BSA, Joshua tree woodland (432.35 ac) and Scale broom scrub (0.62 ac), have a state rarity ranking of S3. The CNDDDB considers communities with state rarity rankings of S1-S3 to be of “high inventory priority” (DFG 2009a). A community with an S3 ranking is considered “rare and threatened” throughout its range by Sawyer et al. (2009). No other special-status communities occur in the BSA.

## **E. Summary of Findings**

Joshua tree woodland (432.35 ac) and Scale broom scrub (0.62 ac), are the only special-status communities in the BSA. The BSA provides suitable habitat for 27 special-status plant species. No federal or state listed species or BLM sensitive species were observed. A population of *Perideridia pringlei*, a CNPS list 4.3 species, was observed in the southwest corner of the BSA. No other special-status plant species were observed in the BSA. Because the May 2010 surveys were conducted outside the published blooming period of *Monardella linoides* ssp. *oblonga* and *Erigeron aequifolius*, it is recommended that surveys be conducted for them in late summer 2010.

## VI. LITERATURE CITED AND PERSONAL COMMUNICATIONS

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## **B. Personal Communications**

Ms. Bridget Canty. Assoc. Project Manager & Ecologist. CH2M HILL. April 2010. Phone conversations and email correspondence regarding various project details.

Ms. Cheryl Casdorff. Supervising Planner. Kern County Planning Department, Special Projects Division. 2 June 2009. Phone conversation regarding whether Kern County maintains a list of plant species of local concern.

## VII. PREPARERS

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**R. John Little, Ph.D.**, Botany, Claremont Graduate School, Claremont, CA. Over 25 years experience managing and conducting environmental projects involving impact assessment and preparation of numerous NEPA/CEQA compliance documents, Biological Assessments, and Caltrans Natural Environmental Studies. Experience includes conducting special-status plant and wildlife species surveys, jurisdictional wetland delineations, general biological surveys, permitting and biological report preparation. Dr. Little is a trained wetland delineator, an ISA Certified Arborist (WE-1057A), and holds a California Department of Fish and Game Scientific Collecting Permit (#801073-04), and DFG Rare, Threatened and Endangered Plant Voucher Collecting Permit (#09054). Responsibilities: Project Manager, senior technical lead, report preparation, and botanical inventory fieldwork, plant identification.

**Chuck Hughes, M.S.**, Plant Biology, Michigan State University, East Lansing, MI. Prepares biological/botanical resource evaluations, jurisdictional delineations, arborist reports, impact analyses, and mitigation and restoration plans. Serves as assistant project manager. He is an ISA Certified Arborist (WE-6885A) and is listed on a Fish and Wildlife Service recovery permit for vernal pool crustaceans (TE799564-2). He holds a California Department of Fish and Game Rare, Threatened and Endangered Plant Voucher Collecting Permit (#08053), and a DFG Scientific Collecting Permit (#801246-05). Responsibilities: Botanical survey fieldwork, plant identification, and botanical report preparation.

**Michael Bower, M.S.**, Ecology, University of California, Davis, CA. Conducts plant and wildlife surveys, provides technical support for wetland delineations, biological resource evaluations, mitigation plans, and other documents used in the CEQA/NEPA process, queries the California Natural Diversity Database (CNDDB/RareFind), and researches special-status species for projects. He holds a California Department of Fish and Game Rare, Threatened and Endangered Plant Voucher Collecting Permit (#2081(a)-09-14-V). Responsibilities: Botanical survey fieldwork, plant identification, and botanical report preparation.

**Adam C. Forbes, M.S.**, Range Science (emphasis on plant systematics), New Mexico State University, Las Cruces, NM. Over 10 years experience conducting biological studies for the public and private sector. As a botanist/ biologist with Sycamore Environmental, Mr. Forbes conducts plant and wildlife surveys, prepares and edits reports, serves as assistant project manager, and conducts informal consultations with regulatory agency personnel. Responsibilities also include assisting with proposal preparation and marketing activities. Provides technical support for wetland delineations, biological resource evaluations, mitigation plans, and other documents used in the CEQA/NEPA process. He holds a California Department of Fish and Game Rare, Threatened and Endangered Plant Voucher Collecting Permit (#10021), and a DFG Scientific Collecting Permit (#802060-04). Responsibilities: Botanical report preparation.

**Aramis Respoll.** Over 15 years experience in drafting and design for public and private projects using Autodesk land development and ESRI ArcGIS geospatial programs. Primary experience evolved from conventional surveying and civil engineering practices to advanced GPS and GIS based technology. Past project experience includes CAD/GIS support for road and highway designs, facilities management, highway and airport master planning, noise studies, power transmission line alignments, and various private development projects such as subdivision layouts and golf courses. Prepares figures for biological and permitting documents such as project location maps, aerial photographs, biological resource maps, CNDDB proximity maps, delineation of wetlands and other waters, calculation of proposed project impacts, tree location maps, and other supporting graphics. Provides geospatial analysis and support for projects involving hydrology, watershed studies, project impact analysis, CNDDB species, critical habitat and mitigation. Responsibilities: Figure preparation and spatial analysis.

**Jessica Easley, B.S.**, Wildlife Biology, University of Montana, College of Forestry and Conservation, Missoula, MT. Conducts plant and wildlife surveys, provides technical support for wetland delineations, biological resource evaluations, mitigation plans, and other documents used in the CEQA/NEPA process, queries the California Natural Diversity Database (CNDDB/ RareFind), and researches special-status species for projects. She is an ISA Certified Arborist (WE-7845A), holds a California Department of Fish and Game Scientific Collecting Permit (#801180-02), and a DFG Rare, Threatened and Endangered Plant Voucher Collecting Permit (#2081(a)-10-06-V). Attended California red-legged frog (*Rana draytonii*) training (Mar 2009) and California tiger salamander (*Ambystoma californiense*) training (Mar 2010) at the Elkhorn Slough National Estuarine Research Reserve, Monterey County, CA.

Responsibilities: Botanical report preparation.

**Cynthia Little**, Principal, Sycamore Environmental.

Responsibilities: Senior editor, quality control.

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## APPENDIX A.

### Plant Species Observed

#### Sun Creek Wind Project Kern County, CA

Family	Scientific Name	Common Name	Native/ Introduced <sup>1</sup>
<b>GYMNOSPERMS</b>			
<b>Cupressaceae</b>	<i>Juniperus californica</i>	California juniper	N
<b>Ephedraceae</b>	<i>Ephedra viridis</i>	Mountain ephedra	N
<b>DICOTS</b>			
<b>Apiaceae</b>	<i>Lomatium mohavense</i>		N
	<i>Perideridia pringlei</i>	Pringle's yampah	N
<b>Asteraceae</b>	<i>Acamptopappus sphaerocephalus</i> var. <i>hirtellus</i>	Goldenhead	N
	<i>Ambrosia dumosa</i>	Burro-weed	N
	<i>Ambrosia</i> sp.	Ragweed	--
	<i>Anisocoma acaulis</i>	Scale bud	N
	<i>Artemisia</i> sp.	Sagebrush	--
	<i>Calycoseris parryi</i>	Calycoseris	N
	<i>Chaenactis fremontii</i>	Desert pincushion	N
	<i>Chaenactis stevioides</i>	Desert pincushion	N
	<i>Chaenactis xantiana</i>	Pincushion	N
	<i>Chrysothamnus</i> sp.	Rabbitbrush	N
	<i>Coreopsis bigelovii</i>	Tickseed	N
	<i>Coreopsis calliopsidea</i>	Tickseed	N
	<i>Encelia actoni</i>	Encelia	N
	<i>Ericameria cooperi</i>		N
	<i>Ericameria linearifolia</i>	Interior goldenbush	N
	<i>Eriophyllum pringlei</i>	Woolly sunflower	N
	<i>Eriophyllum wallacei</i>	Woolly sunflower	N
	<i>Hymenoclea salsola</i>	Burrobrush	N
	<i>Lasthenia gracilis</i>	Goldfields	N
	<i>Layia glandulosa</i>	White layia	N
	<i>Lepidospartum squamatum</i>	Scale-broom	N
	<i>Madia elegans</i>	Common madia	N
	<i>Malacothrix coulteri</i>	Snake's-head	N
	<i>Malacothrix glabrata</i>	Desert dandelion	N
	<i>Monolopia lanceolata</i>		N
	<i>Stephanomeria exigua</i>		N
	<i>Stephanomeria</i> sp.		N
	<i>Stylocline gnaphaloides</i>	Everlasting nest straw	N
	<i>Syntrichopappus fremontii</i>		N
	<i>Tetradymia stenolepis</i>	Cotton-thorn	N
	<i>Uropappus lindleyi</i>	Silver puffs	N
	<i>Xylorhiza tortifolia</i> var. <i>tortifolia</i>	Mojave aster	N

<b>Boraginaceae</b>	<i>Amsinckia tessellata</i> var. <i>tessellata</i>	Devil's lettuce	N
	<i>Cryptantha decipiens</i>		N
	<i>Cryptantha micrantha</i>		N
	<i>Cryptantha mohavensis</i>	Mojave cryptantha	N
	<i>Cryptantha nevadensis</i>		N
	<i>Cryptantha pterocarya</i>		N
	<i>Pectocarya setosa</i>	Pectocarya	N
	<i>Pectocarya linearis</i> ssp. <i>ferucola</i>	Pectocarya	N
	<i>Pectocarya penicillata</i>	Pectocarya	N
	<i>Plagiobothrys arizonicus</i>	Popcornflower	N
<b>Brassicaceae</b>	<i>Brassica tournefortii</i>	Sahara mustard	I
	<i>Guillenia lasiophylla</i>	California mustard	N
	<i>Arabis pulchra</i> var. <i>pulchra</i>	Rock cress	N
	<i>Caulanthus coulteri</i> var. <i>coulteri</i>	Jewelflower	N
	<i>Caulanthus inflatus</i>	Desert candle	N
	<i>Descurainia sophia</i>	Tansy mustard	I
	<i>Descurainia</i> sp.		--
	<i>Erysimum capitatum</i> var. <i>capitatum</i>	Western wallflower	N
	<i>Lepidium flavum</i> var. <i>flavum</i>	Peppergrass	N
	<i>Lepidium fremontii</i> var. <i>fremontii</i>	Peppergrass	N
	<i>Lepidium nitidum</i> var. <i>nitidum</i>	Peppergrass	N
	<i>Sisymbrium altissimum</i>	Tumble mustard	I
	<i>Stanleya pinnata</i> var. <i>pinnata</i>	Prince's plume	N
	<i>Tropidocarpum gracile</i>	Tropidocarpum	N
<b>Cactaceae</b>	<i>Opuntia basilaris</i> var. <i>basilaris</i>	Beavertail	N
	<i>Opuntia echinocarpa</i>	Silver cholla	N
<b>Capparaceae</b>	<i>Isomeris arborea</i>	Bladderpod	N
<b>Chenopodiaceae</b>	<i>Atriplex canescens</i>	Fourwing saltbush	N
	<i>Grayia spinosa</i>	Hop-sage	N
	<i>Krascheninnikovia lanata</i>	Winter fat	N
<b>Cucurbitaceae</b>	<i>Marah fabaceus</i>	California man-root	N
<b>Cuscutaceae</b>	<i>Cuscuta</i> sp.	Dodder	N
<b>Euphorbiaceae</b>	<i>Chamaesyce albomarginata</i>	Rattlesnake weed	N
	<i>Eremocarpus setigerus</i>	Turkey mullein	N
<b>Fabaceae</b>	<i>Astragalus didymocarpus</i> var. <i>didymocarpus</i>	Two-seeded milkvetch	N
	<i>Astragalus pachypus</i> var. <i>pachypus</i>	Astragalus	N
	<i>Astragalus purshii</i> var. <i>tinctus</i>	Astragalus	N
	<i>Lotus humistratus</i>	Lotus	N
	<i>Lupinus bicolor</i>	Miniature lupine	N
	<i>Lupinus concinnus</i>	Bajada lupine	N
	<i>Lupinus excubitus</i> var. <i>austromontanus</i>	Grape soda lupine	N
	<i>Lupinus microcarpus</i> var. <i>horizontalis</i>	Chick lupine	N
	<i>Lupinus microcarpus</i> var. <i>microcarpus</i>	Chick lupine	N
	<i>Trifolium gracilentum</i> var. <i>gracilentum</i>	Clover	N
<b>Geraniaceae</b>	<i>Erodium cicutarium</i>	Filaree	I
<b>Hydrophyllaceae</b>	<i>Emmenanthe pendulifera</i> var. <i>pendulifera</i>	Whispering bells	N
	<i>Eucrypta micrantha</i>		N
	<i>Nama demissum</i> var. <i>demissum</i>	Purple mat	N
	<i>Phacelia distans</i>		N

