Special Status Plant Survey Report
For Babu Vineyard Block C
3600 White Sulphur Springs Road
St. Helena, Napa County, CA 94574
APN 027-010-033

October 5, 2021

Prepared for

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INTRODUCTION

The proposed Babu Vineyard project, located at 3600 White Sulphur Springs Road, in the hills west of the City of Saint Helena, is comprised of one new block of vineyards located in the central portion of the Babu 67.80-acre parcel. The proposed vineyard Block C is situated on the west side of Napa Valley, west of the Napa River and HWY 128/29, south of Bothe-Napa Valley State Park and north of San Pablo Bay in the rural area of Napa County, California (Figure 1). Surrounding land uses consist of mainly forested open space lands, ranches and vineyards. A 20-acre conservation easement runs along the east and south side of the Babu parcel.

Block C (Figure 2) is 0.65-acres which includes 0.41 acres gross and 0.24 acres net vines. Existing roadways will service these three proposed vineyard development areas/blocks. Surveys for special status plants were conducted for the proposed vineyard block during the spring to summer of 2021. The purpose of the surveys was to determine if any special status plants occur on the site.

A biological habitat assessment was conducted in 2016 for the adjacent Blocks A and B that covered both plants and animals (Wildlife Research Associates and Jane Valerius Environmental Consulting 2016).

METHODS

Special status surveys were conducted by Jane Valerius, botanist, on April 12, May 14 and June 22, 2021, to cover the flowering period for all potential special status plants known to occur in the area. Prior to the field visit, a list of special-status plants was compiled based on record searches of the California Natural Diversity Data Base (CNDDB) and the California Native Plant Society (CNPS) online electronic inventory (CNDDB 2021, CNPS 2021). The search is based on a review of the Rutherford, St. Helena, Calistoga and Kenwood USGS quadrangles which cover a 3-to-5-mile radius around the project area.

The field surveys were conducted in accordance with the California Department of Fish & Wildlife (CDFW) and Napa County guidelines for conducting special status plant surveys. During the field visit the proposed vineyard site was walked and a list of plants observed at the time of the survey was recorded. This also includes plant observed adjacent to the area for a comprehensive species list. Appendix A provides a list of all special-status plants with the potential to be present based on presence of potential habitat. Appendix B provides a list of all plant species, including lichens and mosses, observed during the April to June 2021 site visits. Appendix C provides a CNDDB map for known occurrences within a 3-mile radius of the site. Appendix D provides a photograph of the site to show the condition of the area at the time of the survey. Identification of lichens and mosses were made by David Toren, bryologist, based on collections from the site by Jane Valerius.

RESULTS

The proposed Block C area and surrounding vegetation burned in the 2020 Glass Fire. The trees were mostly devoid of leaves. The herbaceous layer, which would have been relatively sparse due to the dense canopy cover of the trees before the fire, was coming back and by June of 2021 there was a good herbaceous ground cover which varied from 25% to 30% in sparse areas to 40% to 50% in more open areas with sunshine. Most of the trees in Block C had been removed due to fire damage and because this area was open the herbaceous cover was higher, between 60 to 70%. Many native grasses and forbs were observed. Please see below for a more detailed description of the plant communities at each site and Appendix A for a list of plants observed.

Plant Communities

One vegetation community occurs within the project study area: *Pseudotsuga menziesii* Forest Alliance or Douglas fir Forest (Sawyer et. al. 2008). Oak woodlands in general and the California bay-madrone-live oak super alliance specifically are identified in the Napa County Biological Data Report (BDG) as sensitive biotic communities. The potential for Biotic Communities of Limited Distribution, including native grassland communities, tanbark oak alliance, Brewer willow alliance, Ponderosa pine alliance, as described in the BDR (Jones and Stokes 2005), were evaluated and none occur on the site. None of these sensitive communities will be affected by the proposed vineyard plan.

Block C

Pseudotsuga menziesii Forest Alliance or Douglas fir Forest: The 0.65-acre proposed Block C is, or was before the fire, a predominately a Douglas fir forest vegetation community. This vegetation type is dominated by Douglas fir and includes coast live oak, black oak, madrone, big-leaf maple (*Acer macrophyllum*) and California bay. Understory shrubs include scrub oak, poison oak, holly-leaved oak (*Quercus berberidifolia*), and toyon. A number of ferns were also noted in this area including goldback fern (*Pentagramma triangularis*), maidenhair fern (*Adiantum jordanii*), and wood fern (*Dryopteris arguta*). California fescue and narrow-flowered brome were common understory grass species in this area. Native forbs included Douglas iris, sanicle, and yellow fairy lantern (*Calochortus amabilis*), California helianthella (*Helianthella californca* var. *californica*), bush morning glory, blue dics (*Dicholostemma capitatum*), Fremont's star lily (*Toxicoscordion fremontii*), and woodland madia (*Anisocarpus madioides*).

Special Status Plants

A total of 75 special-status plant species have been reported occurring on the four topographic quadrangles (CNDDB 2021). Please refer to Appendix A for a list of these species and their potential for occurrence. Many species were considered to have no potential to occur either because these species are restricted to areas with serpentinite, rhyolitic, sandy or clay soils and these substrates are lacking within the study area, or the species occurs in habitats not present within the study area such as montane coniferous forest, broad-leafed upland forest, cismontane woodland, riparian scrub, riparian woodland, closed-cone coniferous forest, North Coast coniferous forest, bogs and fens, marshes and swamps, coastal bluff scrub, coastal prairie, and coastal scrub.

