

2013

# Focused Spring Botanical Survey for the Sand Hill Project – A New Dimensions Energy Project



**Focused Spring Botanical Survey  
Altamont Pass Wind Resources Area  
County of Alameda, California**

May 17, 2013

**Prepared for:**

Derrick J. Coleman, PhD  
Senior Project Manager  
Tetra Tech, Inc.  
17885 Von Karman Avenue  
Irvine, CA 92614-5227  
Phone: 949.809.5039  
Fax: 949.809.5004  
Derrick.Coleman@tetrattech.com

**Focused Spring Botanical Survey  
Altamont Pass Wind Resources Area  
County of Alameda, California**

Alphabiota Environmental Consulting, LLC  
Project Number: 13-1073

**Alphabiota Environmental Consulting, LLC**  
38361 Roundtree Lane  
Squaw Valley, California 93675  
(559) 338-0929 Office; (559) 240-7727 Mobile  
May 17, 2013

## Table of Contents

|            |                                |           |
|------------|--------------------------------|-----------|
| <b>1.0</b> | <b>Introduction .....</b>      | <b>5</b>  |
| 1.1        | Project Description .....      | 5         |
| 1.2        | Project Location .....         | 5         |
| 1.3        | Survey Purpose.....            | 6         |
| <b>2.0</b> | <b>Methodology .....</b>       | <b>7</b>  |
| 2.1        | Survey Background Review ..... | 7         |
| 2.2        | Site Survey.....               | 7         |
| <b>3.0</b> | <b>Site Survey.....</b>        | <b>7</b>  |
| 3.1        | Background Review .....        | 7         |
| 3.2        | Site Survey.....               | 8         |
| <b>4.0</b> | <b>Summary .....</b>           | <b>11</b> |
| 4.1        | Assessment.....                | 11        |
| 4.2        | Conclusions.....               | 12        |
| 4.3        | Limitations.....               | 12        |
| <b>5.0</b> | <b>References .....</b>        | <b>13</b> |

## APPENDICES

### A. Special Status Target Plant Species

List extracted from the Biological Resource Technical Report (BRTR)  
prepared by ICF (2013)

### B. Observed Flora

List of plant species noted at the Sand Hill Project, May 2013

## 1.0 Introduction

Alphabiota Environmental Consulting, LLC (AEC) understands that New Dimension Energy Company (NDEC, Project Applicant) is proposing the repower of wind energy facility within the Alameda County portion of the Altamont Pass Wind Resource Area (APWRA).

### 1.1 Project Description

The botanical survey reported here supplements an initial botanical survey performed by ICF International (ICF) in September 2012 and reported in their Biological Resources Technical Report (BRTR) released in February 2013 (ICF 2013). The following excerpts from the BRTR provide background on the project.

*'The initial repower would use a new type of wind turbine known as a MEWT. The MEWTs are approximately 70 feet in diameter, with a hub height of 120 feet and a total maximum turbine height of 190 feet.'*

*'The MEWTs installed for the initial repower would be interspersed throughout the existing facilities, covering approximately 1,058 acres and comprising seven parcels in three nearby but separated areas currently occupied by existing turbines and their supporting facilities. The initial repower would decommission and remove 70-80 of the existing turbines and replace them with 40 MEWTs, with the remaining existing turbines staying in place for at least 1 year as controls for the avian study. Because the MEWTs will be installed within an existing wind project footprint, no new access roads will be needed, though minor improvements or modifications to existing roads may be necessary. The initial repower includes construction of new pads for the MEWTs, some minor connections to the existing power collection system, and temporary laydown areas. The initial repower would connect to the power grid using existing infrastructure; no new substation, interconnection lines, or operations and maintenance (O&M) facilities would be needed.'*

### 1.2 Project Location

The Project is located in a designated wind resource area within the rural northeast portion of Alameda County commonly known as the Altamont Pass. Specific location information for this facility can be found in the BRTR (ICF 2013). The proposed Project would encompass three major areas of multiple parcels within the APWRA comprising

approximately 1,058 acres of previously developed lands currently designated for wind generation use. The following parcel numbers are associated with the Project: 99B - (7500-3-1, 7600-1-1; 7375-1-7; 6325-1-3; 6325-1-4; 7750-6; 7875-1-2; 7875-1-3).

| Owner      | Parcel Number    | Area (acres)        |
|------------|------------------|---------------------|
| Ralph 1    | 099B-6325-001-03 | 222.4               |
| Ralph 2    | 099B-7375-001-07 | 80.0 <sup>(1)</sup> |
| Johnston   | 099B-6325-001-04 | 67.9                |
| Pombo      | 099B-7750-006-00 | 99.4                |
| Arnado     | 099B-7600-001-01 | 104.9               |
| Castello   | 099B-7500-003-01 | 112.9               |
| Griffith 1 | 099B-7875-001-02 | 115.1               |
| Griffith 2 | 099B-7875-001-03 | 92.8                |

Note: (1) not the complete parcel

### 1.3 Survey Purpose

The Project Applicant has requested a spring botanical survey to compliment the previous 2012 survey performed by ICF on September 21, 2012. AEC was contracted through Tetra Tech, Inc. to provide a spring field survey for target special status plant species identified in the BRTR and to prepare a limited report providing location data on special status plant species observed during the spring survey. Surveys were requested by the Project Applicant for one survey period consisting of approximately 3-4 days to search for target special status plant species identified in the ICF BRTR.

The survey encompassed 100% of the project area and reports on all plant species observed or identified for this project location. Supporting documentation not included in this report may be found in the BRTR or reporting supported by Tetra Tech, Inc.

## **2.0 Methodology**

### **2.1 Survey Background Review**

The target special status plant species identified in the BRTR (and included here as Appendix A) were adapted for use on the target plant species list for the current 2013 spring surveys. In addition to the BRTR AEC reviewed readily available botanical data from the California Native Plant Society (CNPS) and the California Natural Diversity Data Base (CNDDDB) in order to review location data, plant phenology, and special status designations data for site specific plant resources.

### **2.2 Site Survey**

The site was surveyed by 2 to 4 botanists/biologists over a three-day period using meandering pedestrian transects. Surveyors walked the site to search for spring flowering target special status plant species identified in the BRTR. Transects were spaced to allow for full visual coverage of the site while walking transects. Areas that exhibited appropriate conditions to support plants from the target list were given additional focus and attention. Readily identifiable botanical species encountered during the survey were identified to the species level whenever possible otherwise they were identified to the genus level (Appendix B). Habitat types identified in the BRTR were reconfirmed during field surveys.

## **3.0 Site Survey**

### **3.1 Background Review**

Of the 25 special-status species identified on the target list the CNDDDB data identified five of these special status plant species to have been documented and or reported to occur within the immediate vicinity of the site. CNDDDB occurrence data was retrieved from the April 2013 CNDDDB commercial license and projected in ArcMap 9.3 for research and review purposes.

