COAST RANGE BIOLOGICAL LLC

July 10, 2020

Doug and Heather Hayden
710 Colleen Drive
San Jose, CA 95123

Re: Special-Status Plant Surveys, Cinnabar Hills Road Property, San Jose, Santa Clara County, CA (APN: 742-02-006)

Dear Mr. and Mrs. Hayden:

At your request, I conducted special-status plant surveys on a portion of your ~24-acre property[1] located on Cinnabar Hills Road, northeast of Almaden Reservoir, in unincorporated San Jose, Santa Clara County, California (APN: 742-02-006; Figure 1). The proposed project on the southern portion of the property consists of construction of a single-family residence and associated infrastructure, including a driveway and septic leach field, as shown on the site plan, dated November 2019, prepared by Hanna-Brunetti. The "study area" for the special-status plant surveys covers 6.2-acres and consists of the proposed development area (including the residence, driveway, and septic leach field) shown on the November 2019 site plan (called "project site" in this report, which is only approximate due to uncertainties about the final location and extent of temporary and permanent project ground disturbance) and a minimum 100-foot buffer, which was increased in some areas to include all serpentine habitats (Figure 2). Since the precise extent of temporary and permanent project ground disturbance has not yet been determined, the minimum 100-foot buffer is intended to include all serpentine habitats, allow for calculations of any potential direct and indirect project impacts to special-status plants within 50-feet of permanent ground disturbance, and allow for minor changes in the final project disturbance envelope.

The study area is located within the permit area for the Santa Clara Valley Habitat Plan ("Habitat Plan"; ICF International 2012). The surveys are floristic, addressing both Habitat Plan covered plant species and other potentially occurring special-status plant species[2] not covered under the Habitat Plan (discussed below). This report is restricted to the special-status plant surveys only. No other biological or regulatory issues are addressed.

[1] The property boundary show in Figures 1 and 2 covers 24.6-acres and was taken from the Santa Clara County parcel layer and, due to inaccuracies in the County parcel layer, was modified based on surveyed markers observed in the field. Due to potential errors and uncertainties in the parcel layer property boundary, the boundary shown on maps in this report is only approximate.

[2] Special-status plant species are defined here to include: (1) all plants that are listed under the federal or state Endangered Species Acts as rare, threatened or endangered; (2) all federal and state candidates for listing; (3) plants that qualify under the definition of "rare" in the California Environmental Quality Act (CEQA), section 15380; and (4) all plants with a California Rare Plant Rank of 1 or 2 (and 3 or 4 when they meet the definition of "rare") in CNPS (2020).

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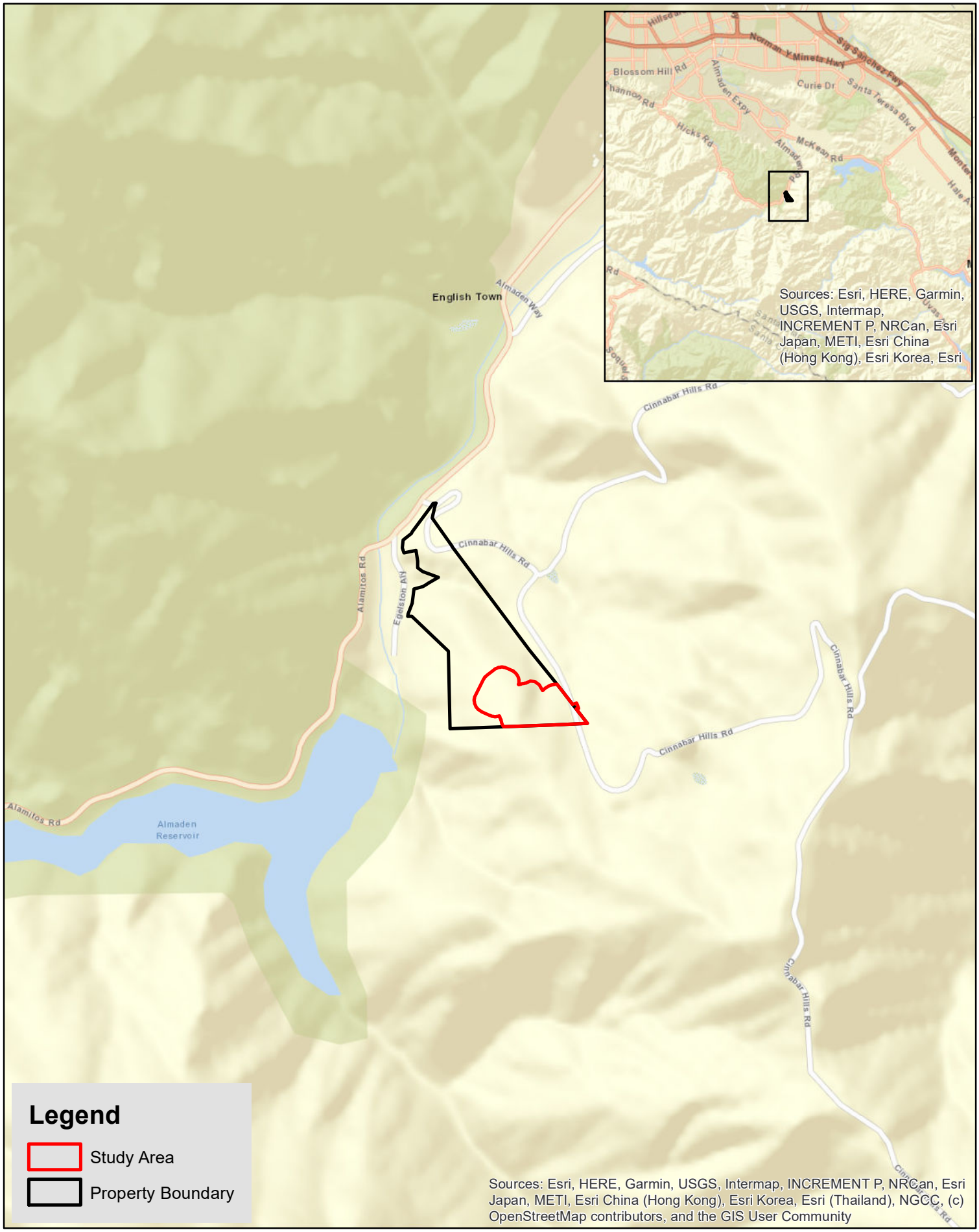

Figure 1. Study area locality map.

Legend

- Study Area
- Property Boundary (Approx.)
- Project Site (Approx.)
- Category 2 Streams

Land Cover Types

- Blue Oak Woodland
- Coast Live Oak Forest and Woodland
- Mixed Serpentine Chaparral
- Rural-Residential
- Serpentine Bunchgrass Grassland
- Serpentine Rock Outcrop

Stream 1

Stream 2

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 2. Land cover types on the Cinnabar Hills Road study area and surrounding property (APN 742-02-006), San Jose. Revised July 2020.

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Mapscale: 1:1,600

0 75 150 300 450 600 Feet

N

Map Prepared by: T. Mahony
Map Date: 7/9/20
Orthophoto Date: 11/14/18

1.0 METHODS

1.1 Background Literature Search

Prior to the field surveys, a background literature search was conducted to determine which special-status plants have potential to occur on the study area (Appendix A). The sources for the background literature search included a nine-quad search (Santa Teresa Hills 7.5' USGS quad and eight surrounding quads) of the California Natural Diversity Database (CNDDB; CDFW 2020) and California Native Plant Society Inventory of Rare and Endangered Plants (CNPS 2020), along with searches of the Habitat Plan (ICF International 2012) and the U.S. Fish and Wildlife Service (USFWS) list of threatened or endangered species (USFWS 2020a). The background literature search identified documented species in the region with potential to occur on the study area (Appendix A) and helped guide the timing and focus of the surveys, but the surveys were floristic and all plant species observed were identified to the level necessary to determine rarity and listing status (CDFW 2018).

The botanical surveys focused on special-status plant species potentially present in Serpentine Bunchgrass Grassland, Serpentine Rock Outcrop, and Mixed Serpentine Chaparral habitats, as described in the Habitat Plan (ICF International 2012). According to the Habitat Plan, the presence of Serpentine Bunchgrass Grassland and Mixed Serpentine Chaparral triggers surveys for smooth lessingia (*Lessingia micradenia* var. *glabrata*; blooms July–November); fragrant fritillary (*Fritillaria liliacea*; blooms February–April); Metcalf Canyon jewelflower (*Streptanthus albidus* ssp. *albidus*; blooms April–July); most beautiful jewelflower (*Streptanthus albidus* ssp. *peramoenus*; blooms March–June according to the Habitat Plan, and April-September according to CNPS [2020]); Tiburon Indian paintbrush (*Castilleja affinis* ssp. *neglecta*; blooms April–July according to the Habitat Plan, and April-June according to CNPS [2020]); and coyote ceanothus (*Ceanothus ferrisiae*; blooms January–May). The presence of Serpentine Rock Outcrop also triggers surveys for Santa Clara Valley dudleya (*Dudleya abramsii* ssp. *setchellii*; blooms April-June according to the Habitat Plan, and April-October according to CNPS [2020]). In addition, the survey noted the presence or absence of host plants of the federally-threatened Bay checkerspot butterfly (*Euphydryas editha bayensis*): dwarf plantain (*Plantago erecta*; blooms March-May) and purple owl's clover (*Castilleja exserta*; blooms March-May).

Though these species were the focus of the surveys due to Habitat Plan requirements, the surveys were floristic and spaced throughout the spring-summer blooming period, so any potentially occurring special-status plant species should have been detectable, had they been present on the study area.

1.2 Field Surveys

The plant surveys were conducted on April 3, May 11, and July 7, 2020 by botanists Tom Mahony and Zoya Akulova-Barlow. During the surveys, the study area was traversed systematically on foot using intuitive-controlled methodology as outlined in Nelson (1987), CNPS (2001), and CDFW (2018). Plants that could not be identified in the field were taken back to the lab and keyed using Baldwin et al. (2012) and taxonomic updates in the Jepson Flora

Project (2020). Special-status plants observed on the study area during the botanical surveys were mapped with a Trimble GPS unit (sub-meter accuracy). Isolated individuals or small clusters of individuals (generally covering less than 25 ft^2) were mapped as points. Areas larger than ~25 ft^2 were mapped as polygons. For small occurrences, the plant population was counted directly. For larger occurrences, an estimate of plant density (plants/ft^2) was made in the field, with the approximate number of plants in the polygon calculated by multiplying the plant density by polygon area. Plant populations are difficult to quantify and can vary significantly from year to year based on rainfall, disturbance, and other natural and anthropogenic factors, and therefore plant population numbers in this report are only estimates.

