

Appendix 5.2G
Special-status Plant Species Descriptions

Detailed Special-Status Plant Descriptions

Pink funnel-lily (*Androstephium breviflorum*) – CNPS 2.3

Pink funnel-lily is a bulb-forming perennial (geophyte) in the Lily Family (Liliaceae). The flowers are white to pale pink or pale violet. The erect stem is typically 12 inches or less in height, and bears an umbel of 3 to 12 flowers, each with 6 floral parts (Baldwin et al. 2002, Flora of North America [FNA] 2009). The leaves are up to 12 inches in length, very narrow, channeled, and appear before the flowering stalk. In California, pink funnel-lily flowers from March to April. The fruit is a 3-lobed capsule that splits open at maturity to reveal rows of large black seeds. Line drawings of this species are found in Baldwin and others (2002) and Cronquist and others (1977). Photographs of special-status plants documented during the 2011 Spring protocol-level surveys are included in Section 5.2 and are also available on the CalPhoto website (www.calphotos.org).

Pink funnel-lily grows in sandy soil, in open desert scrub in California (Baldwin et al., 2002). The CNDDDB (2011b) describes its habitat in California as desert dunes, and on bajadas in Mojavean desert scrub, from about 700 to 4,800 feet. The conservation status of pink funnel-lily is listed in Section 5.2.

In California, pink funnel-lily is known from the Mojave Desert in San Bernardino County and the northeastern Colorado Desert in Riverside County. It is also found in Nevada, Arizona, Utah, Wyoming, Colorado and New Mexico (USDA, 2011; FNA, 2009; Cronquist et al., 1977). The CNDDDB (2011b) lists 20 element occurrences (EOs), all from San Bernardino County. Many are in the vicinity of Cronese Lake, Baker or Fort Irwin. The Consortium of California Herbaria (Jepson On-line Interchange 2011) lists nine specimens of pink funnel-lily, eight from San Bernardino County and one from Riverside County. Locations found during surveys for this project are the first records for this species from Inyo County.

Within the site, pink funnel-lily was observed mainly in Mojave desert scrub vegetation, in sandy-gravelly soil, in the northern and eastern portions of the site. A total of 352 individuals were detected, in 66 localities. Within the site 250-foot buffer, 88 individuals were observed in 24 locations. Nearly all of the plants were in fruiting condition when observed.

During offsite surveys conducted for this project, pink funnel-lily was found in several new offsite locations in Inyo County, California, near the California-Nevada state line. Results of the offsite surveys for special-status plants will be provided in a separate report (in preparation).

Preuss' milkvetch (*Astragalus preussii* var. *preussii*) – CNPS 2.3

Preuss' milkvetch is a pink and white-flowered perennial herb in the Pea Family. Mature plants are bushy, about 1 foot tall, and give off a strong unpleasant odor characteristic of *Astragalus* species that concentrate selenium. The pods are straight and reddish at maturity (Baldwin et al. 2002). In California, Preuss' milkvetch flowers from April to June. The conservation status of Preuss' milkvetch is listed in Section 5.2.

In California, Preuss’ milkvetch grows in silty soil, in open sites within shadscale scrub or Mojave desert scrub vegetation (Baldwin et al. 2002, CNPS 2011).

Prior to surveys completed for this project, Preuss’ milkvetch was known in California only from three localities, near Mesquite Lake and in Mesquite Valley in San Bernardino County, and northwest of Panamint Valley in Inyo County (Jepson Online Interchange 2011). It is also known from Nevada, Arizona and Utah (CNPS 2011).

Within the site, Preuss’s milkvetch was observed in light-colored silty soil in shadscale scrub vegetation. A total of 4 individuals were observed in 2 localities. Within the 250-foot buffer, 3 individuals were observed in 1 location. The plants were in flowering and fruiting condition when observed.