San Joaquin Spearscale (*Atriplex joaquinana*) has been documented to occur within the Project bounds of parcel 99B-7500-003-01. A small population of approximately 200 plants was observed during a 1989 survey in a low lying seep at the base of a hill in the northern portions of the parcel parallel and south of Mountain House Road.

The remaining plant records indicated historical data locations from 1888, 1932, 1933, 1986, 1996 and 2003. The plants associated with these occurrence data include Diamond Petaled California Poppy (*Eschscholzia rhombipetala*) 1888, Caper-fruited Tropicocarpum (*Tropicocarpum capparideum*) 1933, Round-leaved Filaree (*California macrophyllum*) 1932, and Big Tarweed (*Blepharizonia plumosa*) 1996 and 2003. None of these records included site locations within the Project bounds. However, the CNDDDB data projected potential occurrence reach polygons for Diamond Petaled California Poppy, Caper-fruited Tropicocarpum, and Round-leaved Filaree that projected over the Project bounds indicating a potential for these species to occur at the site. The Big Tarweed occurrence area did not contain any overlapping occurrence data but was within 0.64 miles south of the nearest Project bounds.

A review of weather data collected for the Months of January through May 2013 indicate that precipitation amounts for the area are approximately 7.78 inches below the normally reported and expected precipitation amount for this area. The precipitation total for the region for this year (January through May 15, 2013), as reported by Weather Underground (Weather Underground, Inc., 2013), is 2.07 inches. The total expected or normal is reported to be approximately 9.85 inches of precipitation for these same months.

### **3.2 Site Survey**

A focused botanical survey (a botanical survey focusing on detecting target or special status plant species while providing 100% visual coverage of the area being surveyed) were conducted on May 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> of 2013. During May 2<sup>nd</sup> and 3<sup>rd</sup> Botanists Yancey Bissonnette and Cecile Shohet conducted focused botanical surveys of parcels 99B-7500-003-01, 99B-7600-001-01, 99B-7875-001-02, 99B-7875-001-03, and 99B-6325-001-04 respectively. On May 4<sup>th</sup> Botanists Yancey Bissonnette, Cecile Shohet, Chris Bronny, and Biologist Morgan Edel conducted focused surveys of parcels



99B7375-001-07, 99B-6325-001-03, and 99B-7750-006-00. Weather conditions on May 2<sup>nd</sup> and 3<sup>rd</sup> consisted of clear skies, with temperatures ranging in the high 60's Fahrenheit in the mornings to the low to mid 90's Fahrenheit in the afternoons. Winds were generally low range velocities in the morning ranging from 1.9 mph to 2.5 mph and increasing throughout the day to approximately 8.0 + mph in the afternoons. On May 4<sup>th</sup> the temperature ranged from 72-78 degree Fahrenheit with wind velocities ranging from 5.0 mph to 10.0 mph.

The vegetation encountered consisted of mostly dry grasses and forbs. Most annual plants encountered during the survey had already bloomed, set fruit, and were experiencing seed dispersal. Visually the landscape consisted of dry, brown annual grasses dominated by *Avena spp.*, *Bromus spp.* and *Hordeum spp.*, and forbs. Soils were very dry throughout most of the site and were showing signs of cracking or upper level crusting and dust. However, some stock ponds, detention basins, perennial seeps, and some of the drainage features of the site and surrounding areas were still exhibiting water, water flow and or green vegetation along their margins. Otherwise most of the Project's habitat was in a state of desiccation.



**Figure 1 : View of parcel 99B-7600-1-1 looking north. View represents the overall vegetation conditions encountered during the survey.**



**Figure 2 : View of parcel 99B-6325-1-4 looking south-southwest.**

The site topography and habitat structure have been characterized in the BRTR and therefore are not repeated here. After completing the botanical survey and having observed the Project site the survey botanists identified in this report support the assessment and characterization provided in the BRTR.

Only one of the special status plant species identified on the target list was observed during the site survey. On May 2<sup>nd</sup> a small remnant population of Heartscale (*Atriplex cordulata* var. *cordulata*) was located along the southwest boundary of parcel 99B-7600-001-01. A population of approximately 25-50 individuals was observed along the outer margins of an alkaline grassland vernal pool/depression/swale. The observed plants were believed to be those from the previous year's growth. They were exhibiting extreme desiccation and appeared to have persisted through the winter. Fruits (which are necessary for identification of this species) were still present on some of the plants and they were complete enough to allow identification.





**Figure 3 : Alkali Grassland Vernal Pool/Depression/Swale where *Atriplex cordulata* var. *cordulata* was observed. View looking south just east of Mountain House Road at the southern end of parcel 99B-7600-1-1.**

None of the other target special status plant species identified in the BRTR was observed during the survey, which is not surprising, given the unusually low rainfall amounts both in this season and the previous season.

## **4.0 Summary**

### **4.1 Assessment**

Based on observations made during this survey and readily available data, it is our assessment that the site currently supports a population of a special status species identified as Heartscale (*Atriplex cordulata* var. *cordulata*) with a California Rare Plant Rank (CRPR) of 1B.2.

Documented habitat and observations for San Joaquin Spearscale (*Atriplex joaquinana*, CRPR 1B.2) exist within the northern bounds of parcel 99B-7500-003-01. This is a

documented CNDDDB occurrence and based on the observed conditions encountered during this year's survey AEC believes that the specific site locale is still likely to support the population. The plant was not detected during this survey although the conditions of the soil, hydrology, and topography appear to be unchanged, current conditions would not allow definitive evaluation of the current status of this plant population at this locale.

Precipitation totals for the region and the State have been well-below average for the last two years. Based on the observations made during this survey, AEC believes that some plant species may be experiencing temporal and seasonal "confusion." Late summer annuals, such as Vinegar Weed (*Trichostema lanceolatum*), Dove Weed (*Croton sp.*) and some of the Tarweeds (*Dienandra sp.*, *Holocarpha sp.*) were observed in vegetative condition and were beginning to show floral growth in some of the locales on the Project site as well as throughout the State. These are plants that are usually seen growing in the mid to late summer season after most other annual plants have cycled through their growth and reproductive phases.

## **4.2 Conclusions**

AEC believes that the current precipitation and climate conditions of the survey are insufficient to thoroughly assess the presence or absence of the special status species listed and targeted for this survey.

## **4.3 Limitations**

The site survey is conducted with consideration for current existing environmental laws, regulations, and policies for the time that the survey was conducted. The results provided represent observations of the site at a particular point in time. The habitat(s), topography, resources, and conditions on-site can exhibit seasonal and permanent changes after the survey has been completed. The survey report can only represent the site as it was observed during the survey period. Therefore, these survey results should be considered in the context of the current drought conditions at the site and thus the results for these parcels may not be fully representative of the population diversity of the special status species on the target list.

