



BIOLOGICAL RESOURCES REPORT

**685 Aviation Blvd, Santa Rosa,
Sonoma County, CA**

Prepared For:

Dr. Mehta & Nina Mehta
601 Aviation Blvd.
Santa Rosa, CA 95403

Project No. 1948

Prepared By:

Dana Riggs
Principal Biologist
driggs@solecology.com
707-241-7718

Date Prepared:

December 9, 2019

Updated: July 13, 2020



TABLE OF CONTENTS

1.0 INTRODUCTION	1
1.1 Project Setting	1
1.2 Project Description	1
2.0 METHODS.....	2
2.1 Literature Review	2
2.2 Field Survey	2
3.0 RESULTS	4
3.1 Existing Conditions and General Wildlife Use.....	4
3.2 Sensitive Vegetation Communities.....	4
3.3 Special Status Plants.....	5
3.4 Special Status Wildlife	7
4.0 POTENTIAL IMPACTS AND MITIGATION	10
4.1 Potentially Significant Impacts and Mitigation Measures.....	10
5.0 REFERENCES	12

LIST OF TABLES

Table 1. Plant Potentials Table	6
Table 2. Wildlife Species Potentials Table	8

LIST OF APPENDICES

Appendix A – Project Figures: Site Location Map and CNDDDB Results
Appendix B – CNDDDB and CNPS Results 9-QUAD Search and USFWS IPaC Search Results
Appendix C – Site Photographs
Appendix D – Observed Species Table
Appendix E – Wetland Determination Data Form
Appendix F – Surveyor Qualifications

LIST OF ACRONYMS AND ABBREVIATIONS

CDFG/CDFW	California Department of Fish and Game/Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CTS	California Tiger Salamander
ESA	Federal Endangered Species Act
PRMD	Permit and Resource Management Department
RWQCB	Regional Water Quality Control Board
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service

1.0 INTRODUCTION

On November 12, 2019 Sol Ecology, Inc. (Sol Ecology) performed a biological resources survey at 685 Aviation Boulevard in Santa Rosa, Sonoma County, California (Project Site, see Appendix A – Figure 1).

The purpose of the assessment was to gather information necessary to complete a review of potential biological resource impacts from development of the proposed Project, under the guidelines of the California Environmental Quality Act (CEQA) for the County of Sonoma Permit and Resource Management Department (PRMD). This report describes the results of the site survey and assessment of the Project Site for the presence of sensitive biological resources protected by local, state, and federal laws and regulations. This report also contains an evaluation of potential impacts to sensitive biological resources that may occur from the proposed project and potential mitigation measures to compensate for those impacts as warranted. This assessment is based on information available at the time of the study and on-site conditions that were observed on the date of the site visit.

1.1 Project Setting

The Project Site is located in unincorporated Sonoma County, accessed via Aviation Boulevard, off of Skylane Boulevard. The approximately 1.53-acre Project Site is within APN 059-340-056 (Figure 1, Appendix A). The parcel is currently zoned as Industrial Park District (MP 1 AC AVG) and Valley Oak Habitat Combining District (VOH) (County of Sonoma 2019). The parcel is bounded by light manufacturing and industrial, one- and two-story office buildings, undeveloped industrial land/no utility, and warehousing condominiums. The Project Site is generally flat at approximately 110 feet above sea level.

1.2 Project Description

The proposed project includes building a new 59,066 ft² two story warehouse building with 500 plus ft² of office space, two recessed loading dock areas, and three surface level loading doors. The building footprint is 29,533 ft². The purpose of the warehouse is to supplement the existing warehouse buildings on the adjacent property.

2.0 METHODS

On November 12, 2019, the Project Site was traversed on foot to determine the presence of (1) plant communities both sensitive and non-sensitive, (2) special status plant and wildlife species, and (3) presence of essential habitat elements for any special status plant or wildlife species.

2.1 Literature Review

To evaluate whether special status species or other sensitive biological resources (e.g., wetlands) could occur in the Project Site and vicinity, Sol Ecology biologists reviewed the following:

- California Native Plant Society's (CNPS's) Inventory of Rare and Endangered Plants of California search for U.S. Geological Survey (USGS) 7.5-minute Healdsburg quadrangle and eight adjacent quadrangles (CNPS 2019a);
- California Natural Diversity Database (CNDDDB) records search for USGS 7.5-minute Healdsburg quadrangle and eight adjacent quadrangles (California Department of Fish and Wildlife [CDFW] 2019);
- U.S. Fish and Wildlife Service (USFWS) list of threatened and endangered species for the Project Site (USFWS 2019);
- CDFG publication "California's Wildlife, Volumes I-III" (Zeiner et al. 1990);
- CDFG publication California Bird Species of Special Concern (Shuford and Gardali 2008);
- CDFW and University of California Press publication California Amphibian and Reptile Species of Special Concern (Thomson et al. 2016).

Based on information from the above sources, Sol Ecology developed lists of special status species and natural communities of special concern that could be present in the project vicinity (Appendix B). Figures 2 and 3 (Appendix A) present the results of a 5-mile CNDDDB record search around the project site for special status plants and wildlife. All biological resources are evaluated for their potential to occur within the project site in Section 3.0 of this report.

2.2 Field Survey

Sol Ecology biologists conducted biological resources surveys on November 12, 2019. Biologists walked through accessible portions of the Project Site identifying all plant and wildlife species encountered and mapping vegetation communities. Plant species were recorded and identified to a taxonomic level sufficient to determine rarity using the second edition of the *Jepson Manual* (Baldwin et al. 2012). All plant species observed in the project site are included in Appendix D – Observed Species Table. Vegetation communities were identified using the online version of *A Manual of California Vegetation* (CNPS 2019b). Dispersal habitat, foraging habitat, refugia or estivation habitat, and breeding (or nesting habitat) were noted for wildlife species.

In cases where little information is known about species occurrences and habitat requirements, the species evaluation was based on best professional judgment of Sol Ecology biologists with experience working with the species and habitats. If a special status species was observed during the site visit, its presence is recorded and discussed. For some threatened and endangered

species, a site survey at the level conducted for this report may not be sufficient to determine presence or absence of a species to the specifications of regulatory agencies.

Concurrently with the botanical and wildlife surveys, biologists identified wetland and non-wetland waters potentially subject to regulation by the federal government (U.S. Army Corps of Engineers [USACE]) and the state of California (Regional Water Quality Control Board [RWQCB] and CDFW). The preliminary assessment of wetland waters was based on the presence/absence of indicators of hydrophytic vegetation, hydric soil, and wetland hydrology. The preliminary boundaries of non-wetland waters were identified by locating the ordinary high-water mark (OHWM). A formal wetland delineation was not conducted at the time of the November 12, 2019 site visit.

3.0 RESULTS

3.1 Existing Conditions and General Wildlife Use

Vegetation communities present in the Project Site were classified using the online version of *A Manual of California Vegetation* (CNPS 2019b). However, in some cases it is necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature. Vegetation communities were classified as sensitive or non-sensitive as defined by CEQA and other applicable laws and regulations. Photographs of the Project Site are provided in Appendix C. Surveyor qualifications are provided in Appendix F.

Soils at the site are mapped as Huichica loam, ponded, 0 to 5 percent slopes and Huichica loam, shallow, ponded, 0 to 5 percent slopes (U.S. Department of Agriculture [USDA] 2019). Huichica loam is moderately well drained. Both Huichica loam soils are hydric: occurring on terraces and footslopes. The site is relative flat at an elevation of 105 feet (33 meters).

Vegetation within the Project Site is primarily disturbed California annual grassland. A detailed description of this vegetation community, including component plant species, is included below. California annual grassland is not considered sensitive. However, it is host to a few common wildlife species including Botta's pocket gopher (*Thomomys bottae*), California vole (*Microtus californicus*), ground-nesting birds, foraging raptors, and as observed during the site visit, a small colony of feral cats (*Felis catus*). Given the relatively small size of the Project Site and that it is surrounded on three sides by commercial development, most wildlife species are of common to urban areas and the site is not part of a larger wildlife corridor.

California Annual Grassland

The Project Site is dominated by California annual grassland. This vegetation community is characterized by dense cover of non-native annual grasses. Discernible species were harding grass (*Phalaris aquatica*), ripgut grass (*Bromus diandrus*), slender wild oat (*Avena barbata*), and soft chess (*Bromus hordeaceus*). Common non-native forbs include bindweed (*Convolvulus arvensis*), bristly ox-tongue (*Helminthotheca echioides*), English plantain (*Plantago lanceolata*), radish (*Raphanus sativus*), rough cat's-ear (*Hypochaeris radicata*), and vetch (*Vicia sativa*). There are patches of Himalayan blackberry (*Rubus armeniacus*) along the perimeter of the site as well as emergent coast live oak trees (*Quercus agrifolia*) and ornamentals including Chinese pistache (*Pistacia chinensis*) and thorny olive (*Elaeagnus pungens*). This is consistent with what Ted Winfield & Associates observed and recorded in a 2016 letter report documenting a special status plant survey and wetland delineation at the Project Site (Ted Winfield & Associates 2016).