During offsite surveys conducted for this project, Preuss’ milkvetch was found in several new offsite locations in Inyo County, California, near the California-Nevada state line, and some were found about 5 miles to the west of the border. Preuss’ milkvetch was also found in several locations adjacent to Tecopa Road within the offsite transmission line corridor.

Tidestrom’s milkvetch (*Astragalus tidestromii*) – CNPS 2.2

Tidestrom’s milkvetch is a purple and white-flowered perennial herb in the Pea Family. Mature plants are grayish in color and acaulescent (stemless). The pods are large (1 to 1.5 inches long), strongly curved, stiff and leathery, with one seed chamber, and a raised suture on the outer side (Baldwin et al., 2002). In California, Tidestrom’s milkvetch flowers from April to May. The conservation status of Tidestrom’s milkvetch is described in Section 5.2.

In California and Nevada, Tidestrom’s milkvetch grows on calcareous substrates, including rocky limestone slopes, but can also be found in sandy washes, and in sandy-silty substrates in valley bottoms. It can be locally common on roadsides and grows in unpaved, infrequently used roads. It is usually associated with Mojave desert scrub in California (Baldwin et al. 2002, CNPS 2011).

Tidestrom’s milkvetch superficially resembles the common Mojave desert species, Layne’s milkvetch (*Astragalus layneae*), and has been confused with it. Tidestrom’s milkvetch differs from Layne’s milkvetch. A summary table describing the differences is provided below.

TABLE 1
Comparison of Tidestrom’s Milkvetch and Layne’s Milkvetch

Characters Necessary for Identification	Tidestrom’s milkvetch	Layne’s milkvetch
stem	acaulescent (stemless)	stem well-developed
inflorescence	inflorescence 3-16-flowered	inflorescence 10-45-flowered
pod chambers	pod one-chambered	pod two-chambered
pod shape	pod flattened	pod round in cross-section
pod ribbed or grooved	pod with rib on suture on both sides	pod with groove on the outer side
plant hairs	hairs on plant and pod appressed	hairs on plant and pod spreading

Specimens in the UC Riverside herbarium labeled as *Astragalus layneae* were checked in April 2011 by Andrew Sanders, and many of them were found to be misidentified specimens of *Astragalus tidesstromii*. It appears that Tidesstrom's milkvetch is much more common on limestone substrates in the Eastern Mojave Desert than previously known and likely much more common than Layne's milkvetch in that area. No individuals of Layne's milkvetch were found in the Pahrump Valley or in surrounding areas during surveys conducted for this project. Tidesstrom's milkvetch was found to be widespread on calcareous substrates in these areas.

Prior to surveys completed for this project, Tidesstrom's milkvetch was thought to be uncommon and limited in distribution in California. The Consortium lists only 15 specimens, mainly from the San Bernardino, Clark, Kingston, and Ivanpah mountains in San Bernardino County (Jepson Online Interchange 2011). Re-evaluated specimens at UC Riverside have approximately doubled the number of Tidesstrom's milkvetch specimens listed in the Consortium. This species is also known from the Spring Mountains and other locations in Nevada.

Within the site, Tidesstrom's milkvetch was found in open areas, in sandy-gravelly to light-colored silty soils in shadscale scrub and Mojave desert scrub vegetation. A total of 3,134 individuals were observed in 74 localities. Within the 250-foot buffer around the site, 248 individuals were observed in 20 locations. The plants were in flowering and fruiting condition when observed.

Wheeler's skeletonweed (*Chaetodelpha wheeleri*) – CNPS 2.2

Wheeler's skeletonweed is a white-flowered perennial herb in the Sunflower Family (Asteraceae). The mature plants are about 1 foot tall, broom-like, with many bright green stems with very small leaves (Baldwin et al., 2002). In California, this species flowers from April to September (CNPS 2011). Line drawings of this species are found in Baldwin and others (2002). The conservation status of Wheeler's skeletonweed is described in Section 5.2

Wheeler's skeletonweed grows in sandy to silty soil, in desert dunes, Mojave desert scrub, and Great Basin scrub in California (CNPS 2011). Prior to surveys completed for this project, Wheeler's skeletonweed was known in California mainly from the Death Valley region (CNPS 2011), and the nearest known locality to the site was about 50 miles north, in dunes at the base of the Last Chance Range, east of Death Valley (Jepson Online Interchange 2011). This species is also known from Nevada and Oregon.

