



DRAFT

Special-Status Plant Survey Report

Mill Creek

Placer County, California
March 2018



Prepared for:

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1.0 INTRODUCTION

This report presents the results of a special-status plant survey conducted for the approximately 126-acre Mill Creek Property and associated off-site improvement areas (Study Area). The main portion of the Study Area is located along and south of PFE Road, east of Cook Riolo Road, north of the Sacramento County line, and west of Antelope Oaks Court in southwestern Placer County, California. There are two off-site improvement areas; one heads due north where PFE turns into Atkinson Street, and continues north across Dry Creek almost to Booth Road. The second continues along PFE Road, and then Atkinson Street across Dry Creek, and then terminates with a slight jog to the west. The Study Area is located in portions of Sections 9, 10, and 16, Township 10 North, Range 6 East (MDB&M) of the "Citrus Heights, California" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2013) (**Figure 1**).

2.0 METHODOLOGY

Madrone Ecological Consulting, LLC (Madrone) botanist Daria Snider conducted special-status plant surveys of the various components of the Study Area on 11 and 18 May, 21 June, 18 July, 26 August, and 17 October 2017. The special-status plant survey was conducted in accordance with the U.S. Fish and Wildlife Service's *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (USFWS 1996), California Department of Fish and Wildlife's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFG 2009), and the *CNPS Botanical Survey Guidelines* (CNPS 2001).

A list of special-status plant species with potential to occur within the Study Area was developed by reviewing the following literature, and then refining the list based on habitats present within the Study Area:

- California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (CNPS 2017) query of CRPR Lists 1A, 1B, 2A, 2B, and 3 within the "Citrus Heights, California" USGS topo quadrangle and eight surrounding quadrangles;
- USFWS Information for Planning and Conservation (IPaC) (USFWS 2017) query for the Study Area; and
- the California Natural Diversity Database occurrences of special-status plant species within 5 miles of the Study Area (CNDDDB 2017) (**Figure 2**).

The target species for this survey were:

- Big-scale balsamroot (*Balsamorhiza macrolepis*);
- Dwarf downingia (*Downingia pusilla*);
- Bogg's Lake hedge hyssop (*Gratiola heterosepala*);
- Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*);
- Legenere (*Legenere limosa*);
- Pincushion navarretia (*Navarretia myersii* ssp. *myersii*);
- Slender Orcutt grass (*Orcuttia tenuis*);
- Sacramento Orcutt grass (*Orcuttia viscida*); and
- Sanford's arrowhead (*Sagittaria sanfordii*).

Meandering pedestrian surveys were conducted throughout the Study Area. The surveys were floristic in nature, which means that all plant species observed on-site were identified to the taxonomic level necessary to determine rarity. Thus, if a special-status plant was present but not on the target list, it would have been detected and documented. Plant taxonomy was based on the nomenclature in the *Jepson eFlora* (Jepson Flora Project 2017). Terrestrial vegetation communities were classified according to the *Manual of California Vegetation, Second Edition* (Sawyer et al. 2009). Qualifications for the biologist that conducted the survey are included in **Attachment A**, a list of reference populations of target plants visited is included in **Attachment B**, and a comprehensive list of all plant species observed during surveys of the Study Area is included in **Attachment C**.

3.0 EXISTING SITE CONDITIONS

The Mill Creek Property is largely comprised of annual brome grasslands with an active commercial nursery in the southern portion, an abandoned almond orchard in the approximate center, and oak woodland and riparian woodland along the intermittent drainage on the eastern edge. Several seasonal wetlands are scattered within the annual brome grassland just west of the oak woodland, and a number of roadside ditches occur along the paved roadways. Inclusions of disturbed areas are scattered throughout the property along roadways, in house sites, and in parking areas that encroach along the edges from adjacent properties. The terrain within the Mill Creek property is gently rolling, and generally slopes from the south towards the north. Elevations range from approximately 155 feet above mean sea level (MSL) at the south edge of the nursery to approximately 110 feet where the intermittent drainage crosses PFE Road.

The northeastern offsite sewer line alternatives are primarily disturbed, with the exception of the portion of the Study Area that runs north from PFE Road, which runs through areas that have experienced somewhat less disturbance; most significantly Dry Creek and its associated riparian woodland. Elevations within the sewer line alternatives range from approximately 115 to 145 feet above MSL.

Surrounding properties are as diverse as the Study Area. To the south and east is suburban residential, a school borders the Study Area to the northeast, rural residential and abandoned orchards occur in various locations to the north as does a large, undeveloped grassland and oak woodland. Lastly, industrial areas and truck parking border the Study Area to the east and southeast.

3.1 Terrestrial Vegetation Communities

3.1.1 Annual Brome Grassland

The annual brome grassland within the Study Area is dominated by ripgut brome (*Bromus diandrus*), soft brome (*B. hordeaceus*), wild oat (*Avena fatua*), medusahead (*Elymus caput-medusae*), and Italian ryegrass (*Festuca perennis*). Other species occurring frequently in this vegetation community within the Study Area include English plantain (*Plantago lanceolata*), turkey mullein (*Croton setiger*), vinegar weed (*Trichostema lanceolatum*), curly dock (*Rumex crispus*), prickly lettuce (*Lactuca serriola*), Fitch's spikeweed (*Centromadia fitchii*), slender tarweed (*Holocarpha virgata*), vetch (*Vicia* sp.), yellow star-thistle (*Centaurea solstitialis*),

Italian thistle (*Carduus pycnocephalus*), Canadian horseweed (*Erigeron canadensis*), and stinkwort (*Dittrichia graveolens*). Seasonal wetlands and swales occur occasionally throughout this community. Isolated trees scattered throughout the annual brome grassland include blue gum (*Eucalyptus globulus*), interior live oak (*Quercus wislizeni*), and Valley oak (*Quercus lobata*).

3.1.2 Oak Woodland

Oak woodland occurs in the southeastern corner of the Mill Creek property, in association with the intermittent streams, and in the portions of the off-site infrastructure areas around Dry Creek. The oak woodland has a primarily closed canopy that is comprised of Valley oak, blue oak (*Quercus douglasii*), and interior live oak. Occasional Chinese tallow tree (*Triadica sebifera*), olive (*Olea europaea*), and common fig (*Ficus carica*) also occur. The shrub layer is sparse in most areas, but where present includes poison-oak (*Toxicodendron diversilobum*) and Himalayan blackberry (*Rubus armeniacus*). The herbaceous understory is comprised of species typical of the annual brome grassland described above.