Nine special status plants have known occurrences within 3-miles of the study area (Appendix C). These are Napa false indigo (*Amorpha californica* var. *napensis*), Clara Hunt's milk-vetch (*Astragalus claranus*), narrow-anthered brodiaea (*Brodiaea leptandra*), Rincon Ridge ceanothus (*Ceanothus confusus*), Calistoga ceanothus (*Ceanothus divergens*), Sonoma ceanothus (*Ceanothus sonomensis*), Green's narrow-leaved daisy (*Erigeron greenei*), Colusia layia (*Layia septentrionalis*), and Calistoga popcornflower (*Plagiobothrys strictus*). None of these species were observed and the site lacks habitat for many of these species (please refer to Appendix A).

SUMMARY

No special status plants were observed during the April, May and June 2021 surveys and none are expected to occur based on lack of habitat or the fact that no special status plants were observed during the appropriately timed seasonal, protocol focused surveys. A list of plant species observed during the surveys is provided as Appendix B, which includes a list of mosses and lichens observed in the area, none of which have a special status. There are no special status mosses or lichens listed for Napa County.

REFERENCES

California Natural Diversity Data Base (CNDDB). 2021. Reported Occurrences for the St. Helena, Calistoga, Kenwood and Rutherford 7.5-minute topographic quadrangles. Wildlife Conservation Division. Sacramento, California.

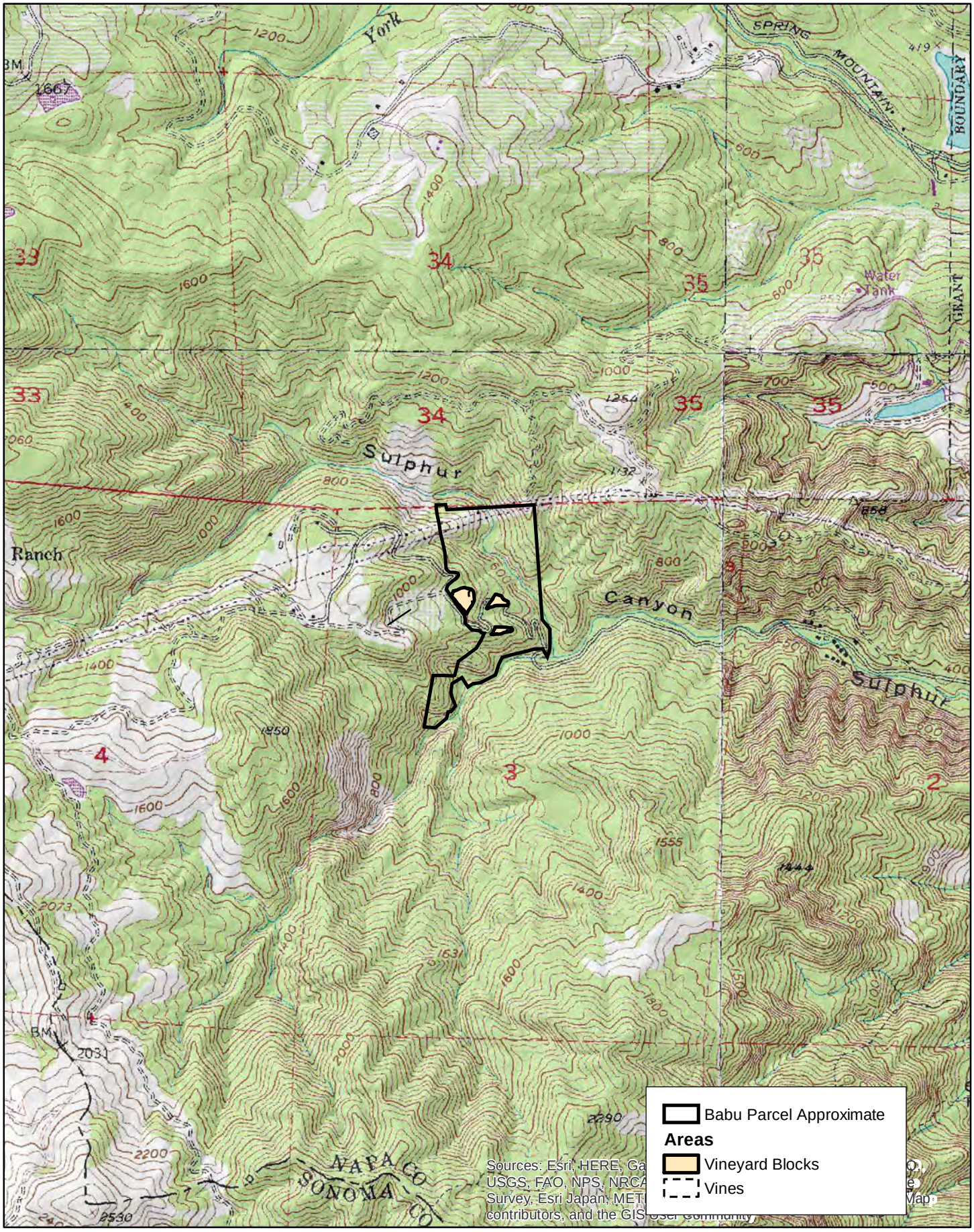
California Native Plant Society (CNPS). 2021. On-line electronic inventory of rare and endangered plants of California for the St. Helena, Calistoga, kenwood and Rutherford 7.5-minute topographic quadrangles. Sacramento, CA.

California Department of Fish & Wildlife (CDFW). 2021. California natural community list. https://wildlife.ca.gov/data/vegCAMP/Natural-Communities. September 9.

Jones & Stokes. 2005. Napa County Baseline Data Report: Version 1. Contributors: Napa County Conservation, Development, and Planning Dept., Jones & Stokes, Edaw, Inc. November 30.