2.0 STUDY AREA

The study area for the special-status plant surveys covers 6.2-acres and occurs on a portion of the ~24-acre property located on Cinnabar Hills Road, northeast of Almaden Reservoir, in unincorporated San Jose, Santa Clara County (Figures 1 and 2). The property is mostly undeveloped, with the exception of a paved access road near the northern property entrance and a network of dirt roads and trails scattered throughout the property. The study area is currently undeveloped but is partially disturbed by recent ground disturbance and vegetation removal, as discussed in the Land Cover Verification previously prepared for the study area and surrounding property (CRB 2019).

2.1 Vegetation

Six Habitat Plan land cover types are present on the 24-acre property: Blue Oak Woodland, Coast Live Oak Forest and Woodland, Mixed Serpentine Chaparral, Serpentine Bunchgrass Grassland, Serpentine Rock Outcrop, and Rural-Residential (Figure 2). All of these vegetation/land cover types, with the exception of Rural-Residential, are present on the 6.2-acre study area. These land cover types, and their corresponding vegetation Alliance classification[3], are described below, shown on the map in Figure 2, and are discussed and shown in photographs in CRB (2019). Acreages of land cover types have been updated since CRB (2019) to reflect modifications of the property boundary based on field markers.

Blue Oak Woodland

Blue Oak Woodland, composed of the *Quercus douglasii* Woodland Alliance, covers 8.11-acres on the property (Figure 2). Blue Oak Woodland is dominated by a canopy of blue oak (*Quercus douglasii*), with an understory of shrubs and herbaceous species, including toyon (*Heteromeles arbutifolia*), poison oak (*Toxicodendron diversilobum*), big-berry manzanita (*Arctostaphylos glauca*), California sagebrush (*Artemisia californica*), sticky monkeyflower (*Diplacus aurantiacus*), red berry (*Rhamnus crocea*), deerweed (*Acmispon glaber*), yarrow (*Achillea millefolium*), soap plant (*Chlorogalum pomeridianum*), clematis (*Clematis* sp.), blue wildrye (*Elymus glaucus*), slender wild oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), and Italian thistle (*Carduus pycnocephalus*).

[3] Alliance nomenclature follows Sawyer et al. (2009).

Coast Live Oak Forest and Woodland

Coast Live Oak Forest and Woodland, composed of the *Quercus agrifolia* Woodland Alliance, covers 14.65-acres on the property (Figure 2). Coast Live Oak Forest and Woodland is dominated by coast live oak (*Quercus agrifolia*) and California bay (*Umbellularia californica*). Valley oak (*Quercus lobata*), California black oak (*Quercus kelloggii*), and California buckeye (*Aesculus californica*) are occasionally present in the canopy, but at insufficient densities to map separately as Mixed Oak Woodland. The understory consists of shrubs and herbaceous species, including toyon, poison oak, sticky monkeyflower, soap plant, coyote brush (*Baccharis pilularis*), California blackberry (*Rubus ursinus*), honeysuckle (*Lonicera hispidula*), Pacific snakeroot (*Sanicula crassicaulis*), Purdy's iris (*Iris purdyi*), wild pea (*Lathyrus vestitus*), maiden hair (*Adiantum jordanii*), wood fern (*Dryopteris arguta*), yerba buena (*Clinopodium douglasii*), and field hedge parsley (*Torilis arvensis*).

Mixed Serpentine Chaparral

Mixed Serpentine Chaparral, consisting primarily of the *Arctostaphylos glauca* Shrubland Alliance, covers 0.96-acre along the southern property boundary (Figure 2), and was mapped to correspond to Chaparral growing on serpentinite, as mapped in Dibblee and Minch (2005) and observed on the ground during the Land Cover Verification. Mixed Serpentine Chaparral consists of a dense shrubland dominated by big-berry manzanita, with occasional toyon, leather oak (*Quercus durata*), scrub oak (*Quercus berberidifolia*), golden yarrow (*Eriophyllum confertiflorum*), and Torrey's melica (*Melica torreyana*), along with occasional species described below for Serpentine Bunchgrass Grassland.

Serpentine Bunchgrass Grassland

Serpentine Bunchgrass Grassland, composed primarily of the *Nassella* (=*Stipa*) *pulchra* Herbaceous Alliance, covers 0.31-acre along the southern property boundary (Figure 2), and was mapped to correspond to native grassland growing on serpentinite, as mapped in Dibblee and Minch (2005) and observed on the ground during the Land Cover Verification. Serpentine Bunchgrass Grassland is dominated by native grasses and forbs, including melic grass, soap plant, smooth lessingia, most beautiful jewelflower, purple needle grass (*Stipa pulchra*), elegant brodiaea (*Brodiaea elegans*), wild carrot (*Daucus pusillus*), California poppy (*Eschscholzia californica*), slender wooly buckwheat (*Eriogonum gracile* var. *gracile*), and naked buckwheat (*Eriogonum nudum* var. *nudum*). Non-native grasses are present in disturbed areas, including soft chess, slender wild oat, and Madrid brome (*Bromus madritensis*).

Serpentine Rock Outcrop

Serpentine Rock Outcrop, generally lacking vegetation but partially conforming to the *Nassella* (=*Stipa*) *pulchra* Herbaceous Alliance where vegetation is present, covers 0.17-acre on the property (Figure 2). Serpentine Rock Outcrop occurs intermixed with Serpentine Bunchgrass Grassland, and was mapped where rock outcrops occur within Serpentine Bunchgrass Grassland. The Habitat Plan specifies no minimum mapping unit for Serpentine Rock Outcrop, and best efforts were made to map distinct outcrops separately from Serpentine Bunchgrass Grassland, but these areas overlap and distinct boundaries are lacking. Serpentine Rock Outcrop consists

primarily of bare rock outcrops, with occasional species present from surrounding Serpentine Bunchgrass Grassland, along with Santa Clara Valley dudleya.

Rural-Residential

The Rural-Residential land cover type, conforming to no recognized vegetation classification system, covers 0.44-acre and occurs in the northern portion of the property along and adjacent to the paved access road (Figure 2). Rural-Residential land cover includes the paved road and adjacent ruderal areas with bare ground or non-native grasses and forbs adapted to disturbance, including slender wild oat, soft chess, ripgut brome, Italian thistle, orchard grass (*Dactylis glomerata*), and yellow star-thistle (*Centaurea solstitialis*).

2.2 Geology, Climate, and Soils

The study area and surrounding property are located in the eastern foothills of the Santa Cruz Mountains between ~550 and ~1,000-feet elevation (NAVD 88), in mountainous terrain that slopes toward the north (USGS 2016). The northern portion of the study area was previously mapped, at a broad scale, as primarily underlain by Jurassic to Cretaceous sandstone and mudstone, with the southern portion of the study area underlain by Jurassic to Cretaceous greenstone and basalt (California Geological Survey 2010). More detailed geologic mapping of the Santa Teresa Hills 7.5' topographic quadrangle (Dibblee and Minch 2005) identifies greenstone across most of the ~24-acre property, with landslide deposits in the northwest corner, and a small area of serpentinite near the southern property boundary. The study area is underlain by a mixture of greenstone and serpentinite in Dibblee and Minch (2005).

Average annual precipitation in the area ranges from 26.61-inches in Los Gatos, ~8-miles northwest of the study area (Western Regional Climate Center 2020a), to 21.68-inches in Morgan Hill, ~9-miles southeast of the study area (Western Regional Climate Center 2020b). Annual precipitation occurs as rain primarily between October and May. Precipitation in the study area region for the 2020 water year-to-date prior to the start of the botanical surveys (October 2019-April 2020) was below normal. Despite the below average precipitation, vegetation growth on the study area was robust, and the phenology of annual and perennial species (including special-status species) appeared normal for the season. Therefore, any special-status plant species present would have likely been evident and identifiable, despite the below-average precipitation year.

Two soil types have been mapped on the study area and the surrounding property (NRCS 2020):

560—Katykat-Mouser-Sanikara complex, 30 to 50 percent slopes
561—Footpath-Mouser complex, 30 to 50 percent slopes

Katykat-Mouser-Sanikara complex, 30 to 50 percent slopes, consists of 40 percent Katykat and similar soils, 35 percent Mouser and similar soils, 15 percent Sanikara and similar soils, and 10 percent minor components. The Katykat component is well drained, derived from colluvium from sandstone or mudstone and/or residuum weathered from mudstone or sandstone, and is found on mountains. A typical profile consists of loam from 1 to 18 inches, gravelly loam from 18 to 37 inches, and gravelly sandy clay loam from 37 to 63 inches. The depth to water table is

>80 inches, and the depth to a restrictive feature (densic material) is 39 to 60 inches. The Mouser component is well drained, derived from colluvium from sandstone, and is found on hillslopes and mountains. A typical profile consists of gravelly sandy loam from 1 to 6 inches, very gravelly loam from 6 to 9 inches, and gravelly loam from 9 to 60 inches. The depth to water table and a restrictive feature is >80 inches. The Sanikara component is well drained, derived from colluvium from graywacke and/or residuum weathered from graywacke, and is found on hillslopes and mountains. A typical profile consists of gravelly sandy loam from 1 to 5 inches, very gravelly loam from 5 to 12 inches, and bedrock from 12 to 22 inches. The depth to water table is >80 inches, and the depth to a restrictive feature (lithic bedrock) is 10 to 20 inches.

Footpath-Mouser complex, 30 to 50 percent slopes, consists of 40 percent Footpath and similar soils, 30 percent Mouser and similar soils, 15 percent Katykat and similar soils, and 15 percent minor components. The Footpath component is well drained, derived from colluvium from greenstone and/or residuum weathered from greenstone, and is found on hillslopes and mountains. A typical profile consists of gravelly coarse sandy loam from 1 to 3 inches, gravelly loam from 3 to 12 inches, extremely paragravelly silty clay loam from 12 to 35 inches, and bedrock from 35 to 60 inches. The depth to water table is >80 inches, and the depth to a restrictive feature (paralithic bedrock) is 20 to 40 inches. The Mouser and Katykat soils are described above.

A soil map of the study area and surrounding property is included in CRB (2019).

2.3 Hydrology

The study area and surrounding property are moderately to steeply sloped and appear generally well drained. No drainages, streams, or wetlands have been mapped on the study area or surrounding property in the Geobrowser (Santa Clara Valley Habitat Agency 2020), the National Hydrography Dataset (NHD; USGS 2020), or the USGS Santa Teresa Hills 7.5' topographic quadrangle (USGS 2016). A Riverine Wetland was mapped in the National Wetlands Inventory (NWI; USFWS 2020b) in a drainage flowing northwest in the northern portion of the property, off the study area.

