# SHAFER VINEYARDS

## Biological Resources Reconnaissance Report

Prepared for
Shafer Vineyards

February 2024

ESA

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Shafer Vineyards

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# CHAPTER 1
# Introduction

## 1.1 Background and Purpose

This Biological Resources Reconnaissance Report (report) was prepared for the approximately 126.8-acre Shafer Vineyards Tentative Parcel Map Application study area (i.e., property), located in Napa County, California. This report includes a description of the property location, project description, biological setting, biological reconnaissance survey methodology, survey results, and recommended mitigation measures, in accordance with the Guidelines for Preparing Biological Resources Reconnaissance Surveys (Napa County Planning, Building & Environmental Services, 2016).

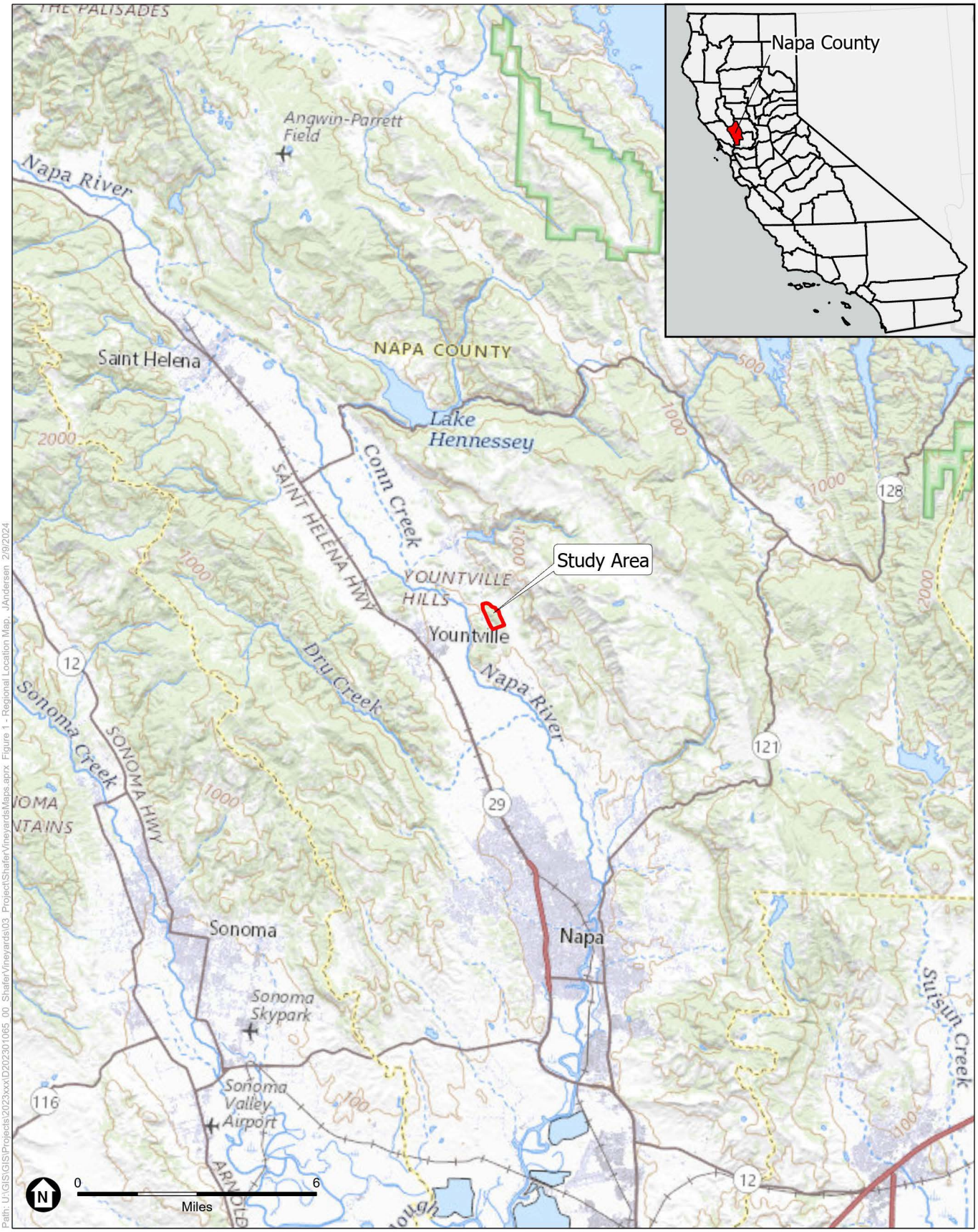
## 1.2 Project Location

The property is located at 6110 Silverado Trail, approximately 6 miles north of the City of Napa in Napa County, California (**Figure 1**). The 126.8-acre property consists of existing Assessor's Parcel Number (APN) 032-530-019. The property is located in Section 32 of Township 7 North, Range 4 West, of the Yountville, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (USGS, 2021).

## 1.3 Project Description

The applicant proposes to subdivide the 126.8-acre parcel into two parcels measuring 85.8 acres (Parcel 1) and 41.0 acres (Parcel 2). A Tentative Parcel Map Application is pending with the County of Napa's Planning, Building and Environmental Services Department (County). The parcel is zoned Agricultural Preserve and Agricultural Watershed. Proposed Parcel 1 contains 22 acres of existing vineyard, an area for a previously approved winery (Wintery Use Permit 02285-UP, Pillar Rock Winery), a paved driveway, a reservoir, a pump house and three wells. Proposed Parcel 2 contains a residence with a guest house and a swimming pool, a well, a water tank, a propane tank, a septic system, and a paved driveway.

A conservation easement (Napa County Land Trust Deed #1995-0013125, NCR) on the entire property allows for subdivision of the property into two parcels and development of no more than one additional homesite on the newly created parcel. The conservation easement identifies, among other items, the location of two potential homesites for the one additional homesite allowed within a development zone of approximately 5 acres. Therefore, although not currently proposed, foreseeable future development on Parcel 1 consistent with the conservation easement may include a single-family residential structure, associated accessory buildings, access roads, fences, utility conduits and the like within a 5-acre development zone limited to one of the two identified locations.




SOURCE: USGS 2020, ESA, 2024

Shafer Vineyards

**Figure 1**
Regional Location Map

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A proposed 40-foot utility access easement is located adjacent to the existing paved driveway on Parcel 1, along with a proposed 10-foot pole line easement; these proposed easements are outside of the potential development zones. The location of the project's full study area and the potential development zones are shown on **Figure 2**.

## 1.4 Regulatory Context

Biological resources in the study area may fall under the jurisdiction of various agencies and be subject to their regulations. In general, the greatest legal protections are provided for plant and wildlife species that are formally listed under the Federal Endangered Species Act (FESA) or California Endangered Species Act (CESA). The following regulations, described in **Appendix A,** are commonly associated with projects that have the potential to affect biological resources:

- Federal Endangered Species Act
- Migratory Bird Treaty Act
- Bald and Golden Eagle Protection Act
- Clean Water Act, Section 404
- California Endangered Species Act
- Fish and Game Code Section 3503
- Native Plant Protection Act
- Lake or Streambed Alteration Program
- Porter Cologne Water Quality Act
- CEQA Guidelines Section 15380
- Napa County General Plan Goals, Policies, and Code (Section 18.108)


SOURCE: USGS 2020, ESA, 2024

Shafer Vineyards

**Figure 2**
Study Area Map

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# CHAPTER 2
# Survey Methodology

## 2.1 Review of Background Information

ESA reviewed the following biological resources data and background information applicable to the study area prior to fieldwork:

- Yountville USGS 7.5-minute quadrangle (USGS, 2021);
- Historic and current aerial imagery (Google Earth, 1985-2023);
- Soil maps from the National Resources Conservation Service (USDA NRCS, 2024);
- Napa County Baseline Data Report (Napa County, 2005);
- Fine-scale vegetation map for Napa County (CDFW, 2015);
- The CDFW California Natural Diversity Database (CNDDB) list of plant and wildlife species documented on the Yountville and 8 surrounding quadrangles (Chiles Valley, St Helena, Rutherford, Sonoma, Napa, Mt George, Capell Valley and Lake Berryessa) (CDFW, 2024) (**Appendix B**);
- The California Native Plant Society (CNPS) online database of plant species documented on the Yountville and 8 surrounding quadrangles (CNPS, 2024) (**Appendix B**); and
- A U.S. Fish and Wildlife Service (USFWS) list of species that may occur in the vicinity of the study area (USFWS, 2024) (**Appendix B**).

## 2.2 Survey Dates and Surveying Personnel

ESA Botanists/Biologists Nicole Ibañez and Amanda Segura-Moon conducted biological surveys of the study area on January 17 and 18, 2024, including wildlife surveys and a floristic survey of the study area. The survey consisted of a total of 20 person-hours and included an evaluation of the site's potential to support special-status species and habitats.

Ms. Ibañez has over 7 years of experience conducting botanical surveys throughout California. Ms. Segura-Moon has 2 years of experience conducting botanical surveys throughout California, and conducted the botanical survey under the direct supervision of Ms. Ibañez. The biologists/botanists have the following qualifications: experience with conducting floristic surveys; intimate knowledge of plant taxonomy and plant community ecology and classification; familiarity with the plants of the area, including all locally occurring special-status plants;

familiarity with the appropriate State and federal statutes related to plants and plant collecting; Plant Voucher Collecting Permits for California Endangered, Threatened, and Candidate species, and experience with analyzing impacts of project activities on native plants and plant communities.

Ms. Ibañez conducted the wildlife survey concurrently with the botanical inventory. She has over 7 years of experience conducting wildlife surveys throughout California. Ms. Ibañez has the following qualifications: experience in conducting a variety of wildlife surveys; knowledge of terrestrial and aquatic wildlife; familiarity and experience with conducting wildlife surveys in the area, including those that may be found there; experience with wildlife that are likely to be found based on commonly occurring habitat types in the area; familiarity with the appropriate State and federal statutes related to animal surveys; and experience in analyzing the impacts of development on native wildlife.

## 2.3 Habitat and Vegetation Surveys

The biologists/botanists conducted a botanical inventory and evaluated vegetative communities in accordance with the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW, 2018), documenting habitat for special-status species with the potential to occur within the study area, and comparing land cover types identified in the Napa County Baseline Data Report (Napa County, 2005) with those identified during the surveys. The Napa County Baseline Data Report was also compared against the fine-scale vegetation map for Napa County (CDFW, 2015). The vegetation classification system used conforms to A Manual of California Vegetation (Sawyer and Keeler-Wolf, 2009). Vegetation communities that did not match up with those in the Napa County Baseline Data Report (Napa, 2005) were revised to the existing conditions based on the visual inspection during the January 2024 surveys.

The floristic survey was not conducted during blooming season for most of the special-status plant species determined to have potential to occur within the study area. All plants observed were identified to species, or subspecies/variety, to the extent possible during the time of the survey. Taxonomic nomenclature is in accordance with The Jepson Manual; Vascular Plants of California, Second Edition, 2012. A comprehensive list of observed plant species is provided in **Appendix C**.

The study area was surveyed for habitat suitability for the potential special-status wildlife and rare plant species with potential to occur. The study area was surveyed through representative transects across accessible areas, and extra attention was spent on potentially developable areas and water features and drainages. Vegetation communities and aquatic features were characterized and mapped in the field using aerial photography and Trimble Geo XT devices. The boundaries of vegetation communities mapped on aerial photography were digitized and the polygon and point data were downloaded and projected using Geographic Information System (GIS) software in the State Plane coordinate system (NAD 83) with units as “survey feet.”

## 2.4 Wildlife Surveys

Animals were identified in the field by sight, sign, or their call during the site surveys indicated in Section 2.2. Field techniques consisted of surveying the study area with binoculars and walking transects across accessible areas of the study area. Aerial photographs were reviewed to analyze the habitat surrounding the site and the potential for wildlife movement, or wildlife corridors.

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# CHAPTER 3
# Results

## 3.1 Biological Setting within the Evaluation Area

The study area is in the Napa River Watershed, in the Napa Valley. The Napa River watershed covers an area of approximately 426 square miles, and is bordered by mountains to the north, west, and east. The watershed is typical of the California coastal range, with northwest-southeast trending topography. The Napa River runs through the center of the watershed on the valley floor for approximately 55 miles to the San Pablo Bay.

Natural lands in the study area include oak woodland, annual grassland, and water. Valleys surrounding the study area have been developed with vineyards. Portions of the property have been developed with vineyards, a residence and guest house, barns and associated agricultural infrastructure, and paved and graded roads. Soils within the property consist of the Boomer, Bale, Bressa-Dibble, Boomer-Forward-Felta, Clear Lake and Perkins soil associations. The topography consists of flat to steep hills and elevation ranges from 120 to 480 feet above sea level. Natural habitats within the study area are depicted in **Figure 3**. Vegetation alliances associated with the natural lands within the study area are provided below, as classified in A Manual of California Vegetation (Sawyer et al., 2009). Detailed descriptions of vegetation alliances within the study area are provided in Section 3.2 below.

Oak woodland is the predominant vegetation within the study area. Vegetation alliances associated with this natural community include: California bay-madrone-coast live oak-(black oak big-leaf maple) alliance, coast live oak alliance, coast live oak-blue oak-(foothill pine) alliance, coast live oak alliance, mixed oak alliance, and valley oak-(California bay-coast live oak-walnut-ash) riparian forest alliance.

Annual grassland occurs in scattered areas throughout the study area. The vegetation alliance associated with this natural community is California annual grasslands alliance.

Water includes drainages (ephemeral channels), and aquatic habitat (reservoirs/lakes/marsh).

Vineyards and other developed areas including buildings and roads occur in the study area.

## 3.2 Terrestrial Biological Communities within the Study Area

Natural communities are assemblages of plant species that occur together in the same area and are defined by species composition and relative abundance. The natural community classification presented herein is based on field observations. The following general terrestrial biological communities occur within the study area: annual grassland, mixed oak woodland, agriculture, and developed. The general biological communities are further characterized into vegetation alliances. Dominant vegetation observed within the vegetation alliances is provided below. A complete list of plant species identified during the botanical survey is provided in **Appendix C**. Biological communities in the study area are shown in **Figure 3**. Aquatic biological communities are discussed under Section 3.4 and shown in Figure 3. Representative photographs of the biological communities are provided in **Appendix D**.

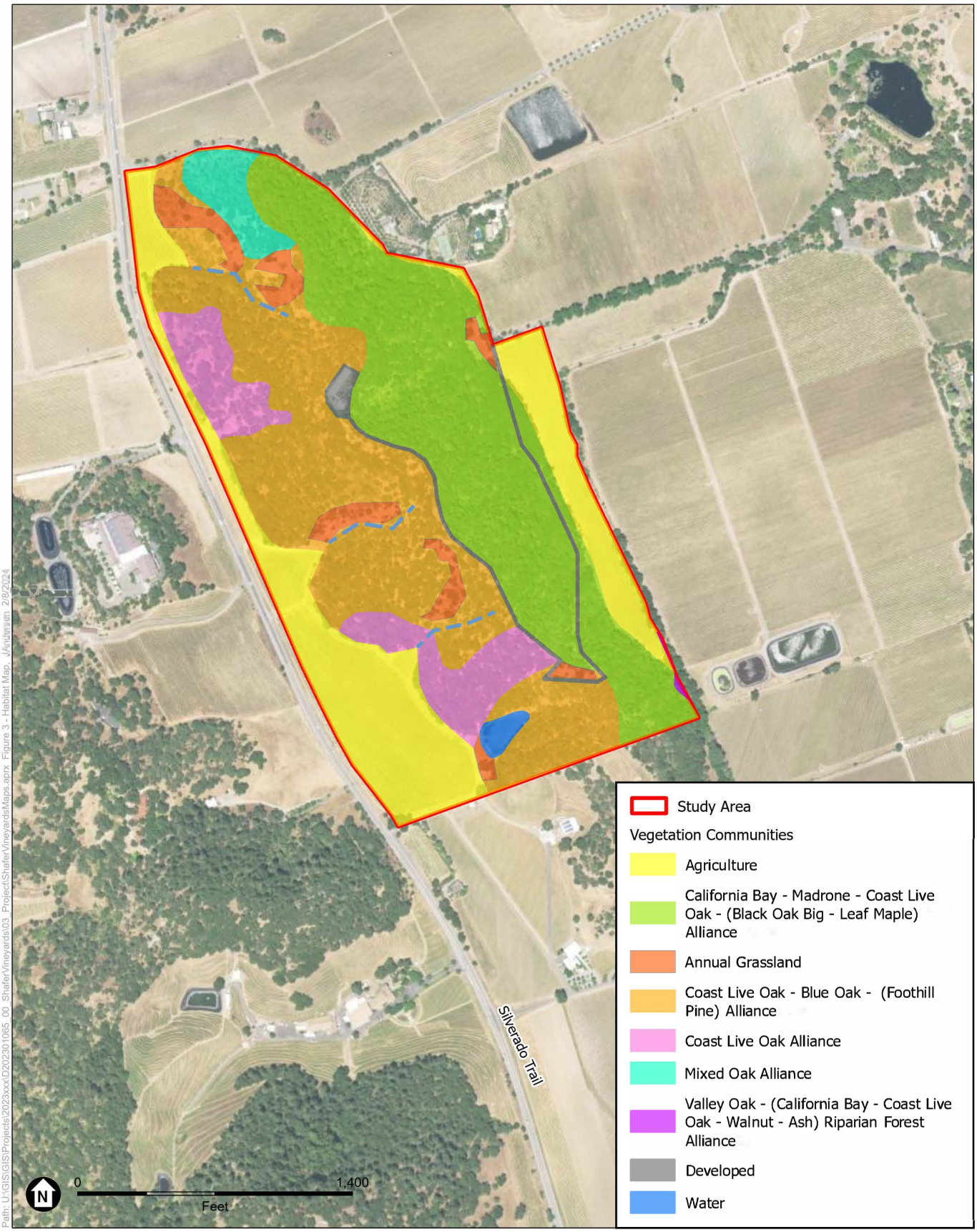
### 3.2.1 Annual Grassland

Upland annual grassland is scattered in openings within the oak woodland throughout the study area, primarily on south-facing slopes. Annual grassland is distinguished primarily by nonnative annual grasses and forbs. Dominant nonnative grasses observed within this biological community during the January 2024 surveys include wild oat (*Avena fatua*), soft chess (*Bromus hordeaceus*), ripgut grass (*Bromus diandrus*), hare barley (*Hordeum murinum* ssp. *leporinum*), bristly dogtail grass (*Cynosurus echinatus*) and rattlesnake grass (*Briza maxima*). Dominant nonnative forbs include redstem filaree (*Erodium cicutarium*), tall sock-destroyer (*Torilis arvensis*), geranium (*Geranium dissectum*), cranesbill (*Geranium molle*), rose clover (*Trifolium hirtum*), narrowleaf plantain (*Plantago lanceolata*), common burclover (*Medicago polymorpha*), yellow star thistle (*Centaurea solstitialis*), and Italian thistle (*Carduus pycnocephalus*). Native wildflowers observed within the annual grassland include California poppy (*Eschscholzia californica*), bicolored lupine (*Lupinus bicolor*), western buttercup (*Ranunculus occidentalis* var. *occidentalis*), and soap plant (*Chlorogalum pomeridianum*).