## 5.0 References

- Barbour, Keeler-Wolf, & Schoenherr. (2007). *Terrestrial Vegetation of California*. University of California Press.
- Barkworth, M. E., Anderton, L. K., Capels, k. M., Long, S., & Piep, M. B. (Eds.). (2007). *Manual of Grasses for North America*. Logan, Utah: Utah State University Press.
- California Department of Fish and Game. (2013). California Natural Diversity Database. Sacramento, California, United States.
- California, T. R. (1993). *The Jepson Manual : higher plants of California* (Third printing with corrections, 1996 ed.). (J. C. Hickman, Ed.) Berkely and Los Angeles, California: University of California Press.
- DiTomaso, J. M., & Healy, E. A. (2007). *Weeds of California and Other Western States* (Vol. Vol. 1). Oakland, California: University of California Agriculture and Natural Resources.
- DiTomaso, J. M., & Healy, E. A. (2007). *Weeds of California and Other Western States* (Vol. Vol. 2). Oakland, California: University of California Agriculture and Natural Resources.
- Google. (2013). Retrieved 2013, from Google Earth: <http://www.googleearth.com>
- Harris, J. G., & Harris, M. W. (1994 & 2001). *Plant Identification Terminology An Illustrated Glossary* (Second ed.). Spring Lake, Utah: Spring Lake Publishing.
- Holland, R. F. (1986). *Preliminary Description of the Terrestrial Natural Communities of California*. Sacramento, California, United States: Resources Agency.
- Holland, V. L., & Keil, D. J. (1989). *California Vegetation*. San Luis Obispo, California, United States: Biological Sciences Department California Polytechnic State University.
- ICF International, Inc. (2013, February). *Biological Resource Technical Report for the Sand Hill Wind Project*. Sacramento: ICF International, Inc.
- ICF, International. (2013). Biological Resource Technical Report. In S. ICF International.
- Keeler-Wolfe, T., & Sawyer, J. J. (2008). *A manual of California vegetation*. Sacramento, California, United States.

- Munz, P. A., & Keck, D. D. (1973). *A California Flora and Supplement*. Berkeley, California: University California Press.
- University of California Press. (2012). *The Jepson Manual Vascular Plants of California : Second Edition*. (B. G. Baldwin, D. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, & D. H. Wilken, Eds.) Berkeley: University of California Press.
- University of California Press. (2012). *Jepson Flora Project : Jepson Herbarium*. Retrieved May 2013, from Jepson eFlora: <http://ucjeps.berkeley.edu/>
- Weather Underground, Inc. (2013). [www.wunderground.com/history](http://www.wunderground.com/history). Retrieved 2013, from Weather Underground: [www.wunderground.com](http://www.wunderground.com)
- Whitson, T. D., & et.al. (2002). *Weeds of the West* (9th ed.). (T. D. Whitson, Ed.) Jackson , Wyoming, United States: The Western Society of Weed Science in cooperation with the Western United States Land Grant Universities Cooperative Extension Services.

**Table 2. Special-Status Plant Species Identified as Potentially Occurring or Known to Occur at the Sand Hill Wind Project Area**

| Common and Scientific Name                                     | Legal Status <sup>a</sup><br>Federal/State/<br>Rare Plant<br>Rank | Geographic Distribution/Floristic<br>Province <sup>1</sup>  | Habitat Requirements  | Reported<br>Blooming<br>Period | Potential to Occur in<br>the Project Area |
|--|---|---|---|--------------------------------|---|
| Large-flowered fiddleneck<br><i>Amsinckia grandiflora</i>      | E/E/1B.1  | Historically known from Mount Diablo foothills in Contra Costa, Alameda, and San Joaquin Counties; currently known from three natural occurrences | Cismontane woodland, valley and foothill grassland slopes; 275–550 m  | Apr–May                        | Low                                       |
| Bent-flowered fiddleneck<br><i>Amsinckia lunaris</i>           | -/-/1B.1  | Inner North Coast Ranges, San Francisco Bay Area, west-central Great Valley   | Coastal bluff scrub, valley and foothill grasslands, cismontane woodlands, from 10–1,645 feet above msl   | Mar–Jun                        | Moderate                                  |
| Alkali milk-vetch<br><i>Astragalus tener</i> var. <i>tener</i> | -/-/1B.2  | Southern Sacramento Valley, northern San Joaquin Valley, east San Francisco Bay Area  | Grassy flats and vernal pool margins, on alkali soils, 0–200 above msl  | Mar–Jun                        | High                                      |
| Heartscale<br><i>Atriplex cordulata</i>                        | -/-/1B.2  | Western Central Valley and valleys of adjacent foothills  | Alkali grassland, alkali meadow, alkali scrub, 0–660 feet above msl   | May–Oct                        | High                                      |
| Brittlescale<br><i>Atriplex depressa</i>                       | -/-/1B.2  | Western and eastern Central Valley and adjacent foothills on west side of Central Valley  | Alkali grassland, alkali meadow, alkali scrub, chenopod scrub, playas, valley and foothill grasslands on alkaline or clay soils, 0–660 feet above msl | May–Oct                        | High                                      |
| San Joaquin spearscale<br><i>Atriplex joaquiniana</i>          | -/-/1B.2  | West edge of Central Valley from Glenn County to Tulare County  | Alkali meadow, alkali grassland, saltbush scrub; 0–2,740 feet above msl   | April–Sept                     | High                                      |
| Lesser saltscale<br><i>Atriplex minuscula</i>                  | -/-/1B.1  | Sacramento and San Joaquin Valley, Butte County and from Merced County to Kern County   | Alkali sink and sandy alkaline soils in grasslands, chenopod scrub, between 65–325 feet above msl   | May–Oct                        | High                                      |
| Big-scale balsamroot<br><i>Balsamorhiza macrolepis</i>         | -/-/1B.2  | Scattered occurrences in the Coast Ranges and Sierra Nevada foothills   | Rocky annual grassland and fields, foothill woodland hillsides, sometimes serpentinite, 0–4,600 feet above msl  | Mar–Jun                        | Moderate                                  |
| Big tarplant<br><i>Blepharizonia plumosa</i>                   | -/-/1B.1  | San Francisco Bay area, with occurrences in Alameda, Contra Costa, San Joaquin*, Stanislaus, and Solano Counties                                  | Valley and foothill grassland; 30–505 m   | Jul–Oct                        | High                                      |

<sup>1</sup>Floristic provinces as defined in Baldwin et al. 2012.

