



**COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT**

# **ATTACHMENT A**



## MEMORANDUM

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**To:** Christopher Brousseau, President,  
Odyssey School Board of Trustees

**From:** Brian Kearns, Project Manager  
Rei Scampavia, Botanist

**Date:** November 23, 2021

**Subject:** Botanical Constraints Report for Odyssey School (WRA Project# 31366)

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This memorandum summarizes the findings from a rare plant habitat assessment site visit conducted November 5, 2021, at the approximately 3.5-acre Odyssey School (client), located at 201 Polhemus Road, San Mateo, San Mateo County, California (Assessor's Parcel Number 038-131-020; Study Area). The client seeks to increase the capacity of the school from approximately 45 students to approximately 90 students. During the permitting process, San Mateo County raised concerns that the site could have potential to support San Mateo woolly sunflower (*Eriophyllum latilobum*, federal endangered, state endangered, California Native Plant Society [CNPS] Rare Plant Rank [Rank] 1B.1) and San Francisco collinsia (*Collinsia multicolor*, Rank 1B.2). In response to the County, the client has requested that WRA conduct a site visit in order to assess the habitat potential for these species to be present within the proposed expansion area, as defined by the client, and, if potential exists, what mitigation measures may be required to ensure protections of these species. Although building plans for a future expansion project on the site have been drafted, construction is not anticipated to occur for several years; thus, this memorandum includes only a preliminary analysis of potential botanical constraints.

### Site Description

The Study Area consists of approximately 3.2 acres in a residential area in southwest San Mateo. The Study Area is bordered to the north, east, and south by steep, brushy slopes, and by Polhemus Road to the west (Google Earth 2021). Historical imagery (NETR 2021) shows that brushy slopes within and surrounding the Study Area are remnants of a relatively intact natural corridor through agricultural lands, portions of which were converted to residential areas starting between 1946 and 1956. Relatively intact woodland and chaparral communities still surround the developed campus footprint within the Study Area (Google Earth 2021). Elevations within the Study Area range from approximately 130 to 170 feet National Geodetic Vertical Datum (Google Earth 2021). The western portion of the site, including the developed campus footprint, is relatively flat, while the eastern portion of the Study Area contains a relatively steep west-facing slope. The online soil survey of the Study Area (CSRL 2021) indicates that the Study Area contains one native soil mapping unit: Los Gatos Loam, 30 to 75 percent slopes. The majority of soils in the Study Area are derived from serpentinite; other bedrock components include shale, siltstone, sandstone, and chert (County of San Mateo 2021).

The Study Area is located in the southwest portion of San Mateo on the San Francisco Peninsula. The average monthly maximum temperature in the area is 68.7 degrees Fahrenheit, while the average monthly minimum temperature is 48.5 degrees Fahrenheit (WRCC 2021). Predominantly, precipitation falls as rainfall between November and March with an annual average precipitation of 19.09 inches (WRCC 2021). The primary hydrologic source for the Study Area is direct precipitation and runoff from the steep slope to the east.

## Rare Plant Survey

### Background Literature Search

Prior to the rare plant survey, a database query of the Information for Conservation and Planning Database (IPaC; USFWS 2021), the California Natural Diversity Database (CNDDDB; CDFW 2021), and the CNPS Inventory (Inventory; CNPS 2021) of the San Mateo, Woodside, Montara Mountain, and Half Moon Bay 7.5-minute U.S. Geological Survey (USGS) 7.5-minute quadrangles, was conducted to assess special-status plant species documented within the vicinity of the Study Area. Occurrence records from the Consortium California of Herbaria (CCH2 2021) were also examined when appropriate. A list of special-status plant species documented to occur in the vicinity of the Study Area is included as Attachment B.

### Field Survey Method

On November 5, 2021, WRA biologist Rei Scampavia visited the Study Area to perform a targeted rare plant habitat assessment. The entire Study Area was traversed on foot, and observed plant species were identified using *The Jepson Manual, 2<sup>nd</sup> Edition* (Baldwin et al. 2012) and subsequent revisions in *The Jepson Flora Project* (Jepson eFlora 2021) to a taxonomic level sufficient to determine rarity. Land cover types were also characterized based on dominant plant species. The expansion area, as identified by the client, was analyzed for its potential to host San Mateo woolly sunflower, San Francisco collinsia, and other special-status plant species documented to occur within the vicinity of the Study Area (Attachment B).