### 3.2.2 Mixed Oak Woodland

#### California Bay-Madrone-Coast Live Oak- (Black Oak-Big-leaf Maple) Alliance

The California Bay-Madrone-Coast Live Oak Alliance is one of the dominant communities in the study area, especially on the northeast facing slope. This alliance is dominated by California bay (*Umbellularia californica*), madrone (*Arbutus menziesii*), coast live oak (*Quercus agrifolia*) with black oak (*Quercus kelloggii*) scattered throughout. Understory shrubs include common manzanita (*Arctostaphylos manzanita* ssp. *manzanita*), western poison oak (*Toxicodendron diversilobum*), and honeysuckle (*Lonicera hispidula*). Dominant understory herbaceous vegetation includes those identified under the upland annual grassland habitat.




SOURCE: CDFW 2022, USGS 2020, ESA, 2024

Shafer Vineyards

**Figure 3**
Habitat Map

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### Coast Live Oak-Blue Oak Alliance

The Coast Live Oak-Blue Oak community is abundant throughout the study area, especially on southwest facing slopes. Dominant overstory vegetation in this alliance includes coast live oak interspersed with blue oak (*Quercus douglasii*), madrone, and foothill pine (*Pinus sabiniana*). Understory shrubs include honeysuckle, common manzanita, and western poison oak. Dominant understory herbaceous vegetation includes those identified under the upland annual grassland habitat.

### Coast Live Oak Alliance

Coast Live Oak alliance occurs throughout the study area, especially on southwest facing slopes. The overstory of this alliance is dominated by coast live oak. Associated overstory vegetation includes blue oak intermixed with madrone, California bay (*Umbellularia californica*), buckeye (*Aesculus californica*) and foothill pine. Dominant understory shrubs include western poison oak and western houndstongue (*Adelinia grandis*). Dominant understory herbaceous vegetation includes those identified under the upland annual grassland habitat.

### Mixed Oak Alliance

Mixed oak alliance occurs in the northern portion of the study area. Dominant overstory vegetation includes coast live oak, valley oak (*Quercus lobata*), blue oak, foothill pine, big-leaf maple (*Acer macrophyllum*), and black oak (*Quercus kelloggii*). Understory shrubs include western poison oak, common manzanita, and coyote brush (*Baccharis pilularis*). Dominant understory herbaceous vegetation includes those identified under the upland annual grassland habitat.

### Valley Oak-(California Bay-Coast Live Oak-Walnut-Ash) Riparian Forest Alliance

A small portion of riparian habitat occurs within the study area along banks of the irrigation canal that runs along the southeastern edge of the study area. Dominant overstory vegetation includes Valley oak, willow (*Salix* sp.), and California bay (*Umbellularia californica*). Dominant understory includes curly dock (*Rumex cripsus*) and annual beardgrass (*Polypogon monspeliensis*). This biological community is discussed in further detail in Section 3.3 Sensitive Natural Communities.

## 3.2.3 Agriculture

Agriculture includes the vineyards on the eastern and western portions of the study area. These areas are developed with active vineyards (i.e., agricultural grape plants) and the areas include trellises, fencing and dirt access roads. Herbaceous vegetation in this community, other than the grape crops, include cover crops such as fava bean (*Vicia faba*) and non-native weedy forbs such as English plantain, common burclover and redstem filaree.

### 3.2.4 Developed

Developed areas include disturbed land that had been graded or used for roads, buildings, or storage associated with the existing vineyard operations and residence. Minimal herbaceous vegetation has established within the developed land.

## 3.3 Aquatic Habitats in the Study Area

Two types of aquatic habitats were observed in the study area. One detention basin (i.e., reservoir) is present in the southern portion of the study area. This is a manmade feature used for agricultural operations. The substrate of the basin is covered in plastic, and no vegetation is growing in or around the basin. Because this manmade feature is not connected to any natural features, it is unlikely to be considered a waters of the U.S. under Section 404 of the Clean Water Act. However, no formal aquatic resource delineation was conducted for the study area.

There are three ephemeral channels that flow through drainages down the west side of the hill in the study area. These channels are steep and shallow, and likely only carry flowing water during or immediately after a precipitation event. The channels were dry during the January 2024 site surveys. Because these channels do not carry flowing water at least seasonally, they are unlikely to be considered waters of the U.S., but they are potential waters of the State. However, no formal aquatic resource delineation was conducted for the study area.

## 3.4 Sensitive Natural Communities

Sensitive natural communities include those that are of special concern to resource agencies or those that are protected under California Environmental Quality Act (CEQA), Napa County regulations, Section 1600 of the California Fish and Game Code, or Section 404 of the Clean Water Act. Sensitive natural communities within the study area include potential waters of the state, the Valley Oak Riparian Forest Alliance, and oak trees within the oak woodland alliances (Figure 3). Mixed oak woodland is regulated via Policy CON-24 of the Napa County General Plan (Napa County, 2005).

## 3.5 Wildlife Observed

The following birds were observed during the January 2024 surveys: European starling (*Sturnus vulgaris*), American crow (*Corvus brachyrhynchos*), Nuttall's woodpecker (*Dryobates nuttallii*), California quail (*Callipepla californica*), red-tailed hawk (*Buteo jamaicensis*), mourning dove (*Zenaida macroura*), turkey vulture (*Cathartes aura*), Anna's hummingbird (*Calypte anna*), acorn woodpecker (*Melanerpes formicivorus*), common raven (*Corvus corax*), chestnut-backed chickadee (*Poecile rufescens*), yellow rumped warbler (*Setophaga coronata*), California towhee (*Melozone crissalis*), and American goldfinch (*Spinus tristis*). The following mammals were observed: western grey squirrel (*Sciurus griseus*), and coyote (scat; *Canis latrans*). The following reptiles and amphibians were observed within the study area: Sierran tree frog (*Pseudacris sierra*), California newt (*Taricha torosa*), western fence lizard (*Sceloporus occidentalis*), and slender salamander (*Batrachoseps attenuatus*).

# 3.6 Special-Status Species

Several species known to occur in the vicinity of study area are regulated pursuant to federal and/or State endangered species laws, or have been designated as Species of Special Concern by CDFW. In addition, Section 15380(b) of the CEQA Guidelines provides a definition of rare, endangered, or threatened species that are not included in any listing.[1] Species recognized under these terms are collectively referred to as "special-status species."

Special-status species considered for this analysis are based on the CNDDB, CNPS, and USFWS lists. A comprehensive list of regionally occurring special-status plant and wildlife species that were considered in the analysis is provided in **Appendix E**. The list includes the common and scientific names for each species, regulatory status (federal, State, local, CNPS), habitat descriptions, and a discussion of the potential for occurrence within the study area based on suitable habitat presence. Species that have the potential to occur are discussed further below.Special-status species determined to not have the potential to occur are based on the study area lacking suitable habitat or occurring outside of the known extant geographical or elevational ranges; these species are not discussed further in this section.

## 3.6.1 Special-Status Plants

None of the ten potentially occurring special-status plants identified in **Appendix E** were observed in the study area during the January 2024 survey. The floristic survey was not conducted within the evident and identifiable blooming periods for the species with potential to occur.

## 3.6.2 Special-Status Wildlife

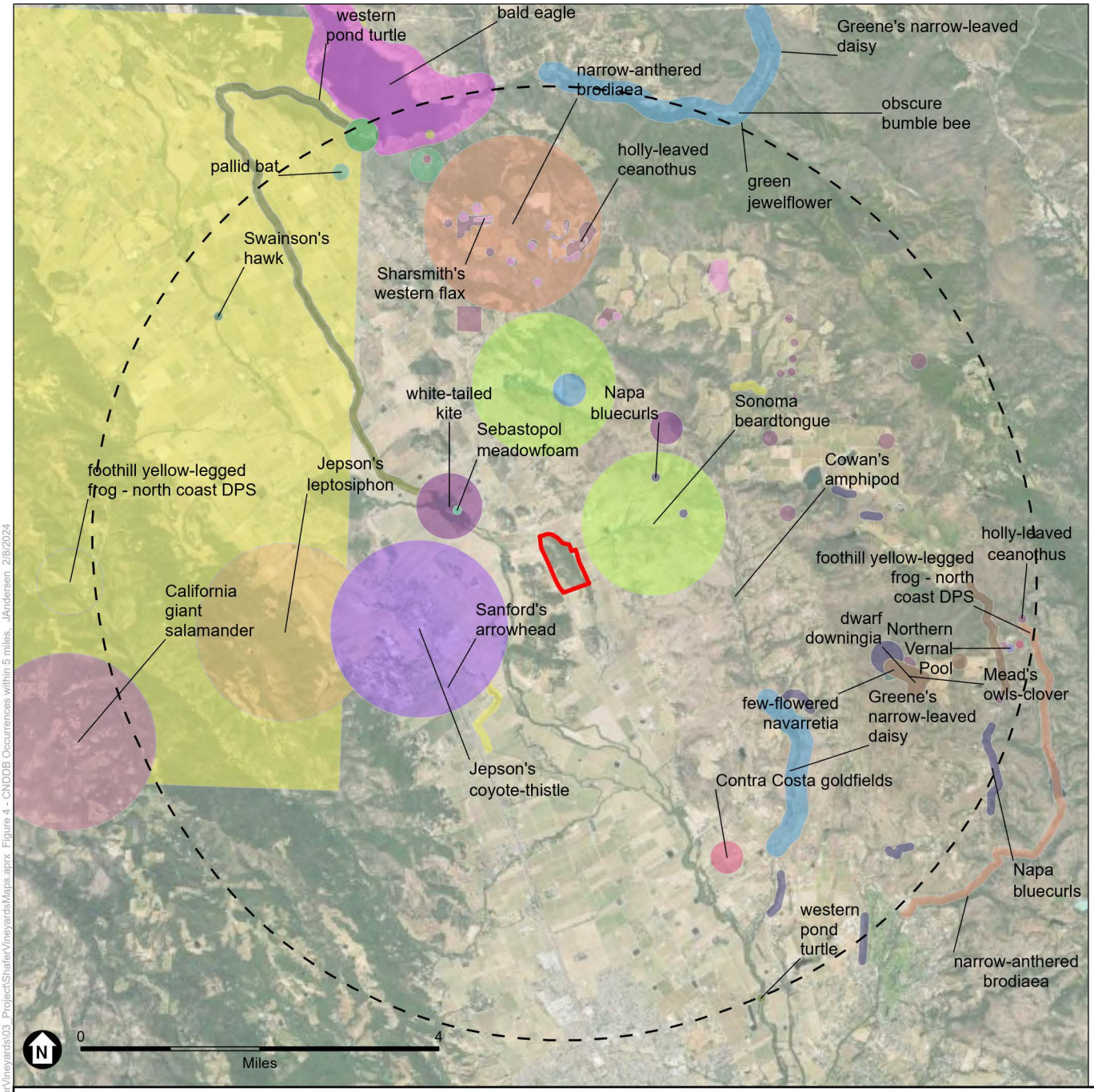
### Western Pond Turtle (*Actinemys marmorata*)

Western pond turtle is a federal proposed threatened species and a California species of special concern.

Western pond turtles are found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with suitable basking sites (Californiaherps, 2024). Western pond turtles nest and overwinter in sandy banks, if present, or in areas of sparse vegetation comprised of grassland and forbs with less than 10 percent slopes, and less than 492 feet (150 meters) from aquatic habitat (Rosenberg et al., 2009). Terrestrial nesting habitat used by western pond turtles average 92 feet on either side of creeks (Rathbun et al., 2002).

There is one CNDDB record for this species within 5 miles of the study area (**Figure 4**). Occurrence 458 is from 2002 where two turtles were observed in stagnant pools at the confluence of Skellenger Creek and Conn Creek. The irrigation ditch that runs along the eastern border of the

[1] For example, vascular plants listed as rare or endangered or as List 1 or 2 by the California Native Plant Society (CNPS) are considered to meet Section 15380(b) requirements.




Path: U:\GIS\GIS\Projects\2023xxx\D202301065_00_ShaferVineyards\03_Project\ShaferVineyardsMaps.aprx Figure 4 - CNDDB Occurrences within 5 miles. JAndersen 2/8/2024

SOURCE: CNDDB 2024, USGS 2020, ESA, 2024

Shafer Vineyards

**Figure 4**
CNDDB Occurrences within 5 miles

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study area provides potential aquatic habitat for this species. The nearby oak woodland provides suitable terrestrial and potential nesting habitat for western pond turtle. This species was not observed within the study area during the biological surveys, but it has the potential to occur within the study area.

## Swainson's Hawk (*Buteo swainsoni*)

Swainson's hawk is a state listed threatened species.

The Swainson's hawk population that nests in the Central Valley and other low-elevation valleys winters primarily in Mexico, while the population that nests in the interior portions of North America winters in South America (Bradbury et al., in prep.). Swainson's hawks arrive between March and early April to establish breeding territories. Breeding occurs from late March to late August, peaking in late May through July. Swainson's hawks nest in isolated trees, small groves, or large woodlands next to open grasslands or agricultural fields. This species typically nests near riparian areas; however, it has been known to nest in urban areas as well. Nest locations are usually in close proximity to suitable foraging habitats, which include fallow fields, annual grasslands, irrigated pastures, alfalfa and other hay crops, and low-growing row crops. Swainson's hawks leave their breeding grounds to return to their wintering grounds in September or October (Nature Serve, 2019).

There is one CNDDB record for this species within 5 miles of the study area. Occurrence number 2668 is from 2012, and states that an active nest was observed along the east bank of the Napa River. The trees within the annual grassland and mixed oak woodland provide marginal nesting habitat for this species. The annual grassland and vineyards within the study area provide potential foraging habitat for this species. This species was not observed during the biological surveys. This species has the potential to nest and forage within the study area.

## White-Tailed Kite (*Elanus leucurus*)

While not listed, the white-tailed kite is a state fully protected species under Fish and Game Code, meaning that this species "....may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected" species, although take may be authorized for necessary scientific research.

White-tailed kite is a medium sized raptor that is a yearlong resident in coastal and valley lowlands in California. White-tailed kite breed from February to October, peaking from May to August. This species nests near the top of dense oaks, willows, or other large trees.

There are two CNDDB records for this species within 5 miles of the study area (Figure 4). The trees in the oak woodland provide nesting habitat for this species, and the annual grassland and vineyards provide foraging habitat. This species was not observed during the biological surveys. This species has the potential to nest within the study area.

## Bald Eagle (*Haliaeetus leucocephalus*)

Bald eagle is California endangered and fully protected.

Bald eagles inhabit forested areas adjacent to large water bodies including lakes, reservoirs, rivers, estuaries, and the coastline. They build nests in large trees or on rocky outcrops. These species winter in areas below 500 meters.

There is one CNDDB record for this species within 5 miles of the study area (Figure 4). The record from 1988 reported bald eagles roosting on the north side of Lake Hennessey. The trees within the annual grassland and the trees within the mixed oak woodland provide marginal nesting habitat for this species. The habitat is marginal because the study area is not adjacent to any significant body of water, and most of the trees are too small to provide suitable nesting habitat. No bald eagles were observed during the survey of the study area. This species has the potential to occur within the study area.

## Purple Martin (*Progne subis*)

Purple martin is a California species of special concern.

Purple martin nests in snags, tree cavities, crevices in rocks, and abandoned woodpecker holes in the vicinity of water. This species forages over fields, water, and marshes.

There are no CNDDB records for this species within 5 miles of the study area. The trees within the oak woodland provide nesting habitat for this species. No purple martin were observed during the biological surveys. This species has the potential to occur within the study area.

## Nesting Birds and Birds of Prey

Nesting birds and birds of prey are regulated under 50 Code of Federal Regulations (CFR) 10 of the Migratory Bird Treaty Act (MBTA) and/or Section 3503.5 of the California Fish and Game Code. Most species of bird are regulated, regardless of whether the species is migratory. Birds have the potential to nest in trees within the study area during the nesting season. The generally accepted nesting season is from February 15 through August 31.

## Pallid Bat (*Antrozous pallidus*), Townsend's Big-Eared Bat (*Corynorhinus townsendii*), and Western Red Bat (*Lasiurus blossevillii*)

These bats are California species of special concern.

Bats exhibit a wide range of habitat usage depending on the species, season, time of day, resource availability, level of disturbance, and other factors, but often exhibit a high site fidelity and specificity for roost selection. Roost sites consist of maternity (nursery colonies), bachelor, day, night, and feeding sites within caves, mines, cliffs, rock crevices, tree hollows, stumps, foliage, under exfoliating bark, and in manmade structures including buildings and bridges. Some species require a complex network of habitat characteristics that fulfill foraging, water intake, shelter, and thermoregulatory requirements that vary seasonally.