The principal hydrologic sources for the property are direct precipitation, surface sheet flow and shallow sub-surface flow from surrounding uplands, and drainage through two unnamed ephemeral stream channels. The northernmost channel (referred to as Stream 2 in CRB [2019]) on the property is ~1 to ~2-feet wide and is located well north of the study area (Figure 2). The southernmost channel on the property (referred to as Stream 1 in CRB [2019]) drains northbound across the study area as a small tributary ~3 to ~6-feet wide. Due to property boundary flagging present at the time of the April-July botanical surveys, the property boundary was extended toward the east and an additional tributary to Stream 1 was identified and mapped on the study area during the surveys (Figure 2).

3.0 RESULTS AND RECOMMENDATIONS

3.1 Results of Background Literature Search

Fifty-five special-status plant species have been documented in the study area region based on the background literature search discussed in Section 1.1. A list of these species is included in Appendix A. The study area is not located within designated Critical Habitat for any federally-listed plant species (USFWS 2020c). No special-status plants have been documented to occur on the study area in the CNDDB (CDFW 2020), but one special-status plant species—San Francisco collinsia (*Collinsia multicolor*)—has been documented on or adjacent to the surrounding property, and numerous additional special-status plants have been documented within one mile of the study area (Figure 3).

3.2 Results of Floristic Surveys

During the April 3, May 11, and July 7, 2020 plant surveys, 176 plant species were observed on the study area (Appendix B). Four special-status plant species were observed on the study area during the surveys: Santa Clara Valley dudleya, most beautiful jewelflower, San Francisco collinsia, and smooth lessingia (Figure 4; Appendix C). These species are discussed below.

Santa Clara Valley Dudleya

Santa Clara Valley dudleya is a perennial herb in the Crassulaceae family. It is listed as endangered under the federal Endangered Species Act (ESA), and has a CNPS Rare Plant Rank of 1B.1 (plants rare, threatened, or endangered in California and elsewhere/seriously endangered in California). Santa Clara Valley dudleya typically occurs on serpentinite outcrops in cismontane woodland and valley and foothill grassland between 196 and 1,492-feet elevation, blooming April-October (CNPS 2020).

During the April-July, 2020 surveys, 96 individuals of Santa Clara Valley dudleya were observed in 24 locations in Serpentine Bunchgrass Grassland and Serpentine Rock Outcrop habitats, on Footpath-Mouser complex, 30 to 50 percent slopes soils, in the central and southern portions of the study area (Figure 4). The plants were in vegetative rosettes during the April 3 survey and in bloom during the May 11 survey (Appendix C-1, C-2), with ~50 percent of plants blooming and ~50 percent vegetative. The occurrence consists of a mixture of age classes.

Associate species observed growing with Santa Clara Valley dudleya include most beautiful jewelflower, smooth lessingia, California poppy, Torrey's melica, golden yarrow, purple needlegrass, soap plant, and soft chess. The suitable habitat consists of large, medium, and small serpentinite rock outcrops devoid of shrub or tree canopy or significant herbaceous cover. Additional areas of unoccupied suitable habitat were observed on the study area on serpentine soils with rock outcrops in Serpentine Rock Outcrop habitat (Figure 2). The occurrence potentially extends offsite south of the study area, based on the presence of serpentine habitat, as mapped in Dibblee and Minch (2005). Offsite areas were not surveyed due to private property.

Threats to the population on the study area include invasive non-native species and ground disturbance associated with future development. The occurrence is in generally good condition

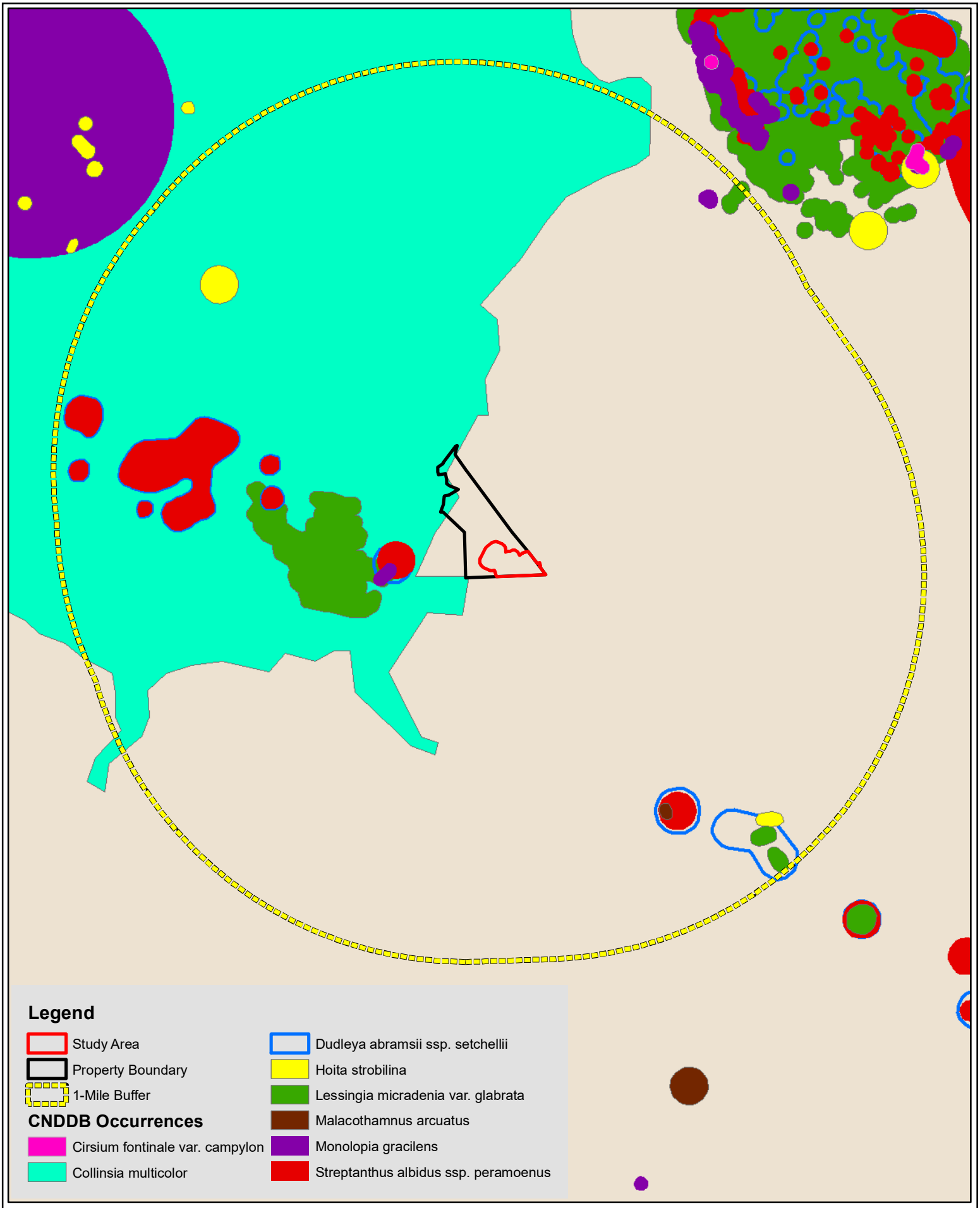

Figure 3. CNDDB map of special-status plant occurrences in the study area region.

Data Source: CNDDB (CDFW 2020).

Mapscale 1:20,000

0 750 1,500 3,000 Feet

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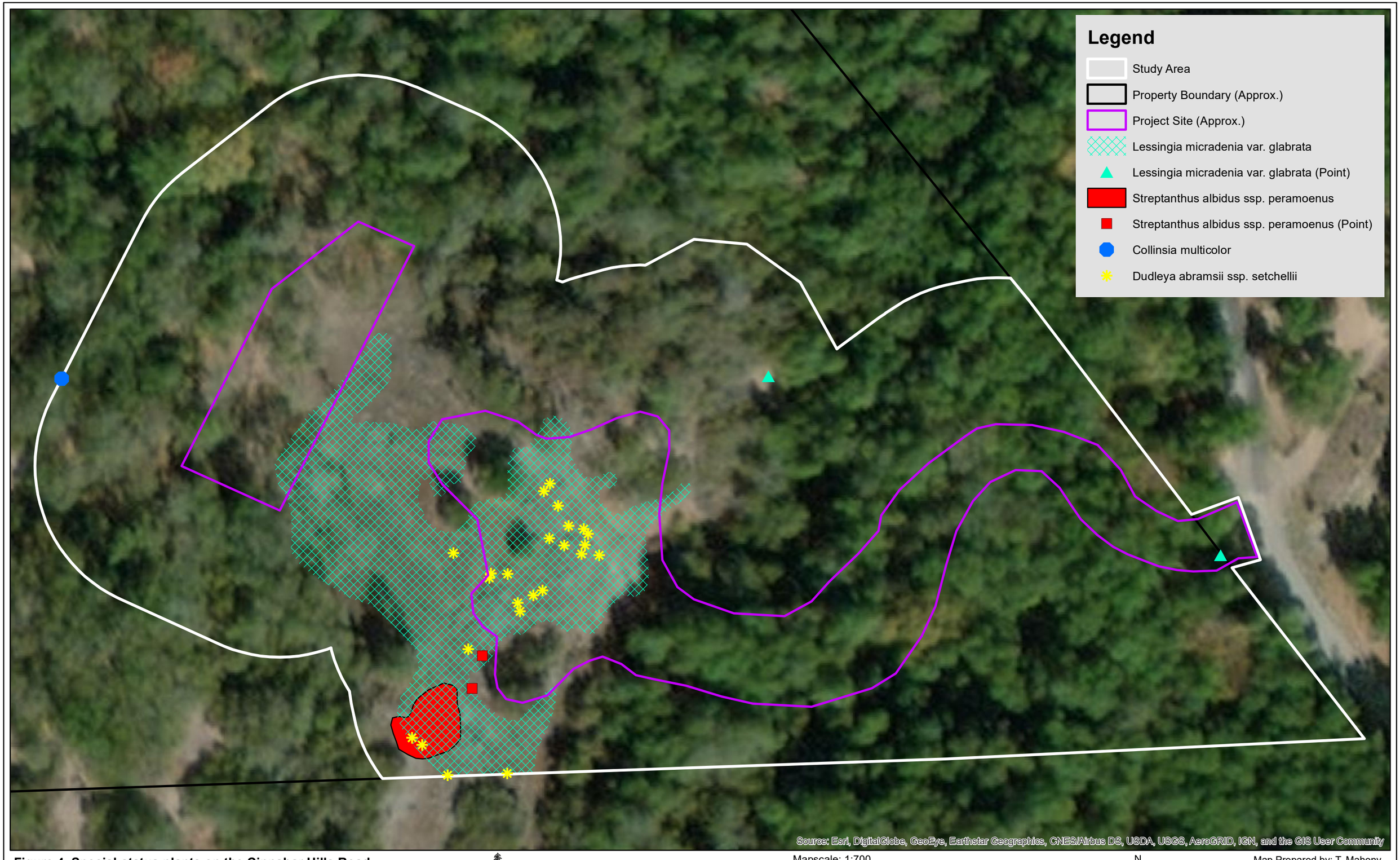

Figure 4. Special-status plants on the Cinnabar Hills Road study area (APN 742-02-006), San Jose.

