

3.3.3 Plant Species

Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special-status plant species. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see Section 3.3.5, Threatened and Endangered Species, for detailed information about these species.

This section of the document discusses all other special-status plant species, including CDFW species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at 16 U.S.C., Section 1531, *et seq.* See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, *et seq.* Department projects are also subject to the Native Plant Protection Act, found at Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act (CEQA), CA Public Resources Code, Sections 2100-21177.

Affected Environment

Information regarding plant species was obtained from the *Natural Environment Study* (August 2014). To identify special-status plant species that may occur in the project biological study area (BSA), a records search of the California Natural Diversity Database (CNDDDB) and the CNPS was performed. A total of 21 special-status plant species have the potential to be present within the BSA, as described in Table 3.3.3-1.

**Table 3.3.3-1 Special-Status Plant Species
with Potential to Occur in the Biological Study Area**

Species	Status	Habitat	Potential to Occur in the Biological Study Area
Alkali Mariposa Lily <i>Calochortus striatus</i>	CNPS 1B.2	Shadescale scrub, chaparral, wetland- riparian.	Present. Observed during focused surveys.
White Pygmy Poppy <i>Canbya candida</i>	CNPS 4.2	Creosote bush scrub, Joshua tree woodland.	Present. Observed during focused surveys.

**Table 3.3.3-1 Special-Status Plant Species
with Potential to Occur in the Biological Study Area**

Species	Status	Habitat	Potential to Occur in the Biological Study Area
San Fernando Valley Spineflower <i>Chorizanthe parryi</i> var. <i>Ferrandina</i>	CNPS 1B.1	Coastal sage scrub.	Potentially occurring. Suitable habitat occurs within the BSA, but the species was not observed during focused surveys.
Desert cymopterus <i>Cymopterus deserticola</i>	CNPS 1B.2	Loose, sandy soil of flats in old dune areas with well-drained sand in Joshua tree woodland and Mojavean desert scrub. Historically distributed from east of Victorville to Muroc and Kramer. Most occurrences located in or near Edwards Air Force Base.	Potentially occurring. Suitable habitat occurs within the BSA, but the species was not observed during focused surveys.
Slender-Horned spineflower <i>Dodecahema leptoceras</i>	CNPS 1B.1	Chaparral, coastal sage scrub.	Potentially occurring. Suitable habitat occurs within the BSA, but the species was not observed during focused surveys.
Booth's evening-primrose <i>Eremothera boothii</i> ssp. <i>Boothii</i> (<i>Camissonia boothii</i> ssp. <i>Boothii</i>)	CNPS 2B.3	Joshua tree woodland and pinyon-juniper woodland. In California, known from Inyo, Mono, and San Bernardino counties.	Present. Observed during focused surveys.
Parish's daisy <i>Erigeron parishii</i>	CNPS 1B.1	Creosote bush scrub and pinyon-juniper woodland.	Potentially occurring. Suitable habitat occurs within the BSA, but the species was not observed during focused surveys.
Cushenbury buckwheat <i>Eriogonum ovalifolium</i> var. <i>vineum</i>	CNPS 1B.1	Creosote bush scrub and pinyon-juniper woodland.	Potentially occurring. Suitable habitat occurs within the BSA, but the species was not observed during focused surveys.
Sagebrush loeflingia <i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>	CNPS 2B.2	Sandy dunes and flats in creosote bush scrub and sagebrush scrub. In California, known from Los Angeles, Ventura, Lassen, and San Bernardino counties.	Potentially occurring. Suitable habitat occurs within the BSA, but the species was not observed during focused surveys.