Sawyer, John O., Todd Keeler-Wolf, Julie M Evens. 2008. A manual of California vegetation. Second edition. California Native Plant Society Press, Sacramento, CA. 1300 pages

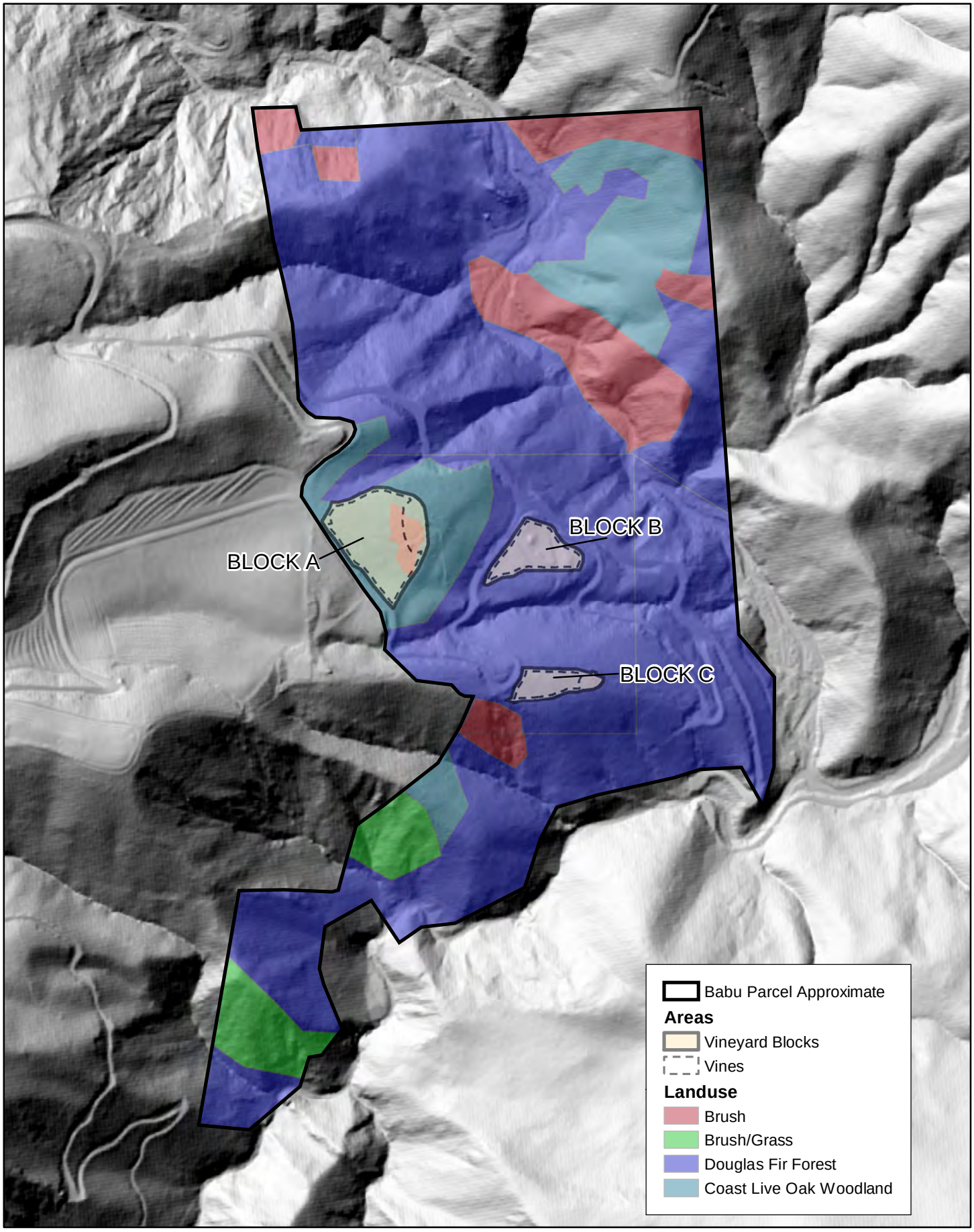
Wildlife Research Associates and Jane Valerius Environmental Consulting. 2016. habitat Assessment, Babu Vineyard, 3600 White Sulphur Springs Road, Saint helena, CA 94574 (APN 027-010-033). July 28



Babu Vineyard Blocks

N

0 0.25 0.5 1 Miles



Babu Vineyard Blocks and Landcover

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OEI

Appendix A: Potentially Occurring Special-Status Plant Species in the Study Area

Scientific Name **Common Name**	**Status USFWS/ CDFW/ CNPS Rank**	**Habitat Affinities and Blooming Period/Life Form**	**Potential for Occurrence**
Allium peninsulare var. *franciscanum* *Franciscan onion*	-/-/1B	Cismontane woodland, valley and foothill grassland on clay, volcanic soils; often on serpentinite. Blooms May to June. Elevation 52-300m.	Low. Potential oak woodland and grassland habitat in study area. No serpentinite soils. Not observed during surveys.
Alopecurus aequalis var. *sonomensis* Sonoma alopecurus	FE/-/1B	Freshwater marshes and swamps, riparian scrub. May-July. Elevation: 5-365m.	None. No habitat in study area. Not observed during surveys.
Amorpha californica var. *napensis* Napa false indigo	-/-/1B	Broadleafed upland forest (openings), chaparral, cismontane woodland. Blooms April-July. Elevation: 120-2000m.	Moderate. Potential oak woodland habitat in study area. Not observed during surveys.
Amsinckia lunaris Bent-flowered fiddleneck	-/-/1B	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. Blooms March to June. Elevation: 3-500m.	Low. Potential oak woodland and grassland habitat in study area. Not observed during surveys.
Antirrhinum virga Twig-like snapdragon	-/-/4	Chaparral, lower montane coniferous forest in rocky openings often on serpentinite. Blooms June to July. Elevation: 100-2015m.	None. No habitat in study area. Not observed during surveys.
Arctostaphylos stanfordiana ssp. *decumbens* Rincon Ridge manzanita	-/-/1B	Chaparral on rhyolitic soils and cismontane woodland. Blooms February to April (sometimes May). Elevation: 75-370m.	None. No habitat in study area. No rhyolitic soils. Not observed during surveys.
Astragalus breweri Brewer's milk-vetch	-/-/4	Meadows and seeps, valley and foothill grassland in open and often gravelly areas and often on serpentinite or volcanic soils. Blooms April-June. Elevation: 90-730m.	Low. Potential grassland habitat in study area. No serpentinite soils. Not observed during surveys.
Astragalus claranus Clara Hunt's milk-vetch	FE/CT/1B	Openings in chaparral, cismontane woodland, valley and foothill grassland on serpentinite or volcanic, rocky or clay soils. Blooms March to May. Elevation: 75-275m.	Low. Potential oak woodland and grassland habitat in study area. No serpentinite soils. Not observed during surveys.