### Site Assessment and Survey Results

#### *Study Area Description*

The Study Area contains three land cover types: developed/landscaped, coyote brush (*Baccharis pilularis*) scrub, and coast live oak (*Quercus agrifolia*) woodland. Developed/landscaped areas include paved roads and lots, the schoolyard, a row of mature planted blue gum (*Eucalyptus globulus*) trees, and buildings associated with the school. The majority of undeveloped portions of the Study Area are covered by coast live oak woodland. Coast live oak woodland within the Study Area is dominated by coast live oak and California bay (*Umbellularia californica*), with valley oak (*Quercus lobata*) and buckeye (*Aesculus californica*) present at lower densities. Understory composition ranges from dense leaf litter with scattered sticky monkeyflower (*Diplacus aurantiacus*), honeysuckle (*Lonicera* sp.), and gold back fern (*Pentagramma triangularis*); to grassy areas dominated by oats (*Avena* sp.), dogtail grass (*Cynosurus echinatus*), upright veldt grass (*Ehrharta erecta*), wild rye (*Elymus* sp.), and Italian thistle (*Carduus pycnocephalus*). Coyote brush scrub occurs at higher elevations along the eastern edge of the Study Area. Coyote brush scrub is co-dominated by coyote brush and poison oak (*Toxicodendron diversilobum*), with lower densities of ceanothus (*Ceanothus* sp.) and California coffeeberry (*Frangula californica*). Dominant species in the herbaceous layer include wild rye and common rush (*Juncus patens*). No drainages or hydrophytic vegetation communities indicative of wetland habitat were observed on-site.

The expansion area, as identified by the client, is located on a gentle slope directly uphill of the school building and other paved surfaces. The expansion area contains coast live oak woodland, with a grassy understory dominated by oat, dogtail grass, and yarrow (*Achillea millefolium*). The potential for San Mateo woolly sunflower, San Francisco collinsia, and other special-status plant species documented to occur

within the vicinity of the Study Area to occur within the expansion area is discussed below. Additional special-status plant species with potential to occur elsewhere within the Study Area are not addressed in this memorandum.

#### *Potential for San Mateo Woolly Sunflower to Occur within the Expansion Area*

San Mateo woolly sunflower is a 12 to 16 inch tall perennial herb in the sunflower family (Asteraceae) that blooms from May to June. It typically occurs in cismontane woodland, coastal scrub, and lower montane coniferous forest at elevations ranging from approximately 150 to 1,085 feet (CDFW 2021, CNPS 2021). It often occurs on road cuts and shady slopes (CDFW 2021). This species has a serpentine affinity rank of strict endemic (5.5) (Safford and Miller 2020). Associated species include coast live oak, buckeye, California bay, foothill needle grass (*Stipa lepida*), white fairy lantern (*Calochortus albus*), and coastal sage brush (*Artemisia californica*) (CDFW 2021). There are multiple documented occurrences of this species within 0.5 mile of the Study Area (CDFW 2021). San Mateo woolly sunflower has a high potential to occur within the Study Area due to the presence of nearby occurrences, shady slopes, associated species, and serpentine substrate.

#### *Potential for San Francisco Collinsia to Occur Within the Expansion Area*

San Francisco collinsia is 12 to 24 inch tall annual herb in the plantain family (Plantaginaceae) that blooms from March to May. It typically occurs on decomposed shale mixed with humus and sometimes serpentine in closed-cone coniferous forest and coastal scrub at elevations ranging from approximately 100 to 900 feet (CDFW 2021, CNPS 2021). This species has a serpentine affinity rank of weak indicator/indifferent (1.1) (Safford and Miller 2020). San Francisco collinsia has been documented approximately 0.5 mile north of the Study Area in coast live oak woodland. San Francisco collinsia has a moderate potential to occur within the expansion area due to the presence of a nearby occurrence, coast live oak woodland, and serpentine substrate.

#### *Potential for Other Special-status Plant Species to Occur within the Expansion Area*

No special-status plant species were observed within the Study Area. A list of plant species observed within the Study Area is included as Attachment A. Of the 61 special-status plant species documented to occur in the vicinity of the Study Area, three species beyond those identified by the County (i.e., San Mateo woolly sunflower and San Francisco collinsia) were determined to have potential to occur within the Study Area: Franciscan onion (*Allium peninsulare* var. *franciscanum*, CNPS Rank 1B.2), Crystal Springs lessingia (*Lessingia arachnoidea*, CNPS Rank 1B.2), and white-rayed pentachaeta (*Pentachaeta bellidiflora*; federal endangered, state endangered, CNPS Rank 1B.1). The remaining 56 species are unlikely or have no potential to occur within the Study Area for one or more of the following reasons:

- Specific edaphic conditions, such as sandy soils, are absent;
- Specific hydrologic conditions, such as wetlands or tidal waters, are absent;
- Common associated plant species and vegetation communities are absent;
- A viable seed bank is unlikely to be present due to separation of populations by extensive development and/or water bodies;
- The expansion area is outside the documented elevation range; and
- The expansion area is frequently disturbed by foot traffic.

The four additional special-status plant species with moderate potential to occur in the expansion area are described below.

**Franciscan onion (*Allium peninsulare* var. *franciscanum*).** CNPS Rank 1B.2. High Potential. Franciscan onion is a 3-9 inch tall perennial forb in the lily family (Liliaceae) that blooms from May to June. It typically occurs on dry hillsides underlain by clay substrate, often derived from serpentine, in cismontane woodland and valley and foothill grassland habitat at elevations ranging from approximately 165 to 975 feet (CDFW 2021, CNPS 2021). Associated species include California bay, buckeye, coast live oak, leather oak (*Quercus durata*), and purple needlegrass (*Stipa pulchra*) (CDFW 2021). Franciscan onion has been documented within 1 mile of the Study Area, east of Crystal Springs Road, in coast live oak woodland on Los Gatos loam soils (CDFW 2021). Franciscan onion has a high potential to occur within the expansion area due to the presence of a nearby documented occurrence, associated plant species, and suitable soil substrate.