Alphabiota Appendix A (extracted target plant list from ICF BRTR Report)

| Common and Scientific Name   | Legal Status <sup>a</sup><br>Federal/State/<br>Rare Plant<br>Rank | Geographic Distribution/Floristic<br>Province <sup>1</sup>  | Habitat Requirements  | Reported<br>Blooming<br>Period | Potential to Occur in<br>the Project Area |
|--|---|---|---|--------------------------------|---|
| Round-leaved filaree<br><i>California macrophylla</i>                    | -/-/1B.1  | Scattered occurrences in the Great Valley, southern North Coast Ranges, San Francisco Bay Area, South Coast Ranges, Channel Islands, Transverse Ranges, and Peninsular Ranges | Cismontane woodland, valley and foothill grassland on clay soils; 15–1,200 m  | Mar–May                        | High                                      |
| Lemmon’s jewel-flower<br><i>Caulanthus lemmonii</i>                      | -/-/1B.2  | Southeast San Francisco Bay Area, south through the South Coast Ranges and adjacent San Joaquin Valley to Ventura County  | Dry, exposed slopes in grasslands and pinyon–juniper woodland; 80–1,220 m   | Mar–May                        | Low                                       |
| Congdon’s tarplant<br><i>Centromadia parryi</i> ssp.<br><i>congdonii</i> | -/-/1B.2  | East San Francisco Bay Area, Salinas Valley, Los Osos Valley  | Annual grassland, on lower slopes, flats, and swales, sometimes on alkaline or saline soils, 0–700 feet above msl                   | Jun–Nov                        | Moderate                                  |
| Hispid bird’s-beak<br><i>Chloropyron molle</i> ssp.<br><i>hispidum</i>   | -/-/1B.1  | Central Valley: Alameda, Kern, Merced, Placer, and Solano Counties  | Meadow, grassland, playa, on alkaline soils; 0–500 feet above msl   | Jun–Sept                       | Moderate                                  |
| Palmate bird’s-beak<br><i>Chloropyron palmatus</i>                       | E/E/1B.1  | Livermore Valley and scattered locations in the Central Valley from Colusa County to Fresno County  | Alkaline grassland, alkali meadow, chenopod scrub; 16–509 feet above msl  | May–Oct                        | Low                                       |
| Livermore tarplant<br><i>Deinandra bacigalupii</i>                       | -/-/1B.2  | Endemic to Alameda County (Livermore Valley)  | Alkaline meadows; 490–610 feet above msl  | June–Oct                       | Moderate                                  |
| Recurved larkspur<br><i>Delphinium recurvatum</i>                        | -/-/1B.2  | San Joaquin Valley and central valley of the South Coast Ranges, Contra Costa County to Kern County   | Subalkaline soils in annual grassland, saltbush scrub, cismontane woodland, and vernal pools; 10–2,592 feet above msl               | Mar–May                        | High                                      |
| Diamond-petaled California poppy<br><i>Eschscholzia rhombipetala</i>     | -/-/1B.1  | Interior foothills of South Coast Ranges from Alameda County to Stanislaus Counties, Carrizo Plain in San Luis Obispo County  | On alkaline clay soils in grassland, chenopod scrub, where grass cover is sparse enough to allow growth of low annuals; below 975 m | Mar–Apr                        | Moderate                                  |



Alphabiota Appendix A (extracted target plant list from ICF BRTR Report)

| Common and Scientific Name  | Legal Status <sup>a</sup><br>Federal/State/<br>Rare Plant<br>Rank | Geographic Distribution/Floristic<br>Province <sup>1</sup>   | Habitat Requirements   | Reported<br>Blooming<br>Period | Potential to Occur in<br>the Project Area |
|---|---|--|--|--------------------------------|---|
| Contra Costa goldfields<br><i>Lasthenia conjugens</i>                     | E/-/1B.1  | Scattered occurrences in Coast Range valleys and southwest edge of Sacramento Valley, Alameda, Contra Costa, Mendocino, Monterey, Napa, Santa Barbara*, Santa Clara*, and Solano Counties.                                 | Alkaline or saline vernal pools and swales; 0–700 feet above msl                                   | Mar–Jun                        | Low                                       |
| Showy golden madia<br><i>Madia radiata</i>                                | -/-/B.1   | Scattered populations in the interior foothills of the South Coast Ranges: Contra Costa*, Fresno, Kings*, Kern, Monterey*, Santa Barbara*, San Benito, Santa Clara, San Joaquin*, San Luis Obispo, and Stanislaus Counties | Oak woodland, valley and foothill grassland, slopes; 25–900 m                                      | Mar–May                        | Moderate                                  |
| Mt. Diablo cottonweed<br><i>Micropus amphibolus</i>                       | -/-/3.2   | Coast Ranges from Lake County to Santa Barbara County  | Mixed evergreen forest, oak woodland, chaparral, grasslands; 150–2,715 feet above msl              | March–May                      | Low                                       |
| Little mousetail<br><i>Myosurus minimus</i> ssp. <i>apus</i>              | -/-/3.1   | Central Valley, South Coast: Alameda, Butte, Contra Costa, Colusa, Kern, Riverside, San Bernardino, San Diego, Solano, and Stanislaus Counties   | Alkaline vernal pools and marshes; 66–2,100 feet above msl   | Mar–Jun                        | Low                                       |
| Shining navarretia<br><i>Navarretia nigelliformis</i> ssp. <i>radians</i> | -/-/1B.2  | Interior foothills of South Coast Ranges from Merced County to San Luis Obispo County  | Mesic areas with heavy clay soils, in swales and clay flats; in oak woodland, grassland; 76–1000 m | Apr–Jul                        | Low                                       |
| Hairless popcorn flower<br><i>Plagiobothrys glaber</i>                    | -/-/1A  | Coastal valleys from Marin County to San Benito Counties   | Alkaline meadows, coastal salt marsh; 49–591 feet above msl  | Apr–May                        | Low                                       |
| Saline clover<br><i>Trifolium hydrophilum</i>                             | -/-/1B.2  | Sacramento Valley, central western California  | Salt marsh, mesic alkaline areas in grasslands, vernal pools; 0–984 feet above msl                 | Apr–Jun                        | Low                                       |
| Caper-fruited tropidocarpum<br><i>Tropidocarpum capparideum</i>           | -/-/1B.1  | Historically known from the northwest San Joaquin Valley and adjacent Coast Range foothills; currently known from Fresno, Monterey, and San Luis Obispo Counties   | Grasslands on alkaline hills; below 455 m  | Mar–Apr                        | Low                                       |

| Common and Scientific Name   | Legal Status <sup>a</sup><br>Federal/State/<br>Rare Plant Rank | Geographic Distribution/Floristic Province <sup>1</sup> | Habitat Requirements | Reported Blooming Period | Potential to Occur in the Project Area |
|--|--|---|----------------------|--------------------------|--|
| <sup>a</sup> Status explanations:  |  |   |                      |                          |  |
| Federal  |  |   |                      |                          |  |
| E = listed as endangered under the federal Endangered Species Act.                           |  |   |                      |                          |  |
| - = no listing.  |  |   |                      |                          |  |
| State  |  |   |                      |                          |  |
| E = listed as endangered under the California Endangered Species Act.                        |  |   |                      |                          |  |
| - = no listing.  |  |   |                      |                          |  |
| California Rare Plant Rank <sup>2</sup>  |  |   |                      |                          |  |
| 1B = List 1B species: rare, threatened, or endangered in California and elsewhere.           |  |   |                      |                          |  |
| 2 = List 2 species: rare, threatened, or endangered in California but more common elsewhere. |  |   |                      |                          |  |
| 3 = List 3 species: uncertain taxonomic status   |  |   |                      |                          |  |
| 4 = List 4 species: limited distribution and on a watch list.                                |  |   |                      |                          |  |
| 0.1 = seriously endangered in California.  |  |   |                      |                          |  |
| 0.2 = fairly endangered in California.   |  |   |                      |                          |  |
| * = presumed extirpated from that county.  |  |   |                      |                          |  |
| msl = mean sea level   |  |   |                      |                          |  |
| m = meters   |  |   |                      |                          |  |