There is one CNDDB record of pallid bat within 5 miles of the study area (Figure 4). The trees within the mixed oak woodland provide roosting habitat for these species. No bats or signs of bats

were observed during the surveys of the study area. Special-status bats have the potential to roost within the study area.

## 3.7 Wildlife Movement Corridors

Wildlife movement corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or by areas of human disturbance or urban development. Topography and other natural factors in combination with urbanization can fragment or separate large open-space areas. The fragmentation of natural habitat can create isolated "islands" of vegetation and habitat that may not provide sufficient area to accommodate sustainable populations and can adversely impact genetic and species diversity. The retention of wildlife movement corridors ameliorates the effects of such fragmentation by allowing animals to move between remaining habitats, which in turn allows depleted populations to be replenished. Such movement may also promote genetic exchange between separated populations.

Native predators are more likely to use wide riparian corridors (greater than 100 feet wide and preferably at least 1,000 feet wide), and smaller native and non-native mammalian predators are more active in narrow (33 to 98 feet on each side of the creek) riparian corridors and denuded riparian corridors (Hilty and Merenlende, 2002 and 2004). Based on the wildlife corridor data, corridors at least 100 feet wide would generally provide adequate movement areas for some of the passage species and corridor dwellers present in the landscape.

The study area has not been identified as part of a major regional movement corridor on the Calwild linkage map (Napa County General Plan Update DEIR 2007) and is not located along a riparian system or other natural landscape feature that can be considered an important local wildlife movement corridor. The study area is primarily composed of natural oak woodland, but it is fragmented on all sides by vineyards, roads, rural residential development, and more immediately enclosed by tall deer fencing.

However, the study area is a forested area where resident small to mid-sized mammals can move within the property with relative ease. Individual mid-sized to large mammals are unlikely to pass through the study area due to the extensive fencing.

## 3.8 Critical Habitat for Listed Fish and Wildlife Species

The USFWS defines the term critical habitat in the federal Endangered Species Act as a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The study area is not within designated critical habitat for any listed plant or wildlife species.

# CHAPTER 4
# Biological Constraints and Recommendations

Although no development is currently proposed, the following section makes recommendations to avoid, minimize, or mitigate for potential impacts to biological resources if future development were to occur in the study area .

## 4.1 Sensitive Natural Communities

Oak woodland, and the oak trees within it are considered sensitive habitat, and are regulated by the Napa County General Plan (Policy CON-24) (Napa County, 2005). Should future potential development propose the removal of individual oak trees and loss of oak woodland habitat, it is recommended that any mitigation include preservation of oak trees to the maximum extent feasible, and replacement of removed oak trees at a 2:1 ratio.

Three ephemeral channels occur in the study area. These channels are potential waters of the state, and subject to regulation by the Regional Water Quality Control Board and CDFW. If impacts to these features are proposed in the future, the applicant will be required to obtain permits (i.e., Section 401 Water Quality Certification, and Section 1600 Lake and Streambed Alteration Agreement) and comply with the requirements of those permits. However, development in the two potential development areas identified in the conservation easement is not anticipated to impact the ephemeral channels.

## 4.2 Special-Status Plants

Ten species of special-status plants have potential to occur in the study area. If future development is proposed, it is recommended that blooming-season surveys are conducted in potentially occurring habitat, in advance of construction. A survey in May would be within the published blooming period of nine of the ten special-status plants. The tenth plant, Napa bluecurls (*Trichostema ruygtii*), has a blooming period of June through October. If special-status plants are found, avoidance may be possible. If avoidance is not possible, plants might be propagated through a number of means depending on the biology of the species.

## 4.3 Special-Status Amphibians

No special-status amphibians are expected to occur within the study area. Therefore, no mitigation is recommended, if future development were to occur in the study area.

## 4.4 Special-Status Reptiles

### 4.4.1 Western Pond Turtle

The two potential development areas identified in the conservation easement are not located near the aquatic habitat for western pond turtles, if they are present, with the closest area located approximately 750 feet away from the aquatic habitat at the nearest point. Western pond turtle almost always nests within 492 feet (150 meters) of aquatic habitat, with 92 feet an average distance. Therefore, no mitigation is recommended, if future development were to occur in the study area.

## 4.5 Special-Status Birds

### 4.5.1 Swainson's Hawk Foraging Habitat

The CDFW considers 5 or more vacant acres within 10 miles of an active nest within the last five years to be significant foraging habitat for Swainson's hawk, the conversion of which to urban uses is considered a significant indirect impact, in accordance with the *Staff Report Regarding Mitigation for Impacts to Swainson's Hawk in the Central Valley of California* (CDFW, 1994; Staff Report). The Staff Report states that foraging habitat loss of 5 or more acres on projects located greater than 5 miles but less than 10 miles of an active nest tree documented within the last five years shall be mitigated at a 0.5:1 ratio. Although there is a record documented within 10 miles of the study area, it was not documented within the last five years.

### 4.5.2 Swainson's Hawk Nesting Habitat

The trees within the study area provide nesting habitat for Swainson's hawk. It is recommended that any mitigation to avoid direct impacts includes preconstruction surveys and buffers from active nests.

### 4.5.3 Nesting Birds and Birds of Prey, including White-Tailed Kite, Purple Martin, and Bald Eagle

Potential nesting habitat is present within and in the vicinity of the study area for nesting birds, including white-tailed kite, bald eagle, and purple martin. The nests and eggs of any bird are protected from take pursuant to California Fish and Game Code Section 3503. If future development is proposed that includes vegetation clearing and tree removal activities, it is recommended that any mitigation to avoid and minimize direct impacts include at a minimum preconstruction surveys and buffers from active nests.

### 4.5.4 Special-Status Bats

Trees within the areas study area have the potential to support day roosts or maternities for special-status bats. If future development is proposed, it is recommended that any mitigation include preconstruction surveys and buffers from any identified roosts.

# CHAPTER 5
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# Appendix A
## Regulatory Context

# Federal

## U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) administers the Federal Endangered Species Act (FESA) (16 U.S. Code [USC] 153 et seq.), the Migratory Bird Treaty Act (MBTA) (16 USC 703–711), and the Bald and Golden Eagle Protection Act (16 USC 668). These regulations are described below.

**Federal Endangered Species Act.** Under the FESA, the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as threatened or endangered (16 USC § 1533(c)). Two federal agencies oversee the FESA: the USFWS has jurisdiction over plants, wildlife, and resident fish, while the National Marine Fisheries Service (NMFS) has jurisdiction over anadromous fish and marine fish and mammals. Section 7 of the FESA mandates that federal agencies consult with the USFWS and NMFS to ensure that federal agency actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species. The FESA prohibits the "take" of any fish or wildlife species listed as threatened or endangered, including the destruction of habitat that could hinder species recovery. Take is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct.

Section 10 requires the issuance of an "incidental take" permit before any public or private action may be taken that could take an endangered or threatened species. The permit requires preparation and implementation of a habitat conservation plan (HCP) that would offset the take of individuals that may occur, incidental to implementation of a proposed project, by providing for the protection of the affected species.

Pursuant to the requirements of the FESA, a federal agency reviewing a project within its jurisdiction must determine whether any federally listed threatened or endangered species may be present in the project area and whether the proposed project will have a potentially significant impact on such species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC § 1536(3), (4)).

**Critical Habitat.** The USFWS designates critical habitat for listed species under FESA. Critical habitat designations are specific areas within the geographic region that are occupied by a listed species that are determined to be critical to its survival and recovery in accordance with FESA. Federal entities issuing permits or acting as a lead agency must show that their actions do not negatively affect the critical habitat to the extent that it impedes the recovery of the species.

**Migratory Bird Treaty Act (MBTA).** The MBTA (16 United States Code § 703 Supp. I, 1989) generally prohibits the killing, possessing, or trading of migratory birds, bird parts, eggs, and nests, except as provided by the statute.

**Bald and Golden Eagle Protection Act.** The Bald and Golden Eagle Protection Act, enforced by the USFWS, makes it illegal to import, export, take (which includes molest or disturb), sell,

purchase, or barter any bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*) or parts thereof.

### U.S. Army Corps of Engineers

**Clean Water Act, Section 404.** The U.S. Army Corps of Engineers (USACE) administers Section 404 of the Clean Water Act (CWA). Section 404 regulates activities in wetlands and "other waters of the United States." Wetlands are a subset of "waters of the United States" that are defined in the Code of Federal Regulations (CFR) (33 CFR 328.3[a]; 40 CFR 230.3[s]) as:

1. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide.

1. All interstate waters including interstate wetlands. (Wetlands are defined by the federal government [33 CFR 328.3(b), 1991] as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances support, a prevalence of vegetation typically adapted for life in saturated soil conditions).

2. All other waters—such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds—the use, degradation, or destruction of which could affect interstate or foreign commerce. This includes any waters with the following current or potential uses:
   - That are or could be used by interstate or foreign travelers for recreational or other purposes,
   - From which fish or shellfish are or could be taken and sold in interstate or foreign commerce, or
   - That are used or could be used for industrial purposes by industries in interstate commerce.

3. All impoundments of waters otherwise defined as waters of the United States under the definition.

4. Tributaries of waters identified in paragraphs (1) through (4).

5. Territorial seas.

6. Wetlands next to waters identified in paragraphs (1) through (6).

7. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding the Clean Water Act jurisdiction remains with the U. S. Environmental Protection Agency (328.3[a][8] added 58 CFR 45035, August 25, 1993).

# State

## California Department of Fish and Wildlife

**Fish and Game Code Section 3503.** California Fish and Game Code Section 3503.5 provides that it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. Construction activities that result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment and/or reproductive failure are considered a "take" by CDFW. Any loss of eggs, nests, or young or any activities resulting in nest abandonment would constitute a significant project impact.

**California Endangered Species Act.** The California Endangered Species Act (CESA) which prohibits the take of State-listed endangered and threatened species; although, habitat destruction is not included in the State's definition of take. Section 2090 requires State agencies to comply with endangered species protection and recovery and to promote conservation of these species. The CDFW administers the act and authorizes take through California Fish and Game Code Section 2081 agreements (except for designated "fully protected species," see below). Unlike its federal counterpart, CESA protections apply to candidate species that have been petitioned for listing.

The CESA defers to the California Native Plant Protection Act regarding listed rare and endangered plant species, (see below).

**Native Plant Protection Act.** California Fish and Game Code Section 1900–1913, also known as the Native Plant Protection Act, is intended to preserve, protect, and enhance endangered or rare native plants in California. The act directs CDFW to establish criteria for determining what native plants are rare or endangered. Under Section 1901, a species is endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more cause. A species is rare when, although not threatened with immediate extinction, it is in such small numbers throughout its range that it may become endangered. The act also directs the California Fish and Game Commission to adopt regulations governing the taking, possessing, propagation, or sale of any endangered or rare native plant.

Vascular plants that are identified as rare by the CNPS, but which may have no designated status or protection under federal or State endangered species legislation, are defined as follows:

- **List 1A:** Plants Presumed Extinct.
- **List 1B:** Plants Rare, Threatened, or Endangered in California and elsewhere.
- **List 2:** Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere.
- **List 3:** Plants about Which More Information is Needed – A Review List.
- **List 4:** Plants of Limited Distribution – A Watch List.

In general, plants appearing on CNPS California Rare Plant Rank (CRPR) List 1A, 1B, or 2 are considered to meet the criteria of CEQA Guidelines Section 15380 and effects to these species

are considered "significant". Additionally, plants listed on CNPS CRPR List 1A, 1B or 2 meet the definition of Section 1901, Chapter 10 (Native Plant Protection Act) and Sections 2062 and 2067 (California Endangered Species Act) of the California Fish and Game Code.

**Lake or Streambed Alteration Program**. The CDFW regulates activities that would interfere with the natural flow of, or substantially alter, the channel, bed, or bank of a lake, river, or stream. Section 1602 of the California Fish and Game Code requires notification of the CDFW for lake or stream alteration activities. If, after notification is complete, the CDFW determines that the activity may substantially adversely affect an existing fish and wildlife resource, the CDFW has authority to issue a Streambed Alteration Agreement under Section 1603 of the California Fish and Game Code. Requirements to protect the integrity of biological resources and water quality are often conditions of Streambed Alteration Agreements. These may include avoidance or minimization of heavy equipment use within stream zones, limitations on work periods to avoid impacts to wildlife and fisheries resources, and measures to restore degraded sites or compensate for permanent habitat losses.

**Species of Special Concern.** CDFW maintains lists for candidate-endangered species and candidate-threatened species. California candidate species are afforded the same level of protection as listed species. California also designates species of special concern, which are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species do not have the same legal protection as listed species or fully protected species, but may be added to official lists in the future. CDFW intends the species of special concern list to be a management tool for consideration in future land use decisions.

### State Water Resources Control Board

**Porter Cologne Water Quality Act.** The State Water Resources Control Board (SWRCB), through its nine Regional Water Quality Control Boards (RWQCB), regulates waters of the State through the California Clean Water Act (i.e., Porter-Cologne Act). If the USACE determines wetlands or other waters to be isolated waters and not subject to regulation under the federal CWA, the RWQCB may choose to exert jurisdiction over these waters under the Porter-Cologne Act as waters of the State.

### CEQA Guidelines Section 15380

Although threatened and endangered species are protected by specific federal and State statutes, CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or State list of protected species may be considered rare or endangered if the species can be shown to meet certain specific criteria. These criteria have been modeled after the definition of FESA and the section of Fish and Game Code discussing rare or endangered plants or animals. This section was included in the CEQA Guidelines primarily for situations in which a public agency is reviewing a project that may have a significant effect on a candidate species that has not yet been listed by CDFW or USFWS. CEQA provides the ability to protect species from potential project impacts until the respective agencies have the opportunity to designate the species protection.

CEQA also specifies the protection of other locally or regionally significant resources, including natural communities or habitats. Although natural communities do not presently have legal protection, CEQA requires an assessment of such communities and potential project impacts. Natural communities that are identified as sensitive in the CNDDB are considered by CDFW to be significant resources and fall under the CEQA Guidelines for addressing impacts. Local planning documents such as general and area plans often identify natural communities.

## Local

### Napa County General Plan

The following goals and policies identified within the Napa County General Plan (Napa County, 2008) pertain to wetlands and biological resources.

Open Space Conservation Policies:

**Policy CON-1:** The County will preserve land for greenbelts, forest, recreation, flood control, adequate water supply, air quality improvement, habitat for fish, wildlife and wildlife movement, native vegetation, and natural beauty. The County will encourage management of these areas in ways that promote wildlife habitat renewal, diversification, and protection.

**Policy CON-2:** The County shall identify, improve, and conserve Napa County's agricultural land by:

c) Requiring existing significant vegetation be retained and incorporated into agricultural projects to reduce soil erosion and to retain wildlife habitat. When retention is found to be infeasible, replanting of native or non-invasive vegetation shall be required, and

f) Minimizing pesticide and herbicide use and encourage research and use of integrated pest control methods such as cultural practices, biological control, host resistance, and other factors.

Natural Resource Goals and Policies:

**Goal CON 2: Maintain and enhance the existing level of biodiversity.**

**Goal CON-3: Protect the continued presence of special-status species, including special-status plants, special-status wildlife, and their habitats, and comply with all applicable state, federal, or local laws or regulations.**

**Goal CON-4: Conserve, protect, and improve plant, wildlife, and fishery habitats for all native species in Napa County.**

**Goal CON-5: Protect connectivity and continuous habitat areas for wildlife movement.**

**Policy CON-10:** The County shall conserve and improve fisheries and wildlife habitat in cooperation with governmental agencies, private associations and individuals in Napa County.

**Policy CON-11:** The County shall maintain and improve fisheries habitat through a variety of appropriate measures, including:

m) Control sediment production from mines, roads, development projects, agricultural activities, and other potential sediment sources.

n) Implement road construction and maintenance practices to minimize bank failure and sediment delivery to streams.

**Policy CON-13:** The County shall require that all discretionary residential, commercial, industrial, recreational, agricultural, and water development projects consider and address impacts to wildlife habitat and avoid impacts to fisheries and habitat supporting special-status species to the extent feasible. Where impacts to wildlife and special-status species cannot be avoided, projects shall include effective mitigation measures and management plans including provisions to:

a) Maintain the following essentials for fish and wildlife resources:
    1) Sufficient dissolved oxygen in the water.
    2) Adequate amounts of proper food.
    3) Adequate amounts of feeding, escape, and nesting habitat.
    4) Proper temperature through maintenance and enhancement of streamside vegetation, volume of flows, and velocity of water.

c) Employ supplemental planting and maintenance of grasses, shrubs and trees of like quality and quantity to provide adequate vegetation cover to enhance water quality, minimize sedimentation and soil transport, and provide adequate shelter and food for wildlife and special-status species and maintain the watersheds, especially stream side areas, in good condition.

d) Provide protection for habitat supporting special-status species through buffering or other means.

e) Provide replacement habitat of like quantity and quality on- or off-site for special-status species to mitigate impacts to special-status species.

f) Enhance existing habitat values, particularly for special-status species, through restoration and replanting of native plant species as part of discretionary permit review and approval.

g) Require temporary or permanent buffers of adequate size (based on the requirements of the subject special-status species) to avoid nest abandonment by birds and raptors associated with construction and site development activities.

h) Demonstrate compliance with applicable provisions and regulations of recovery plans for federally listed species.

**Policy CON-14:** To offset possible losses of fishery and riparian habitat due to discretionary development projects, developers shall be responsible for mitigation when avoidance of impacts is determined to be infeasible. Such mitigation measures may include providing and permanently maintaining similar quality and quantity habitat within Napa County, enhancing existing riparian habitat, or paying in-kind funds to an approved fishery and riparian habitat improvement and acquisition fund. Replacement habitat may occur either on- site or at approved off-site locations, but preference shall be given to on-site replacement.

