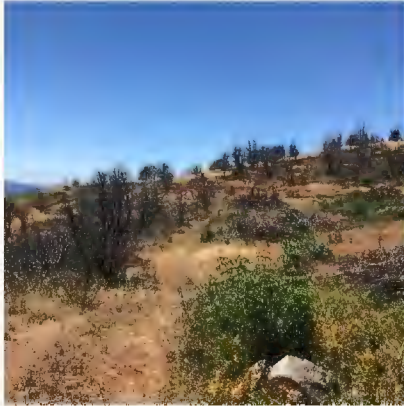


Exhibit B-1

Biological Resources Reconnaissance Survey

4473 Atlas Peak Road (APN 032-540-034)

Napa County, California



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February 2024 – Revised June 2024

WRA Project # 31071

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EXECUTIVE SUMMARY

This report details the regulatory background, methods, results, and recommendations of a Biological Resources Reconnaissance Survey located at 4473 Atlas Peak Road (Study Area) in Napa County, California. WRA, Inc. performed field surveys in March, April and June of 2021, and December 2023. The Study Area is composed primarily of oak forest, chaparral, and non-native grassland land covers; three developed springs are also present. The proposed project involves development of three vineyard blocks comprising 19.8 net acres of vines within approximately 26 acres of total disturbance limits (Project Area).

Of a total of approximately 68 acres of oak forest land cover across the property, 3.2 acres of oak forest, (approximately 5 percent) are proposed to be converted to vineyard and associated infrastructure. This total is well within the minimum 70 percent canopy retention and 75 percent (3:1) preservation ratios required by Napa County Code. The remainder of the vineyard development area is situated in the non-sensitive land covers of non-native grassland and toyon chaparral.

A protocol-level botanical survey found that no special-status plant species are present within the Study Area, so no impacts to such species will occur.

Additionally, two special-status bats and two special-status birds, as well as non-status birds with baseline legal protections, have the potential to occur in the Study Area and Project Area. Mitigation measures and best management practices have been developed and provided herein to avoid impacts to these resources.

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Definitions

Study Area: The area throughout which the assessment was performed, i.e., the subject parcel (APN 032-540-034) totaling approximately 98 acres.

Project Area: The area encompassing the proposed project (vineyard blocks grading limit); the area evaluated for potential impacts to sensitive biological resources, totaling approximately 26 acres.

List of Abbreviations & Acronyms

BGEPA	Bald and Golden Eagle Protection Act
BIOS	Biogeographic Information and Observation System
BRRS	Biological Resources Reconnaissance Survey
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CECP	California Essential Connectivity Project
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
County	County of Napa
Corps	U.S. Army Corps of Engineers
CSRL	California Soils Resources Lab
CWA	Clean Water Act
EFH	Essential Fish Habitat
ESA	(Federal) Endangered Species Act
MBTA	Migratory Bird Treaty Act
NCBDR	Napa County Baseline Data Report
NOAA	National Oceanic and Atmospheric Administration
NMFS	National Marine Fisheries Service
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
NWPL	National Wetland Plant List
OHWM	Ordinary High Water Mark
Rank	California Rare Plant Ranks
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
SFP	State Fully Protected Species
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group
WRA	WRA, Inc.

1.0 INTRODUCTION

On March 26, April 23, and June 23, 2021, and December 8, 2023, WRA, Inc. (WRA) performed an assessment of biological resources at 4473 Atlas Peak Road (APN 032-540-034; hereafter Study Area) in Napa County California (Figure A-1, Appendix A). The purpose of this study was to gather the information necessary to complete a review of biological resources under the California Environmental Quality Act (CEQA) to meet the guidelines outlined by Napa County in *Guidelines for Preparing Biological Resources Reconnaissance Surveys* (Napa County 2016a) and *Guidelines for Preparing Special-status Plant Studies* (Napa County 2016b).

A biological resources reconnaissance survey (BRRS) provides general information on the presence, or potential presence, of sensitive species and habitats. These survey(s) contain the results of a focused protocol-level survey for listed plant species in the Study Area; however, protocol-level surveys for wildlife were not included as part of the survey. This survey is not a formal wetland delineation; in instances where such a delineation may be required for project approval by local, state, or federal agencies, results would be reported herein, but may be presented elsewhere in separate reports. This survey is based on information available at the time of the study and on-site conditions that were observed on the date(s) the site was visited.

This report describes the results of the site visits, which assessed the Study Area for (1) the presence of sensitive land cover types, (2) the potential for land cover types on the site to support special-status plant and wildlife species, and (3) the presence of any other sensitive natural resources protected by local, state, or federal laws and regulations. Special-status species observed during the site assessment were documented and their presence is discussed herein. Specific findings on the habitat suitability or presence of special-status species or sensitive habitats may require that protocol-level surveys or other studies be conducted; recommendations for additional studies are provided, if necessary.

The proposed project (Project) involves the installation of three vineyard blocks totaling approximately 19.8 net acres (25.3 gross acres), along with a new access road resulting in approximately 26 acres of total disturbance limits. Associated with the installation of the grape vines will be vineyard avenues, irrigation lines, etc. Site preparation (ripping, installation of erosion control measures, seeding cover crop, and installation of irrigation pipelines and trellis) will occur during the grading window of April 1 through September 15. By September 15, the site will be winterized with placement of straw wattles, seeding of vineyard avenues and planting areas, and straw mulch spread over disturbed areas as required by the ECP prepared for the Project.

2.0 REGULATORY BACKGROUND

This report is intended to facilitate conformance of the Project with the standards outlined in the Napa County Code and General Plan. In addition to the requirements of Napa County, the Project may also be subject to several federal and state regulations designed to protect sensitive natural resources. Full analysis of these requirements in the context of the Project is addressed herein.

2.1 Federal and State Regulatory Setting

2.1.1 Sensitive Land Cover Types

Land cover types are herein defined as those areas of a particular vegetation type, soil or bedrock formation, aquatic features, and/or other distinct phenomena. Typically, land cover types have identifiable boundaries that can be delineated based on changes in plant assemblages, soil or rock types, soil surface or near-surface hydroperiod, anthropogenic or natural disturbance, topography, elevation, etc. Many land cover types are not considered sensitive or otherwise protected under the environmental regulations discussed here. However, these land cover types typically provide essential ecological and biological functions for plants and wildlife, including, frequently, special-status species. Those land cover types that are considered or protected under one or more environmental regulations are discussed below.

Waters of the United States: The United States Army Corps of Engineers (Corps) regulates “Waters of the United States” under Section 404 of the Clean Water Act (CWA). Waters of the United States are defined in the Code of Federal Regulations (CFR) as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the Corps Wetlands Delineation Manual (Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as “other waters” and are often characterized by an ordinary high water mark (OHWM). Other waters, for example, generally include lakes, rivers, and streams. The placement of fill material into Waters of the United States generally requires an individual or nationwide permit from the Corps under Section 404 of the CWA.

Waters of the State: The term “Waters of the State” is defined by the Porter-Cologne Act as “any surface water or groundwater, including saline waters, within the boundaries of the state.” The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope and has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction includes “isolated” wetlands and waters that may not be regulated by the Corps under Section 404. Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact Waters of the State, are required to comply with the terms of the Water Quality Certification determination. If a project does not require a federal permit but does involve dredge or fill activities that may result

in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements. The San Francisco Bay RWQCB, which has jurisdiction over projects in the Napa River watershed, recently adopted the General Permit for Vineyard Properties in the Napa River and Sonoma Creek Watersheds to comply with the WDRs for sediment and nutrient discharge from vineyards.

Streams, Lakes, and Riparian Habitat: Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by CDFW under Sections 1600-1616 of California Fish and Game Code (CFGC). Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term “stream”, which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life [including] watercourses having a surface or subsurface flow that supports or has supported riparian vegetation” (14 CCR 1.72). In addition, the term “stream” can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG 1994). “Riparian” is defined as “on, or pertaining to, the banks of a stream.” Riparian vegetation is defined as “vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself” (CDFG 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

Sensitive Natural Communities: Sensitive natural communities not discussed above include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. CDFW ranks sensitive communities as “threatened” or “very threatened” (CDFG 2010, CDFW 2018a) and keeps records of their occurrences in its California Natural Diversity Database (CNDDB; CDFW 2018a). CNDDB vegetation alliances are ranked 1 through 5 based on NatureServe’s (2018) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or U.S. Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3, Appendix G). The Napa County Baseline Data Report (NCBDR) identifies sensitive Napa County natural communities, discussed further in Section 2.2 below (Napa County 2005).

2.1.2 Special-status Species

Plants: Special-status plants include taxa that have been listed as endangered or threatened, or are formal candidates for such listing, under the federal Endangered Species Act (ESA) and/or California Endangered Species Act (CESA). The California Native Plant Protection Act (CNPPA) lists 64 “rare” or “endangered” and prevents “take”, with few exceptions, of these species. Plant species on the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (Inventory) with California Rare Plant Ranks (Rank) of 1, 2, and 3 are also considered special-status plant species and must be considered under CEQA. Rank 4 species are typically only afforded protection under CEQA when such species are particularly unique to the locale (e.g., range limit, low abundance/low frequency, limited habitat) or are otherwise considered locally rare. A description of the CNPS Ranks is provided below in Appendices B and C. Additionally, any plant

species listed as sensitive within the Napa County General Plan or NCBDR are likewise considered sensitive.

Wildlife: As with plants, special-status wildlife includes species/taxa that have been listed or are formal candidates for such under ESA and/or CESA. The federal Bald and Golden Eagle Protection Act provides relatively broad protections to both of North America's eagle species (bald [*Haliaeetus leucocephalus*] and golden eagle [*Aquila chrysaetos*]) that in some regards are similar to those provided by ESA. The CFGC designates some species as Fully Protected (SFP), which indicates that take of that species cannot be authorized through a state permit. Additionally, CDFW Species of Special Concern (species that face extirpation in California if current population and habitat trends continue) are given special consideration under CEQA and therefore considered special-status species. In addition to regulations for special-status species, most native birds in the United States, including non-status species, have baseline legal protections under the Migratory Bird Treaty Act of 1918 and CFGC, i.e., sections 3503, 3503.5 and 3513. Under these laws/codes, the intentional harm or collection of adult birds as well as the intentional collection or destruction of active nests, eggs, and young is illegal. For bat species, the Western Bat Working Group (WBWG) designates conservation status for species of bats, and those with a high or medium-high priority are typically given special consideration under CEQA. Finally, wildlife species/taxa named as "locally rare" in the NCBDR (Napa County 2005) are also treated as special-status for purposes of this assessment.

Critical Habitat, Essential Fish Habitat, and Wildlife Corridors: Critical habitat is a term defined in the ESA as a specific and formally-designated geographic area that contains features essential for the conservation of a threatened or endangered species, and that may require special management and protection. The ESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. Note that designated critical habitat areas that are currently unoccupied by the species but which are deemed necessary for the species' recovery are also protected by the prohibition against adverse modification.