Within the site, Wheeler's skeletonweed was observed mainly in Mojave desert scrub vegetation, in sandy-gravelly soil, in the eastern portion of the site, within 0.5 mile of the California-Nevada border. A total of 783 individuals were detected, in 56 localities. Within the 250-foot buffer, 408 individuals were observed in 29 locations. All of the plants were in vegetative to flowering condition when observed.

During offsite surveys conducted for this project, Wheeler's skeletonweed was found in several new offsite locations in Inyo County, California, near the California-Nevada state line. This species was also found in several locations within the offsite transmission line corridor adjacent to Tecopa Road.

Purplenerve springparsley (*Cymopterus multinervatus*) – CNPS 2.2

Purplenerve springparsley is a purplish-flowered perennial herb in the Carrot Family (Apiaceae). The mature plants are stemless, low-growing, gray-green, with leaves and flower stalks attached underground to the buried stem or taproot (Baldwin et al. 2002). The winged fruits with purple veins are distinctive (ibid.) Purplenerve springparsley grows in sandy to gravelly soil, in Mojave desert scrub and pinyon-juniper woodland in California, at elevations of 790 to 1,800 meters (CNPS 2011). In California, this species flowers from March to April (CNPS 2011). The conservation status of purplenerve springparsley is described in Section 5.2.

Prior to surveys completed for this project, purplenerve springparsley was known in California to be uncommon, but widely distributed from the Death Valley area south to the eastern Mojave Desert, and west to the edge of the San Bernardino Mountains (Jepson Online Interchange 2011). The nearest known locality to the site was about 25 miles south, in the vicinity of Clark Mountain (ibid). This species is also known from Nevada, Arizona, Utah, New Mexico, Texas, and Baja California (CNPS 2011).

Within the site, one individual of purplenerve springparsley was observed in Mojave desert scrub vegetation, in sandy-gravelly soil, in the southeastern portion of the site. This species was not observed within the 250-foot buffer. The single plant observed within the site was in fruiting condition when observed.

During offsite surveys conducted in support of this project, purplenerve springparsley was found in several new offsite locations in the Pahrump Valley in Inyo County, California, and in Nye County, Nevada. This species was not found within the offsite transmission line corridor.

Pahrump Valley buckwheat (*Eriogonum bifurcatum*) – CNPS 1B.2, BLM Sensitive, NNPS – threatened, NNHP – Track

Pahrump Valley buckwheat is an annual herb in the Buckwheat Family (Polygonaceae). Its distinctive features include involucre (structures surrounding a group of flowers) that are sessile (attached directly to the major branches) and upright, stout branches, and a strongly dichotomous branching pattern (Reveal 1971, 2010; Baldwin et al., 2002). Both living plants and skeletons are distinctive, and can be identified at a distance. Line drawings of Pahrump Valley buckwheat are included in Mozingo and Williams (1980) and Baldwin and others (2002). A summary of the conservation status of Pahrump Valley buckwheat is provided in Section 5.2.

The habitat for Pahrump Valley buckwheat in California has been described as sandy soil areas in chenopod scrub vegetation at 2,330 to 2,625 feet in elevation (CNPS 2011, CNDDDB 2011a). In Nevada, the habitat is described as barren, saline, heavy clay or silty hardpan soils on and near dry playa margins, and on adjacent shore terraces and stabilized sand dunes, at 2,300 to 2,800 feet (Reveal 2010, NNHP 2001). Pahrump Valley buckwheat has been described as endemic to the Pahrump, Stewart, Mesquite and Sandy valleys, near the California-Nevada border.