**Policy CON-16:** The County shall require a biological resources evaluation for discretionary projects in areas identified to contain or potentially contain special-status species based upon data provided in the Baseline Data Report (BDR), California Natural Diversity Database (CNDDB), or other technical materials. This evaluation shall be conducted prior to the approval of any earthmoving activities. The County shall also encourage the development of programs to protect special-status species and disseminate updated information to state and federal resource agencies.

**Policy CON-17:** Preserve and protect native grasslands, serpentine grasslands, mixed serpentine chaparral, and other sensitive biotic communities and habitats of limited distribution. The County, in its discretion, shall require mitigation that results in the following standards:

a) Prevent removal or disturbance of sensitive natural plant communities that contain special-status plant species or provide critical habitat to special-status animal species.

b) In other areas, avoid disturbances to or removal of sensitive natural plant communities and mitigate potentially significant impacts where avoidance is infeasible.

c) Promote protection from overgrazing and other destructive activities.

d) Encourage scientific study and require monitoring and active management where biotic communities and habitats of limited distribution or sensitive natural plant communities are threatened by the spread of invasive non-native species.

e) Require no net loss of sensitive biotic communities and habitats of limited distribution through avoidance, restoration, or replacement where feasible. Where avoidance, restoration, or replacement is not feasible, preserve like habitat at a 2:1 ratio or greater within Napa County to avoid significant cumulative loss of valuable habitats.

**Policy CON-18:** To reduce impacts on habitat conservation and connectivity:

a) In sensitive domestic water supply drainages where new development is required to retain between 40 and 60 percent of the existing (as of June 16, 1993) vegetation onsite, the vegetation selected for retention should be in areas designed to maximize habitat value and connectivity.

c) Preservation of habitat and connectivity of adequate size, quality, and configuration to support special-status species should be required within the project area. The size of habitat and connectivity to be preserved shall be determined based on the specific needs of the species.

d) The County shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat.

e) The County shall require new vineyard development to be designed to minimize the reduction of wildlife movement to the maximum extent feasible. In the event the County concludes that such development will have a significant impact on wildlife movement, the County may require the applicant to relocate or remove existing perimeter fencing installed on or after February 16, 2007 to offset the impact caused by the new vineyard development.

h) Support public acquisition, conservation easements, in-lieu fees where on-site mitigation is infeasible, and/or other measures to ensure long-term protection of wildlife movement areas.

**Policy CON-19:** The County shall encourage the preservation of critical habitat areas and habitat connectivity through the use of conservation easements or other methods as well as through continued implementation of the Napa County Conservation Regulations associated with vegetation retention and setbacks from waterways.

**Policy CON-22:** The County shall encourage the protection and enhancement of natural habitats which provide ecological and other scientific purposes. As areas are identified, they should be delineated on environmental constraints maps so that appropriate steps can be taken to appropriately manage and protect them.

**Policy CON-26:** Consistent with Napa County's Conservation Regulations, natural vegetation retention areas along perennial and intermittent streams shall vary in width with steepness of the terrain, the nature of the undercover, and type of soil. The design and management of natural vegetation areas shall consider habitat and water quality needs, including the needs of native fish and special-status species and flood protection where appropriate. Site-specific setbacks shall be established in coordination with Regional Water Quality Control Boards, California Department of Fish and Wildlife (CDFW), USFWS, NOAA Fisheries, and other coordinating resource agencies that identify essential stream and stream reaches necessary for the health of populations of native fisheries and other sensitive aquatic organisms within the County's watersheds.

Where avoidance of impacts to riparian habitat is infeasible along stream reaches, appropriate measures will be undertaken to ensure that protection, restoration, and enhancement activities will occur within these identified stream reaches that support or could support native fisheries and other sensitive aquatic organisms to ensure a no net loss of aquatic habitat functions and values within the county's watersheds.

**Policy CON-27:** The County shall enforce compliance and continued implementation of the intermittent and perennial stream setback requirements set forth in existing stream setback regulations, provide education and information regarding the importance of stream setbacks and the active management and enhancement/restoration of native vegetation within setbacks, and develop incentives to encourage greater stream setbacks where appropriate. Incentives shall include streamlined permitting for certain vineyard proposals on slopes between 5 and 30 percent and flexibility regarding yard and road setbacks for other proposals.

**Policy CON-28:** To offset possible additional losses of riparian woodland due to discretionary development projects and conversions, developers shall provide and maintain similar quality and quantity of replacement habitat or in-kind funds to an approved riparian woodland habitat improvement and acquisition fund in Napa County. While on-site replacement is preferred where feasible, replacement habitat may be either on-site or off- site as approved by the County.

**Policy CON-30:** All public and private projects shall avoid impacts to wetlands to the extent feasible. If avoidance is not feasible, projects shall mitigate impacts to wetlands consistent with state and federal policies providing for no net loss of wetland function.

Oak Woodlands Goals and Policies:

**Goal CON-6: Preserve, sustain, and restore forests, woodlands, and commercial timberland for their economic, environmental, recreation, and open space values.**

**Policy CON-24:** Maintain and improve oak woodland habitat to provide for slope stabilization, soil protection, species diversity, and wildlife habitat through appropriate measures including one or more of the following:

a) Preserve, to the extent feasible, oak trees and other significant vegetation that occur near the heads of drainages or depressions to maintain diversity of vegetation type and wildlife habitat as part of agricultural projects.

b) Comply with the Oak Woodlands Preservation Act (PRC Section 21083.4) regarding oak woodland preservation to conserve the integrity and diversity of oak woodlands, and retain, to the maximum extent feasible, existing oak woodland and chaparral communities and other significant vegetation as part of residential, commercial, and industrial approvals.

c) Provide replacement of lost oak woodlands or preservation of like habitat at a 2:1 ratio when retention of existing vegetation is found to be infeasible. Removal of oak species limited in distribution shall be avoided to the maximum extent feasible.

d) Support hardwood cutting criteria that require retention of adequate stands of oak trees sufficient for wildlife, slope stabilization, soil protection, and soil production be left standing.

e) Maintain, to the extent feasible, a mixture of oak species which is needed to ensure acorn production. Black, canyon, live, and brewer oaks as well as blue, white, scrub, and live oaks are common associations.

f) Encourage and support the County Agricultural Commission's enforcement of state and federal regulations concerning Sudden Oak Death and similar future threats to woodlands.

Water Resources Policies:

**Policy CON-6:** The County shall impose conditions on discretionary projects, which limit development in environmentally sensitive areas such as those adjacent to rivers or streamside areas and physically hazardous areas such as floodplains, steep slopes, high fire risk areas and geologically hazardous areas.

**Policy CON-41:** The County will work to protect Napa County's watersheds and public and private water reservoirs to provide for the following purposes:

a) Clean drinking water for public health and safety;

b) Municipal uses, including commercial, industrial and domestic uses;

c) Support of the eco-systems;

d) Agricultural water supply;

e) Recreation and open space; and

f) Scenic beauty.

**Policy CON-42:** The County shall work to improve and maintain the vitality and health of its watersheds. Specifically, the County shall:

d) Support environmentally sustainable agricultural techniques and best management practices (BMPs) that protect surface water and groundwater quality and quantity (e.g., cover crop management, integrated pest management, informed surface water withdrawals and groundwater use).

**Policy CON-45:** Protect the County's domestic supply drainages through vegetation preservation and protective buffers to ensure clean and reliable drinking water consistent with state regulations and guidelines. Continue implementation of current Conservation Regulations relevant to these areas, such as vegetation retention requirements, consultation with water purveyors/system owners, implementation of erosion controls to minimize water pollution, and prohibition of detrimental recreational uses.

**Policy CON-48:** Proposed developments shall implement project-specific sediment and erosion control measures (e.g., erosion control plans and/or stormwater pollution prevention plans) that maintain predevelopment sediment erosion conditions or at minimum comply with state water quality pollution control (i.e., Basin Plan) requirements and are protective of the County's sensitive domestic supply watersheds. Technical reports and/or erosion control plans that recommend site-specific erosion control measures shall meet the requirements of the County Code and provide detailed information regarding site specific geologic, soil, and hydrologic conditions and how the proposed measure will function.

Sensitive Habitats and Communities:

As noted above, General Plan Policy CON-17 calls for the preservation and protection of sensitive natural communities. In implementing Policy CON-17, the Napa County General Plan defines three overlapping types of special-status, biotic communities. These include:

- Habitats/communities of limited distribution – Natural communities in the County that are considered sensitive due to the limited local distribution, encompass less than 500 acres of cover within the County, and are considered by local biological experts to be worthy of conservation. The following six communities are examples of the rarest biotic communities meeting the 500-acre threshold: native grassland (perennial grassland, bunch grass); tanbark oak alliance; Brewer willow alliance; ponderosa pine alliance; riverine, lacustrine, and tidal mudflats; and wet meadow grasses super alliance.

- Sensitive biotic communities – Natural plant communities that are designated sensitive by the CDFW and identified in the CNDDB and are significant because of their rarity, high biological diversity, and/or susceptibility to disturbance or destruction.

- Sensitive natural communities – Biotic communities in Napa County considered sensitive by the CDFW and designated in the CNDDB because of their rarity, high biological diversity, and/or susceptibility to disturbance or destruction. Twenty-five sensitive natural communities are currently known to exist in Napa County.

Chapter 4, Biological Resources, of the Napa County Background Data Report, identifies 25 sensitive natural communities in Napa County, although each community may exist in multiple locations. Of these, six are designated as priorities for conservation. Although not included as a

protected resource pursuant to General Plan Policy CON-17, oak woodlands are designated as a sensitive natural community by Napa County pursuant to Policy CON-24.

### Napa County Code

Stream Setbacks: Napa County Code defines streams and provides setbacks for land clearing for agricultural development. Under Section 18.108.030, a "stream" means any of the following:

1. A watercourse designated by a solid line or dash and three dots symbol on the largest scale of the United State Geological Survey maps most recently published, or any replacement to that symbol;

2. Any watercourse which has a well-defined channel with a depth greater than four feet and banks steeper than 3:1 (horizontal to vertical bank ratio) and contains hydrophilic (i.e., water-adapted) vegetation, riparian vegetation or woody vegetation including tree species greater than ten feet in height; or

3. Those watercourses listed in Resolution No. 94-19 and incorporated herein by reference.

Erosion gullies and ravines being repaired with the technical assistance and/or under the direction of the Napa County Resource Conservation District/National Resource Conservation Service, "scour-holes", and other non-linear features are not considered streams.

Napa County Code 18.108.025 applies setbacks for agricultural development adjacent to streams. Setbacks included in the Code range from 35 to 150 feet measured from the top of bank and increase with the slope of the terrain parallel to the top of bank.

Vegetation Preservation and Replacement: Napa County Code 18.108.100 requires the following conditions when granting a discretionary permit for activities within an erosion hazard area (slopes greater than 5 percent):

- Existing vegetation shall be preserved to the maximum extent consistent with the project. Vegetation shall not be removed if it is identified as being necessary for erosion control in the approved erosion control plan or if necessary for the preservation of threatened or endangered plant or animal habitats as designated by state or federal agencies with jurisdiction and identified on the County's environmental sensitivity maps.
- Existing trees six inches in diameter or larger, measured at diameter breast height, (DBH), or tree stands of trees six inches DBH or larger located on a site for which either an administrative or discretionary permit is required shall not be removed until the required permits have been approved by the decision-making body and tree removal has been specifically authorized.
- Trees to be retained or designated for retention shall be protected through the use of barricades or other appropriate methods to be placed and maintained at their outboard drip line during the construction phase. Where appropriate, the director may require an applicant to install and maintain construction fencing around the trees to ensure their protection during earthmoving activities.
- Wherever removal of vegetation is necessitated or authorized, the director or designee may require the planting of replacement vegetation of an equivalent kind, quality and quantity.

### Napa County Zoning Ordinance (Chapter 18.108)

Chapter 18.108 of the Napa County Zoning Ordinance outlines conservation regulations to protect natural resources in the County. Section 18.108.025 states that any grading, removal of vegetation, earthmoving activities, or clearing of land for new agricultural uses are prohibited within stream setback areas. Stream setbacks for intermittent and perennial streams are measured from the top of the bank on both sides of the stream and are based on the percent of the slopes adjacent to the stream. To conduct any of the prohibited activities within the stream setback zone of an intermittent or perennial stream, a permit must be obtained from the County Planning Department following a review of the proposed project and a public hearing to determine whether the proposed project would significantly impact erosion rates or sensitive biological resources (§18.108.040).

Section 18.108.070 states that "no otherwise permitted agricultural earthmoving activity, grading, or improvement, shall commence on slopes over five percent until an erosion control plan which complies with the requirements of Section 18.108.080 of the Napa County Zoning Ordinance has been submitted to and approved by the director or designee". Section 18.108.060 requires that "no construction, improvement, grading, earthmoving activity or vegetation removal associated with the development or use of land shall take place on those parcels or portions thereof having a slope of thirty percent or greater unless exempt under Section 18.108.050 or 18.108.055."

# Appendix B
## **Agency Lists**

# 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

Napa 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 species[1] 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 Fisheries[2]).

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.

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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. IPaC only shows species that are regulated by USFWS (see FAQ).

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** *Strix occidentalis caurina*<br>Wherever found<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>https://ecos.fws.gov/ecp/species/1123 | Threatened |

# Reptiles

| NAME | STATUS |
|---|---|
| **Northwestern Pond Turtle** *Actinemys marmorata*<br>Wherever found<br>No critical habitat has been designated for this species.<br>https://ecos.fws.gov/ecp/species/1111 | Proposed Threatened |

# Amphibians

| NAME | STATUS |
|---|---|
| **California Red-legged Frog** *Rana draytonii*<br>Wherever found<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>https://ecos.fws.gov/ecp/species/2891 | Threatened |

# Insects

| NAME | STATUS |
|---|---|
| **Monarch Butterfly** *Danaus plexippus*<br>Wherever found<br>No critical habitat has been designated for this species.<br>https://ecos.fws.gov/ecp/species/9743 | Candidate |

# Crustaceans

| NAME | STATUS |
|---|---|

| NAME | STATUS |
| --- | --- |
| **Conservancy Fairy Shrimp** Branchinecta conservatio<br>Wherever found<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>https://ecos.fws.gov/ecp/species/8246 | Endangered |

# Flowering Plants

| NAME | STATUS |
| --- | --- |
| **Contra Costa Goldfields** Lasthenia conjugens<br>Wherever found<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>https://ecos.fws.gov/ecp/species/7058 | Endangered |
| **Few-flowered Navarretia** Navarretia leucocephala ssp. pauciflora (=N. pauciflora)<br>Wherever found<br>No critical habitat has been designated for this species.<br>https://ecos.fws.gov/ecp/species/8242 | Endangered |
| **Sebastopol Meadowfoam** Limnanthes vinculans<br>Wherever found<br>No critical habitat has been designated for this species.<br>https://ecos.fws.gov/ecp/species/404 | 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.

You are still required to determine if your project(s) may have effects on all above listed species.

# Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

**There are bald and/or golden eagles in your project area.**

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

| NAME | BREEDING SEASON |
|---|---|
| Bald Eagle *Haliaeetus leucocephalus*<br>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. | Breeds Jan 1 to Aug 31 |
| Golden Eagle *Aquila chrysaetos*<br>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.<br>https://ecos.fws.gov/ecp/species/1680 | Breeds Jan 1 to Aug 31 |

# 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 "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

**Probability of Presence** (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

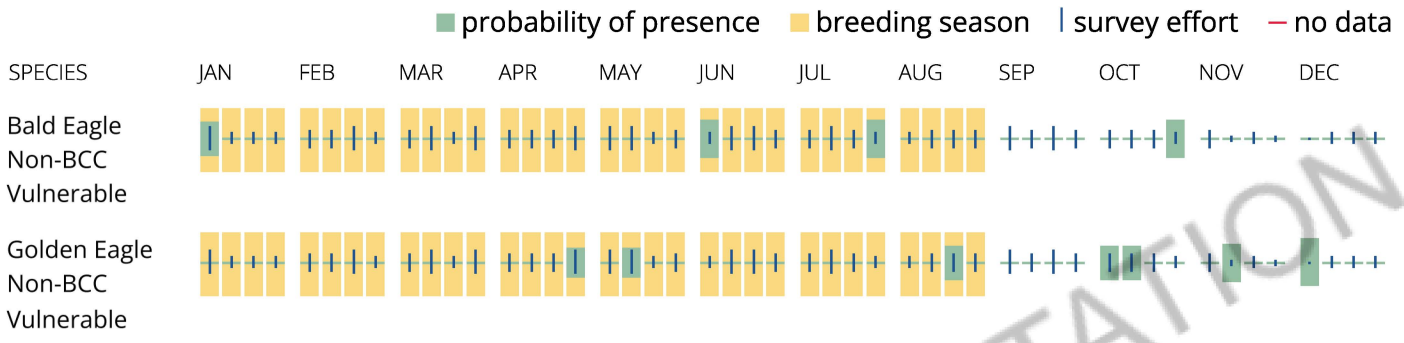
**Breeding Season** (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

**Survey Effort** (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

**No Data (–)**
A week is marked as having no data if there were no survey events for that week.

**Survey Timeframe**
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.






**What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?**

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

**What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?**

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

**What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

# Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

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:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