Scientific Name **Common Name**	**Status USFWS/ CDFW/ CNPS Rank**	**Habitat Affinities and Blooming Period/Life Form**	**Potential for Occurrence**
Astragalus clevelandii Cleveland's milk-vetch	-/-/4	Chaparral, cismontane woodland, riparian forest. Blooms June to September. Elevation: 200-1500m.	Low. Potential oak woodland in study area. No serpentinite soils. Not observed during surveys.
Brodiaea leptandra Narrow-anthered brodiaea	-/-/1B	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland on volcanic soils. Blooms May to July. Elevation: 110-915m.	Low. Potential grassland habitat in study area. No serpentinite soils. Not observed during surveys.
Calamagrostis ophitidis Serpentine reed-grass	-/-/4	Chaparral (open, north-facing slopes), lower montane coniferous forest, meadows and seeps, valley and foothill grassland on serpentinite and rocky soils. Blooms April to July. Elevation: 90-1065m.	None. No habitat in study area. No serpentinite in study area. Not observed during surveys.
Calandrinia breweri Brewer's red maids	-/-/4	Chaparral and coastal scrub on sandy or loam soils and in disturbed sites and burns. Blooms March to June. Elevation: 10-1220m.	None. No habitat in study area. Not observed during surveys.
Calochortus uniflorus Pink star tulip	-/-/4	Coastal prairie, coastal scrub, meadows and seeps, North Coast coniferous forest. Blooms April to June. Elevation: 10-1070m.	None. No habitat in study area. Not observed during surveys.
Castilleja ambigua var. *ambigua* Johnny-nip	-/-/4	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools margins. Blooms March to August. Elevation: 0-435m.	None. No habitat in study area. No mesic areas which this species prefers. Not observed during surveys.
Ceanothus confusus Rincon Ridge ceanothus	-/-/1B	Closed-cone coniferous forest, chaparral, cismontane woodland on volcanic or serpentinite. Blooms February to June. Elevation: 75-1065m.	None. No habitat in study area. Not observed during surveys.
Ceanothus divergens Calistoga ceanothus	-/-/1B	Chaparral on serpentinite or volcanic, rocky soils. Blooms February to April. Elevation 170-950m.	None. No habitat in study area. No serpentinite soils. Not observed during surveys.
Ceanothus gloriosus ssp. *exaltatus* Glory brush	-/-/4	Coastal bluff scrub, closed-cone coniferous forest, coastal dunes, coastal scrub/sandy. Blooms March to May. Elevation: 5-520m.	None. No habitat in study area. Not observed during surveys.

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Ceanothus pinetorum Kern ceanothus	-/-/4	Lower montane coniferous forest, subalpine coniferous forest, upper montane coniferous forest on rocky, granitic soils. Blooms May to July. Elevation: 1600-2745m.	None. No habitat in study area. Not observed during surveys.
Ceanothus purpureus Holly-leaved ceanothus	-/-/1B	Chaparral, cismontane woodland on volcanic, rocky soils. Blooms February to June. Elevation: 120-640m.	None. No habitat in study area. Not observed during surveys. No species of *Ceanothus* observed in study area.
Ceanothus sonomensis Sonoma Ceanothus	-/-/1B	Chaparral on sandy, serpentinite or volcanic soils. Blooms February to April. Elevation: 215-800m.	None. No habitat in study area. No sandy or serpentinite soils. Not observed during surveys.
Centromadia parryi ssp. *parryi* Pappose tarplant	-/-/1B	Chaparral, coastal prairie, meadows and seeps, marshes and swamps (coastal salt), valley and foothill grassland (vernally mesic)/often alkaline. Blooms May to November. Elevation 0-420m.	None. No habitat in study area. No alkaline or vernally mesic areas. Not observed during surveys.
Clarkia breweri Brewer's clarkia	-/-4	Chaparral, cismontane woodland, coastal scrub, often on serpentinite. Blooms April to June. Elevation: 215-1115m	Low. Potential oak woodland habitat in study area. No serpentinite soils. Not observed during surveys.
Clarkia gracilis ssp. *tracyi* Tracy's clarkia	-/-4	Chaparral, openings, usually on serpentinite. Blooms April to July. Elevation: 65-650m.	None. No habitat in study area. No serpentinite soils. Not observed during surveys.
Collomia diversifolia Serpentine collomia	-/-4	Chaparral, cismontane woodland on serpentinite, rocky or gravelly soils. Blooms May to June. Elevation: 300-600m.	Low. Potential oak woodland habitat in study area. No serpentinite soils. Not observed during surveys.
Cordylanthus tenuis ssp. *brunneus* Serpentine birds-beak	-/-4	Closed-cone coniferous forest, chaparral, cismontane woodland usually on serpentinite. Blooms July to August. Elevation: 475-915m.	Low. Potential oak woodland habitat in study area. No serpentinite soils. Not observed during surveys.