Pahrump Valley buckwheat is not state or federally listed. It is included on CNPS List 1B.2, indicating that it is considered to be rare and endangered in California and elsewhere. In 2010 CNPS changed the status of Pahrump Valley buckwheat from 1B.1 to 1B.2, and added

five new records for this species to its database. These new records are from the Kingston Spring and Kingston Peak USGS 7.5-minute quadrangles (Thomas, 2001; CNDDDB, 2010a) and, if accurate, they would represent a range expansion to the west in California for this species, compared with previous accounts (Reveal, 2010). The CNDDDB ranking of Pahrump Valley buckwheat is G2 S2, meaning that on a global basis and within California it is considered imperiled, at high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors. The Nevada Natural Heritage Program also ranks it G2 S2 (NNHP 2010).

Until 2010, Pahrump Valley buckwheat was documented in California from only four CNDDDB Element Occurrences (EOs #1-4). In 2010, the CNDDDB added five new occurrences (EOs #5-9), based on data collected in 1997 from a project to map the vegetation of the central Mojave Desert (Thomas, 2001). There do not appear to be voucher specimens from the locations represented by EOs #5-9, and those localities have not been checked recently, so their current status is uncertain.

Prior to surveys conducted for this project, the most recent comprehensive account of Pahrump Valley buckwheat in Nevada is provided by the Nevada Natural Heritage Program's 2001 rare plant fact sheet for this species (NNHP, 2001). Population census information from this fact sheet states that 18 occurrences are known for Pahrump Valley buckwheat in Nevada using a mapping separation of 1.0 km (0.6 mile), or 47 occurrences if a separation of 0.16 km (0.1 mile) is used. This fact sheet also states that the total estimated number of individuals in Nevada is 1,109 or more, and the total estimated area occupied by this species is 651 or more hectares (1,609 or more acres) (ibid.).

Within the site, this species was found mainly in white to pale brown silty soils derived from Pleistocene lakebed sediments, in shadscale scrub vegetation, in the western half of the site. An estimated total of 15,000 plants were observed in 57 localities. In the 250-foot buffer, 346 plants were observed in 11 localities.

Offsite surveys in California and Nevada conducted as a part of this project confirmed the existence of large populations of Pahrump Valley buckwheat in previously known locations and in new locations. In California, populations with thousands of individuals, including some with at least 100,000 plants and some much larger, were documented in Stewart Valley, northern and southern Pahrump Valley, and in Chicago Valley. The Chicago Valley locality, with at least 100,000 individuals, was newly discovered during offsite surveys for this project. It is on the west side of the Nopah Range, so it represents an extension of this species into a new watershed to the west of its previously known range. In Nevada, populations with at least 100,000 plants, some much larger, were documented in Stewart Valley, on the east side of Stewart Dry Lake; in the northern Pahrump Valley, within and near the town of Pahrump and northeast of Pahrump Dry Lake. One new locality of 5,000 or more individuals was found in Nevada, within the offsite transmission line corridor.

Goodding's phacelia (*Phacelia pulchella* var. *gooddingii*) – CNPS 2.3

Goodding's phacelia is a small, purple-flowered annual herb in the Waterleaf Family (Hydrophyllaceae). Its distinctive features includes flowers that are all purple, stamens that are included within the corolla (flower), and leaves that are longer than wide, and entire to only slightly lobed (Baldwin et al., 2002). Line drawings of this species are found in Baldwin

and others (2002). The conservation status of Goodding's phacelia is described in Section 5.2.

In California, the habitat of Goodding's phacelia has been described as alkaline clay soils in Mojave desert scrub vegetation, from 2,500 to 3,280 feet in elevation (CNPS 2011, CNDDDB 2011a).