**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, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

| NAME | BREEDING SEASON |
|---|---|
| **Allen's Hummingbird** *Selasphorus sasin*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9637 | Breeds Feb 1 to Jul 15 |
| **Bald Eagle** *Haliaeetus leucocephalus*<br>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. | Breeds Jan 1 to Aug 31 |
| **Belding's Savannah Sparrow** *Passerculus sandwichensis beldingi*<br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA<br>https://ecos.fws.gov/ecp/species/8 | Breeds Apr 1 to Aug 15 |
| **Bullock's Oriole** *Icterus bullockii*<br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA | Breeds Mar 21 to Jul 25 |
| **California Gull** *Larus californicus*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds Mar 1 to Jul 31 |
| **California Thrasher** *Toxostoma redivivum*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds Jan 1 to Jul 31 |
| **Clark's Grebe** *Aechmophorus clarkii*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds Jun 1 to Aug 31 |
| **Common Yellowthroat** *Geothlypis trichas sinuosa*<br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA<br>https://ecos.fws.gov/ecp/species/2084 | Breeds May 20 to Jul 31 |

| | |
|---|---|
| Golden Eagle Aquila chrysaetos<br>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.<br>https://ecos.fws.gov/ecp/species/1680 | Breeds Jan 1 to Aug 31 |
| Nuttall's Woodpecker Picoides nuttallii<br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA<br>https://ecos.fws.gov/ecp/species/9410 | Breeds Apr 1 to Jul 20 |
| Oak Titmouse Baeolophus inornatus<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9656 | Breeds Mar 15 to Jul 15 |
| Western Grebe aechmophorus occidentalis<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/6743 | Breeds Jun 1 to Aug 31 |
| Wrentit Chamaea fasciata<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds Mar 15 to Aug 10 |



# 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 "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

**Probability of Presence** (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

**Breeding Season** (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

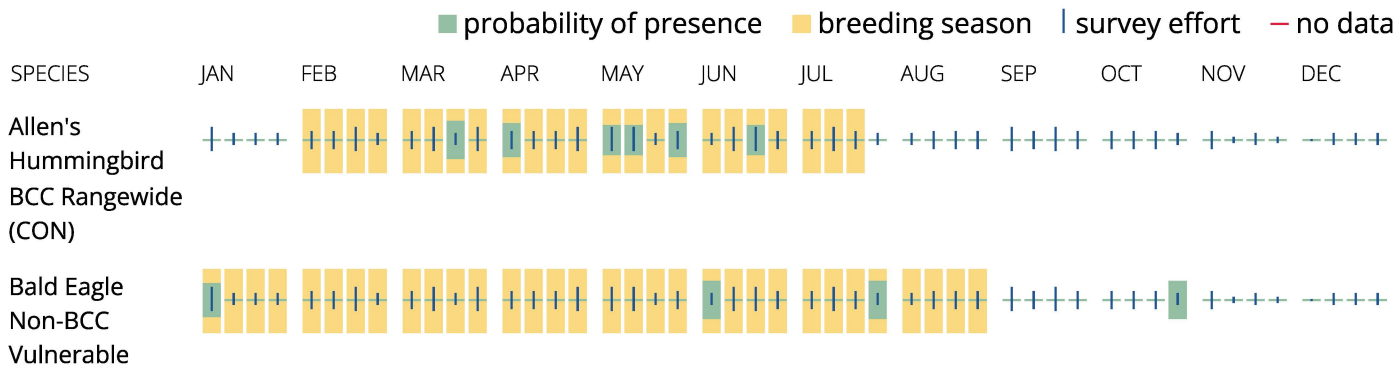
**Survey Effort** (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

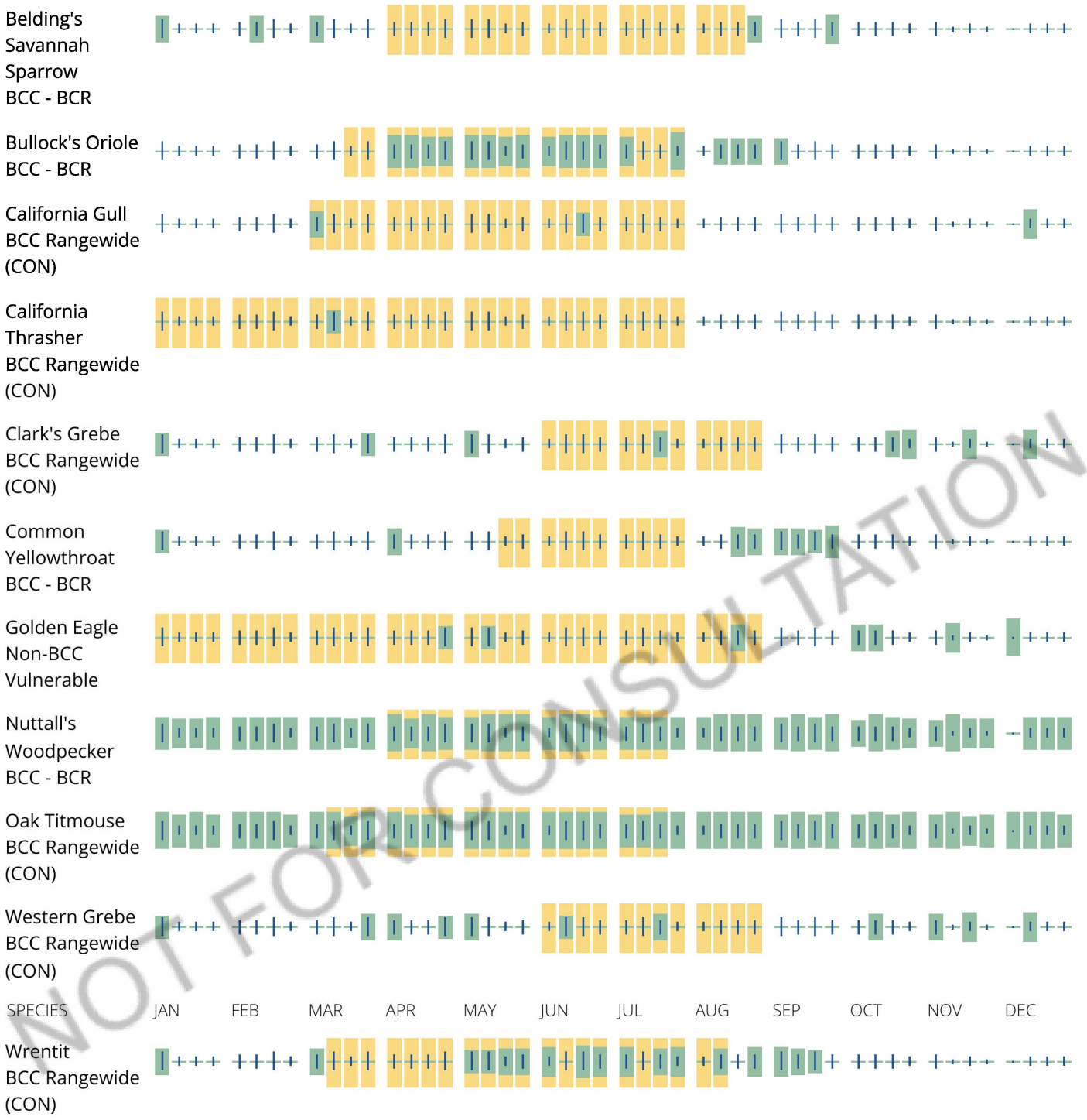
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

**No Data** (–)
A week is marked as having no data if there were no survey events for that week.

**Survey Timeframe**
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.










**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

**What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

**How do I know if a bird is breeding, wintering or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

**What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

**Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

**What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

**Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

# Facilities

## National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

## Fish hatcheries

There are no fish hatcheries at this location.

# Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER POND

PUBFx

RIVERINE

R4SBCx

A full description for each wetland code can be found at the National Wetlands Inventory website

**NOTE:** This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

**Data limitations**

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

**Data exclusions**

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

**Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

# Selected Elements by Scientific Name

## California Department of Fish and Wildlife

## California Natural Diversity Database

**Query Criteria:** Quad IS (Chiles Valley (3812253) OR St. Helena (3812254) OR Rutherford (3812244) OR Sonoma (3812234) OR Napa (3812233) OR Mt. George (3812232) OR Capell Valley (3812242) OR Yountville (3812243) OR Lake Berryessa (3812252))<br /> AND Taxonomic Group IS (Dune OR Scrub OR Herbaceous OR Marsh OR Riparian OR Woodland OR Forest OR Alpine OR Inland Waters OR Marine OR Estuarine OR Riverine OR Palustrine OR Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects OR Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Agelaius tricolor*** tricolored blackbird | ABPBXB0020 | None | Threatened | G1G2 | S2 | SSC |
| ***Agrostis hendersonii*** Henderson's bent grass | PMPOA040K0 | None | None | G2Q | S2 | 3.2 |
| ***Allium peninsulare var. franciscanum*** Franciscan onion | PMLIL021R1 | None | None | G4G5T2 | S2 | 1B.2 |
| ***Amorpha californica var. napensis*** Napa false indigo | PDFAB08012 | None | None | G4T2 | S2 | 1B.2 |
| ***Amsinckia lunaris*** bent-flowered fiddleneck | PDBOR01070 | None | None | G3 | S3 | 1B.2 |
| ***Antrozous pallidus*** pallid bat | AMACC10010 | None | None | G4 | S3 | SSC |
| ***Aquila chrysaetos*** golden eagle | ABNKC22010 | None | None | G5 | S3 | FP |
| ***Arctostaphylos stanfordiana ssp. decumbens*** Rincon Ridge manzanita | PDERI041G4 | None | None | G3T1 | S1 | 1B.1 |
| ***Ardea alba*** great egret | ABNGA04040 | None | None | G5 | S4 | |
| ***Ardea herodias*** great blue heron | ABNGA04010 | None | None | G5 | S4 | |
| ***Astragalus claranus*** Clara Hunt's milk-vetch | PDFAB0F240 | Endangered | Endangered | G1 | S1 | 1B.1 |
| ***Astragalus tener var. tener*** alkali milk-vetch | PDFAB0F8R1 | None | None | G2T1 | S1 | 1B.2 |
| ***Balsamorhiza macrolepis*** big-scale balsamroot | PDAST11061 | None | None | G2 | S2 | 1B.2 |
| ***Blennosperma bakeri*** Sonoma sunshine | PDAST1A010 | Endangered | Endangered | G1 | S1 | 1B.1 |
| ***Bombus caliginosus*** obscure bumble bee | IIHYM24380 | None | None | G2G3 | S1S2 | |

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Bombus occidentalis*** western bumble bee | IIHYM24252 | None | Candidate Endangered | G3 | S1 | |
| ***Bombus pensylvanicus*** American bumble bee | IIHYM24260 | None | None | G3G4 | S2 | |
| ***Brodiaea leptandra*** narrow-anthered brodiaea | PMLIL0C022 | None | None | G3? | S3? | 1B.2 |
| ***Buteo swainsoni*** Swainson's hawk | ABNKC19070 | None | Threatened | G5 | S4 | |
| ***Calasellus californicus*** An isopod | ICMAL34010 | None | None | G2 | S3 | |
| ***Castilleja ambigua var. meadii*** Mead's owls-clover | PDSCR0D404 | None | None | G4T1 | S1 | 1B.1 |
| ***Ceanothus confusus*** Rincon Ridge ceanothus | PDRHA04220 | None | None | G1 | S1 | 1B.1 |
| ***Ceanothus divergens*** Calistoga ceanothus | PDRHA04240 | None | None | G2 | S2 | 1B.2 |
| ***Ceanothus purpureus*** holly-leaved ceanothus | PDRHA04160 | None | None | G2 | S2 | 1B.2 |
| ***Ceanothus sonomensis*** Sonoma ceanothus | PDRHA04420 | None | None | G2 | S2 | 1B.2 |
| ***Corynorhinus townsendii*** Townsend's big-eared bat | AMACC08010 | None | None | G4 | S2 | SSC |
| ***Coturnicops noveboracensis*** yellow rail | ABNME01010 | None | None | G4 | S2 | SSC |
| ***Cypseloides niger*** black swift | ABNUA01010 | None | None | G4 | S3 | SSC |
| ***Desmocerus californicus dimorphus*** valley elderberry longhorn beetle | IICOL48011 | Threatened | None | G3T3 | S3 | |
| ***Dicamptodon ensatus*** California giant salamander | AAAAH01020 | None | None | G2G3 | S2S3 | SSC |
| ***Downingia pusilla*** dwarf downingia | PDCAM060C0 | None | None | GU | S2 | 2B.2 |
| ***Elanus leucurus*** white-tailed kite | ABNKC06010 | None | None | G5 | S3S4 | FP |
| ***Emys marmorata*** western pond turtle | ARAAD02030 | Proposed Threatened | None | G3G4 | S3 | SSC |
| ***Erethizon dorsatum*** North American porcupine | AMAFJ01010 | None | None | G5 | S3 | |
| ***Erigeron greenei*** Greene's narrow-leaved daisy | PDAST3M5G0 | None | None | G3 | S3 | 1B.2 |
| ***Eryngium jepsonii*** Jepson's coyote-thistle | PDAPI0Z130 | None | None | G2 | S2 | 1B.2 |

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Extriplex joaquinana*** San Joaquin spearscale | PDCHE041F3 | None | None | G2 | S2 | 1B.2 |
| ***Geothlypis trichas sinuosa*** saltmarsh common yellowthroat | ABPBX1201A | None | None | G5T3 | S3 | SSC |
| ***Gonidea angulata*** western ridged mussel | IMBIV19010 | None | None | G3 | S2 | |
| ***Haliaeetus leucocephalus*** bald eagle | ABNKC10010 | Delisted | Endangered | G5 | S3 | FP |
| ***Hemizonia congesta ssp. congesta*** congested-headed hayfield tarplant | PDAST4R0W1 | None | None | G5T2 | S2 | 1B.2 |
| ***Hesperolinon breweri*** Brewer's western flax | PDLIN01030 | None | None | G2 | S2 | 1B.2 |
| ***Hesperolinon sharsmithiae*** Sharsmith's western flax | PDLIN010E0 | None | None | G2Q | S2 | 1B.2 |
| ***Horkelia tenuiloba*** thin-lobed horkelia | PDROS0W0E0 | None | None | G2 | S2 | 1B.2 |
| ***Lasiurus frantzii*** western red bat | AMACC05080 | None | None | G4 | S3 | SSC |
| ***Lasthenia conjugens*** Contra Costa goldfields | PDAST5L040 | Endangered | None | G1 | S1 | 1B.1 |
| ***Lathyrus jepsonii var. jepsonii*** Delta tule pea | PDFAB250D2 | None | None | G5T2 | S2 | 1B.2 |
| ***Layia septentrionalis*** Colusa layia | PDAST5N0F0 | None | None | G2 | S2 | 1B.2 |
| ***Leptosiphon jepsonii*** Jepson's leptosiphon | PDPLM09140 | None | None | G2G3 | S2S3 | 1B.2 |
| ***Lilaeopsis masonii*** Mason's lilaeopsis | PDAPI19030 | None | Rare | G2 | S2 | 1B.1 |
| ***Limnanthes vinculans*** Sebastopol meadowfoam | PDLIM02090 | Endangered | Endangered | G1 | S1 | 1B.1 |
| ***Lupinus sericatus*** Cobb Mountain lupine | PDFAB2B3J0 | None | None | G2? | S2? | 1B.2 |
| ***Melospiza melodia samuelis*** San Pablo song sparrow | ABPBXA301W | None | None | G5T2 | S2 | SSC |
| ***Myotis evotis*** long-eared myotis | AMACC01070 | None | None | G5 | S3 | |
| ***Myotis yumanensis*** Yuma myotis | AMACC01020 | None | None | G5 | S4 | |
| ***Nannopterum auritum*** double-crested cormorant | ABNFD01020 | None | None | G5 | S4 | WL |
| ***Navarretia leucocephala ssp. bakeri*** Baker's navarretia | PDPLM0C0E1 | None | None | G4T2 | S2 | 1B.1 |

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Navarretia leucocephala ssp. pauciflora*** few-flowered navarretia | PDPLM0C0E4 | Endangered | Threatened | G4T1 | S1 | 1B.1 |
| ***Navarretia rosulata*** Marin County navarretia | PDPLM0C0Z0 | None | None | G2 | S2 | 1B.2 |
| ***Northern Vernal Pool*** Northern Vernal Pool | CTT44100CA | None | None | G2 | S2.1 | |
| ***Nycticorax nycticorax*** black-crowned night heron | ABNGA11010 | None | None | G5 | S4 | |
| ***Oncorhynchus mykiss irideus pop. 8*** steelhead - central California coast DPS | AFCHA0209G | Threatened | None | G5T3Q | S3 | |
| ***Pandion haliaetus*** osprey | ABNKC01010 | None | None | G5 | S4 | WL |
| ***Penstemon newberryi var. sonomensis*** Sonoma beardtongue | PDSCR1L483 | None | None | G4T3 | S3 | 1B.3 |
| ***Progne subis*** purple martin | ABPAU01010 | None | None | G5 | S3 | SSC |
| ***Rana boylii pop. 1*** foothill yellow-legged frog - north coast DPS | AAABH01051 | None | None | G3T4 | S4 | SSC |
| ***Rana draytonii*** California red-legged frog | AAABH01022 | Threatened | None | G2G3 | S2S3 | SSC |
| ***Rhynchospora californica*** California beaked-rush | PMCYP0N060 | None | None | G1 | S1 | 1B.1 |
| ***Riparia riparia*** bank swallow | ABPAU08010 | None | Threatened | G5 | S3 | |
| ***Sagittaria sanfordii*** Sanford's arrowhead | PMALI040Q0 | None | None | G3 | S3 | 1B.2 |
| ***Sidalcea hickmanii ssp. napensis*** Napa checkerbloom | PDMAL110A6 | None | None | G3T1 | S1 | 1B.1 |
| ***Sidalcea keckii*** Keck's checkerbloom | PDMAL110D0 | Endangered | None | G2 | S2 | 1B.1 |
| ***Sidalcea oregana ssp. hydrophila*** marsh checkerbloom | PDMAL110K2 | None | None | G5T2 | S2 | 1B.2 |
| ***Spirinchus thaleichthys*** longfin smelt | AFCHB03010 | Candidate | Threatened | G5 | S1 | |
| ***Streptanthus hesperidis*** green jewelflower | PDBRA2G510 | None | None | G2G3 | S2S3 | 1B.2 |
| ***Stygobromus cowani*** Cowan's amphipod | ICMAL05D70 | None | None | G1 | S1 | |
| ***Symphyotrichum lentum*** Suisun Marsh aster | PDASTE8470 | None | None | G2 | S2 | 1B.2 |
| ***Syncaris pacifica*** California freshwater shrimp | ICMAL27010 | Endangered | Endangered | G2 | S2 | |