3.2 Sensitive Vegetation Communities

California annual grassland is not considered a sensitive vegetation community. In the northern portion of the project site, a depression was observed with some hydrophytic vegetation in the herb stratum (SP-1, Figure 1, Appendix A; Photo 4, Appendix C), consistent with a mapped wetland observed in 1998. This area was sampled, and a wetland determination data form was

filled out (Appendix E). The sample point did not meet any of the wetland indicators (hydrophytic vegetation, hydric soil, or hydrology). No other depressions or areas with hydrophytic vegetation were observed. A review of historical aerial photographs suggests this area may have previously received runoff from surrounding developed sites that may have contributed to wetland conditions at the site. However, since 1998 wetland delineation guidelines have changed. Additionally, drought conditions between 1998 and 2020 may have resulted in a decrease in wetland indicators. Given that the previously mapped wetland habitat no longer meets wetland criteria, no sensitive vegetation communities are currently present on the Project Site. A list of all plant species observed on the Project Site is provided in Appendix D.

3.3 Special Status Plants

Special status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the Federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These acts afford protection to both listed species and those that are formal candidates for listing. Plant species on the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory with California Rare Plant Ranks of 1 and 2 are also considered special status plant species and must be considered under CEQA.

Based upon a review of the resources and database results given in Section 2.1 and Appendix B, seventy-five (75) special status plant species have been documented within a 9-quad search of the Project Site. Three (3) special status plant species, including bent-flowered fiddleneck (*Amsinckia lunaris*), congested-headed hayfield tarplant (*Hemizonia congesta* subsp. *congesta*), and two-fork clover (*Trifolium amoenum*), are documented in the region and can be found in grassland habitat as shown in Table 1 below.

Sol Ecology concurs with Ted Winfield & Associates' determination that the California annual grassland vegetation community at the Project Site is marginal for these three species (Ted Winfield & Associates 2016) and that these species do not likely occur on the Project site due to absence of most associated species. The November 12, 2019 site visit occurred during the blooming period for congested-headed hayfield tarplant and no plants of this genus were seen; this species was observed in bloom during a reference site check of occurrence 14 in Petaluma. Furthermore, none of these species were observed during previous spring rare plant surveys conducted in 1998 nor 2016 during the blooming period for two fork clover and bent-flowered fiddleneck. Based on this, none of these species are likely to be present nor impacted by the proposed project.

Table 1. Plant Potentials Table

Species	Status	Habitat Requirements	Blooming Period	Potential for Occurrence
bent-flowered fiddleneck <i>Amsinckia lunaris</i>	Rank 1B.2	Coastal bluff scrub, cismontane woodland, and valley and foothill grassland at elevations from 10 to 1600 feet. This species frequently is found near shrubs such as <i>Baccharis pilularis</i> .	March to June	Low potential. Associated species not observed. Species not observed during prior survey efforts.
congested-headed hayfield tarplant <i>Hemizonia congesta</i> subsp. <i>congesta</i>	Rank 1B.2	Grassy valleys and hills, often in fallow fields; sometimes along roadsides at elevations ranging from 65 to 1,840 feet. Known associated species in the area include <i>Tritelia laxa</i> , <i>Layia chrysanthmoides</i> , <i>Lupinus nanus</i> , <i>Plantago lanceolata</i> , <i>Medicago hispida</i> , <i>Festuca perennis</i> , <i>Briza minor</i> , <i>Mentha pulegium</i> , and <i>Ranunculus muricatus</i>	April - November	Low potential. Only one associated species is present (<i>Plantago lanceolata</i>). Species not observed during prior survey efforts.
two-fork clover <i>Trifolium amoenum</i>	FE,	Coastal bluff scrub, valley grassland habitat sometimes on serpentine soil, open sunny sites, and swales at elevations ranging from 15 to 1000 feet. Known associated species in the area include <i>Avena barbata</i> , <i>Bromus spp</i> , <i>Vulpia spp</i> , <i>Danthonia californica</i> , <i>Linum</i> , <i>Carduus pycnocephalus</i> , <i>Aira caryophyllea</i> , and <i>Baccharis pilularis</i> .		Low potential. Associated species not observed. Species not observed during prior survey efforts.

Species documented in the area are unlikely or have no potential to occur on the Project Site for one or more of the following reasons:

- Hydrologic conditions (e.g. marsh habitat, seeps, pond habitat) necessary to support the special status plants do not exist on site;
- Edaphic (soil) conditions (e.g. volcanic, rocky, or sand soils) necessary to support the special status plants do not exist on site;

- Topographic conditions (e.g. slopes) necessary to support the special status plants do not exist on site;
- Unique pH conditions (e.g. serpentine) necessary to support the special status plant species are not present on the Project Site;
- upland forest) necessary to support the special status plants do not exist on site.

3.4 Special Status Wildlife

In addition to wildlife listed as federal or state endangered and/or threatened, federal and state candidate species, CDFW Species of Special Concern, CDFW California Fully Protected species, USFWS Birds of Conservation Concern, and CDFW Special status Invertebrates are all considered special status species. Although these species generally have no special legal status, they are given special consideration under CEQA. The federal Bald and Golden Eagle Protection Act also provides broad protections to both eagle species that are roughly analogous to those of listed species. Bat species are also evaluated for conservation status by the Western Bat Working Group (WBWG), a non-governmental entity; bats named as a “High Priority” or “Medium Priority” species for conservation by the WBWG are typically considered special status and also considered under CEQA; bat roosts are protected under CDFW Fish and Game Code. In addition to regulations for special status species, most native birds in the United States (including non-status species) are protected by the federal Migratory Bird Treaty Act of 1918 (MBTA) and the California Fish and Game Code (CFGF), i.e., sections 3503, 3503.5 and 3513. Under these laws, deliberately destroying active bird nests, eggs, and/or young is illegal.

Fifteen special status wildlife species have been documented within five miles of the Project Site (Appendix A, Figure 4). Based upon a review of the resources and database results given in Section 2.1 and Appendix B, and the presence of biological communities described above, the Project Site has the potential to support only two of these species shown in Table 2 below. Species with potential to occur on the Project Site are described in more detail below. A discussion of potential impacts or unlikelihood for impacts to occur is also provided.

The remaining species found in the review of background literature were determined to be unlikely to occur due to absence of suitable habitat elements in and immediately adjacent to the Project Site. Habitat elements that were evaluated but found to be absent from the immediate area of the Project Site or surrounding habitats subject to potential indirect impacts include the following:

- No suitable stream or aquatic habitat on or immediately adjacent to the property (e.g. for steelhead, coho salmon, Navarro roach, western pond turtle, or foothill yellow-legged frog);
- No suitable roosting habitat such as barns, old buildings, or large snags (e.g. for Townsend’s big-eared bat or pallid bat);
- No suitable nectar sources for special status bees.

Table 2. Wildlife Species Potentials Table

Species	Status	Habitat Requirements	Potential for Occurrence
burrowing owl <i>Athene cunicularia</i>	SSC, BCC	Year-round resident and winter visitor. Occurs in open, dry grasslands and scrub habitats with low-growing vegetation, perches, and abundant mammal burrows. Preys upon insects and small vertebrates. Nests and roosts in old mammal burrows, most commonly those of ground squirrels.	Low potential. This species may overwinter in Sonoma County only. No suitable refugia found.
California tiger salamander <i>Ambystoma californiense</i>	FE, ST, CH	Inhabits grassland, oak woodland, ruderal and seasonal pool habitats. Adults are fossorial and utilize mammal burrows and other subterranean refugia. Breeding occurs primarily in vernal pools and other seasonal water features.	Low potential. Due to the absence of suitable breeding habitat on/near the site and lack of documented occurrences within 3.1 miles this species is unlikely to occur. The site is located within designated critical habitat and thus, mitigation is required (0.2:1 ratio).

Wildlife Species with Potential to Occur on the Project Site:

Burrowing owl (*Athene cunicularia*). CDFW Species of Special Concern; USFWS Bird of Conservation Concern. The burrowing owl occurs as a year-round resident and winter visitor in much of California's lowlands, inhabiting open areas with sparse or non-existent tree or shrub canopies. Typical habitat is annual or perennial grassland, although human-modified areas such as agricultural lands and airports are also used (Poulin et al. 1993). This species is dependent on burrowing mammals to provide the burrows that are characteristically used for shelter and nesting, and in northern California is typically found in close association with California ground squirrels (*Spermophilus beecheyi*). Manmade substrates such as pipes or debris piles may also be occupied in place of burrows. Prey consists of insects and small vertebrates. Breeding typically takes place from March to July. Within Sonoma County, burrowing owl is predominantly a winter visitor and nesting owls are presumed extirpated based on county-wide breeding bird surveys and documented occurrences (Shuford and Gardali 2008).

A single occurrence of burrowing owl is documented within one mile to the west of the Project Site near the airport. This occurrence was documented in 2017 and was observed to be a winter visitor residing in a rip-rapped culvert. While suitable grassland habitat is present on the site, the species is not expected to be present due to the lack of available cover (culverts, debris, suitably sized burrows). Furthermore, feeding and housing of a feral cat colony was observed on the northern portion of site. Feral cats are a primary predator of burrowing owl and also small

burrowing mammals that are the prey base and shelter providers for this species. Based on this, there is little potential for this species to be present and/or impacted by the project.

California Tiger Salamander (*Ambystoma californiense*) – Sonoma County Distinct Population Segment. Federal Endangered Species. State Threatened Species. The California Tiger Salamander (CTS) Sonoma County Distinct Population Segment (DPS) was emergency listed as endangered on July 22, 2002. Critical Habitat for CTS on the Santa Rosa Plain was designated on July 2011 and revised on August 31, 2011. This population is geographically isolated from other CTS in the state and known to occur in the Santa Rosa area (or Plain) and possibly the Petaluma River watershed, historically. CTS in the Santa Rosa Plain inhabits low-elevation (below 500 feet) vernal pools and seasonal pools, associated grassland, and the grassy understory of oak savannah plant communities.