Scientific Name **Common Name**	**Status USFWS/ CDFW/ CNPS Rank**	**Habitat Affinities and Blooming Period/Life Form**	**Potential for Occurrence**
Delphinium uliginosum *Swamp larkspur*	-/-4	Chaparral, valley and foothill grassland on serpentine seeps. Blooms May to June. Elevation: 340-610m.	None. No habitat in study area. No serpentine seeps. Not observed during surveys.
Downingia pusilla Dwarf downingia	-/-/2B	Valley and foothill grassland (mesic), vernal pools. Blooms March to May. Elevation: 1-445m.	None. No habitat in study area. Not observed during surveys.
Erigeron bioletti Streamside daisy	-/-/3	Broadleafed upland forest, cismontane woodland, North Coast coniferous forest on rocky and mesic sites. Blooms June-October. Elevation 30-1100	None. No habitat in study area. Not observed during surveys.
Erigeron greenei Greene's narrow-leaved daisy	-/-/1B	Chaparral on serpentinite or volcanic soils. Blooms May to September. Elevation: 80-1005m.	None. No habitat in study area. Not observed during surveys.
Eryngium constancei Loch Lomond button-celery	FE/CE/1B	Vernal pools. Blooms April-June. Elevation: 460-855m.	None. No habitat in study area. Not observed during surveys.
Eryngium jepsonii Jepson's coyote-thistle	-/-/1B	Valley and foothill grassland, vernal pools on clay soils. Blooms April to August. Elevation: 3-300m.	None. No habitat in study area. Not observed during surveys.
Erythronium helenae St. Helena fawn lily	-/-/4	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Blooms March to May. Elevation: 350-1220m.	Low. Potential oak woodland and grassland habitat in study area. Not observed during surveys.
Fritillaria liliacea Fragrant fritillary	-/-/1B	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland often on serpentinite. Blooms February to April. Elevation: 3-410m.	Low. Potential oak woodland and grassland habitat in study area. No serpentinite soils. Not observed during surveys.
Harmonia nutans Nodding harmonia	-/-/4	Chaparral, cismontane woodland on volcanic rocky or gravelly soils. Blooms March to May. Elevation: 75-975m.	Low. Potential oak woodland habitat in study area. Not observed during surveys.
Helianthus exilis Serpentine sunflower	-/-/4	Serpentine seeps in chaparral, cismontane woodland. Blooms June to November. Elevation: 150-1525m.	None. No habitat in study area. Not observed during surveys.

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Hesperolinon bicarpellatum Two-carpellate western flax	-/-/1B	Chaparral on serpentinite. Blooms May to July. Elevation: 60-1005m.	None. No habitat in study area. Not observed during surveys.
Hesperolinon sharsmithiae Sharsmith's western flax	-/-/1B	Chaparral on serpentinite. Blooms May to July. Elevation: 270-300m.	None. No habitat in study area. Not observed during surveys.
Hosackia gracilis Harlequin lotus	-/-/4	Broadleafed upland forest, coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal prairie, coastal scrub, meadows and seeps, marshes and swamps, North Coast coniferous forest, valley and foothill grassland/wetlands, roadside. Blooms March to July. Elevation: 0-700m.	None. No habitat in study area. This is a coastal species. Not observed during surveys.
Iris longipetala Coast iris	-/-/4	Coastal prairie, lower montane coniferous forest, meadows and seeps in mesic sites. Blooms March to May. Elevation 0 -600 m.	None. No habitat in study area. Not observed during surveys.
Lasthenia burkei Burke's goldfiedls	FE/CE/1B	Meadows and seeps (mesic), vernal pools. Blooms April to June. Elevation: 15-600m.	None. No habitat in study area. Not observed during surveys.
Lasthenia conjugens Contra Costa goldfields	FE/CE/1B	Cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools/ mesic. Blooms March-June. Elevation: 0-470m.	None. No habitat in study area. Not observed during surveys.
Layia septentrionalis Colusa layia	-/-/1B	Chaparral, cismontane woodland, valley and foothill grassland on sandy or serpentinite soils. Blooms April to May. Elevation: 100-1095m.	None. No habitat in study area. No serpentinite or sandy soils. Not observed during surveys.
Leptosiphon acicularis Bristly leptosiphon	-/-/4	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Blooms April to July. Elevation: 55-1500m.	Low. Potential oak woodland and grassland habitat in study area. Not observed during surveys.
Leptosiphon jepsonii Jepson's leptosiphon	-/-/1B	Chaparral, cismontane woodland, usually volcanic. Blooms March to May. Elevation: 100-500m.	Low. Potential oak woodland habitat in study area. Not observed during surveys.

