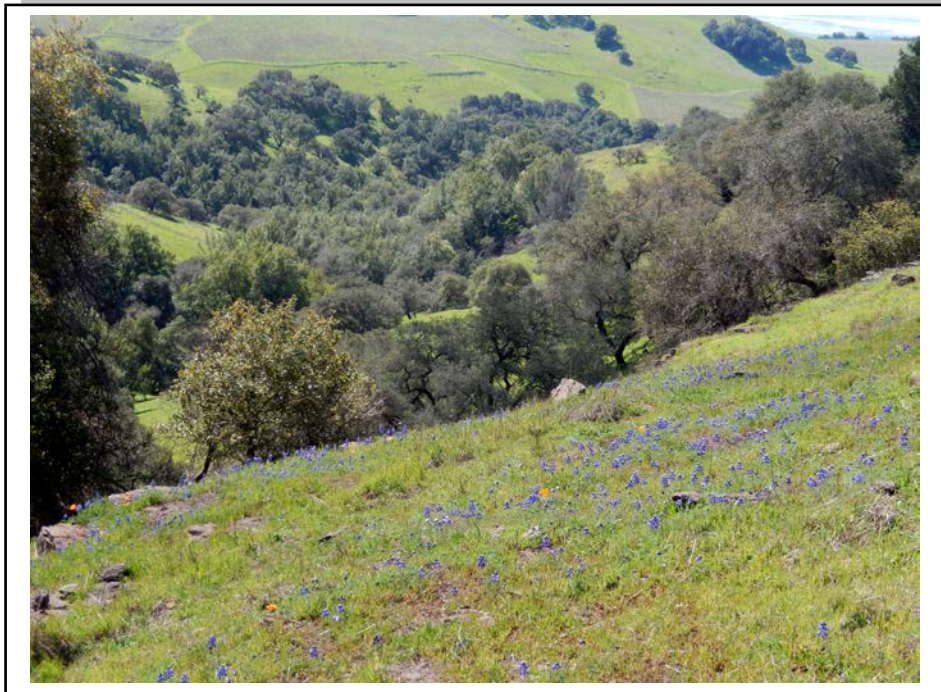


Suscol Headwaters

Botanical Resource Study

Suscol Creek Road

September 2019



Prepared for:

Napa County Regional Park and Open Space District

1195 Third Street, Room 210

Napa, CA 94559

By

Napa Botanical Survey Services

3549 Willis Drive

Napa CA 94558

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Introduction

A portion of the Suscol Headwaters property was acquired by the Napa County Regional Park and Open Space District (NCRPSD) as surplus land to a vineyard development company. An additional 298 acres was acquired with mitigation money for endangered Red Legged Frog. The 709 acre property is located about 4 miles southeast of the city of Napa along the eastern boundary of the county. It is contiguous to Skyline Park Wilderness along its northern boundary. The property preserves open space while also providing an opportunity to extend the Bay Area Ridge Trail across public property from the Tuteur Ranch and Skyline Park into Jameson Canyon. It also preserves Critical Habitat Area for California Red-legged Frog (*Rana draytonii*). To that end, the District wishes to develop a small reservoir in the eastern part of the Headwaters property to provide breeding habitat for the Red-legged Frog.

The eastern boundary of the property borders undeveloped rangeland in Solano County, currently used to graze cattle (approximately 40 acres of *Headwaters* lies in Solano County). Lands to the west have been developed to premium grapes to the extent permitted but broad undeveloped habitat corridors remain adjacent to Suscol Creek. This permits wildlife mobility from the Headwaters property to the Napa River.

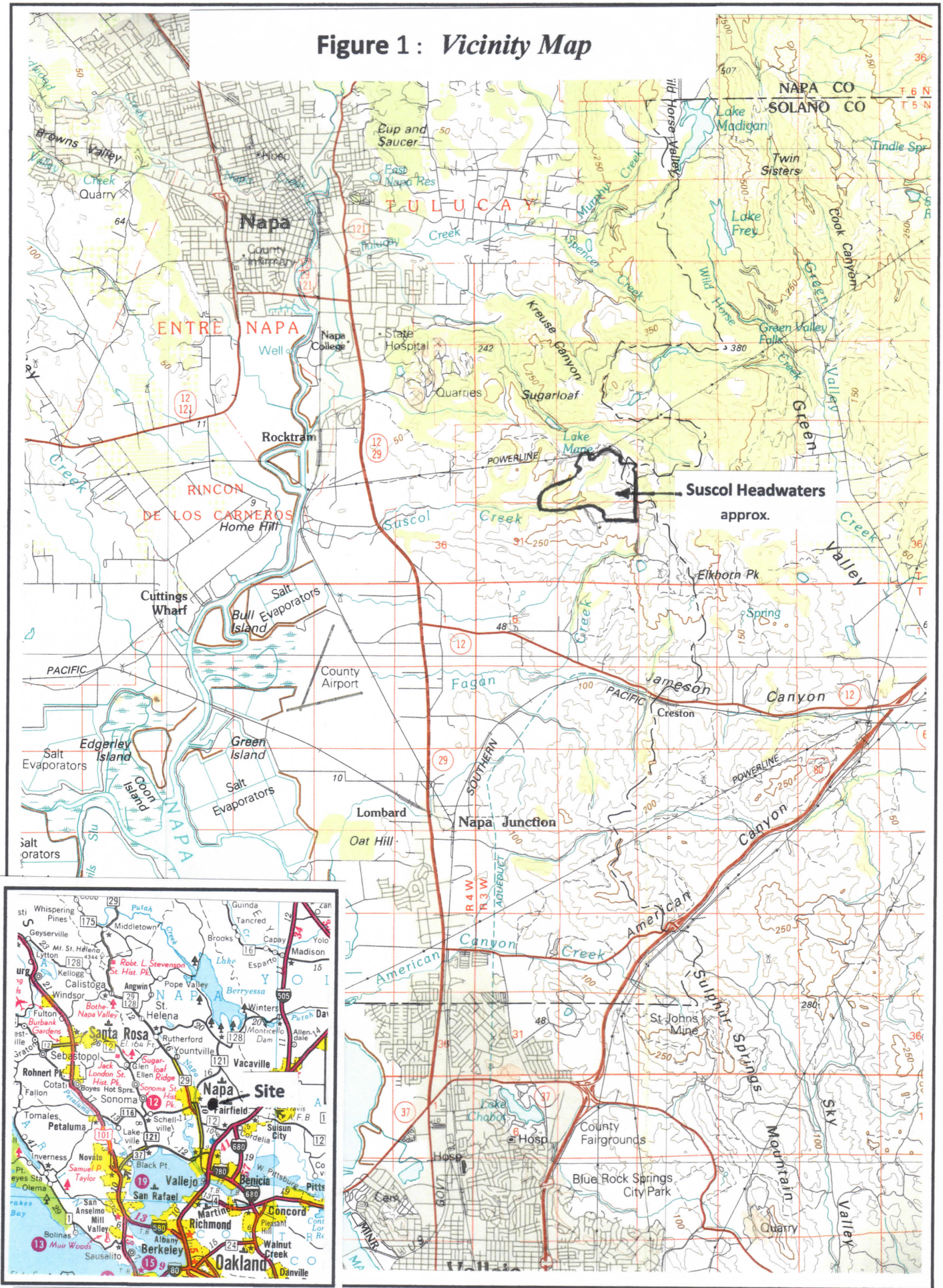
Botanical Surveys were conducted by *LSA Associates* between 2007 and 2009 with the results published in the *Biological Survey Report for the Suscol Mountain Property, Napa County, California* in 2010. Those surveys covered a much more extensive portion of the 2,123 acre property but they focused on lands that were deemed developable. Remaining lands were given a lower level of scrutiny. Under California Department of Fish and Wildlife regulations, study results are no longer considered applicable after 5 years.