The Magnuson-Stevens Fishery Conservation and Management Act ("Magnuson-Stevens Act") provides for conservation and management of fishery resources in the U.S. This Act establishes a national program intended to prevent overfishing, rebuild overfished stocks, ensure conservation, and facilitate long-term protection through the establishment of Essential Fish Habitat (EFH). EFH consists of aquatic areas that contain habitat essential to the long-term survival and health of fisheries, which may include the water column, certain bottom types, vegetation (e.g. eelgrass (*Zostera* spp.)), or complex structures such as oyster beds. Any federal agency that authorizes, funds, or undertakes action that may adversely affect EFH is required to consult with NMFS.

Movement and migratory corridors for native wildlife (including aquatic corridors) as well as wildlife nursery sites are given special consideration under CEQA. Additionally, the NCBDR (Napa County 2005) outlines important corridor resources within the County and encourages protection of these resources via Policy CON-18 (see section 2.2 below).

2.2 Napa County Regulatory Setting

Napa County General Plan and Napa County Code: Natural resource use in Napa County is regulated by the Napa County General Plan (Napa County 2008). Below are relevant policies from the General Plan pertaining to wetlands and biological resources which may be applicable to the Project.

Napa County Baseline Data Report

Specific sensitive Land Cover Types are identified in the NCBDR (Napa County 2005). In addition to those Land Cover Types identified by CDFW, the NCBDR also identifies biotic communities of limited distribution that “encompass less than 500 acres of cover within the County and are considered by local biological experts to be worthy of conservation” (Napa County 2005).

Natural Resource Goals and Policies

Policy CON-13: The County shall require that all discretionary residential, commercial, industrial, recreation, 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:
 - a. Sufficient dissolved oxygen in the water.
 - b. Adequate amounts of proper food.
 - c. Adequate amounts of feeding, escaping, and nesting habitat.
 - d. Proper temperature through maintenance and enhancement of streamside vegetation volume flows, and velocity of water.
- b) 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 streams side areas, in good condition.
- c) Provide protection for habitat supporting special-status species through buffering or other means.
- d) Provide replacement habitat of like quantity and quality on- or off-site for special-status species to mitigate impacts to special-status species.
- e) 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.
- f) Require temporary or permanent buffers of adequate size (based on the requirements of the special-status species) to avoid nest abandonment of birds and raptors associated with construction and site development activities.
- g) Demonstrate compliance with applicable provisions and regulations of recovery plans for listed species.

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.
- b) Outside of sensitive domestic water supply drainages, streamlined permitting procedures should be instituted for new vineyard projects that voluntarily retain valuable habitat and connectivity, including generous setbacks from streams and buffers around ecologically sensitive areas.
- 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.

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-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 agriculture projects.
- b) Comply with the Oak Woodlands Preservation Act 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 the residential, commercial, and industrial approvals.
- c) Provide replacement of lost oak woodlands or preservation of like habitat at a 2:1 ratio [effectively 3:1 ratio¹] 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 production be left standing.
- e) Maintain, 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.

General Provisions – Stream and Wetland Setbacks

Napa County Code 18.108.025 requires stream setbacks for new land clearings for agricultural purposes. “Stream” is defined by Napa County (18.108.030) as: (1) a watercourse designated by a solid line or dash and three dots symbol on the largest scale of the United State Geological Survey (USGS) maps most recently published, or any replacement to that symbol (i.e., USGS “blue-line”); (2) any watercourse which has a well-defined channel with a depth greater than four feet and banks steeper than 3:1 and contains hydrophilic 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. No clearing of land for new agricultural uses as defined by Section 18.08.040 shall take place within the following setbacks from streams:

¹ Amendments to Napa County Ordinance 18.108 require a 3:1 ratio for preservation/replacement; see “Water Quality and Tree Protection Ordinance” on page 8.

Table 1. Napa County Stream Setbacks

Slope (Percent)	Required Setback
< 1	35 feet
1--5	45 feet
5--15	55 feet
15--30	65 feet
30--40	85 feet
40--50	105 feet
50--60	125 feet
60--70	150 feet

In 2019, Napa County added to Code Section 18.108.025 the requirement of a 35-foot setback for ephemeral or intermittent streams not meeting Napa County’s criteria for a stream. Likewise, 18.108.026 was added to the Napa County Code to include the requirement of a 50-foot setback from the delineated edge of wetland boundaries. Ordinance No. 1438 adopted by the Board of Supervisors allowed for a one-time exemption from the Ordinance (and therefore the updated stream and wetland setbacks) for projects that are less than 15 percent slope and less than 5 acres.

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 appropriated 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. Where 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.

Water Quality and Tree Protection Ordinance

In 2019, the Napa County Board of Supervisors adopted the Water Quality and Tree Protection Ordinance (WQTPO) modifying Chapter 18.108 Conservation Regulations to provide additional protections to trees and water quality. As noted above, additional setbacks were added for ephemeral and intermittent drainages and wetlands (Chapters 18.108.025 and 18.108.026). In addition, the tree retention required by Chapter 18.108.027 in sensitive domestic water supply drainages was increased from 60 percent to 70 percent based on vegetation that existed within the parcel in 1993. For areas within the Agricultural Watershed zoning district (outside of sensitive water supply drainages), Chapter 18.108.020 subsections C and D were added that require a minimum of 70 percent canopy retention based on vegetation that existed within the parcel in 2016, and the preservation or mitigation of trees (within oak woodland/forest and/or coniferous forest land covers) at a minimum 3:1 ratio. Ordinance No. 1438 allowed for a one-time exemption from the Ordinance (and therefore the updated stream setbacks, wetland setbacks, and vegetation retention requirements) for projects that are less than 30 percent slope and less than 5 acres.

3.0 ENVIRONMENTAL SETTING

The approximately 98-acre Study Area consists of a single parcel (see Appendix A). It is in central Napa County, approximately thirteen aerial miles southeast of downtown St. Helena and ten miles north of downtown Napa. The Study Area is situated in the Howell Mountains of Napa County on the eastern flank of Atlas Peak, leading into Capell Valley. Detailed descriptions of the local setting are below.

3.1 Topography and Soils

The overall topography of the Study Area gently to moderately sloped, ranging from approximately 2,030 to 2,530 feet above sea level. According to the *Soil Survey of Napa County* (USDA 1978) and as shown in Figure A-2 (Appendix A), the Study Area is underlain by five soil mapping units: Aiken loam, 2 to 15 percent slopes; Aiken loam, 15 to 30 percent slopes; Aiken loam, 30 to 50 percent slopes; Hambright rock-Outcrop complex, 30 to 75 percent slopes; and Henneke gravelly loam, 30 to 75 percent slopes. The parent soil series of all the Study Area's mapping units are summarized below.

Aiken Series: This series consists of very deep loamy soils that formed in residuum weathered from volcanic rock situated on upland hillsides at elevations ranging from 1,200 to 5,000 feet (CSRL 2024, USDA 1978). These soils are not hydric, and are well drained with slow to rapid runoff, and moderately slow permeability. Native and naturalized vegetation associated with this series consists of coniferous and hardwood forests of ponderosa pine (*Pinus ponderosa*), Douglas fir (*Pseudotsuga menziesii*), incense cedar (*Calocedrus decurrens*), white fir (*Abies concolor*), California black oak (*Quercus kelloggii*), and Pacific madrone (*Arbutus menziesii*). Typical land uses are timber, orchards, watershed protection, and open space (USDA 1978).

Hambricht series: This series consists of shallow, very stony loam soils formed from weathered basic igneous rock on plateaus, basalt flows, and hillslopes at elevations ranging from 400 to 2,500 feet elevation (CSRL 2024, USDA 1978). These soils are not considered hydric, and are well drained with moderate permeability and medium to rapid runoff (USDA 2014, USDA 1978). Native vegetation on this series typically includes annual grasses and forbs with a few blue oaks (*Quercus douglasii*) and shrubs, and predominant land use is grazing (USDA 1978).

Henneke Series: This series consists of shallow gravelly loam soils formed from residuum weathered from ultramafics situated on upland mountain slopes at elevations ranging from 500 to 4,000 feet. These soils are not considered hydric, and are well drained with medium to very rapid runoff, and moderately slow to slow permeability (USDA 2012, USDA 1972). Native and naturalized vegetation associated with this series includes digger pine (*Pinus sabiniana*), knobcone pine (*P. attenuata*), Coulter pine (*P. coulteri*), McNab cypress (*Hesperocyparis macnabiana*), Sargent cypress (*H. sargentii*), blue oak (*Quercus douglasii*), leather oak (*Q. durata*), whiteleaf manzanita (*Arctostaphylos canescens*), musk brush (*Ceanothus jepsonii*), and toyon (*Heteromeles arbutifolia*); herbaceous cover is generally sparse, dominated by natives, and situated in openings. Predominant land uses included quarrying, watershed, wildlife habitat, and open space (USDA 1972).

3.2 Climate and Hydrology

The Study Area is located above the valley fog incursion zone of Napa County. The average monthly maximum temperature of Napa State Hospital is 82.8 degrees Fahrenheit, while the average monthly minimum temperature is 48.1 degrees Fahrenheit. Predominantly, precipitation falls as rainfall with an annual average of 26.5 inches. Precipitation-bearing weather systems are predominantly from the west and south with most of the rain falls between November and March, combining for an of 22.08 inches for this period (USDA 2024).

The local watershed is Capell Creek (HUC 12: 180201620401) and the regional watershed is Middle Putah Creek (HUC 8: 18050002). The Study Area is situated in the Napa County Planning Watersheds of Milliken Reservoir and Moskowite Reservoir. There is no blue-line streams or other aquatic features mapped on the Yountville or Capell Valley 7.5-minute quadrangles (USGS 2015, USGS 2012). However, there is a mapped Freshwater Emergent Wetland in the National Wetlands Inventory (NWI; USFWS 2024a), and the same feature mapped as Pond and Associated Vegetation in the California Aquatic Resources Inventory (CARI; SFEI 2024). The primary hydrologic sources are direct precipitation and consequent surface sheet flow. Precipitation in the majority of the Study Area infiltrates quickly due to rocky loam soils. The entire property was investigated for aquatic resources, with a particular focus on the area denoted in the NWI and CARI; detailed descriptions of aquatic resources are in Section 5.1 below.

3.3 Land Cover and Land Use

The Study Area is predominantly undeveloped woodland, chaparral, and grassland, with a portion of existing development. The developed areas in the includes a single-family residence, outbuildings, access road, and associated infrastructure. The boundary of the property is Atlas Peak Road to the east and north, and native or naturalized habitats which are contiguous into neighboring properties. Detailed plant community descriptions are included in Section 5.1 below,

and all observed plant and wildlife species are included in Appendix B. Regional land uses include rural residential, wineries, and vineyards (Google Earth 2024). Historically, land uses in the region were open rangeland of larger ranches, rural residential, vineyards, and orchards. There is no history of intensive agriculture, quarrying, mining, or timbering in the Study Area (Historic Aerials 2024).