CTS requires two primary habitat components: aquatic breeding sites and upland terrestrial estivation or refuge sites. Adult CTS spend most of their time underground in upland subterranean refugia (Trenham 2001). Underground retreats in the Santa Rosa Plain usually consist of small mammal burrows (namely pocket gophers), but also under logs and piles of lumber (Holland et al. 1990). CTS emerges from underground to breed and lay eggs primarily in vernal pools and other ephemeral water bodies. Adults migrate from upland habitats to aquatic breeding sites during the first major rainfall events, between November and February (Barry and Shaffer 1994) and return to upland habitats after breeding. In drought years, seasonal pools may not hold water for sufficient period for adults to breed. Pools must remain inundated for at least 10 weeks, the minimum time needed for larvae to complete metamorphosis.

Following metamorphosis, juveniles move into the surrounding uplands where they may live for several years before returning to aquatic habitats to breed. CTS may disperse into uplands up to 1.3 miles from breeding ponds (USFWS 2004). Trenham (2001) found up to 25 percent of CTS in one pond were found within 2,200 feet of the breeding pond. In a more recent study Orloff (2011) found both adults and juveniles at least 800 meters (2,624 feet) from the nearest breeding pond, with a smaller number of salamanders as far as 2.2 km (1.3 miles) away.

On November 9, 2007 the USFWS issued a Programmatic Biological Opinion (PBO) for USACE permitted projects that may affect CTS within the Santa Rosa Plain area. The PBO prescribes graduated mitigation ratios based on distance known breeding sites and adult occurrences. Mitigation requirements apply to the entire Project Site except for existing hardscape (e.g. parking lots, compacted gravel surfaces, buildings, or other structures), unless these areas function as a movement corridor in which case such functions must be preserved.

The nearest occurrence of CTS is more than 3.1 miles from the Project Site, which is beyond the documented dispersal range of this species. However, the site is within the Santa Rosa Plain Area of Potential Effect (APE) for CTS. While suitable grassland habitat is present on the site, there is little to no suitable breeding habitat in the area and very few small mammal burrows (likely due to the presence of a feral cat colony). Because there are **no occurrences** within 3.1 miles and **no suitable breeding habitat** on or in the vicinity of the site, there is relatively no potential for this species to be present and/or impacted by the project. Nonetheless, the PBO prescribes a mitigation ratio of 0.2:1 for sites within the APE.

4.0 POTENTIAL IMPACTS AND MITIGATION

The assessment of impacts under CEQA is based on the change caused by the Project relative to the existing conditions at the proposed Project Site. In applying CEQA Appendix G, the terms “substantial” and “substantially” are used as the basis for significance determinations in many of the thresholds but are not defined qualitatively or quantitatively in CEQA or in technical literature. In some cases, the determination requires application of best professional judgment based on knowledge of site conditions as well as the ecology and physiology of biological resources present in a given area. The CEQA and State CEQA Guidelines defines “significant effect on the environment” as “a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” Pursuant to Appendix G, Section IV of the State CEQA Guidelines, the proposed Project would have a significant impact on biological resources if it would:

- A. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- B. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service.
- C. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- D. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.
- E. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.1 Potentially Significant Impacts and Mitigation Measures

Sensitive Biological Communities

There are no sensitive biological communities within the Project Site. As such, no significant impacts are anticipated, and no mitigation is proposed.

Special Status Plant Species

No special status plants have potential to occur at the Project Site due to marginal habitat. As such, there is no potential for impacts and no further recommendations are provided.

Special Status Wildlife Species

Two special status wildlife species have a very low potential for occurrence on the site. As such, no significant impacts are anticipated, and **thus no mitigation measures are provided**. Best management practices should be employed to ensure impacts to off-site habitats are avoided.

Impacts to designated critical habitat for CTS is considered adverse. Mitigation for impacts to CTS critical habitat are prescribed under the PBO at 0.2:1 and may be purchased at a nearby conservation bank or through off-site mitigation as prescribed in the Santa Rosa Plain Conservation Strategy. Purchase of mitigation credits reduces the impact to less than significant (MM-BIO-1).

Migratory nesting birds in grassland areas or shrubs on or adjacent to the site may potentially be impacted by the proposed project if activities occur during the nesting season from February 1 through August 31. Impacts to nesting birds is considered significant. To the extent practical, all construction activities should be performed outside the nesting season. If work must be performed during the nesting season, a pre-construction nesting bird survey should be performed in all areas within and immediately adjacent to the proposed Project Site. If nests are found, an appropriately sized no-disturbance buffer should be placed around the nest at the direction of the qualified biologist conducting the survey. Buffers should remain in place until all young have fledged, or the biologist has confirmed that the nest has been naturally predated. Implementation of this measure will ensure no significant impact occurs (MM-BIO-2).

Because the Project Site is surrounded by dense commercial development on three sides, the project is not likely to substantially interfere with the movement of any native species or native nursery site.

5.0 REFERENCES

- Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. The Jepson manual: vascular plants of California, second edition. University of California Press, Berkeley.
- Barry, S. J. and H. B. Shaffer. 1994. The status of the California Tiger Salamander (*Ambystoma californiense*) at Lagunita: a 50-year update. *Journal of Herpetology* 28:159-164.
- California Department of Fish and Wildlife (CDFW). 2019. California Natural Diversity Database (CNDDDB). Wildlife and Habitat Data Analysis Branch, Sacramento, CA. Most recently accessed: November 2019.
- California Native Plant Society (CNPS), Rare Plant Program. 2019a. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Available at: <http://www.rareplants.cnps.org>. Most recently accessed: November 2019.
- . 2019b. A Manual of California Vegetation, Online Edition. Available at: <http://www.cnps.org/cnps/vegetation/>. Most recently accessed: November 2019.
- County of Sonoma. 2019. ActiveMap Viewer Collection: Zoning and Land Use. Available at: <https://sonomacounty.ca.gov/PRMD/Administration/GIS/ActiveMap/>. Most recently accessed: November 2019.
- Poulin, Ray, L. D. Todd, E. A. Haug, B. A. Millsap and M. S. Martell. 2011. Burrowing Owl (*Athene cunicularia*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/061doi:10.2173/bna.61>
- Holland, D. C., M. P. Hayes, and E. McMillan. 1990. Late summer movement and mass mortality in the California Tiger Salamander (*Ambystoma californiense*). *Southwestern Naturalist* 35:217-220.
- Orloff, Susan G. 2011. Movement patterns and migration distances in an upland population of California tiger salamanders (*Ambystoma californiense*). *Herpetological Conservation and Biology*. 6(2):266-276.
- Poulin, Ray, L. D. Todd, E. A. Haug, B. A. Millsap and M. S. Martell. 2011. Burrowing Owl (*Athene cunicularia*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/061doi:10.2173/bna.61>
- Shuford, WD, and T Gardali (eds). 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. *Studies of Western Birds* 1. Western Field Ornithologists, Camarillo, California, and CDFG, Sacramento.

- Ted Winfield & Associates. 2016. Results of 2016 Plant Survey at 685 Aviation Blvd. Property (APN 059-340-056). Livermore, CA.
- Thomson, Robert C., Amber N. Wright, and H. Bradley Shaffer. 2016. California Amphibian and Reptile Species of Special Concern. California Department of Fish and Wildlife University Press.
- Trenham, P. C. 2001. Terrestrial habitat use by adult California Tiger Salamanders. *Journal of Herpetology* 35:343-346.
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2019. Web Soil Survey. Web application. Last updated: April 9, 2019. Available at: <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>. Most recently accessed: November 2019.
- U.S. Fish and Wildlife Service (USFWS). 2019. Information for Conservation and Planning Database. Available at: <https://ecos.fws.gov/ipac/>. Most recently accessed: November 2019. *PDF Files are not available at this time.*
- USFWS. 2014. Draft Recovery Plan for the Santa Rosa Plain: *Blennosperma bakeri* (Sonoma sunshine); *Lasthenia burkei* (Burke's goldfields); *Limnanthes vinculans* (Sebastopol meadowfoam); Sonoma County Distinct Population Segment of the California Tiger Salamander (*Ambystoma californiense*). U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California. vi + 132 pp.
- USFWS. 2007. Programmatic Biological Opinion (Programmatic) for U.S. Army Corps of Engineers (Corps) Permitted Projects that May Affect California Tiger Salamander and Three Endangered Plant Species on the Santa Rosa Plain, California (Corps File Number 223420N). November 19.
- USFWS. 2002. Endangered and threatened wildlife and plants; final determination of endangered status for the Sonoma County Distinct Vertebrate Population Segment of the California Tiger Salamander (*Ambystoma californiense*).
- Zeiner, DC, WF Laudenslayer, Jr., KE Juneer, and M White. 1990. California's Wildlife, Volume I-III: Amphibians and Reptiles, Birds, Mammals. California Statewide Wildlife Habitat Relationships System, California Department of Fish and Game, Sacramento, CA.