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Taricha rivularis*** red-bellied newt | AAAAF02020 | None | None | G2 | S2 | SSC |
| ***Taxidea taxus*** American badger | AMAJF04010 | None | None | G5 | S3 | SSC |
| ***Trachusa gummifera*** San Francisco Bay Area leaf-cutter bee | IIHYM80010 | None | None | G1 | S1 | |
| ***Trichostema ruygtii*** Napa bluecurls | PDLAM220H0 | None | None | G1G2 | S1S2 | 1B.2 |
| ***Trifolium amoenum*** two-fork clover | PDFAB40040 | Endangered | None | G1 | S1 | 1B.1 |
| ***Trifolium hydrophilum*** saline clover | PDFAB400R5 | None | None | G2 | S2 | 1B.2 |
| ***Viburnum ellipticum*** oval-leaved viburnum | PDCPR07080 | None | None | G4G5 | S3? | 2B.3 |

**Record Count: 85**

CALIFORNIA NATIVE PLANT SOCIETY

CNPS Rare Plant Inventory

## Search Results

80 matches found. Click on scientific name for details

Search Criteria: CRPR is one of [1A:1B:2A:2B:3:4] , Quad is one of [3812233:3812234:3812253:3812254:3812243:3812244:3812232:3812242:3812252]

| ▲ SCIENTIFIC NAME | COMMON NAME | FAMILY | LIFEFORM | BLOOMING PERIOD | FED LIST | STATE LIST | GLOBAL RANK | STATE RANK | CA RARE PLANT RANK | CA ENDEMIC | DATE ADDED | PHOTO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Agrostis hendersonii* | Henderson's bent grass | Poaceae | annual herb | Apr-Jun | None | None | G2Q | S2 | 3.2 | | 1974-01-01 |  ©2005 Steve Matson |
| *Allium peninsulare* var. *franciscanum* | Franciscan onion | Alliaceae | perennial bulbiferous herb | (Apr)May-Jun | None | None | G4G5T2 | S2 | 1B.2 | Yes | 2001-01-01 |  © 2019 Aaron Arthur |
| *Amorpha californica* var. *napensis* | Napa false indigo | Fabaceae | perennial deciduous shrub | Apr-Jul | None | None | G4T2 | S2 | 1B.2 | Yes | 2001-01-01 |  © 2016 John Doyen |
| *Amsinckia lunaris* | bent-flowered fiddleneck | Boraginaceae | annual herb | Mar-Jun | None | None | G3 | S3 | 1B.2 | Yes | 1974-01-01 |  © 2011 Neal Kramer |
| *Antirrhinum virga* | twig-like snapdragon | Plantaginaceae | perennial herb | Jun-Jul | None | None | G3? | S3? | 4.3 | Yes | 1974-01-01 |  © 2013 Aaron Schusteff |
| *Aphyllon validum* ssp. *howellii* | Howell's broomrape | Orobanchaceae | perennial herb (parasitic) | Jun-Sep | None | None | G4T3 | S3 | 4.3 | Yes | 1984-01-01 | No Photo Available |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Arabis modesta* | modest rockcress | Brassicaceae | perennial herb | Mar-Jul | None | None | G3 | S3 | 4.3 | | 1974-01-01 |  ©2014 Scot Loring |
| *Arctostaphylos stanfordiana* ssp. *decumbens* | Rincon Ridge manzanita | Ericaceae | perennial evergreen shrub | Feb-Apr(May) | None | None | G3T1 | S1 | 1B.1 | Yes | 1984-01-01 | No Photo Available |
| *Astragalus breweri* | Brewer's milk-vetch | Fabaceae | annual herb | Apr-Jun | None | None | G3 | S3 | 4.2 | Yes | 1974-01-01 | No Photo Available |
| *Astragalus claranus* | Clara Hunt's milk-vetch | Fabaceae | annual herb | Mar-May | FE | CE | G1 | S1 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Astragalus clevelandii* | Cleveland's milk-vetch | Fabaceae | perennial herb | Jun-Sep | None | None | G4 | S4 | 4.3 | Yes | 1974-01-01 | No Photo Available |
| *Astragalus tener* var. *tener* | alkali milk-vetch | Fabaceae | annual herb | Mar-Jun | None | None | G2T1 | S1 | 1B.2 | Yes | 1994-01-01 | No Photo Available |
| *Balsamorhiza macrolepis* | big-scale balsamroot | Asteraceae | perennial herb | Mar-Jun | None | None | G2 | S2 | 1B.2 | Yes | 1974-01-01 |  ©1998 Dean Wm. Taylor |
| *Blennosperma bakeri* | Sonoma sunshine | Asteraceae | annual herb | Mar-May | FE | CE | G1 | S1 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Brodiaea leptandra* | narrow-anthered brodiaea | Themidaceae | perennial bulbiferous herb | May-Jul | None | None | G3? | S3? | 1B.2 | Yes | 2001-01-01 |  © 2018 Zoya Akulova |
| *Calamagrostis ophitidis* | serpentine reed grass | Poaceae | perennial herb | Apr-Jul | None | None | G3 | S3 | 4.3 | Yes | 1974-01-01 | No Photo Available |
| *Calandrinia breweri* | Brewer's calandrinia | Montiaceae | annual herb | (Jan)Mar-Jun | None | None | G4 | S4 | 4.2 | | 1994-01-01 | No Photo Available |
| *Calystegia collina* ssp. *oxyphylla* | Mt. Saint Helena morning-glory | Convolvulaceae | perennial rhizomatous herb | Apr-Jun | None | None | G4T3 | S3 | 4.2 | Yes | 1984-01-01 | No Photo Available |
| *Castilleja ambigua* var. *ambigua* | johnny-nip | Orobanchaceae | annual herb (hemiparasitic) | Mar-Aug | None | None | G4T4 | S3S4 | 4.2 | | 2009-02-04 |  ©2011 Dylan Neubauer |
| *Castilleja ambigua* var. *meadii* | Mead's owls-clover | Orobanchaceae | annual herb (hemiparasitic) | Apr-May | None | None | G4T1 | S1 | 1B.1 | Yes | 2013-01-03 | No Photo Available |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Ceanothus confusus* | Rincon Ridge ceanothus | Rhamnaceae | perennial evergreen shrub | Feb-Jun | None | None | G1 | S1 | 1B.1 | Yes | 1980-01-01 |  © 2012 Jake Ruygt |
| *Ceanothus divergens* | Calistoga ceanothus | Rhamnaceae | perennial evergreen shrub | Feb-Apr | None | None | G2 | S2 | 1B.2 | Yes | 1974-01-01 | No Photo Available |
| *Ceanothus pinetorum* | Kern ceanothus | Rhamnaceae | perennial evergreen shrub | May-Jul | None | None | G3 | S3 | 4.3 | Yes | 1974-01-01 |  ©2017 Aaron Schusteff |
| *Ceanothus purpureus* | holly-leaved ceanothus | Rhamnaceae | perennial evergreen shrub | Feb-Jun | None | None | G2 | S2 | 1B.2 | Yes | 1974-01-01 |  © 2012 Jake Ruygt |
| *Ceanothus sonomensis* | Sonoma ceanothus | Rhamnaceae | perennial evergreen shrub | Feb-Apr | None | None | G2 | S2 | 1B.2 | Yes | 1974-01-01 | No Photo Available |
| *Centromadia parryi* ssp. *rudis* | Parry's rough tarplant | Asteraceae | annual herb | May-Oct | None | None | G3T3 | S3 | 4.2 | Yes | 2007-05-22 |  © 2019 John Doyen |
| *Clarkia breweri* | Brewer's clarkia | Onagraceae | annual herb | Apr-Jun | None | None | G4 | S4 | 4.2 | Yes | 1974-01-01 | No Photo Available |
| *Clarkia gracilis* ssp. *tracyi* | Tracy's clarkia | Onagraceae | annual herb | Apr-Jul | None | None | G5T3 | S3 | 4.2 | Yes | 2001-01-01 | No Photo Available |
| *Collomia diversifolia* | serpentine collomia | Polemoniaceae | annual herb | May-Jun | None | None | G4 | S4 | 4.3 | Yes | 1974-01-01 |  ©2019 Zoya Akulova |
| *Cordylanthus tenuis* ssp. *brunneus* | serpentine bird's-beak | Orobanchaceae | annual herb (hemiparasitic) | Jul-Aug | None | None | G4G5T3 | S3 | 4.3 | Yes | 1988-01-01 | No Photo Available |
| *Delphinium uliginosum* | swamp larkspur | Ranunculaceae | perennial herb | May-Jun | None | None | G3 | S3 | 4.2 | Yes | 1974-01-01 | No Photo Available |
| *Downingia pusilla* | dwarf downingia | Campanulaceae | annual herb | Mar-May | None | None | GU | S2 | 2B.2 | | 1980-01-01 |  © 2013 Aaron Arthur |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Eleocharis parvula* | small spikerush | Cyperaceae | perennial herb | (Apr)Jun-Aug(Sep) | None | None | G5 | S3 | 4.3 | | 1980-01-01 |  ©2018 Ron Vanderhoff |
| *Erigeron biolettii* | streamside daisy | Asteraceae | perennial herb | Jun-Oct | None | None | G3? | S3? | 3 | Yes | 1994-01-01 |  ©2015 Doug Wirtz |
| *Erigeron greenei* | Greene's narrow-leaved daisy | Asteraceae | perennial herb | May-Sep | None | None | G3 | S3 | 1B.2 | Yes | 1994-01-01 | No Photo Available |
| *Eryngium jepsonii* | Jepson's coyote-thistle | Apiaceae | perennial herb | Apr-Aug | None | None | G2 | S2 | 1B.2 | Yes | 2016-09-13 | No Photo Available |
| *Erythronium helenae* | St. Helena fawn lily | Liliaceae | perennial bulbiferous herb | Mar-May | None | None | G3 | S3 | 4.2 | Yes | 1974-01-01 | No Photo Available |
| *Extriplex joaquinana* | San Joaquin spearscale | Chenopodiaceae | annual herb | Apr-Oct | None | None | G2 | S2 | 1B.2 | Yes | 1988-01-01 | No Photo Available |
| *Fritillaria purdyi* | Purdy's fritillary | Liliaceae | perennial bulbiferous herb | Mar-Jun | None | None | G4 | S4 | 4.3 | | 1974-01-01 |  Aaron Schusteff, 2004 |
| *Harmonia nutans* | nodding harmonia | Asteraceae | annual herb | Mar-May | None | None | G3 | S3 | 4.3 | Yes | 1984-01-01 |  © 2008 Neal Kramer |
| *Hemizonia congesta* ssp. *congesta* | congested-headed hayfield tarplant | Asteraceae | annual herb | Apr-Nov | None | None | G5T2 | S2 | 1B.2 | Yes | 1988-01-01 |  © 2015 Vernon Smith |
| *Hesperolinon bicarpellatum* | two-carpellate western flax | Linaceae | annual herb | (Apr)May-Jul | None | None | G2 | S2 | 1B.2 | Yes | 1974-01-01 |  © 2016 John Doyen |
| *Hesperolinon breweri* | Brewer's western flax | Linaceae | annual herb | May-Jul | None | None | G2 | S2 | 1B.2 | Yes | 1974-01-01 |  © 2014 Neal Kramer |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Hesperolinon sharsmithiae* | Sharsmith's western flax | Linaceae | annual herb | May-Jul | None | None | G2Q | S2 | 1B.2 | Yes | 2012-12-14 |  © 2017 Aaron Arthur |
| *Horkelia tenuiloba* | thin-lobed horkelia | Rosaceae | perennial herb | May-Jul(Aug) | None | None | G2 | S2 | 1B.2 | Yes | 1988-01-01 |  © 1994 Doreen L. Smith |
| *Lasthenia conjugens* | Contra Costa goldfields | Asteraceae | annual herb | Mar-Jun | FE | None | G1 | S1 | 1B.1 | Yes | 1974-01-01 |  © 2013 Neal Kramer |
| *Lathyrus jepsonii* var. *jepsonii* | Delta tule pea | Fabaceae | perennial herb | May-Jul(Aug-Sep) | None | None | G5T2 | S2 | 1B.2 | Yes | 1974-01-01 |  © 2003 Mark Fogiel |
| *Layia septentrionalis* | Colusa layia | Asteraceae | annual herb | Apr-May | None | None | G2 | S2 | 1B.2 | Yes | 1994-01-01 |  © 2013 Jake Ruygt |
| *Leptosiphon aureus* | bristly leptosiphon | Polemoniaceae | annual herb | Apr-Jul | None | None | G4? | S4? | 4.2 | Yes | 1994-01-01 |  © 2007 Len Blumin |
| *Leptosiphon jepsonii* | Jepson's leptosiphon | Polemoniaceae | annual herb | Mar-May | None | None | G2G3 | S2S3 | 1B.2 | Yes | 2001-01-01 |  © 2012 Aaron Arthur |
| *Leptosiphon latisectus* | broad-lobed leptosiphon | Polemoniaceae | annual herb | Apr-Jun | None | None | G4 | S4 | 4.3 | Yes | 2001-01-01 |  © 2015 Steve Matson |
| *Lessingia hololeuca* | woolly-headed lessingia | Asteraceae | annual herb | Jun-Oct | None | None | G2G3 | S2S3 | 3 | Yes | 1994-01-01 |  © 2015 Aaron Schusteff |
| *Lilaeopsis masonii* | Mason's lilaeopsis | Apiaceae | perennial rhizomatous herb | Apr-Nov | None | CR | G2 | S2 | 1B.1 | Yes | 1974-01-01 | No Photo Available |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Lilium rubescens* | redwood lily | Liliaceae | perennial bulbiferous herb | (Mar)Apr-Aug(Sep) | None | None | G3 | S3 | 4.2 | Yes | 1974-01-01 |  Gerald and Buff Corsi © 2022 California Academy of Sciences |
| *Limnanthes vinculans* | Sebastopol meadowfoam | Limnanthaceae | annual herb | Apr-May | FE | CE | G1 | S1 | 1B.1 | Yes | 1974-01-01 |  © 2015 Vernon Smith |
| *Lomatium repostum* | Napa lomatium | Apiaceae | perennial herb | Mar-Jun | None | None | G3 | S3 | 4.2 | Yes | 1974-01-01 | No Photo Available |
| *Lupinus sericatus* | Cobb Mountain lupine | Fabaceae | perennial herb | Mar-Jun | None | None | G2? | S2? | 1B.2 | Yes | 1974-01-01 | No Photo Available |
| *Malacothamnus helleri* | Heller's bush-mallow | Malvaceae | perennial deciduous shrub | May-Jul | None | None | G2Q | S2 | 3.3 | Yes | 1974-01-01 |  © 2017 Keir Morse |
| *Micropus amphibolus* | Mt. Diablo cottonweed | Asteraceae | annual herb | Mar-May | None | None | G3G4 | S3S4 | 3.2 | Yes | 1974-01-01 |  © 2008 Aaron Arthur |
| *Monardella viridis* | green monardella | Lamiaceae | perennial rhizomatous herb | Jun-Sep | None | None | G3 | S3 | 4.3 | Yes | 1974-01-01 | No Photo Available |
| *Navarretia cotulifolia* | cotula navarretia | Polemoniaceae | annual herb | May-Jun | None | None | G4 | S4 | 4.2 | Yes | 2001-01-01 |  © 2020 Zoya Akulova |
| *Navarretia heterandra* | Tehama navarretia | Polemoniaceae | annual herb | Apr-Jun | None | None | G4 | S4 | 4.3 | | 1974-01-01 |  ©2021 Scot Loring |
| *Navarretia leucocephala* ssp. *bakeri* | Baker's navarretia | Polemoniaceae | annual herb | Apr-Jul | None | None | G4T2 | S2 | 1B.1 | Yes | 1994-01-01 |  © 2018 Barry Rice |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Navarretia leucocephala* ssp. *pauciflora* | few-flowered navarretia | Polemoniaceae | annual herb | May-Jun | FE | CT | G4T1 | S1 | 1B.1 | Yes | 1974-01-01 |  © 2013 Jake Ruygt |
| *Navarretia rosulata* | Marin County navarretia | Polemoniaceae | annual herb | May-Jul | None | None | G2 | S2 | 1B.2 | Yes | 1980-01-01 | No Photo Available |
| *Penstemon newberryi* var. *sonomensis* | Sonoma beardtongue | Plantaginaceae | perennial herb | Apr-Aug | None | None | G4T3 | S3 | 1B.3 | Yes | 1988-01-01 |  Jason Matthias Mills 2020 |
| *Ranunculus lobbii* | Lobb's aquatic buttercup | Ranunculaceae | annual herb (aquatic) | Feb-May | None | None | G4 | S3 | 4.2 | | 1974-01-01 | No Photo Available |
| *Rhynchospora californica* | California beaked-rush | Cyperaceae | perennial rhizomatous herb | May-Jul | None | None | G1 | S1 | 1B.1 | Yes | 1974-01-01 |  © 2004 Steve Matson |
| *Sagittaria sanfordii* | Sanford's arrowhead | Alismataceae | perennial rhizomatous herb (emergent) | May-Oct(Nov) | None | None | G3 | S3 | 1B.2 | Yes | 1984-01-01 |  ©2013 Debra L. Cook |
| *Sidalcea hickmanii* ssp. *napensis* | Napa checkerbloom | Malvaceae | perennial herb | Apr-Jun | None | None | G3T1 | S1 | 1B.1 | Yes | 2009-04-02 | No Photo Available |
| *Sidalcea keckii* | Keck's checkerbloom | Malvaceae | annual herb | Apr-May(Jun) | FE | None | G2 | S2 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Sidalcea oregana* ssp. *hydrophila* | marsh checkerbloom | Malvaceae | perennial herb | (Jun)Jul-Aug | None | None | G5T2 | S2 | 1B.2 | Yes | 1974-01-01 | No Photo Available |
| *Streptanthus hesperidis* | green jewelflower | Brassicaceae | annual herb | May-Jul | None | None | G2G3 | S2S3 | 1B.2 | Yes | 2001-01-01 | No Photo Available |
| *Symphyotrichum lentum* | Suisun Marsh aster | Asteraceae | perennial rhizomatous herb | (Apr)May-Nov | None | None | G2 | S2 | 1B.2 | Yes | 1974-01-01 | No Photo Available |
| *Toxicoscordion fontanum* | marsh zigadenus | Melanthiaceae | perennial bulbiferous herb | Apr-Jul | None | None | G3 | S3 | 4.2 | Yes | 2001-01-01 | No Photo Available |
| *Trichostema ruygtii* | Napa bluecurls | Lamiaceae | annual herb | Jun-Oct | None | None | G1G2 | S1S2 | 1B.2 | Yes | 2007-01-03 | No Photo Available |
| *Trifolium amoenum* | two-fork clover | Fabaceae | annual herb | Apr-Jun | FE | None | G1 | S1 | 1B.1 | Yes | 1974-01-01 | No Photo Available |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Trifolium hydrophilum* | saline clover | Fabaceae | annual herb | Apr-Jun | None | None | G2 | S2 | 1B.2 | Yes | 2001-01-01 |  © 2005 Dean Wm Taylor |
| *Triteleia lugens* | dark-mouthed triteleia | Themidaceae | perennial bulbiferous herb | Apr-Jun | None | None | G4? | S4? | 4.3 | Yes | 1974-01-01 | No Photo Available |
| *Viburnum ellipticum* | oval-leaved viburnum | Viburnaceae | perennial deciduous shrub | May-Jun | None | None | G4G5 | S3? | 2B.3 | | 1974-01-01 |  © 2006 Tom Engstrom |

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Suggested Citation:
California Native Plant Society, Rare Plant Program. 2024. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 11 January 2024].