Elevation ranges from 470 to 1505 ft in elevation. The terrain is generally steep with the exception of gradual slopes along ridgelines and stream corridors. Access to the site is through Silverado Properties via Anderson Road or Suscol Creek Road. Jeep roads extend along the ridgeline and are indicated on USGS, Cordelia 7.5 Minute topographic map. An old jeep road also extends along a portion of Suscol Creek to the headwaters of the stream. The property is currently grazed during a portion of the year under a Resource Management Plan that was prepared by a Certified Range land Manager. Cattle often congregate near water in the headwaters “bowl” area and near springs to the west. A portion of the project area was excluded from grazing by electrical fencing in 2019.

Soils on the property originated, in large part, from the decomposition and weathering of parent rock from the *Sonoma Volcanics*. These include soils of the Hambright Series (mapping code 152), with 30-75% slopes, occurring on ridgelines and canyon slopes. The dark brown to grayish brown stony loam soils are well drained and basic igneous rock is expected at about 12 inches (other soil series may be intermingled). These soils support annual grassland. Soils derived from sandstone and shale of the Fagan Series (m.c. 134) occur closer to and along the slopes adjacent to Suscol Creek. In this area, slopes range between 30 and 50% slope. Erosion potential is high and these soils are subject to landslip. They are slightly acidic and up to 46 inches in depth (other soils may be intermingled). This soil type supports forest on north slopes and woodlands on south slopes. A knoll near the western edge of the

Figure 1

Figure 1: Vicinity Map



property is classified as Rock Outcrop (m.c. 175) with moderate to steep slopes that experience very rapid runoff. Exposed volcanic rock is prominent in this thin rocky soil that is generally less than 6 inches in depth. Soils here support brushlands. (*A Soil Survey of Napa County, California, 1978*).

A number of springs emanate from the steep slopes above Suscol Creek. At least 7 springs were observed feeding into and supporting the perennial flow of Suscol Creek. Waters drain westward into the Napa River near the historic site of town of Suscol. Along this corridor, steelhead habitat is currently undergoing restoration. Historically, this stream also supported Chinook and Coho Salmon. A limited area, on the east side of the property drains into Green Valley Creek in Solano County.

Precipitation is not recorded on the property but the American Canyon Airport reports about 22 inches annual rainfall. The summers are warm and dry and moderated by maritime breezes. Typical summer temperatures are in the 70s to long 90's °F. Frost is limited in this part of the county and soil moisture retention generally sustains annual grassland until mid-May.

The Suscol Headwaters property has been utilized as rangeland for many decades. It is currently farmed under a lease agreement. Suppression of the growth of herbaceous species due by grazing was moderate during the study. Invasive plant species are prominent in grassland habitats, especially near water sources. The site supports indigeneous wildlife but it also supports a growing population of feral pigs. It is currently inaccessible for public recreational use.

The purpose of this botanical study was to:

- Develop a list of potentially occurring rare plant species. Record special status plant species observations on a hand-held GPS unit.
- Assimilate an inventory of vascular plant species observed on the property with all state, federal, CNPS and locally-rare taxa highlighted.
- Provide brief descriptions of observed vegetation alliances/associations.
- Provide a report of findings including a map of special status plant species observed during 2019.
- Provide a discussion of changes since 2010 LSA Report with respect to habitat quality and sensitive habitat.
- Assess potential impact of the development of a pond (for CRLF) and a trail to access it.

Field Survey Methodology

Field surveys were completed during spring and summer of 2019 including March 21, 28, May 7, 22, June 25 and September 24 with a total of 22.5 hours spent in the field. Chris Cahill of Napa County Regional Parks and Open Space District provided orientation to the property on March 21. Field surveys covered the blooming period of most species observed. Rainfall during the 2018-19 season, leading into and through the field study, was about 60% above normal. Wet weather was a hindrance during a portion of spring field survey work.

The study area included Phase 1 - Napa County Open Space District fee title lands and Phase 2 Option Area – Preserve Expansion (now under fee title). Surveys encompassed the maximum extent of

landscape possible. Jeep roads and trails and deer trails were generally used to access the various vegetation types within the study area but surveys also included off-trail exploratory transects into forest and chaparral communities. All vascular plants observed during the surveys were identified in the field or collected for precise identification in the home office. A complete list of species is included at the conclusion of this report. Taxonomy follows *The Jepson Manual, Vascular Plants of California*, Baldwin et al., 2012 with a few exceptions (i.e. *Lolium*, *Zauschneria*).

Survey Findings

A portion of the survey area was open to cattle grazing during the study muting the phenology of some herbaceous plant species. This was most noticeable during the May surveys. Grazing also suppressed the growth of perennial species in the forest understory. About 223 species of vascular plants were observed in 2019. Of these, 162 are native and 61 are not native. What follows is a description of findings regarding diversity of vegetation types and significant plant species.

Vegetation Types Observed on the Suscol Headwaters Property

The following described vegetation types are based on a preliminary classification and definitions from 2002 data collected by a research team including UC Davis –Information for the Environment (ICE), NatureServe, California Department of Fish and Game, The California Native Plant Society, and Aerial Information Systems (AIS). The definitions are under study and may undergo expansion and further partition following additional studies that were conducted in 2018. The descriptions that follow were collected during the 2019 field surveys.