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Leptosiphon latisectus Broad-lobed leptisiphon	-/-/4	Broadleafed upland forest, cismontane woodland. Blooms April to June. Elevation: 170-1500m.	Low. Potential oak woodland habitat in study area. Not observed during surveys.
Lessingia hololeuca Woolly-headed lessingia	-/-/3	Broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland/clay, serpentinite. Blooms June-October. Elevation: 15-305m.	None. No habitat in study area. No clay or serpentinite soils. Not observed during surveys.
Lilium rubescens Redwood lily	-/-/4	Broadleafed upland forest, chaparral, lower montane coniferous forest, North Coast coniferous forest, upper montane coniferous forest, sometimes serpentinite, sometimes roadsides. Blooms April to September. Elevation: 30-1910m.	None. No habitat in study area. Not observed during surveys.
Limnanthes vinculans Sebastopol meadowfoam	FE/CE/1B	Vernally mesic meadows and seeps, valley and foothill grassland, vernal pools. Blooms April to May. Elevation: 15-305m.	None. No habitat in study area. Not observed during surveys.
Lomatium repostum Napa lomatium	-/-/4	Chaparral, cismontane woodland on serpentinite. Blooms March-June. Elevation: 90-830m.	None. No habitat in study area. No serpentinite soils. Not observed during surveys.
Lupinus sericatus Cobb Mtn Lupine	-/-/1B	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest. Blooms March-June. Elevation: 275-1525m.	Low. Potential oak woodland habitat in study area. Project area outside elevational range of species. Not observed during surveys.
Microphus amphibolus Mt. Diablo cottonweed	-/-/4	Broadleafed upland forest, chaparral, cismontane woodland, valley and foothill grassland in rocky areas. Blooms March to May. Elevation: 45-825 m.	Low. Potential oak woodland and grassland habitat in study area. Not observed during surveys.
Microseris paludosa Marsh microseris	-/-/1B	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. Blooms April-June (July). Elevation: 5-300m.	Low. Potential oak woodland habitat in study area. Project area close to edge of elevational range of species. Not observed during surveys.

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Monardella viridis Green monardella	-/-/4	Broadleafed upland forest, chaparral, cismontane woodland. June-September. Elevation: 100-1010m.	Low. Potential oak woodland habitat in study area. Not observed during surveys.
Navarretia cotufolia Cotula navarretia	-/-/4	Chaparral, cismontane woodland, valley and foothill grassland on adobe soils. Blooms May to June. Elevation: 4-1830 m.	None. No habitat in study area. No adobe soils. Not observed during surveys.
Navarretia heterandra Tehama navarretia	-/-/4	Mesic valley and foothill grassland, vernal pools. Blooms April to June. Elevation: 30-1010m.	None. No habitat in study area. Not observed during surveys.
Navarretia leucocephala ssp. *bakeri* Baker's navarretia	-/-/1B	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, vernal pools/mesic. Blooms April to July. Elevation: 5-1740m.	None. No habitat in study area. Not observed during surveys.
Navarretia leucocephala ssp. *plieantha* Many flowered navarretia	FE/CE/1B	Volcanic ash flow vernal pools. Blooms May to June. Elevation: 30-950 m.	None. No habitat in study area. Not observed during surveys.
Penstemon newberryi var. *sonomensis* Sonoma beardtongue	-/-/1B	Chaparral on rocky soils. Blooms April to August. Elevation: 700-1370m.	None. No habitat in study area. Not observed during surveys.
Plagibothrys strictus Calistoga popcornflower	FE/CT/1B	Meadows and seeps, valley and foothill grassland, vernal pools/alkaline areas near thermal springs. Blooms March-June. Elevation 90-160m.	None. No habitat in study area. Not observed during surveys.
Poa napensis Napa blue grass	FE/CE/1B	Meadows and seeps, valley and foothill grassland/alkaline, near thermal springs. Blooms May-August. Elevation: 100-200m.	None. No habitat in study area. Not observed during surveys.
Puccinellia simplex California alkali grass	-/-/1B	Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools/alkaline, vernally mesic, sinks, flats and lake margins. Blooms March to May. Elevation 2-930m.	None. No habitat in study area. Not observed during surveys.
Ranuculus lobbii Lobb's aquatic buttercup	-/-/4	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools/mesic. Blooms February to May. Elevation: 15-470m.	None. No habitat in study area. Not observed during surveys.

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Sagittaria sanfordii Sanford's arrowhead	-/-/1B	Assorted shallow freshwater marshes and swamps. Blooms May to October (November). Elevation: 0-650m.	None. No habitat in study area. Not observed during surveys.
Senecio clevelandii var. *clevelandii* Cleveland's ragwort	-/-/4	Chaparral in serpentine seeps. Blooms June to July. Elevation: 365-900m.	None. No habitat in study area. Not observed during surveys.
Sidalcea hickmanii ssp. *napensis* Napa checkerbloom	-/-/1B	Chaparral on rhyolitic soils. Blooms April-June. Elevation: 415-610m.	None. No habitat in study area. Not observed during surveys.
Sidalcea oregana ssp. *hydrophila* Marsh checkerbloom	-/-/1B	Meadows and seeps, riparian forest. Blooms June to August. Elevation: 1100-2300 m.	None. No habitat in study area. Not observed during surveys.
Sidalcea oregana ssp. *valida* Kenwood Marsh checkerbloom	FE/CE/1B	Freshwater marshes and swamps. Blooms June to September. Elevation: 115-150m.	None. No habitat in study area. Not observed during surveys.
Spergularia macrotheca var. *longistyla* Long-styled sand-spurrey	-/-/1B	Meadows and seeps, marshes and swamps in alkaline soils. Blooms February to May. Elevation: 0-255m.	None. No habitat in study area. Not observed during surveys.
Streptanthus hesperidis Green jewelflower	-/-/1B	Chaparral (openings), cismontane woodland on serpentinite, rocky soils. Blooms May to July. Elevation: 130-760m.	None. No habitat in study area. No serpentinite soils. Not observed during surveys.
Toxicoscordion fontanum Marsh zigadenus	-/-/4	Chaparral, cismontane woodland, lower montane coniferous forest, meadows and seep, marshes and swamps in vernally mesic areas, often on serpentinite. Blooms April to July. Elevation: 15-1000m.	None. No habitat in study area. Not observed during surveys.
Trichostema ruygtii *Napa bluecurls*	-/-/1B	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland, vernal pools. Blooms June to October. Elevation: 30-680m.	None. Typical habitat not present study area. Prefers wet areas. Not observed during surveys.
Trifolium amoenum Showy Rancheria clover	FE/-/1B	Coastal bluff scrub, valley and foothill grassland, sometimes on serpentinite. Blooms April to June. Elevation: 5-415m.	Low. Potential grassland habitat in study area. No serpentinite soils. Not observed during surveys.