**Table 3.3.3-1 Special-Status Plant Species
with Potential to Occur in the Biological Study Area**

Species	Status	Habitat	Potential to Occur in the Biological Study Area
Mojave monkeyflower <i>Mimulus mohavensis</i>	CNPS 1B.2	Gravelly banks of desert washes. Known only from around Barstow in the Mojave Desert.	Potentially occurring. Suitable habitat occurs within the BSA, but the species was not observed during focused surveys.
Crowned muilla <i>Muilla coronate</i>	CNPS 4.2	Occurs in heavy soils of chenopod scrub, Joshua tree woodland, Mojavean desert scrub.	Present. Observed during focused surveys.
Spreading navarretia <i>Navarretia fossalis</i>	CNPS 1B.1	Shadescale scrub, freshwater-marsh, wetland-riparian, vernal-pools.	Potentially occurring. Suitable habitat occurs within the BSA, but the species was not observed during focused surveys.
Robbins' nemacladus <i>Nemacladus secundiflorus var. robbinsii</i>	CNPS 1B.2	Chaparral, valley and foothill grasslands.	Potentially occurring. Suitable habitat occurs within the BSA, but the species was not observed during focused surveys.
Short-joint beavertail <i>Opuntia basilaris var. brachyclada</i>	CNPS 1B.2	Sandy soil or coarse, granitic loam in chaparral, Joshua tree woodland, Mojavean desert scrub, and pinyon-juniper woodland. Known only from Los Angeles and San Bernardino counties. Historically distributed on the desert slopes of the San Gabriel and San Bernardino mountains, and also the Providence Mountains.	Potentially occurring. Suitable habitat occurs within the BSA, but the species was not observed during focused surveys.
California Orcutt grass <i>Orcuttia californica</i>	CNPS 1B.1	Valley grassland, freshwater wetlands, wetland-riparian.	Potentially occurring. Suitable habitat occurs within the BSA, but the species was not observed during focused surveys.
Cushenbury oxytheca <i>Oxytheca parishii var. goodmaniana</i>	CNPS 1B.1	Pinyon-juniper woodland.	Potentially occurring. Suitable habitat occurs within the BSA, but the species was not observed during focused surveys.

**Table 3.3.3-1 Special-Status Plant Species
with Potential to Occur in the Biological Study Area**

Species	Status	Habitat	Potential to Occur in the Biological Study Area
Beaver Dam breadroot <i>Pediomelum castoreum</i>	CNPS 1B.2	Creosote bush scrub, Joshua tree woodland.	Potentially occurring. Suitable habitat occurs within the BSA, but the species was not observed during focused surveys.
Parish's popcornflower <i>Plagiobothrys parishii</i>	CNPS 1B.1	Joshua tree woodland, wetland-riparian.	Potentially occurring. Suitable habitat occurs within the BSA, but the species was not observed during focused surveys.
Mojave fish-hook cactus <i>Sclerocactus polyancistrus</i>	CNPS 4.2	Creosote bush scrub and Joshua tree woodland.	Present. Observed during focused surveys.
Southern mountains skullcap <i>Scutellaria bolanderi</i> ssp. <i>austromontana</i>	CNPS 1B.2	Chaparral, foothill woodland, yellow pine forest, wetland riparian.	Potentially occurring. Suitable habitat occurs within the BSA, but the species was not observed during focused surveys.
San Bernardino aster <i>Symphyotrichum defoliatum</i>	CNPS 1B.2	Grasslands and meadows.	Potentially occurring. Suitable habitat occurs within the BSA, but the species was not observed during focused surveys.
<p>California Native Plant Society: List 1B = rare, threatened, or endangered in California and elsewhere. List 2 = rare, threatened, or endangered in California, but more common elsewhere. List 4 = limited distribution (Watch List). Threat Code: .1 = Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat) .2 = Fairly endangered in California (20-80% occurrences threatened) .3 = Not very endangered in California (<20% of occurrences threatened or no current threats known)</p>			

Source: *Natural Environment Study, 2014.*

Focused plant surveys for special-status plant species were conducted in April and May 2011. Five special-status plant species were observed within the BSA during the 2011 focused surveys: alkali mariposa lily, white pygmy poppy, Booth's evening primrose, crowned muilla, and Mojave fish-hook cactus. Thirteen (13) individuals of alkali mariposa lily were identified in 5 locations west of the Mojave River at the boundaries of the BSA. Five individuals of white pygmy poppy were observed in 5 locations near Variation A within the BSA. Booth's evening primrose was observed at 1 location along the Mojave River within the Variation E Alignment. Five individuals of crowned muilla were identified in 5 locations near Variation A within

the BSA. Mojave fish-hook cactus was observed east of the Mojave River, where the main alignment and Variation E converge.

No other special-status plant species were observed within the BSA during the surveys; however, these focused surveys were conducted during an extended period of drought conditions. Although survey results indicated no presence during extreme drought conditions, it does not preclude these species from occurring within the BSA.

Environmental Consequences

No Build Alternative

Because no ground disturbance would occur under the No Build Alternative, there would be no impacts on special-status plant species.

Build Alternatives

The build alternatives would result in temporary and permanent impacts to individual alkali mariposa lily, white pygmy poppy, Booth's evening primrose, crowned muilla, and Mojave fish-hook cactus and their habitat due to roadway development and the acquisition of new right-of-way (ROW), discussed below.

For the purpose of avoiding redundancy, when discussing project impacts to plant species, it should be noted that the Freeway/Expressway Alternative, Freeway/Tollway Alternative, Freeway/Expressway Alternative with the HSR Feeder Service, and the Freeway/Tollway Alternative with the HSR Feeder Service are discussed collectively because the impacts amount to the same in main alignment/common areas; however, it is the variations and options that differ in impacts to plant species, and thus they are each broken down and discussed (see Figure 3.3-1 Alignment Key Map for Biological Study Area).