3.1.3 Riparian Woodland

Riparian woodland occurs in the northeastern portion of the Mill Creek property, and along Dry Creek within the off-site infrastructure alignments. The canopy of the riparian woodland is dense and quite diverse. Common trees include Goodding's black willow (*Salix gooddingii*), arroyo willow (*S. lasiolepis*), Fremont's cottonwood (*Populus fremontii*), Valley oak, box elder (*Acer negundo*), cigar tree (*Catalpa bignonioides*), tree of heaven (*Ailanthus altissima*), sycamore (*Platanus racemosa*), white alder (*Alnus rhombifolia*), Oregon ash (*Fraxinus latifolia*), and black walnut (*Juglans hindsii*). The understory is dense in some locations and includes thickets of Himalayan blackberry, wild reed (*Arundo donax*), wild rose (*Rosa californica*), sandbar willow (*Salix exigua*) and California wild grape (*Vitis californica*). Herbaceous species within the understory include dallisgrass (*Paspalum dilatatum*), barnyard grass (*Echinochloa crus-galli*), rice cutgrass (*Leersia oryzoides*), tall flatsedge (*Cyperus eragrostis*), curly dock (*Rumex crispus*), cocklebur (*Xanthium strumarium*), soft rush (*Juncus effusus*), and Bermuda grass (*Cynodon dactylon*).

3.1.4 Abandoned Almond Orchard

An abandoned almond orchard occurs in the approximate center of the Mill Creek property. The orchard has been abandoned since the late 1980s, and the understory is annually mowed or disked for fire suppression purposes. Because the orchard has been abandoned for a substantial amount of time, blue oak, Valley oak, and interior live oak saplings have become established amongst the remaining almond trees. The understory of the almond orchard is comprised of herbaceous weedy species typical of the annual brome grassland described above.

3.1.5 Disturbed

Heavily disturbed areas occur in isolated locations throughout the Study Area, including a commercial nursery along the southern boundary, roadways, paved truck parking areas along the southeastern and

eastern boundaries, and a sports park along the offsite infrastructure alignment. Most of these areas are paved or otherwise unvegetated, but some areas support ruderal vegetation including stinkwort, bindweed (*Convolvulus arvensis*), purple sand-spurrey (*Spergularia rubra*), yellow star-thistle, and turkey mullein.

3.2 Aquatic Resources

Aquatic resources within the Study Area have been mapped by Salix Consulting, Inc. (Salix 2015a and 2015b), the U.S. Army Corps of Engineers (USACE 2016), and Madrone (Madrone 2017). A description of each of the mapped aquatic resources types is included below.

3.2.1 Seasonal Wetlands

Several depression seasonal wetlands occur within the Study Area. Seasonal wetlands are depression wetlands that pond water seasonally. The two smallest seasonal wetlands are shallow features located on the floodplain of the intermittent drainage. They support largely facultative species, such as curly dock, perennial ryegrass, and Mediterranean barley. The largest seasonal wetland appears to have a much longer hydroperiod, and supports a variety of plant species typical of vernal pools, including Great Valley coyote-thistle (*Eryngium castrense*), slender popcorn flower (*Plagiobothrys stipitatus* var. *micranthus*), creeping spikerush (*Eleocharis macrostachya*), Carter's buttercup (*Ranunculus bonariensis*), smooth goldfields (*Lasthenia glaberrima*), mannagrass (*Glyceria declinata*), and hyssop loosestrife (*Lythrum hyssopifolium*).

3.2.2 Seasonal Wetland Swales

Two seasonal wetland swales are present within the Study Area. Seasonal wetland swales are sloping, linear seasonal wetlands that convey surface runoff, and may detain it for short periods of time. The western seasonal wetland swale conveys irrigation runoff from the commercial nursery. As a result of the irrigation inputs throughout the year, this feature supports a variety of plants characteristic of seasonal marshes, including tall nutsedge (*Cyperus eragrostis*), dotted lady's thumb (*Persicaria punctata*), curly dock (*Rumex crispus*), and prickly cocklebur (*Xanthium strumarium*). The second seasonal wetland swale is in the eastern portion of the Study Area, and conveys runoff from the annual grassland east of Antelope Road into the intermittent stream. This feature is quite narrow, conveys only natural flows, and supports primarily perennial ryegrass and Mediterranean barley.

3.2.3 Intermittent Stream

An intermittent stream occurs along the eastern edge of the Mill Creek property. This feature ranges from approximately 6 feet to 20 feet wide, and has a primarily sandy substrate. Although it flows intermittently, deeper portions of the stream retain water throughout the year. The stream is unvegetated throughout much of its channel due to the depth and scouring effects of water, but it supports a well-developed fringe of hydrophytes along the banks, including rice cutgrass (*Leersia oryzoides*), spotted lady's-thumb (*Persicaria punctata*), stick-tight (*Bidens frondosa*), tall nutsedge, and northern water plantain (*Alisma triviale*). Riparian woodland and oak woodland canopy shade the stream throughout much of the Study Area. Several other

smaller reaches of intermittent drainage occur within the Study Area, and are largely similar to that described above.

3.2.4 Roadside Ditch

Several roadside ditches were mapped within the Study Area along Antelope Road and PFE Road. The roadside ditches serve to convey stormwater runoff from the road into the storm drain system and intermittent drainages. These features are primarily unvegetated due to ditch maintenance, but some ruderal vegetation has become established in portions. Plant species observed in and adjacent to this feature include perennial ryegrass, wild radish (*Raphanus sativus*), tall nutsedge (*Cyperus eragrostis*), and Bermuda grass (*Cynodon dactylon*).

3.2.5 Nursery Pond

A small pond in the approximate center of the nursery is maintained for irrigation purposes. This feature is fed by a well at the edge of the pond, and appears to be regularly maintained to ensure continued operation. This nursery pond was dry during a fall 2014 field survey, but full during a fall 2017 survey. The center of the pond supports only floating plants, such as duckweed (*Lemna minor*) due to the depth of the water, but the edges support species typical of marshes, including common tule (*Schoenoplectus acutus* var. *occidentalis*), tall flatsedge (*Cyperus eragrostis*), barnyard grass (*Echinochloa crus-galli*), smooth crabgrass (*Digitaria ischaemum*), swamp pricklegrass (*Crypsis schoenoides*), broadleaved cattail (*Typha latifolia*), and willow weed (*Persicaria lapathifolia*). In addition, numerous Goodding's black willow (*Salix gooddingii*) provide shade along the edges.