Scientific Name **Common Name**	**Status USFWS/ CDFW/ CNPS Rank**	**Habitat Affinities and Blooming Period/Life Form**	**Potential for Occurrence**
Trifolium hydrophilum Saline clover	-/-/1B	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. Blooms April to June. Elevation: 0-300m.	None. No habitat in study area. Not observed during surveys.
Triteleia lugens Dark-mouthed triteleia	-/-/4	Broadleafed upland forest, chaparral, coastal scrub, lower montane coniferous forest. Blooms: April to June. Elevation: 100-1000 m.	None. No habitat in study area. Not observed during surveys.
Viburnum ellipticum Oval-leaved viburnum	-/-/2B	Chaparral, cismontane woodland, lower montane coniferous forest. Blooms May to June. Elevation: 215-1400m.	Low. Potential oak woodland habitat in study area. Not observed during surveys.
Special-Status Vegetation Communities			
Coastal and Valley Freshwater Marsh			**None**
Northern Vernal Pool			**None**
Valley Needlegrass Grassland			**None**

NOTES:

U.S. FISH AND WILDLIFE SERVICE

FE = federally listed Endangered
FT = federally listed Threatened

CALIFORNIA DEPT. OF FISH AND WILDLIFE

CE = California listed Endangered
CR= California listed as Rare
CT = California listed as Threatened

CALIFORNIA NATIVE PLANT SOCIETY -

Rank 1B: Plants rare and endangered in California and elsewhere
Rank 2B: Plants rare and endangered in California but more common elsewhere
Rank 3: Plant about which more information is needed – a review list.
Rank 4: Plants of limited distribution- a watch list.

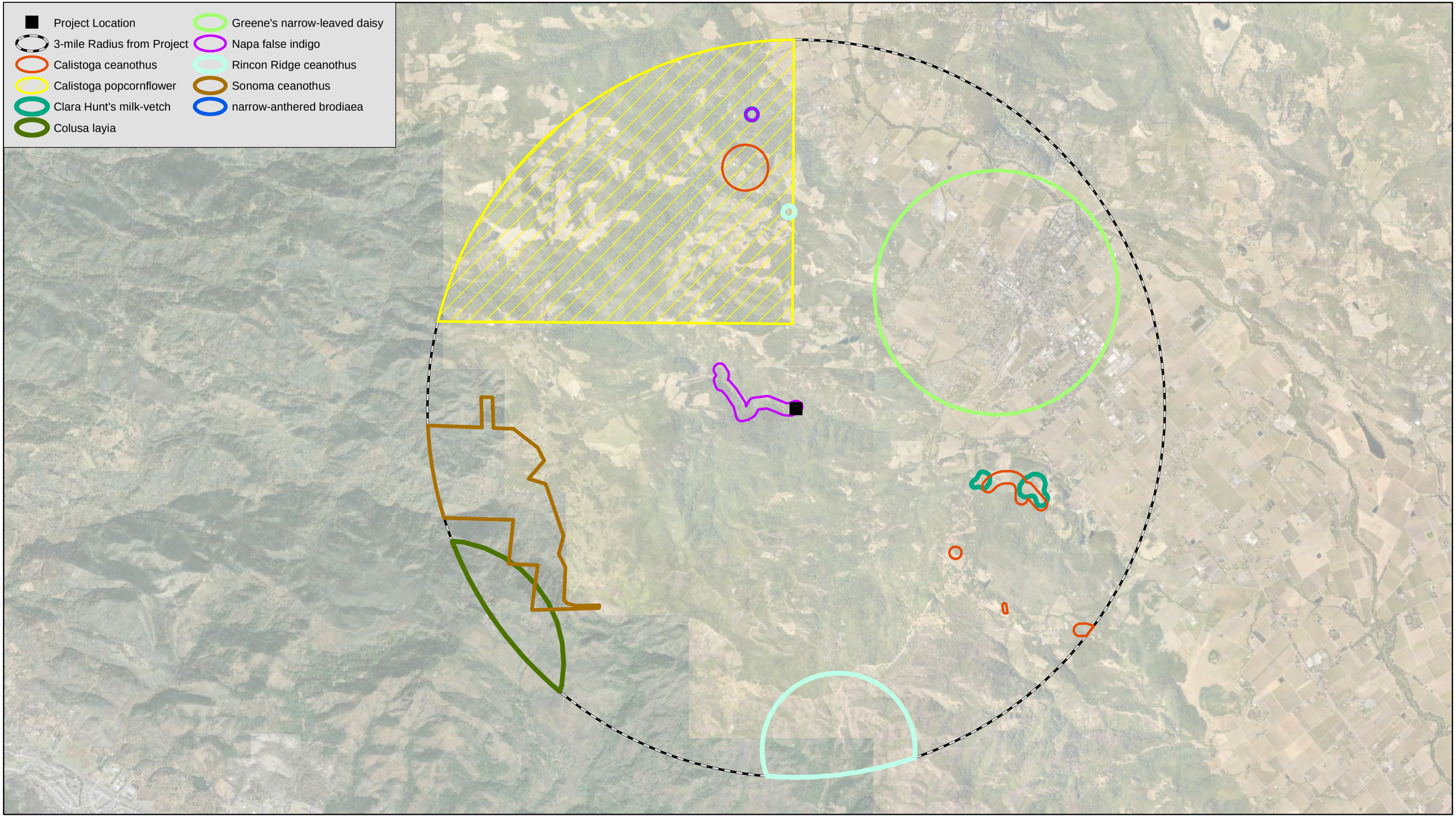
Appendix B: Plant species observed on April 12, May 14, and June 22, 2021, including mosses and lichens.