	<i>Phacelia cf. fremontii</i>		N
	<i>Phacelia imbricata</i> ssp. <i>imbricata</i>		N
	<i>Pholistoma membranaceum</i>	White fiesta flower	N
	<i>Tricardia watsonii</i>	Three hearts	N
<b>Lamiaceae</b>	<i>Salazaria mexicana</i>	Mexican bladdersage	N
	<i>Salvia columbariae</i>	Chia	N
	<i>Salvia dorrii</i> var. <i>pilosa</i>	Hairy sage	N
<b>Loasaceae</b>	<i>Mentzelia albicaulis</i>	Blazing star	N
	<i>Mentzelia veatchiana</i>	Blazing star	N
	<i>Petalonyx thurberi</i> ssp. <i>thurberi</i>	Thurber's sandpaper plant	N
<b>Malvaceae</b>	<i>Eremalche exilis</i>		N
	<i>Sphaeralcea ambigua</i> var. <i>rugosa</i>	Desert globemallow	N
<b>Nyctaginaceae</b>	<i>Mirabilis californica</i>	Wishbone bush	N
	<i>Mirabilis bigelovii</i> var. <i>retrorsa</i>		N
<b>Onagraceae</b>	<i>Camissonia campestris</i> ssp. <i>campestris</i>	Mojave sun cup	N
	<i>Camissonia claviformis</i> ssp. <i>claviformis</i>	Sun cup	N
	<i>Camissonia pallida</i> ssp. <i>hallii</i>	Sun cup	N
	<i>Camissonia palmeri</i>	Sun cup	N
	<i>Camissonia</i> sp.	Sun cup	N
<b>Papaveraceae</b>	<i>Eschscholzia minutiflora</i> ssp. <i>covillei</i> <sup>2</sup>	Coville's poppy	N
	<i>Platystemon californicus</i>	Cream cups	N
	<i>Stylomecon heterophylla</i>	Wind poppy	N
<b>Plantaginaceae</b>	<i>Plantago</i> sp.	Plantain	N
<b>Polemoniaceae</b>	<i>Eriastrum densifolium</i> ssp. <i>mohavense</i>	Mojave eriastrum	N
	<i>Eriastrum diffusum</i>		N
	<i>Gilia breccianum</i> ssp. <i>neglecta</i>		N
	<i>Gilia</i> sp.		N
	<i>Gilia capitata</i> ssp. <i>abrotanifolia</i>		N
	<i>Linanthus</i> sp.		N
	<i>Loeseliastrum matthewsii</i>	Desert calico	N
	<i>Loeseliastrum schottii</i>	Schott gilia	N
<b>Polygonaceae</b>	<i>Centrostegia thurberi</i>	Thurber spiny herb	N
	<i>Chorizanthe brevicornu</i>	Brittle spineflower	N
	<i>Chorizanthe watsonii</i>	Watson's spineflower	N
	<i>Eriogonum angulosum</i>	Wild buckwheat	N
	<i>Eriogonum fasciculatum</i> var. <i>polifolium</i>	California buckwheat	N
	<i>Eriogonum gracillimum</i>	Wild buckwheat	N
	<i>Eriogonum nudum</i> var. <i>westonii</i>	Wild buckwheat	N
	<i>Eriogonum pusillum</i>	Wild buckwheat	N
	<i>Eriogonum reniforme</i>	Wild buckwheat	N
	<i>Eriogonum trichopes</i>	Wild buckwheat	N
	<i>Eriogonum viridescens</i>	Wild buckwheat	N
	<i>Eriogonum</i> sp. <sup>3</sup>	Wild buckwheat	N
	<i>Oxytheca perfoliata</i>		N
	<i>Rumex hymenosepalus</i>	Canaille	N
<b>Portulacaceae</b>	<i>Calandrinia ciliata</i>	Red maids	N
	<i>Calyptridium monandrum</i>	Pussypaws	N
	<i>Claytonia parviflora</i> ssp. <i>parviflora</i>	Miner's lettuce	N
<b>Ranunculaceae</b>	<i>Delphinium parishii</i> ssp. <i>parishii</i>	Parish's larkspur	N
<b>Rosaceae</b>	<i>Purshia tridentata</i> var. <i>glandulosa</i>	Antelope Brush	N

<b>Rubiaceae</b>	<i>Galium</i> sp.	Bedstraw	N
<b>Scrophulariaceae</b>	<i>Castilleja angustifolia</i>	Desert Paintbrush	N
	<i>Penstemon</i> cf. <i>speciosus</i>	Royal Beardtongue	N
<b>Solanaceae</b>	<i>Datura wrightii</i>	Jimson weed	N
	<i>Lycium andersonii</i>	Box thorn	N
	<i>Lycium cooperi</i>	Box thorn	N
<b>Tamaricaceae</b>	<i>Tamarix aphylla</i>	Athel	I
	<i>Tamarix parviflora</i>	Smallflower tamarisk	I
<b>Zygophyllaceae</b>	<i>Larrea tridentata</i>	Creosote bush	N
<b>MONOCOTS</b>			
<b>Liliaceae</b>	<i>Allium fimbriatum</i> var. <i>fimbriatum</i>	Onion	N
	<i>Calochortus kennedyi</i> var. <i>kennedyi</i>	Desert mariposa lily	N
	<i>Dichelostemma capitatum</i> ssp. <i>capitatum</i>	Blue dicks	N
	<i>Muilla maritima</i>	Common muilla	N
	<i>Yucca breviflora</i>	Joshua tree	N
	<i>Yucca whipplei</i>	Chaparral yucca	N
<b>Poaceae</b>	<i>Achnatherum hymenoides</i>	Indian ricegrass	N
	<i>Achnatherum lemmonii</i> var. <i>lemmonii</i>	Lemmon's needlegrass	N
	<i>Achnatherum speciosum</i>	Desert needlegrass	N
	<i>Avena</i> sp.	Wild oat	I
	<i>Bromus arenarius</i>	Australian chess	I
	<i>Bromus diandrus</i>	Ripgut grass	I
	<i>Bromus madritensis</i> ssp. <i>rubens</i>	Foxtail chess	I
	<i>Bromus tectorum</i>	Cheat grass	I
	<i>Elymus elymoides</i>	Squirreltail	N
	<i>Hordeum murinum</i> ssp. <i>leporinum</i>	Foxtail	I
	<i>Poa secunda</i> ssp. <i>juncifolia</i>	Bluegrass	N
	<i>Schismus barbatus</i>	Mediterranean grass	I
	<i>Vulpia microstachys</i> var. <i>pauciflora</i>	Vulpia	N

<sup>1</sup> N = Native; I= Introduced; -- = Unable to determine.

<sup>2</sup> C. Clark (in Hickman, ed. 1993) stated under the description of *Eschscholzia minutiflora* that *E. minutiflora* plants with petals 6-18 mm long and 2n=24 from western Mojave Desert (NE Kern Co.) have been called ssp. *covillei* (E. Greene) C. Clark, whereas *E. minutiflora* plants with petals 10-26 mm and 2n=12 from northeast Kern County in the western portion of the Mojave Desert have been called ssp. *twisselmannii* (C. Clark & Faull). Petal lengths of plants from the BSA fall in the range of ssp. *covillei*. However, as noted in the Jepson Flora Project (Jepson Flora Project 2010) the current status of ssp. *covillei* and ssp. *twisselmannii* remain unresolved.

<sup>3</sup> This perennial shrub was not in flower, but its inflorescence type was determined from the previous year's growth. Morphological characteristics observed in collected specimens and our photographs of it confirm that this shrub is not one of three special-status species that could occur in the BSA: *Eriogonum kennedyi* var. *pinicola*, *E. ovalifolium* var. *vineum*, or *E. contiguum*. See text and Appendix H.

## **APPENDIX B.**

CNPS Data Sheets

Sun Creek Wind Project  
Kern County, CA

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**CALIFORNIA NATIVE PLANT SOCIETY - VEGETATION RAPID ASSESSMENT FIELD FORM**

(Desert Version Revised Feb 21, 2007)

<b>For Office Use:</b>	<b>Final database #:</b>	<b>Final vegetation type name:</b>	<b>Alliance Association</b>	
<b>I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION</b>				
<b>Polygon/Stand #:</b>	<b>Air photo #:</b>	<b>Date:</b>	<b>Name(s) of surveyors:</b>	
1		6 May 2010	Chuck Hughes	
GPS waypoint #: _____ GPS name: _____ GPS datum: (e.g. NAD 83) <u>WGS 84</u> Zone: 10S / 10T / <u>11S</u> (circle one)				
UTM field reading: UTME 386812 _____ UTMN 3883417 _____ GPS Error: ± 0.8 ft / <u>m</u>				
Is GPS within stand? <u>Yes</u> / No If No, cite from GPS point to stand, the distance _____ (in meters) and bearing _____ (degrees)				
Elevation: 3,670 <u>ft</u> / m Photograph #'s: _____				
Geology code: <u>MIAL</u> Soil Texture code: <u>MESA</u>   <u>Upland</u> or Wetland/Riparian (circle one)				
Topography: Macro: top upper <u>mid</u> lower bottom   Micro: convex flat concave <u>undulating</u> (circle one)				
% Surface cover: Lg rock: <u>0</u> Sm rock: <u>25</u> Bare/Fine: <u>68</u> Litter: <u>5</u> BA Stems: <u>2</u> Water: <u>0</u> =sums to 100% <small>(&gt;25 cm diam) (2mm-25 cm diam) (&lt;2 mm, Incl sand, mud)</small>				
Slope exposure, Actual °: _____ General: <u>NE</u> NW SE SW Flat Variable /All (circle one)				
Slope steepness, Actual °: _____ General: 0° 1-5° <u>5-25°</u> > 25° (circle one)				
Size of stand: <1 acre ___ 1-5 acres ___ >5 acres <u>X</u> Plot: <u>Yes</u> / No If yes, denote size: 100 m <sup>2</sup> / <u>400m<sup>2</sup></u> 1000 m <sup>2</sup> / Other				
Site history, stand age, and comments: _____ _____				
Type/ Level of disturbance codes: <u>02</u> / L <u>05</u> / S _____ / _____ / _____ "Other"				
<b>II. HABITAT AND VEGETATION DESCRIPTION</b>				
Tree DBH : <u>T1</u> (<1" dbh), <u>T2</u> (1-6" dbh), <u>T3</u> (6-11" dbh), <u>T4</u> (11-24" dbh), <u>T5</u> (>24" dbh), <u>T6</u> (multi-layered) (circle one)				
If Tree, list 1-3 dominant overstory spp.: _____				
Shrub: <u>S1</u> seedling (<3 yr. old), <u>S2</u> young (<1% dead), <u>S3</u> mature (1-25% dead), <u>S4</u> decadent (>25% dead)				
<u>Herbaceous: H1</u> (<12" plant ht.), <u>H2</u> (>12" ht.) Desert Riparian Tree/Shrub: <u>1</u> (<2ft. stem ht.), <u>2</u> (2-10ft. ht.), <u>3</u> (10-20ft. ht.), <u>4</u> (>20ft. ht.)				
Desert Palm/Joshua Tree: <u>1</u> (<1.5" base diameter), <u>2</u> (1.5-6" diam.), <u>3</u> (>6" diam.) % NonVasc cover: <u>0</u> Total % Veg cover: <u>69</u>				
% Cover -Overstory Tree Conifer/Hardwood: _____ / <u>1</u> Understory tree-Tall shrub: <u>3</u> Shrub: <u>5</u> Herbaceous: <u>60</u>				
Height Class - Overstory Conifer/Hardwood: _____ / <u>04</u> Understory tree-Tall shrub: <u>03</u> Shrub: <u>02</u> Herbaceous: <u>01</u>				
Height classes: 01=<1/2m 02=1/2-1m 03=1-2m 04=2-5m 05=5-10m 06=10-15m 07=15-20m 08=20-35m 09=35-50m 10=>50m				
Species (List up to 20 major species), Stratum, and Approximate % cover: Stratum categories: T= Overstory tree, U= Understory tree S = Shrub, H= Herb, N= Non-vascular. % cover intervals for reference: <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%				
Strata	Species	% cover	Strata Species % cover	
O	<i>Yucca brevifolia</i>	1	H <i>Lepidium nitidum</i> var. <i>nitidum</i>	3
U	<i>Juniperus californica</i>	3	H <i>Achnatherum</i> sp.	1
S	<i>Ericameria cooperi</i>	2	H <i>Amsinckia tessellata</i>	1
S	<i>Ephedra viridis</i>	2	H <i>Poa</i> sp.	1
S	<i>Eriogonum fasciculatum</i>	1	H <i>Sphaeralcea ambigua</i>	<1
H	<i>Bromus madritensis</i>	30	H <i>Elymus</i> sp.	<1
H	<i>Erodium cicutarium</i>	20	H <i>Mentzelia</i> sp.	<1
H	<i>Chamaesyce albomarginata</i>	2		
Unusual species: _____				
<b>III. INTERPRETATION OF STAND</b>				
Field-assessed vegetation alliance name: <u>Juniperus californica woodland</u>				
Field-assessed association name (optional): _____				
Adjacent alliances: _____ / _____				
Confidence in alliance identification: L <u>M</u> H Explain: <u>Yucca brevifolia generally taller but with less cover.</u>				
Other identification problems: _____				
Has the vegetation changed since air photo taken? <u>Yes</u> / No If Yes, What has changed?				
Polygon is more than one type: (Yes, No) _____ (Note: type with greatest coverage in polygon should be entered in above section)				
Other types: _____				