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Mapscale: 1:700

0 25 50 100 150 Feet

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Map Prepared by: T. Mahony
Map Date: 7/9/20
Orthophoto Date: 11/14/18

based on the number of individuals present, the range of age classes observed spread throughout numerous rocky outcrops, robust blooming, and availability of suitable habitat, but the occurrence is impacted by disturbance, as described in CRB (2019), as well as more recent disturbance that consists of tire tracks, holes, and other ground disturbance from septic testing.

A California Native Species Field Form for Santa Clara Valley dudleya was submitted to CDFW and is included in Appendix D.

Most Beautiful Jewelflower

Most beautiful jewelflower is an annual herb in the Brassicaceae family. It is not listed as threatened or endangered under the state or federal ESA, but has a CNPS Rare Plant Rank of 1B.2 (plants rare, threatened, or endangered in California and elsewhere/fairly endangered in California). Most beautiful jewelflower typically occurs in chaparral, cismontane woodland, and valley and foothill grassland on serpentinite between 312 and 3,280-feet elevation, blooming April-September (CNPS 2020).

The taxonomy of most beautiful jewelflower is in flux. The taxon *Streptanthus albidus* ssp. *peramoenus* is listed in CNPS (2020) and the Habitat Plan (ICF International 2012), but is not included in the most current taxonomy, including Baldwin et al. (2012) and the Jepson Flora Project (2020), where it is described as a synonym of *Streptanthus glandulosus* ssp. *glandulosus*. The CNPS Inventory (CNPS 2020) does not include *Streptanthus glandulosus* ssp. *glandulosus*, but states that, for *Streptanthus albidus* ssp. *peramoenus*, "*further study is underway to determine its relationship to the S. glandulosus complex*." For this report *Streptanthus glandulosus* ssp. *glandulosus* and *Streptanthus albidus* ssp. *peramoenus* are treated as synonyms, with a CNPS Rare Plant Rank of 1B.2.

During the April-July, 2020 surveys, ~102 most beautiful jewelflower plants were observed on the study area (Figure 4) in three locations in the southern portion of the study area in Serpentine Bunchgrass Grassland, Serpentine Rock Outcrop, and Serpentine Chaparral habitats. The occurrence consists of two isolated individuals mapped as points and a cluster of ~100 plants mapped as a polygon (Figure 4). The plants were in vegetative rosettes during the April 3 survey and in full bloom during the May 11 survey (Appendix C-3, C4), with ~90 percent flowering and ~10 percent fruiting. Associate species observed growing with most beautiful jewelflower include Santa Clara Valley dudleya, smooth lessingia, California poppy, Torrey's melica, golden yarrow, purple needlegrass, soap plant, dwarf plantain, Madrid brome, purple owl's clover, and small fescue (*Festuca microstachys*).

The suitable habitat consists of open, rocky areas on serpentinite devoid of shrub or tree canopy or significant herbaceous cover. Numerous areas of unoccupied suitable habitat are present in the vicinity in Serpentine Bunchgrass Grassland, Serpentine Rock Outcrop, and Serpentine Chaparral habitats (Figure 2). The occurrence is in generally good condition based on the number of individuals, robust blooming, and availability of suitable habitat, but the occurrence is impacted by disturbance, as described in CRB (2019), as well as more recent disturbance that consists of tire tracks, holes, and other ground disturbance from septic testing.

A California Native Species Field Form for most beautiful jewelflower was submitted to CDFW and is included in Appendix D.

San Francisco Collinsia

San Francisco collinsia is an annual herb in the Plantaginaceae family. It is not listed as threatened or endangered under the state or federal ESA, but has a CNPS Rare Plant Rank of 1B.2 (plants rare, threatened, or endangered in California and elsewhere/fairly endangered in California). San Francisco collinsia typically occurs in closed-cone coniferous forest and coastal scrub, sometimes on serpentinite, between 98 and 820-feet elevation, blooming March-May (CNPS 2020).

During the April-July, 2020 surveys, one individual of San Francisco collinsia was observed in Blue Oak Woodland along the western edge of the study area (Figure 4; Appendix C-5). The plant was in full bloom during the April 3 survey and in fruit during the May 11, 2020 survey. Associate species observed growing with San Francisco collinsia include blue oak, toyon, field hedge parsley, common bedstraw, and Indian paintbrush.

The suitable habitat consists of open, grassy areas beneath the Blue Oak Woodland canopy, with extensive areas of unoccupied, suitable habitat in the vicinity. An extensive area of San Francisco collinsia was mapped in the CNDDB immediately west of the study area (CNDDB Occurrence #25; Figure 3), and therefore the occurrence observed on the study area may be part of a larger population extending west to Almaden Quicksilver County Park. Assuming the occurrence is part of a larger population that extends to the west, the occurrence is in generally good condition based on the availability of suitable habitat, the lack of disturbance, and the robust blooming of the individual observed. This occurrence is outside the project site, and more individuals of San Francisco collinsia are anticipated to occur offsite in the general area where suitable habitat is present.

A California Native Species Field Form for San Francisco collinsia was submitted to CDFW and is included in Appendix D.

Smooth Lessingia

Smooth lessingia is an annual herb in the Asteraceae family. It is not listed as threatened or endangered under the state or federal ESA, but has a CNPS Rare Plant Rank of 1B.2 (plants rare, threatened, or endangered in California and elsewhere/fairly endangered in California). Smooth lessingia typically occurs in chaparral, cismontane woodland, and valley and foothill grassland on serpentinite between 393 and 1,378-feet elevation, blooming July-November (CNPS 2020).

During the April-July, 2020 surveys, ~72,200 individuals of smooth lessingia were observed over 35,962 ft^2 (0.826-acre) throughout the central and western portions of the study area in Serpentine Bunchgrass Grassland, Serpentine Rock Outcrop, and Serpentine Chaparral habitats, along with two isolated occurrences of 5-10 individuals in the eastern and northern portions of the study area (Figure 4). The plants were vegetative during the May 11 survey and in early bloom during the July 7, 2020 survey, with ~10 percent flowering and ~90 percent vegetative (Appendix C-6). Associate species observed growing with smooth lessingia include Santa Clara

Valley dudleya, most beautiful jewelflower, California poppy, Torrey's melica, golden yarrow, purple needlegrass, soap plant, dwarf plantain, Madrid brome, purple owl's clover, and small fescue.

The suitable habitat consists of open, rocky areas on serpentinite devoid of shrub or tree canopy or significant herbaceous cover. Some areas of unoccupied suitable habitat are present in the vicinity in Serpentine Bunchgrass Grassland, Serpentine Rock Outcrop, and Serpentine Chaparral habitats (Figure 2), but smooth lessingia is extensive on the study area and most areas of suitable habitat were occupied by the species. The occurrence extends offsite south of the study area. Offsite areas were not surveyed due to private property. The occurrence is in good condition based on the number of individuals and availability of suitable habitat, but the occurrence is impacted by disturbance, as described in CRB (2019), as well as more recent disturbance that consists of tire tracks, holes, and other ground disturbance from septic testing.

A California Native Species Field Form for smooth lessingia was submitted to CDFW and is included in Appendix D.

3.3 Potential Impacts to Special-status Plants and Recommended Avoidance and Minimization Measures

Based on current project plans, the San Francisco collinsia occurrence is located outside the project site, but a portion of the Santa Clara Valley dudleya, most beautiful jewelflower, and smooth lessingia occurrences on the study area are located on or adjacent to the project site (Figure 4). The project site shown in Figure 4 is only approximate due to: (1) difficulties incorporating the project site plan onto maps in this report; (2) uncertainties regarding the final extent of all temporary and permanent ground disturbance (including all development and areas of grading, access, staging, trenching, and vegetation removal); and (3) potential changes to the project footprint. Final temporary and permanent impacts will need to be identified by the project engineer to verify the extent of impacts to Santa Clara Valley dudleya, most beautiful jewelflower, and smooth lessingia on the study area. In addition, most beautiful jewelflower and smooth lessingia are annual species, and based on the presence of unoccupied suitable habitat in the area, the location and extent of the occurrence is anticipated to fluctuate significantly from year to year (based on factors such as annual rainfall, natural and anthropogenic disturbance, reproduction, and recruitment), and therefore, the number of individuals that will be impacted by the project is unknown.

The following represents the best estimate of project impacts to special-status plants on the study area based on current conditions. These estimates will likely change once the final extent of temporary and permanent project impacts are known:

1. The San Francisco collinsia occurrence is located ~100-feet west of the project site (Figure 4), and, based on current project plans and with the incorporation of avoidance and minimization measures discussed below, will be avoided by the project. Therefore, no direct or indirect impacts to San Francisco collinsia are anticipated from the proposed project.

2. Most or all of the most beautiful jewelflower occurrence may be avoided by the project if development, grading, and other ground disturbance is limited to areas outside the occurrence (Figure 4). Due to the proximity of two individuals near the project site boundary, these would likely be directly or indirectly impacted, while the larger occurrence of 100 individuals near the southern study area boundary may be located off the project site, depending on the final extent of grading and other ground disturbance. Direct and indirect impacts to the majority of the occurrence may be avoided with the incorporation of avoidance and minimization measures discussed below, but this would depend on the final extent of project ground disturbance.

3. The majority of the Santa Clara Valley dudleya occurrence on the study area is located within the project site, and, based on current project plans, ~60 of the ~96 Santa Clara Valley dudleya individuals on the study area may be permanently impacted by the project. Additional individuals may be directly or indirectly impacted, depending on the final extent of project ground disturbance.

4. Approximately 13,700 ft^2 of the 35,962 ft^2 of smooth lessingia occurrence on the study area (representing ~27,500 of ~72,200 individuals, based on best estimates of current conditions) may be impacted by the project, depending on the final extent of project ground disturbance.

The following measures are recommended to minimize or avoid direct or indirect impacts to San Francisco collinsia, Santa Clara Valley dudleya, most beautiful jewelflower, and smooth lessingia on the study area. The County or other regulatory agencies may modify or add to the measures.

1. Vegetation removal and ground disturbance shall be limited to the minimum necessary to conduct the project. To the maximum extent practicable, project ground disturbance shall avoid direct or indirect impacts to San Francisco collinsia, Santa Clara Valley dudleya, most beautiful jewelflower, and smooth lessingia by locating ground disturbance outside the occurrences of these species and by maintaining unoccupied suitable habitat in the vicinity in its native condition.