<sup>2</sup> In March, 2010, DFG changed the name of “CNPS List” or “CNPS Ranks” to “California Rare Plant Rank” (or CRPR). This was done to reduce confusion over the fact that CNPS and DFG jointly manage the Rare Plant Status Review groups (300+ botanical experts from government, academia, NGOs, and the private sector) and that the rank assignments are the product of a collaborative effort and not solely a CNPS assignment.

**Appendix B : Observed Flora : Sand Hill Project : Spring 2013 Botanical Survey**

| Family       | Scientific Name                                   | Common Name   | Federal/State<br>CA Rare Plant<br>Rank (CRPR) | Wetland<br>Indicator<br>Designation | Plant Communities and Habitat   | Bloom            | Native, Non-Native,<br>and/or Invasive |
|--------------|---|---|---|-------------------------------------|---|------------------|--|
| Agavaceae    | <i>Chlorogalum pomeridianum var. pomeridianum</i> | Wavyleaf Soap Plant, Common Soaproot                    |   |                                     | Grasslands, chaparral, open woodlands: 0-4921 ft.   |                  |  |
| Apiaceae     | <i>Conium maculatum</i>                           | Poison-Hemlock  |   | FACW                                | Weedy species characteristic of disturbed places, wetland-riparian: 0-5,000 ft.   | April-September  | Non-Native Invasive                    |
| Apiaceae     | <i>Eryngium sp.</i>                               |   |   |                                     |   |                  | Native                                 |
| Apiaceae     | <i>Foeniculum vulgare</i>                         | Sweet Fennel, Biscuit Root                              |   |                                     | Weedy species characteristic of disturbed places: 0-1148 ft.  | March-September  | Non-Native Invasive                    |
| Apocynaceae  | <i>Asclepias fascicularis</i>                     | Mexican Or Narrow-Leaf Milkweed                         |   | FAC                                 | Yellow Pine Forest, Red Fir Forest, Lodgepole Forest, Foothill Woodland, Chaparral, Valley Grassland, wetland-riparian: 0-7,000 ft.                                     | June-September   | Native                                 |
| Asteraceae   | <i>Achillea millefolium</i>                       | Common Yarrow   |   | FACU                                | Yellow Pine Forest, Red Fir Forest, Lodgepole Forest, Subalpine Forest, Alpine Fell-fields, Meadow: 0-13,000 ft.  | April-August     | Native                                 |
| Asteraceae   | <i>Ancistrocarphus filagineus</i>                 | False Neststraw, Woolly Fishhooks                       |   |                                     | Coastal Sage Scrub, Chaparral, Foothill Woodland, stong affinity to serpentine soil: 0-5,500 ft.  | March-May        | Native                                 |
| Asteraceae   | <i>Carduus pycnocephalus</i>                      | Italian Thistle   |   |                                     | Weedy species characteristic of disturbed places: 0-3280 ft.  | February-July    | Non-Native Invasive                    |
| Asteraceae   | <i>Centaurea melitensis</i>                       | Maltese Star Thistle, Napa Star Thistle, Tocalote       |   |                                     | Agricultural weed, weed, species characteristic of disturbed places: 0-7218 ft.   | April-August     | Non-Native Invasive                    |
| Asteraceae   | <i>Centromadia pungens</i>                        | Pungent False Tarplant                                  |   | FAC                                 | Equally likely to occur in wetlands or non wetlands: 0-1640 ft.   | April-September  | Native                                 |
| Asteraceae   | <i>Cirsium cymosum</i>                            | Peregrine Thistle                                       |   |                                     | Mixed Evergreen Forest, Chaparral, Foothill Woodland, Yellow Pine Forest, affinity for serpentine soil, slopes: 0-5,000 ft.   | June-July        | Native                                 |
| Asteraceae   | <i>Cirsium vulgare</i>                            | Bull Thistle  |   | FACU                                | Weedy species characteristic of disturbed places, wetland-riparian: 0-7,500 ft.   | June-Spetember   | Non-Native Invasive                    |
| Asteraceae   | <i>Cotula coronopifolia</i>                       | Common Brassbuttons                                     |   | OBL                                 | Saline and freshwater marshes, mud flats, wetland-riparian: 0-984 ft.   | March-October    | Non-Native                             |
| Asteraceae   | <i>Deinandra sp.</i>                              |   |   |                                     |   |                  | Native                                 |
| Asteraceae   | <i>Grindelia sp.</i>                              |   |   |                                     |   |                  | Native                                 |
| Asteraceae   | <i>Heterotheca sessiliflora</i>                   | Golden Aster, False Goldenaster                         |   |                                     | Yellow Pine, Red Fir, Mixed Evergreen Forest; Sagebrush, Coastal Sage, Northern Coastal Scrub; Chaparral, Foothill, Joshua Tree Woodland; Valley Grassland: 0-8,850 ft. | March-December   | Native                                 |
| Asteraceae   | <i>Holocarpha heermannii</i>                      | Heermann'S Tarweed                                      |   |                                     | Valley Grassland, Foothill Woodland: 0-4,000 ft.  | March-November   | Native                                 |
| Asteraceae   | <i>Holocarpha virgata</i>                         | Pitgland Tarweed, Yellowflower Tarweed, Narrow Tarplant |   |                                     | Valley Grassland, Foothill Woodland: 0-2,625 ft.  | March-November   | Native                                 |
| Asteraceae   | <i>Microseris sp.</i>                             |   |   |                                     |   |                  | Native                                 |
| Asteraceae   | <i>Silybum marianum</i>                           | Blessed Milkthistle, Milk Thistle                       |   |                                     | Invasive weed, roadsides, pastures, species characteristic of disturbed places: 0-1,640 ft.   | April-July       | Non-Native Invasive                    |
| Asteraceae   | <i>Sonchus oleraceus</i>                          | Common Sowthistle                                       |   |                                     | Abundant weed, species characteristic of disturbed places: 0-4,900 ft.  | January-December | Non-Native                             |
| Asteraceae   | <i>Hypochaeris glabra</i>                         | Smooth Cat'S Ear  |   |                                     | Weedy species characteristic of disturbed places: 0-3,900 ft.   | March-June       | Non-Native Invasive                    |
| Asteraceae   | <i>Iva axillaris</i>                              | Povertyweed, Deer Root                                  |   | FAC                                 | Coastal Salt Marsh, Alkali Sink, wetland-riparian: 0-6,700 ft.  | April-October    | Native                                 |
| Asteraceae   | <i>Lactuca serriola</i>                           | Prickly Lettuce   |   | FACU                                | Weedy species characteristic of disturbed places, wetland-riparian: 0-6,500 ft.   | May-September    | Non-Native                             |
| Boraginaceae | <i>Amsinckia menziesii</i>                        | Menzie'S Fiddleneck, Common Fiddleneck                  |   | UPL                                 | Valley Grassland: 0-5577 ft.  | March-May        | Native                                 |
| Boraginaceae | <i>Plagiobothrys sp.</i>                          |   |   |                                     |   |                  | Native                                 |
| Brassicaceae | <i>Brassica nigra</i>                             | Black Mustard   |   |                                     | Weedy species characteristic of disturbed places: 0-4921 ft.  | April-July       | Non-Native Invasive                    |