**Crystal Springs lessingia (*Lessingia arachnoidea*).** CNPS Rank 1B.2. High potential. Crystal Springs lessingia is a 6 to 32 inch tall annual forb in the sunflower family (Asteraceae) that blooms from July through October. It typically occurs on serpentine substrate, often on grassy slopes or roadsides, in cismontane woodland, coastal scrub, chaparral, and valley and foothill grassland habitat at elevations ranging from approximately 195 to 655 feet (CNPS 2021, CDFW 2021). This species has a serpentine affinity rank of strict endemic (6.0) (Safford and Miller 2020). Associated species include oat, nude buckwheat (*Eriogonum nudum*), purple needlegrass (*Stipa pulchra*), yarrow, Kellogg's yampah (*Perideridia kelloggii*), and tidy tips (*Layia platyglossa*), (CDFW 2021). The nearest documented occurrence is approximately 0.5 mile north of the Study Area (CDFW 2021). Crystal Springs lessingia has a high potential to occur within the expansion area due to the presence of grassy slopes with serpentine substrate, associated plant species, and nearby documented occurrences of this species.

**White-rayed pentachaeta (*Pentachaeta bellidiflora*).** Federal Endangered, State Endangered, CNPS Rank 1B.2. Moderate potential. White-rayed pentachaeta is a 3 to 7 inch tall annual herb in the sunflower family (Asteraceae) that blooms from March through May. It typically occurs on open dry rock slopes and grassy areas, in cismontane woodland and valley and foothill grassland, at elevations ranging from approximately 155 to 2,035 feet. This species has a serpentine affinity rank of weak indicator (2.4) (Safford and Miller 2020). The nearest documented occurrence of this species is located approximately 1 mile south of the Study Area. White-rayed pentachaeta has moderate potential to occur within the expansion area due to the presence of grassy slopes in cismontane woodland and serpentine soils.

### **Recommended Mitigation Measures**

If one or more special-status plant species are within the expansion area prior to construction, activities related to the school expansion, including ground disturbance, vegetation removal, and equipment access, could cause direct mortality to individuals. If direct loss of a special-status plant species population occurs, this would be considered a significant impact.

To reduce potential impacts to special-status plants to less than significant, one or more focused surveys should be conducted prior to planned construction to determine the presence or absence of the seven special-status plant species with potential to occur within the expansion area prior to any ground disturbance. Surveys should be conducted in accordance with the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018). These guidelines require special-status plant surveys to be conducted at the proper time of year when rare or endangered species are both "evident" and identifiable. Field surveys should be scheduled to coincide

with known blooming periods, and/or during periods of physiological development that are necessary to identify the plant species of concern. If no special-status plant species are found, then the Project will not have any impacts to the species and no additional mitigation measures are necessary. If any of the species are found and cannot be avoided by construction activities within the expansion area, the following measures shall be required:

- If the surveys determine that one or more special-status plant species are present within the expansion area, direct and indirect impacts of the Project on the species should be avoided where feasible through the establishment of activity exclusion zones, where no ground-disturbing activities will take place, including construction staging or other temporary work areas. Activity exclusion zones for special-status plant species should be established prior to activities around each occupied habitat site, the boundaries of which should be clearly marked with standard orange plastic construction exclusion fencing or its equivalent. The size of activity exclusion zones may be determined through consultation with a qualified biologist.
- If exclusion zones and avoidance of impacts to special-status species within the expansion area are not feasible, then the loss of individuals or occupied habitat of special-status plants should be compensated for through the acquisition, protection, and subsequent management of existing occurrences. Before the implementation of compensation measures, the Project's applicant should provide detailed information to the lead agency on the quality of preserved habitat, location of the preserved occurrences, provisions for protecting and managing the areas, the responsible parties involved, and other pertinent information that demonstrates the feasibility of the compensation. A mitigation plan identifying appropriate mitigation ratios at a minimum ratio of 1:1 should be developed in consultation with, and approved by, the lead agency prior to the commencement of any activities that would impact special-status plant species that occur within the expansion area. A mitigation plan may include but is not limited to the following: transplantation of perennial species and/or reseeded of annual species in other suitable portions of the Study Area, the acquisition of off-site mitigation areas presently supporting the special-status species within the expansion area, purchase of credits in a mitigation bank that is approved to sell credits for special-status plants, or payment of in-lieu fees to a public agency or conservation organization (e.g. a local land trust) for the preservation and management of existing populations of special-status plants. Transplantation and/or reseeded of special-status species will require a monitoring plan to ensure successful establishment.
- In addition to these measures, if pre-construction surveys find that San Mateo woolly sunflower or white-rayed pentachaeta are present within the expansion area or access routes and cannot be avoided, consultation may be required with U.S. Fish and Wildlife Service to assess impacts to these listed species. Consultation may result in additional conservation measures to further reduce any imposed effects resulting from building activities at the time of construction. Impacts to these species will also require consultation with CDFW to obtain an Incidental Take Permit. If these species are found to be absent, formal consultation would not be required.