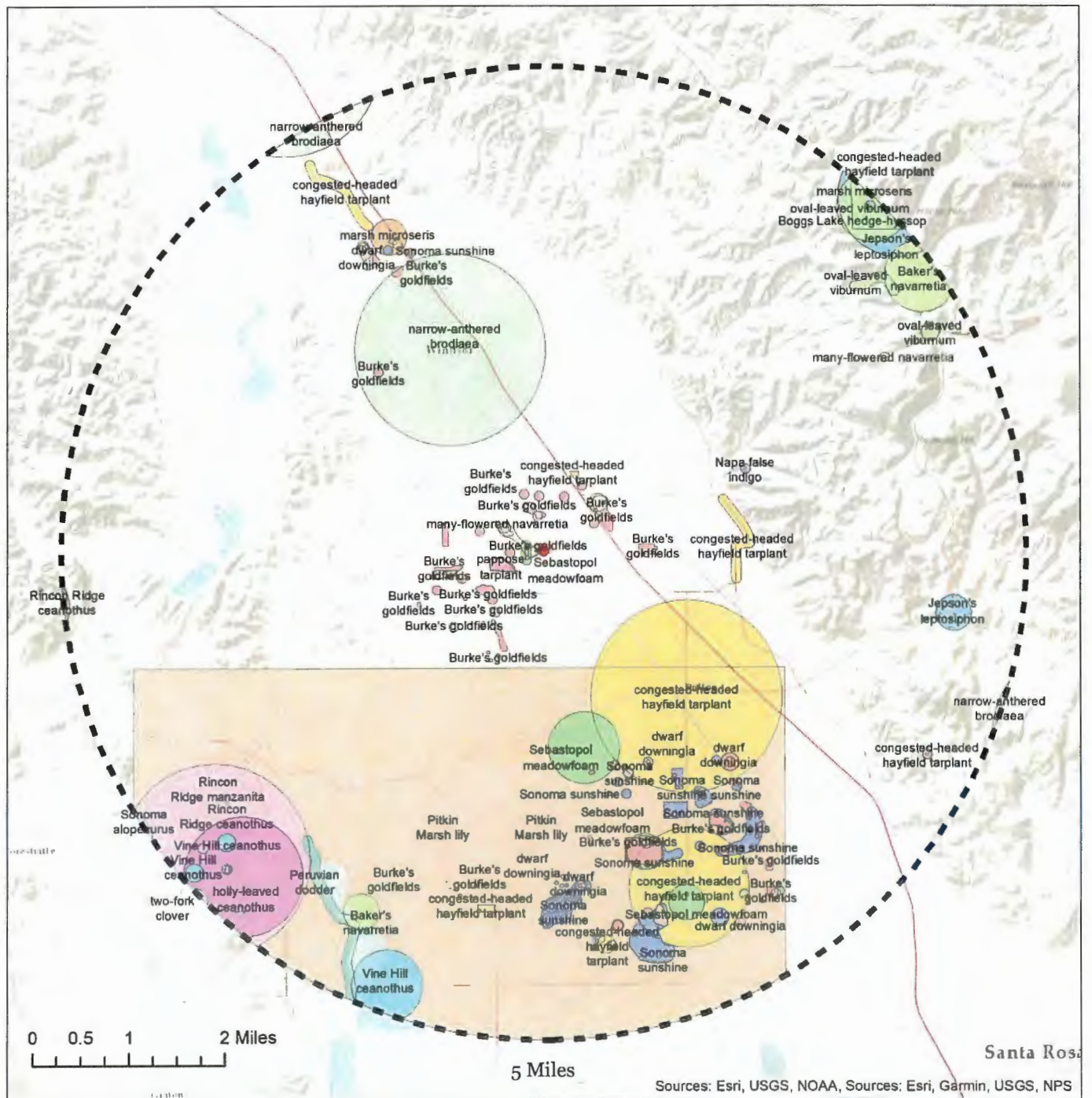
APPENDIX A

PROJECT FIGURES: SITE LOCATION MAP, AND CNDDB DATABASE RESULTS

Figure 1: Location of Project Area
 685 Aviation Blvd, Santa Rosa, CA

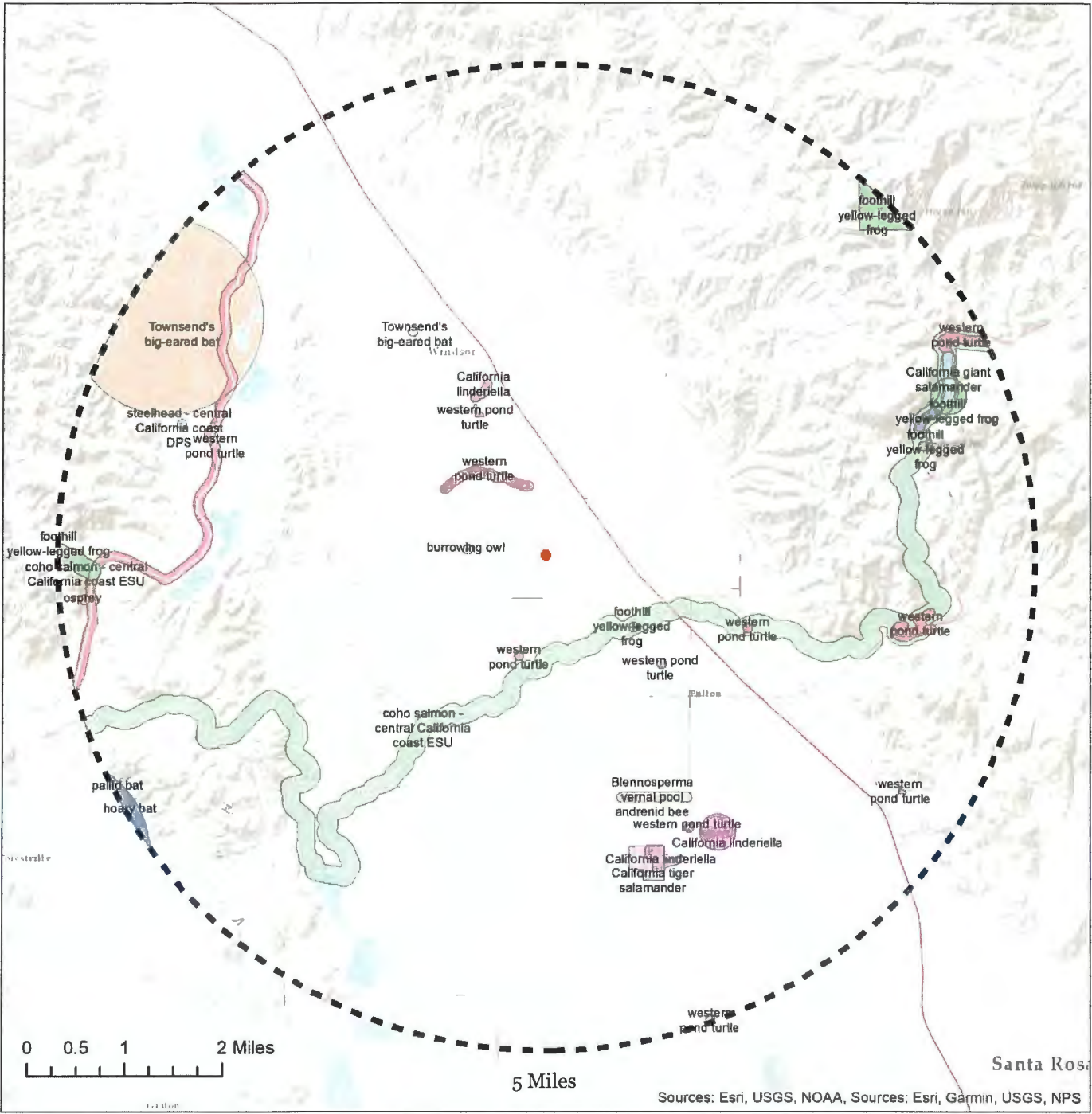


Figure 2: Special Status Plant Species within 5 Miles of the Project Site
685 Aviation Blvd, Santa Rosa, CA



- | | | | |
|-----------------------------|----------------------------|---|------------------------------|
| ● Project Location | Peruvian dodder (1) | Vine Hill ceanothus (2) | marsh microseris (2) |
| ■ 5-Mile Buffer | Pitkin Marsh lily (2) | Vine Hill clarkia (1) | narrow-anthered brodiaea (9) |
| Baker's navarretia (7) | Rincon Ridge ceanothus (2) | Vine Hill manzanita (1) | oval-leaved viburnum (3) |
| Boggs Lake hedge-hyssop (1) | Rincon Ridge manzanita (1) | congested-headed hayfield tarplant (11) | pappose tarplant (1) |
| Burke's goldfields (15) | Sebastopol meadowfoam (7) | dwarf downingia (10) | thin-lobed horkelia (2) |
| Jepson's leptosiphon (2) | Sonoma alopecurus (1) | holly-leaved ceanothus (1) | two-fork clover (1) |
| Napa false indigo (2) | Sonoma sunshine (6) | many-flowered navarretia (2) | |

Figure 3: Special Status Animal Species within 5 Miles of the Project Site
 685 Aviation Blvd, Santa Rosa, CA



- | | | |
|--|--|--|
| <ul style="list-style-type: none"> Project Location 5-Mile Buffer Blennosperma vernal pool andrenid bee (1) California giant salamander (1) California linderiella (3) California tiger salamander (1) | <ul style="list-style-type: none"> Navarro roach (1) Townsend's big-eared bat (2) burrowing owl (1) coho salmon - central California coast ESU (2) foothill yellow-legged frog (5) hoary bat (1) | <ul style="list-style-type: none"> osprey (1) pallid bat (1) red-bellied newt (1) steelhead - central California coast DPS (1) western pond turtle (11) |
|--|--|--|

APPENDIX B

CNDDDB AND CNPS 9-QUAD SEARCH AND USFWS IPAC SEARCH RESULTS



*The database used to provide updates to the Online Inventory is under construction. [View updates and changes made since May 2019 here.](#)

Plant List

70 matches found. [Click on scientific name for details](#)

Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B], Found in Quads 3812268, 3812267, 3812266, 3812258, 3812257, 3812256, 3812248 3812247 and 3812246;