3.2.6 Dry Creek

Dry Creek runs through the northern portion of the Study Area. Dry Creek is a broad, perennial creek with a gravel/cobble substrate. It is almost entirely unvegetated within the channel due to the scouring effects of high winter flows, but there are a few islands and sand bars where a few plants have managed to establish. This feature is incised, with steep, eroded banks on one bank, and broad sand/gravel bars on the opposite bank. The banks support a dense, well-developed riparian woodland (described above).

3.3 Soils

According to the Natural Resources Conservation Service (NRCS) Soil Survey Database (NRCS 2017), six soil mapping units occur within the Study Area: (141) Cometa-Fiddymment complex, 1 to 5% slopes; (146) Fiddymment loam, 1 to 8% slopes; (147) Fiddymment-Kaseberg loams, 2 to 9% slopes; (193) Xerofluvents, occasionally flooded; (194) Xerofluvents, frequently flooded; and (229sa) Urban land-Xerarents-Fiddymment complex, 0 to 8% slopes. None of the soil units within the Study Area are derived from serpentine or gabbroic parent materials, or are considered saline or alkaline (NRCS 2017).

4.0 SURVEY RESULTS

4.1 Big-Scale Balsamroot

Big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*) is not federally or state listed, but it is classified as a CRPR List 1B.2 plant. It is a perennial herbaceous species that occurs in chaparral, cismontane woodland and valley and foothill grasslands between 295 and 4,600 feet (CNPS 2017). Big-scale balsamroot blooms from March through June and may be found on serpentine soils, though it is known to grow on other soil types as well (CNPS 2017).

The annual brome grassland and oak woodlands throughout the Study Area represent suitable habitat for this species. Field surveys conducted by a botanist during the blooming season failed to detect this species.

4.2 Dwarf Downingia

Dwarf downingia (*Downingia pusilla*) is not federally or state listed, but it is classified as a CRPR List 1B.2 plant. It is a diminutive annual herb that is strongly associated with vernal pools and other seasonally inundated features at elevations ranging from sea level to approximately 1,500 feet (CNPS 2017). Dwarf downingia is typically associated with areas that experience a moderate degree of disturbance, and it blooms from March to May.

The seasonal wetlands and seasonal wetland swales within the Study Area represent suitable habitat for this species. Field surveys conducted by a botanist during the blooming season failed to detect this species.

4.3 Bogg's Lake Hedge-Hyssop

Bogg's Lake hedge-hyssop (*Gratiola heterosepala*) is not federally listed, but it is a California endangered species and a CRPR List 1B.2 plant. Bogg's Lake hedge-hyssop grows in vernal pools and around the perimeter of lakes and ponds between 30 and 7,800 feet (CNPS 2017). This small annual herb favors clay soils, and blooms from April to August (CNPS 2017).

The larger seasonal wetlands within the Study Area represent suitable habitat for this species. Field surveys conducted by a botanist during the blooming season failed to detect this species.

4.4 Ahart's Dwarf Rush

Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*) is not federally or state listed, but it is classified as a CRPR List 1B.2 plant. Ahart's dwarf rush grows along the edges of seasonal wet habitats such as vernal pools and swales within valley and foothill grasslands between elevations of approximately 100 feet and 750 feet (CNPS 2017). This annual herb blooms from March to May (CNPS 2017).

The larger seasonal wetlands within the Study Area represent suitable habitat for this species. Field surveys conducted by a botanist during the blooming season failed to detect this species.

4.5 Legenere

Legenere (*Legenere limosa*) is not federally or state listed, but it is classified as a CRPR List 1B.1 species. This annual herb is primarily associated with seasonal wetlands with a long hydroperiod, such as vernal pools and marsh and pond edges (CNPS 2017). Legenere occurs at elevations between sea level and 2,600 feet, and blooms from April to June (CNPS 2017).

The larger seasonal wetlands within the Study Area represent suitable habitat for this species. Field surveys conducted by a botanist during the blooming season failed to detect this species.

4.6 Pincushion Navarretia

Pincushion navarretia (*Navarretia myersii* ssp. *myersii*) is not federally or state listed, but it is classified as a CRPR List 1B.1 plant. This species is found in vernal pools and other mesic areas in annual grasslands, often on acidic soils (CNPS 2017). Pincushion navarretia is found between approximately 65 and 1,100 feet and blooms in April and May (CNPS 2017).

The seasonal wetlands within the Study Area represent marginally suitable habitat for this species. Field surveys conducted by a botanist during the blooming season failed to detect this species.

4.7 Slender Orcutt Grass

Slender Orcutt grass (*Orcuttia tenuis*) is listed as threatened and endangered pursuant to the federal and California Endangered Species Acts, respectively, and is classified as a CRPR List 1B.1 plant. This species occurs in vernal pools at elevations ranging from 115 to 5,775 ft above mean sea level (CNPS 2017). Slender Orcutt grass is an annual herb that blooms from May through October (CNPS 2017), occurring primarily on substrates of volcanic origin (USFWS 2003).

The largest seasonal wetland within the Study Area represents suitable habitat for this species. Field surveys conducted by a botanist during the blooming season failed to detect this species.

4.8 Sacramento Orcutt Grass

Sacramento Orcutt grass (*Orcuttia viscida*) is listed as endangered pursuant to both the federal and California Endangered Species Acts, and is classified as a CRPR List 1B.1 plant. Sacramento Orcutt grass is endemic to the southeastern Sacramento Valley (USFWS 2003), with all known occurrences restricted to Sacramento County. Sacramento Orcutt grass is an annual herb that occurs in vernal pools at elevations ranging from 100 to 330ft above sea level, and blooms from April through July (CNPS 2017).

The largest seasonal wetland within the Study Area represents suitable habitat for this species. Field surveys conducted by a botanist during the blooming season failed to detect this species.

4.9 Sanford's Arrowhead

Sanford's arrowhead (*Sagittaria sanfordii*) is not federally or state listed, but it is classified as a CRPR List 1B.2 plant. It generally occurs in shallow freshwater habitats associated with drainages, canals, and larger ditches that sustain inundation and/or slow moving water into early summer. This perennial rhizomatous species blooms from May to October, and occurs from sea level to approximately 2,000 feet (CNPS 2017).

Dry Creek and the intermittent drainage within the Study Area represent suitable habitat for Sanford's arrowhead. This species was found within the intermittent drainage near the southern edge of the Study Area (**Figure 3**). Approximately six plants were observed in this location, co-occurring with northern water plantain, stick-tight, and spotted lady's thumb.