**CALIFORNIA NATIVE PLANT SOCIETY - VEGETATION RAPID ASSESSMENT FIELD FORM**

(Desert Version Revised Feb 21, 2007)

<b>For Office Use:</b>	<b>Final database #:</b>	<b>Final vegetation type name:</b>	<b>Alliance Association</b>
<b>I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION</b>			
<b>Polygon/Stand #:</b>	<b>Air photo #:</b>	<b>Date:</b>	<b>Name(s) of surveyors:</b>
2		6 May 2010	Chuck Hughes
GPS waypoint #: _____ GPS name: _____ GPS datum: (e.g. NAD 83) <u>WGS 84</u> Zone: 10S / 10T / <u>11S</u> (circle one)			
UTM field reading: UTME 386399 _____ UTMN 3882960 _____ GPS Error: ± 1.3 ft / <u>m</u>			
Is GPS within stand? <u>Yes</u> / No If No, cite from GPS point to stand, the distance _____ (in meters) and bearing _____ (degrees)			
Elevation: 3,690 <u>ft</u> / m Photograph #'s: _____			
Geology code: <u>MIAL</u> Soil Texture code: <u>MESA</u>   Upland or Wetland/Riparian (circle one)			
Topography: Macro: top upper <u>mid</u> lower bottom   Micro: convex flat concave <u>undulating</u> (circle one)			
% Surface cover: Lg rock: <u>0</u> Sm rock: <u>20</u> Bare/Fine: <u>73</u> Litter: <u>5</u> BA Stems: <u>2</u> Water: <u>0</u> =sums to 100% <small>(&gt;25 cm diam) (2mm-25 cm diam) (&lt;2 mm, Incl sand, mud)</small>			
Slope exposure, Actual °: _____ General: NE NW <u>SE</u> SW Flat Variable /All (circle one)			
Slope steepness, Actual °: _____ General: 0° 1-5° <u>5-25°</u> > 25° (circle one)			
Size of stand: <1 acre ___ 1-5 acres ___ >5 acres <u>X</u> Plot: <u>Yes</u> / No If yes, denote size: 100 m <sup>2</sup> / <u>400m<sup>2</sup></u> / 1000 m <sup>2</sup> / Other			
Site history, stand age, and comments: _____ _____			
Type/ Level of disturbance codes: <u>02</u> / L <u>05</u> / S _____ / _____ / _____ "Other"			
<b>II. HABITAT AND VEGETATION DESCRIPTION</b>			
Tree DBH : <u>T1</u> (<1" dbh), <u>T2</u> (1-6" dbh), <u>T3</u> (6-11" dbh), <u>T4</u> (11-24" dbh), <u>T5</u> (>24" dbh), <u>T6</u> (multi-layered) (circle one)			
If Tree, list 1-3 dominant overstory spp.: _____			
Shrub: <u>S1</u> seedling (<3 yr. old), <u>S2</u> young (<1% dead), <u>S3</u> mature (1-25% dead), <u>S4</u> decadent (>25% dead)			
Herbaceous: <u>H1</u> (<12" plant ht.), <u>H2</u> (>12" ht.) Desert Riparian Tree/Shrub: <u>1</u> (<2ft. stem ht.), <u>2</u> (2-10ft. ht.), <u>3</u> (10-20ft. ht.), <u>4</u> (>20ft. ht.)			
Desert Palm/Joshua Tree: <u>1</u> (<1.5" base diameter), <u>2</u> (1.5-6" diam.), <u>3</u> (>6" diam.) % NonVasc cover: <u>0</u> Total % Veg cover: <u>75</u>			
% Cover -Overstory Tree Conifer/Hardwood: _____ / _____ Understory tree-Tall shrub: _____ Shrub: <u>5</u> Herbaceous: <u>70</u>			
Height Class - Overstory Conifer/Hardwood: _____ / _____ Understory tree-Tall shrub: _____ Shrub: <u>02</u> Herbaceous: <u>01</u>			
<small>Height classes: 01=&lt;1/2m 02=1/2-1m 03=1-2m 04=2-5m 05=5-10m 06=10-15m 07=15-20m 08=20-35m 09=35-50m 10=&gt;50m</small>			
Species (List up to 20 major species), Stratum, and Approximate % cover: Stratum categories: T= Overstory tree, U= Understory tree S = Shrub, H= Herb, N= Non-vascular. % cover intervals for reference: <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%			
Strata	Species	% cover	Strata Species % cover
S	<i>Encelia actoni</i>	4	H <i>Gilia</i> sp. <1
S	<i>Eriogonum fasciculatum</i>	1	H <i>Platystemon californicus</i> <1
H	<i>Achnatherum</i> sp.	3	H <i>Mentzelia</i> sp. <1
H	<i>Bromus madritensis</i> ssp. <i>rubens</i>	35	
H	<i>Erodium cicutarium</i>	25	
H	<i>Amsinckia tessellata</i>	3	
H	<i>Phacelia</i> sp.	1	
H	<i>Tropidocarpum gracile</i>	2	
Unusual species: _____			
<b>III. INTERPRETATION OF STAND</b>			
Field-assessed vegetation alliance name: <u>Encelia actoni Shrubland</u>			
Field-assessed association name (optional): _____			
Adjacent alliances: _____ / _____			
Confidence in alliance identification: L <u>M</u> H Explain: <u>Encelia actoni more common in many areas outside of plot</u>			
Other identification problems: _____			
Has the vegetation changed since air photo taken? <u>Yes</u> / No If Yes, What has changed? _____			
Polygon is more than one type: (Yes, No) _____ (Note: type with greatest coverage in polygon should be entered in above section)			
Other types: _____			

**CALIFORNIA NATIVE PLANT SOCIETY - VEGETATION RAPID ASSESSMENT FIELD FORM**

(Desert Version Revised Feb 21, 2007)

<b>For Office Use:</b>	<b>Final database #:</b>	<b>Final vegetation type name:</b>	<b>Alliance Association</b>
<b>I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION</b>			
<b>Polygon/Stand #:</b>	<b>Air photo #:</b>	<b>Date:</b>	<b>Name(s) of surveyors:</b>
3		7 May 2010	Chuck Hughes
GPS waypoint #: _____ GPS name: _____ GPS datum: (e.g. NAD 83) <u>WGS 84</u> Zone: 10S / 10T / <u>11S</u> (circle one)			
UTM field reading:    UTM E 389990 _____ UTM N 3885789 _____    GPS Error: ± 0.8 ft / <u>m</u>			
Is GPS within stand? <u>Yes</u> / No If No, cite from GPS point to stand, the distance _____ (in meters) and bearing _____ (degrees)			
Elevation: 3,413 <u>ft</u> / m    Photograph #'s: _____			
Geology code: <u>GRAN</u> Soil Texture code: <u>COLS</u>   <u>Upland</u> or Wetland/Riparian (circle one)			
Topography: Macro: top upper mid <u>lower</u> bottom   Micro: convex flat concave <u>undulating</u> (circle one)			
% Surface cover:    Lg rock: <u>0</u> Sm rock: <u>1</u> Bare/Fine: <u>92</u> Litter: <u>5</u> BA Stems: <u>2</u> Water: <u>0</u> =sums to 100% <small>(&gt;25 cm diam)    (2mm-25 cm diam)    (&lt;2 mm, Incl sand, mud)</small>			
Slope exposure, Actual °: _____ General: <u>NE</u> NW    SE    SW    Flat    Variable / All (circle one)			
Slope steepness, Actual °: _____ General: 0° <u>1-5°</u> 5-25°    > 25° (circle one)			
Size of stand: <1 acre _____ 1-5 acres _____ >5 acres <u>X</u> Plot: <u>Yes</u> / No If yes, denote size: 100 m <sup>2</sup> / <u>400m<sup>2</sup></u> / 1000 m <sup>2</sup> / Other			
Site history, stand age, and comments: _____ _____			
Type/ Level of disturbance codes: <u>02</u> / M <u>05</u> / M    _____ / _____ / _____ / _____ "Other"			
<b>II. HABITAT AND VEGETATION DESCRIPTION</b>			
Tree DBH : <u>T1</u> (<1" dbh), <u>T2</u> (1-6" dbh), <u>T3</u> (6-11" dbh), <u>T4</u> (11-24" dbh), <u>T5</u> (>24" dbh), <u>T6</u> (multi-layered) (circle one)			
If Tree, list 1-3 dominant overstory spp.: _____			
Shrub: <u>S1</u> seedling (<3 yr. old), <u>S2</u> young (<1% dead), <u>S3</u> mature (1-25% dead), <u>S4</u> decadent (>25% dead)			
<u>Herbaceous: H1</u> (<12" plant ht.), <u>H2</u> (>12" ht.)    Desert Riparian Tree/Shrub: <u>1</u> (<2ft. stem ht.), <u>2</u> (2-10ft. ht.), <u>3</u> (10-20ft. ht.), <u>4</u> (>20ft. ht.)			
Desert Palm/Joshua Tree: <u>1</u> (<1.5" base diameter), <u>2</u> (1.5-6" diam.), <u>3</u> (>6" diam.)    % NonVasc cover: <u>0</u> Total % Veg cover: <u>48</u>			
% Cover -Overstory Tree Conifer/Hardwood: _____ / <u>2</u> Understory tree-Tall shrub: <u>4</u> Shrub: <u>18</u> Herbaceous: <u>24</u>			
% Height Class - Overstory Conifer/Hardwood: _____ / <u>04</u> Understory tree-Tall shrub: <u>03</u> Shrub: <u>02</u> Herbaceous: <u>01</u>			
Height classes: 01=<1/2m 02=1/2-1m 03=1-2m 04=2-5m 05=5-10m 06=10-15m 07=15-20m 08=20-35m 09=35-50m 10=>50m			
Species (List up to 20 major species), Stratum, and Approximate % cover: Stratum categories: T= Overstory tree, U= Understory tree S = Shrub, H= Herb, N= Non-vascular. % cover intervals for reference: <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%			
Strata	Species	% cover	Strata Species % cover
O	<i>Yucca brevifolia</i>	2	S <i>Gravia spinosa</i> <1
U	<i>Larrea tridentata</i>	4	H <i>Lepidium fremontii</i> <1
S	<i>Ambrosia dumosa</i>	5	H <i>Bromus madritensis</i> 4
S	<i>Ericameria sp.</i>	5	H <i>Erodium cicutarium</i> 8
S	<i>Ephedra viridis</i>	3	H <i>Bromus tectorum</i> 6
S	<i>Eriogonum fasciculatum</i>	2	H <i>Chaenactis sp.</i> 2
S	<i>Krascheninnikovia lanata</i>	1	H <i>Achnatherum sp.</i> 2
S	<i>Hymenoclea salsola</i>	2	H <i>Camissonia sp.</i> 2
Unusual species: _____			
<b>III. INTERPRETATION OF STAND</b>			
Field-assessed vegetation alliance name: <i>Yucca brevifolia</i> woodland			
Field-assessed association name (optional): _____			
Adjacent alliances: _____ / _____			
Confidence in alliance identification: L <u>M</u> H Explain: _____			
Other identification problems: _____			
Has the vegetation changed since air photo taken? <u>Yes</u> / No If Yes, What has changed?			
Polygon is more than one type: (Yes, No) _____ (Note: type with greatest coverage in polygon should be entered in above section)			
Other types: _____			