Most of the property was burned by the October 2018, *Atlas Fire* that devastated about 51,600 acres of land as well as 100s of structures. Trees in forested and wooded areas on *Headwaters* were lightly to severely damaged and numerous tree trunks are lying on the ground.

At least 7 vegetation types were observed, including forest, woodland, brushland and grassland habitats. Vegetation titles were adapted from *A Vegetation Map and Classification* (Thorne, Kennedy, Quinn and McCoy; 2003). A brief descriptive title was assigned by this botanist followed by the formal title assigned by ICE and their classification code indicated in bold. (An asterisk following a botanical name in text below indicates a species that is not native.)

Forest

Mixed Hardwood Forest

California Bay – Madrone-Coast Live Oak (Black Oak-Big-leaf Maple) NFD Super Alliance **1101**

Occurring on north and northeast facing slopes, this vegetation type is dominated by California Bay (*Umbellularia californica*, 70-80% of canopy), with Coast Live Oak (*Quercus agrifolia* ssp. *agrifolia*, 5%), an important associate and with a few scattered California Buckeye (*Aesculus californica*, < 1%). Many trees damaged by the fire were on the ground creating localized brushy thickets. The understory is generally sparse where the dense canopy permits little light to penetrate. Native perennials are prevalent including California Wood Fern (*Dryopteris arguta*), Mountain Sweet Cicely (*Osmorhiza berteroi*), California Blackberry (*Rubus ursinus*), California Star Solomon's Seal (*Maianthemum stellatum*), Rough-leaved Aster (*Eurybia radulina*), Ground Rose (*Rosa spithamea*), Rigid Hedge Nettle (*Stachys rigida*), Giant White Wakerobin (*Trillium albidum*), Stinging Nettle (*Urtica dioica* ssp. *holsericea*), and Sword Fern (*Polystichum minutum*). Scattered patches of annuals occur where more light penetrates including Miner's Lettuce (*Claytonia perfoliata*) and Cleavers (*Galium aparine*). Non-native annuals such as Common Chickweed (*Stellaria media*) are sparse. A significant number of Wild Lettuce (*Lactuca virosa*) plants were evident during March surveys but these were suppressed by herbivory/grazing.



Mixed Hardwood Riparian Forest

White Alder (Mixed Willow – California Bay – Big Leaf Maple) Riparian Forest NFD Association **3201**

This vegetation association is similar to Mixed Harwood Forest as described above but includes a number of hydrophytic perennials and shrubs. It occurs along perennial watercourses but is obscured by intergradation with the Mixed Forest Alliance on the south side (north facing slopes). Species that

characterize the channel margins of this vegetation type include Giant Chain Fern (*Woodwardia fimbriata*), Sword Fern (*Polystichum minutum*), Lady Fern (*Athyrium felix-femina*), Water Hemlock (*Cicuta douglasii*), Flowering Currant (*Ribes sanguineum* ssp. *glutinosum*), Common Snowberry (*Symphoricarpos albus* ssp. *laevigatus*), and California Blackberry (*Rubus ursinus*). The riparian forest transitions to woodland and grassland on south facing slopes. Willow and maple are not players in this community in the upper watershed and White Alder is limited in presence in the western extent.



Woodlands

Coast Live Oak Woodland

Coast Live Oak Alliance 1221

This vegetation type occur in narrow bands on south facing slopes and hill tops and grades into grassland or chaparral in places. *Quercus agrifolia* ssp. *agrifolia* is dominant with California Bay (*Umbellularia californica*) a regular associate. Shrubs such as Poison Oak (*Toxicodendron diversilobum*), California Sagebrush (*Artemisia californica*) and Redberry (*Rhamnus crocea*) are scattered. Italian Thistle (*Carduus pycnocephalus*) is common in the herb layer while native California Rye (*Elymus glaucus* ssp. *glaucus*) is patchy.



Brushlands

Chamise Chaparral

Chamise Alliance 4321

Dominated by Chamise (*Adenostoma fasciculatum*, 60-70% of canopy), this community is in recovery from the 2018 fire. Chamise is capable of resprouting from basal buds after burning and the extent of re-growth stood at about 2-3 ft height in 2019. California Sagebrush (*Artemisia californica*) is an important associate in this community and is likewise a successful stump sprouter. Scattered Poison Oak (*Toxicodendron diversilobum*) and a few Holly-leaf Cherry (*Prunus ilicifolia*) were also observed. This community forms an open stand on shallow rocky soil on south slopes. Non-native annuals including Field Mustard (*Brassica campestris*) and Rose Clover (*Trifolium hirtum*) were common in the early season while native Rosin Weed (*Calycadenia truncata*) and (Wire Lettuce (*Stephanomeria virgata* ssp. *pleurocarpa*) were observed in patchy distribution in summer. California Mustard (*Caulanthus lasiophyllus*), was locally numerous in response to the fire (“post-fire annual”) in spring.



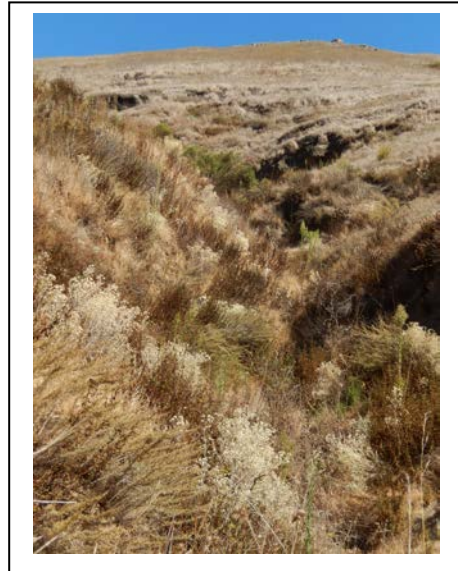
Coastal Scrub

Coyote Brush-California Sagebrush – (Lupine spp.) NFD Super Alliance 4501

This vegetation type is highly restricted to small stands in Napa County, mostly on the south end of the Napa and Hood Mtn. Ranges. Grazing may further restrict the size and expression of these communities. A few small patches of less than ½ acre each occur within grassland on steep south slopes and along seeps at Headwaters. Associated species include Coyote Brush (*Baccharis pilularis* ssp. *consanguinea*), California Sagebrush (*Artemisia californica*), Douglas’ Mugwort (*A. douglasiana*), Sticky Monkeyflower (*Mimulus aurantiacus*), Oregon Grape (*Berberis pinnata* ssp. *pinnata*; one dense patch), Indian Soap (*Chlorogalum pomeridianum*), White Everlasting (*Pseudognaphalium microcephalum*), and California Fuchsia (*Zauschneria californica*).