4.0 ASSESSMENT METHODS

Prior to the site visits, WRA biologists reviewed the following literature and performed database searches to assess the potential for sensitive natural communities (e.g., wetlands) and special-status species (e.g., endangered plants):

- *Soil Survey of Napa County, California* (USDA 1978)
- Calistoga 7.5-minute quadrangle (USGS 2015)
- Contemporary aerial photographs (Google Earth 2024)
- Historical aerial photographs (Historical Aerials 2024)
- National Wetlands Inventory (NWI; USFWS 2024a)
- California Aquatic Resources Inventory (CARI; SFEI 2024)
- California Natural Diversity Database (CNDDDB; CDFW 2024a)
- California Native Plant Society Electronic Inventory (CNPS 2024a)
- Consortium of California Herbaria (CCH 2024)
- USFWS Information for Planning and Consultation (USFWS 2024b)
- eBird Online Database (eBird 2024)
- CDFW Publication, *California Bird Species of Special Concern in California* (Shuford and Gardali 2008)
- CDFW and University of California Press publication *California Amphibian and Reptile Species of Special Concern* (Thomson et al. 2016)
- *Breeding Birds of Napa County, California* (Smith 2003)
- *A Field Guide to Western Reptiles and Amphibians* (Stebbins 2003)
- *A Manual of California Vegetation, 2nd Edition* (Sawyer et al. 2009)
- *A Manual of California Vegetation Online* (CNPS 2024b)
- *Preliminary Descriptions of the Terrestrial Natural Communities* (Holland 1986)
- Napa County Land Cover (NCLC) map (Thorne et al. 2004)
- *California Natural Community List* (CDFW 2018a)

Database searches (i.e., CNDDDB, CNPS) focused on the St. Helena, Chiles Valley, Lake Berryessa, Rutherford, Yountville, Capell Valley, Sonoma, Napa, and Mt. George USGS 7.5-minute quadrangles for special-status plants. The special-status wildlife evaluation was based on database searches for the entirety of Napa County.

Following the remote assessment, a botanist with 40-hour Corps wetland delineation and wildlife biologist training traversed the entire Study Area on foot to document: (1) land cover types (e.g., terrestrial communities, aquatic resources), (2) if and what type of aquatic natural communities (e.g., wetlands) are present, (3) existing conditions and to determine if such provide suitable

habitat for any special-status plant or wildlife species, and (4) if special-status species are present².

4.1 Land Cover Types

4.1.1 Terrestrial Land Cover Types

Terrestrial land cover types were mapped and evaluated across the entire Study Area. In most instances, communities are delineated based on distinct shifts in plant assemblage (vegetation) and follow the *California Natural Community List* (CDFW 2018a), *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), and *A Manual of California Vegetation, Online Edition* (CNPS 2024b). In some cases, it may be necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature; should an undescribed variant be used, it will be noted in the description.

Vegetation alliances (natural communities) with a CDFW Rank of 1 through 3 (globally critically imperiled (S1/G1), imperiled (S2/G2), or vulnerable (S3/G3), were evaluated as sensitive as part of this evaluation.³ Additionally, any sensitive natural communities as described in the Napa County Baseline Data Report (NCBDR; Napa County 2005) or General Plan (Napa County 2008) were considered.

4.1.2 Aquatic Resources

Aquatic resources include Waters of the U.S., Waters of the State, and Streams, Lakes, and Riparian Habitat as defined in the CWA, Porter-Cologne Act, and CFGC, respectively. Napa County mandates setbacks from these aquatic resources, and therefore requires mapping of the outward extent of such features. This site assessment does not constitute a formal wetland delineation; however, the surveys looked for superficial indicators of wetlands such as hydrophytic vegetation (i.e., plant communities dominated by wetland species), evidence of inundation or flowing water, saturated soils and seepage, and topographic depressions/swales. If sample points were taken, WRA followed the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Corps 2008).

If streams potentially jurisdictional under the CWA and/or the CFGC are noted on a site, they are delineated using a mix of surveyed topography data, high resolution aerial photographs, and a sub-meter GPS unit. The OHWM would be used to determine the extent of potential Section 404 jurisdiction, while the top-of-bank would be used to determine the extent of CFGC Section 1602 and 401. Streams with associated woody vegetation were assessed to determine if these areas would be considered riparian habitat by the CDFW following *A Field Guide to Lake and Streambed Alteration Agreements, Section 1600-1607, California Fish and Game Code* (CDFG 1994). Finally, all streams were assessed to determine if they meet the Napa County definition of “stream” pursuant to Napa County Code 18.108.030.

² Due to the timing of the assessment, it may or may not constitute protocol-level species surveys; see Section 4.2 if the site assessment would constitute a formal or protocol-level species survey.

³ Ranking of CDFW List of Vegetation Alliances is based on NatureServe Rankings (NatureServe 2018).

4.2 Special-status Species

4.2.1 General Assessment

Potential occurrence of special-status species in the Study Area was evaluated by first determining which special-status species occur in the greater vicinity through a literature and database review. Database searches for known occurrences of special-status species focused on the 7.5-minute USGS quadrangles mentioned above for special-status plants and the entirety of Napa County for special-status wildlife.

A preliminary site visit was made on March 26, 2021 to evaluate the presence of suitable habitat for special-status species. Suitable habitat conditions are based on physical and biological conditions of the site, as well as the professional expertise of the investigating biologists. The potential for each special-status species to occur in the Study Area was then determined according to the following criteria:

- No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- Present. Species is observed on the site or has been recorded (i.e. CNDDb, other reports) on the site in the recent past.

If a more thorough assessment was warranted, a targeted or protocol-level assessment or survey was conducted or recommended as a future study. Methods for the assessments are described below. If a special-status species was observed during the site visit, its presence was recorded and discussed below in Section 5.2.

4.2.2 Special-status Plants

To determine the presence or absence of special-status plant species, focused surveys were conducted within the Study Area on March 26, April 15, and June 29, 2021. The surveys correspond to the period sufficient to observe and identify those special-status plants determined to have the potential to occur. The field surveys were conducted by botanists familiar with the flora of Napa and surrounding counties. The surveys were performed in accordance with those outlined by Napa County (2016b), which follow those described by resource experts and agencies (CNPS 2001, CDFW 2018b, USFWS 1996). Plants were identified using *The Jepson Manual, 2nd Edition* (Baldwin et. al. 2012) and Jepson Flora Project (eFlora 2020), to the taxonomic level necessary to determine if

they were sensitive. Plant names follow those of Jepson Flora Project (eFlora 2020), unless otherwise noted.

4.2.3 Special-status Wildlife

A general wildlife assessment was performed on March 26 and June 23, 2021. This assessment consisted of traversing the entirety of the Study Area. Habitat elements required or associated with certain species (e.g., California red-legged frog) or species groups (e.g., bats, anadromous fish) were searched for and noted. Such habitat elements include, but are not limited to plant assemblages and vegetation structure; stream depth, width, hydro-period, slope, and bed-and-bank structure; rock outcrops, caves, cliffs, overhangs, and substrate texture and rock content; history of site alteration and contemporary disturbances; etc.

4.2.4 Critical Habitat, Essential Fish Habitat, and Wildlife Corridors

Prior to the site visit the USFWS Critical Habitat Mapper (USFWS 2024c) and the NMFS Essential Fish Habitat Mapper (NMFS 2024) were queried to determine if critical habitat for any species or EFH, respectively, occurs within the Study Area. To account for potential impacts to wildlife movement/migratory corridors, biologists reviewed maps from the California Essential Connectivity Project (CECP) by Caltrans (2010) and CDFW's Biogeographic Information and Observation System (BIOS) (CDFW 2024b), as well as the NCBDR (Napa County 2005). The CECP maps both 1) "Natural Landscape Blocks," or discrete areas of mostly natural land covers that support biodiversity, and 2) "Essential Connectivity Areas" that provide ecological connectivity between the former. Additionally, aerial imagery (Google 2024) for the local area was referenced to assess if local core habitat areas were present within or connected to the Study Area. This assessment was refined based on observations of on-site physical and/or biological conditions.

5.0 ASSESSMENT RESULTS

5.1 Land Cover Types

Land cover types observed by WRA within the Study Area are shown in Figure A-3, and land covers overlain with the Project's limits of disturbance in Figure A-4 (Appendix A). Five land cover types are present: developed, non-native grassland, toyon chaparral, California black forest, and developed spring. The Project Area (vineyard blocks and clearing limits) has been intentionally sited to avoid all sensitive aquatic resources and limit impacts to oak forest canopy.

5.1.1 Terrestrial Land Cover Types

Developed Area (no vegetation alliance). CDFW Rank: None. Within the Study Area, the developed portion is composed of a single residence, an outbuilding, associated infrastructure, and an access road. The vegetation and soils are highly altered, consisting of overhanging native trees, landscape species, and disturbance tolerant herbs. Species include California black oak (*Quercus kelloggii*), California bay (*Umbellularia californica*), daffodil (*Narcissus pseudonarcissus*), hairy bittercress (*Cardamine hirsuta*), and spotted burclover (*Medicago arabica*). The developed area totals 0.9

acre in the Study Area and 0.8 acre in the Project Area (approximately 89 percent of the total land cover type in the Study Area). This community is synonymous with the Urban/Built-up biotic community in the NCLC (Thorne et al. 2004). This community is not considered sensitive by Napa County, CDFW, or any other regulatory entity.

Non-native Annual Grassland – Wild Oat Grassland (*Avena barbata* Semi-Natural Herbaceous Stands). CDFW Rank: None: Non-native grasslands occur throughout cismontane California, particularly in the Sierra Foothills, Coast Range, Transverse Range, and Peninsular Ranges (Sawyer et al. 2009, CNPS 2024b). These grasslands situated on a variety of landscapes including coastal terraces, valley bottoms, and foothills underlain by a variety of soil types. The Study Area contains 19.4 acres of this community type, of which 15.7 acres are situated in the Project Area (approximately 81 percent of the total land cover type in the Study Area).

The dominant cover is the herbaceous layer, which is dominated by non-native grasses of wild oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), dogtail grass (*Cynosurus echinatus*), and Italian rye grass (*Festuca perennis*). Native wildflowers are not uncommon in portions of the grassland including miniature lupine (*Lupinus bicolor*), baby blue eyes (*Nemophila menziesii*), California poppy (*Eschscholzia californica*), common soap plant (*Chlorogalum pomeridianum*), and common yarrow (*Achillea millefolium*).

This community is synonymous with the California Annual Grasslands Alliance biotic community in the NCLC (Thorne et al. 2004). These grasslands provide habitat for numerous common native plants and wildlife, as well as have the potential to support several special-status species associated with grasslands. These grasslands are not considered sensitive by the CDFW or Napa County.

Toyon Chaparral (*Heteromeles arbutifolia* Shrubland Alliance). CDFW Rank: G4 S4: Toyon chaparral is known from the Interior Coast Range, Sierra Nevada Foothill, and Transverse Range (Sawyer et al. 2009, CNPS 2024b). These chaparrals are situated on steep slopes underlain by rocky loams from a variety of rock types. The Study Area contains 9.7 acres of this community type, of which 6.4 acres are situated in the Project Area (approximately 66 percent of the total land cover type in the Study Area).

The dominant cover is the shrub and small tree layer, particularly toyon (*Heteromeles arbutifolia*), California bay (*Umbellularia californica*), common manzanita (*Arctostaphylos manzanita* ssp. *manzanita*), coyote brush (*Baccharis pilularis*), and poison oak (*Toxicodendron diversilobum*). There is a substantial herbaceous layer due to the burned nature of the shrubs. Herbs are predominantly weedy non-natives, including Italian thistle (*Carduus pycnocephalus*), yellow star thistle (*Centaurea solstitialis*), prickly lettuce (*Lactuca serriola*), wild oat (*Avena barbata*), rip-gut brome (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), and brome fescue (*Festuca bromoides*).