**CALIFORNIA NATIVE PLANT SOCIETY - VEGETATION RAPID ASSESSMENT FIELD FORM**

(Desert Version Revised Feb 21, 2007)

<b>For Office Use:</b>	<b>Final database #:</b>	<b>Final vegetation type name:</b>	<b>Alliance Association</b>
<b>I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION</b>			
<b>Polygon/Stand #:</b>	<b>Air photo #:</b>	<b>Date:</b>	<b>Name(s) of surveyors:</b>
4		7 May 2010	Chuck Hughes
GPS waypoint #: _____ GPS name: _____ GPS datum: (e.g. NAD 83) <u>WGS 84</u> Zone: 10S / 10T / <u>11S</u> (circle one)			
UTM field reading:    UTM E 391281 _____ UTM N 3886068 _____    GPS Error: ± 0.7 ft / <u>m</u>			
Is GPS within stand? <u>Yes</u> / No If No, cite from GPS point to stand, the distance _____ (in meters) and bearing _____ (degrees)			
Elevation: 3,198 <u>ft</u> / m    Photograph #'s: _____			
Geology code: <u>GRAN</u> Soil Texture code: <u>MELS</u>   <u>Upland</u> or Wetland/Riparian (circle one)			
Topography: Macro: top upper mid <u>lower</u> bottom   Micro: convex <u>flat</u> concave undulating (circle one)			
% Surface cover:    Lg rock: <u>0</u> Sm rock: <u>2</u> Bare/Fine: <u>93</u> Litter: <u>3</u> BA Stems: <u>2</u> Water: <u>0</u> =sums to 100% <small>(&gt;25 cm diam)    (2mm-25 cm diam)    (&lt;2 mm, Incl sand, mud)</small>			
Slope exposure, Actual °: _____ General: NE    NW <u>SE</u> SW    Flat    Variable /All (circle one)			
Slope steepness, Actual °: _____ General: 0° <u>1-5°</u> 5-25°    > 25° (circle one)			
Size of stand: <1 acre    1-5 acres    >5 acres <u>X</u> Plot: <u>Yes</u> / No If yes, denote size: 100 m <sup>2</sup> / <u>400m<sup>2</sup></u> / 1000 m <sup>2</sup> / Other			
Site history, stand age, and comments: _____ _____			
Type/ Level of disturbance codes: <u>02</u> / M <u>05</u> / M    _____ / _____ / _____ / _____ "Other"			
<b>II. HABITAT AND VEGETATION DESCRIPTION</b>			
Tree DBH : <u>T1</u> (<1" dbh), <u>T2</u> (1-6" dbh), <u>T3</u> (6-11" dbh), <u>T4</u> (11-24" dbh), <u>T5</u> (>24" dbh), <u>T6</u> (multi-layered) (circle one)			
If Tree, list 1-3 dominant overstory spp.: _____			
Shrub: <u>S1</u> seedling (<3 yr. old), <u>S2</u> young (<1% dead), <u>S3</u> mature (1-25% dead), <u>S4</u> decadent (>25% dead)			
<u>Herbaceous: H1</u> (<12" plant ht.), <u>H2</u> (>12" ht.)    Desert Riparian Tree/Shrub: <u>1</u> (<2ft. stem ht.), <u>2</u> (2-10ft. ht.), <u>3</u> (10-20ft. ht.), <u>4</u> (>20ft. ht.)			
Desert Palm/Joshua Tree: <u>1</u> (<1.5" base diameter), <u>2</u> (1.5-6" diam.), <u>3</u> (>6" diam.)    % NonVasc cover: <u>0</u> <b>Total % Veg cover: 37</b>			
% Cover -Overstory Tree Conifer/Hardwood: _____ / _____    Understory tree-Tall shrub: <u>8</u> Shrub: <u>3</u> Herbaceous: <u>26</u>			
<b>Height Class</b> - Overstory Conifer/Hardwood: _____ / _____    Understory tree-Tall shrub: <u>03</u> Shrub: <u>02</u> Herbaceous: <u>01</u>			
<small>Height classes: 01=&lt;1/2m 02=1/2-1m 03=1-2m 04=2-5m 05=5-10m 06=10-15m 07=15-20m 08=20-35m 09=35-50m 10=&gt;50m</small>			
Species (List up to 20 major species), Stratum, and Approximate % cover: Stratum categories: T= Overstory tree, U= Understory tree S = Shrub, H= Herb, N= Non-vascular. % cover intervals for reference: <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%			
Strata	Species	% cover	Strata Species % cover
U	<i>Larrea tridentata</i>	8	H <i>Tropidocarpum gracile</i> 2
S	<i>Ericameria</i> sp.	2	H <i>Amsinckia tessellata</i> <1
S	<i>Eriogonum fasciculatum</i>	1	H <i>Calochortus kennedyi</i> <1
S	<i>Ambrosia dumosa</i>	<1	
H	<i>Lasthenia californica</i>	10	
H	<i>Lotus humistratus</i>	4	
H	<i>Erodium cicutarium</i>	8	
H	<i>Bromus madritensis</i>	1	
Unusual species: _____			
<b>III. INTERPRETATION OF STAND</b>			
Field-assessed vegetation alliance name: <i>Larrea tridentata</i> shrubland			
Field-assessed association name (optional): _____			
Adjacent alliances: _____ / _____			
Confidence in alliance identification: L    M <u>H</u> Explain: _____			
Other identification problems: _____			
Has the vegetation changed since air photo taken? Yes <u>No</u> If Yes, What has changed?			
Polygon is more than one type: (Yes, No) _____ (Note: type with greatest coverage in polygon should be entered in above section)			
Other types: _____			

## **APPENDIX C.**

### Photographs

Sun Creek Wind Project  
Kern County, CA

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## APPENDIX C.

Photographs  
TGP Alta Wind Center Project - Sun Creek Wind Project  
Kern County, CA



Photo 1. View west from near the southeastern corner of the BSA. The area is creosote bush scrub with ORV roads and trails, representative of much of the creosote bush scrub in the BSA (3 May 2010).



Photo 2. Representative Joshua tree woodland in the northeastern area of the BSA. The shrub layer is similar to creosote bush scrub (3 May 2010).



Photo 3. Representative California juniper woodland on the western side of the BSA. The shrub layer is similar to Mormon tea scrub (5 May 2010).



Photo 4. Representative Mormon tea scrub near the highest plateau in the BSA (7 May 2010).



Photo 5. Representative brittle bush scrub near the southwestern corner of the BSA (5 May 2010).



Photo 6. View north near the southeastern corner of the BSA. The acreage of disturbed, sandy, unvegetated areas was included with disturbed land (3 May 2010).

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## **APPENDIX D.**

### CNDDDB Summary Report

Sun Creek Wind Project  
Kern County, CA

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California Department of Fish and Game  
Natural Diversity Database  
Selected Elements by Scientific Name - Landscape  
TGP Alta Wind Center - Sun Creek

Scientific Name	Common Name	Element Code	Federal Status	State Status	Global Rank	State Rank	CNPS	CDFG
1 <i>Agelaius tricolor</i>	tricolored blackbird	ABPBXB0020			G2G3	S2		SC
2 <i>Allium shevockii</i>	Spanish Needle onion	PMLIL022M0			G1	S1.3	1B.3	
3 <i>Aquila chrysaetos</i>	golden eagle	ABNKC22010			G5	S3		
4 <i>Astragalus hornii</i> var. <i>hornii</i>	Horn's milk-vetch	PDFAB0F421			G4G5T2T3	S2S3.1	1B.1	
5 <i>Astragalus leucolobus</i>	Big Bear Valley woollypod	PDFAB0F4T0			G2	S2.2	1B.2	
6 <i>Athene cunicularia</i>	burrowing owl	ABNSB10010			G4	S2		SC
7 <i>Batrachoseps stebbinsi</i>	Tehachapi slender salamander	AAAAD02090		Threatened	G2	S2		
8 <i>California macrophylla</i>	round-leaved filaree	PDGER01070			G3	S3.1	1B.1	
9 <i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa-lily	PMLIL0D122			G2T2	S2.1	1B.2	
10 <i>Calochortus striatus</i>	alkali mariposa-lily	PMLIL0D190			G2	S2	1B.2	
11 <i>Canbya candida</i>	white pygmy-poppy	PDPAP05020			G3	S3.2	4.2	
12 <i>Corynorhinus townsendii</i>	Townsend's big-eared bat	AMACC08010			G4	S2S3		SC
13 <i>Ensatina eschscholtzii croceator</i>	yellow-blotched salamander	AAAAD04011			G5T2T3	S2S3		SC
14 <i>Eremophila alpestris actia</i>	California horned lark	ABPAT02011			G5T3Q	S3		
15 <i>Eriastrum tracyi</i>	Tracy's eriastrum	PDPLM030C0		Rare	G1Q	S1.1	1B.2	
16 <i>Eriogonum kennedyi</i> var. <i>pinicola</i>	Kern buckwheat	PDPGN083B4			G4T1	S1.1	1B.1	
17 <i>Eriophyllum mohavense</i>	Barstow woolly sunflower	PDAST3N070			G2	S2.2	1B.2	
18 <i>Eschscholzia minutiflora</i> ssp. <i>twisselmannii</i>	Red Rock poppy	PDPAP0A093			G5T2	S2.2	1B.2	
19 <i>Euphilotes battoides comstocki</i>	Comstock's blue butterfly	IILEPG201A			G5T1T3	S1S3		
20 <i>Falco mexicanus</i>	prairie falcon	ABNKD06090			G5	S3		
21 <i>Gopherus agassizii</i>	desert tortoise	ARAAF01010	Threatened	Threatened	G4	S2		
22 <i>Helminthoglypta concolor</i>	whitefir shoulderband	IMGASC2540			G1G3	S1S3		
23 <i>Lanius ludovicianus</i>	loggerhead shrike	ABPBR01030			G4	S4		SC
24 <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	PDAST5L0A1			G4T3	S2.1	1B.1	
25 <i>Layia heterotricha</i>	pale-yellow layia	PDAST5N070			G2G3	S2S3.1	1B.1	
26 <i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>	sagebrush loeflingia	PDCAR0E011			G5T2T3	S2.2	2.2	
27 <i>Mimulus pictus</i>	calico monkeyflower	PDSCR1B240			G2	S2.2	1B.2	
28 <i>Monardella linoides</i> ssp. <i>oblonga</i>	Tehachapi monardella	PDLAM180D2			G5T2	S2.2	1B.3	
29 <i>Navarretia peninsularis</i>	Baja navarretia	PDPLM0C0L0			G3?	S2.2	1B.2	
30 <i>Onychomys torridus tularensis</i>	Tulare grasshopper mouse	AMAFF06021			G5T1T2	S1S2		SC
31 <i>Orthotrichum spjutii</i>	Spjut's bristle moss	NBMUS56160			G1	S1	1B.3	
32 <i>Perognathus alticolus inexpectatus</i>	Tehachapi pocket mouse	AMAFD01082			G1G2T1T2	S1S2		SC
33 <i>Perognathus inornatus inornatus</i>	San Joaquin pocket mouse	AMAFD01061			G4T2T3	S2S3		
34 <i>Phacelia nashiana</i>	Charlotte's phacelia	PDHYD0C350			G3	S3.2	1B.2	