## **Summary and Recommendations**

WRA conducted a rare plant habitat assessment in the Study Area on November 5, 2021. The assessment determined that San Mateo woolly sunflower and San Francisco collinsia have potential to occur within the expansion area, along with Franciscan onion, Crystal Springs lessingia, and white-rayed pentachaeta. It should be noted that this assessment focused only on the potential expansion area provided by the Odyssey School; additional special-status plant species may have potential to occur in other areas of the property that were not assessed by WRA. Protocol-level surveys for the five special-status plant species

with potential to occur within the expansion area are recommended. Protocol-level surveys should be conducted during the bloom period, or when the target species are readily identifiable. This would require two surveys: one in May, and one in July to October. If special-status plant species are encountered within the expansion area during surveys, adherence to the above prescribed mitigation measures would be needed to reduce impacts to these species to less than significant.

Attachment A: List of Observed Plant Species

Attachment B: Special-status Plant Species Documented to Occur in the Vicinity of the Study Area

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**Attachment A. List of Observed Plant Species**

Scientific Name	Common Name	Origin	Form	Rarity Status <sup>1</sup>	CAL-IPC Status <sup>2</sup>	Wetland Status <sup>3</sup>
<i>Achillea millefolium</i>	Yarrow	native	perennial herb	-	-	FACU
<i>Aesculus californica</i>	Buckeye	native	tree	-	-	-
<i>Artemisia douglasiana</i>	California mugwort	native	perennial herb	-	-	FAC
<i>Avena</i> sp.	Oat	non-native (invasive)	annual grass	-	Moderate	-
<i>Baccharis pilularis</i>	Coyote brush	native	shrub	-	-	-
<i>Cardamine</i> sp.	cross	-	annual herb	-	-	-
<i>Carduus pycnocephalus</i> ssp. <i>pycnocephalus</i>	Italian thistle	non-native (invasive)	annual herb	-	Moderate	-
<i>Ceanothus</i> sp.	Ceanothus	native	shrub	-	-	-
<i>Clinopodium douglasii</i>	Yerba buena	native	perennial herb	-	-	FACU
<i>Coprosma rotundifolia</i>	Round leaved Coprosma	non-native	shrub	-	-	-
<i>Cynosurus echinatus</i>	Dogtail grass	non-native (invasive)	annual grass	-	Moderate	-
<i>Diplacus aurantiacus</i>	Sticky monkeyflower	native	shrub	-	-	FACU
<i>Dryopteris arguta</i>	Wood fern	native	fern	-	-	-
<i>Ehrharta erecta</i>	Upright veldt grass	non-native (invasive)	perennial grass	-	Moderate	-
<i>Elymus</i> sp.	Wild rye	native	perennial grass	-	-	-
<i>Eucalyptus globulus</i>	Blue gum	non-native (invasive)	tree	-	Limited	-
<i>Euphorbia serpens</i>	Matted sandmat	native	annual herb	-	-	FACU
<i>Foeniculum vulgare</i>	Fennel	non-native (invasive)	perennial herb	-	High	-
<i>Frangula californica</i>	California coffeeberry	native	shrub	-	-	-
<i>Fraxinus</i> sp.	Ash	-	tree	-	-	-
<i>Galium</i> sp.	bedstraw	-	-	-	-	-
<i>Genista monspessulana</i>	French broom	non-native (invasive)	shrub	-	High	-

Scientific Name	Common Name	Origin	Form	Rarity Status <sup>1</sup>	CAL-IPC Status <sup>2</sup>	Wetland Status <sup>3</sup>
<i>Geranium dissectum</i>	Wild geranium	non-native (invasive)	annual herb	-	Limited	-
<i>Hedera helix</i>	English ivy	non-native (invasive)	vine, shrub	-	High	FACU
<i>Juncus patens</i>	Common rush	native	perennial grasslike herb	-	-	FACW
<i>Lonicera</i> sp.	honeysuckle	-	perennial shrub	-	-	-
<i>Lysimachia arvensis</i>	Scarlet pimpernel	non-native	annual herb	-	-	FAC
<i>Medicago arabica</i>	Spotted burclover	non-native	annual herb	-	-	-
<i>Nerium oleander</i>	Oleander	non-native	tree	-	-	-
<i>Oxalis</i> sp.	Sorrel	-	perennial herb	-	-	-
<i>Paspalum dilatatum</i>	Dallis grass	non-native	perennial grass	-	-	FAC
<i>Pentagramma triangularis</i>	Gold back fern	native	fern	-	-	-
<i>Pinus</i> sp.	Pine	-	tree	-	-	-
<i>Plantago lanceolata</i>	Ribwort	non-native (invasive)	perennial herb	-	Limited	FAC
<i>Quercus agrifolia</i>	Coast live oak	native	tree	-	-	-
<i>Quercus lobata</i>	Valley oak	native	tree	-	-	FACU
<i>Ribes</i> sp.	Gooseberry	native	perennial shrub	-	-	-
<i>Sonchus</i> sp.	Sow thistle	-	-	-	-	-
<i>Stipa</i> sp.	-	-	perennial grass	-	-	-
<i>Taraxacum officinale</i>	Red seeded dandelion	non-native	perennial herb	-	-	FACU
<i>Torilis arvensis</i>	Field hedge parsley	non-native (invasive)	annual herb	-	Moderate	-
<i>Toxicodendron diversilobum</i>	Poison oak	native	vine, shrub	-	-	FACU
<i>Trifolium repens</i>	White clover	non-native	perennial herb	-	-	FACU
<i>Umbellularia californica</i>	California bay	native	tree	-	-	FAC