[Modify Search Criteria](#) [Export to Excel](#) [Modify Columns](#) [Modify Sort](#) [Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Alopecurus aequalis var. sonomensis	Sonoma alopecurus	Poaceae	perennial herb	May-Jul	1B.1	S1	G5T1
Amorpha californica var. napensis	Napa false indigo	Fabaceae	perennial deciduous shrub	Apr-Jul	1B.2	S2	G4T2
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	1B.2	S3	G3
Arctostaphylos bakeri ssp. bakeri	Baker's manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr	1B.1	S1	G2T1
Arctostaphylos bakeri ssp. sublaevis	The Cedars manzanita	Ericaceae	perennial evergreen shrub	Feb, Apr, May	1B.2	S2	G2T2
Arctostaphylos densiflora	Vine Hill manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr	1B.1	S1	G1
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	Ericaceae	perennial evergreen shrub	(Jan)Mar-May(Jul)	1B.3	S3	G5T3
Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr(May)	1B.1	S1	G3T1
Astragalus claranus	Clara Hunt's milk-vetch	Fabaceae	annual herb	Mar-May	1B.1	S1	G1
Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S3	G4T3
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Blennosperma bakeri	Sonoma sunshine	Asteraceae	annual herb	Mar-May	1B.1	S1	G1
Brodiaea leptandra	narrow-anthered brodiaea	Themidaceae	perennial bulbiferous herb	May-Jul	1B.2	S3?	G3?
Calamagrostis crassiglumis	Thurber's reed grass	Poaceae	perennial rhizomatous herb	May-Aug	2B.1	S2	G3Q
Calochortus raichei	The Cedars fairy-	Liliaceae	perennial	May-Aug	1B.2	S2	G2

	lantern		bulbiferous herb				
<u>Campanula californica</u>	swamp harebell	Campanulaceae	perennial rhizomatous herb	Jun-Oct	1B.2	S3	G3
<u>Carex comosa</u>	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep	2B.1	S2	G5
<u>Castilleja uliginosa</u>	Pitkin Marsh paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Jun-Jul	1A	SX	GXQ
<u>Ceanothus confusus</u>	Rincon Ridge ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Jun	1B.1	S1	G1
<u>Ceanothus divergens</u>	Calistoga ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Apr	1B.2	S2	G2
<u>Ceanothus foliosus var. vineatus</u>	Vine Hill ceanothus	Rhamnaceae	perennial evergreen shrub	Mar-May	1B.1	S1	G3T1
<u>Ceanothus purpureus</u>	holly-leaved ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Jun	1B.2	S2	G2
<u>Centromadia parryi ssp. parryi</u>	pappose tarplant	Asteraceae	annual herb	May-Nov	1B.2	S2	G3T2
<u>Chorizanthe valida</u>	Sonoma spineflower	Polygonaceae	annual herb	Jun-Aug	1B.1	S1	G1
<u>Clarkia imbricata</u>	Vine Hill clarkia	Onagraceae	annual herb	Jun-Aug	1B.1	S1	G1
<u>Cordylanthus tenuis ssp. capillaris</u>	Pennell's bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Sep	1B.2	S1	G4G5T1
<u>Cryptantha dissita</u>	serpentine cryptantha	Boraginaceae	annual herb	Apr-Jun	1B.2	S2	G2
<u>Cuscuta obtusiflora var. glandulosa</u>	Peruvian dodder	Convolvulaceae	annual vine (parasitic)	Jul-Oct	2B.2	SH	G5T4?
<u>Delphinium bakeri</u>	Baker's larkspur	Ranunculaceae	perennial herb	Mar-May	1B.1	S1	G1
<u>Delphinium luteum</u>	golden larkspur	Ranunculaceae	perennial herb	Mar-May	1B.1	S1	G1
<u>Downingia pusilla</u>	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
<u>Erigeron greenei</u>	Greene's narrow- leaved daisy	Asteraceae	perennial herb	May-Sep	1B.2	S3	G3
<u>Erigeron serpentinus</u>	serpentine daisy	Asteraceae	perennial herb	May-Aug	1B.3	S2	G2
<u>Eriogonum nervulosum</u>	Snow Mountain buckwheat	Polygonaceae	perennial rhizomatous herb	Jun-Sep	1B.2	S2	G2
<u>Fritillaria liliacea</u>	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2	G2
<u>Gilia capitata ssp. tomentosa</u>	woolly-headed gilia	Polemoniaceae	annual herb	May-Jul	1B.1	S1	G5T1
<u>Gratiola heterosepala</u>	Boggs Lake hedge- hyssop	Plantaginaceae	annual herb	Apr-Aug	1B.2	S2	G2
<u>Hemizonia congesta ssp. congesta</u>	congested-headed hayfield tarplant	Asteraceae	annual herb	Apr-Nov	1B.2	S2	G5T2
<u>Hesperolinon bicarpellatum</u>	two-carpellate western flax	Linaceae	annual herb	May-Jul	1B.2	S2	G2
<u>Horkelia tenuiloba</u>	thin-lobed horkelia	Rosaceae	perennial herb	May- Jul(Aug)	1B.2	S2	G2
<u>Kopsiopsis hookeri</u>	small groundcone	Orobanchaceae	perennial rhizomatous herb (parasitic)	Apr-Aug	2B.3	S1S2	G4?
<u>Lasthenia burkei</u>	Burke's goldfields	Asteraceae	annual herb	Apr-Jun	1B.1	S1	G1
	Baker's goldfields	Asteraceae	perennial herb	Apr-Oct	1B.2	S1	G3T1

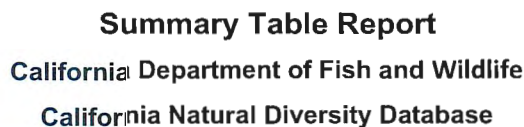
<u>Lasthenia californica ssp. bakeri</u>								
<u>Layia septentrionalis</u>	Colusa layia	Asteraceae	annual herb	Apr-May	1B.2	S2	G2	
<u>Legenere limosa</u>	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2	
<u>Leptosiphon jepsonii</u>	Jepson's leptosiphon	Polemoniaceae	annual herb	Mar-May	1B.2	S2S3	G2G3	
<u>Lessingia arachnoidea</u>	Crystal Springs lessingia	Asteraceae	annual herb	Jul-Oct	1B.2	S2	G2	
<u>Lilium pardalinum ssp. pitkinense</u>	Pitkin Marsh lily	Liliaceae	perennial bulbiferous herb	Jun-Jul	1B.1	S1	G5T1	
<u>Limnanthes vinculans</u>	Sebastopol meadowfoam	Limnanthaceae	annual herb	Apr-May	1B.1	S1	G1	
<u>Lupinus sericatus</u>	Cobb Mountain lupine	Fabaceae	perennial herb	Mar-Jun	1B.2	S2?	G2?	
<u>Microseris paludosa</u>	marsh microseris	Asteraceae	perennial herb	Apr-Jun(Jul)	1B.2	S2	G2	
<u>Navarretia leucocephala ssp. bakeri</u>	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G4T2	
<u>Navarretia leucocephala ssp. pliantha</u>	many-flowered navarretia	Polemoniaceae	annual herb	May-Jun	1B.2	S1	G4T1	
<u>Penstemon newberryi var. sonomensis</u>	Sonoma beardtongue	Plantaginaceae	perennial herb	Apr-Aug	1B.3	S2	G4T2	
<u>Pleuropogon hooverianus</u>	North Coast semaphore grass	Poaceae	perennial rhizomatous herb	Apr-Jun	1B.1	S2	G2	
<u>Rhynchospora alba</u>	white beaked-rush	Cyperaceae	perennial rhizomatous herb	Jun-Aug	2B.2	S2	G5	
<u>Rhynchospora californica</u>	California beaked-rush	Cyperaceae	perennial rhizomatous herb	May-Jul	1B.1	S1	G1	
<u>Rhynchospora capitellata</u>	brownish beaked-rush	Cyperaceae	perennial herb	Jul-Aug	2B.2	S1	G5	
<u>Rhynchospora globularis</u>	round-headed beaked-rush	Cyperaceae	perennial rhizomatous herb	Jul-Aug	2B.1	S1	G4	
<u>Sidalcea oregana ssp. valida</u>	Kenwood Marsh checkerbloom	Malvaceae	perennial rhizomatous herb	Jun-Sep	1B.1	S1	G5T1	
<u>Streptanthus brachiatus ssp. hoffmanii</u>	Freed's jewelflower	Brassicaceae	perennial herb	May-Jul	1B.2	S2	G2T2	
<u>Streptanthus hesperidis</u>	green jewelflower	Brassicaceae	annual herb	May-Jul	1B.2	S2	G2	
<u>Streptanthus morrisonii ssp. elatus</u>	Three Peaks jewelflower	Brassicaceae	perennial herb	Jun-Sep	1B.2	S1	G2T1	
<u>Streptanthus morrisonii ssp. kruckebergii</u>	Kruckeberg's jewelflower	Brassicaceae	perennial herb	Apr-Jul	1B.2	S1	G2T1	
<u>Stuckenia filiformis ssp. alpina</u>	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	2B.2	S2S3	G5T5	
<u>Trifolium amoenum</u>	two-fork clover	Fabaceae	annual herb	Apr-Jun	1B.1	S1	G1	
<u>Trifolium buckwestiorum</u>	Santa Cruz clover	Fabaceae	annual herb	Apr-Oct	1B.1	S2	G2	
<u>Trifolium hydrophilum</u>	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2	
<u>Triquetrella californica</u>	coastal triquetrella	Pottiaceae	moss		1B.2	S2	G2	
<u>Viburnum ellipticum</u>	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	2B.3	S3?	G4G5	

Suggested Citation

California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 24 November 2019].