# Appendix C

## Plant Species Observed During Botanical Survey

## PLANT SPECIES OBSERVED

| Family | *Scientific Name* | Common Name | Native/ Introduced |
|---|---|---|---|
| Agavaceae | *Chlorogalum pomeridianum* var. *pomeridianum* | Soaproot | N |
| Anacardiaceae | *Toxicodendron diversilobum* | Western poison oak | N |
| Apiaceae | *Torillis arvensis* | Hedge Parsley | I |
| Apiaceae | *Daucus pusillus* | American wild carrot | N |
| Apiaceae | *Conium maculatum* | Poison Hemlock | I |
| Apocynaceae | *Vinca minor* | Periwinkle | I |
| Apocynaceae | *Vinca major* | Greater periwinkle | I |
| Asteraceae | *Artemesia douglasiana* | California mugwort | N |
| Asteraceae | *Achillea millefolium* | Yarrow | N |
| Asteraceae | *Baccharis pilularis* | Coyote brush | N |
| Asteraceae | *Centaurea solstitialis* | Yellow star-thistle | I |
| Asteraceae | *Lactuca serriola* | Prickly lettuce | I |
| Asteraceae | *Pseudognaphalium luteoalbum* | Cudweed, everlasting | I |
| Asteraceae | *Senecio vulgaris* | Common groundsel | I |
| Asteraceae | *Sonchus oleraceus* | Common sow thistle | I |
| Asteraceae | *Erigeron canadensis* | Horseweed | N |
| Asteraceae | *Carduus pynocephalus* | Italian Thistle | I |
| Asteraceae | *Artemesia californica* | California Sagebrush | N |
| Asteraceae | *Helminthotheca echiodes* | Bristly Oxtongue | I |
| Asteraceae | *Lactuca saligna* | Willow Leaf Lettuce | I |
| Asteraceae | *Hypocherus radicata* | Hairy cat's ear | I |
| Asteraceae | *Taraxacum officinale* | Common dandelion | I |
| Asteraceae | *Baccharis salcifolia* | Mule Fat | N |
| Asteraceae | *Sonchus asper* | Spiny sowthistle | I |
| Asteraceae | *Callendula arvensis* | Field Marigold | I |
| Boraginaceae | *Nemophila heterophylla* | Nemophila | N |
| Boraginaceae | *Adelinia grandis* | Pacific hound's Tongue | N |
| Brassicaceae | *Hirschfeldia incana* | Perennial, shortpot, or summer mustard | I |
| Brassicaceae | *Nasturtium officinale* | Water cress | N |
| Brassicaceae | *Raphanus sativus* | Radish | I |
| Brassicaceae | *Cardamine cordifolia* | Heartleaf Bittercress | N |
| Brassicaceae | *Nasturtium officinale* | Watercress | I |
| Brassicaceae | *Cardamine oligosperma* | Little Western Bittercress | N |
| Caprifoliaceae | *Lonicera hispidula* | Honeysuckle | N |
| Caprifoliaceae | *Symphoricarpos albus* var. *laevigatus* | Snowberry | N |
| Caryophyllaceae | *Cerastium glomeratum* | Sticky mouse-ear chickweed | I |

| Family | *Scientific Name* | Common Name | Native/ Introduced |
|---|---|---|---|
| Caryophyllaceae | *Stellaria media* | Chickweed | I |
| Crassulaceae | *Dudleya sp* | Liveforevers | N |
| Cucurbitaceae | *Marah fabacea* | California man-root | N |
| Cucurbitaceae | *Marah fabacea* | California man-root | N |
| Dryopteridaceae | *Dryopyteris arguta* | Wood fern | N |
| Ericaceae | *Arctostaphylos manzanita* ssp. *manzanita* | Manzanita | N |
| Ericaceae | *Arbutis menziesii* | Pacific madrone | N |
| Euphorbiaceae | *Euphorbia oblongata* | Eggleaf spurge | I |
| Fabaceae | *Acmispon glaber* var. *glaber* | Deervetch, deerweed | N |
| Fabaceae | *Lupinus bicolor* | Miniature lupine | N |
| Fabaceae | *Trifolium hirtum* | Rose clover | I |
| Fabaceae | *Vicia sativa* ssp. *sativa* | Spring vetch | I |
| Fabaceae | *Vicia villosa* ssp. *villosa* | Hairy vetch, winter vetch | I |
| Fabaceae | *Vicia faba* | Faba Bean | I |
| Fabaceae | *Medicago polymorpha* | Burr Medic | I |
| Fagaceae | *Quercus agrifolia* | Coast live oak, encina | N |
| Fagaceae | *Quercus kelloggii* | California black oak | N |
| Fagaceae | *Quercus lobata* | Valley oak, roble | N |
| Fagaceae | *Quercus wislizeni* | Interior live oak | N |
| Geraniaceae | *Geranium molle* | Cranesbill, geranium | I |
| Geraniaceae | *Erodium cicutarium* | Common Stork's Bill | I |
| Iridaceae | *Iris macrosiphon* | Iris | N |
| Iridaceae | *Sisyrinchium bellum* | Western blue-eyed-grass | N |
| Lamiaceae | *Lamium amplexicaule* | Henbit dead-nettle | I |
| Lamiaceae | *Stachys ajugoides* | Hedge-nettle | N |
| Lamiaceae | *Lavendula angustifolia* | English Lavender | I |
| Lamiaceae | *Stachys* sp. | Nettle | |
| Lauraceae | *Umbellularia californica* | California Bay | N |
| Montiaceae | *Claytonia perfoliata* ssp. *perfoliata* | Miner's lettuce | N |
| Montiaceae | *Calandrina ciliata* | Red Maids | N |
| Oleaceae | *Olea europea* | European Olive | I |
| Onagraceae | *Epilobium canum* | Hummingbird ttumpet | N |
| Onagraceae | *Epilobium* sp. | Willowherbs | N |
| Onagraceae | *Ludwigia peploides* | Floating primose-willow | I |
| Oxalidaceae | *Oxalis pes-caprae* | Bermuda buttercup | I |
| Papaveraceae | *Eschscholzia californica* | California poppy | N |
| Papaveraceae | *Romneya coulteri* | Matilija poppy | N |
| Phrymaceae | *Diplacus aurantiacus* | Sticky Monkey Flower | N |

| Family | *Scientific Name* | Common Name | Native/ Introduced |
|---|---|---|---|
| Pinaceae | *Pseudotsuga menziesii* | Douglas Fir | N |
| Plantaginaceae | *Kickxia elatine* | Kickxia | I |
| Plantaginaceae | *Plantago lanceolata* | English plantain | I |
| Poaceae | *Avena fatua* | Wild oat | I |
| Poaceae | *Briza maxima* | Rattlesnake grass, large quaking grass | I |
| Poaceae | *Bromus diandrus* | Ripgut grass | I |
| Poaceae | *Bromus hordeaceus* | Soft chess | I |
| Poaceae | *Cynosurus echinatus* | Bristly dogtail grass | I |
| Poaceae | *Festuca bromoides* | Brome fescue | I |
| Poaceae | *Festuca perennis* | Rye grass | I |
| Poaceae | *Poa annua* | Annual blue grass | I |
| Poaceae | *Festuca bromoides* | Brome fescue | I |
| Poaceae | *Hordeum murinum* | Wall Barley | I |
| Polygonaceae | *Rumex conglomeratus* | Dock | I |
| Polygonaceae | *Rumex acetosella* | Field Sorrel | I |
| Polygonaceae | *Rumex crispus* | Curly dock | I |
| Pteridaceae | *Pentagramma triangularis* ssp. *triangularis* | Goldback fern | N |
| Pteridaceae | *Adiantum jordanii* | Maidenhair fern | N |
| Pteridaceae | *Pellaea mucronata* | Birdfoot Cliffbrake | |
| Pteridaceae | *Pellaea andromedifolia* | Coffee fern | N |
| Ranunculaceae | *Ranunculus occidentalis* var. *occidentalis* | Buttercup | I |
| Rosaceae | *Heteromeles arbutifolia* | Christmas berry, toyon | N |
| Rosaceae | *Rubus armeniacus* | Himalayan blackberry | I |
| Rosaceae | *Adenostoma fasciculatum* | Chamise | N |
| Rosaceae | *Rubus leucodermis* | Whitebark Raspberry | N |
| Rosaceae | *Rosa californica* | California Wild rose | N |
| Rubiaceae | *Galium porrigens* var. *tenue* | Climbing bedstraw | N |
| Rubiaceae | *Galium aparine* | Catchweed Bedstraw | I |
| Salicaeae | *Salix lasiolepis* | Arroyo willow | N |
| Sapindaceae | *Aesculus californicus* | California Buckeye | N |
| Scrophulariaceae | *Verbascum thapsus* | Common mullein | I |
| Scrophulariaceae | *Scrophularia californica* | California Bee Plant | N |
| Themidaceae | *Brodiaea elegans* ssp. *elegans* | Harvest brodiaea | N |
| Themidaceae | *Triteleia laxa* | Ithuriel's spear, common triteleia | N |

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# Appendix D

## Representative Photographs of the Study Area

**Photograph 1. Vineyard area within the study area. (January 2024).**

**Photograph 2. View of slope in Oak Woodland, with one of the drainages down the slope (January 2024).**

**Photograph 3. View of grassland opening in oak woodland within the study area (January 2024).**

**Photograph 4. View of oak woodland habitat (January 2024).**

**Photograph 5. View of developed area within the study area (January 2024).**

**Photograph 6. View of oak woodland within the study area (January 2024).**

**Photograph 7. Drainage within the study area (January 2024).**

# Appendix E

## Regionally Occurring Special-Status Species

## REGIONALLY OCCURRING SPECIAL-STATUS SPECIES

| Special-Status Species | Regulatory Status (Federal/State/ Local/CNPS) | Habitat Requirements | Potential for Occurrence |
|---|---|---|---|
| **Plants** | | | |
| *Allium peninsulare* var. *franciscanum* Franciscan onion | --/--/1B.2 | Perennial herb found on dry hillsides under 300 meters. Blooms May-June. | Yes. The hillsides provide potential habitat. A follow up survey during the blooming period is recommended if future development is proposed in potential habitat. |
| *Amorpha californica* var. *napensis* Napa false indigo | --/--/1B.2 | Perennial deciduous shrub found in broadleafed upland forest, occasionally in openings, chaparral, and cismontane woodland from 120 to 2,000 meters. Blooms April-July. | Yes. The mixed oak woodland provides potential habitat. A follow up survey during the blooming period is recommended if future development is proposed in potential habitat. |
| *Amsinckia lunaris* Bent-flowered fiddleneck | --/--/1B.2 | Annual herb found in coastal bluff scrub, cismontane woodland, and valley and foothill grassland from 3 to 500 meters. Blooms March-June. | Yes. Openings in the oak woodland provide habitat. A follow up survey during the blooming period is recommended if future development is proposed in potential habitat. |
| *Arctostaphylos stanfordiana* var. *decumbens* Rincon Ridge manzanita | --/--/1B.1 | Perennial evergreen shrub found occasionally in rhyolitic substrate in chaparral and cismontane woodland from 75 to 370 meters. Blooms February-April, occasionally May. | Yes. The mixed oak woodland provide habitat for this species. A follow up survey during the blooming period is recommended if future development is proposed in potential habitat. |
| *Astragalus claranus* Clara Hunt's milk-vetch | FE/CE/1B | Annual herb found on serpentinite or volcanic, rock, clay substrate on chaparral, occasionally in openings, cismontane woodland, and valley and foothill grassland from 75 to 275 meters. Blooms March-May. | No. The study area does not contain suitable soils. |
| *Astragalus tener* var. *tener* Alkali milk vetch | --/--/1B.2 | Annual herb often found in vernal pools, and vernally moist playas under 60 meters. Blooms March-June. | No. No suitable vernal pool habitat is present in the study area. |
| *Balsamorhiza macrolepis* Big-scale balsam root | --/--/1B.2 | Perennial herb found on slopes in grassy or rocky slopes and valleys under 1400 meters. Blooms March-July. | Yes. There is suitable slope habitat in the study area. A follow up study during the appropriate blooming season is recommended if future development is proposed in potential habitat. |
| *Blennosperma bakeri* Sonoma sunshine | FE/CE/1B.1 | Annual herb that is found in freshwater wetlands, valley grassland, and wetland-riparian habitat. Blooms February-April. | No. No suitable vernal pool or wetland habitat is present in the study area. |
| *Brodiaea leptandra* Narrow-anthered brodiaea | --/--/1B.2 | Perennial bulbiferous herb found on volcanic substrate in broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland from 110 to 915 meters. Blooms May-July. | No. The study area does not contain suitable soils for this species. |

| Special-Status Species | Regulatory Status (Federal/State/ Local/CNPS) | Habitat Requirements | Potential for Occurrence |
|---|---|---|---|
| *Castilleja ambigua* var. *meadii* Mead's owl's-clover | --/--/1B.1 | Annual hemiparasitic herb found on gravelly, volcanic, clay in meadows and seeps and vernal pools from 450 to 475 meters. Blooms April-May. | No. The study area does not contain suitable soils for this species. |
| *Ceanothus confusus* Rincon Ridge ceanothus | --/--/1B.1 | Perennial evergreen shrub found on volcanic or serpentinite substrate in closed-cone coniferous forest, chaparral, and cismontane woodland from 75 to 1,065 meters. Blooms February-June. | No. The study area does not contain suitable soils for this species. |
| *Ceanothus divergens* Calistoga ceanothus | --/--/1B.2 | Perennial evergreen shrub found in chaparral, which occasionally occurs on serpentinite or volcanic, rocky substrate, from 170 to 950 meters. Blooms February-April. | No. The study area does not contain suitable soils for this species. |
| *Ceanothus purpureus* Holly-leaved ceanothus | --/--/1B.2 | Perennial evergreen shrub found on volcanic, rocky substrate in chaparral and cismontane woodland from 120 to 640 meters. Blooms February-June. | No. The study area does not contain suitable soils for this species. |
| *Ceanothus sonomensis* Sonoma ceanothus | --/--/1B.2 | Perennial evergreen shrub occasionally found on sandy, serpentinite, or volcanic substrate in chaparral from 215 to 800 meters. Blooms February-April. | No. The study area does not contain suitable soils for this species. |
| *Downingia pusilla* Dwarf downingia | --/--/2B.2 | Annual herb found occasionally in mesic areas within valley and foothill grassland and vernal pools from 1 to 445 meters. Blooms March-May. | No. The study area does not contain suitable habitat for this species. |
| *Erigeron greenei* Greene's narrow-leaved daisy | --/--/1B.2 | Perennial herb found occasionally on serpentinite or volcanic substrate in chaparral from 80 to 1,005 meters. Blooms May-September. | No. The study area does not contain suitable soils for this species. |
| *Eryngium jepsonii* Jepson's coyote thistle | --/--/1B.2 | Perennial herb found on clay substrate in valley and foothill grassland and vernal pools from 3 to 300 meters. Blooms April-August. | No. The study area does not contain suitable habitat for this species. |
| *Extriplex joaquinana* San Joaquin spearscale | --/--/1B.2 | Annual herb found in meadows and valley grasslands in alkaline soils under 350 m. Blooms April-September. | No. The study area does not contain suitable habitat for this species. |
| *Hemizonia congesta* ssp. *congesta* Congested-headed hayfield tarplant | --/--/1B.2 | Annual herb found in coastal scrub and valley grasslands less than 100 meters. Blooms May-November. | No. The study area does not contain suitable habitat for this species. |