All species identified using the *Jepson Flora Project (Jepson eFlora 2021)*; nomenclature follows *Jepson eFlora*. Sp.: "species", intended to indicate that the observer was confident in the identity of the genus but uncertain which species.

<sup>1</sup>Rare Status: The CNPS Inventory of Rare and Endangered Plants (CNPS 2021)

FE: Federal Endangered

FT: Federal Threatened

SE: State Endangered

ST: State Threatened

SR: State Rare

Rank 1A: Plants presumed extirpated in California and either rare or extinct elsewhere

Rank 1B: Plants rare, threatened, or endangered in California and elsewhere

(\*Rank 1B: Rare in native stands only)

Rank 2A: Plants presumed extirpated in California, but more common elsewhere

Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere

Rank 3: Plants about which we need more information – a review list

Rank 4: Plants of limited distribution – a watch list

<sup>2</sup>Invasive Status: California Invasive Plant Inventory (Cal-IPC 2021)

High: Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.

Moderate: Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited-moderate distribution ecologically

Limited: Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically

Assessed: Assessed by Cal-IPC and determined to not be an existing current threat

<sup>3</sup>Wetland Status: National List of Plant Species that Occur in Wetlands, Arid West Region (Corps 2018)

OBL: Almost always a hydrophyte, rarely in uplands

FACW: Usually a hydrophyte, but occasionally found in uplands

FAC: Commonly either a hydrophyte or non-hydrophyte

FACU: Occasionally a hydrophyte, but usually found in uplands

UPL: Rarely a hydrophyte, almost always in uplands

NL: Rarely a hydrophyte, almost always in uplands

NI: No information; not factored during wetland delineation

**Attachment B. Special-Status Plant Species Documented to Occur in the Vicinity of the Study Area.** List compiled from the California Department of Fish and Wildlife Natural Diversity Database (CDFW 2021), U.S. Fish and Wildlife Service Information for Planning and Conservation Database (USFWS 2021), and California Native Plant Society Electronic Inventory of Rare and Endangered Plants (CNPS 2021) for the San Mateo, Montara Mountain, Woodside, and Half Moon Bay USGS 7.5-minute quadrangles.

SPECIES	STATUS*	HABITAT
<b>Plants</b>		
San Mateo thorn-mint <i>Acanthomintha duttonii</i>	FE, SE, Rank 1B.1	chaparral, valley and foothill grassland. Elevation ranges from 165 to 985 feet (50 to 300 meters). Blooms Apr-Jun.
Blasdale's bent grass <i>Agrostis blasdalei</i>	Rank 1B.2	coastal bluff scrub, coastal dunes, coastal prairie. Elevation ranges from 0 to 490 feet (0 to 150 meters). Blooms May-Jul.
Franciscan onion <i>Allium peninsulare</i> var. <i>franciscanum</i>	Rank 1B.2	cismontane woodland, valley and foothill grassland. Elevation ranges from 170 to 1000 feet (52 to 305 meters). Blooms (Apr)May-Jun.
bent-flowered fiddleneck <i>Amsinckia lunaris</i>	Rank 1B.2	cismontane woodland, coastal bluff scrub, valley and foothill grassland. Elevation ranges from 10 to 1640 feet (3 to 500 meters). Blooms Mar-Jun.
coast rockcress <i>Arabis blepharophylla</i>	Rank 4.3	broadleafed upland forest, coastal bluff scrub, coastal prairie, coastal scrub. Elevation ranges from 10 to 3610 feet (3 to 1100 meters). Blooms Feb-May.
Anderson's manzanita <i>Arctostaphylos andersonii</i>	Rank 1B.2	broadleafed upland forest, chaparral, north coast coniferous forest. Elevation ranges from 195 to 2495 feet (60 to 760 meters). Blooms Nov-May.
Montara manzanita <i>Arctostaphylos montaraensis</i>	Rank 1B.2	chaparral, coastal scrub. Elevation ranges from 260 to 1640 feet (80 to 500 meters). Blooms Jan-Mar.
Kings Mountain manzanita <i>Arctostaphylos regismontana</i>	Rank 1B.2	broadleafed upland forest, chaparral, north coast coniferous forest. Elevation ranges from 1000 to 2395 feet (305 to 730 meters). Blooms Dec-Apr.