4.10 Stinkbells

Stinkbells (*Fritillaria agrestis*) were not a target species for this survey, as they are classified as a CRPR List 4 plant (plants of limited distribution or infrequent throughout a broader area in California, and their status should be monitored regularly). As a result, a survey visit was not conducted during the blooming period for this species (typically, March and April). Stinkbells were documented near the southern border of the Study Area in 1979 (CNDDDB 2017) (**Figure 2**). That occurrence is considered "possibly extirpated" (CNDDDB 2017); however, during a site survey in October, some *Fritillaria* fruits were observed in the annual brome grassland in the northeastern portion of the Study Area. As stinkbells is the only species in the genus *Fritillaria* known to occur in the vicinity of the Study Area, it is assumed that these plants are stinkbells.

5.0 CONCLUSION

One special-status plant species, Sanford's arrowhead, was observed during the 2017 protocol-level special-status plant surveys of the Mill Creek Study Area. None of the other target species were observed.

6.0 REFERENCES

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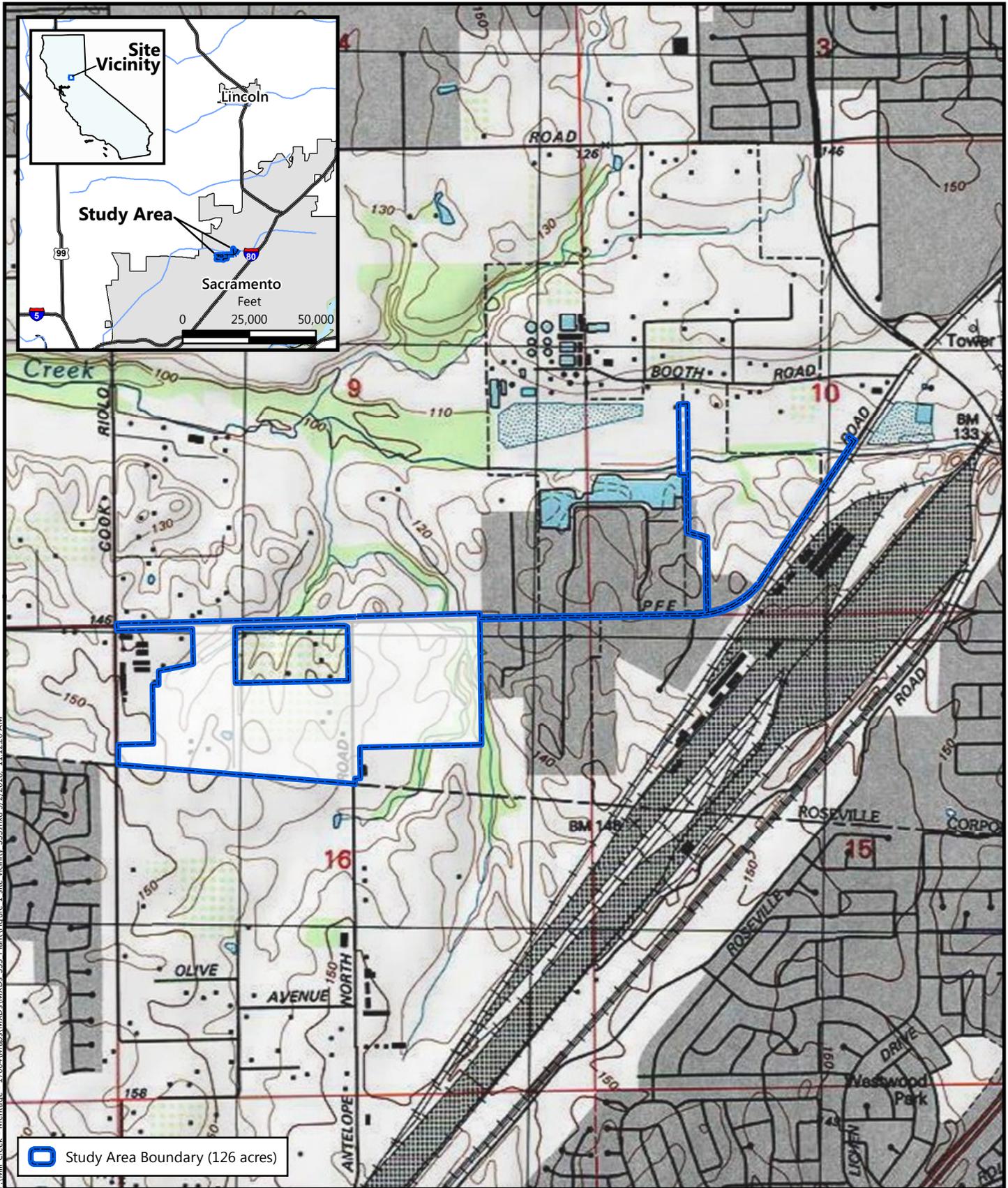
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Figures