2. Temporary fencing (orange construction fencing or similar materials) shall be installed around special-status plant occurrences on the study area that are outside the project disturbance envelope to ensure no equipment, materials, or construction personnel stray from the work area and impact special-status plants. The fencing shall be removed after project construction is complete.

3. Erosion control measures and Best Management Practices shall be implemented as necessary to ensure that no sediment, pollutants, or other materials from the project site reach special-status plant occurrences or habitat.

4. If work is conducted adjacent to special-status plant occurrences, dust shall be kept to a minimum such that excessive dust does not drift from the work area and deposit onto special-status plants or habitat.

5. Seed or planting mixes used for erosion control, soil stabilization, or landscaping shall not contain any species listed on the California Invasive Plant Council (Cal-IPC) Inventory. Any straw or other erosion control materials shall be certified weed free.

6. Conditions 13 (Serpentine and Associated Covered Species Avoidance and Minimization), 19 (Plant Salvage when Impacts are Unavoidable), and 20 (Avoid and Minimize Impacts to Covered Plant Occurrences) in the Habitat Plan for special-status plants shall be followed. All other permit or other requirements by the regulatory agencies shall be followed.

4.0 CONCLUSIONS

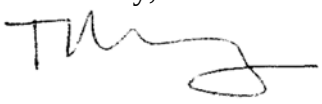
Despite the below average precipitation for the 2019-2020 water year, vegetation growth on the study area was robust, and the phenology of annual and perennial species appeared normal for the season. The entire study area was surveyed on foot. Though past ground disturbance was evident, most of it had occurred prior to the 2019-2020 rainy season and vegetation regrowth was observed. Therefore, any special-status plant species present would have likely been evident and identifiable, despite the below-average precipitation year and ground disturbance. However, the number of individual plants present may have been impacted by past ground disturbance.

Host plants for the federally-threatened Bay checkerspot butterfly were observed on the study area during the surveys (Figure 5). The study area is not located within a Bay checkerspot butterfly survey area in the Geobrowser (Santa Clara Valley Habitat Agency 2020), nor is it located within the modeled distribution of Bay checkerspot butterfly in Appendix D of the Habitat Plan (ICF International 2012).

Once final temporary and permanent impacts have been determined for the project, final impacts to special-status plants should be calculated by the project engineer so the County can determine any impact measures or fees associated with the project.

Please contact me if you have questions or need additional information.

Sincerely,



Tom Mahony, MS, PWS
Principal/Plant Ecologist

5.0 LIMITATIONS

The results of this report are based on conditions observed at the time of the field visits and the botanist's interpretation of those conditions. Plants that are dominant at the time of this report may shift in importance depending on rainfall conditions and season, or population shifts, extirpations, and natural recruitment over time. This report is restricted to the special-status plant surveys. No other biological issues are addressed. Regulatory agencies make the final determination (subject to judicial review) regarding biological resource issues on the study area.

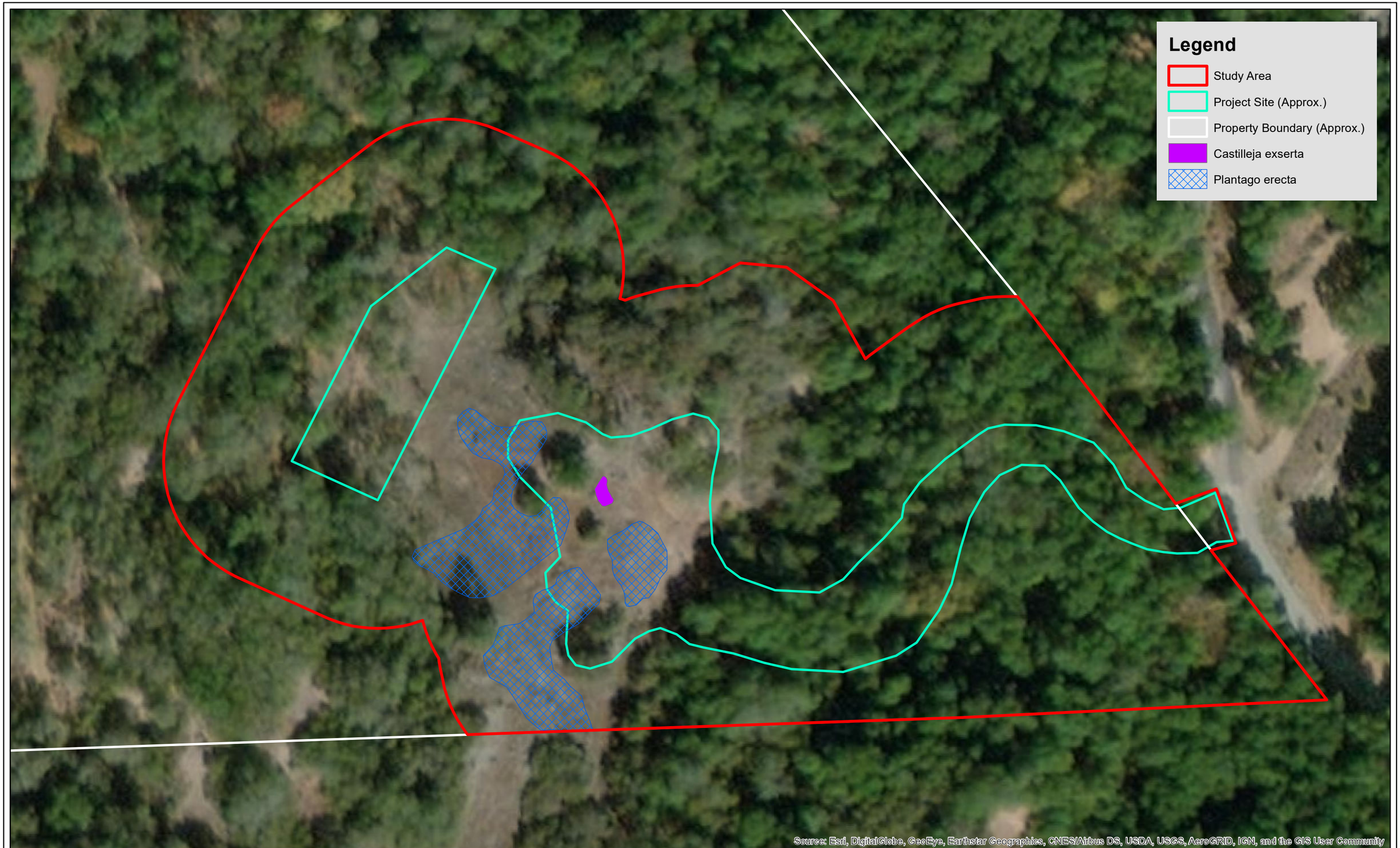


Figure 5. Host plants for Bay Checkerspot Butterfly on the Cinnabar Hills Road study area (APN 742-02-006), San Jose.

COAST RANGE BIOLOGICAL LLC

Mapscale: 1:800

0 50 100 200 300 Feet

N

Map Prepared by: T. Mahony
Map Date: 7/9/20
Orthophoto Date: 11/14/18

This report should be submitted to Santa Clara County planning staff for review and concurrence. This report does not constitute authorization to conduct the project, and all necessary permits and approvals should be obtained from regulatory agencies prior to project implementation.

6.0 REFERENCES

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Appendix A. Special-status plant species documented to occur in the study area region.

List compiled from searches of the CNDDB (CDFW 2020) records for the Santa Teresa Hills, Morgan Hill, Mt. Madonna, Loma Prieta, Laurel, Los Gatos, San Jose West, San Jose East, and Lick Observatory 7.5' USGS quadrangles, the CNPS Inventory of Rare and Endangered Plants (CNPS 2020), USFWS (2020a), the Habitat Plan (ICF International 2012), and other publications.

Species	Status	Typical Habitat	Habitat Assessment of the Study Area
Amsinckia lunaris bent-flowered fiddleneck	1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland, 3-500 m. Blooms March-June.	Marginal suitable habitat present in Blue Oak Woodland and Coast Live Oak Forest and Woodland. Not observed during floristic surveys.
Arctostaphylos andersonii Santa Cruz manzanita	1B.2	Broadleafed upland forest, chaparral, North Coast coniferous forest (openings, edges), 60-730 m. Blooms November-April.	No documented occurrences in area and no *Arctostaphylos* observed on the study area. Not expected.
Arctostaphylos silvicola Bonny Doon manzanita	1B.2	Closed-cone coniferous forest, chaparral, lower montane coniferous forest (inland marine sands), 120-600 m. Blooms January-March.	No suitable habitat present on the study area. Out of current range. Not observed during floristic surveys.
Balsamorhiza macrolepis big-scale balsamroot	1B.2	Chaparral, cismontane woodland, valley and foothill grassland (sometimes serpentinite), 90-1,555 m. Blooms March-June.	Suitable habitat present in Serpentine Bunchgrass Grassland. Not observed during floristic surveys.
Calyptridium parryi var. *hesseae* Santa Cruz Mountains pussypaws	1B.1	Chaparral, cismontane woodland (sandy or gravelly, openings), 305-1,530 m. Blooms May-August.	No suitable sandy/gravelly habitat present on the study area. Not observed during floristic surveys.
Campanula exigua chaparral harebell	1B.2	Chaparral (rocky, usually serpentinite), 275-1,250 m. Blooms May-June.	Suitable habitat present in Mixed Serpentine Chaparral. Not observed during floristic surveys.
Carex comosa bristly sedge	2B.1	Coastal prairie, marshes and swamps (lake margins), valley and foothill grassland, 0-625 m. Blooms May-September.	No suitable habitat present on the study area. Not observed during floristic surveys.
Carex saliniformis deceiving sedge	1B.2	Coastal prairie, coastal scrub, meadows and seeps, coastal salt marshes (mesic sites), 3-230 m. Blooms June-July.	No suitable habitat present on the study area. Not observed during floristic surveys.
Castilleja affinis var. *neglecta* Tiburon paintbrush	FE, ST, 1B.2	Valley and foothill grassland (serpentinite), 60-400 m. Blooms April-June.	Suitable habitat present in Serpentine Bunchgrass Grassland and Serpentine Rock Outcrop habitats. Not observed during floristic surveys.
Castilleja rubicundula var. *rubicundula* pink creamsacs	1B.2	Chaparral (openings), cismontane woodland, meadows and seeps, valley and foothill grassland (serpentinite), 20 - 910 m. Blooms April-June.	Suitable habitat present in Serpentine Bunchgrass Grassland, Mixed Serpentine Chaparral, and Serpentine Rock Outcrop habitats. Not observed during floristic surveys.
Ceanothus ferrisiae coyote ceanothus	FE, 1B.1	Chaparral, coastal scrub, valley and foothill grassland (serpentinite), 120-460 m. Blooms January-May.	Suitable habitat present in Serpentine Bunchgrass Grassland, Mixed Serpentine Chaparral, and Serpentine Rock Outcrop habitats. Not observed during floristic surveys.