SPECIES	STATUS*	HABITAT
ocean bluff milk-vetch <i>Astragalus nuttallii</i> var. <i>nuttallii</i>	Rank 4.2	coastal bluff scrub, coastal dunes. Elevation ranges from 10 to 395 feet (3 to 120 meters). Blooms Jan-Nov.
coastal marsh milk-vetch <i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	Rank 1B.2	coastal dunes, coastal scrub, marshes and swamps. Elevation ranges from 0 to 100 feet (0 to 30 meters). Blooms (Apr)Jun-Oct.
Brewer's calandrinia <i>Calandrinia breweri</i>	Rank 4.2	chaparral, coastal scrub. Elevation ranges from 35 to 4005 feet (10 to 1220 meters). Blooms (Jan)Mar-Jun.
Oakland star-tulip <i>Calochortus umbellatus</i>	Rank 4.2	broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Elevation ranges from 330 to 2295 feet (100 to 700 meters). Blooms Mar-May.
pink star-tulip <i>Calochortus uniflorus</i>	Rank 4.2	coastal prairie, coastal scrub, meadows and seeps, north coast coniferous forest. Elevation ranges from 35 to 3510 feet (10 to 1070 meters). Blooms Apr-Jun.
johnny-nip <i>Castilleja ambigua</i> var. <i>ambigua</i>	Rank 4.2	coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools. Elevation ranges from 0 to 1425 feet (0 to 435 meters). Blooms Mar-Aug.
pappose tarplant <i>Centromadia parryi</i> ssp. <i>parryi</i>	Rank 1B.2	chaparral, coastal prairie, marshes and swamps, meadows and seeps, valley and foothill grassland. Elevation ranges from 0 to 1380 feet (0 to 420 meters). Blooms May-Nov.
Point Reyes salty bird's-beak <i>Chloropyron maritimum</i> ssp. <i>palustre</i>	Rank 1B.2	marshes and swamps. Elevation ranges from 0 to 35 feet (0 to 10 meters). Blooms Jun-Oct.
San Francisco Bay spineflower <i>Chorizanthe cuspidata</i> var. <i>cuspidata</i>	Rank 1B.2	coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub. Elevation ranges from 10 to 705 feet (3 to 215 meters). Blooms Apr-Jul(Aug).
Franciscan thistle <i>Cirsium andrewsii</i>	Rank 1B.2	broadleaved upland forest, coastal bluff scrub, coastal prairie, coastal scrub. Elevation ranges from 0 to 490 feet (0 to 150 meters). Blooms Mar-Jul.

SPECIES	STATUS*	HABITAT
fountain thistle <i>Cirsium fontinale</i> var. <i>fontinale</i>	FE, SE, Rank 1B.1	chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland. Elevation ranges from 150 to 575 feet (45 to 175 meters). Blooms (Apr)May-Oct.
San Francisco Collinsia <i>Collinsia multicolor</i>	Rank 1B.2	closed-cone coniferous forest, coastal scrub. Elevation ranges from 100 to 900 feet (30 to 275 meters). Blooms (Feb)Mar-May.
clustered lady's-slipper <i>Cypripedium fasciculatum</i>	Rank 4.2	lower montane coniferous forest, north coast coniferous forest. Elevation ranges from 330 to 7990 feet (100 to 2435 meters). Blooms Mar-Aug.
western leatherwood <i>Dirca occidentalis</i>	Rank 1B.2	broadleafed upland forest, chaparral, cismontane woodland, closed-cone coniferous forest, north coast coniferous forest, riparian forest, riparian woodland. Elevation ranges from 80 to 1395 feet (25 to 425 meters). Blooms Jan-Mar(Apr).
California bottle-brush grass <i>Elymus californicus</i>	Rank 4.3	broadleafed upland forest, cismontane woodland, north coast coniferous forest, riparian woodland. Elevation ranges from 50 to 1540 feet (15 to 470 meters). Blooms May-Aug(Nov).
San Mateo woolly sunflower <i>Eriophyllum latilobum</i>	FE, SE, Rank 1B.1	cismontane woodland, coastal scrub, lower montane coniferous forest. Elevation ranges from 150 to 1085 feet (45 to 330 meters). Blooms May-Jun.
Jepson's coyote-thistle <i>Eryngium jepsonii</i>	Rank 1B.2	valley and foothill grassland, vernal pools. Elevation ranges from 10 to 985 feet (3 to 300 meters). Blooms Apr-Aug.
San Francisco wallflower <i>Erysimum franciscanum</i>	Rank 4.2	chaparral, coastal dunes, coastal scrub, valley and foothill grassland. Elevation ranges from 0 to 1805 feet (0 to 550 meters). Blooms Mar-Jun.
Hillsborough chocolate lily <i>Fritillaria biflora</i> var. <i>ineziana</i>	Rank 1B.1	cismontane woodland, valley and foothill grassland. Elevation ranges from 490 to 490 feet (150 to 150 meters). Blooms Mar-Apr.