Search the Inventory[Simple Search](#)[Advanced Search](#)[Glossary](#)**Information**[About the Inventory](#)[About the Rare Plant Program](#)[CNPS Home Page](#)[About CNPS](#)[Join CNPS](#)**Contributors**[The Calflora Database](#)[The California Lichen Society](#)[California Natural Diversity Database](#)[The Jepson Flora Project](#)[The Consortium of California Herbaria](#)[CalPhotos](#)**Questions and Comments**rareplants@cnps.org

© Copyright 2010-2018 California Native Plant Society. All rights reserved.



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Alopecurus aequalis</i> var. <i>sonomensis</i> Sonoma alopecurus	G5T1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	80 320	21 S:8	0	0	0	1	1	6	8	0	7	0	1
<i>Amorpha californica</i> var. <i>napensis</i> Napa false indigo	G4T2 S2	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	200 1,265	76 S:15	4	3	1	0	0	7	2	13	15	0	0
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_UCBBG-UC Berkeley Botanical Garden CB_UCSC-UC Santa Cruz		93 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Anomobryum julaceum</i> slender silver moss	G5? S2	None None	Rare Plant Rank - 4.2		13 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Arctostaphylos bakeri</i> ssp. <i>bakeri</i> Baker's manzanita	G2T1 S1	None Rare	Rare Plant Rank - 1B.1	250 800	3 S:3	0	2	0	0	0	1	2	1	3	0	0
<i>Arctostaphylos bakeri</i> ssp. <i>sublaevis</i> The Cedars manzanita	G2T2 S2	None Rare	Rare Plant Rank - 1B.2 BLM_S-Sensitive	1,000 1,200	4 S:2	2	0	0	0	0	0	1	1	2	0	0
<i>Arctostaphylos densiflora</i> Vine Hill manzanita	G1 S1	None Endangered	Rare Plant Rank - 1B.1	200 240	2 S:2	0	0	1	1	0	0	1	1	2	0	0
<i>Arctostaphylos manzanita</i> ssp. <i>elegans</i> Konocti manzanita	G5T3 S3	None None	Rare Plant Rank - 1B.3	4,300 4,300	69 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i> Rincon Ridge manzanita	G3T1 S1	None None	Rare Plant Rank - 1B.1	300 1,220	12 S:8	0	1	1	1	1	4	5	3	7	0	1



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Astragalus claranus</i> Clara Hunt's milk-vetch	G1 S1	Endangered Threatened	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	770 1,165	6 S:2	0	1	0	0	0	1	0	2	2	0	0
<i>Astragalus rattanii</i> var. <i>jepsonianus</i> Jepson's milk-vetch	G4T3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive		51 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Balsamorhiza macrolepis</i> big-scale balsamroot	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	890 1,230	51 S:2	2	0	0	0	0	0	2	0	2	0	0
<i>Blennosperma bakeri</i> Sonoma sunshine	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	70 140	24 S:16	0	6	3	1	3	3	5	11	13	2	1
<i>Brodiaea leptandra</i> narrow-anthered brodiaea	G3? S3?	None None	Rare Plant Rank - 1B.2	100 1,000	39 S:10	0	1	1	0	0	8	8	2	10	0	0
<i>Calamagrostis crassiglumis</i> Thurber's reed grass	G3Q S2	None None	Rare Plant Rank - 2B.1	150 150	15 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Calochortus raichei</i> The Cedars fairy-lantern	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	1,200 1,200	9 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Calystegia collina</i> ssp. <i>oxyphylla</i> Mt. Saint Helena morning-glory	G4T3 S3	None None	Rare Plant Rank - 4.2	1,150 2,250	9 S:2	1	0	0	0	0	1	2	0	2	0	0
<i>Campanula californica</i> swamp harebell	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	150 150	139 S:2	0	0	0	0	2	0	2	0	0	1	1
<i>Carex comosa</i> bristly sedge	G5 S2	None None	Rare Plant Rank - 2B.1	60 60	29 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Castilleja uliginosa</i> Pitkin Marsh paintbrush	GXQ SX	None Endangered	Rare Plant Rank - 1A	150 200	2 S:2	0	0	0	0	2	0	2	0	0	2	0
<i>Ceanothus confusus</i> Rincon Ridge ceanothus	G1 S1	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden	500 3,600	33 S:10	0	0	4	0	1	5	8	2	9	0	1
<i>Ceanothus divergens</i> Calistoga ceanothus	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	800 3,120	26 S:5	0	1	1	1	0	2	3	2	5	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Ceanothus foliosus</i> var. <i>vineatus</i> Vine Hill ceanothus	G3T1 S1	None None	Rare Plant Rank - 1B.1	150 250	6 S:4	0	0	1	0	0	3	2	2	4	0	0
<i>Ceanothus purpureus</i> holly-leaved ceanothus	G2 S2	None None	Rare Plant Rank - 1B.2 SB_SBBG-Santa Barbara Botanic Garden	475 475	43 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Ceanothus sonomensis</i> Sonoma ceanothus	G2 S2	None None	Rare Plant Rank - 1B.2 SB_SBBG-Santa Barbara Botanic Garden	475 475	30 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Centromadia parryi</i> ssp. <i>parryi</i> pappose tarplant	G3T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	100 750	39 S:2	0	0	0	0	0	2	1	1	2	0	0
<i>Chorizanthe valida</i> Sonoma spineflower	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	150 150	6 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Clarkia imbricata</i> Vine Hill clarkia	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden SB_UCBBG-UC Berkeley Botanical Garden	230 232	2 S:2	0	1	1	0	0	0	1	1	2	0	0
<i>Coastal and Valley Freshwater Marsh</i> Coastal and Valley Freshwater Marsh	G3 S2.1	None None		65 65	60 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Cordylanthus tenuis</i> ssp. <i>capillaris</i> Pennell's bird's-beak	G4G5T1 S1	Endangered Rare	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	300 700	4 S:4	0	3	0	0	0	1	1	3	4	0	0
<i>Cryptantha dissita</i> serpentine cryptantha	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	1,900 1,900	10 S:1	0	1	0	0	0	0	1	0	1	0	0
<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i> Peruvian dodder	G5T4? SH	None None	Rare Plant Rank - 2B.2		6 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Delphinium bakeri</i> Baker's larkspur	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_UCBBG-UC Berkeley Botanical Garden	670 670	6 S:1	0	0	0	0	1	0	1	0	0	0	1