Coastal Scrub



Grasslands

Annual Grassland

California Annual Grasslands Alliance 7120

This is the most widespread vegetation type on the property, covering south and east facing slopes. Annual forbs and grasses are dominant while perennials and shrubs are sparse. This is a species rich community despite the intense competition from non-native species. Native annuals include Common Fiddleneck (*Amsinkia intermedia*), Rusty Popcornflower (*Plagiobothrys nothofulvus*), Sky Lupine (*Lupinus nanus*), Purple Owl's Clover (*Castilleja exserta*) and California Goldfields (*Lasthenia californica*) found on thin soils around rock outcroppings. Native perennials include Indian Soap (*Chlorogalum pomeridianum*), California Poppy (*Eschscholzia californica*), Purple Needlegrass (*Stipa pulchra*), and Western Morning Glory (*Calystegia occidentalis*). Non-native annual species that are abundant include Redstem Filaree (*Erodium cicutarium*), Wild Oats (*Avena barbata*), Italian Rye (*Lolium multiflorum* = *Festuca perennis*), Soft Cheat (*Bromus hordeaceus*) and Italian Thistle (*Carduus pycnocephalus* ssp. *pycno.*). A few species such as Streamside Daisy (*Erigeron bioletti*), California Fuchsia (*Zauschneria californica*), and Live Forever (*Dudleya cymosa* ssp. *cymosa*) occur on rock outcrops in this vegetation type.

In one portion of a north slope, this grassland shows a strong concentration of perennial forbs. This herb/scrub vegetation association does not fall within any of the herbaceous categories currently assigned to Napa County by ICE. It is included here because it is encircled by Annual Grassland but it is likely that this community warrants recognition as a distinct vegetation alliance or association. Common species include Poison Oak (*Toxicodendron diversilobum*), Trailing Snowberry (*Symphoricarpos mollis*), California Manroot (*Marah fabacea*), Bracken Fern (*Pteridium aquilinum*), Rough-leaved Aster (*Eurybia radulina*), California Poppy (*Eschscholzia californica*), California Brome (*Bromus carinatus* ssp. *carinatus*), Rigid Hedge Nettle (*Stachys rigida* ssp. *quercetorum*), American Vetch (*Vicia americana*), Leafy Fleabane (*Erigeron foliosus* var. *franciscanus*), and Summer Lupine (*Lupinus formosus*). Annuals include Chinese Houses (*Collinsia heterophylla*), Baby Blue Eyes (*Nemophila menziesii* ssp. *menziesii*), Notched Clover (*Trifolium bifidum*), and Wine-cup Clarkia (*Clarkia purpurea* ssp. *quadrivulnera*).



North slope perennial
(unnamed) plant community



Perennial Wetland

Carex spp.-Juncus spp.- Wet Meadow Grasses) NFD Super Alliance - 6403

This highly localized vegetation type is a product of scattered perennial seeps and springs that are emitted from the volcanic bedrock. These occur on steep to gradual slopes and often travel across exposed bedrock at *Headwaters*. Dominant species include Pacific Bog Rush (*Juncus effusus* var. *pacificus*), and Water Cress (*Nasturtium aquaticum*), but often include Seep-spring Monkeyflower (*Mimulus guttatus*), Rabbit's Foot Grass (*Polypogon monspeliensis* *), Knot-grass (*Paspalum*

polystichum), Giant Chain Fern (*Woodwardia fimbriata*), Duckweed (*Lemna minuta*), Pacific Oenanthe (*Oenanthe sarmentosa*), Himalayan Blackberry (*Rubus armeniacus* *) and Pennyroyal (*Mentha pulegium* *) as common associates. Western Azalea (*Rhodendron occidentale*) occurs as an overstory at one location. (GPS locations: N38°14'24.4"/W122°12'42.2"; N38°14'26.8"/W122°12'53.5"; N38°14'34.8"/W122°13'48.4"; N38°14'38.5"/W122°13'36.1"; N38°14'42.4"/W122°12'49.0"; N38°14'34.1"/W122°13'00.8")



Western Azalea with Monkeyflower and Giant Chain Fern



Pacific Bog Rush and Blackberry

Perennial Wetlands

Potentially Occurring Special Status Plant Species

A review of the Suscol Mountain Vineyard Report (2010) was conducted to determine the list of potentially occurring special status species. Only Streamside Daisy (*Erigeron bioletti*) was confirmed during 2007-2009 surveys. For that reason, a detailed list is not provided here. Please refer to pages 28-32 of that report for questions regarding the focus of previous surveys. The following refined list includes those species with the highest potential to occur on the property based on vegetation and substrates known to occur on the property and the focus of additional surveys.

Narrow-anthered Brodiaea (*Brodiaea leptandra*) – Occurs in wooded and brushy places on volcanic substrates. Recorded at in Skyline Park about 1.5 miles north of the site. CNPS List 1B.2

Small-flowered Calycadenia (*Calycadenia micrantha*) – Occurs in Chamise Chaparral on volcanic soil. Recorded near Staggs Leap about 18 miles north of the site. CNPS List 1B.2

Hollyleaf Ceanothus (*Ceanothus purpureus*) – Associated with chamise chaparral on volcanic substrate. Has been recorded in Skyline Park and on the Tuteur Ranch, 1 mile north of the site. CNPS List 1B.2

American Dogwood (*Cornus sericea* ssp. *sericea*) – This species occurs along perennial streams on volcanic substrates. It is known to occur at Sarco Creek about 7 miles north of the site and is considered rare by Napa County.

Streamside Daisy (*Erigeron bioletti*) – This species prefers rocky places on a variety of substrates. It has been recorded near Marie Creek about 1 mile north of the site and in Jameson Canyon about 2.5 miles south of the site. It was also confirmed at the Headwaters site during 2007-2009 surveys. CNPS List 3

Narrow-leaved Daisy (*Erigeron greenei*) – This species prefers rock outcrops on volcanic and serpentine substrates. It occurs on Mt. George, about 6 miles north of the site. CNPS List 1B.2

Nodding Harmonia (*Harmonia nutans*) – This species grows around rock outcrops on a variety of substrates and has been recorded on the Green Valley Ranch about 2 miles NE of the site. CNPS List 4.3

Green Coyote Mint (*Monardella viridis*) – This is a widespread species in Napa County occurring in brushy to forested habitats. It occurs in Skyline Park about 1 mile north of the site.