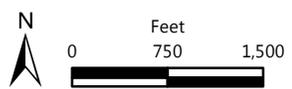
Figure 1. Vicinity Map

Figure 2. California Natural Diversity Database Occurrences of Plant Species

Figure 3. Sanford's Arrowhead Location Map



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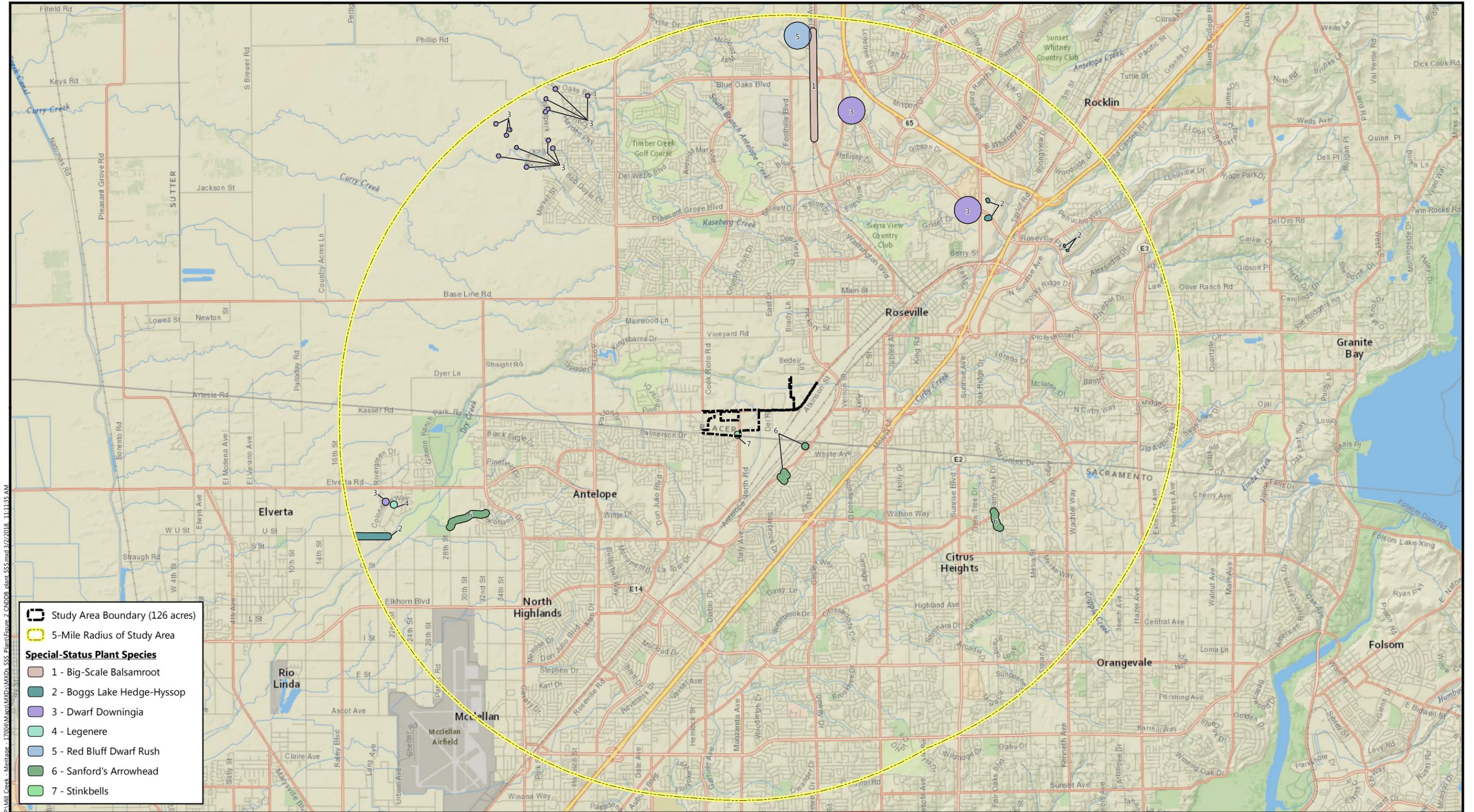


Source: United States Geologic Survey, 2013.
 "Citrus Heights, California" 7.5-Minute Topographic Quadrangle
 Longitude -121.321001, Latitude 38.729831
 Sections 9, 10 and 16, Township 10 North, Range 6 East

**Figure 1
Vicinity Map**

Mill Creek
Placer County, California



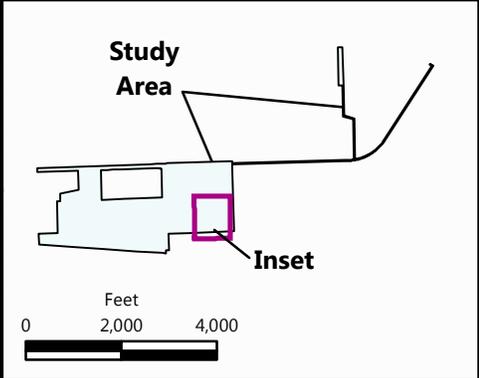
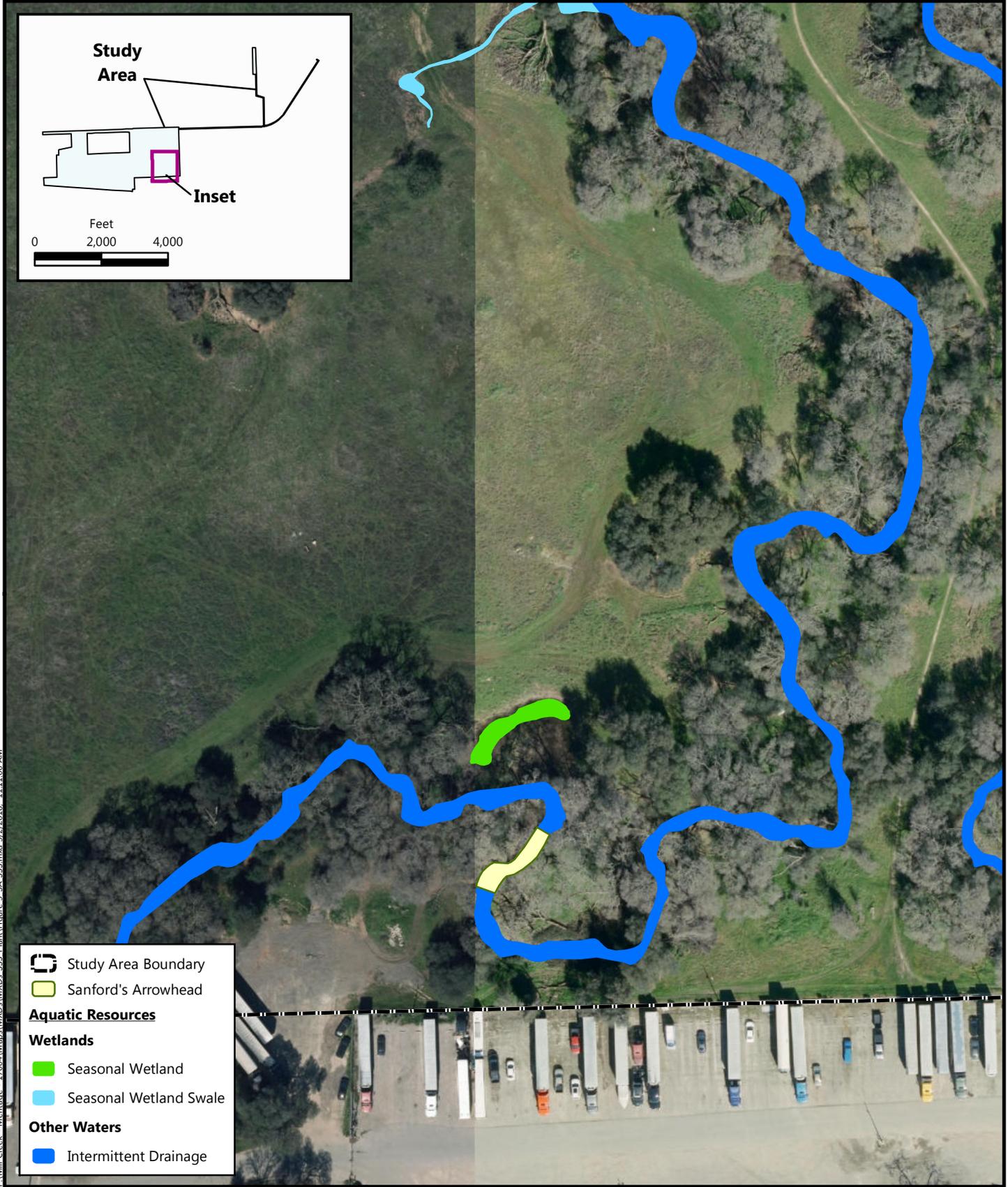