| Special-Status Species | Regulatory Status (Federal/State/ Local/CNPS) | Habitat Requirements | Potential for Occurrence |
|---|---|---|---|
| *Hesperolinon breweri* Brewer's western flax | --/--/1B.2 | Annual herb found usually on serpentinite soils in chaparral, cismontane woodland, and valley and foothill grassland from 30 to 945 meters. Blooms May-July. | No. The study area does not contain suitable soils for this species. |
| *Hesperolinon sharsmithiae* Sharsmith's western flax | --/--/1B.2 | Annual herb found on serpentinite substrate in chaparral from 270 to 300 meters. Blooms May-July. | No. The study area does not contain suitable soils for this species. |
| *Horkelia tenuiloba* Thin-lobed horkelia | --/--/1B.2 | Perennial herb found usually in openings in chaparral in sandy soils and open chaparral from 50 to 500 meters. Blooms April-July. | No. The study area does not contain suitable habitat for this species. |
| *Lasthenia conjugens* Contra Costa goldfields | FE/--/1B.1 | Annual herb found on mesic soils in cismontane woodland, playas that are occasionally alkaline, valley and foothill grassland, and vernal pools from 0 to 470 meters. Blooms March-June. | No. The study area does not contain suitable habitat for this species. |
| *Laythrus jepsonii* var. *jepsonii* Delta tule pea | --/--/1B.2 | Perennial herb found in wetlands in coastal estuarine marshes under 30 meters. Blooms April-August. | No. The study area does not contain suitable habitat for this species. |
| *Layia septentrionalis* Colusa layia | --/--/1B.2 | Annual herb found in chaparral, cismontane woodland, and valley and foothill grassland, which is occasionally on sandy, serpentine substrate, from 100 to 1,095 meters. Blooms April-May. | Yes. The mixed oak woodland provides potential habitat. A follow up survey during the blooming period is recommended if future development is proposed in potential habitat. |
| *Leptosiphon jepsonii* Jepson's leptosiphon | --/--/1B.2 | Annual herb found usually on volcanic substrate in chaparral, cismontane woodland, and valley and foothill grassland from 100 to 500 meters. Blooms March-May. | Yes. The oak woodland provides potential habitat. A follow up study during appropriate blooming season is recommended if future development is proposed in potential habitat. |
| *Lilaeopsis masonii* Mason's lilaeopsis | --/CR/1B.1 | Perennial herb found in wetland habitats on intertidal marshes and streambanks under 36 meters. Blooms June-August. | No. The study area does not include suitable habitat. |
| *Limnanthes vinculans* Sebastopol meadowfoam | FE/CE/1B.1 | Annual herb found in vernally mesic substrate in meadows and seeps, valley and foothill grassland, and vernal pools from 15 to 305 meters. Blooms April-May. | No. The study area does not include suitable habitat. |
| *Lupinus sericatus* Cobb Mountain lupine | --/--/1B.2 | Perennial herb found in broadleafed upland forest, chaparral, cismontane woodland, and lower montane coniferous forest from 275 to 1,525 meters. Blooms March-June. | Yes. The oak woodland provides potential habitat. A follow up study during appropriate blooming season is recommended if future development is proposed in potential habitat. |

| Special-Status Species | Regulatory Status (Federal/State/ Local/CNPS) | Habitat Requirements | Potential for Occurrence |
|---|---|---|---|
| *Navarretia leucocephala* ssp. *bakeri* Baker's navarretia | --/--/1B.1 | Annual herb found in mesic areas of cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, and vernal pools from 5 to 1,740 meters. Blooms April-July. | Yes. The mixed oak woodland provides potential habitat. A follow up study during appropriate blooming season is recommended if future development is proposed in potential habitat. |
| *Navarretia leucocephala* ssp. *pauciflora* Few-flowered navarretia | FE/CT/1B.1 | Annual herb found in vernal pools, occasionally on volcanic ash flow, from 400 to 855 meters. Blooms May-June. | No. The study area does not contain suitable habitat for this species. |
| *Navarretia rosulata* Marin County navarretia | --/--/1B.2 | Annual herb found on serpentinite, rocky substrate in closed-cone coniferous forest and chaparral from 200 to 635 meters. Blooms May-July. | No. The study area does not contain suitable soils for this species. |
| *Penstemon newberryi* var. *sonomensis* Sonoma beardtongue | --/--/1B.3 | Perennial herb found occasionally on rocky substrate in chaparral from 700 to 1,370 meters. Blooms April-August. | No. The study area does not contain suitable habitat for this species. |
| *Rhynchospora californica* California beaked-rush | --/--/1B.1 | Perennial grasslike herb found in wetlands, seeps, meadows, and freshwater marshes under 200 meters. Blooms May-July. | No. The study area does not contain suitable habitat for this species follow up study during appropriate blooming season is recommended. . |
| *Sagittaria sanfordii* Sanford's arrowhead | --/--/1B.2 | Perennial rhizomatous emergent herb found in marshes and swamps, occasionally in assorted shallow freshwater, from 0 to 650 meters. Blooms May-October (occasionally November). | No. The study area does not contain suitable habitat for this species. |
| *Sildalcea hickmanii* ssp. *napensis* *Napa checkerbloom* | --/--/1B.1 | Perennial herb found in chamise chaparral in rocky rhyolitic volcanic soil from 450 to 500 meters. Blooms in May. | No. The study area does not include suitable soils. |
| *Sidalcea keckii* Keck's checkerbloom | FE/--/1B.1 | Annual herb found on serpentinite and clay substrate in cismontane woodland and valley and foothill grassland from 75 to 650 meters. Blooms April-May (occasionally June). | No. The study area does not include suitable soils. |
| *Sidalcea oregana* ssp. *hydrophila* Marsh checkerbloom | --/--/1B.2 | Perennial herb found on mesic substrate in meadows and seeps and riparian forest from 1,100 to 2,300 meters. Blooms July-August (occasionally in June). | No. The study area does not contain suitable habitat for this species. |
| *Streptanthus hesperidis* Green jewel-flower | --/--/1B.2 | Annual herb found on serpentinite, rocky substrate in chaparral, which occur occasionally in openings, and cismontane woodland from 130 to 760 meters. Blooms May-July. | No. The study area does not contain suitable soils for this species. |

| Special-Status Species | Regulatory Status (Federal/State/ Local/CNPS) | Habitat Requirements | Potential for Occurrence |
|---|---|---|---|
| *Symphyotrichum lentum*<br>Suisun Marsh aster | --/--/1B.2 | Perennial rhizomatous herb that grows in either brackish or freshwater area of marshes and swamps. Blooms March-November. | No. The study area does not contain suitable habitat for this species. |
| *Trichostema ruygtii*<br>Napa bluecurls | --/--/1B.2 | Annual herb found in chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland, and vernal pools from 30 to 680 meters. Blooms June-October. | Yes. The grassland and oak woodland habitat in the study area provide suitable habitat. A follow-up survey during blooming season is recommended if future development is proposed in potential habitat. |
| *Trifolium amoenum*<br>Two-fork clover | FE/--/1B.1 | Annual herb found in valley grasslands and wetland riparian habitats in moist and disturbed areas under 100 meters. Blooms April-June. | No. The study area does not contain suitable habitat for this species. |
| *Trifolium hydrophilum*<br>Saline clover | --/--/1B.2 | Annual herb found in salt marshes and open areas in alkaline soils under 300 meters. Blooms April-June. | No. The study area does not contain suitable habitat for this species. |
| *Viburnum ellipticum*<br>Oval-leaved viburnum | --/--/2B.3 | Shrub found in yellow pine forest and chaparral on north facing slopes from 300 to 1400 meters. Blooms June-August. | No. The study area does not contain suitable habitat for this species. |
| **Invertebrates** | | | |
| *Bombus occidentalis*<br>Western bumble bee | --/CC/-- | Found in a range of habitats, including mixed woodlands, farmlands, urban areas, montane meadows and into the western edge of the prairie grasslands. Food plants include *Ceanothus*, *Centaurea*, *Chrysothamnus*, *Cirsium*, *Geranium*, *Grindellia*, *Lupinus*, *Melilotus*, *Monardella*, *Rubus*, *Solidago*, and *Trifolium* | No. The study area is outside of the current range of this species (CDFW 2023). |
| *Branchinecta conservatio*<br>Conservancy fairy shrimp | FE/ | Vernal pools, swales, and ephemeral freshwater habitat. Most commonly found in small (< 0.05 acre), clear to tea-colored vernal pools with mud, grass, or basalt bottoms in unplowed grasslands. | No. The study area does not contain suitable habitat for this species. |
| *Danaus plexippus*<br>*Monarch butterfly* | FC/--/-- | Eucalyptus or Monterey pine groves (winter sites). Does not breed in the vicinity. | No. The study area does not contain suitable habitat for this species. |
| *Desmocerus californicus dimorphus*<br>Valley elderberry longhorn beetle | FT/--/-- | Elderberry shrubs, typically in riparian habitats | No. The study area does not contain suitable habitat for this species. |
| *Syncaris pacifica*<br>California freshwater shrimp | FE/CE/-- | Stream edges and eddies with undercut banks, exposed root systems, or overhanging vegetation. | No. The study area does not contain suitable habitat for this species. |

| Special-Status Species | Regulatory Status (Federal/State/ Local/CNPS) | Habitat Requirements | Potential for Occurrence |
|---|---|---|---|
| **Fish** | | | |
| *Oncorhynchus mykiss irideus* pop. 8<br>Steelhead – central California coast DPS | FT/--/-- | Spawns and rears in coastal streams between the Russian River in Sonoma County and Soquel Creek in Santa Cruz County, as well as drainages tributary to San Francisco Bay, where gravelly substrate and shaded riparian habitat occurs. | No. The study area does not contain suitable habitat for this species. |
| *Spirinchus thaleichthys*<br>Longfin smelt | PE/CT/-- | Found throughout the nearshore coastal waters and open waters of San Francisco Bay-Delta including the river channels and sloughs of the Delta. Spawns in the Delta. | No. The study area does not contain suitable habitat for this species. |
| **Amphibians/Reptiles** | | | |
| *Dicamptodon ensatus*<br>California giant salamander | --/CSC/-- | Nocturnal salamander that inhabits wet coastal forests in or near clear, cold permanent and semi-permanent streams and seepages from 0 to 94 meters (0 to 300 feet). Known from 3 isolated populations: from Mendocino County near Point Arena east into the coast rages into Lake and Glenn counties, south to Sonoma and Marin counties, continuing south of the San Francisco Bay from San Mateo County to southern Santa Cruz County. Does not occur east of the SF Bay. | No. The study area does not contain suitable habitat for this species. |
| *Emys marmorata*<br>Western pond turtle | PT/CSC/-- | Found in agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands. | Yes. The irrigation canal on the edge of the study area provides potential aquatic habitat for this species. The surrounding uplands provide upland nesting habitat. |
| *Rana boylii*<br>Foothill yellow-legged frog | --/CSC/-- | Found in partially shaded, permanent, slow-moving streams or channels with rocky or muddy bottoms and open, sunny banks within chaparral, open woodland, and forest. | No. The aquatic features within the study area do not provide suitable habitat for this species; the streams do not contain water year round and lack ponded areas for the FYLF to breed in. |
| *Rana draytonii*<br>California red-legged frog | FT/CSC/-- | Typically found in or within 91 meters (300 feet) of aquatic habitat. Breed in quiet, slow moving streams, ponds, or marsh communities with emergent vegetation or dense riparian vegetation. May disperse up to two miles between suitable aquatic habitat. | No. The aquatic features in the study area do not provide suitable habitat for this species; the streams do not contain water year-round and the detention basin does not contain vegetation. |

| Special-Status Species | Regulatory Status (Federal/State/ Local/CNPS) | Habitat Requirements | Potential for Occurrence |
|---|---|---|---|
| *Taricha rivularis*<br>Red-bellied newt | --/CSC/-- | Inhabits streams in coastal woodland and redwood forest. Occurs along the coast from near Bodega, Sonoma County, to near Honeydew, Humboldt County, and inland to Lower Lake and Kelsey Creek, Lake County. | No. The study area occurs outside of the known extant geographic range for this species. |
| **Birds** | | | |
| *Agelaius tricolor*<br>Tricolored blackbird | --/CT/-- | Nests in dense blackberry, cattail, tules, bulrushes, sedges, willow, or wild rose within freshwater marshes. Nests in large colonies (up to thousands of individuals). | No. The study area does not contain suitable habitat for this species. |
| *Aquila chrysaetos*<br>Golden eagle | --/FP/-- | Open and semi-open areas up to 12,000 feet in elevation. Builds stick nests on cliffs, in trees, or on man-made structures. | No. The study area does not contain suitable nesting habitat for this species. |
| *Buteo swainsoni*<br>Swainson's hawk | --/CT/-- | Nest peripherally to valley riparian systems and within lone trees or groves of trees in agricultural fields. Valley oak, Fremont cottonwood, walnut, and large willow trees, ranging in height from 41 to 82 feet, are the most commonly used nest trees in the Central Valley. This species is known from Alameda, Butte, Colusa, Contra Costa, Fresno, Glenn, Inyo, Kern, Kings, Lassen, Los Angeles, Madera, Merced, Modoc, Mono, Napa, Placer, Plumas, Sacramento, San Bernardino, San Joaquin, San Luis Obispo, Siskiyou, Solano, Stanislaus, Sutter, Tehama, Tulare, Yolo, and Yuba counties. | Yes. The vineyards provide foraging habitat for this species. The oak woodland provides marginal nesting habitat for this species. |
| *Coturnicops noveboracensis*<br>Yellow Rail | --/CSC/-- | Nesting occurs in sedge marshes and wet meadows with moist soils and low standing water. | No. The study area does not provide nesting habitat for this species. |
| *Cypseloides niger*<br>Black swift | --/CSC/-- | Nests behind or next to waterfalls, steep cliffs, sea cliffs, and sea caves along rocky coasts or in mountainous forests. | No. The study area does not provide nesting habitat for this species. |
| *Elanus leucurus*<br>White-tailed kite | --/CFP/-- | Nests in isolated trees or woodland areas with suitable open foraging habitat. | Yes. The vineyards provide suitable foraging habitat. The trees in the oak woodland provide nesting habitat for this species. |
| *Geothlypis trichas sinuosa*<br>Saltmarsh common yellowthroat | --/CSC/-- | Nests in woody swamp, brackish marsh, and freshwater marsh habitats. | No. The study area does not provide nesting habitat for this species. |

| Special-Status Species | Regulatory Status (Federal/State/ Local/CNPS) | Habitat Requirements | Potential for Occurrence |
|---|---|---|---|
| *Haliaeetus leucocephalus*<br>Bald eagle | FD/CE, FP/-- | Breeding habitat most commonly includes areas within 2.5 miles (4.0 kilometers) of coastal areas, bays, rivers, lakes, and reservoirs. Nests usually are in tall trees or on pinnacles or cliffs near water. | Yes. The oak woodland provides marginal nesting habitat for this species. |
| *Melospiza melodia samuelis*<br>San Pablo song sparrow | --/CSC/-- | Found in tidal salt marshes in San Pablo Bay with dense vegetation for nesting. | No. The study area does not provide nesting habitat for this species. |
| *Progne subis*<br>Purple martin | --/CSC/-- | Often nests in tall, old trees near water in woodland and conifer habitats. Feeds in open areas near water and nest in tree cavities. | Yes. The oak woodland provides nesting habitat for this species. |
| *Riparia riparia*<br>Bank swallow | --/CT/-- | Nests in steep sand, dirt, or gravel banks, in burrows dug near the top of the bank, along the edge of inland water, or along the coast, or in gravel pits, road embankments. | No. The study area does not provide nesting habitat for this species. |
| *Strix occidentalis caurina*<br>Northern spotted owl | FE/--/-- | Inhabits old growth forests or occasionally in younger forests with the following characteristics: moderate to high canopy closure; a multilayered, multispecies canopy dominated by large overstory trees; a high incidence of large trees with large cavities, broken tops, and other indications of decadence; numerous large snags; heavy accumulations of logs and other woody debris on the forest floor; and considerable open space within and beneath the canopy. | No. The study area does not provide nesting habitat for this species, and occurs outside of the known extant geographic range for this species. |
| **Mammals** | | | |
| *Antrozous pallidus*<br>Pallid bat | --/CSC/-- | Inhabits oak woodland, savannah, and riparian habitats. Roosts in crevices and hollows in trees, rocks, cliffs, bridges, and buildings. | Yes. The trees in the oak woodland provide roosting habitat for this species. |
| *Corynorhinus townsendii*<br>Townsend's big-eared bat | --/CSC/-- | Uses caves, buildings, and tree cavities for day roosts. Maternity and hibernation colonies typically are in caves and mine tunnels. | Yes. The trees in the oak woodland provide roosting habitat for this species. |
| *Lasiurus frantzii*<br>Western red bat | --/CSC/-- | Found in cismontane woodland, lower montane coniferous forest, riparian forest, riparian woodland. Roosts in trees in edge habitats near streams, fields or urban areas. | Yes. The trees in the oak woodland provide roosting habitat for this species. |
| *Taxidea taxus*<br>American badger | --/CSC/-- | Found in drier, open stages of shrub, forest, and herbaceous habitats with friable soil for use of soil for cover. | No. The study area does not contain suitable habitat for this species. |

| Special-Status Species | Regulatory Status (Federal/State/ Local/CNPS) | Habitat Requirements | Potential for Occurrence |
|---|---|---|---|
| **Sensitive Natural Communities** | | | |
| Northern Vernal Pool | | | No. This habitat does not occur within the study area. |

SOURCES: CNDDB, 2024, USFWS 2024, CNPS, 2024.

NOTES:

USGS 7.5- minute quads St. Helena, Chiles Valley, Lake Berryessa, Rutherford, Yountville, Capell Valley, Sonoma, Napa and Mount George.

STATUS CODES:

FEDERAL:
FE= Federally Endangered
FT= Federally Threatened
PE=Proposed Endangered
PT=Proposed Threatened
FC = Candidate for federal listing

STATE:
CT = Listed as Threatened by the State of California
CE= Listed as Endangered by the State of California
CC = California Candidate for Listing
CSC = California Species of Special Concern
FP= California Department of Fish and Wildlife designated “fully protected”

OTHER:

California Native Plant Society (CNPS) California Rare Plant Ranks (CRPR):
1A = Presumed extirpated in California; Rare or extinct in other parts of its range.
1B = Rare, threatened, or endangered throughout range; Most species in this rank are endemic to California.
2B = Rare, threatened, or endangered in California but common in other parts of its range.
.1 = Seriously endangered in California
.2 = Fairly endangered in California
.3= Not very threatened in California

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