Gairdner's Yampah (*Perideridia gairdneri* ssp. *gairdneri*) – This species prefers seasonally wet places on gradual slopes or flats. It has been found on the east side of Mt. George, about 6 miles north of the site. A species of Yampah was reported and mapped in the *Suscol Mountain Report* but identification was undetermined at that time. CNPS List 4.2

Yellow-eyed Grass (*Sisyrinchium californicum*) – This species grows in perennial springs and has been recorded on Mt. George about 6 miles north of the site. It is considered Rare in Napa County according to Napa County.

Oval-leaved Viburnum (*Viburnum ellipticum*) – There are two records for Napa County, both in Hardwood Forest. A location at Skyline Park is about 0.6 mile north of the site. CNPS List 2.3

Status Codes: CNPS lists - 1B = Rare and Endangered in California and elsewhere, 2 = Rare and Endangered in California but more common elsewhere, 3 = Taxonomy or distribution needs further study, 4 = Limited Distribution – A Watch List. Additional coding was added to the status of most species by CNPS in 2006, applying greater focus to rarity and threats to each species. A code of 1B.1 indicates the highest level of threat while 4.3 indicates the lowest.

Special Status Plant Species Observed at Suscol Headwaters

Only one species listed above was observed during 2019 surveys. A *Perideridia* species was reported by LSA following 2007-09 surveys and is indicated on Figure 4 of the 2010 report. This species was looked for but no species of *Perideridia* could be located during 2019 surveys. This is perhaps due to grazing suppression but a mid season and late season survey was unable to locate this species. Based on

site conditions, it is expected that the previous report was likely assignable to *P. kelloggii*. This is a widespread and common species.

Streamside Daisy (*Erigeron bioletti*) was the only special status species discovered by LSA surveys and 5 locations were mapped (Figure 4 LSA, 2010) – This species was found during 2019 surveys. This species has no state or federal listing status. It is currently on List 3 of the California Native Plant Society and subject to CEQA (California Environmental Quality Act). Eight locations were recorded during 2019 surveys in addition to a mitigation site for this species that is located at the entrance to the Headwaters Preserve. This mitigation site was established as compensation for 0.61 acres (40%) of habitat converted during establishment of Suscol Mountain Vineyards. (GPS Locations: N38°14'59.8"/W122°12'44.8", N38°14'58.5"/W122°12'43.8", N38°15'02.5"/W122°12'43.3", N38°15'12.7"/W122°12'50.1", N38°14'42.3"/W122°13'35.7", N38°15'09.3"/W122°12'50.9", N38°14'49.1"/W122°12'43.6")

Other Noteworthy Species

A few additional species found in the study area are noteworthy due to a highly restricted occurrence in Napa County. These species have less than five known locations each in the county.

Douglas' Water Hemlock (*Cicuta douglasii*) – In Napa County this species is restricted to perennial streams south of Mt. George and has also been reported from the Mt. Veeder area. It was found along the western segment of Suscol Creek.

Caraway-leaved Lomatium (*Lomatium caruifolium* var. *denticulatum*) – In Napa County this species has been reported from few locations from the east side of Mt. George to Skyline Park. It was observed near the eastern boundary of the *Headwaters* property. Seed production is strongly suppressed by grazing.

Winter Current (*Ribes sanguineum* var. *glutinsum*) – In Napa County, this taxon is restricted to a few canyons south of Mt. George. It was observed along the stream corridor of the main stem of Suscol Creek as scattered individuals or in small clusters.

Discussion

The 2017 wildfire prompted regeneration of chaparral and woodland communities. It is expected that 3 to 10 years of re-growth will restore conditions of these communities to maturity. Fire scars will remain for decades. Grassland communities have rapidly recovered.

A few noxious weeds appear to be new to the property since 2007-2009 surveys. Most notably is the introduction of Stinkwort (*Dittrichia graveolens*), a highly invasive species in disturbed habitats and Wild Lettuce (*Lactuca virosa*), a potentially invasive species in forest habitat.

Streamside Daisy has persisted since previous surveys and fire appears to have had no impact on its occurrence.

Figure 2

Figure 2: Suscol Headwaters - Vegetation and Rare Plant Locations



The establishment of a habitat pond in the Headwaters eastern bowl area is likely to have little impact on native species or habitat. Common species here include non-native annuals – Italian Rye, Rip-gut grass, yellow star Thistle, Italian Thistle and non-native non-native Pennyroyal and Sheep Sorrel. There are scattered native plant species including Common Hareleaf, Dove Mullein and Canada Horseweed and Water Smartweed but habitat loss to these species is not significant.

Jake Ruygt

botanist

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Vascular Plants of Suscol Headwaters Preserve		
Scientific Name	Common Name	Life Form
FERNS & ALLIES		
<i>Adiantum jordanii</i>	Maidenhair Fern	perennial
<i>Athyrium felix-femina</i>	Lady Fern	perennial
<i>Dryopteris arguta</i>	Wood Fern	perennial
<i>Equisetum telmateia</i> ssp. <i>braunii</i>	Giant Horsetail	perennial
<i>Pentagramma triangularis</i>	Gold Back Fern	perennial
<i>Polypodium calirhiza</i>	California Polypody	perennial
<i>Polystichum imbricans</i> ssp. <i>imbricans</i>	Imbricate Fern	perennial
<i>Polystichum minutum</i>	Sword Fern	perennial
<i>Pteridium aquilinum</i> var. <i>pubescens</i>	Bracken Fern	perennial
<i>Woodwardia fimbriata</i>	Giant Chain Fern	perennial
<u>Flowering Plants -Dicots</u>		
ANACARDIACEAE		
	<i>Sumac Family</i>	
<i>Toxicodendron diversilobum</i>	Poison Oak	shrub
APIACEAE		
	<i>Carrot Family</i>	
<i>Cicuta douglasii</i>	Water Hemlock	perennial
<i>Heracleum maximum</i>	Cow Parsnip	perennial
<i>Lomatium caruifolium</i> var. <i>denticulatum</i>	Caraway-leaved Lomatium	perennial
<i>Lomatium utriculatum</i>	Foothill Lomatium	perennial
<i>Oenanthe sarmentosa</i>	Oenanthe	perennial
<i>Osmorhiza berteroi</i>	Mountain Sweet Cicely	perennial
<i>Sanicula bipinnatifida</i>	Purple Sanicle	perennial
<i>Sanicula crassicaulis</i>	Pacific Snakeroot	perennial
APOCYNACEAE		
	<i>Dogbane Family</i>	
<i>Asclepias fascicularis</i>	Narrow-leaved Milkweed	perennial
ASTERACEAE		
	<i>Sunflower Family</i>	
<i>Achillea millefolium</i>	Common Yarrow	perennial
<i>Artemisia californica</i>	California Sagebrush	shrub
<i>Artemisia douglasiana</i>	Douglas' Mugwort	perennial
<i>Baccharis pilularis</i> ssp. <i>consanguinea</i>	Coyote Brush	shrub
<i>Calycadenia truncata</i>	Rosin Weed	annual
<i>Carduus pycnocephalus</i> ssp. <i>pycno.</i>	Italian Thistle *	annual
<i>Centaurea calcitrapa</i>	Purple Star Thistle *	annual
<i>Centaurea melitensis</i>	Maltese Thistle *	annual
<i>Centaurea solstitialis</i>	Yellow Star Thistle *	annual
<i>Cirsium vulgare</i>	Bull Thistle *	biennial
<i>Erigeron bioletti</i>	Streamside Daisy	perennial
<i>Erigeron canadensis</i>	Common Horseweed	perennial
<i>Erigeron foliosus</i> var. <i>franciscanis</i>	San Francisco Leafy Daisy	perennial