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Figure 2
California Natural Diversity Database
Occurrences of Plant Species

Source: California Department of Fish and Wildlife, November 2017.
 Basemap Source: National Geographic and ESRI



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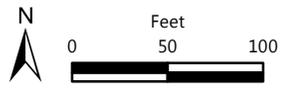


Figure 3
Sanford's Arrowhead
Location Map

Mill Creek
Placer County, California



Aerial Source: USDA, National Agriculture Imagery Program, March 2015, 2017

Attachments

Attachment A: Botanist Qualifications

Attachment B: Target Plant Species Reference Population Information

Attachment C: Plant Species Observed within the Mill Creek Study Area

Attachment A

Botanist Qualifications

Rare Plant Survey Botanist Qualifications

Daria Snider

Ms. Snider has more than 14 years of experience conducting botanical inventories. As a senior biologist, she specializes in rare plant surveys, wetland delineations, and general biological resource inventories. In addition to rare plant surveys, her botanical experience includes general vegetation surveys, aerial and field vegetation mapping, Certified Arborist tree inventories, CRAM Assessments, floristic monitoring, and invasive species identification and mapping. Ms. Snider's experience includes a wide variety of habitat types, including vernal pools, annual grasslands, oak woodland, riparian communities, coastal sage scrub, chaparral, cismontane and montane forests, and desert. Her geographic expertise covers much of California, from Shasta County in the north to the Mojave Desert and San Gabriel Mountains in the south, and from Napa County in the west to the Sierra Nevada foothills and mountains in the east. Her primary focus is on the Sacramento Valley and the adjacent Sierra Nevada foothills.

Attachment B

Target Plant Species Reference Population Information

**Target Plant Species Reference Population Information
for the Mill Creek Special-Status Plant Survey**

Plant Species	Location of Reference Population	Date of Visit	Phenology of Reference Population/ Distinctive Characteristics
<i>Balsamorhiza macrolepis</i> Big-scale balsamroot	Herbarium specimen at UC Davis Center for Plant Diversity	20 April 2017	Pressed specimen. Similar to <i>Wyethia</i> , but with grey, dissected leaves. Leaves are mostly basal (as opposed to <i>Wyethia</i> , which has basal and cauline leaves).
<i>Downingia pusilla</i> Dwarf downingia	Seasonal wetland swale south of western Pleasant Grove Blvd in Roseville, CA	3 May 2017	Relatively few plants due to high thatch cover, but those that are present are approximately half in bloom and half in bud. Very small plants with diminutive white star-shaped flower.
<i>Gratiola heterosepala</i> Bogg's Lake hedge-hyssop	Vernal pools within the Churchill Downs Open Space Preserve	9 May 2017	The reference population was still inundated during the field visit. C. Witham reported observations of this species in new locations on 15 May 2017, while her reference locations were still inundated as well. Plants are more delicate than the more common <i>Gratiola ebracteata</i> , and have distinctive rounded sepal tips.
<i>Juncus leiospermus</i> var. <i>ahartii</i> Ahart's dwarf rush	Herbarium specimen at UC Davis Center for Plant Diversity	20 April 2017	Pressed specimen. Similar to <i>Juncus uncialis</i> , but with much longer styles. Typically 1 flower per stem (but sometimes 2).
<i>Legenere limosa</i> Legenere	Herbarium specimen at UC Davis Center for Plant Diversity	20 April 2017	Pressed specimen. Unique zig-zag axis and extended calyces.
<i>Navarretia myersii</i> ssp. <i>myersii</i> Pincushion navarretia	Herbarium specimen at UC Davis Center for Plant Diversity	20 April 2017	Pressed specimen. Corollas for this species are quite long (12-21 mm vs 4-10 mm for the similar but more common <i>Navarretia leucocephala</i> ssp. <i>leucocephala</i>). In addition, the calyx lobes for this species are long-hairy as opposed to the generally glabrous calyx lobes for <i>N. leucocephala</i> ssp. <i>leucocephala</i> .

Plant Species	Location of Reference Population	Date of Visit	Phenology of Reference Population/ Distinctive Characteristics
<i>Orcuttia tenuis</i> Slender Orcutt grass	Herbarium specimen at UC Davis Center for Plant Diversity	20 April 2017	Pressed specimen. Leafs and leaf sheaths are continuous with no ligule, and lemmas are toothed. Inflorescences are tall and slender in comparison to <i>Orcuttia viscida</i> , the only other <i>Orcuttia</i> species known to occur in the area.
<i>Orcuttia viscida</i> Sacramento Orcutt grass	Vernal pool at Phoenix Field; CNDDDB Occurrence #19	6 June 2017; 30 August 2017	Plants at Pheonix field in June were green and in bloom. Plants are hairy, and appear even more so with the distinctive awned lemma teeth. Leafs and leaf sheaths are continuous with no ligule. Late August site visit conducted to determine if plants were still identifiable. Although they were brown, they were still in good shape, and the distinctive lemma teeth were still obvious.
<i>Sagittaria sanfordii</i> Sanford's arrowhead	Population on private property in northern Sacramento County	10 May 2017	Several hundred plants were present at this site. Approximately 10% were in bloom, 5% were in fruit, 60 were vegetative, and 25% had only aquatic leaves (had not yet developed emergent leaves for the year).