California Department of Fish and Game  
 Natural Diversity Database  
 Selected Elements by Scientific Name - Landscape  
 TGP Alta Wind Center - Sun Creek

Scientific Name	Common Name	Element Code	Federal Status	State Status	Global Rank	State Rank	CNPS	CDFG
35 <i>Phrynosoma blainvillii</i>	coast horned lizard	ARACF12100			G4G5	S3S4		SC
36 <i>Streptanthus cordatus var. piutensis</i>	Piute Mountains jewel-flower	PDBRA2G0D2			G5T1	S1.2	1B.2	
37 <i>Taxidea taxus</i>	American badger	AMAJF04010			G5	S4		SC
38 <i>Toxostoma lecontei</i>	Le Conte's thrasher	ABPBK06100			G3	S3		SC
39 <i>Viola aurea</i>	golden violet	PDVIO04420			G3G4	S2S3	2.2	
40 <i>Xerospermophilus mohavensis</i>	Mohave ground squirrel	AMAFB05150		Threatened	G2G3	S2S3		

## **APPENDIX E.**

### USFWS Species Lists

### Sun Creek Wind Project Kern County, CA

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- Endangered Species +
- News and Publications +
- Species Information
- Tools for Kids and Teachers
- Tools for Landowners

### *Federally Listed Threatened & Endangered Species Which May Occur In Kern County, CA*

**Bird**

California Condor	Gymnogyps californianus	E
Least Bell's Vireo	Vireo bellii pusillus	E
Southwestern Willow Flycatcher	Empidonax tralii extimus	E
Yellow-Billed Cuckoo	Coccyzus americanus	C

**Reptile**

Desert Tortoise	Gopherus agassizii	T
-----------------	--------------------	---

E - Endangered	T - Threatened	CH - Critical habitat
PE - Taxa proposed for listing as endangered	PT - Taxa proposed for listing as threatened	PCH - Critical habitat which has been proposed

**DISCLAIMER NOTICE - The information provided on this page should not be considered an OFFICIAL species list. If you have a proposed project and are in need of an official species list, please mail a detailed request to:**

Ventura Fish and Wildlife Office  
 2493 Portola Road, Suite B  
 Ventura, CA, 93003.

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### *Federally Listed Threatened & Endangered Species Which May Occur In Los Angeles County, CA*

#### **Amphibian**

Arroyo Toad	Bufo californicus	E
California Red-Legged Frog	Rana aurora draytonii	T

#### **Bird**

Brown Pelican	Pelicanus occidentalis	E
California Condor	Gymnogyps californianus	E
California Gnatcatcher	Poliophtila californica	T
California Least Tern	Sterna antillarum browni	E
Least Bell's Vireo	Vireo bellii pusillus	E
Southwestern Willow Flycatcher	Empidonax trallii extimus	E
Western Snowy Plover	Charadrius alexandrinus nivosus	T
Yellow-Billed Cuckoo	Coccyzus americanus	C

#### **Fish**

Southern California Steelhead	Oncorhynchus mykiss	E
Tidewater Goby	Eucyclogobius newberryi	E
Unarmored Threespine Stickleback	Gasterosteus aculeatus williamsoni	E

#### **Invertebrate**

Riverside Fairy Shrimp	Streptocephalus woottoni	E
------------------------	--------------------------	---

#### **Plant**

Braunton's Milk-Vetch	Astragalus brauntonii	E
California Orcutt Grass	Orcuttia californica	E
Conejo Dudleya	Dudleya abramsii ssp. parva	T
Lyon's Pentachaeta	Pentachaeta lyonii	E
Marcescent Dudleya	Dudleya cymosa ssp. marcescens	T
Nevin's Barberry	Berberis nevinii	E
Santa Monica Mountains live-forever	Dudleya cymosa ssp. ovatifolia	T
Slender-Horned Spineflower	Dodecahema (=Centrostegia) leptoceras	E
Spreading Navarretia	Navarretia fossalis	T
Verity's Dudleya	Dudleya verityi	T

E - Endangered

T - Threatened

CH - Critical habitat

PE - Taxa proposed for

PT - Taxa proposed for

PCH - Critical habitat

[Species proposed for listing as endangered](#)

[Species proposed for listing as threatened](#)

[Species proposed for listing which has been proposed](#)

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### *Federally Listed Threatened & Endangered Species Which May Occur In San Bernardino County, CA*

#### **Amphibian**

Arroyo Toad	Bufo californicus	E
-------------	-------------------	---

#### **Bird**

Least Bell's Vireo	Vireo bellii pusillus	E
Southwestern Willow Flycatcher	Empidonax trallii extimus	E
Yellow-Billed Cuckoo	Coccyzus americanus	C
Yuma Clapper Rail	Rallus longirostris yumanensis	E

#### **Fish**

Bonytail Chub	Gila elegans	E
Mohave Tui Chub	Gila bicolor mohavensis	E
Razorback Sucker	Xyrauchen texanus	E

#### **Plant**

Cushenbury Buckwheat	Eriogonum ovalifolium var. vineum	E
Cushenbury Milk-vetch	Astragalus albens	E
Cushenbury Oxytheca	Oxytheca parishii var. goodmaniana	E
Lane Mountain Milk-Vetch	Astragalus jaegerianus	E
Parish's Daisy	Erigeron parishii	T

#### **Reptile**

Desert Tortoise	Gopherus agassizii	T
-----------------	--------------------	---

E - Endangered

T - Threatened

CH - Critical habitat

PE - Taxa proposed for listing as endangered

PT - Taxa proposed for listing as threatened

PCH - Critical habitat which has been proposed

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## **APPENDIX F.**

### BLM Species List

Sun Creek Wind Project  
Kern County, CA

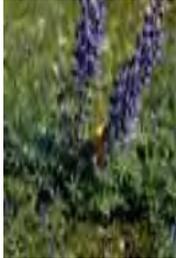
---

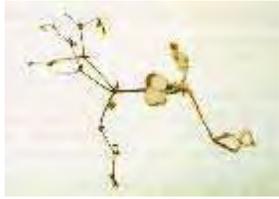
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Special Status Plants of the Ridgecrest Field Office

This plant guide identifies the special status plants that are known to occur on public lands administered by the Bureau of Land Management, but they may only be suspected on land administered by the Alturas Field Office. To view a photograph and more information on an individual plant, click on the plant's common name below. To see a complete list of all plants, regardless of if it is known or suspected, [click here](#).

 <p><a href="#">Barstow Woolly-Sunflower</a></p> <p><i>Eriophyllum mohavense</i></p>	 <p><a href="#">Bristlecone Cryptantha</a></p> <p><i>Cryptantha roosiorum</i></p>	 <p><a href="#">Kern Buckwheat</a></p> <p><i>Eriogonum kennedyi</i> var. <i>pinicola</i></p>
 <p><a href="#">Charlotte's Phacelia</a></p> <p><i>Phacelia nashiana</i></p>	 <p><a href="#">Darwin Mesa Milk-Vetch</a></p> <p><i>Astragalus atratus</i> var. <i>mensanus</i></p>	 <p><a href="#">Death Valley Sandpaper Plant</a></p> <p><i>Petalonyx thurberi</i> ssp. <i>gilmanii</i></p>
 <p><a href="#">Desert Cymopterus</a></p> <p><i>Cymopterus deserticola</i></p>	 <p><a href="#">Geyer's Milk-Vetch</a></p> <p><i>Astragalus geyeri</i> var. <i>geyeri</i></p>	 <p><a href="#">Hall's Daisy</a></p> <p><i>Erigeron aequifolius</i></p>

<p style="text-align: center;">No Image Available</p> <p style="text-align: center;"><u>Hanaupah Laphamia</u></p> <p style="text-align: center;"><i>Perityle villosa</i></p>	 <p style="text-align: center;"><u>Inyo Laphamia</u></p> <p style="text-align: center;"><i>Perityle inyoensis</i></p>	 <p style="text-align: center;"><u>Jaeger's Caulostramina</u></p> <p style="text-align: center;"><i>Caulostramina jaegeri</i></p>
 <p style="text-align: center;"><u>July Gold</u></p> <p style="text-align: center;"><i>Dedeckera eurekaensis</i></p>	 <p style="text-align: center;"><u>Kelso Creek Monkeyflower</u></p> <p style="text-align: center;"><i>Mimulus shevockii</i></p>	<p style="text-align: center;">No Image Available</p> <p style="text-align: center;"><u>Mojave Tarplant</u></p> <p style="text-align: center;"><i>Deinandra mohavensis</i></p>
<p style="text-align: center;">No Image Available</p> <p style="text-align: center;"><u>Muir's Raillardella</u></p> <p style="text-align: center;"><i>Carlquistia muirii</i></p>	<p style="text-align: center;">No Image Available</p> <p style="text-align: center;"><u>Nine Mile Canyon Phacelia</u></p> <p style="text-align: center;"><i>Phacelia novemmillensis</i></p>	 <p style="text-align: center;"><u>Owens Peak Lomatium</u></p> <p style="text-align: center;"><i>Lomatium shevockii</i></p>
 <p style="text-align: center;"><u>Panamint Daisy</u></p> <p style="text-align: center;"><i>Enceliopsis covillei</i></p>	 <p style="text-align: center;"><u>Panamint Mountains Lupine</u></p> <p style="text-align: center;"><i>Lupinus magnificus</i> ssp. <i>magnificus</i></p>	<p style="text-align: center;">No Image Available</p> <p style="text-align: center;"><u>Panamint Mountains Buckwheat</u></p> <p style="text-align: center;"><i>Eriogonum microthecum</i> var. <i>panamintense</i></p>

 <p><b><u>Red Rock Poppy</u></b></p> <p><i>Eschscholzia minutiflora</i> ssp. <i>twisselmannii</i></p>	 <p><b><u>Ripley's Cymopterus</u></b></p> <p><i>Cymopterus ripleyi</i> var. <i>saniculoides</i></p>	 <p><b><u>Spanish Needle Onion</u></b></p> <p><i>Allium shevockii</i></p>
 <p><b><u>Sweet-Smelling Monardella</u></b></p> <p><i>Monardella beneolens</i></p>	 <p><b><u>Walker Pass Milk-Vetch</u></b></p> <p><i>Astragalus ertterae</i></p>	 <p><b><u>Wildrose Canyon Buckwheat</u></b></p> <p><i>Eriogonum eremicola</i></p>

Special status plants are those plants whose survival is of concern due to 1) their limited distribution, 2) low number of individuals and/or populations, and 3) potential threats to habitat. The Bureau of Land Management (BLM) uses the term "special status plants" to include: 1) Federal endangered, threatened, proposed and candidate species; 2) California State endangered, threatened, and rare species; and 3) BLM Sensitive plants. Sensitive plants are those species that do not occur on Federal or state lists, but which are designated by the BLM State Director for special management consideration.

It is BLM policy to manage for the conservation of special status plants and their associated habitats and to ensure that actions authorized, funded, or carried out do not contribute to the need to list any species as threatened or endangered.

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## APPENDIX G.