**Appendix B : Observed Flora : Sand Hill Project : Spring 2013 Botanical Survey**

| Family          | Scientific Name                               | Common Name   | Federal/State<br>CA Rare Plant<br>Rank (CRPR) | Wetland<br>Indicator<br>Designation | Plant Communities and Habitat   | Bloom            | Native, Non-Native,<br>and/or Invasive |
|-----------------|---|---|---|-------------------------------------|---|------------------|--|
| Brassicaceae    | <i>Hirschfeldia incana</i>                    | Mediterranean Hoary Mustard,<br>Summer Mustard, Wild Mustard  |   | UPL                                 | Weedy species characteristic of disturbed places : 0-5,249 ft.  | January-December | Non-Native Invasive                    |
| Brassicaceae    | <i>Lepidium latifolium</i>                    | Broad-Leaf Pepperwort, Pepper<br>Leave, Pepper Grass          |   | FAC                                 | Weedy species characteristic of disturbed places, wetland-riparian:<br>0-6,200 ft.  | May-July         | Non-Native Invasive                    |
| Brassicaceae    | <i>Lepidium sp.</i>                           |   |   |                                     |   |                  |  |
| Brassicaceae    | <i>Sisymbrium altissimum</i>                  | Tall Hedge-Mustard, Tumble<br>Mustard                         |   | FACU                                | Weedy species characteristic of disturbed places, occasionally found in<br>wetlands: 0-8,200 ft.  | May-July         | Non-Native                             |
| Brassicaceae    | <i>Sisymbrium irio</i>                        | London Rocket   |   |                                     | Weedy species characteristic of disturbed places, fields, pastures:<br>0--2,600 ft.   | January-April    | Non-Native Invasive                    |
| Brassicaceae    | <i>Capsella bursa-pastoris</i>                | Shepherd's-Purse  |   | FACU                                | Weedy species characteristic of disturbed places, wetland-riparian:<br>0-7,000 ft.  | January-December | Non-Native                             |
| Caryophyllaceae | <i>Herniaria hirsuta</i>                      | Hairy Rupturewort   |   |                                     | Native to Eurasia   | June-July        | Not Native                             |
| Chenopodiaceae  | <i>Atriplex cordulata var. cordulata</i>      | Heartscale  | 1B.2  | FAC                                 | Chenopod scrub, meadows and seeps, Valley and foothill grassland<br>(VFGr)(sandy)/saline or alkaline: 0-1837 ft.  | April-October    | Native                                 |
| Chenopodiaceae  | <i>Atriplex fruticulosa</i>                   | Ball Saltbush, Valley Saltbush                                |   | FACW                                | Valley Grassland, wetland-riparian: 0-2000 ft.  | June-Spetember   | Native                                 |
| Chenopodiaceae  | <i>Chenopodium californicum</i>               | California Goosefoot, Pigweed,<br>Soaproot                    |   |                                     | Yellow Pine Forest, Foothill Woodland, Chaparral, Valley Grassland,<br>slopes: 0-5,000 ft.  | March-June       | Native                                 |
| Chenopodiaceae  | <i>Chenopodium sp.</i>                        |   |   |                                     |   | March-June       | Native                                 |
| Chenopodiaceae  | <i>Suaeda nigra</i>                           | Shrubby Seepweed, Bush<br>Seepweed                            |   | OBL                                 | Coastal Salt Marsh, Coastal Sage Scrub, Sagebrush, Creosote Bush<br>Scrub; Alkali Sink, interior and desert saline habitats, wetland-riparian:<br>0-5,250 ft. | May              | Native                                 |
| Convolvulaceae  | <i>Convolvulus arvensis</i>                   | Bindweed, Orchard Morning-Glory                               |   |                                     | Weedy species characteristic of disturbed places: 0-4200ft.   | April-September  | Non-Native Invasive                    |
| Convolvulaceae  | <i>Cressa truxillensis</i>                    | Spreading Alkali-Weed   |   | FACW                                | Saline, alkaline substrates, yellow Pine Forest, Foothill Woodland,<br>Chaparral, Valley Grassland, wetland-riparian: 0-4,000 ft.                             | May-June         | Native                                 |
| Crassulaceae    | <i>Crassula connata</i>                       | Sand Pygmyweed  |   | FAC                                 | Yellow Pine Forest, Foothill Woodland, Chaparral, Valley Grassland,<br>wetland-riparian: 0-2500 ft.   | February-March   | Native                                 |
| Cucurbitaceae   | <i>Marah fabacea</i>                          | California Man-Root   |   |                                     | Coastal Strand, Mixed Evergreen Forest, Foothill Woodland, Chaparral,<br>Streamsidess, washes, shrubby open areas: 0-5,200 ft.                                | March-April      | Native                                 |
| Cyperaceae      | <i>Bolboschoenus maritimus ssp. paludosus</i> | Saltmarsh Bulrush   |   |                                     | Brackish to saline coastal, inland marshes, shores: 0-9514 ft.  | August-September | Native                                 |
| Euphorbiaceae   | <i>Croton setigerus</i>                       | Dove Weed, Turkey Mullein                                     |   |                                     | Coastal Sage Scrub, Foothill Woodland, Valley Grassland, Northern Oak<br>Woodland, Southern Oak Woodland: 0-6,000 ft.   | May-October      | Native                                 |
| Fabaceae        | <i>Acmispon wrangelianus</i>                  | Chilean Trefoil   |   |                                     | Abundant. Coastal bluffs, chaparral, disturbed areas: 0-4,900 ft.   | March-April      | Native                                 |
| Fabaceae        | <i>Astragalus sp.</i>                         | Alkali Milkvetch  |   |                                     |   |                  | Native                                 |
| Fabaceae        | <i>Lupinus microcarpus var. microcarpus</i>   | Chick Lupine, Valley Lupine                                   |   |                                     | Sagebrush Scrub, Creosote Bush Scrub, Foothill Woodland, Valley<br>Grassland, very toxic: 0-5,000 ft.   | May-June         | Native                                 |
| Fabaceae        | <i>Mellilotus indicus</i>                     | Indian Sweet-Clover, Annual Yellow<br>Sweetclover, Sourclover |   | FACU                                | Open, disturbed areas: 0-4921 ft.   | April-October    | Non-Native                             |
| Fabaceae        | <i>Trifolium hirtum</i>                       | Rose Clover   |   |                                     | Weedy roadside species characteristic of disturbed places:<br>0-6,750 ft.   | February-March   | Non-Native Invasive                    |
| Fabaceae        | <i>Medicago polymorpha</i>                    | Toothed Medick, California<br>Burclover, Bur Medic            |   | FACU                                | Common, chaparral, oak woodland, streambanks, roadsides, disturbed<br>areas: 0-4,900 ft.  | February-June    | Non-Native Invasive                    |
| Frankeniaceae   | <i>Frankenia salina</i>                       | Alkali Sea-Heath  |   | FACW                                | Coastal Strand, Coastal Salt Marsh, wetland-riparian Salt marshes, alkali<br>flats: 0-2,400 ft.   | March-October    | Native                                 |
| Geraniaceae     | <i>Erodium botrys</i>                         | Long-Beak Stork'S-Bill  |   | FACU                                | Usually occurs in non wetlands, but occasionally found in wetlands:<br>0-3,200 ft.  | February-March   | Non-Native                             |
| Geraniaceae     | <i>Erodium cicutarium</i>                     | Coastal Heron'S Bill, Red Stemmed<br>Filaree                  |   |                                     | Open, disturbed sites, grassland, scrub: 0-6,000 ft.  | Jebruary-June    | Non-Native                             |