Species	Status	Typical Habitat	Habitat Assessment of the Study Area
Centromadia parryi subsp. *congdonii* Congdon't tarplant	1B.1	Valley and foothill grassland (alkaline), 1-230 m. Blooms May-October.	No suitable habitat present on the study area. Not observed during floristic surveys.
Chlorogalum pomeridianum var. *minus* dwarf soaproot	1B.2	Chaparral (serpentinite), 305–1,000 m. Blooms May-August.	Suitable habitat present in Mixed Serpentine Chaparral and Serpentine Rock Outcrop habitats. Not observed during floristic surveys.
Chorizanthe pungens var. *hartwegiana* Ben Lomond spineflower	FE, 1B.1	Lower montane coniferous forest (maritime ponderosa pine sandhills), 90-610. Blooms April-July	No suitable habitat present on the study area. Not observed during floristic surveys.
Chorizanthe pungens var. pungens Monterey spineflower	FT, 1B.2	Chaparral (maritime), cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland (sandy), 3-450 m. Blooms April-June (sometimes into July-August).	No suitable habitat present on the study area. Not observed during floristic surveys.
Chorizanthe robusta var. *hartwegii* Scotts Valley spineflower	FE, 1B.1	Meadows and seeps (sandy), valley and foothill grassland (mudstone and Purisima outcrops), 230-245 m. Blooms April-July.	No suitable habitat present on the study area. Not observed during floristic surveys.
Chorizanthe robusta var. *robusta* robust spineflower	FE. 1B.1	Maritime chaparral, cismontane woodland, coastal dunes, coastal scrub (sandy or gravelly), 3-330 m. Blooms April-September.	No suitable habitat present on the study area. Not observed during floristic surveys.
Cirsium fontinale var. *campylon* Mt. Hamilton fountain thistle	1B.2	Chaparral, cismontane woodland, valley and foothill grassland (serpentinite seeps), 100-890 m. Blooms February-October.	No serpentine seep habitat present. Not observed during floristic surveys.
Clarkia concinna ssp. *automixa* Santa Clara red ribbons	4.3	Chaparral, cismontane woodland, 90-1,500 m. Blooms April-July.	Marginal suitable habitat present in Blue Oak Woodland and Coast Live Oak Forest and Woodland. Not observed during floristic surveys.
Collinsia multicolor San Francisco collinsia	1B.2	Closed-cone coniferous forest, coastal scrub (sometimes serpentinite), 30-250 m. Blooms February-May.	**Present.** One individual observed on the study area during the April-July 2020 surveys.
Dudleya abramsii ssp. *setchellii* Santa Clara Valley dudleya	FE, 1B.1	Cismontane woodland, valley and foothill grassland (serpentinite, rocky), 60-455 m. Blooms April-October.	**Present.** ~96 individuals observed on the study area during the April-July 2020 surveys.
Eriogonum nudum var. *decurrens* Ben Lomond buckwheat	1B.1	Chaparral, cismontane woodland, lower montane coniferous forest (sandy maritime ponderosa pine sandhills), 50-800 m. Blooms June-October.	No suitable habitat present on the study area. Not observed during floristic surveys.
Eryngium aristulatum var. *hooveri* Hoover's button-celery	1B.1	Vernal pools, 3-45 m. Blooms in July.	No suitable habitat present on the study area. Not observed during floristic surveys.

Species	Status	Typical Habitat	Habitat Assessment of the Study Area
Erysimum teretifolium Santa Cruz wallflower	FE, SE, 1B.1	Chaparral, lower montane coniferous forest (inland marine sands), 120-610 m. Blooms March-July.	No suitable habitat present on the study area. Not observed during floristic surveys.
Fissidens pauperculus minute pocket moss	1B.2	North Coast coniferous forest (damp coastal soil), 10-1,024 m.	No suitable habitat present on the study area. Not observed during floristic surveys.
Fritillaria liliacea fragrant fritillary	1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland (often serpentinite), 3-410 m. Blooms February-April.	Suitable habitat present in Serpentine Bunchgrass Grassland. Not observed during floristic surveys.
Hoita strobilina Loma Prieta hoita	1B.1	Chaparral, cismontane woodland, riparian woodland (usually serpentinite, mesic), 30-860 m. Blooms May-October.	Marginal suitable habitat present on serpentine in vicinity of Blue Oak Woodland and Coast Live Oak Forest and Woodland. Not observed during floristic surveys.
Holocarpha macradenia Santa Cruz tarplant	FT, SE, 1B.1	Coastal prairie, coastal scrub, valley and foothill grassland (often clay, sandy), 10-220 m. Blooms June-October.	No suitable habitat present on the study area. Not observed during floristic surveys.
Horkelia cuneata var. *sericea* Kellogg's horkelia	1B.1	Closed-cone coniferous forest, chaparral, coastal dunes, old sand hills, coastal scrub (sandy or gravelly openings), 10-200 m. Blooms April-September.	No suitable habitat present on the study area. Not observed during floristic surveys.
Lasthenia conjugens Contra Costa goldfields	FE, 1B.1	Cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools (mesic), 0-470 m. Blooms March-June.	No suitable habitat present on the study area. Not observed during floristic surveys.
Leptosyne hamiltonii Mt. Hamilton coreopsis	1B.2	Cismontane woodland (rocky), 550-1,300 m. Blooms March-May.	Marginal habitat in Blue Oak Woodland and Coast Live Oak Forest and Woodland but study area is outside recorded elevational range of the species. Not observed during floristic surveys.
Lessingia hololeuca woolly-headed lessingia	3	Broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland (clay, serpentinite), 15-305 m. Blooms June-October.	Marginal suitable habitat present in serpentine habitat. Not observed during floristic surveys.
Lessingia micradenia var. *glabrata* smooth lessingia	1B.2	Chaparral, cismontane woodland (serpentinite, often roadsides), 120-420 m. Blooms July-November.	**Present.** ~72,200 individuals observed on the study area during April-July 2020 surveys.
Lomatium observatorium Mt. Hamilton lomatium	1B.2	Cismontane woodland, 1,219-1,330 m. Blooms March-May.	The study area is outside the documented elevational range of the species. Not observed during floristic surveys.
Malacothamnus arcuatus arcuate bush mallow	1B.2	Chaparral, cismontane woodland, 15-355 m. Blooms April-September.	No *Malacothamnus* observed on the study area.
Malacothamnus hallii Hall's bush mallow	1B.2	Chaparral, coastal scrub, 10-760 m. Blooms May-September.	No *Malacothamnus* observed on the study area.

Species	Status	Typical Habitat	Habitat Assessment of the Study Area
Micropus amphibolus Mt. Diablo cottonweed	3.2	Broadleafed upland forest, chaparral, cismontane woodland, valley and foothill grassland (rocky), 48-825 m. Blooms March-May.	Marginal habitat in Blue Oak Woodland and Coast Live Oak Forest and Woodland. Not observed during floristic surveys.
Monardella sinuata ssp. *nigrescens* northern curly-leaved monardella	1B.2	Chaparral (SCR Co.), coastal dunes, coastal scrub, lower montane coniferous forest (SCR Co., ponderosa pine sandhills), 0-300 m. Blooms May-July (sometimes Aug-Sept).	No suitable habitat present on the study area. Not observed during floristic surveys.
Monolopia gracilens woodland woollythreads	1B.2	Broadleafed upland forest (openings), chaparral (openings), cismontane woodland, North Coast coniferous forest (openings), valley and foothill grassland (serpentine), 100-1,200 m. Blooms February-July.	Suitable habitat present in Blue Oak Woodland, Coast Live Oak Forest and Woodland, and Serpentine Bunchgrass Grassland. Not observed during floristic surveys.
Penstemon rattanii var. *kleei* Santa Cruz Mountains beardtongue	1B.2	Chaparral, lower montane coniferous forest, North Coast coniferous forest, 400-1,100 m. Blooms May-June.	No suitable habitat present on the study area. The study area is outside the documented elevational range of the species. Not observed during floristic surveys.
Pentachaeta bellidiflora white-rayed pentachaeta	FE, SE, 1B.1	Cismontane woodland, coastal scrub, valley and foothill grassland (often serpentinite), 35-620 m. Blooms March-May.	Marginal habitat present in Serpentine Bunchgrass Grassland. Not observed during floristic surveys.
Phacelia phacelioides Mt. Diablo phacelia	1B.2	Chaparral, cismontane woodland (rocky), 500-1,370 m. Blooms April-May.	The study area is outside the documented elevational range of the species. Not observed during floristic surveys.
Plagiobothrys chorisianus var. *chorisianus* Choris' popcorn-flower	1B.2	Chaparral, coastal prairie, coastal scrub (mesic), 15-100 m. Blooms March-June.	No suitable habitat present on the study area. Not observed during floristic surveys.
Plagiobothrys diffusus San Francisco popcorn-flower	SE, 1B.1	Coastal prairie, valley and foothill grassland, 60-360 m. Blooms March-June.	No suitable habitat present on the study area. Not observed during floristic surveys.
Plagiobothrys glaber hairless popcornflower	1A	Meadows and seeps (alkaline), marshes and swamps (coastal salt), 15-180 m. Blooms March-May.	No suitable habitat present on the study area. Not observed during floristic surveys. Presumed extinct.
Polygonum hickmanii Scotts Valley polygonum	FE, SE, 1B.1	Valley and foothill grassland (mudstone and sandstone), 210-250 m. Blooms May-August.	No suitable habitat present on the study area. Not observed during floristic surveys.
Sanicula saxatilis rock sanicle	SR,1B.2	Broadleafed upland forest, chaparral, valley and foothill grassland (rocky, scree, talus), 620-1,175 m. Blooms April-May.	The study area is outside the documented elevational range of the species. No suitable habitat present on the study area. Not observed during floristic surveys.