Scientific Name	Common Name	Life Form
<i>Eurybia radulina</i>	Rough-leaved Aster	perennial
<i>Gamochaeta ustulata</i>	Purple Everlasting	annual
<i>Hypochaeris radicata</i>	Hairy Cat's Ear *	annual
<i>Lactuca saligna</i>	Willow Lettuce *	annual
<i>Lactuca virosa</i>	Wild Lettuce *	annual
<i>Lagophylla ramosissima</i>	Common Hareleaf	annual
<i>Lasthenia californica</i> ssp. <i>californica</i>	California Goldfields	annual
<i>Madia anomala</i> ?	Plump-seeded Tarweed	annual
<i>Madia gracilis</i>	Slender Tarweed	annual
<i>Micropus californicus</i> var. <i>californicus</i>	Q-tips	annual
<i>Pseudognaphalium californicum</i>	California Cudweed	perennial
<i>Pseudognaphalium microcephalum</i>	White Everlasting	perennial
<i>Pseudognaphalium luteo-album</i>	Weedy Cudweed *	biennial
<i>Senecio vulgaris</i>	Common Grounsel *	annual
<i>Silybum marianum</i>	Milk Thistle *	annual
<i>Sonchus oleraceus</i>	Sow Thistle *	annual
<i>Stephanomeria virgata</i> ssp. <i>pleurocarpa</i>	Tall Wire Lettuce	annual
<i>Taraxacum officinale</i>	Dandelion *	perennial
<i>Wyethia angustifolia</i>	Narrow-leaved Mule Ears	perennial
<i>Wyethia glabra</i>	Coast Range Mule Ears	perennial
<i>Xanthium spinosum</i>	Spiny Clotbur	annual
BERBERIDACEAE	<i>Barberry Family</i>	
<i>Berberis pinnata</i> ssp. <i>pinnata</i>	Oregon Grape	shrub
BETULACEAE	<i>Birch Family</i>	
<i>Alnus rhombifolia</i>	White Alder	tree
<i>Corylus cornuta</i> var. <i>californica</i>	California Hazelnut	shrub
BORAGINACEAE	<i>Borage Family</i>	
<i>Amsinckia intermedia</i>	Common Fiddleneck	annual
<i>Cynoglossum grande</i>	Grand Hound's Tongue	perennial
<i>Nemophila heterophylla</i>	Woodland Nemophila	annual
<i>Nemophila menziesii</i> var. <i>menziesii</i>	Baby Blue Eyes	annual
<i>Phacelia distans</i>	Common Phacelia	annual
<i>Phacelia imbricata</i>	Imbricate Phacelia	perennial
<i>Plagiobothrys nothofulvus</i>	Rusty Pocomflower	annual
BRASSICACEAE	<i>Mustard Family</i>	
<i>Brassica campestris</i>	Field Mustard *	annual
<i>Cardamine californica</i>	California Milkmaids	perennial
<i>Cardamine oligosperma</i>	Bittercress	annual
<i>Caulanthus lasiophyllus</i>	California Mustard	annual
<i>Hirshfeldia incana</i>	Mediterranean Barley *	annual
<i>Lepidium nitidum</i>	Shining Peppergrass	annual
<i>Nasturtium officinale</i>	Water Cress	perennial

Scientific Name	Common Name	Life Form
<i>Sinapsis arvensis</i>	Charlock *	annual
<i>Sisymbrium officinale</i>	Hedge Mustard *	annual
CAPRIFOLIACEAE	<i>Honeysuckle Family</i>	
<i>Lonicera hispidula</i>	Hairy Honeysuckle	vine
<i>Symphoricarpus albus</i> ssp. <i>laevigatus</i>	Common Snowberry	shrub
<i>Symphoricarpus mollis</i>	Trailing Snowberry	shrub
CARYOPHYLLACEAE	<i>Pink Family</i>	
<i>Cerastium glomeratum</i>	Mouse-eared Chickweed *	annual
<i>Minuartia douglasii</i>	Douglas' Sandwort	annual
<i>Petrorhagia dubia</i>	Wild Carnation *	annual
<i>Polycarpon tetraphyllum</i> var. <i>tetraphyllum</i>	Four-seeded Polycarp *	annual
<i>Silene gallica</i>	Windmill Pink *	annual
<i>Silene laciniata</i> ssp. <i>californica</i>	California Indian Pink	perennial
<i>Stellaria media</i>	Common Chickweed *	annual
CONVOLVULACEAE	<i>Morning Glory Family</i>	
<i>Calystegia occidentalis</i> ssp. <i>occidentalis</i>	Western Morning Glory	perennial
CRASSULACEAE	<i>Stonecrop Family</i>	
<i>Crassula connata</i>	Sand Pygmy Weed	annual
<i>Dudleya cymosa</i>	Live Forever	perennial
CUCURBITACEAE	<i>Gourd Family</i>	
<i>Marah fabacea</i>	California Manroot	vine
ERICACEAE	<i>Heath Family</i>	
<i>Rhododendron occidentale</i>	Western Azalea	shrub
EUPHORBIACEAE	<i>Spurge Family</i>	
<i>Croton setigerus</i>	Turkey Mullein	annual
FABACEAE	<i>Pea Family</i>	
<i>Acmispon brachycarpus</i>	Hillside Trefoil	annual
<i>Acmispon glaber</i> ssp. <i>glaber</i>	Deerweed	perennial
<i>Acmispon parviflorus</i>	Miniature Bird's Foot Lotus	annual
<i>Astagalus gambelianus</i>	Gambel's locoweed	annual
<i>Hoita macrostachya</i>	Leather Root	perennial
<i>Lathyrus jepsonii</i> var. <i>californicus</i> ?	Jepson's Pea	perennial
<i>Lathyrus vestitus</i>	Pacific Pea	perennial
<i>Lupinus albifrons</i> var. <i>collinus</i>	Silver Lupine	shrub
<i>Lupinus bicolor</i>	Miniature Lupine	annual
<i>Lupinus formosus</i> var. <i>formosus</i>	Summer Lupine	perennial
<i>Lupinus nanus</i>	Sky Lupine	annual
<i>Trifolium bifidum</i> var. <i>decipiens</i>	Notch-leaved Clover	annual