Attachment C

Plant Species Observed within the Mill Creek Study Area

Plant Species Observed within the Mill Creek Study Area
11 and 18 May, 21 June, and 26 September 2017

Family / Species Name	Common name	Native / Non-Native
ADOXACEAE		
<i>Sambucus nigra</i> subsp. <i>caerulea</i>	Blue elderberry	Native
AGAVACEAE		
<i>Chlorogalum pomeridianum</i> var. <i>pomeridianum</i>	Wavyleaf soap plant	Native
ALISMATACEAE		
<i>Alisma triviale</i>	Northern water plantain	Native
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	Native
ANACARDIACEAE		
<i>Toxicodendron diversilobum</i>	Western poison oak	Native
APIACEAE		
<i>Eryngium castrense</i>	Great valley coyote-thistle	Native
<i>Foeniculum vulgare</i>	Fennel	Non-native
<i>Torilis arvensis</i>	Tall sock-destroyer	Non-native
APOCYNACEAE		
<i>Asclepias fascicularis</i>	Narrow-leaf milkweed	Native
<i>Nerium oleander</i>	Common oleander	Non-Native
<i>Vinca major</i>	Greater periwinkle	Non-native
ARACEAE		
<i>Lemna minor</i>	Duckweed	Native
ASTERACEAE		
<i>Achillea millefolium</i>	Yarrow	Native
<i>Artemisia douglasiana</i>	Mugwort	Native
<i>Bidens frondosa</i>	Sticktight	Native
<i>Carduus pycnocephalus</i>	Italian thistle	Non-Native
<i>Centaurea solstitialis</i>	Yellow star-thistle	Non-Native
<i>Centromadia fitchii</i>	Fitch's spikeweed	Native
<i>Chondrilla juncea</i>	Skeleton weed	Non-Native
<i>Cichorium intybus</i>	Chicory	Non-Native
<i>Cirsium vulgare</i>	Bull thistle	Non-Native
<i>Dittrichia graveolens</i>	Stinkwort	Non-Native
<i>Erigeron canadensis</i>	Horseweed	Native
<i>Helminthotheca echioides</i>	Bristly ox-tongue	Non-Native

Plant Species Observed within the Mill Creek Study Area
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Family / Species Name	Common name	Native / Non-Native
<i>Heterotheca grandiflora</i>	Telegraph weed	Native
<i>Holocarpha virgata</i> subsp. <i>virgata</i>	Slender tarweed	Native
<i>Hypochaeris glabra</i>	Smooth cat's-ear	Non-Native
<i>Lactuca serriola</i>	Prickly lettuce	Non-Native
<i>Lasthenia glaberrima</i>	Smooth goldfields	Native
<i>Leontodon saxatilis</i> subsp. <i>saxatilis</i>	Hairy hawkbit	Non-Native
<i>Logfia gallica</i>	Daggerleaf cottonrose	Non-Native
<i>Matricaria discoidea</i>	Pineapple weed	Native
<i>Pseudognaphalium luteoalbum</i>	Pearly everlasting	Non-Native
<i>Silybum marianum</i>	Milk thistle	Non-Native
<i>Sonchus asper</i> subsp. <i>asper</i>	Prickly sow thistle	Non-Native
<i>Tragopogon porrifolius</i>	Salsify	Non-Native
<i>Xanthium strumarium</i>	Cocklebur	Native
BETULACEAE		
<i>Alnus rhombifolia</i>	White alder	Native
BIGNONIACEAE		
<i>Catalpa bignonioides</i>	Cigar tree	Non-Native
BORAGINACEAE		
<i>Plagiobothrys stipitatus</i> var. <i>micranthus</i>	Slender popcorn flower	Native
<i>Plagiobothrys undulatus</i>	Wavy-stemmed popcornflower	Native
BRASSICACEAE		
<i>Brassica nigra</i>	Black mustard	Non-Native
<i>Hirschfeldia incana</i>	Tumble mustard	Non-Native
<i>Raphanus sativus</i>	Radish	Non-Native
CAMPANULACEAE		
<i>Downingia bicornuta</i>	Double-horned downingia	Native
<i>Downingia ornatissima</i> var. <i>ornatissima</i>	Horned downingia	Native
CARYOPHYLLACEAE		
<i>Cerastium glomeratum</i>	Sticky mouse-ear chickweed	Non-Native
<i>Silene gallica</i>	Small-flower catchfly	Non-Native
<i>Spergularia rubra</i>	Red sand-spurrey	Non-Native
CHENOPODIACEAE		
<i>Chenopodium album</i>	Lamb's quarters	Non-Native

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Family / Species Name	Common name	Native / Non-Native
CONVOLVULACEAE		
<i>Convolvulus arvensis</i>	Bindweed	Non-Native
CRASSULACEAE		
<i>Crassula aquatica</i>	Water pygmy weed	Native
CYPERACEAE		
<i>Carex barbarae</i>	Santa barbara sedge	Native
<i>Cyperus eragrostis</i>	Tall nutsedge	Native
<i>Eleocharis macrostachya</i>	Creeping spikerush	Native
EUPHORBIACEAE		
<i>Croton setiger</i>	Turkey-mullein	Native
<i>Euphorbia maculata</i>	Spotted spurge	Non-Native
FABACEAE		
<i>Lupinus bicolor</i>	Miniature lupine	Native
<i>Trifolium dubium</i>	Little hop clover	Non-Native
<i>Trifolium glomeratum</i>	Clustered clover	Non-Native
<i>Trifolium hirtum</i>	Rose clover	Non-Native
<i>Vicia villosa</i> subsp. <i>villosa</i>	Winter vetch	Non-Native
FAGACEAE		
<i>Quercus × morehus</i>	Oracle oak	Native
<i>Quercus douglasii</i>	Blue oak	Native
<i>Quercus lobata</i>	Valley oak	Native
<i>Quercus wislizeni</i> var. <i>wislizeni</i>	Interior live oak	Native
GENTIANACEAE		
<i>Zeltnera muehlenbergii</i>	Monterey centaury	Native
GERANIACEAE		
<i>Erodium botrys</i>	Filaree	Non-Native
<i>Erodium cicutarium</i>	Redstem filaree	Non-Native
<i>Geranium dissectum</i>	Cut leaf geranium	Non-Native
HYPERICACEAE		
<i>Hypericum perforatum</i> subsp. <i>perforatum</i>	Klamathweed	Non-Native