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Delphinium luteum</i> golden larkspur	G1 S1	Endangered Rare	Rare Plant Rank - 1B.1 SB_UCBBG-UC Berkeley Botanical Garden		11 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Downingia pusilla</i> dwarf downingia	GU S2	None None	Rare Plant Rank - 2B.2	85 142	132 S:12	4	2	0	0	3	3	8	4	9	1	2
<i>Erigeron greenei</i> Greene's narrow-leaved daisy	G3 S3	None None	Rare Plant Rank - 1B.2	700 700	20 S:4	0	0	0	0	0	4	3	1	4	0	0
<i>Erigeron serpentinus</i> serpentine daisy	G2 S2	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden	400 400	6 S:1	0	0	1	0	0	0	1	0	1	0	0
<i>Eriogonum nervulosum</i> Snow Mountain buckwheat	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	2,400 3,000	9 S:2	1	0	0	0	0	1	2	0	2	0	0
<i>Fritillaria liliacea</i> fragrant fritillary	G2 S2	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	150 800	82 S:9	0	3	2	0	2	2	4	5	7	2	0
<i>Gratiola heterosepala</i> Boggs Lake hedge-hyssop	G2 S2	None Endangered	Rare Plant Rank - 1B.2 BLM_S-Sensitive		99 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Hemizonia congesta</i> ssp. <i>congesta</i> congested-headed hayfield tarplant	G5T2 S2	None None	Rare Plant Rank - 1B.2 SB_UCBBG-UC Berkeley Botanical Garden	90 650	52 S:16	0	1	0	1	3	11	12	4	13	2	1
<i>Hesperolinon bicarpellatum</i> two-carpellate western flax	G2 S2	None None	Rare Plant Rank - 1B.2	2,700 2,700	25 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Horkelia tenuiloba</i> thin-lobed horkelia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden	200 1,060	27 S:7	2	0	1	0	0	4	6	1	7	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Kopsiopsis hookeri</i> small groundcone	G4? S1S2	None None	Rare Plant Rank - 2B.3		21 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Lasthenia burkei</i> Burke's goldfields	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden SB_UCBBG-UC Berkeley Botanical Garden	50 442	35 S:27	3	9	7	1	3	4	10	17	24	1	2
<i>Lasthenia californica ssp. bakeri</i> Baker's goldfields	G3T1 S1	None None	Rare Plant Rank - 1B.2	125 125	19 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Layia septentrionalis</i> Colusa layia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_UCBBG-UC Berkeley Botanical Garden		57 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Legenere limosa</i> legenere	G2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_UCBBG-UC Berkeley Botanical Garden	90 90	83 S:1	0	0	1	0	0	0	1	0	1	0	0
<i>Leptosiphon jepsonii</i> Jepson's leptosiphon	G2G3 S2S3	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture	400 1,360	51 S:13	1	2	0	0	0	10	4	9	13	0	0
<i>Lessingia arachnoidea</i> Crystal Springs lessingia	G2 S2	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	300 640	11 S:3	0	2	1	0	0	0	2	1	3	0	0
<i>Lilium pardalinum ssp. pitkinense</i> Pitkin Marsh lily	G5T1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_BerrySB-Berry Seed Bank SB_RSABG-Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture	150 200	4 S:2	0	1	0	0	0	1	2	0	2	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Limnanthes vincularis</i> Sebastopol meadowfoam	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden SB_UCBBG-UC Berkeley Botanical Garden	50 380	46 S:35	2	6	5	2	6	14	15	20	29	5	1
<i>Lupinus sericatus</i> Cobb Mountain lupine	G2? S2?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	3,000 3,600	46 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Microseris paludosa</i> marsh microseris	G2 S2	None None	Rare Plant Rank - 1B.2 SB_SBBG-Santa Barbara Botanic Garden SB_UCSC-UC Santa Cruz	80 100	38 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia	G4T2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	50 740	58 S:14	1	0	0	0	5	8	13	1	9	2	3
<i>Navarretia leucocephala</i> ssp. <i>plieantha</i> many-flowered navarretia	G4T1 S1	Endangered Endangered	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	110 850	8 S:2	0	2	0	0	0	0	1	1	2	0	0
<i>Northern Hardpan Vernal Pool</i> Northern Hardpan Vernal Pool	G3 S3.1	None None		60 135	126 S:6	4	0	1	0	1	0	6	0	5	1	0
<i>Northern Vernal Pool</i> Northern Vernal Pool	G2 S2.1	None None		73 80	20 S:2	0	1	0	0	0	1	2	0	2	0	0
<i>Penstemon newberryi</i> var. <i>sonomensis</i> Sonoma beardtongue	G4T2 S2	None None	Rare Plant Rank - 1B.3	1,600 4,340	11 S:2	1	0	0	0	0	1	2	0	2	0	0
<i>Piperia candida</i> white-flowered rein orchid	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	268 268	188 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Pleuropogon hooverianus</i> North Coast semaphore grass	G2 S2	None Threatened	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_BerrySB-Berry Seed Bank SB_RSABG-Rancho Santa Ana Botanic Garden	240 240	27 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Rhynchospora alba</i> white beaked-rush	G5 S2	None None	Rare Plant Rank - 2B.2	200 200	11 S:1	0	1	0	0	0	0	1	0	1	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Rhynchospora californica</i> California beaked-rush	G1 S1	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	150 150	9 S:2	0	0	0	0	1	1	2	0	1	0	1
<i>Rhynchospora capitellata</i> brownish beaked-rush	G5 S1	None None	Rare Plant Rank - 2B.2	150 150	25 S:2	0	0	1	0	1	0	1	1	1	1	0
<i>Rhynchospora globularis</i> round-headed beaked-rush	G4 S1	None None	Rare Plant Rank - 2B.1	150 150	2 S:2	0	0	0	0	1	1	2	0	1	1	0
<i>Sidalcea oregana ssp. valida</i> Kenwood Marsh checkerbloom	G5T1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden SB_UCBBG-UC Berkeley Botanical Garden	380 380	2 S:1	0	0	1	0	0	0	1	0	1	0	0
<i>Streptanthus brachiatus ssp. hoffmanii</i> Freed's jewelflower	G2T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	1,900 3,400	13 S:7	3	4	0	0	0	0	6	1	7	0	0
<i>Stuckenia filiformis ssp. alpina</i> slender-leaved pondweed	G5T5 S2S3	None None	Rare Plant Rank - 2B.2	600 600	21 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Trifolium amoenum</i> two-fork clover	G1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden SB_UCBBG-UC Berkeley Botanical Garden SB_USDA-US Dept of Agriculture	160 1,020	26 S:5	0	1	0	0	0	4	5	0	5	0	0
<i>Trifolium buckwestiorum</i> Santa Cruz clover	G2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden SB_UCSC-UC Santa Cruz SB_USDA-US Dept of Agriculture		58 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Trifolium hydrophilum</i> saline clover	G2 S2	None None	Rare Plant Rank - 1B.2	100 100	49 S:4	0	0	0	0	3	1	4	0	1	1	2
<i>Triquetrella californica</i> coastal triquetrella	G2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	328 328	13 S:1	0	0	0	0	0	1	0	1	1	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Usnea longissima</i> Methuselah's beard lichen	G4 S4	None None	Rare Plant Rank - 4.2 BLM_S-Sensitive	200 800	206 S:3	0	0	2	0	0	1	1	2	3	0	0
<i>Valley Needlegrass Grassland</i> Valley Needlegrass Grassland	G3 S3.1	None None		835 835	45 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Viburnum ellipticum</i> oval-leaved viburnum	G4G5 S3?	None None	Rare Plant Rank - 2B.3	520 545	39 S:5	0	1	0	0	0	4	4	1	5	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad> IS (Healdsburg (3812257)> OR Geyserville (3812268)> OR Jintown (3812267)> OR Mount St. Helena (3812266)> OR Guerneville (3812258)> OR Mark West Springs (3812256)> OR Camp Meeker (3812248)> OR Sebastopol (3812247)> OR Santa Rosa (3812246)) AND Taxonomic Group> IS (Fish> OR Amphibians> OR Reptiles> OR Birds> OR Mammals> OR Mollusks> OR Arachnids> OR Crustaceans> OR Insects)

Name (Scientific/Common)	CNDDB Rank	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Accipiter cooperii</i> Cooper's hawk	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	133 133	118 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Agelaius tricolor</i> tricolored blackbird	G2G3 S1S2	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	106 106	955 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Ambystoma californiense</i> California tiger salamander	G2G3 S2S3	Threatened Threatened	CDFW_WL-Watch List IUCN_VU-Vulnerable	80 135	1206 S:53	7	18	13	4	1	10	2	51	52	1	0
<i>Andrena blennospermatis</i> Blennosperma vernal pool andrenid bee	G:2 S:2	None None		90 130	15 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Antrozous pallidus</i> pallid bat	G:5 S:3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	144 930	420 S:9	1	0	1	2	4	1	7	2	5	1	3
<i>Arboremus pomo</i> Sonoma tree vole	G:3 S:3	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	250 920	222 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Ardea herodias</i> great blue heron	G:5 S:4	None None	CDFW_S-Sensitive IUCN_LC-Least Concern	120 120	155 S:1	0	0	0	0	0	1	1	0	1	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Athene cunicularia</i> burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	104 187	1989 S:2	0	1	0	1	0	0	0	2	2	0	0
<i>Bombus caliginosus</i> obscure bumble bee	G4? S1S2	None None	IUCN_VU-Vulnerable	150 600	181 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Bombus occidentalis</i> western bumble bee	G2G3 S1	None Candidate Endangered	USFS_S-Sensitive XERCES_IM-Imperiled	100 220	280 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	G3G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	124 1,720	635 S:7	0	0	1	0	0	6	6	1	7	0	0
<i>Coturnicops noveboracensis</i> yellow rail	G4 S1S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern NABCI_RWL-Red Watch List USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	283 283	45 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Dicamptodon ensatus</i> California giant salamander	G3 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	50 2,500	234 S:27	0	0	1	0	0	26	20	7	27	0	0
<i>Dubiraphia giulianii</i> Giuliani's dubiraphian riffle beetle	G1G3 S1S3	None None		50 50	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Elanus leucurus</i> white-tailed kite	G5 S3S4	None None	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern	120 400	180 S:3	0	2	0	0	0	1	2	1	3	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Emys marmorata</i> western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	16 2,000	1375 S:45	1	20	18	3	0	3	12	33	45	0	0
<i>Erethizon dorsatum</i> North American porcupine	G5 S3	None None	IUCN_LC-Least Concern	378 378	521 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Hysteroecarpus traskii pomo</i> Russian River tule perch	G5T4 S4	None None	AFS_VU-Vulnerable CDFW_SSC-Species of Special Concern	30 200	4 S:4	0	0	2	0	0	2	4	0	4	0	0
<i>Lasiurus blossevillii</i> western red bat	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern WBWG_H-High Priority	235 235	128 S:1	0	0	0	1	0	0	0	1	1	0	0
<i>Lasiurus cinereus</i> hoary bat	G5 S4	None None	IUCN_LC-Least Concern WBWG_M-Medium Priority		238 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Lavinia symmetricus navarroensis</i> Navarro roach	G4T1T2 S2S3	None None	CDFW_SSC-Species of Special Concern	80 400	4 S:2	0	1	0	1	0	0	2	0	2	0	0
<i>Linderiella occidentalis</i> California linderiella	G2G3 S2S3	None None	IUCN_NT-Near Threatened	100 776	438 S:6	0	2	0	0	0	4	5	1	6	0	0
<i>Mylopharodon conocephalus</i> hardhead	G3 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	280 280	33 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Myotis thysanodes</i> fringed myotis	G4 S3	None None	BLM_S-Sensitive IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	1,050 1,050	86 S:1	0	0	1	0	0	0	1	0	1	0	0
<i>Oncorhynchus kisutch pop. 4</i> coho salmon - central California coast ESU	G4 S2?	Endangered Endangered	AFS_EN-Endangered	70 445	23 S:8	0	1	1	0	0	6	1	7	8	0	0
<i>Oncorhynchus mykiss irideus pop. 8</i> steelhead - central California coast DPS	G5T2T3Q S2S3	Threatened None	AFS_TH-Threatened	75 500	44 S:3	1	1	1	0	0	0	0	3	3	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDDB Rank	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Pandion haliaetus</i> osprey	G5 S4	None None	CDFW_S-Sensitive CDFW_WL-Watch List IUCN_LC-Least Concern	70 200	504 S:3	1	1	0	0	0	1	2	1	3	0	0
<i>Pekania pennanti</i> fisher - West Coast DPS	G5T2T3Q S2S3	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern USFS_S-Sensitive	3,210 3,210	741 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Rana boylei</i> foothill yellow-legged frog	G3 S3	None Candidate Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	94 2,000	2468 S:49	10	10	4	0	0	25	16	33	49	0	0
<i>Rana draytonii</i> California red-legged frog	G2G3 S2S3	Threatened None	CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable	387 770	1541 S:4	2	1	0	0	0	1	0	4	4	0	0
<i>Stygobromus cherylae</i> Barr's amphipod	G1 S1	None None		260 260	1 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Syncaris pacifica</i> California freshwater shrimp	G2 S2	Endangered Endangered	IUCN_EN-Endangered	80 540	20 S:4	0	4	0	0	0	0	1	3	4	0	0
<i>Taricha rivularis</i> red-bellied newt	G4 S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	100 1,800	136 S:13	0	1	0	0	0	12	5	8	13	0	0
<i>Taxidea taxus</i> American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	80 1,290	591 S:4	1	2	0	0	0	1	1	3	4	0	0
<i>Trachykele hartmani</i> serpentine cypress wood-boring beetle	G1 S1	None None		3,000 3,000	3 S:1	0	0	0	0	0	1	1	0	1	0	0