Scientific Name	Common Name
Vascular Plants (Flowering plants)	
Acer macrophylla	Big leaf maple
Acmispon americanus var. *americanus*	Spanish lotus
Acmispon brachycarpus	Short podded lotus
Acmispon glaber var. *glaber*	Deer weed
Agoseris grandiflora	California dandelion
Agoseris heterophylla	Annual agoseris
Aira caryophyllea	European hair grass*
Anisocarpus madioides	Woodland madia
Anthemis cotula	Dog fenel*
Arbutus menziesii	Madrone
Avena barbata	Wild oats*
Avena fatua	Oats*
Baccharis pilularis	Coyote brush
Brachypodium distachyon	False brome*
Brassica nigra	Black mustard*
Bromus catharticus	Rescue grass*
Bromus diandrus	Ripgut brome*
Bromus hordaeceus	Soft chess*
Bromus laevipes	Brome*
Calochortus amabilis	Yellow fairy lantern
Calystegia occidentalis	Bush morning glory
Cardamine californica	Milk maids
Cardamine oligosperma	bittercress
Carduus pycnocephalus	Italian thistle*
Carex brevicaulis	Short stem sedge
Cenaturea cyanus	Bachelor's button*
Centaurea solstitialis	Yellow star thistle*
Cerastium glomeratum	Mouse-ear chickweed*
Chlorogalum pomeridianum	Soaproot
Clarkia concinna	Red ribbons
Cynosurus echinatus	Dogtail grass*
Cyperus eragrostis	Tall flatsedge
Daucus carota	Queen Anne's lace*
Dichelostemma capitatum ssp. *capitatum*	Blue dics
Dryopteris arguta	California wood fern
Elymus glaucus	Blue wildrye
Epilobium brachycarpum	Willow herb
Erigeron bonariensis	Horse weed*
Festuca myuros	Rattail fescue*
Festuca perennis	Ryegrass*

Scientific Name	Common Name
Logfia gallica	Daggerleaf cottonrose*
Galium aparine	Bedstraw*
Galium porrigens	Climbing bedstraw
Geranium roberterianum	Robert geranium*
Helianthella californica var. *californica*	California helianthella
Heteromeles arbutifolia	Toyon
Hordeum murinum ssp. *leporinum*	Hare barley*
Hypochaeris radicata	Rough cat's-ear*
Iris douglasiana	Douglas iris
Lactuca serriola	Prickly lettuce*
Lathyrus vestitus var. *vestitus*	Hillside pea
Lonicera hispidula	Honeysuckle
Lupinus nanus	Sky lupine
Lysimachia arvensis	Scarlet pimpernel*
Matricaria discoidea	Pineapple weed*
Medicago polymorpha	Bur clover*
Petrorhagia dubia	Hairypink*
Plantago lanceolata	English plantain*
Poa annua	Annual bluegrass*
Polystichum californicum	California sword fern
Pseudotsuga menziesii	Douglas fir
Quercus agrifolia	Coast live oak
Quercus berberidifolia	Scrub oak
Quercus garryana	Oregon oak
Quercus kelloggii	Black oak
Quercus wizlizeni	Interior live oak
Raphanus sativus	Wild radish*
Rubus armeniacus	Himalayan blackberry*
Rumex crispus	Curly dock*
Sanicula crassicaulis	Sanicle
Senecio vulgaris	Common groundsel*
Silybum marianum	Milk thistle*
Sisrynchium bellum	Blue-eyed grass
Solanum sp.	Solanum
Sonchus asper	Prickly sow thistle*
Sonchus oleraceus	Common sow thistle*
Stachys rigida	Rigid hedge nettle
Symphoricarpos mollis	Creeping snowberry
Tolpis barbata	European milkwort*
Torilis arvensis	Field hedge parsley*
Toxicodendron diversilobum	Poison oak
Toxicoscordion fremontii	Fremont's star lily/death camas
Tragopogon porrifolius	Salsify*
Trifolium hirtum	Rose clover*

Scientific Name	**Common Name**
Trifolium incarntum	Crimson clover*
Umbellularia californica	California bay laurel
Vicia sativa	Spring vetch*
Vicia villosa	Hairy vetch
Wyethia angustifolia	Mule's ears
Non-Vascular Plants or Lichens and Mosses	
Scientific Name	Habitat and Substrate
Dendralisa abietina	Moss on trunks and limbs of oaks
Evernia prunastri	Lichen epiphytic on oak branches
Flavoparmelia caperata	Lichen on limbs and bark of oaks
Homalothecium nuttallii	Moss on bark of oaks
Isothecium cristatum	Moss on bark of oaks
Ramalina farinacea	Lichen on branches and bark of oaks
Timmiella crassinervis	On thin soil over rock
Usnea arizonica	Lichen on branches of oaks
Usnea glabrata	Lichen on branches of oaks

Species with an * are non-native species.



Source Data: California Department of Fish and Wildlife (2021); ESRI, Maxar Imagery (2020)
Map Projection: NAD 83 SP CA Zone II
Map Date: 05/03/2021

California Natural Diversity Database (CNDDB) - 3-mile Radius Plant Occurrences

3600 White Sulphur Springs Road - St. Helena, Napa County , CA

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APPENDIX D -SITE PHOTOGRAPHS

Photo 1: Block C photo taken April 12, 2021