Scientific Name	Common Name	Life Form
<i>Trifolium depauperatum</i> var. <i>depauperatum</i>	Balloon Clover	annual
<i>Trifolium glomeratum</i>	Clustered Clover *	annual
<i>Trifolium hirtum</i>	Rose Clover *	annual
<i>Trifolium incarnatum</i>	Crimson Clover *	annual
<i>Trifolium microcephalum</i>	Maiden Clover	annual
<i>Trifolium microdon</i>	Thimble Clover	annual
<i>Trifolium subteraneanum</i>	Subterranean Clover *	perennial
<i>Trifolium wildenovii</i>	Tomcat Clover *	annual
<i>Vicia americana</i>	American Vetch	perennial
FAGACEAE	<i>Oak Family</i>	
<i>Quercus agrifolia</i> var. <i>agrifolia</i>	Coast Live Oak	tree
GENTIANACEAE	<i>Gentian Family</i>	
<i>Zeltnera muehlenbergii</i>	June Centaury	annual
GERANIACEAE	<i>Geranium Family</i>	
<i>Erodium botrys</i>	Long-beaked Filaree *	annual
<i>Erodium cicutarium</i>	Redstem Filaree *	annual
<i>Erodium moschatum</i>	White-stem Filaree *	annual
<i>Geranium molle</i>	Dove Mullein *	annual
<i>Geranium purpureum</i>	Purple Geranium *	annual
GROSSULARIACEAE	<i>Currant Family</i>	
<i>Ribes sanguineum</i> ssp. <i>glutinosum</i>	Winter Currant	shrub
HYPERICACEAE	<i>St. John's Wort Family</i>	
<i>Hypericum anagalloides</i>	Tinker's Penny	perennial
LAMIACEAE	<i>Mint Family</i>	
<i>Mentha pulegium</i>	Pennyroyal*	perennial
<i>Stachys rigida</i> var. <i>quercetorum</i>	Rigid Hedge Nettle	perennial
LAURACEAE	<i>Laurel Family</i>	
<i>Umbellularia californica</i>	California Bay	tree
MALVACEAE		
<i>Malva parviflora</i>	Cheese-weed *	annual
MONTIACEAE	<i>Miner's Lettuce Family</i>	
<i>Calandrinia ciliata</i>	Red Maids	annual
<i>Claytonia perfoliata</i> ssp. <i>mexicana</i>	California Miner's Lettuce	annual
<i>Claytonia perfoliata</i> ssp. <i>perfoliata</i>	Common Miner's Lettuce	annual
<i>Montia fontana</i>	Water Montia	annual
MYRSINACEAE	<i>Myrsine Family</i>	

Scientific Name	Common Name	Life Form
<i>Trientalis latifolia</i>	Pacific Starflower	perennial
ONAGRACEAE	<i>Evening Primrose Family</i>	
<i>Clarkia gracilis</i> ssp. <i>gracilis</i>	Slender Clarkia	annual
<i>Clarkia purpurea</i> ssp. <i>quadrivulnera</i>	Wine-cup Clarkia	annual
<i>Epilobium brachycarpum</i>	Panicled Willow Herb	annual
<i>Epilobium ciliatum</i>	Northern Willowherb	perennial
<i>Zauschneria californica</i>	California Fuchsia	perennial
OROBANCHACEAE	<i>Broomrape Family</i>	
<i>Castilleja exserta</i> ssp. <i>exserta</i>	Purple Owl's Clover	annual
<i>Parentucellia viscosa</i>	Glandweed *	annual
PAPAVERACEAE	<i>Poppy Family</i>	
<i>Eschscholzia californica</i>	California Poppy	perennial
PHRYMACEAE	<i>Lopseed Family</i>	
<i>Mimulus aurantiacus</i>	Sticky Monkeyflower	shrub
<i>Mimulus cardinalis</i>	Scarlet Monkeyflower	perennial
<i>Mimulus guttatus</i>	Seep-spring Monkeyflower	annual
PLANTAGINACEAE	<i>Plantain Family</i>	
<i>Collinsia sparsiflora</i> var. <i>sparsiflora</i>	Blue-eyed Mary	annual
<i>Collinsia heterophylla</i>	Chinese Houses	annual
<i>Plantago erecta</i>	Dwarf Plantain	annual
<i>Plantago major</i>	Common Plantain *	perennial
<i>Veronica americana</i>	American Brooklime	perennial
POLEMONIACEAE	<i>Phlox Family</i>	
<i>Gilia tricolor</i> ssp. <i>tricolor</i>	Bird's Eye Gilia	annual
POLYGONACEAE	<i>Buckwheat Family</i>	
<i>Eriogonum nudum</i> var.	Nudestem Buckwheat	perennial
<i>Persicaria punctata</i>	Water Smart Weed	annual
<i>Polygonum aviculare</i> ssp. <i>depressum</i>	Common Knotweed *	annual
<i>Pterostegia drymarioides</i>	Valentine Plant	annual
<i>Rumex acetosella</i>	Sheep Sorrel *	perennial
<i>Rumex crispus</i>	Curly Dock *	perennial
<i>Rumex pulcher</i>	Fiddle Dock *	perennial
RANUNCULACEAE	<i>Buttercup Family</i>	
<i>Anemone grayi</i>	Western Wood Anemone	perennial
<i>Ranunculus californicus</i>	California Buttercup	perennial
<i>Ranunculus muricatus</i>	Prickly Buttercup *	annual
RHAMNACEAE	<i>Buckthorn Family Family</i>	
<i>Frangula californica</i> ssp. <i>californica</i>	California Coffeeberry	perennial