Species	Status	Typical Habitat	Habitat Assessment of the Study Area
Senecio aphanactis chaparral ragwort	2B.2	Chaparral, cismontane woodland, coastal scrub (sometimes alkaline), 15-800 m. Blooms January-May.	Marginal habitat in Blue Oak Woodland and Coast Live Oak Forest and Woodland. Not observed during floristic surveys.
Streptanthus albidus ssp. *albidus* Metcalf Canyon jewelflower	FE, 1B.1	Valley and foothill grassland (serpentinite), 45-800 m. Blooms April-July.	Suitable habitat in Serpentine Bunchgrass Grassland and Serpentine Rock Outcrop habitats. Not observed during floristic surveys.
Streptanthus albidus ssp. *peramoenus* most beautiful jewelflower	1B.2	Chaparral, cismontane woodland, valley and foothill grassland (serpentinite), 95-1,000 m. Blooms March-October.	**Present.** ~102 individuals observed on the study area during April-July 2020 surveys.
Trifolium buckwestiorum Santa Cruz clover	1B.1	Broadleafed upland forest, cismontane woodland, coastal prairie (gravelly, margins), 105-610 m. Blooms April-October.	Suitable substrate generally lacking. Not observed during floristic surveys.
Trifolium hydrophilum saline clover	1B.2	Marshes and swamps, valley and foothill grassland (mesic/alkaline), vernal pools, 0-300 m. Blooms April-June.	No suitable habitat present on the study area. Not observed during floristic surveys.
Trifolium polyodon Pacific Grove clover	SR, 1B.1	Closed-cone coniferous forest, coastal prairie, meadows and seeps, valley and foothill grassland, 5-425 m. Blooms April-June.	No suitable habitat present on the study area. Not observed during floristic surveys.
Key to Status:			
FE	Federal Endangered		
FT	Federal Threatened		
SE	State Endangered		
ST	State Threatened		
SR	State Rare		
1A	CNPS Rare Plant Rank of plants presumed extirpated in California and either rare or extinct elsewhere		
1B	CNPS Rare Plant Rank of plants rare, threatened, or endangered in California and elsewhere		
2	CNPS Rare Plant Rank of plants rare, threatened, or endangered in California but more common elsewhere		
3	CNPS Rare Plant Rank of plants about which we need more information (a review list)		
4	CNPS Rare Plant Rank of plants of limited distribution (a watch list)		
.1/.2/.3	Seriously endangered in California/Fairly endangered in California/ Not very endangered in California		

Appendix B. Plant species observed on the Cinnabar Hills Road study area, April 3, May 11, and July 7, 2020.

Scientific Name	Common Name
Acer macrophyllum	big-leaf maple
Achillea millefolium	yarrow
Acmispon brachycarpus	foothill deervetch
Acmispon glaber	deer weed
Acmispon wrangelianus	Chilean bird's-foot trefoil
Adiantum jordanii	maiden hair
Aesculus californica	California buckeye
Agoseris heterophylla var. *cryptopleura*	mountain dandelion
*Ailanthus altissima**	tree of heaven
*Aira caryophyllea**	silver hair grass
Allium serra	jeweled onion
Amsinckia intermedia	intermediate fiddleneck
Aphanes occidentalis	lady's mantle
Arbutus menziesii	madrone
Arctostaphylos glauca	big-berry manzanita
Arctostaphylos viscida	white-leaf manzanita
Artemisia californica	California sagebrush
Artemisia douglasiana	mugwort
Astragalus gambelianus	Gambel's dwarf milkvetch
*Avena barbata**	slender wild oats
Baccharis pilularis ssp. *consanguinea*	coyote brush
*Bromus caroli-henrici**	weedy brome
*Brachypodium distachyon**	false brome
Brodiaea elegans	elegant brodiaea
*Bromus diandrus**	ripgut brome
*Bromus hordeaceus**	soft chess
*Bromus madritensis**	Madrid brome
Calandrinia menziesii	red maids
Calochortus albus	white globe lily
Calystegia collina ssp. *collina*	hillside false bindweed
Calystegia purpurata ssp. *purpurata*	western morning glory
Cardamine californica	milkmaids
Cardamine oligosperma	bitter cress
*Carduus pycnocephalus**	Italian thistle
Castilleja affinis ssp. *affinis*	Indian paintbrush
Castilleja exserta ssp. *exserta*	purple owl's clover
Caulanthus lasiophyllus	California mustard
*Centaurea melitensis**	tocalote
*Centaurea solstitialis**	yellow star-thistle
*Cerastium glomeratum**	mouse-ear chickweed
Chlorogalum pomeridianum	soap plant
*Cirsium vulgare**	bull thistle
Clarkia purpurea ssp. *quadrivulnera*	winecup clarkia
Claytonia exigua ssp. *glauca*	serpentine spring beauty
Claytonia parviflora ssp. *parviflora*	narrow leaved miner's lettuce
Claytonia perfoliata	miner's lettuce

Scientific Name	Common Name
Claytonia rubra ssp. *depressa*	red stemmed spring beauty
Clematis sp.	clematis
Clinopodium douglasii	yerba buena
Collinsia multicolor	San Francisco collinsia
Collinsia sparsiflora var. *sparsiflora*	few flowered collinsia
*Cotula australis**	annual buttonweed
Cordylanthus rigidus ssp. *rigidus*	rigid bird's-beak
*Cotoneaster pannosus**	cotoneaster
Cryptantha flaccida	weakstem cryptantha
Cynoglossum grande	grand hound's tongue
*Dactylis glomerata**	orchard grass
Daucus pusillus	wild carrot
Dichelostemma capitatum	blue dicks
Diplacus aurantiacus	common monkeyflower
*Dittrichia graveolens**	stinkwort
Drymocallis glandulosa	sticky cinquefoil
Dryopteris arguta	California wood fern
Dudleya abramsii* ssp. *setchellii	Santa Clara Valley dudleya
Elymus glaucus	blue wildrye
Elymus multisetus	big squirreltail grass
Eriogonum gracile var. *gracile*	slender wooly buckwheat
Eriogonum nudum var. *nudum*	naked buckwheat
Eriophyllum confertiflorum	golden yarrow
*Erodium cicutarium**	red-stem filaree
Eschscholzia californica	California poppy
*Euphorbia peplus**	petty spurge
Festuca microstachys	small fescue
*Festuca perennis**	creeping wildrye
Frangula californica	California coffeeberry
Galium andrewsii	needlemat galium
Galium aparine	common bedstraw
Galium californicum	California bedstraw
Galium porrigens	climbing bedstraw
*Gastridium phleoides**	nit grass
*Genista monspessulana**	French broom
*Geranium molle**	woodland geranium
Gilia tricolor	bird's-eye gilia
Hesperevax sparsiflora	erect evax
Hesperocnide tenella	western stinging nettle
Hesperolinon disjunctum	coast range western flax
Heteromeles arbutifolia	toyon
*Hypochaeris glabra**	smooth cat’s ears
Iris purdyi	Purdy’s iris
Juncus patens	common rush
Koeleria macrantha	June grass
*Lactuca saligna**	narrow leaved wild lettuce
*Lactuca serriola**	prickly lettuce
Lasthenia californica	California goldfields

Scientific Name	Common Name
Lathyrus vestitus	wild pea
*Lepidium didymum**	lesser swine cress
Lepidium nitidum	peppergrass
Leptosiphon androsaceus	false babystars
Lessingia micradenia* var. *glabrata	smooth lessingia
*Lobularia maritima**	sweet alyssum
Lomatium utriculatum	bladder parsnip
Lonicera hispidula	pink honeysuckle
Lupinus bicolor	miniature lupine
Luzula comosa	common wood rush
*Lysimachia arvensis**	scarlet pimpernel
Madia exigua	small tarweed
Madia gracilis	gumweed
Marah fabacea	manroot
*Medicago polymorpha**	bur clover
Melica californica	California melicgrass
Melica torreyana	Torrey's melica
Micranthes californica	California saxifrage
Micropus californicus	Q tips
Microsteris gracilis	slender phlox
Minuartia sp.	minuartia
Monardella villosa ssp. *villosa*	coyote mint
Navarretia squarrosa	skunkbush
Nemophila menziesii var. *menziesii*	baby blue eyes
Nemophila parviflora	smallflower nemophila
*Nicotiana glauca**	tree tobacco
Osmorhiza berteroi	sweet cicely
*Oxalis pes-caprae**	Bermuda buttercup
Pellaea andromedifolia	coffee fern
Pentagramma triangularis	goldenback fern
Phacelia distans	common phacelia
Plantago erecta	dwarf plantain
Platystemon californicus	cream cups
*Poa annua**	annual bluegrass
*Polycarpon tetraphyllum**	four-leaved allseed
Polypodium californicum	California polypody
Pseudognaphalium californicum	California cudweed
*Pseudognaphalium luteoalbum**	annual cudweed
Pseudognaphalium ramosissimum	pink cudweed
Pterostegia drymarioides	fairy mist
Quercus agrifolia	coast live oak
Quercus berberidifolia	scrub oak
Quercus douglasii	blue oak
Quercus durata	leather oak
Quercus kelloggii	California black oak
Quercus lobata	valley oak
Ranunculus californicus	California buttercup
Ranunculus hebecarpus	delicate buttercup

Scientific Name	Common Name
Ranunculus occidentalis	western buttercup
Rhamnus crocea	redberry buckthorn
Ribes sp.	gooseberry
Rosa gymnocarpa	wood rose
Rubus ursinus	California blackberry
Sambucus nigra ssp. *caerulea*	blue elderberry
Sanicula bipinnatifida	snakeroot
Sanicula crassicaulis	Pacific snakeroot
*Senecio vulgaris**	common grounsel
Silene laciniata ssp. *californica*	California pink
*Silene gallica**	pink windmills
*Silybum marianum**	milk thistle
Sisyrinchium bellum	blue-eyed-grass
Solanum sp.	nightshade
Sonchus asper ssp. *asper**	prickly sowthistle
Stachys rigida var. *quercetorum*	hedge nettle
*Stellaria media**	chickweed
Stipa lepida	foothill needlegrass
*Stipa miliacea**	smilo grass
Stipa pulchra	purple needle grass
***Streptanthus glandulosus* ssp. *glandulosus* (=*Streptanthus albidus* ssp. *peramoenus*)**	most beautiful jewelflower
Symphoricarpos mollis	snowberry
Tauschia hartwegii	Hartweg's tauschia
Thysanocarpus curvipes	fringe pod
*Torilis arvensis**	field hedge parsley
Toxicodendron diversilobum	poison oak
Trifolium albopurpureum	Indian clover
Trifolium bifidum var. *bifidum*	Pinole clover
Trifolium microcephalum	hairy clover
Trifolium willdenovii	tomcat clover
Triteleia laxa	Ithuriel's spear
Umbellularia californica	California bay
Uropappus lindleyi	silver puffs
*Veronica arvensis**	speedwell
* = non-native species; **bold** = special-status species	

Appendix C. Photographs of the Study Area.

Appendix C-1. Santa Clara Valley dudleya rosette observed on the study area in Serpentine Rock Outcrop habitat, April 3, 2020.

Appendix C-2. Santa Clara Valley dudleya blooming on the study area, May 11, 2020.

Appendix C-3. Most beautiful jewelflower observed on the study area, May 11, 2020.

Appendix C-4. Most beautiful jewelflower on the study area, May 11, 2020, showing habitat in Serpentine Bunchgrass Grassland and Serpentine Rock Outcrop habitats.

Appendix C-5. San Francisco collinsia observed on the study area, April 3, 2020.

Appendix C-6. Smooth lessingia observed on the study area July 7, 2020.