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Family / Species Name	Common name	Native / Non-Native
IRIDACEAE		
<i>Iris germanica</i>	Bearded iris	Non-Native
ISOETACEAE		
<i>Isoetes</i> species	Quillwort	Native
JUGLANDACEAE		
<i>Juglans hindsii</i>	Northern California black walnut	Native
JUNCACEAE		
<i>Juncus balticus</i> subsp. <i>ater</i>	Baltic rush	Native
<i>Juncus bufonius</i>	Toad rush	Native
<i>Juncus capitatus</i>	Dwarf rush	Non-Native
<i>Juncus effusus</i> subsp. <i>effusus</i>	Common rush	Non-Native
LAMIACEAE		
<i>Marrubium vulgare</i>	Horehound	Non-Native
<i>Trichostema lanceolatum</i>	Vinegar weed	Native
LILIACEAE		
<i>Fritillaria</i> species	Fritillary	Native
LIMNANTHACEAE		
<i>Limnanthes alba</i> subsp. <i>alba</i>	Meadowfoam	Native
LYTHRACEAE		
<i>Lythrum hyssopifolia</i>	Hyssop loosestrife	Non-Native
MALVACEAE		
<i>Malva neglecta</i>	Common mallow	Non-Native
MONTIACEAE		
<i>Claytonia perfoliata</i> subsp. <i>perfoliata</i>	Miner's lettuce	Native
MORACEAE		
<i>Ficus carica</i>	Edible fig	Non-Native
MYRSINACEAE		
<i>Lysimachia arvensis</i>	Scarlet pimpernel	Non-Native

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Family / Species Name	Common name	Native / Non-Native
MYRTACEAE		
<i>Eucalyptus species</i>	Eucalyptus	Non-Native
OLEACEAE		
<i>Fraxinus latifolia</i>	Oregon ash	Native
<i>Ligustrum ovalifolium</i>	California privet	Non-Native
<i>Olea europaea</i>	Cultivated olive	Non-Native
ONAGRACEAE		
<i>Epilobium brachycarpum</i>	Panicled willow-herb	Native
<i>Epilobium torreyi</i>	Torrey's willow-herb	Native
OROBANCHACEAE		
<i>Castilleja attenuata</i>	Valley tassels	Native
<i>Castilleja campestris subsp. campestris</i>	Yellow owl's clover	Native
PHRYMACEAE		
<i>Mimulus guttatus</i>	Seep-spring monkeyflower	Native
PHYTOLACCACEAE		
<i>Phytolacca americana var. americana</i>	Pokeweed	Non-Native
PLANTAGINACEAE		
<i>Gratiola ebracteata</i>	Bractless hedge-hyssop	Native
<i>Plantago lanceolata</i>	English plantain	Non-Native
<i>Veronica peregrina subsp. xalapensis</i>	Purslane speedwell	Native
PLATANACEAE		
<i>Platanus racemosa</i>	Western sycamore	Native
POACEAE		
<i>Aegilops triuncialis</i>	Barbed goat grass	Non-Native
<i>Aira caryophyllea</i>	Silver hair grass	Non-Native
<i>Alopecurus saccatus</i>	Pacific foxtail	Native
<i>Arundo donax</i>	Giant reed	Non-Native
<i>Avena fatua</i>	Wild oat	Non-Native
<i>Briza minor</i>	Annual quaking grass	Non-Native
<i>Bromus diandrus</i>	Ripgut grass	Non-Native
<i>Bromus hordeaceus</i>	Soft chess	Non-Native
<i>Crypsis schoenoides</i>	Swamp prickle grass	Non-Native

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<i>Cynodon dactylon</i>	Bermuda grass	Non-Native
<i>Deschampsia danthonioides</i>	Annual hair grass	Native
<i>Echinochloa crus-galli</i>	Barnyard grass	Non-Native
<i>Elymus caput-medusae</i>	Medusa head	Non-Native
<i>Festuca myuros</i>	Rattail sixweeks grass	Non-Native
<i>Festuca perennis</i>	Rye grass	Non-Native
<i>Glyceria declinata</i>	Low manna grass	Non-Native
<i>Hordeum marinum subsp. gussoneanum</i>	Mediterranean barley	Non-Native
<i>Hordeum murinum</i>	Wall barley	Non-Native
<i>Leersia oryzoides</i>	Rice cutgrass	Native
<i>Paspalum dilatatum</i>	Dallis grass	Non-Native
<i>Poa annua</i>	Annual blue grass	Non-Native
<i>Polypogon monspeliensis</i>	Annual rabbitfoot grass	Non-Native
POLEMONIACEAE		
<i>Navarretia intertexta</i>	Needle leaf navarretia	Native
POLYGONACEAE		
<i>Persicaria maculosa</i>	Lady's thumb	Non-Native
<i>Persicaria punctata</i>	Dotted smartweed	Native
<i>Polygonum aviculare subsp. depressum</i>	Prostrate knotweed	Non-Native
<i>Rumex conglomeratus</i>		Non-Native
<i>Rumex crispus</i>	Curly dock	Non-Native
RANUNCULACEAE		
<i>Ranunculus bonariensis var. trisepalus</i>	Carter's buttercup	Native
ROSACEAE		
<i>Prunus cerasifera</i>	Cherry plum	Non-Native
<i>Prunus dulcis</i>	Almond	Non-Native
<i>Rosa californica</i>	California rose	Native
<i>Rubus armeniacus</i>	Himalayan blackberry	Non-Native
RUBIACEAE		
<i>Galium aparine</i>	Goose grass	Native
<i>Galium parisiense</i>	Wall bedstraw	Non-Native
SALICACEAE		
<i>Populus fremontii subsp. fremontii</i>	Fremont cottonwood	Native
<i>Salix exigua var. exigua</i>	Sandbar willow	Native

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<i>Salix gooddingii</i>	Goodding's black willow	Native
<i>Salix lasiolepis</i>	Arroyo willow	Native
SAPINDACEAE		
<i>Acer negundo</i>	Box elder	Native
SIMAROUBACEAE		
<i>Ailanthus altissima</i>	Tree of heaven	Non-Native
SOLANACEAE		
<i>Solanum elaeagnifolium</i>	White horse-nettle	Non-Native
THEMIDACEAE		
<i>Brodiaea elegans subsp. elegans</i>	Harvest brodiaea	Native
<i>Dichelostemma capitatum</i>	Blue dicks	Native
<i>Triteleia hyacinthina</i>	White brodiaea	Native
<i>Triteleia laxa</i>	Ithuriel's spear	Native
TYPHACEAE		
<i>Typha latifolia</i>	Broad-leaved cattail	Native
VITACEAE		
<i>Vitis californica</i>	California wild grape	Native
<i>Vitis vinifera</i>	Wine grape	Non-Native
ZYGOPHYLLACEAE		
<i>Tribulus terrestris</i>	Puncture vine	Non-Native