This community is synonymous with the Scrub Interior Live Oak-Scrub Oak-(California Bay-California Ash-Birch Leaf Mountain Mahogany-Toyon-California Buckeye) Mesic East County NFD Super Alliance biotic community in the NCLC (Thorne et al. 2004). These chaparrals provide habitat for numerous common native plants and wildlife, as well as the potential to support several

special-status plants. The CDFW does not consider toyon chaparral a sensitive natural community. Likewise, it is not considered sensitive by Napa County.

California Black Oak Forest (*Quercus kelloggii* Forest Alliance). CDFW Rank: G4 S4: California black oak woodlands (including forests) are known from the Coast Ranges, Transverse Range, Peninsular Ranges, Klamath Range, Cascade Range, west and east slopes of the Sierra Nevada, and Modoc Plateau. These woodlands typically occur on all aspects and topographic gradients with sites underlain by moderately to excessively drained soils. The Study Area contains 67.9 acres of this community type, of which 3.2 acres are situated in the Project Area (approximately five percent of the total land cover type in the Study Area).

The dominant tree in the canopy is California black oak (*Quercus kelloggii*), with secondary cover of coast live oak (*Quercus agrifolia*), canyon live oak (*Quercus chrysolepis*), Pacific madrone (*Arbutus menziesii*), and California bay (*Umbellularia californica*). The understory is interspersed with native shrubs and an open herbaceous layer. Understory shrubs include common manzanita (*Arctostaphylos manzanita* ssp. *manzanita*), toyon (*Heteromeles arbutifolia*), and poison oak (*Toxicodendron diversilobum*). The herbaceous layer is dominated by a mix of grasses and forbs, including California fescue (*Festuca californica*), dogtail grass (*Cynosurus echinatus*), blue dicks (*Dichelostemma capitatum*), ookow (*Dichelostemma congestum*), common yarrow (*Achillea millefolium*), blue-eyed Mary (*Collinsia sparsiflora* var. *sparsiflora*), baby blue eyes (*Nemophila menziesii*), and Pacific pea (*Lathyrus vestitus*).

This land cover type is synonymous with the California Black Oak Alliance biotic community in the NCLC (Thorne et al. 2004). These woodlands provide habitat for numerous common native plants and wildlife, as well as have the potential to support several special-status species associated with oak woodlands. Napa County considers these woodlands to be sensitive natural communities, while they are not explicitly considered sensitive according to the CDFW.

5.1.2 Aquatic Resources

Developed Springs. CDFW Rank: None. Developed springs are common throughout cismontane California, particularly in rural residential and livestock agricultural regions. The Study Area contains three developed springs that provided potable water to residences and livestock.⁴ Due to overflowing water troughs and a leaky pipe, there was active wetland hydrology with some localized saturated soils and a few hydrophytes immediately downslope of the springs; however, the hydrology is artificial (leak/overflow) and there are no indicators of hydric soils (e.g., iron oxides, depletions). Due to artificial hydrology and lack of hydric soil indicators, these features would not be considered jurisdictional under the CWA.

⁴ Two of the developed springs were observed in 2021 and subsequently in December 2023; a third developed spring that was previously obscured by ruderal vegetation (thinned in 2024) is also present and has been added to land cover mapping.

5.2 Special-status Species

5.2.1 Special-status Plant Species

Based upon a review of the resource databases listed in Section 4.0, 75 special-status plant species have been documented in the vicinity of the Study Area. As outlined in Appendix C, twenty-eight of these plants have the potential to occur in the Study Area.⁵ The remaining 47 special-status plants documented from the greater vicinity are unlikely or have no potential to occur for one or more of the following:

- Hydrologic conditions (e.g., tidal, riverine) necessary to support the special-status plant species are not present in the Study Area
- Edaphic (soil) conditions (e.g., volcanic tuff, serpentine) necessary to support the special-status plant species are not present in the Study Area
- Topographic conditions (e.g., north-facing slope, montane) necessary to support the special-status plant species are not present in the Study Area
- Unique pH conditions (e.g., alkali scalds, acidic bogs) necessary to support the special-status plant species are not present in the Study Area
- Associated natural communities (e.g., interior chaparral, tidal marsh) necessary to support the special-status plant species are not present in the Study Area
- The Study Area is geographically isolated (e.g. below elevation, coastal environ) from the documented range of the special-status plant species
- Land use history and contemporary management (e.g., absence of mowing or grazing) has degraded the localized habitat necessary to support the special-status plant species

WRA biologists conducted several site visits during a period sufficient to identify all 28 special-status plant species with the potential to occur within the Study Area. No special-status plants were observed during these surveys, and as such these species are considered absent at the site. The following is a list of those plants with the potential to occur within the Study Area but were not observed during surveys conducted in spring and summer 2024.

- Henderson's bent grass (*Agrostis hendersonii*); CRPR 3
- Franciscan onion (*Allium peninsulare* var. *franciscanum*); CRPR 1B
- Napa false indigo (*Amorpha californica* var. *napensis*); CRPR 1B
- Bent-flowered fiddleneck (*Amsinckia lunaris*); CRPR 1B
- Rincon manzanita (*Arctostaphylos stanfordiana* ssp. *decumbens*); CRPR 1B
- Clara Hunt's milk-vetch (*Astragalus claranus*); FE, ST, CRPR 1B
- Big-scale balsamroot (*Balsamorhiza macrolepis*); CRPR 1B
- Narrow-anthered Brodiaea (*Brodiaea leptandra*); CRPR 1B
- Brewer's calandrinia (*Calandrinia breweri*); CRPR 4
- Holly-leaved ceanothus (*Ceanothus purpureus*); CRPR 1B
- Streamside daisy (*Erigeron biolettii*); CRPR 3
- Greene's narrow-leaved daisy (*Erigeron greenei*); CRPR 1B

⁵ As per these databases, there are no documented occurrences of special-status mosses, bryophytes or lichens in Napa County.

- St. Helena fawn lily (*Erythronium helenae*); CRPR 4
- Nodding harmonia (*Harmonia nutans*); CRPR 4
- Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*); CRPR 1B
- Sharsmith's western flax (*Hesperolinon sharsmithiae*); CRPR 1B
- Bristly leptosiphon (*Leptosiphon aureus*); CRPR 4
- Jepson's leptosiphon (*Leptosiphon jepsonii*); CRPR 1B
- Broad-lobed leptosiphon (*Leptosiphon latisectus*); CRPR 4
- Redwood lily (*Lilium rubescens*); CRPR 4, LR
- Hoover's lomatium (*Lomatium hooveri*); CRPR, LR
- Cobb Mountain lupine (*Lupinus sericatus*); CRPR 1B
- Heller's bush-mallow (*Malacothamnus helleri*); CRPR 4
- Mt. Diablo cottonweed (*Micropus amphibolus*); CRPR 3
- Green monardella (*Monardella viridis*); CRPR 4
- Napa checkerbloom (*Sidalcea hickmanii* ssp. *napensis*); CRPR 1B
- Dark-mouthed Tritoleia (*Triteleia lugens*); CRPR 4, LR
- Oval-leaved viburnum (*Viburnum ellipticum*); CRPR 2B

5.2.2 Special-status Wildlife Species

A total of 58 special-status wildlife species have been documented in Napa County (CDFW 2021a, Napa County 2005). As outlined in Appendix C none of these species were observed during WRA's site visits to the Study Area, though four have the potential to occur there. The remaining 54 species are unlikely or have no potential to occur due to one or more of the following reasons:

- Aquatic habitats (e.g., rivers, estuaries, ponds) necessary to support the special-status wildlife species are not present in the Study Area
- Vegetation habitats (e.g., coast redwood forest, coastal prairie, emergent marsh) that provide nesting and/or foraging resources necessary support the special-status wildlife species are not present in the Study Area
- Physical structures and vegetation (e.g., mines/caves, riparian forest) necessary to provide nesting, cover, and/or foraging habitat to support the special-status wildlife species are not present in the Study Area
- Host plants (e.g., dog violet, harlequin lotus) necessary to provide larval and nectar resources for the special-status wildlife species are not present in the Study Area
- The Study Area is outside (e.g., north of, west of) of the special-status wildlife species documented nesting range

Special-status Wildlife with Potential to Occur

Pallid bat (*Antrozous pallidus*). CDFW Species of Special Concern, WBWG High Priority. Moderate Potential. The pallid bat is widely distributed throughout western North America and occurs in various habitats ranging from rocky arid deserts to grasslands, and into higher elevation coniferous forests. Roosts are typically in rock crevices, tree hollows, mines, caves, and a variety of man-made structures, including vacant and occupied buildings. Tree roosting has been documented within snags and basal hollows of conifers, and within bole cavities in oak trees. Pallid bats are primarily insectivorous, feeding on

large prey that is usually taken on the ground but sometimes in flight. Prey items include arthropods such as scorpions, ground crickets, and cicadas (WBWG 2021). Trees within the Study Area (larger, more aged oaks) may contain cavities or snags suitable for roosting by this species, and there are CNDDDB occurrences in the vicinity (CDFW 2021a). A targeted bat habitat assessment was not performed under this biological assessment.

Fringed myotis (*Myotis thysanodes*). WBWG High Priority. Moderate Potential. The fringed myotis ranges throughout much of western North America. This species is found in desert scrubland, grassland, sage-grass steppe, old-growth forest, and subalpine coniferous and mixed deciduous forest. Oak and pinyon-juniper woodlands are most commonly used. The fringed myotis roosts in colonies from 10 to 2,000 individuals, although large colonies are rare. Caves, buildings, underground mines, rock crevices in cliff faces, and bridges are used for maternity and night roosts, while hibernation has only been documented in buildings and underground mines. Tree-roosting has also been documented in Oregon, New Mexico, and California (WBWG 2021). Trees within the Study Area (larger, more aged oaks) may contain cavities or exfoliating bark suitable for roosting. A targeted bat habitat assessment was not performed under this biological assessment.

Olive-sided flycatcher (*Contopus cooperi*). CDFW Species of Special Concern. Moderate Potential. The olive-sided flycatcher is a summer resident in California, wintering in Latin America. It breeds in a variety of forested habitats, typically coniferous forests at higher elevations, but also in mixed forest and woodlands at lower elevations. Breeding habitat is often associated with forest openings and edges, both natural (e.g., meadows, canyons) and man-made (e.g., logged areas) (Shuford and Gardali 2008). Nests are usually in conifers and placed at variable height on the outer portions of branches. This species forages for insects, usually from prominent tree snags. The Study Area provides oak forest with tall snags and hard edges (e.g., clearings), and is suitable for nesting.

White-tailed kite (*Elanus leucurus*). CDFW Fully Protected Species. Moderate Potential. White-tailed kite is resident in open to semi-open habitats throughout the lower elevations of California, including grasslands, savannahs, woodlands, agricultural areas, and wetlands. Vegetative structure and prey availability seem to be more important habitat elements than associations with specific plants or vegetative communities (Dunk 1995). Nests are constructed mostly of twigs and placed in trees, often at habitat edges. Nest trees are highly variable in size, structure, and immediate surroundings, ranging from shrubs to trees greater than 150 feet tall (Dunk 1995). This species preys upon a variety of small mammals, as well as other vertebrates and invertebrates. The Study Area provides suitable year-round habitat for white-tailed kites, including stands of oak forest for nesting and open areas in close proximity for foraging. This species was not observed during site visits but could occur on-site in the future.