APPENDIX D

CALIFORNIA NATIVE SPECIES FIELD FORMS

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 04/03/2020

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Collinsia multicolor*

Common Name: San Francisco collinsia

Species Found? (●) Yes ( ) No _____ If not found, why?

Total No. Individuals: 1 Subsequent Visit? ( ) Yes ( ) No

Is this an existing NDDB occurrence? _____ Yes, Occ. # [X] No [ ] Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Tom Mahony, Coast Range Biological LLC
Address: PO Box 1238
Santa Cruz, CA 95061
E-mail Address: coastrange@sbcglobal.net
Phone: 831-345-4690

Plant Information

Phenology:
0 % vegetative | 100 % flowering | 0 % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

[ ] wintering [ ] breeding [ ] nesting [ ] rookery [ ] burrow site [ ] lek [ ] other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Located on 24-acre property on Cinnabar Hills Road, northeast of Almaden Reservoir, in unincorporated San Jose, Santa Clara County, California (APN: 742-02-006).

County: Santa Clara Landowner / Mgr: Private

Quad Name: Santa Teresa Hills, CA Elevation: 900 feet

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) Source of Coordinates (GPS, topo. map & type): GPS

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) GPS Make & Model: Trimble Geo7x

DATUM: **NAD27** ( ) **NAD83** (●) **WGS84** ( ) Horizontal Accuracy: submeter meters/feet

Coordinate System: UTM Zone 10 ( ) UTM Zone 11 ( ) ***OR*** Geographic (Latitude & Longitude) (●)

Coordinates: 37.165369, -121.825519

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

1 individual was observed in open, grassy areas in Blue Oak Woodland on Footpath-Mouser complex, 30 to 50 percent slopes, soils. Associate species include Quercus douglasii, Heteromeles arbutifolia, Torilis arvensis, Galium aparine, and Castilleja affinis ssp. affinis.

Please fill out separate form for other rare taxa seen at this site.

Site Information

Overall site/occurrence quality/viability (site + population): ( ) Excellent (●) Good ( ) Fair ( ) Poor

Immediate AND surrounding land use: Undeveloped private land

Visible disturbances: None

Threats: Invasive non-native species, future development

Comments: Though only one individual observed, occurrence likely extends to the west, off the survey area, and may be part of a larger occurrence in Almaden Quicksilver County Park (CNDDB Occurrence # 25).

Determination: *(check one or more, and fill in blanks)*

- [X] Keyed (cite reference): Jepson eFlora
- [ ] Compared with specimen housed at: _____
- [ ] Compared with photo / drawing in: _____
- [ ] By another person (name): _____
- [ ] Other: _____

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	[ ]	[ ]	[X]
Habitat	[ ]	[ ]	[X]
Diagnostic feature	[ ]	[ ]	[ ]

May we obtain duplicates at our expense? (●) yes ( ) no

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 05/11/2020

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Dudleya abramsii ssp. setchellii*

Common Name: Santa Clara valley dudleya

Species Found? (●) Yes ( ) No _____ If not found, why?

Total No. Individuals: 96 Subsequent Visit? ( ) Yes ( ) No

Is this an existing NDDB occurrence? _____ Yes, Occ. # [X] No [ ] Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Tom Mahony, Coast Range Biological LLC
Address: PO Box 1238
Santa Cruz, CA 95061
E-mail Address: coastrange@sbcglobal.net
Phone: 831-345-4690

Plant Information

Phenology:
50 % vegetative | 50 % flowering | 0 % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

[ ] wintering [ ] breeding [ ] nesting [ ] rookery [ ] burrow site [ ] lek [ ] other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Located on 24-acre property on Cinnabar Hills Road, northeast of Almaden Reservoir, in unincorporated San Jose, Santa Clara County, California (APN: 742-02-006).

County: Santa Clara Landowner / Mgr: Private

Quad Name: Santa Teresa Hills, CA Elevation: 900 feet

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) Source of Coordinates (GPS, topo. map & type): GPS

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) GPS Make & Model: Trimble Geo7x

DATUM: **NAD27** ( ) **NAD83** (●) **WGS84** ( ) Horizontal Accuracy: submeter meters/feet

Coordinate System: UTM Zone 10 ( ) UTM Zone 11 ( ) ***OR*** Geographic (Latitude & Longitude) (●)

Coordinates: 37.164999, -121.824467

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

96 individuals of Santa Clara Valley dudleya were observed on rock outcrops and crevices in Serpentine Rock Outcrop habitat on Footpath-Mouser complex, 30 to 50 percent slopes, soils. Associate species included Streptanthus albidus ssp. peramoenus, Eschscholzia californica, Stipa pulchra, Chlorogalum pomeridianum, Bromus hordeaceus, Castilleja exserta ssp. exserta, Eriophyllum confertiflorum, Melica torreyana, and Lessingia micradenia var. glabrata.

Please fill out separate form for other rare taxa seen at this site.

Site Information

Overall site/occurrence quality/viability (site + population): ( ) Excellent (●) Good ( ) Fair ( ) Poor

Immediate AND surrounding land use: Undeveloped private land

Visible disturbances: Vegetation disturbance from septic testing and other ground disturbing activities.

Threats: Invasive non-native species, future development

Comments:

Determination: *(check one or more, and fill in blanks)*

- [X] Keyed (cite reference): Jepson eFlora
- [ ] Compared with specimen housed at: _____
- [ ] Compared with photo / drawing in: _____
- [ ] By another person (name): _____
- [ ] Other: _____

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	[ ]	[ ]	[X]
Habitat	[ ]	[ ]	[X]
Diagnostic feature	[ ]	[ ]	[ ]

May we obtain duplicates at our expense? (●) yes ( ) no

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 07/07/2020

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Lessingia micradenia var. glabrata*

Common Name: smooth lessingia

Species Found? (●) Yes ( ) No _____ If not found, why?

Total No. Individuals: 72,200 Subsequent Visit? ( ) Yes ( ) No

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☒ No ☐ Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Tom Mahony, Coast Range Biological LLC
Address: PO Box 1238
Santa Cruz, CA 95061
E-mail Address: coastrange@sbcglobal.net
Phone: 831-345-4690

Plant Information

Phenology:
90 % vegetative | 10 % flowering | _____ % fruiting

Animal Information

_____ # adults | _____ # juveniles | _____ # larvae | _____ # egg masses | _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ lek ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Located on 24-acre property on Cinnabar Hills Road, northeast of Almaden Reservoir, in unincorporated San Jose, Santa Clara County, California (APN: 742-02-006).

County: Santa Clara Landowner / Mgr: Private

Quad Name: Santa Teresa Hills, CA Elevation: 900 feet

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( )

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( )

Source of Coordinates (GPS, topo. map & type): GPS

GPS Make & Model: Trimble Geo7x

DATUM: **NAD27** ( ) **NAD83** (●) **WGS84** ( )

Horizontal Accuracy: submeter meters/feet

Coordinate System: UTM Zone 10 ( ) UTM Zone 11 ( ) ***OR*** Geographic (Latitude & Longitude) (●)

Coordinates: 37.078183, -121.643194

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

~72,200 individuals were observed in Serpentine Bunchgrass Grassland and Serpentine Rock Outcrop habitats on Footpath-Mouser complex, 30 to 50 percent slopes, soils. Associate species include Dudleya abramsii ssp. setchellii, Eschscholzia californica, Stipa pulchra, Festuca microstachys, Chlorogalum pomeridianum, Bromus madritensis, Plantago erecta, and Streptanthus albidus ssp. peramoenus.

Please fill out separate form for other rare taxa seen at this site.

Site Information

Overall site/occurrence quality/viability (site + population): ( ) Excellent (●) Good ( ) Fair ( ) Poor

Immediate AND surrounding land use: Undeveloped private land

Visible disturbances: Vegetation disturbance from septic testing and other ground disturbing activities.

Threats: Invasive non-native species, future development

Comments:

Determination: *(check one or more, and fill in blanks)*

☒ Keyed (cite reference): Jepson eFlora
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☐ Other: _____

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☒
Habitat	☐	☐	☒
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? (●) yes ( ) no

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Date of Field Work (mm/dd/yyyy): 05/11/2020

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Streptanthus albidus ssp. peramoenus*

Common Name: most beautiful jewelflower

Species Found? (●) Yes ( ) No _____ If not found, why?

Total No. Individuals: 102 Subsequent Visit? ( ) Yes ( ) No

Is this an existing NDDB occurrence? _____ Yes, Occ. # [X] No [ ] Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Tom Mahony, Coast Range Biological LLC
Address: PO Box 1238
Santa Cruz, CA 95061
E-mail Address: coastrange@sbcglobal.net
Phone: 831-345-4690

Plant Information

Phenology:
0 % vegetative | 90 % flowering | 10 % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

[ ] wintering [ ] breeding [ ] nesting [ ] rookery [ ] burrow site [ ] lek [ ] other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Located on 24-acre property on Cinnabar Hills Road, northeast of Almaden Reservoir, in unincorporated San Jose, Santa Clara County, California (APN: 742-02-006).

County: Santa Clara Landowner / Mgr: Private

Quad Name: Santa Teresa Hills, CA Elevation: 900 feet

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) Source of Coordinates (GPS, topo. map & type): GPS

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) GPS Make & Model: Trimble Geo7x

DATUM: **NAD27** ( ) **NAD83** (●) **WGS84** ( ) Horizontal Accuracy: submeter meters/feet

Coordinate System: UTM Zone 10 ( ) UTM Zone 11 ( ) ***OR*** Geographic (Latitude & Longitude) (●)

Coordinates: 37.078183, -121.643194

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

102 individuals were observed in Serpentine Bunchgrass Grassland and Serpentine Rock Outcrop habitats on Footpath-Mouser complex, 30 to 50 percent slopes, soils. Associate species include Dudleya abramsii ssp. setchellii, Eschscholzia californica, Stipa pulchra, Festuca microstachys, Chlorogalum pomeridianum, Bromus madritensis, Plantago erecta, and Lessingia micradenia var. glabrata.

Please fill out separate form for other rare taxa seen at this site.

Site Information

Overall site/occurrence quality/viability (site + population): ( ) Excellent (●) Good ( ) Fair ( ) Poor

Immediate AND surrounding land use: Undeveloped private land

Visible disturbances: Vegetation disturbance from septic testing and other ground disturbing activities.

Threats: Invasive non-native species, future development

Comments:

Determination: *(check one or more, and fill in blanks)*

[X] Keyed (cite reference): Jepson eFlora
[ ] Compared with specimen housed at: _____
[ ] Compared with photo / drawing in: _____
[ ] By another person (name): _____
[ ] Other: _____

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	[ ]	[ ]	[X]
Habitat	[ ]	[ ]	[X]
Diagnostic feature	[ ]	[ ]	[ ]

May we obtain duplicates at our expense? (●) yes ( ) no