**Appendix B : Observed Flora : Sand Hill Project : Spring 2013 Botanical Survey**

| Family         | Scientific Name                         | Common Name                             | Federal/State<br>CA Rare Plant<br>Rank (CRPR) | Wetland<br>Indicator<br>Designation | Plant Communities and Habitat   | Bloom          | Native, Non-Native,<br>and/or Invasive |
|----------------|---|---|---|-------------------------------------|---|----------------|--|
| Juncaceae      | <i>Juncus balticus</i>                  | Baltic Rush, Wire Rush                  |   |                                     | Yellow Pine, Red Fir, Lodgepole, Subalpine Forest; Foothill Woodland, Chaparral, Valley Grassland, Alpine Fell-fields, wetland-riparian: 0-11,000 ft. | May-June       | Native                                 |
| Juncaceae      | <i>Juncus bufonius</i>                  | Toad Rush                               |   | FACW                                | Wetland-riparian: 0-10,000 ft.  | March-May      | Native                                 |
| Juncaceae      | <i>Juncus mexicanus</i>                 | Mexican Rush                            |   | FACW                                | Yellow Pine, Red Fir, Lodgepole, Subalpine Forest; Foothill Woodland, Chaparral, Valley Grassland, Alpine Fell-fields, wetland-riparian: 0-11,000 ft. | March-May      | Native                                 |
| Lamiaceae      | <i>Marrubium vulgare</i>                | White Horehound                         |   | FACU                                | Weed, disturbed sites, generally overgrazed pastures, wetlands: 0-1,900 ft.   | March-April    | Non-Native Invasive                    |
| Lamiaceae      | <i>Trichostema lanceolatum</i>          | Vinegar-Weed                            |   | FACU                                | Coastal Sage Scrub, Chaparral, Northern Oak Woodland, Southern Oak Woodland, Foothill Woodland : 0-3,500 ft.  | August-October | Native                                 |
| Malvaceae      | <i>Malva parviflora</i>                 | Cheeseweed, Little Mallow               |   |                                     | Agricultural weed, species characteristic of disturbed places: 0-4,900 ft.  | March-October  | Non-Native                             |
| Malvaceae      | <i>Malvella leprosa</i>                 | Alkali-Mallow                           |   | FACU                                | Wetland-riparian areas, valleys, generally saline, agricultural weed: 0-4,900 ft.   | April-October  | Native weed                            |
| Papaveraceae   | <i>Eschscholzia californica</i>         | California Poppy                        |   |                                     | Yellow Pine Forest, Red Fir Forest, Lodgepole Forest, Foothill Woodland, Chaparral, Valley Grassland: 0-6,500 ft.                                     | April-July     | Native                                 |
| Plantaginaceae | <i>Collinsia sp.</i>                    | Blue Eyed Mary                          |   |                                     |   | March-june     | Native                                 |
| Poaceae        | <i>Bromus hordeaceus</i>                | Soft. Brome, Soft. Chess                |   | FACU                                | Weedy species characteristic of disturbed places: 0-3280 ft.  | April-May      | Non-Native Invasive                    |
| Poaceae        | <i>Cynodon dactylon</i>                 | Bermuda Grass                           |   | FACU                                | Weed, species characteristic of disturbed places, occasionally found in wetlands: 0-2952 ft.  | April-May      | Non-Native Invasive                    |
| Poaceae        | <i>Distichlis spicata</i>               | Coastal Salt Grass                      |   | FAC                                 | Coastal Salt Marsh, Creosote Bush Scrub, Alkali Sink, Valley Grassland, wetland-riparian  | July-August    | Native                                 |
| Poaceae        | <i>Elymus triticoides</i>               | Beardless Wild Rye                      |   |                                     | Yellow Pine Forest, Red Fir Forest, Lodgepole Forest, Subalpine Forest, Foothill Woodland, Chaparral, Valley Grassland, wetland-riparian: 0-7,500 ft. | June-July      | Native                                 |
| Poaceae        | <i>Festuca myuros</i>                   | Rattail Sixweeks Grass                  |   |                                     | Generally open places, sandy soils, desert: 0-6,500 ft.   | February-May   | Non-Native Invasive                    |
| Poaceae        | <i>Hordeum vulgare</i>                  | Common Barley                           |   |                                     | Agricultural plant, monoculture, widely adaptable in temperate and tropical areas: 0-10,000 ft.   | March-May      | Non-Native                             |
| Poaceae        | <i>Hordeum marinum ssp. gussoneanum</i> | Mediterranean Barley                    |   |                                     | Weedy species characteristic of disturbed places, wetland-riparian: 0-4921 ft.  | March-May      | Non-Native Invasive                    |
| Poaceae        | <i>Hordeum murinum ssp. glaucum</i>     | Blue Foxtail, Smooth Barley             |   |                                     | Weedy species characteristic of disturbed places: 0-3280 ft.  | April-May      | Non-Native Invasive                    |
| Poaceae        | <i>Koeleria gerardii</i>                | Annual June Grass, Bristly Koeleria     |   |                                     | Open, disturbed sites: 0 -1,148 ft.   | April-July     | Non-Native                             |
| Poaceae        | <i>Melica californica</i>               | California Melicgrass, California Melic |   |                                     | Open or rocky hillsides, Foothill Woodland, Mixed Evergreen Forest, Yellow Pine Forest: 0-4,000 ft.   | June-August    | Native                                 |
| Poaceae        | <i>Polypogon monspeliensis</i>          | Annual Beard Grass, Rabbitfoot Grass    |   |                                     | Weedy species characteristic of disturbed places, wetland-riparian, moist places, common along streams: 0-6,800 ft.                                   | May-June       | Non-Native                             |
| Poaceae        | <i>Stipa lepida</i>                     | Foothill Needle Grass                   |   |                                     | Chaparral, Coastal Sage Scrub, Coastal Prairie, grassland, savanna, dry slopes: 0-4,000 ft.   | March-May      | Native                                 |
| Poaceae        | <i>Stipa pulchra</i>                    | Purple Needle Grass                     |   |                                     | Coastal Sage Scrub, Foothill Woodland, Oak woodland, chaparral, grassland, slopes: 0-5,000 ft.  | March-May      | Native                                 |
| Poaceae        | <i>Avena barbata</i>                    | Slender Wild Oat                        |   |                                     | Weedy species characteristic of disturbed places: 131-3937 ft.  | March-june     | Non-Native Invasive                    |
| Poaceae        | <i>Avena fatua</i>                      | Common Wild Oat                         |   |                                     | Weedy species characteristic of disturbed places: 82-4002 ft.   | April-May      | Non-Native Invasive                    |
| Poaceae        | <i>Bromus diandrus</i>                  | Ripgut, Bromegrass                      |   |                                     | Weedy species characteristic of disturbed places: 0-6500 ft.  | April-June     | Non-Native Invasive                    |