5.2.3 Critical Habitat, Essential Fish Habitat, and Wildlife Corridors

The Study Area does not contain any designated Critical Habitat (USFWS 2024c, NMFS 2024) or Essential Fish Habitat (NMFS 2024). As per mapping by the CECP, the Study Area is within an Essential Connectivity Area providing landscape-linkage (course) scale connectivity between Natural Landscape Blocks located in bayland areas north of San Pablo Bay, and northern Napa

County northward, respectively (Caltrans 2010 and CDFW 2024b). In total the focal Essential Connectivity Area is a large, north-south oriented tract of land centered on the hills east of Napa Valley. The Study Area is located roughly in the center (from east to west) of this mapped element, which is approximately 8.5 miles wide in that vicinity. At a localized scale the Study Area provides connectivity between undeveloped lands to the north and south/southeast, primarily in the form of oak-dominated woodland/forest land covers capable of hosting a variety of wildlife species. Due to agricultural and low-density residential development to the immediate east (along Atlas Peak Road), potential corridor functions between lands to the east and the Study Area are much more limited.

6.0 PROJECT ANALYSIS AND RECOMMENDATIONS

6.1 Land Cover Types

6.1.1 Terrestrial Land Cover Types

California Black Oak Forest

California black oak woodlands are not explicitly considered sensitive by CDFW or included as sensitive in the NCBDR; however, the Napa County General Plan Conservation Element Policy CON-24 requires that oak woodland be maintained and/or improved to the extent feasible to provide for oak woodland and wildlife habitat, slope stabilization, soil protection, and species diversity. Policy CON-24c specifically calls for the preservation of oak woodland (on an acreage basis) at a 2:1 ratio. Code Section 18.108.020(C) requires that 70 percent of canopy cover be retained based on the on-site canopy present on June 16, 2016. Code Section 18.108.020(D) requires that the removal of tree canopy on an acreage basis be mitigated at a 3:1 ratio (which is equivalent to 75 percent retention) where the areas to be preserved must generally occur on slopes less than 50 percent and outside of stream and wetland setbacks. The Project was designed to be in compliance with both the 70 percent retention and the 3:1 tree preservation requirements, and therefore no further recommendations are needed to ensure compliance with the County Code.

The Study Area contains 67.9 acres of oak woodland; to ensure that a 3:1 ratio is maintained of 3 acres of oak woodland preserved for each 1 acre impacted, only 17.0 acres can be converted to vineyard or otherwise impacted. The Project Area currently contains 3.2 acres of oak woodland in total and was designed to comply with the 3:1 ratio; therefore, no further recommendations are required.

6.1.2 Aquatic Resources

The Study Area contains three developed springs that are unlikely to be considered jurisdictional. These springs provide the property with irrigation resources and will each be protected with a 10-foot buffer. No further actions are recommended for these features.

6.2 Special-status Species

6.2.1 Special-status Plants

No special-status plants were observed within the Study Area doing protocol-level botanical surveys in 2021. Consequently, the Project will not impact special-status plants; therefore, there are no further actions recommended for such.

6.2.2 Special-status Wildlife

The Study Area has the potential to support four special-status wildlife species (two bats and two birds), as well as non-status birds protected under the MBTA and CFGC. The following measures are recommended to avoid or otherwise minimize potential impacts to these species.

Bat Species: Two special-status bats have the potential to occur within the Study Area (pallid bat, fringed myotis). Removal and trimming of trees during the local bat maternity season (generally, April through August) could impact bat breeding and potentially result in the take of bats. Because a targeted bat habitat assessment was not conducted as part of this biological assessment, pre-construction surveys for bat habitat and recommendations for tree removal to avoid impacts to bat species are provided below.

Recommendation 1: WRA recommends that any tree removal be performed from September through March, outside of the general bat maternity season. If tree removal during this period is not feasible, it is recommended that a bat habitat assessment and survey effort (the latter if needed) be performed by a qualified biologist prior to tree removal to determine if bats are present in the trees. If no suitable roosting habitat for bats is found, then no further study is warranted. If special-status bat species or bat maternity roosts are detected, then roost trees should be avoided until the end of the maternity roosting season. If this avoidance is not feasible, appropriate species- and roost-specific mitigation measures should be developed in consultation with CDFW. Irrespective of time of year, all felled trees should remain on the ground for at least 24 hours prior to chipping, off-site removal, or other processing to allow any bats present within the felled trees to escape.

All Bird Species (including non-special-status): In addition to the two special-status bird species discussed above (olive-sided flycatcher and white-tailed kite), various non-status bird species with baseline protections under the MBTA and CFGC may use vegetation within the Project Areas for nesting. Pre-construction surveys are recommended to ensure that the implementation of the Project would not impact any nesting birds.

Recommendation 3: WRA recommends that tree/vegetation removal and initial ground disturbance occur from August 16 to January 31, outside of the general bird nesting season. If tree/vegetation removal during this time is not feasible, a pre-construction nesting bird survey should be performed by a qualified biologist no more than 14 days prior to the initiation of tree removal or ground disturbance is recommended. The survey should cover the Project Area (including tree removal areas) and surrounding areas within 500 feet. If active bird nests are found during the survey, an appropriate no-disturbance buffer should

be established by the qualified biologist. Once it is determined that the young have fledged (left the nest) or the nest otherwise becomes inactive (e.g., due to predation), the buffer may be lifted and work may be initiated within the buffer.

6.2.3 Wildlife Movement

At the landscape-linkage scale, the Study Area is located within a mapped, course-scale corridor that provides connectivity between southern and northern Napa County. The Project (namely the installation of three vineyard blocks) will necessarily remove existing, natural land covers on-site and result in less potential movement area overall. However, most of the site will remain undeveloped, including the bulk of the site's California black oak forest in addition to some areas of chaparral. More specifically, a corridor of black oak-dominated forest oriented roughly north-south will remain intact, resulting in direct connectivity with similar habitats on neighboring (largely undeveloped) properties to the north and south. This on-site corridor will be approximately 750 feet wide at its narrowest point, which will be more than sufficient to allow for continued wildlife movement. While a new access road is proposed through the on-site stand of forest, the road is unlikely to present a movement deterrent. As per the Project's fencing plan (included in the ECP application), the corridor area will not be interrupted by wildlife exclusion fencing or other similar potential movement barriers. Given the relatively small size of the Study Area (relative to the width of the greater corridor tract), the apparent lack of development impacts within the more central portion of this tract, and the retention of the north-south corridor, the Project is not anticipated to result in any potentially significant impacts to wildlife movement or migration.