SPECIES	STATUS*	HABITAT
fragrant fritillary <i>Fritillaria liliacea</i>	Rank 1B.2	cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 10 to 1345 feet (3 to 410 meters). Blooms Feb-Apr.
San Francisco gumplant <i>Grindelia hirsutula</i> var. <i>maritima</i>	Rank 3.2	coastal bluff scrub, coastal scrub, valley and foothill grassland. Elevation ranges from 50 to 1310 feet (15 to 400 meters). Blooms Jun-Sep.
short-leaved evax <i>Hesperevax sparsiflora</i> var. <i>brevifolia</i>	Rank 1B.2	coastal bluff scrub, coastal dunes, coastal prairie. Elevation ranges from 0 to 705 feet (0 to 215 meters). Blooms Mar-Jun.
Marin western flax <i>Hesperolinon congestum</i>	FT, ST, Rank 1B.1	chaparral, valley and foothill grassland. Elevation ranges from 15 to 1215 feet (5 to 370 meters). Blooms Apr-Jul.
Kellogg's horkelia <i>Horkelia cuneata</i> var. <i>sericea</i>	Rank 1B.1	chaparral, closed-cone coniferous forest, coastal dunes, coastal scrub. Elevation ranges from 35 to 655 feet (10 to 200 meters). Blooms Apr-Sep.
Point Reyes horkelia <i>Horkelia marinensis</i>	Rank 1B.2	coastal dunes, coastal prairie, coastal scrub. Elevation ranges from 15 to 2475 feet (5 to 755 meters). Blooms May-Sep.
harlequin lotus <i>Hosackia gracilis</i>	Rank 4.2	broadleafed upland forest, cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, meadows and seeps, north coast coniferous forest, valley and foothill grassland. Elevation ranges from 0 to 2295 feet (0 to 700 meters). Blooms Mar-Jul.
island tube lichen <i>Hypogymnia schizidiata</i>	Rank 1B.3	chaparral, closed-cone coniferous forest. Elevation ranges from 1180 to 1330 feet (360 to 405 meters).
coast iris <i>Iris longipetala</i>	Rank 4.2	coastal prairie, lower montane coniferous forest, meadows and seeps. Elevation ranges from 0 to 1970 feet (0 to 600 meters). Blooms Mar-May(Jun).



SPECIES	STATUS*	HABITAT
perennial goldfields <i>Lasthenia californica</i> ssp. <i>macrantha</i>	Rank 1B.2	coastal bluff scrub, coastal dunes, coastal scrub. Elevation ranges from 15 to 1705 feet (5 to 520 meters). Blooms Jan-Nov.
bristly leptosiphon <i>Leptosiphon acicularis</i>	Rank 4.2	chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation ranges from 180 to 4920 feet (55 to 1500 meters). Blooms Apr-Jul.
serpentine leptosiphon <i>Leptosiphon ambiguus</i>	Rank 4.2	cismontane woodland, coastal scrub, valley and foothill grassland. Elevation ranges from 395 to 3710 feet (120 to 1130 meters). Blooms Mar-Jun.
coast yellow leptosiphon <i>Leptosiphon croceus</i>	SE, Rank 1B.1	coastal bluff scrub, coastal prairie. Elevation ranges from 35 to 490 feet (10 to 150 meters). Blooms Apr-Jun.
broad-lobed leptosiphon <i>Leptosiphon latisectus</i>	Rank 4.3	broadleafed upland forest, cismontane woodland. Elevation ranges from 560 to 4920 feet (170 to 1500 meters). Blooms Apr-Jun.
rose leptosiphon <i>Leptosiphon rosaceus</i>	Rank 1B.1	coastal bluff scrub. Elevation ranges from 0 to 330 feet (0 to 100 meters). Blooms Apr-Jul.
Crystal Springs lessingia <i>Lessingia arachnoidea</i>	Rank 1B.2	cismontane woodland, coastal scrub, valley and foothill grassland. Elevation ranges from 195 to 655 feet (60 to 200 meters). Blooms Jul-Oct.
woolly-headed lessingia <i>Lessingia hololeuca</i>	Rank 3	broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland. Elevation ranges from 50 to 1000 feet (15 to 305 meters). Blooms Jun-Oct.
Ornduff's meadowfoam <i>Limnanthes douglasii</i> ssp. <i>ornduffii</i>	Rank 1B.1	meadows and seeps. Elevation ranges from 35 to 65 feet (10 to 20 meters). Blooms Nov-May.
San Mateo tree lupine <i>Lupinus arboreus</i> var. <i>eximius</i>	Rank 3.2	chaparral, coastal scrub. Elevation ranges from 295 to 1805 feet (90 to 550 meters). Blooms Apr-Jul.