### Species List Provided by CH2M Hill

#### Sun Creek Wind Project Kern County, CA

Plants			
Spanish needle onion <i>Allium shevockii</i>	BLM	--/1B	<b>Low.</b> No suitable habitat.
Darwin Mesa milk-vetch <i>Astragalus atratus</i>	BLM	--/1B	<b>Low.</b> Outside of species' documented range. Potentially suitable habitat may be present.
Geyer's milk-vetch <i>Astragalus geyeri</i>	BLM	--/1B	<b>Low.</b> Outside of species' documented range. Potentially suitable habitat may be present.
Curved-pod milk-vetch <i>Astragalus mohavensis</i> var. <i>hemigyris</i>	BLM-	--/1A	<b>Low.</b> Outside of species' documented range. Potentially suitable habitat may be present.
Alkali mariposa lily <i>Calochortus striatus</i>	BLM	--/1B.2	<b>Moderate.</b> Potentially suitable habitat may be present.
White pygmy-poppy <i>Canbya candida</i>	--	--/4.2	<b>Moderate.</b> Nearest documented occurrence (1935 record) overlaps southeast portion of subarea. Potentially suitable habitat present.
Muir's raillardella [=tarplant] <i>Carlquistia muirii</i>	BLM	--/1B.3	<b>Low.</b> No suitable habitat.
Desert cymopterus <i>Cymopterus deserticola</i>	BLM	--/1B.2	<b>Moderate.</b> Potentially suitable habitat may be present.
Ripley's cymopterus <i>Cymopterus ripleyei</i> var. <i>saniculoides</i>	BLM	--/1B.2	<b>Low.</b> Outside of species' documented range. Potentially suitable habitat present.
July gold <i>Dedekera eurekaensis</i>	BLM	R/1B.3	<b>Low.</b> Outside of species' documented range. Potentially suitable habitat may be present.
Mojave tarplant <i>Deinandra mohavensis</i>	BLM	E/1B.3	<b>Moderate.</b> Potentially suitable habitat may be present.
Panamint daisy <i>Enciliopsis covellei</i>	BLM	--/1B.2	<b>Low.</b> Outside of species' documented range. Potentially suitable habitat present.
Hall's daisy <i>Erigeron aequifolius</i>	BLM	--/1B.3	<b>Low.</b> No suitable habitat. Within proximity of species' documented range.
Kern buckwheat <i>Eriogonum kennedyi</i> var. <i>pinicola</i>	BLM	--/1B.1	<b>Low.</b> No suitable habitat.
Reveal's buckwheat <i>Eriogonum contiguum</i>	BLM	--/2.3	<b>Low.</b> Outside of species' documented range. Potentially suitable habitat present.
Barstow woolly sunflower <i>Eriophyllum mohavense</i>	BLM	--/1B.2	<b>Moderate.</b> Outside of species' documented range. Potentially suitable habitat present.

Red Rock poppy <i>Eschscholzia minutiflora</i> ssp. <i>twisselmannii</i>	BLM	--/1B.2	<b>Low.</b> Potentially suitable habitat may be present, but nearest known locations are from Red Rock Canyon SP and Edwards EFB.
Red Rock tarplant <i>Hemizonia arida</i>	BLM	R / 1B2	<b>Low.</b> Potentially suitable habitat may be present, but nearest known location is from Red Rock Canyon SP.
Owens Peak lomatium <i>Lomatium shevockii</i>	BLM	--/1B.3	<b>Low.</b> No suitable habitat.
Panamint Mountains lupine <i>Lupinus magnificus</i> ssp. <i>magnificus</i>	BLM	--/1B.2	<b>Low.</b> Outside of species' documented range. Potentially suitable habitat present.
Kelso Creek monkeyflower <i>Mimulus shevockii</i>	BLM	--/1B.2	<b>Moderate.</b> Potentially suitable habitat may be present.
Sweet-smelling monardella <i>Monardella beneolens</i>	BLM	--/1B.3	<b>Low.</b> No suitable habitat.
Flax-like (=Tehachapi) monardella <i>Monardella linoidea</i> ssp. <i>oblonga</i>	BLM	--/1B.3	<b>Low.</b> No suitable habitat.
Death Valley sandpaper plant <i>Petalonyx thurberi</i> ssp. <i>gilmanii</i>	BLM	--/1B.3	<b>Low.</b> Outside of species' documented range.
Round-leaved phacelia <i>Phacelia mustelina</i>	BLM	--/1B.3	<b>Low.</b> Outside of species' documented range.
Charlotte's phacelia <i>Phacelia nashiana</i>	BLM	--/1B.2	<b>Moderate.</b> Potentially suitable habitat present.
Nine Mile Canyon phacelia <i>Phacelia novemillensis</i>	BLM	--/1B.2	<b>Low.</b> No suitable habitat.
Piute Mountains jewel-flower <i>Streptanthus cordatus</i> ssp. <i>piutensis</i>	BLM	--/1B.2	<b>Low.</b> No suitable habitat.
Golden violet <i>Viola aurea</i>	--	--/2.2	<b>Present.</b> Nearest documented occurrence (historical record – date unknown) 0.94 mile southeast of Subarea.

-- = No status

Regulatory Status

<sup>1</sup> **Federal Status:**

T Listed as Threatened by the USFWS  
E Listed as Endangered by the USFWS  
C Listed as being a Candidate Species by the USFWS  
CH Critical Habitat has been designated  
BLM Designated as BLM Sensitive

<sup>2</sup> **State Status:**

E Listed as Endangered by the CDFG  
T Listed as Threatened by the CDFG  
SC CDFG Species of Special Concern  
SR CDFG Rare  
FP CDFG Fully Protected Species  
WL CDFG Watch List Species

<sup>3</sup> **California Native Plant Society (CNPS) List:**

1A Plants presumed extinct in California  
1B Plants rare, threatened, or endangered in California and elsewhere  
2 Plants rare, threatened, or endangered in California, but more common elsewhere  
3 Plants about which we need more information - a review list  
4 Plants of limited distribution - a watch list

<sup>4</sup> **Potential to Occur within Site Boundary**

Low – Either outside of species' documented ranged OR no suitable habitat present AND no recent (1950 or later) record of species w/in 10 miles of site boundary.

Moderate – Within species' documented ranged AND suitable habitat present AND no recent (1950 or later) record of species w/in 10 miles of site boundary.

High – Within species' documented ranged AND suitable habitat present AND recent (1950 or later) record of species w/in 10 miles of site boundary.

Present - Species or sign (e.g., scat, tracks, active burrow) observed during surveys OR recent (1950 or later) record of species within site boundary.

Sources: BLM 2001; Holland 1986; MH Wolfe 2009, 2008a, 2008b, 2007a, 2007b; Solick et al. 2009; Stewart 2005; Vanherweg 2006

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## APPENDIX H.

### Species Evaluated Table

#### Sun Creek Wind Project Kern County, CA

Special-Status Species Common Name	Federal Status <sup>a</sup>		State Status <sup>a, b</sup>	Source <sup>c</sup>	Habitat Requirements	Potential to Occur in the BSA
	ESA	BLM				
<i>Allium shevockii</i> Spanish Needle onion	--	Sensitive	--/ 1B.3	2, 3	Bulbiferous herb found on rocky substrates in pinyon and juniper woodland and upper montane coniferous forest from 2,700 to 8,300 ft. Known from fewer than 10 occurrences in Kern County. Blooms May through June (CNPS 2010).	Marginal. See text.
<i>Astragalus albens</i> Cushenbury milk-vetch	E	--	--/ 1B.1	1	Perennial herb found in Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland usually on carbonate substrate (rarely granitic) from 3,600 to 6,600 ft. Known from fewer than 20 occurrences in San Bernardino County. Blooms March through June (CNPS 2010).	Yes. See text.
<i>Astragalus atratus</i> var. <i>mansanus</i> Darwin Mesa milk-vetch	--	Sensitive	--/ 1B.1	3	Perennial herb found in Great Basin scrub, Joshua tree woodland, and on volcanic clay and gravelly soils in pinyon and juniper woodland from 5,380 to 7,600 ft. Known from Inyo County. Blooms April through June (CNPS 2010).	Marginal. See text.
<i>Astragalus brauntonii</i> Braunton's milk-vetch	E, CH	--	--/ 1B.1	1	Perennial herb found on recently burned or disturbed substrates, usually sandstone with carbonate layers, in chaparral, coastal scrub, and Valley and foothill grassland from 0 to 2,100 ft. Known from Los Angeles, Orange, Riverside, and Ventura counties. Blooms January through August (CNPS 2010).	No. Suitable habitat does not occur in the BSA.
<i>Astragalus eritterae</i> Walker Pass milk-vetch	--	Sensitive	--/ 1B.3	4	Perennial herb found in pinyon and juniper woodland from 5,600 to 6,230 ft. Known in CA from only three occurrences near Walker Pass in Kern County. Blooms April through May.	No. The BSA is outside the geographic and elevation range of the species.
<i>Astragalus geyeri</i> var. <i>geyeri</i> Geyer's milk-vetch	--	Sensitive	--/ 2.2	3	Annual herb found in chenopod scrub and sandy Great Basin scrub from 3,800 to 6,500 ft. Known from Inyo, Lassen, and Mono counties. Blooms May through August (CNPS 2010).	No. Suitable habitat does not occur in the BSA.

Special-Status Species Common Name	Federal Status <sup>a</sup>		State Status <sup>a, b</sup>	Source <sup>c</sup>	Habitat Requirements	Potential to Occur in the BSA
	ESA	BLM				
<i>Astragalus hornii</i> var. <i>hornii</i> Horn's milk-vetch	--	--	--/ 1B.1	2	Annual herb found on alkaline substrates and along lake margins in meadow, seep, and playa communities from 100 to 2,800 ft. Known from Inyo and Kern counties and Nevada state. Extirpated or uncertain records exist for San Bernardino and Tulare counties. Blooms May through October (CNPS 2010).	No. Suitable habitat does not occur in the BSA.
<i>Astragalus jaegerianus</i> Lane Mountain milk-vetch	E	--	--/ 1B.1	1	Perennial herb found in Joshua tree woodland and Mojavean desert scrub on granitic sandy or gravelly substrate from 2,900 to 3,900 ft. Known from fewer than 10 occurrences in San Bernardino County totaling nearly 1000 individual plants in 2001. Blooms April through June (CNPS 2010).	Marginal. See text.
<i>Astragalus leucolobus</i> Big Bear Valley woollypod	--	--	--/ 1B.2	2	Perennial herb found in lower montane coniferous forest, pebble plain, Pinyon and juniper woodland, and upper montane coniferous forest from 5,740 to 9,500 ft. Known from Inyo, Kern, Los Angeles, Riverside, San Bernardino, San Benito, San Diego, and Ventura counties. Blooms May through July (CNPS 2010).	No. The BSA is outside the elevation range of the species.
<i>Astragalus mohavensis</i> var. <i>hemigyris</i> Curved-pod milk-vetch	--	Sensitive	--/ 1A	3	Annual herb found in Joshua tree woodland and Mojavean desert scrub from 4,100 to 5,250 ft. This species is presumed extinct in California. Known from Inyo County. Known in CA from one record from Darwin Mesa in 1941; potentially re-discovered by Dana York in 2003. Blooms April through June (CNPS 2010).	No. Suitable habitat does not occur in the BSA.
<i>Berberis nevinii</i> Nevin's barberry	E	--	E/ 1B.1	1	Evergreen shrub found in chaparral, cismontane woodland, coastal scrub, and riparian scrub on sandy or gravelly substrate from 900 to 2,700 ft. Known from Los Angeles, Riverside, San Bernardino, and San Diego counties. Blooms March through June (CNPS 2010).	No. Suitable habitat does not occur in the BSA.
<i>California macrophylla</i> Round-leaved filaree	--	--	--/ 1B.1	2	Annual herb found in cismontane woodland and Valley and foothill grassland from 50 to 3,930 ft. Known from Alameda, Butte, Contra Costa, Colusa, Fresno, Glenn, Kings, Kern, Lake, Lassen, Los Angeles, Merced, Monterey, Napa, Riverside, Santa Barbara, San Benito, Santa Clara, Santa Cruz Isl., San Diego, San Joaquin, San Luis Obispo, San Mateo, Solano, Sonoma, Stanislaus, Tehama, Ventura, and Yolo counties. Blooms March through May (CNPS 2010).	No. Suitable habitat does not occur in the BSA.