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Appendix A

Figures

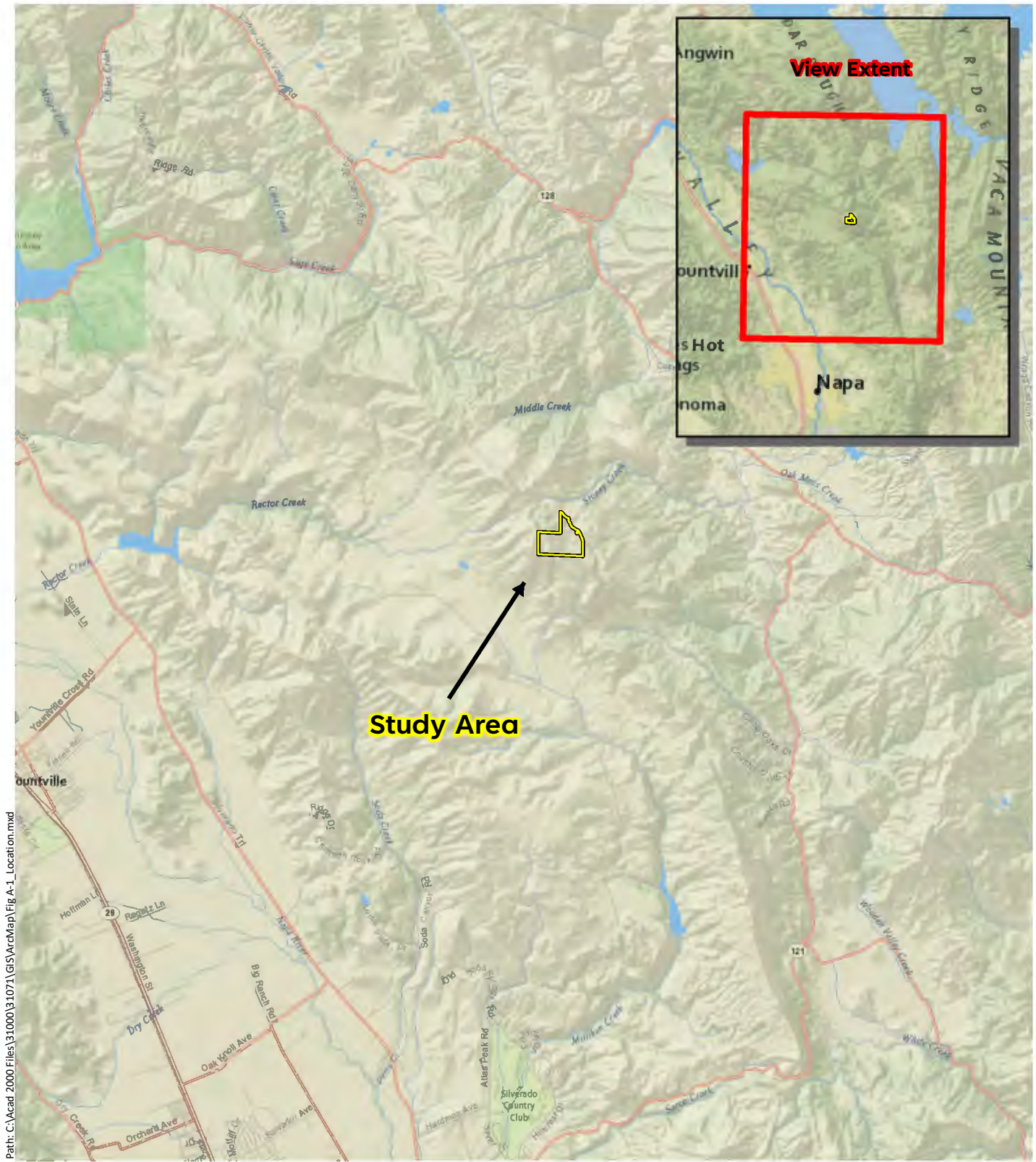


Figure A-1. Study Area Location

4473 Atlas Peak Road
Napa County, CA

0 2 4 Miles



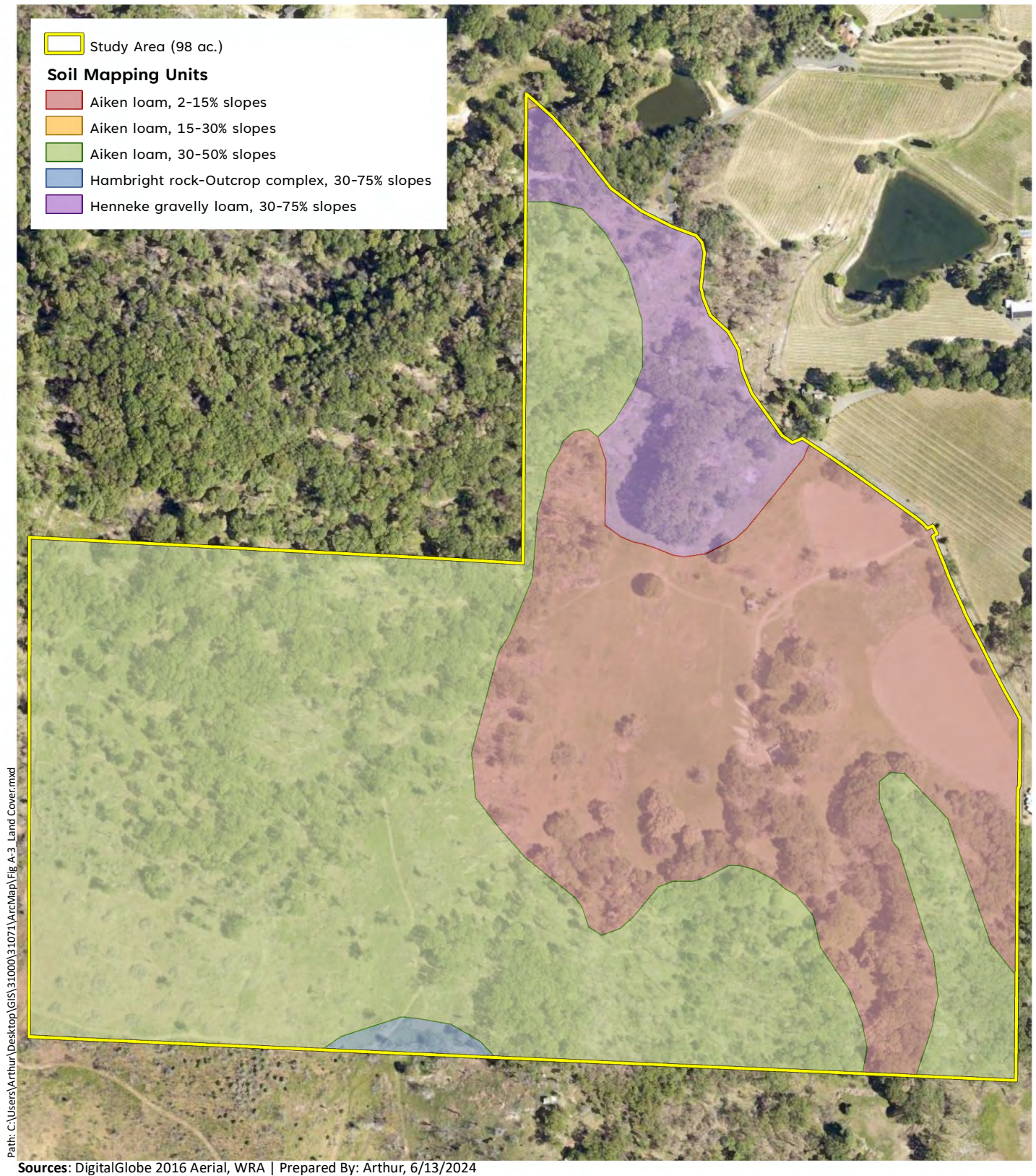


Figure A-2. Soil Mapping Units

4473 Atlas Peak Road
Napa County, CA

0 200 400
Feet



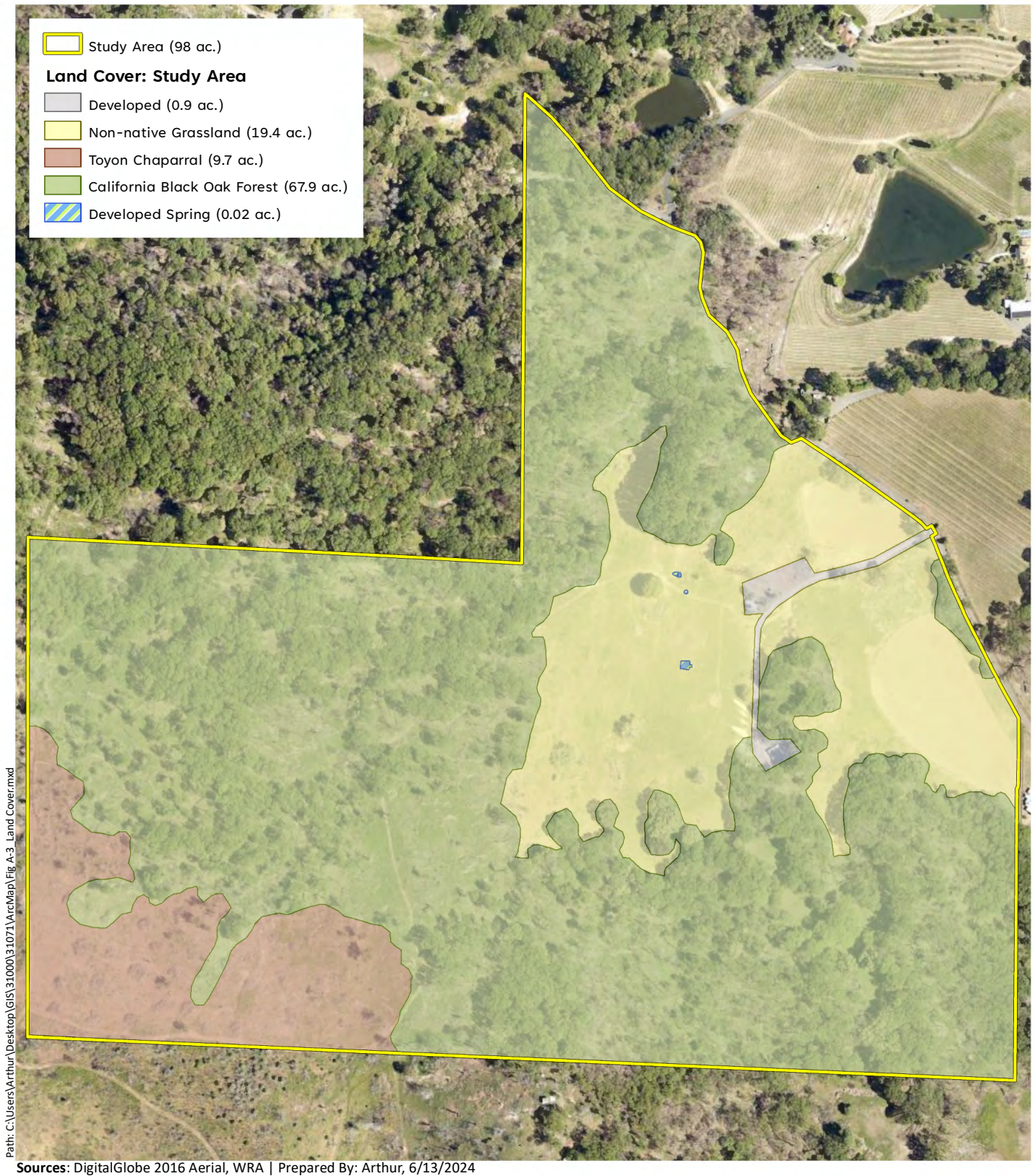


Figure A-3. Land Cover: Study Area

4473 Atlas Peak Road
Napa County, CA

0 200 400
Feet



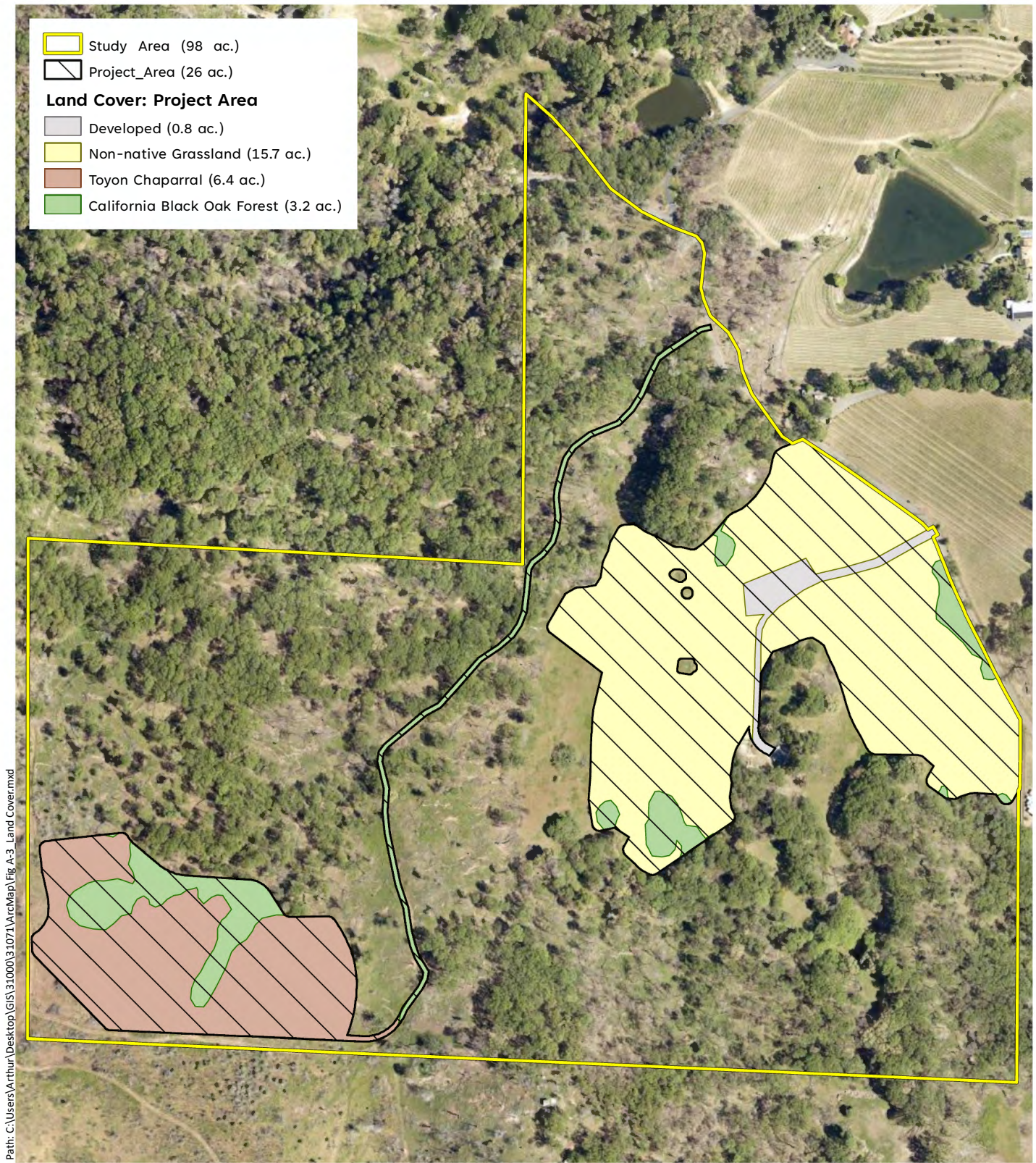


Figure A-4. Land Cover: Project Area

4473 Atlas Peak Road
Napa County, CA

0 200 400
Feet



Appendix B

Species Observed in the Study Area

Table B-1. Plant species observed in the Study Area, March 26, April 23, and June 23, 2021