**Appendix B : Observed Flora : Sand Hill Project : Spring 2013 Botanical Survey**

| Family        | Scientific Name                              | Common Name                            | Federal/State<br>CA Rare Plant<br>Rank (CRPR) | Wetland<br>Indicator<br>Designation | Plant Communities and Habitat   | Bloom            | Native, Non-Native,<br>and/or Invasive |
|---------------|--|--|---|-------------------------------------|---|------------------|--|
| Polemoniaceae | <i>Leptosiphon sp.</i>                       |  |   |                                     |   |                  | Native                                 |
| Polemoniaceae | <i>Lolium multiflorum (Festuca perennis)</i> | Italian Rye Grass                      |   |                                     | Urban and agricultural weed, dry to moist disturbed sites, abandoned fields: 0-3,200 ft.  | May-September    | Non-Native Invasive                    |
| Polemoniaceae | <i>Microsteris gracilis</i>                  | Annual-Phlox, Slender Phlox            |   | FACU                                | Yellow Pine Forest, Red Fir Forest, Lodgepole Forest, Subalpine Forest, Foothill Woodland, Chaparral, Valley Grassland, occasionally wetlands: 0-10,000 ft.                                   | February-June    | Native                                 |
| Polygonaceae  | <i>Polygonum aviculare ssp. aviculare</i>    | Prostrate Knotweed                     |   | FAC                                 | Disturbed places, roadsides, cultivated fields: 0-6561 ft.  | June-December    | Non-Native                             |
| Polygonaceae  | <i>Rumex crispus</i>                         | Curly Dock, Curly Leaved Dock, Rhubarb |   | FAC                                 | Weedy species characteristic of disturbed places, wetland-riparian: 0-8,200 ft.   | January-December | Non-Native Invasive                    |
| Polygonaceae  | <i>Rumex pulcher</i>                         | Fiddle Dock                            |   | FAC                                 | Weed species characteristic of disturbed places, meadows, moist or dry habitats, wetland-riparian: 0-4,900 ft.  | May-September    | Non-Native                             |
| Pteridaceae   | <i>Pentagramma triangularis</i>              | Gold Back Fern, Silver Back Fern       |   |                                     | Coastal Sage Scrub, Creosote Bush Scrub, Yellow Pine Forest, Foothill Woodland, Chaparral, Valley Grassland, Pinyon-Juniper Woodland: 0-7,545 ft.   | NA               | Native                                 |
| Ranunculaceae | <i>Ranunculus californicus</i>               | California Buttercup                   |   | FACU                                | Northern Coastal Scrub, Foothill Woodland, Northern Oak Woodland, Mixed Evergreen Forest, Valley Grassland, Yellow Pine Forest, Red Fir Forest, wetland-riparian, minor toxicity: 0-7,500 ft. | February-May     | Native                                 |
| Themidaceae   | <i>Brodiaea elegans ssp. elegans</i>         | Elegant Cluster Lily                   |   | FACU                                | Usually occurs in non wetlands, but occasionally found in wetlands: 0-8000 ft.  | March-August     | Native                                 |
| Themidaceae   | <i>Brodiaea terstris ssp. terstris</i>       | Ground or Dwarf Brodiaea               |   |                                     | Coastal prairie, foothill woodland; < 1476 ft.  | April-June       | Native                                 |
| Themidaceae   | <i>Triteleia laxa</i>                        | Ithurie'S Spear, Common Triteleia      |   |                                     | Common, Open Mixed Evergreen Forest, Conifer or Foothill Woodland, Grassland, Chaparral on clay soil: 0-4,600 ft.   | April-July       | Native                                 |
| Typhaceae     | <i>Typha angustifolia</i>                    | Narrow-Leaf Cat-Tail                   |   | OBL                                 | Nutrient-rich freshwater to brackish marshes, wet disturbed places, wetland-riparian: 0-6,560 ft.   | May-June         | Non-Native                             |

**\* Status explanations:**

Federal

E = listed as endangered under the federal Endangered Species Act.

- = no listing.

State

E = listed as endangered under the California Endangered Species Act.

- = no listing.

California Rare Plant Rank2

1B = List 1B species: rare, threatened, or endangered in California and elsewhere.

2 = List 2 species: rare, threatened, or endangered in California but more common elsewhere.

3 = List 3 species: uncertain taxonomic status

4 = List 4 species: limited distribution and on a watch list.

0.1 = seriously endangered in California.

0.2 = fairly endangered in California.

\* = presumed extirpated from that county.

NI = No Information

| Wetland Indicator Code Key for Indicator Categories |                     |  |
|---|---------------------|--|
| Indicator Code                                      | Wetland Type        | Comment  |
| OBL   | Obligate Wetland    | Occurs almost always (estimated probability 99%) under natural conditions in wetlands.   |
| FACW  | Facultative Wetland | Usually occurs in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands.  |
| FAC   | Facultative         | Equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).   |
| FACU  | Facultative Upland  | Usually occurs in non-wetlands (estimated probability 67%-99%), but occasionally found on wetlands (estimated probability 1%-33%).   |
| UPL   | Obligate Upland     | Occurs in wetlands in another region, but occurs almost always (estimated probability 99%) under natural conditions in non-wetlands in the regions specified. If a species does not occur in wetlands in any region, it is not on the National List. |