In addition, because there is potential for the San Fernando Valley spineflower, desert cymopterus, slender-horned spineflower, parish's daisy, cushenbury buckwheat, sagebrush loeflingia, Mojave monkeyflower, spreading navarretia, robbins' nemacladus, short-joint beavertail, California orcutt grass, cushenbury oxytheca, beaver dam breadroot, parish's popcornflower, southern mountains skullcap, and San Bernardino aster to occur in the BSA, impacts may also occur on these species as well.

Alkali Mariposa Lily

Main Alignment/Common Areas, Rail Option 1, Rail Option 7, Variation A, Variation B, and Variation D

This plant species was not observed in these options/variations. No impacts would occur.

Variation E

Thirteen (13) individuals were observed within the main alignment corridor corresponding to Variation E alignment (a so-called Variation E Main). The habitat that includes this species and individual plants along Variation E Main alignment

would be impacted. Through implementation of the avoidance and minimization measures, and replanting efforts, impacts to this species would be reduced.

No individuals were observed within Variation E alignment (Highway and Rail); therefore, Variation E alignment would result in lesser impacts to this species compared to the corresponding Variation E Main.

White Pygmy Poppy

Main Alignment/Common Areas, Rail Option 1, Rail Option 7, Variation B, Variation D, Variation E

This plant species was not observed in these options/variations. No impacts would occur.

Variation A

Five individuals were observed within the corresponding main alignment of Variation A (a so-called Variation A Main). Variation A Main alignment would impact individual species and this species habitat. Through implementation of the avoidance and minimization measures, and replanting efforts, impacts to this species would be reduced.

No individuals were observed within Variation A alignment; therefore, Variation A alignment would result in lesser impacts to this species compared to the corresponding Variation A Main alignment corridor.

Booth's Evening Primrose

Main Alignment/Common Areas, Rail Option 1, Rail Option 7, Variation A, Variation B, and Variation D

This plant species was not observed in these options/variations. No impacts would occur.

Variation E

One individual was observed within Variation E (Highway). Variation E would impact habitat that includes this species and individual plants. Through implementation of the avoidance and minimization measures, and replanting efforts, impacts to this species would be reduced.

No individuals were observed within the Variation E Main alignment; therefore, Variation E Main alignment corridor would result in lesser impacts to this species compared to Variation E alignment.

Crowned Muilla

Main Alignment/Common Areas, Rail Option 1, Rail Option 7, Variation B, Variation D, and Variation E

This plant species was not observed in these options/variations. No impacts would occur.

Variation A

Five individuals were observed within Variation A Main alignment. Individual plant species and the species habitat along Variation A Main alignment would be impacted. Through implementation of the avoidance and minimization measures, and replanting efforts, impacts to this species would be reduced.

No individuals were observed within Variation A alignment; therefore, Variation A alignment would result in lesser impacts to this species compared to Variation A Main alignment..

Mojave Fish-Hook Cactus

Main Alignment/Common Areas

Four individuals were observed within the main alignment east of the Mojave River, after the alignment converges with Variation E. The main alignment would impact individual plant species and habitat. Through implementation of the above avoidance and minimization measures, and replanting efforts, impacts to this species would be reduced.

Rail Option 1, Rail Option 7, Variation A, Variation B, Variation D, and Variation E

This plant species was not observed in these options/variations. No impacts would occur.

Avoidance, Minimization, and/or Mitigation Measures

The project would be designed to minimize impacts on special-status plant species. The alkali mariposa lily, crowned muilla, white pygmy poppy, and Mojave fish-hook cactus were identified at the boundaries of the BSA; therefore, there is potential for these areas to be preserved in place. The Booth's evening primrose was also identified in an area that may be avoided by spanning the Mojave River with a bridge. To avoid and mitigate impacts for all plant species, the following measures will be implemented:

- BPL-1:** Conduct focused plant surveys at a time prior to construction when detection is most optimal, such as normal rain fall years. If the results of surveys indicate presence of any of the species identified in Table 3.3.3-1 (*Special-Status Plant Species with Potential to Occur in the Biological Study Area*), then BPL-2 through BPL-4 will be implemented.
- BPL-2:** Provide a biological monitor onsite to establish an environmentally sensitive area (ESA) around the areas where each special-status species occurs
- BPL-3:** Collect and propagate bulbs of each species at an approved nursery and plant onsite.
- BPL-4:** Translocate individual plants to areas offsite that will not be impacted by implementation of this project.

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