Special-Status Species Common Name	Federal Status <sup>a</sup>		State Status <sup>a, b</sup>	Source <sup>c</sup>	Habitat Requirements	Potential to Occur in the BSA
	ESA	BLM				
<i>Calochortus palmeri</i> var. <i>palmeri</i> Palmer's mariposa-lily	--	--	--/ 1B.2	2	Bulbiferous herb found on mesic substrates in chaparral, lower montane coniferous forest, and meadow and seep communities from 3,200 to 7,900 ft. Known from Kern, Los Angeles, Riverside, Santa Barbara, San Bernardino, San Luis Obispo, and Ventura counties. Blooms April through July (CNPS 2010).	No. Suitable habitat does not occur in the BSA.
<i>Calochortus striatus</i> Alkali mariposa-lily	--	Sensitive	--/ 1B.2	2, 3	Bulbiferous herb found on alkaline mesic substrates in chaparral, chenopod scrub, Mojavean desert scrub, and meadow and seep communities from 200 to 5,300 ft. Known from Kern, Los Angeles, San Bernardino, and Tulare counties and from Nevada state. Blooms April through June (CNPS 2010).	No. Suitable habitat does not occur in the BSA.
<i>Canbya candida</i> White pygmy-poppy	--	Sensitive	--/ 4.2	2, 3	Annual herb found on gravelly, sandy, and granitic substrates in Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland from 1,900 to 4,800 ft. Known from Imperial, Inyo, Kern, Los Angeles, and San Bernardino counties. Blooms March through June (CNPS 2010).	Yes. See text.
<i>Carlquistia muirii</i> Muir's raillardella	--	Sensitive	--/ 1B.3	3	Annual herb found in montane chaparral, lower montane coniferous forest, and granitic upper montane coniferous forest from 3,600 to 8,200 ft. Known from Fresno, Kern, and Monterey counties. Blooms July through August (CNPS 2010).	No. Suitable habitat does not occur in the BSA.
<i>Caulostramina jaegeri</i> Jaeger's caulostramina	--	Sensitive	--/ 1B.3	4	Perennial herb found in Great Basin scrub, Pinyon and juniper woodland, and subalpine coniferous forest from 7,000 to 9,200 ft. Known from fewer than 10 occurrences in the Inyo Mtns. in Inyo County (CNPS 2010). Blooms May through July.	No. The BSA is outside geographic and elevation range of this species.
<i>Cymopterus deserticola</i> Desert cymopterus	--	Sensitive	--/ 1B.2	3	Perennial herb found on sandy substrates in Joshua tree woodland and Mojavean desert scrub from 2,000 to 5,000 ft. Known from Kern, Los Angeles, and San Bernardino counties. Blooms March through May (CNPS 2010).	Yes. See text.
<i>Cymopterus ripleyei</i> var. <i>saniculoides</i> Ripley's cymopterus	--	Sensitive	--/ 1B.2	3	Perennial herb found in Joshua tree woodland and Mojavean desert scrub from 3,280 to 5,250 ft. Known from Inyo County. Known in CA from fewer than 10 occurrences. Blooms April through June (CNPS 2010).	No. Suitable habitat does not occur in the BSA.

Special-Status Species Common Name	Federal Status <sup>a</sup>		State Status <sup>a, b</sup>	Source <sup>c</sup>	Habitat Requirements	Potential to Occur in the BSA
	ESA	BLM				
<i>Dedeckera eurekaensis</i> July gold	--	--	R/ 1B.3	3	Deciduous shrub found on carbonate substrates in Mojavean desert scrub from 4,000 to 7,200 ft. Known from Inyo and Mono counties. Known from approximately 20 occurrences. Reproductive capabilities appear extremely limited and no juvenile plants or seedlings are currently known. Blooms May through August (CNPS 2010).	No. Suitable habitat does not occur in the BSA.
<i>Deinandra (Hemizonia) arida</i> Red Rock tarplant	--	--	R/ 1B.2	3	Annual herb found on clay or volcanic tuff substrates in Mojavean desert scrub from 980 to 3,115 ft. Known in Kern County from fewer than 10 occurrences near Red Rock Canyon. Blooms April through November (CNPS 2010).	No. The BSA is outside the geographic range of this species.
<i>Deinandra mohavensis</i> Mojave tarplant	--	Sensitive	E/ 1B.3	3	Annual herb found in chaparral, coastal scrub, and riparian scrub from 2,100 to 5,250 ft. Known from Kern, Riverside, San Bernardino, and San Diego counties. Blooms June through October (CNPS 2010).	No. Suitable habitat does not occur in the BSA.
<i>Dodecahema leptoceras</i> Slender-horned spineflower	E	--	E/ 1B.1	1	Annual herb found on sandy substrates in chaparral, cismontane woodland, and on alluvial fans in coastal scrub from 600 to 2,400 ft. Known from Los Angeles, Riverside, and San Bernardino counties. Blooms April through June (CNPS 2010).	No. Suitable habitat does not occur in the BSA.
<i>Dudleya abramsii</i> ssp. <i>parva</i> (=D. <i>parva</i> ) Conejo dudleya	T	--	--/ 1B.2	1	Perennial herb found on rocky or gravelly, clay or volcanic substrates in coastal scrub and Valley and foothill grassland from 100 to 1,500 ft. Known from approximately ten occurrences from the western end of Simi Hills to Conejo Grade in Ventura County. Blooms May through June (CNPS 2010).	No. Suitable habitat does not occur in the BSA. The BSA is outside the geographic range of this species.
<i>Dudleya cymosa</i> ssp. <i>marcescens</i> Marcescent dudleya	T	--	R/ 1B.2	1	Perennial herb found on volcanic or rocky substrate in chaparral from 400 to 1,800 ft. Known from fewer ten occurrences in the Santa Monica Mountains. Records exist in Los Angeles and Ventura counties. Blooms April through June (CNPS 2010).	No. Suitable habitat does not occur in the BSA. The BSA is outside elevation and geographic range of this species.
<i>Dudleya cymosa</i> ssp. <i>ovatifolia</i> Santa Monica Mountains live-forever	T	--	--/ 1B.2	1	Perennial herb found on rocky volcanic or sedimentary substrate in chaparral and coastal scrub from 400 to 5,500 ft. Known from fewer than 10 occurrences in Los Angeles and Orange counties. Blooms March through June (CNPS 2010).	No. Suitable habitat does not occur in the BSA.

Special-Status Species Common Name	Federal Status <sup>a</sup>		State Status <sup>a, b</sup>	Source <sup>c</sup>	Habitat Requirements	Potential to Occur in the BSA
	ESA	BLM				
<i>Dudleya verityi</i> Verity's dudleya	T	--	--/ 1B.2	1	Perennial herb found on volcanic and rocky substrates in chaparral, cismontane woodland, and coastal scrub from 100 to 400 ft. Known from only three occurrences near Conejo Mountain in Ventura County. Blooms May through June (CNPS 2010).	No. Suitable habitat does not occur in the BSA. The BSA is outside the elevation range of this species.
<i>Enceliopsis covillei</i> Panamint daisy	--	Sensitive	--/ 1B.2	3	Perennial herb found on Mojavean desert scrub from 1,300 to 6,000 ft. Clayey or rocky sub-alkaline canyon sides and sandy washes (BLM 2010). Known from Inyo County. Blooms March through June (CNPS 2010).	Yes. See text.
<i>Eriastrum tracyi</i> Tracy's eriastrum	--	Sensitive	R/ 1B.2	2	Annual herb found in chaparral and cismontane woodland from 1,030 to 3,200 ft. Known from Colusa, Fresno, Glenn, Kern, Santa Clara, Stanislaus, Tehama, Trinity, and Tulare counties. Blooms June through July (CNPS 2010).	No. Suitable habitat does not occur in the BSA.
<i>Erigeron aequifolius</i> Hall's daisy	--	Sensitive	--/ 1B.3	3	Rhizomatous herb found in broadleaved upland forest, lower montane coniferous forest, Pinyon and juniper woodland, and upper montane coniferous forest from 4,920 to 7,870 ft. Known from Fresno, Kern, and Tulare counties. Known from fewer than 20 occurrences. Blooms July through August (CNPS 2010).	Marginal. See text.
<i>Erigeron parishii</i> Parish's daisy	T, CH	--	--/ 1B.1	1	Perennial herb usually found on carbonate substrate (sometimes granitic) in Mojavean desert scrub and pinyon and juniper woodland from 2,600 to 6,600 ft. Known from Riverside and San Bernardino counties. Also known to occur in upper montane coniferous forest. Occurs around the northern base of the San Bernardino Mountains near Cushenbury Canyon; in the Little San Bernardino Mountains; and in the hills around Yucca Valley (BLM 2010). Blooms May through August (CNPS 2010).	Marginal. See text.
<i>Eriogonum contiguum</i> Reveal's buckwheat	--	--	--/2.3	3	Annual herb found in Mojavean desert scrub from 100 to 4,350 ft. Known from Inyo and San Bernardino counties. Blooms March through May (CNPS 2010).	Yes. See text.
<i>Eriogonum eremicola</i> Wildrose Canyon buckwheat	--	Sensitive	--/ 1B.3	4	Annual herb found in pinyon and juniper woodland and upper montane coniferous forest from 7,200 to 10,170 ft. Known from only five occurrences in Inyo County (CNPS 2010). Blooms June through September.	No. The BSA is outside the geographic and elevation range of this species.

Special-Status Species Common Name	Federal Status <sup>a</sup>		State Status <sup>a, b</sup>	Source <sup>c</sup>	Habitat Requirements	Potential to Occur in the BSA
	ESA	BLM				
<i>Eriogonum kennedyi</i> var. <i>pinicola</i> Kern buckwheat	--	Sensitive	--/ 1B.1	2, 3	Perennial herb found on clay substrates in chaparral and pinyon and juniper woodland from 4,300 to 6,400 ft. Known from only three occurrences in the Sweet Ridge area of Kern County. Blooms May through June (CNPS 2010).	Marginal. See text.
<i>Eriogonum microthecum</i> var. <i>panamintense</i> Panamint Mountains buckwheat	--	Sensitive	--/ 1B.3	4	Deciduous shrub found in pinyon and juniper woodland and subalpine coniferous forest from 6,200 to 10,650 ft. Blooms June through October. Known from fewer than 10 occurrences in Inyo County (CNPS 2010).	No. The BSA is outside geographic and elevation range of this species.
<i>Eriogonum ovalifolium</i> var. <i>vineum</i> Cushenbury buckwheat	E, CH	--	--/ 1B.1	1	Perennial herb found on carbonate substrate in Mojavean desert scrub, Joshua tree woodland, and pinyon and juniper woodland from 4,700 to 8,000 ft. Known from San Bernardino County. Blooms May through August (CNPS 2010).	No. Suitable habitat does not occur in the BSA.
<i>Eriophyllum mohavense</i> Barstow woolly sunflower	--	Sensitive	--/ 1B.2	2, 3	Annual herb found in chenopod scrub, Mojavean desert scrub and playas from 1,600 to 3,200 ft. Known from Fresno, Kern, Los Angeles, and San Bernardino counties. Blooms April through May (CNPS 2010).	Yes. See text.
<i>Eschscholzia minutiflora</i> ssp. <i>twisselmannii</i> Red Rock poppy	--	Sensitive	--/ 1B.2	2, 3	Annual herb found on volcanic tuff substrates in Mojavean desert scrub from 2,200 to 4,100 ft. Known from the Rand and El Paso mountains in Kern and San Bernardino counties. Blooms March through May (CNPS 2010).	Marginal. See text.
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i> Coulter's goldfields	--	Sensitive	--/ 1B.1	2	Annual herb found in marshes/ swamps, playas and vernal pools from 3 to 4,000 ft. Known from Colusa, Kern, Los Angeles, Merced, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, San Luis Obispo, Tulare, and Ventura counties. Blooms February through June (CNPS 2010).	No. Suitable habitat does not occur in the BSA.
<i>Layia heterotricha</i> Pale-yellow layia	--	Sensitive	--/ 1B.1	2	Annual herb found on alkaline or clay substrates in cismontane woodland, coastal scrub, pinyon and juniper woodland, and Valley and foothill grassland from 900 to 5,600 ft. Known from Fresno, Los Angeles, Monterey, Santa Barbara, and Ventura counties. Extirpated or uncertain records exist from Kings, Kern, San Benito, and San Luis Obispo counties. Blooms March through June (CNPS 2010).	Marginal. See text.