FAMILY	SCIENTIFIC NAME	COMMON NAME	LIFE FORM	ORIGIN	RARE STATUS ¹	INVASIVE STATUS ²	WETLAND INDICATOR ³
Adoxaceae	<i>Sambucus nigra</i> ssp. <i>caerulea</i>	blue elderberry	deciduous shrub	native	--	--	FAC
Agavaceae	<i>Chlorogalum pomeridianum</i> var. <i>pomeridianum</i>	common soap plant	perennial forb	native	--	--	NL
Amaryllidaceae	<i>Narcissus pseudonarcissus</i>	daffodil	perennial forb	non-native	--	--	NL
Anacardiaceae	<i>Toxicodendron diversilobum</i>	poison oak	deciduous shrub	native	--	--	FACU
Apiaceae	<i>Angelica tomentosa</i>	woolly angelica	perennial forb	native	--	--	NL
Apiaceae	<i>Osmorhiza berteroi</i>	sweet cicely	perennial forb	native	--	--	FACU
Apiaceae	<i>Sanicula crassicaulis</i>	Pacific sanicle	perennial forb	native	--	--	NL
Apiaceae	<i>Torilis arvensis</i>	hedge parsley	annual forb	non-native	--	moderate	NL
Apocynaceae	<i>Apocynum androsaemifolium</i>	bitter dogbane	perennial forb	native	--	--	UPL
Apocynaceae	<i>Asclepias cordifolia</i>	heartleaf milkweed	perennial forb	native	--	--	NL
Arecaceae	<i>Phoenix canariensis</i>	Canary Island date palm	evergreen tree	non-native	--	limited	NL
Asteraceae	<i>Achillea millefolium</i>	common yarrow	perennial forb	native	--	--	FACU
Asteraceae	<i>Agoseris retrorsa</i>	mountain dandelion	perennial forb	native	--	--	NL
Asteraceae	<i>Artemisia douglasiana</i>	mugwort	perennial forb	native	--	--	FAC
Asteraceae	<i>Baccharis pilularis</i> ssp. <i>consanguinea</i>	coyote brush	evergreen shrub	native	--	--	NL
Asteraceae	<i>Carduus pycnocephalus</i>	Italian thistle	annual forb	non-native	--	moderate	NL
Asteraceae	<i>Centaurea solstitialis</i>	yellow star thistle	annual forb	non-native	--	high	NL
Asteraceae	<i>Cichorium intybus</i>	chicory	perennial forb	non-native	--	--	FACU
Asteraceae	<i>Cirsium occidentale</i>	cobwebby thistle	perennial forb	native	--	--	NL
Asteraceae	<i>Ericameria arborescens</i>	goldenfleece	evergreen shrub	native	--	--	NL
Asteraceae	<i>Eurybia radulina</i>	roughleaf aster	perennial forb	native	--	--	NL
Asteraceae	<i>Grindelia hirsutula</i>	hairy gumweed	perennial forb	native	--	--	FACW
Asteraceae	<i>Helianthella californica</i> var. <i>californica</i>	California helianthella	perennial forb	native	--	--	NL
Asteraceae	<i>Lactuca serriola</i>	prickly lettuce	annual forb	non-native	--	assessed	FACU
Asteraceae	<i>Madia elegans</i>	common madia	annual forb	native	--	--	NL

FAMILY	SCIENTIFIC NAME	COMMON NAME	LIFE FORM	ORIGIN	RARE STATUS ¹	INVASIVE STATUS ²	WETLAND INDICATOR ³
Asteraceae	<i>Madia gracilis</i>	gumweed tarweed	annual forb	native	--	--	NL
Asteraceae	<i>Microseris douglasii</i>	Douglas' silverpuffs	annual forb	native	--	--	FACU
Asteraceae	<i>Pseudognaphalium beneolens</i>	cudweed	perennial forb	native	--	--	NL
Asteraceae	<i>Pseudognaphalium californicum</i>	ladies' tobacco	perennial forb	native	--	--	NL
Asteraceae	<i>Senecio vulgaris</i>	old-man-of-spring	annual forb	non-native	--	--	FACU
Asteraceae	<i>Solidago velutina</i> ssp. <i>californica</i>	California goldenrod	perennial forb	native	--	--	NL
Asteraceae	<i>Soliva sessilis</i>	bur weed	annual forb	non-native	--	--	NL
Asteraceae	<i>Wyethia glabra</i>	Coast Range mule ears	perennial forb	native	--	--	NL
Boraginaceae	<i>Adelinia grandis</i>	Pacific hound's tongue	perennial forb	native	--	--	NL
Boraginaceae	<i>Amsinckia intermedia</i>	common fiddleneck	annual forb	native	--	--	NL
Boraginaceae	<i>Nemophila heterophylla</i>	white baby blue eyes	annual forb	native	--	--	NL
Boraginaceae	<i>Nemophila menziesii</i> var. <i>menziesii</i>	baby blue eyes	annual forb	native	--	--	NL
Boraginaceae	<i>Phacelia imbricata</i>	imbricate phacelia	perennial forb	native	--	--	NL
Brassicaceae	<i>Cardamine californica</i>	milk maids	perennial forb	native	--	--	NL
Brassicaceae	<i>Cardamine hirsuta</i>	hairy bittercress	annual forb	non-native	--	--	NL
Brassicaceae	<i>Cardamine oligosperma</i>	Idaho bittercress	annual forb	native	--	--	NL
Brassicaceae	<i>Nasturtium officinale</i>	watercress	perennial forb	native	--	--	OBL
Brassicaceae	<i>Raphanus sativus</i>	wild radish	perennial forb	non-native	--	limited	NL
Calycanthaceae	<i>Calycanthus occidentalis</i>	spice bush	evergreen shrub	native	--	--	FAC
Caprifoliaceae	<i>Lonicera hispidula</i>	pink honeysuckle	evergreen shrub	native	--	--	FACU
Caprifoliaceae	<i>Symphoricarpos albus</i> var. <i>laevigatus</i>	upright snowberry	deciduous shrub	native	--	--	FACU
Convolvulaceae	<i>Calystegia purpurata</i> ssp. <i>purpurata</i>	Pacific false bindweed	perennial vine	native	--	--	NL
Cupressaceae	<i>Sequoia sempervirens</i>	coast redwood	evergreen tree	native	--	--	NL
Dennstaedtiaceae	<i>Pteridium aquilinum</i> var. <i>pubescens</i>	bracken fern	perennial fern	native	--	--	FACU
Ericaceae	<i>Arbutus menziesii</i>	Pacific madrone	evergreen tree	native	--	--	NL
Ericaceae	<i>Arctostaphylos manzanita</i> ssp. <i>manzanita</i>	common manzanita	evergreen shrub	native	--	--	NL

FAMILY	SCIENTIFIC NAME	COMMON NAME	LIFE FORM	ORIGIN	RARE STATUS ¹	INVASIVE STATUS ²	WETLAND INDICATOR ³
Ericaceae	<i>Arctostaphylos stanfordiana</i> ssp. <i>stanfordiana</i>	Stanford's manzanita	evergreen shrub	native	--	--	NL
Fabaceae	<i>Acmispon glaber</i>	deer vetch	evergreen shrub	native	--	--	NL
Fabaceae	<i>Lathyrus vestitus</i> var. <i>vestitus</i>	common Pacific pea	perennial forb	native	--	--	NL
Fabaceae	<i>Lupinus albifrons</i> var. <i>collinus</i>	silver lupine	evergreen shrub	native	--	--	NL
Fabaceae	<i>Lupinus bicolor</i>	miniature lupine	annual forb	native	--	--	NL
Fabaceae	<i>Lupinus latifolius</i>	broad leaf lupine	perennial forb	native	--	--	FACW
Fabaceae	<i>Medicago arabica</i>	spotted burclover	annual forb	non-native	--	--	NL
Fabaceae	<i>Thermopsis californica</i>	California goldenbanner	perennial forb	native	--	--	NL
Fabaceae	<i>Trifolium dubium</i>	shamrock clover	annual forb	non-native	--	--	UPL
Fabaceae	<i>Trifolium glomeratum</i>	clustered clover	annual forb	non-native	--	--	NL
Fabaceae	<i>Trifolium hirtum</i>	rose clover	annual forb	non-native	--	moderate	NL
Fabaceae	<i>Trifolium microcephalum</i>	maiden clover	annual forb	native	--	--	FAC
Fabaceae	<i>Trifolium microdon</i>	thimble clover	annual forb	native	--	--	NL
Fabaceae	<i>Trifolium subterraneum</i>	subterranean clover	annual forb	non-native	--	--	NL
Fabaceae	<i>Vicia sativa</i>	garden vetch	annual forb	non-native	--	--	FACU
Fabaceae	<i>Vicia villosa</i>	woolly-pod vetch	annual forb	non-native	--	--	NL
Fagaceae	<i>Quercus agrifolia</i>	coast live oak	evergreen tree	native	--	--	NL
Fagaceae	<i>Quercus chrysolepis</i>	canyon live oak	evergreen tree	native	--	--	NL
Fagaceae	<i>Quercus kelloggii</i>	California black oak	deciduous tree	native	--	--	NL
Geraniaceae	<i>Erodium botrys</i>	longbeak stork's bill	annual forb	non-native	--	assessed	FACU
Geraniaceae	<i>Erodium brachycarpum</i>	foothill filaree	annual forb	non-native	--	limited	NL
Geraniaceae	<i>Erodium cicutarium</i>	redstem stork's bill	annual forb	non-native	--	limited	NL
Grossulariaceae	<i>Ribes roezlii</i> var. <i>cruentum</i>	Sierra gooseberry	evergreen shrub	native	--	--	NL
Iridaceae	<i>Iris macrosiphon</i>	long-tube iris	perennial forb	native	--	--	NL
Iridaceae	<i>Sisyrinchium bellum</i>	blue-eyed grass	perennial forb	native	--	--	FACW
Juncaceae	<i>Juncus bufonius</i>	toad rush	annual graminoid	native	--	--	FACW