Prior to surveys completed for this project, Goodding's phacelia was known in California only from Mesquite Valley (Jepson Online Interchange 2011), and possibly from Salsberry Pass in the Amargosa Mountains, south of Death Valley. A specimen previously identified as this species from Clark Mountain has been reexamined by Andrew Sanders and is actually *Phacelia barnebyana*. Goodding's phacelia is also known from Nevada, Arizona and Utah.

Within the site, Goodding's phacelia was widespread and common. It was observed in Mojave desert scrub and shadscale scrub vegetation, in silty to sandy-gravelly soil, and on gravel flats, throughout the site. A total of 27,706 individuals were detected in 232 localities. Within the 250-foot buffer, 6,227 individuals were observed in 65 locations. All of the plants were in vegetative to flowering condition when observed. During offsite surveys conducted for this project, Goodding's phacelia was found in several new offsite locations in Inyo County, California. This species was also found in a number of locations within the offsite transmission line corridor.

Desert wing-fruit (*Selinocarpus nevadensis*) – CNPS 2.3

Desert wing-fruit is a white-flowered perennial herb in the Sand-verbena Family (Nyctaginaceae). The mature plants form low mounds a few inches tall. The leaves are oval and slightly succulent. The winged opalescent fruits are diagnostic (Baldwin et al., 2002). In California and Nevada, this species flowers from May to September (CNPS 2011). Line drawings of this species are found in Baldwin and others (2002). Desert wing-fruit grows in sandy to gravelly soil, in Mojave desert scrub and Joshua tree woodland in California and Nevada (CNPS 2011).

Prior to surveys completed for this project, desert wing-fruit was known in California from a single location (CNDDDB EO#1) in Mesquite Valley near the California-Nevada border (Jepson Online Interchange 2011). This species is common in Nevada, and is also found in Arizona and Utah.

Within the site, desert wing-fruit was observed mainly in the southwest part of the site, in shadscale scrub and Mojave desert scrub vegetation. A total of 63 individuals were counted in 13 locations. This species was not observed in the 250-foot buffer.

During offsite surveys performed in support of this project, desert wing-fruit was found in several new offsite locations in Inyo County, California, near the California-Nevada state line. This species was also found in several locations within the offsite transmission line corridor.

Description of Nye Milkvetch (*Astragalus nyensis*)

Nye milkvetch (*Astragalus nyensis*)

Nye milkvetch is a small, white-flowered annual herb in the Pea Family (Fabaceae). The flowers have a blunt keel (type of petal) with a pink spot at the tip, which is one character of several that distinguishes this species from *Astragalus acutirostris*, another taxon with similar characteristics. Prior to surveys for this project, Nye milkvetch had not been documented from California, so information about this species is derived from Nevada sources and observations made during surveys for this project. The blooming period for Nye milkvetch in California and Nevada is April to May.

In Nevada, Nye milkvetch grows in the foothills of desert mountains, on calcareous outwash fans and gravelly flats, sometimes in sandy soil, in Mojave desert scrub vegetation (NNHP 2001). It has been recorded from 1,100 to 5,600 feet in Nevada. There are documented locations in Nye, Clark and Lincoln counties (ibid).

In California, the first state records for Nye milkvetch were made during the Spring 2011 protocol-level botanical surveys. Within the site, Nye milkvetch was found in Mojave desert scrub vegetation, in sandy-gravelly soil, in the eastern half of the site. A total of 4,859 individuals were detected in 162 localities. In the site 250-foot buffer, 2,368 individuals were recorded in 34 localities. The plants were in flowering and fruiting condition when observed.

Nye milkvetch was also identified in several offsite locations in Inyo County, California. Locations with larger numbers of individuals were found within 5 miles of the California-Nevada state line, north and south of the site. Results of the offsite surveys for special-status plants will be provided in a separate report.

At present, Nye milkvetch has no conservation status in California because it was not known to occur in California prior to surveys conducted for this project. In Nevada, Nye milkvetch previously had conservation status, but it does not at present (NNPS 2010).