Special-Status Species Common Name	Federal Status <sup>a</sup>		State Status <sup>a, b</sup>	Source <sup>c</sup>	Habitat Requirements	Potential to Occur in the BSA
	ESA	BLM				
<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i> Sagebrush loeflingia	--	Sensitive	--/ 2.2	2	Annual herb found on sandy substrates in desert dunes, Great Basin scrub, and Sonoran desert scrub from 2,200 to 5,300 ft. Known from Inyo, Kern, Lassen, Los Angeles, and San Bernardino counties and from Nevada, Oregon, and Wyoming. Blooms April through May (CNPS 2010).	Yes. See text.
<i>Lomatium shevockii</i> Owens Peak lomatium	--	Sensitive	--/1B.3	3	Perennial herb found in lower and upper montane coniferous forest from 5,800 to 7,200 ft. Known from Kern County. Blooms April through May (CNPS 2010).	No. Suitable habitat does not occur in the BSA. The BSA is outside the elevation range of this species.
<i>Lupinus magnificus</i> var. <i>magnificus</i> Panamint Mountains lupine	--	Sensitive	--/1B.2	3	Perennial herb found in Great Basin scrub, Mojavean desert scrub, and upper montane coniferous forest from 3,280 to 7,500 ft. Known from about ten occurrences in Inyo County. Blooms April through June (CNPS 2010).	Marginal. See text.
<i>Mimulus pictus</i> Calico monkeyflower	--	Sensitive	--/ 1B.2	2	Annual herb found on disturbed or granitic substrates in broadleaved upland forest and cismontane woodland from 300 to 4,300 ft. Known from Kern and Tulare counties. Blooms March through May (CNPS 2010).	Marginal. See text.
<i>Mimulus shevockii</i> Kelso Creek monkeyflower	--	Sensitive	--/ 1B.2	3	Annual herb found on metamorphic, sandy, or gravelly substrates in pinyon and juniper woodland and Joshua tree woodland from 2,625 to 4,400 ft. Known from about ten occurrences in Kern County. Blooms March through May (CNPS 2010).	Yes. See text.
<i>Monardella beneolens</i> Sweet-smelling monardella	--	Sensitive	--/ 1B.3	3	Rhizomatous herb found in alpine boulder and rock fields, subalpine coniferous forest, and upper montane coniferous forest from 8,200 to 11,500 ft. Known from fewer than 10 occurrences on the eastern Sierran crest in Inyo, Kern, and Tulare counties. Known from about ten occurrences in Kern County. Blooms July through September (CNPS 2010).	No. Suitable habitat does not occur in the BSA. The BSA is outside the elevation range of this species.
<i>Monardella linoides</i> ssp. <i>oblonga</i> Flax-like (=Tehachapi) monardella	--	Sensitive	--/ 1B.3	2, 3	Rhizomatous herb found in upper and lower montane coniferous forest and pinyon and juniper woodland from 2,950 to 8,100 ft. Known from Kern, Tulare, and Ventura counties. Known from about ten occurrences in Kern County. Blooms June through August (CNPS 2010).	Yes. See text.
<i>Navarretia fossalis</i> Spreading navarretia	T	--	--/ 1B.1	1	Annual herb found in chenopod scrub, assorted shallow freshwater marshes and swamps, playas, and vernal pools from 0 to 4,300 ft. Known from Los Angeles, San Diego, and San Luis Obispo counties and from Baja California. Blooms April through June (CNPS 2010).	No. Suitable habitat does not occur in the BSA.

Special-Status Species Common Name	Federal Status <sup>a</sup>		State Status <sup>a, b</sup>	Source <sup>c</sup>	Habitat Requirements	Potential to Occur in the BSA
	ESA	BLM				
<i>Navarretia peninsularis</i> Baja navarretia	--	--	--/ 1B.2	2	Annual herb found in chaparral, lower montane coniferous forest, meadows and seeps, and mesic pinyon and juniper woodland from 4,920 to 7,550 ft. Known from Kern, Los Angeles, Santa Barbara, San Bernardino, San Diego, and Ventura counties. Blooms June through August (CNPS 2010).	No. Suitable habitat does not occur in the BSA. The BSA is outside the elevation range of this species.
<i>Opuntia basilaris</i> var. <i>treleasei</i> Bakersfield cactus	E	Sensitive	E/ 1B.1	3	Stem succulent found in chenopod scrub, cismontane woodland, and Valley and foothill grassland from 400 to 1,800 ft. Known from Kern County. Blooms April through May (CNPS 2010).	Yes. See text.
<i>Orthotrichum spjutii</i> Spjut's bristle moss	--	--	--/ 1B.3	2	Moss found in lower montane coniferous forest, upper montane coniferous forest, subalpine coniferous forest, and pinyon and juniper woodland, often in areas with granitic or rock substrate from 6,800 to 7,900 ft. Known from Kern, Mono, and Tulare counties (CNPS 2010).	No. Suitable habitat does not occur in the BSA. The BSA is outside the elevation range of this species.
<i>Orcuttia californica</i> California Orcutt grass	E	--	E/ 1B.1	1	Annual herb found in vernal pools from 0 to 2,200 ft. Known from fewer than 20 occurrences in Los Angeles, Riverside, San Diego, and Ventura counties, and from Baja California. Blooms April through August (CNPS 2010).	No. Suitable habitat does not occur in the BSA.
<i>Oxytheca parishii</i> var. <i>goodmaniana</i> Cushenbury oxytheca	E	--	--/ 1B.1	1	Annual herb found in pinyon and juniper woodland on sandy, carbonate substrate from 4,000 to 7,800 ft. Known from only 15 occurrences in San Bernardino County. Blooms May to October (CNPS 2010).	Marginal. See text.
<i>Pentachaeta lyonii</i> Lyon's pentachaeta	E, CH	--	E/ 1B.1	1	Annual herb found on rocky and clay substrates in chaparral, coastal scrub, and Valley and foothill grassland from 0 to 2,100 ft. Known from Los Angeles and Ventura counties and potentially from Santa Catalina Island. Blooms March through August (CNPS 2010).	No. Suitable habitat does not occur in the BSA. The BSA is outside the geographic range of this species.
<i>Petalonyx thurberi</i> ssp. <i>gilmanii</i> Death Valley sandpaper plant	--	Sensitive	--/ 1B.3	3	Evergreen shrub found in desert dunes and Mojavean desert scrub from 850 to 4,750 ft. Known from fewer than 20 occurrences in Inyo and San Bernardino counties. Blooms May through September (CNPS 2010).	Marginal. See text.
<i>Perideridia pringlei</i> Adobe yampah	--	--	--/ 4.3	5	Perennial herb found in chaparral, cismontane woodland, coastal scrub, and pinyon and juniper woodland from 985 to 5,900 ft. Known from Kern, Los Angeles, Monterey, Santa Barbara, San Luis Obispo, Tulare, and Ventura counties. Blooms April through June (CNPS 2010).	Yes. See text.
<i>Perityle inyoensis</i> Inyo laphamia	--	Sensitive	--/ 1B.2	4	Perennial herb found in Great Basin scrub and pinyon and juniper woodland from 5,900 to 8,900 ft. Known from fewer than 10 occurrences in the southern Inyo Mtns. in Inyo County (CNPS 2010). Blooms in June through August.	No. The BSA is outside the geographic and elevation range of this species.

Special-Status Species Common Name	Federal Status <sup>a</sup>		State Status <sup>a, b</sup>	Source <sup>c</sup>	Habitat Requirements	Potential to Occur in the BSA
	ESA	BLM				
<i>Perityle villosa</i> Hanaupah laphamia	--	Sensitive	--/ 1B.3	4	Perennial herb found in Great Basin scrub and pinyon and juniper woodland from 5,575 to 8,530 ft. Species endemic to the mountains of Death Valley National Park (CNPS 2010). Blooms in June. Known from fewer than 10 occurrences in Inyo County.	No. The BSA is outside the geographic and elevation range of this species.
<i>Phacelia mustelina</i> Round-leaved phacelia	--	Sensitive	--/ 1B.3	3	Annual herb found in Mojavean desert scrub and rocky and pinyon and juniper woodland from 2,400 to 8,600 ft. Known from fewer than 20 occurrences in Inyo and San Bernardino counties. Blooms May through July (CNPS 2010).	Marginal. See text.
<i>Phacelia nashiana</i> Charlotte's phacelia	--	Sensitive	--/ 1B.2	2, 3	Annual herb found on typically granitic or sandy substrates in Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland from 1,900 to 7,300 ft. Known from Inyo, Kern, and Tulare counties. Blooms March through June (CNPS 2010).	Yes. See text.
<i>Phacelia novemmillensis</i> Nine Mile Canyon phacelia	--	Sensitive	--/ 1B.2	3	Annual herb found in broadleaved upland forest, cismontane woodland, pinyon and juniper woodland, and upper montane coniferous forest from 5,400 to 8,670 ft. Known from Inyo, Kern, and Tulare counties. Blooms May through June (CNPS 2010).	No. The BSA is outside the elevation range of this species.
<i>Streptanthus cordatus</i> var. <i>piutensis</i> Piute Mountains jewel- flower	--	Sensitive	--/ 1B.2	2, 3	Perennial herb found on clay or metamorphic substrates in broadleaved upland forest, closed-cone coniferous forest, and pinyon and juniper woodland from 3,500 to 5,700 ft. Known from fewer than five occurrences in Kern County. Blooms May through July (CNPS 2010).	Yes. See text.
<i>Viola aurea</i> Golden violet	--	--	--/ 2.2	2, 3	Perennial herb found on sandy substrates in Great Basin scrub and pinyon and juniper woodland from 3,200 to 6,700 ft. Known from Kern, Lassen, Los Angeles, Mono, San Bernardino, San Diego, and Sierra counties and from Nevada state. Blooms April through June (CNPS 2010).	Yes. See text.

<sup>a</sup> **Listing Status** Federal status determined from USFWS letter (USFWS 2010). State status determined from DFG (2010a, b, and c). BLM status determined from BLM website (BLM 2010). Codes include:

**E** = Endangered; **T** = Threatened; **P** = Proposed; **C** = Candidate; **R** = California Rare; **CH** = Critical Habitat; \* = Possibly extinct; Sensitive = BLM Sensitive.

<sup>b</sup> **Other Codes** CNPS (2010). Codes used in table are as follows:

**CNPS List** (plants only): **1A** = Presumed Extinct in CA; **1B** = Rare or Endangered (R/E) in CA and elsewhere; **2** = R/E in CA and more common elsewhere; **3** = Need more information; **4** = Plants of limited distribution.

**CNPS List Decimal Extensions:** **.1** = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat); **.2** = Fairly endangered in CA (20-80% of occurrences threatened); **.3** = Not very endangered in CA (< 20% of occurrences threatened or no current threats known).

<sup>c</sup> **Sources** **1** = From USFWS letters (USFWS 2010); **2** = From CNDDDB (DFG 2010); **3** = From list provided by CH2M Hill (pers. comm., B. Canty; see Appendix G); **4** = From BLM website (BLM 2010)

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**APPENDIX I.**

CNDDDB Field Form

*for Perideridia pringlei*

Sun Creek Wind Project  
Kern County, CA

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Mail to:  
California Natural Diversity Database  
Department of Fish and Game  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@dfg.ca.gov

For Office Use Only

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 05/05/2010

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Perideridia pringlei

Common Name: Adobe yampah

Species Found?  Yes  No If not, why?

Total No. Individuals 30-40 Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence? Bower 100,  no  unk.

Collection? If yes: Hughes 174 Yes, Occ. # UC Davis  
Number Museum / Herbarium

Reporter: Chuck Hughes, Mike Bower  
Address: 6355 Riverside Blvd., Suite C  
Sacramento, CA 95831  
E-mail Address: chuck.hughes@sycamoreenv.com  
Phone: 916-427-0703

Plant Information

Phenology: 100% vegetative 0% flowering 0% fruiting

Animal Information

# adults  # juveniles  # larvae  # egg masses  # unknown   
wintering  breeding  nesting  rookery  burrow site  other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

County: Kern Landowner / Mgr.: BLM  
Quad Name: Monolith Elevation: 3,890  
T \_\_\_ R \_\_\_ Sec \_\_\_, \_\_\_ 1/4 of \_\_\_ 1/4, Meridian: H  M  S  Source of Coordinates (GPS, topo. map & type): GPS  
T \_\_\_ R \_\_\_ Sec \_\_\_, \_\_\_ 1/4 of \_\_\_ 1/4, Meridian: H  M  S  GPS Make & Model: Trimble Pro XRS  
DATUM: NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
Coordinate System: UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
Coordinates: 3,882,969 N, 385,490 E

Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: wind farms in area.

Visible disturbances:

Threats: wind development

Comments:

Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): Hickman, ed. (1993)  
 Compared with specimen housed at: UC Davis  
 Compared with photo / drawing in: \_\_\_\_\_  
 By another person (name): R. John Little, Ph.D.; Mike Bower; Amber Singh  
 Other: \_\_\_\_\_

Photographs: (check one or more)

Slide  Print  Digital   
Plant / animal     
Habitat     
Diagnostic feature

May we obtain duplicates at our expense? yes  no

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