SPECIES	STATUS*	HABITAT
arcuate bush-mallow <i>Malacothamnus arcuatus</i>	Rank 1B.2	chaparral, cismontane woodland. Elevation ranges from 50 to 1165 feet (15 to 355 meters). Blooms Apr-Sep.
woodland woollythreads <i>Monolopia gracilens</i>	Rank 1B.2	broadleaved upland forest, chaparral, cismontane woodland, north coast coniferous forest, valley and foothill grassland. Elevation ranges from 330 to 3935 feet (100 to 1200 meters). Blooms (Feb)Mar-Jul.
white-rayed pentachaeta <i>Pentachaeta bellidiflora</i>	FE, SE, Rank 1B.1	cismontane woodland, valley and foothill grassland. Elevation ranges from 115 to 2035 feet (35 to 620 meters). Blooms Mar-May.
Choris' popcornflower <i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>	Rank 1B.2	chaparral, coastal prairie, coastal scrub. Elevation ranges from 10 to 525 feet (3 to 160 meters). Blooms Mar-Jun.
Hickman's popcornflower <i>Plagiobothrys chorisianus</i> var. <i>hickmanii</i>	Rank 4.2	chaparral, closed-cone coniferous forest, coastal scrub, marshes and swamps, vernal pools. Elevation ranges from 50 to 1280 feet (15 to 390 meters). Blooms Apr-Jun.
Oregon polemonium <i>Polemonium carneum</i>	Rank 2B.2	coastal prairie, coastal scrub, lower montane coniferous forest. Elevation ranges from 0 to 6005 feet (0 to 1830 meters). Blooms Apr-Sep.
Hickman's cinquefoil <i>Potentilla hickmanii</i>	FE, SE, Rank 1B.1	closed-cone coniferous forest, coastal bluff scrub, marshes and swamps, meadows and seeps. Elevation ranges from 35 to 490 feet (10 to 149 meters). Blooms Apr-Aug.
Lobb's aquatic buttercup <i>Ranunculus lobbii</i>	Rank 4.2	cismontane woodland, north coast coniferous forest, valley and foothill grassland, vernal pools. Elevation ranges from 50 to 1540 feet (15 to 470 meters). Blooms Feb-May.
chaparral ragwort <i>Senecio aphanactis</i>	Rank 2B.2	chaparral, cismontane woodland, coastal scrub. Elevation ranges from 50 to 2625 feet (15 to 800 meters). Blooms Jan-Apr(May).
Scouler's catchfly <i>Silene scouleri</i> ssp. <i>scouleri</i>	Rank 2B.2	coastal bluff scrub, coastal prairie, valley and foothill grassland. Elevation ranges from 0 to 1970 feet (0 to 600 meters). Blooms (Mar-May)Jun-Aug(Sep).

SPECIES	STATUS*	HABITAT
San Francisco champion <i>Silene verecunda ssp. verecunda</i>	Rank 1B.2	chaparral, coastal bluff scrub, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 100 to 2115 feet (30 to 645 meters). Blooms (Feb)Mar-Jul(Aug).
saline clover <i>Trifolium hydrophilum</i>	Rank 1B.2	marshes and swamps, valley and foothill grassland, vernal pools. Elevation ranges from 0 to 985 feet (0 to 300 meters). Blooms Apr-Jun.
San Francisco owl's-clover <i>Triphysaria floribunda</i>	Rank 1B.2	coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 35 to 525 feet (10 to 160 meters). Blooms Apr-Jun.
coastal triquetrella <i>Triquetrella californica</i>	Rank 1B.2	coastal bluff scrub, coastal scrub. Elevation ranges from 35 to 330 feet (10 to 100 meters).
Methuselah's beard lichen <i>Usnea longissima</i>	Rank 4.2	broadleaved upland forest, north coast coniferous forest. Elevation ranges from 165 to 4790 feet (50 to 1460 meters).

**\* Key to status codes:**

FE	Federal Endangered
FT	Federal Threatened
FD	Federal Delisted
SE	State Endangered
SR	State Rare
ST	State Threatened
Rank 1A	California Rare Plant Rank 1A: Presumed extirpated in California and either rare or extinct elsewhere
Rank 1B	California Rare Plant Rank 1B: Plants rare, threatened, or endangered in California and elsewhere
Rank 1B.1	California Rare Plant Rank 1B.1: Plants rare, threatened, or endangered in California and elsewhere (seriously threatened in California)
Rank 1B.2	California Rare Plant Rank 1B.2: Plants rare, threatened, or endangered in California and elsewhere (moderately threatened in California)
Rank 1B.3	California Rare Plant Rank 1B.3: Plants rare, threatened, or endangered in California and elsewhere (not very threatened in California)
Rank 2B	California Rare Plant Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 2B.1	California Rare Plant Rank 2B.1: Plants rare, threatened, or endangered in California, but more common elsewhere (seriously threatened in California)
Rank 2B.2	California Rare Plant Rank 2B.2: Plants rare, threatened, or endangered in California, but more common elsewhere (moderately threatened in California)

Rank 3 California Rare Plant Rank 3: Plants about which more information is needed (a review list)  
Rank 3.2 California Rare Plant Rank 3.2: Plants about which more information is needed (a review list; moderately threatened in California)  
Rank 4 California Rare Plant Rank 4: Plants of limited distribution - a watch list  
Rank 4.2 California Rare Plant Rank 4.2: Plants of limited distribution - a watch list (moderately threatened in California)  
Rank 4.3 California Rare Plant Rank 4.3: Plants of limited distribution - a watch list (not very threatened in California)