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Sonoma County, California



Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📅 (916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME

STATUS

Northern Spotted Owl <i>Strix occidentalis caurina</i>	Threatened
There is final critical habitat for this species. Your location is outside the critical habitat.	
https://ecos.fws.gov/ecp/species/1123	

Reptiles

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i>	Threatened
No critical habitat has been designated for this species.	
https://ecos.fws.gov/ecp/species/6199	

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i>	Threatened
There is final critical habitat for this species. Your location is outside the critical habitat.	
https://ecos.fws.gov/ecp/species/2891	
California Tiger Salamander <i>Ambystoma californiense</i>	Endangered
There is final critical habitat for this species. Your location is outside the critical habitat.	
https://ecos.fws.gov/ecp/species/2076	

Crustaceans

NAME	STATUS
California Freshwater Shrimp <i>Syncaris pacifica</i>	Endangered
No critical habitat has been designated for this species.	
https://ecos.fws.gov/ecp/species/7903	

Flowering Plants

NAME	STATUS
Burke's Goldfields <i>Lasthenia burkei</i>	Endangered
No critical habitat has been designated for this species.	
https://ecos.fws.gov/ecp/species/4338	
Many-flowered Navarretia <i>Navarretia leucocephala</i> ssp. <i>plieantha</i>	Endangered
No critical habitat has been designated for this species.	
https://ecos.fws.gov/ecp/species/2491	

Sebastopol Meadowfoam *Limnanthes vincularis*
No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/404>

Endangered

Sonoma Sunshine *Blennosperma bakeri*
No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/1260>

Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds
<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds
<http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird

species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Allen's Hummingbird *Selasphorus sasin*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9637>

Breeds Feb 1 to Jul 15

Bald Eagle *Haliaeetus leucocephalus*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Breeds Jan 1 to Aug 31

Clark's Grebe *Aechmophorus clarkii*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Jan 1 to Dec 31

Common Yellowthroat *Geothlypis trichas sinuosa*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/2084>

Breeds May 20 to Jul 31

Golden Eagle *Aquila chrysaetos*

Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

Lewis's Woodpecker *Melanerpes lewis*

Breeds Apr 20 to Sep 30

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9408>

Nuttall's Woodpecker *Picoides nuttallii*

Breeds Apr 1 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/9410>

Oak Titmouse *Baeolophus inornatus*

Breeds Mar 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9656>

Rufous Hummingbird *Selasphorus rufus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8002>

Song Sparrow *Melospiza melodia*

Breeds Feb 20 to Sep 5

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee *Pipilo maculatus clementae*

Breeds Apr 15 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/4243>

Wrentit *Chamaea fasciata*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

APPENDIX C

SITE PHOTOGRAPHS



Photo 1. Project Site facing northeast on November 12, 2019.



Photo 2. Project Site facing south on November 12, 2019.



Photo 3. Project Site facing northwest on November 12, 2019.



Photo 4. Upland sample point (SP-1) on the Project Site, facing northwest on November 12, 2019.

APPENDIX D

OBSERVED SPECIES TABLE

Scientific Name	Common Name
<i>Avena barbata</i>	slender wild oat
<i>Bromus diandrus</i>	ripgut grass
<i>Bromus hordeaceus</i>	soft chess
<i>Convolvulus arvensis</i>	bindweed
<i>Cyperus eragrostis</i>	flatsedge
<i>Elaeagnus pungens</i>	thorny olive
<i>Festuca perennis</i>	rye grass
<i>Helminthotheca echioides</i>	bristly ox-tongue
<i>Hypochaeris radicata</i>	rough cat's-ear
<i>Phalaris aquatica</i>	harding grass
<i>Pistacia chinensis</i>	Chinese pistache
<i>Plantago lanceolata</i>	English plantain
<i>Quercus agrifolia</i>	coast live oak
<i>Raphanus sativus</i>	radish
<i>Rubus armeniacus</i>	Himalayan blackberry
<i>Rumex crispus</i>	curly dock
<i>Senecio vulgaris</i>	common groundsel
<i>Sonchus oleraceus</i>	common sow thistle
<i>Vicia sativa</i>	vetch

APPENDIX E

WETLAND DETERMINATION DATA FORM

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 685 Aviation Blvd City/County: Santa Rosa/Sonoma Sampling Date: 11/12/2019
 Applicant/Owner: Airport Business Center State: CA Sampling Point: SP-1
 Investigator(s): A. May, A. Georgeades Section, Township, Range: 30, 0080N, 0080W
 Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C - Mediterranean California Lat: 38.517 Long: -122.797 Datum: D North A
 Soil Map Unit Name: Huichica loam, ponded, 0 to 5 percent slopes NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. <u>Quercus agrifolia</u>	<u>20</u>	<u>Y</u>	<u>NL</u>	
2. <u>Pistacia chinensis</u>	<u>15</u>	<u>Y</u>	<u>NL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
<u>35</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>30 ft</u>)				
1. <u>Elaeagnus pungens</u>	<u>5</u>	<u>Y</u>	<u>NL</u>	
2. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5 ft</u>)				
1. <u>Phalaris aquatica</u>	<u>75</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Cyperus eragrostis</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
3. <u>Rumex crispus</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4. <u>Convolvulus arvensis</u>	<u>1</u>	<u>N</u>	<u>NL</u>	
5. <u>Rubus armeniacus</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
6. <u>Sonchus oleraceus</u>	<u><1</u>	<u>N</u>	<u>UPL</u>	
7. <u>Raphanus sativus</u>	<u><1</u>	<u>N</u>	<u>NL</u>	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
8. _____	_____	_____	_____	
<u>95</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. <u>N/A</u>	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>5</u> % Cover of Biotic Crust <u>0</u>				
Remarks:				
NL = not listed				

SOIL

Sampling Point: SP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-6	10 YR 3/1	100	None			clay loam	roots
7-22	10 YR 3/1	100	None			clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
--	--

Remarks:
soil is cool and damp from 10"+

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No saturation observed, no existing water table.

APPENDIX F

FIELD SURVEYOR QUALIFICATIONS

Dana Riggs, Principal Biologist for Sol Ecology received her Bachelor of Science degree in Earth Systems, Science and Policy at California State University of Monterey Bay in 2001. Prior to founding Sol Ecology, she was a principal biologist and head of the Wildlife and Fisheries Department at WRA, a mid-size environmental consulting firm in San Rafael, California. She has 20 years of experience directing a broad range of resource studies from planning level to post-construction including: biological habitat assessments and mapping, special status species surveys, corridor studies, site restoration and monitoring, federal and state regulatory permitting, local permitting, mitigation and restoration planning for aquatic species, and NEPA and CEQA documentation for a variety of public and private sector clients. Dana has extensive experience working with species including California red-legged frog and California tiger salamander and has been approved by USFWS and CDFW to monitor for these species on projects throughout the state.

Andrew Georgeades, Senior Ecologist for Sol Ecology received his Bachelor of Science degree in Natural Resource Management and Conservation at San Francisco State University in 2005. Prior to co-founding Sol Ecology, Andrew worked as a natural resources' specialist for the Golden Gate National Recreation Area where he was responsible for monitoring native and rare plant populations and planning and supervising revegetation projects within the park. Andrew also previously worked for the California Native Plant Society as a vegetation project lead on the "Manual of California Vegetation, 2nd Ed." Publication. As a lead, he performed plant surveys, identified vegetation habitat types, landforms, environmental conditions, and plant species following the project protocol. Andrew currently is responsible for overseeing all floristic and focused plant surveys at Sol Ecology and maintains a CDFW scientific collecting permit.

Amy May, Associate Biologist/Botanist for Sol Ecology received her Bachelor of Science degree in Biology at Virginia Tech in 2006 and her Master of Science degree in Environmental Science at IU-Bloomington in 2010. She has more than a decade of experience working in environmental consulting and specializes in botany, wetland and jurisdictional delineations, and preparation of permits and environmental documents including CEQA/NEPA. She also has received specialized training in California Vegetative Mapping, CRAM for Wetlands, Estuarine and Riverine Modules, and Federal Wetland/Waters Regulatory Policy. Ms. May is currently responsible for performing wetland delineations on the Santa Rosa Plain and elsewhere in the Bay Area.