<i>Scientific Name</i>	Common Name	Life Form
<i>Rhamnus crocea</i>	Redberry	shrub
ROSACEAE	<i>Rose Family</i>	
<i>Adenostoma fasciculatum</i>	Chamise	shrub
<i>Aphanes occidentalis</i>	Western Dew Cup	annual
<i>Fragaria vesca</i>	Woodland Strawberry	perennial
<i>Holodiscus discolor</i>	Ocean Spray	perennial
<i>Prunus ilicifolia</i>	Holy-leaf Cherry	shrub
<i>Rosa gymnocarpa</i>	Woodland Rose	shrub
<i>Rosa spithamea</i>	Ground Rose	shrub
<i>Rubus armeniacus</i>	Himalayan Blackberry *	perennial
<i>Rubus parviflorus</i>	Thimbleberry	shrub
<i>Rubus ursinus</i>	California Blackberry	vine
RUBIACEAE	<i>Madder Family</i>	
<i>Galium aparine</i>	Cleavers	annual
<i>Galium californicum</i>	California Bedstraw	perennial
<i>Galium porrigens</i> var. <i>porrigens</i>	Climbing Bedstraw	perennial
SALICACEAE	<i>Willow Family</i>	
<i>Salix lasiolepis</i>	Arroyo Willow	shrub
SAPINDACEAE	<i>Soapberry Family</i>	
<i>Aesculus californica</i>	California Buckeye	tree
SAXIFRAGACEAE	<i>Saxifrage Family</i>	
<i>Lithophragma hetrophyllum</i>	Hill Star	perennial
SCROPHULARIACEAE	<i>Figwort Family</i>	
<i>Scrophularia californica</i>	California Figwort	perennial
SOLANACEAE	<i>Nightshade Family</i>	
<i>Solanum americanum</i>	American Nightshade	biennial
URTICACEAE	<i>Nettle Family</i>	
<i>Hesperocnide tenella</i>	California Nettle	annual
<i>Urtica dioica</i> ssp. <i>holosericea</i>	Stinging Nettle	perennial
VIOLACEAE	<i>Violet Family</i>	
<i>Viola pedunculata</i>	Johnny Jump-ups	perennial
<i>Flowering Plants - Monocots</i>		
AGAVACEAE	<i>Century Plant Family</i>	
<i>Chlorogalum pomeridianum</i> var. <i>pom.</i>	Indian Soap	perennial
ARACEAE	<i>Arum Family</i>	
<i>Lemna minuta</i>	Least Duckweed	annual

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<i>Lemna valdiviana</i> ?	Valdiviana Duckweed	annual
CYPERACEAE	<i>Sedge Family</i>	
<i>Carex barbarae</i>	Santa Barbara Sedge	perennial
<i>Carex gracilior</i>	Slender Sedge	perennial
<i>Carex leptopoda</i>	Shorty-scaled Sedge	perennial
<i>Cyperus eragrostis</i>	Nutsedge	annual
<i>Cyperus niger</i>	Shining Umbrella Sedge	annual
<i>Eleocharis radicans</i>	Rooted Spikerush	perennial
IRIDACEAE	<i>Iris Family</i>	
<i>Iris macrosiphon</i>	Bowl-tubed Iris	perennial
JUNCACEAE	<i>Rush Family</i>	
<i>Juncus bufonius</i>	Toad Rush	annual
<i>Juncus effusus</i> var. <i>pacificus</i>	Pacific Bog Rush	perennial
LILIACEAE	<i>Lily Family</i>	
<i>Fritillaria affinis</i>	Mission Bells	perennial
<i>Prosartes hookeri</i>	Hooker's Fairy Bells	perennial
MELANTHIACEAE	<i>False Hellebore Family</i>	
<i>Trillium albidum</i>	Giant Wakerobin	perennial
ORCHIDACEAE	<i>Orchid Family</i>	
<i>Epipactis helleborine</i>	Broadleaf Helleborine	perennial
POACEAE	<i>Grass Family</i>	
<i>Agrostis hallii</i>	Hall's Bentgrass	perennial
<i>Agrostis pallens</i>	Leafy Bentgrass	perennial
<i>Agrostis exarata</i>	Western Bentgrass	perennial
<i>Avena barbata</i>	Wild Oats *	annual
<i>Bromus hordeaceus</i>	Sofy Chess *	annual
<i>Bromus carinatus</i> var. <i>carinatus</i>	California Brome	perennial
<i>Bromus diandrus</i>	Rip-gut Grass *	annual
<i>Bromus madritensis</i> ssp. <i>rubens</i>	Foxtail *	annual
<i>Bromus tectorum</i>	Downy Brome *	annual
<i>Carduus pycnocephalus</i> ssp. <i>pycnocephalus</i>	Italian Thistle *	annual
<i>Cynosurus echinatus</i>	Dog-tail Grass *	annual
<i>Deschampsia elongata</i>	Slender Hairgrass	perennial
<i>Digitaria sanguinalis</i>	Hairy Crabgrass *	
<i>Echinochloa crus-galli</i>	Barnyard Grass *	
<i>Elymus glaucus</i> ssp. <i>glaucus</i>	Western Bent Grass	perennial
<i>Gastridium phleoides</i>	Nit Grass *	annual
<i>Glyceria leptostachya</i>	Davy's Manna Grass	perennial
<i>Holcus lanatus</i>	Velvet Grass *	perennial

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<i>Hordeum murinum</i> ssp. <i>leporinum</i>	Mediterranean Barley *	annual
<i>Lamarckia aurea</i>	Lamarck's Grass *	annual
<i>Lolium multiflorum</i>	Italian Rye *	annual
<i>Paspalum distichum</i>	Knot-grass	perennial
<i>Poa annua</i>	Annual Bluegrass *	annual
<i>Polypogon interruptus</i>	Beard Grass *	annual
<i>Polypogon monspeliensis</i>	Rabbit's Foot *	annual
<i>Polypogon viridis</i>	Water Beard Grass *	annual
<i>Stipa pulchra</i>	Purple Needlegrass	perennial
RUSCACEAE	<i>Butcher's Broom Family</i>	
<i>Maianthemum stellatum</i>	California Star Solomon's Seal	perennial
THEMIDACEAE	<i>Brodiaea Family</i>	
<i>Brodiaea elegans</i> ssp. <i>elegans</i>	Harvest Brodiaea	perennial
<i>Dichelostemma capitatum</i> ssp. <i>capitatum</i>	Blue Dics	perennial
<i>Dichelostemma congestum</i>	Ookow	perennial
*non-native		