FAMILY	SCIENTIFIC NAME	COMMON NAME	LIFE FORM	ORIGIN	RARE STATUS ¹	INVASIVE STATUS ²	WETLAND INDICATOR ³
Juncaceae	<i>Juncus effusus</i> ssp. <i>pacificus</i>	Pacific rush	perennial graminoid	native	--	--	FACW
Juncaceae	<i>Juncus mexicanus</i>	Mexican rush	perennial graminoid	native	--	--	FACW
Juncaceae	<i>Juncus phaeocephalus</i>	brownhead rush	perennial graminoid	native	--	--	FACW
Lamiaceae	<i>Lamium amplexicaule</i>	henbit deadnettle	annual forb	non-native	--	--	NL
Lamiaceae	<i>Lepechinia calycina</i>	wood balm	evergreen shrub	native	--	--	NL
Lamiaceae	<i>Monardella villosa</i> ssp. <i>franciscana</i>	coyote mint	perennial forb	native	--	--	NL
Lauraceae	<i>Umbellularia californica</i>	California bay	evergreen tree	native	--	--	FAC
Liliaceae	<i>Calochortus amabilis</i>	golden globelily	perennial forb	native	--	--	NL
Liliaceae	<i>Fritillaria affinis</i>	checker lily	perennial forb	native	--	--	NL
Lythraceae	<i>Lythrum hyssopifolia</i>	hyssop loosestrife	annual forb	non-native	--	moderate	OBL
Montiaceae	<i>Calandrinia menziesii</i>	common redmaids	annual forb	native	--	--	FACU
Montiaceae	<i>Claytonia parviflora</i>	spring beauty	annual forb	native	--	--	FACU
Myrsinaceae	<i>Lysimachia arvensis</i>	scarlet pimpernel	annual forb	non-native	--	--	NL
Oleaceae	<i>Ligustrum japonicum</i>	Japanese privet	evergreen shrub	non-native	--	--	FACU
Onagraceae	<i>Clarkia purpurea</i> ssp. <i>quadrivulnera</i>	winecup clarkia	annual forb	native	--	--	NL
Onagraceae	<i>Clarkia rhomboidea</i>	Forest clarkia	annual forb	native	--	--	NL
Papaveraceae	<i>Eschscholzia californica</i>	California poppy	perennial forb	native	--	--	NL
Phrymaceae	<i>Erythranthe guttata</i>	common monkeyflower	perennial forb	native	--	--	OBL
Pinaceae	<i>Pinus sabiniana</i>	digger pine	evergreen tree	native	--	--	NL
Plantaginaceae	<i>Collinsia sparsiflora</i> var. <i>sparsiflora</i>	blue-eyed Mary	annual forb	native	--	--	NL
Plantaginaceae	<i>Plantago lanceolata</i>	English plantain	perennial forb	non-native	--	limited	FAC
Poaceae	<i>Aira caryophyllea</i>	silver hairgrass	annual graminoid	non-native	--	assessed	FACU
Poaceae	<i>Avena barbata</i>	wild oat	annual graminoid	non-native	--	moderate	NL
Poaceae	<i>Brachypodium distachyon</i>	false brome	perennial graminoid	non-native	--	moderate	NL
Poaceae	<i>Briza minor</i>	little rattlesnake grass	annual graminoid	non-native	--	--	FAC
Poaceae	<i>Bromus diandrus</i>	rip-gut brome	annual graminoid	non-native	--	moderate	NL
Poaceae	<i>Bromus hordeaceus</i>	soft chess	annual graminoid	non-native	--	limited	FACU

FAMILY	SCIENTIFIC NAME	COMMON NAME	LIFE FORM	ORIGIN	RARE STATUS ¹	INVASIVE STATUS ²	WETLAND INDICATOR ³
Poaceae	<i>Bromus madritensis</i>	foxtail chess	annual graminoid	non-native	--	--	NL
Poaceae	<i>Cynosurus echinatus</i>	dogtail grass	annual graminoid	non-native	--	moderate	NL
Poaceae	<i>Elymus caput-medusae</i>	Medusa head	perennial graminoid	non-native	--	high	NL
Poaceae	<i>Elymus glaucus</i>	blue wildrye	perennial graminoid	native	--	--	FACU
Poaceae	<i>Festuca bromoides</i>	brome fescue	perennial graminoid	non-native	--	--	FACU
Poaceae	<i>Festuca californica</i>	California fescue	perennial graminoid	native	--	--	FACU
Poaceae	<i>Festuca perennis</i>	Italian rye grass	annual graminoid	non-native	--	moderate	FAC
Poaceae	<i>Hordeum murinum</i>	mouse barley	annual graminoid	non-native	--	moderate	FACU
Poaceae	<i>Phalaris aquatica</i>	harding grass	perennial graminoid	non-native	--	moderate	FACU
Poaceae	<i>Stipa pulchra</i>	purple needlegrass	perennial graminoid	native	--	--	NL
Polemoniaceae	<i>Navarretia intertexta</i>	needleleaf navarretia	annual forb	native	--	--	FACW
Polygonaceae	<i>Rumex acetosella</i>	sheep sorrel	perennial forb	non-native	--	moderate	FACU
Ranunculaceae	<i>Delphinium variegatum</i>	royal larkspur	perennial forb	native	--	--	NL
Ranunculaceae	<i>Ranunculus occidentalis</i>	western buttercup	perennial forb	native	--	--	FAC
Rhamnaceae	<i>Frangula californica</i>	California coffeeberry	evergreen shrub	native	--	--	NL
Rosaceae	<i>Heteromeles arbutifolia</i>	toyon	evergreen shrub	native	--	--	NL
Rosaceae	<i>Rubus armeniacus</i>	Himalayan blackberry	evergreen shrub	non-native	--	high	FAC
Rubiaceae	<i>Galium porrigens</i>	graceful bedstraw	perennial forb	native	--	--	NL
Rubiaceae	<i>Sherardia arvensis</i>	blue fieldmadder	annual forb	non-native	--	--	NL
Sapindaceae	<i>Acer macrophyllum</i>	big leaf maple	deciduous tree	native	--	--	FAC
Sapindaceae	<i>Aesculus californica</i>	California buckeye	deciduous tree	native	--	--	NL
Solanaceae	<i>Solanum xanti</i>	purple nightshade	perennial forb	native	--	--	NL
Themidaceae	<i>Brodiaea elegans</i> ssp. <i>elegans</i>	harvest brodiaea	perennial forb	native	--	--	FACU
Themidaceae	<i>Dichelostemma capitatum</i>	blue dicks	perennial forb	native	--	--	FACU
Themidaceae	<i>Dichelostemma congestum</i>	ookow	perennial forb	native	--	--	NL
Viscaceae	<i>Phoradendron leucarpum</i>	oak mistletoe	perennial forb	native	--	--	NL

All species identified using the *Jepson Manual*, 2nd Edition (Baldwin et al. 2012), *The Jepson Flora Project* (eFlora 2022), and *A Flora of Napa County* (Ruygt 2020); nomenclature follows *The Jepson Flora Project* (eFlora 2022) unless otherwise noted

Sp.: “species”, intended to indicate that the observer was confident in the identity of the genus but uncertain which species

Cf.: “confer” or “compared with”, intended to indicate a species appeared to the observer to be specific, but was not identified based on diagnostic characters

¹Rare Status: The CNPS Inventory of Rare and Endangered Plants (CNPS 2021a)

FE:	Federal Endangered
FT:	Federal Threatened
SE:	State Endangered
ST:	State Threatened
SR:	State Rare
LR	Locally Rare
CRPR 1A:	Plants presumed extirpated in California and either rare or extinct elsewhere
CRPR 1B:	Plants rare, threatened, or endangered in California and elsewhere
CRPR 2A:	Plants presumed extirpated in California, but more common elsewhere
CRPR 2B:	Plants rare, threatened, or endangered in California, but more common elsewhere
CRPR 3:	Plants about which we need more information – a review list
CRPR 4:	Plants of limited distribution – a watch list

²Invasive Status: California Invasive Plant Inventory (Cal-IPC 2006)

High:	Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.
Moderate:	Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited moderate distribution ecologically
Limited:	Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically
Assessed:	Assessed by Cal-IPC and determined to not be an existing current threat

³Wetland Status: National List of Plant Species that Occur in Wetlands, Arid West Region (Corps 2018)

OBL:	Almost always a hydrophyte, rarely in uplands
FACW:	Usually a hydrophyte, but occasionally found in uplands
FAC:	Commonly either a hydrophyte or non-hydrophyte
FACU:	Occasionally a hydrophyte, but usually found in uplands
UPL:	Rarely a hydrophyte, almost always in uplands
NL:	Rarely a hydrophyte, almost always in uplands
NI:	No information; not factored during wetland delineation

Table B-2. Wildlife species within the Study Area

SCIENTIFIC NAME	COMMON NAME
Mammals	
<i>Odocoileus hemionus columbianus</i>	black-tailed deer
<i>Otospermophilus beecheyi</i>	California ground squirrel
Birds	
<i>Aphelocoma californica</i>	western scrub-jay
<i>Baeolophus inornatus</i>	oak titmouse
<i>Buteo jamaicensis</i>	red-tailed hawk
<i>Callipepla californica</i>	California quail
<i>Corax corax</i>	common raven
<i>Junco hyemalis</i>	dark-eyed junco
<i>Melanerpes formicivorus</i>	acorn woodpecker
<i>Mimus polyglottos</i>	northern mockingbird
<i>Pipilo maculatus</i>	spotted towhee
<i>Sayornis nigricans</i>	black phoebe
<i>Setophaga coronata</i>	yellow-rumped warbler
<i>Sialia mexicana</i>	western bluebird
<i>Spinus psaltria</i>	lesser goldfinch
<i>Turdus migratorius</i>	American robin
<i>Zonotrichia atricapilla</i>	golden-crowned sparrow
Reptiles and Amphibians	
<i>Sceloporus occidentalis</i>	western fence lizard

Appendix C

Potential for Special-status Species to Occur in the Study Area

Table C. Potential for Special-status Species to Occur in the Study Area. List compiled from Napa County (2005), and CDFW (CDFW 2024a), USFWS (2024), and CNPS (2024a) searches. For plants, the St. Helena, Chiles Valley, Lake Berryessa, Rutherford, Yountville, Capell Valley, Sonoma, Napa, and Mt. George USGS 7.5' quadrangles were included in the searches. For wildlife, the entirety of Napa County was considered.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
PLANTS				
<i>Agrostis hendersonii</i> Henderson's bent grass	CRPR 3	Valley and foothill grassland, vernal pools; situated in mesic grasslands. Elevation range: 225 – 995 feet. Blooms: April – June.	Moderate Potential. The Study Area contains developed springs that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Allium peninsulare</i> var. <i>franciscanum</i> Franciscan onion	CRPR 1B	Cismontane woodland, valley and foothill grassland; on clay substrate, often derived from volcanics or serpentine; serpentine indicator: W1. Elevation range 170 – 985 feet. Blooms: May – June.	Moderate Potential. The Study Area contains volcanic soils that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Amorpha californica</i> var. <i>napensis</i> Napa false indigo	CRPR 1B	Openings in broadleaf upland forest, chaparral, cismontane woodland. Elevation range: 395 – 6560 feet. Blooms: April – July.	Moderate Potential. The Study Area contains chaparral, woodland, and/or forest that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	CRPR 1B	Cismontane woodland, valley and foothill grassland, coastal bluff scrub; situated on rocky soils. Elevation range: 10 – 1625 feet. Blooms: March – June.	Moderate Potential. The Study Area contains grassland that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Antirrhinum virga</i> twig-like snapdragon	CRPR 4	Chaparral, lower montane coniferous forest; located on rocky openings often derived from serpentine; serpentine indicator: S1. Elevation range: 325 – 6550 feet. Blooms: June – July.	Unlikely. Although one soil mapping unit in the Study Area is derived from serpentine, there is in-fact no serpentine substrate to support this species.	Presumed Absent. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Arabis modesta</i> modest rockcress	CRPR 4	Chaparral, lower montane coniferous forest; located on steep slopes, cliffs, and shaded canyons underlain by deep soils. Elevation range: 390 – 2600 feet. Blooms: March – July.	Unlikely. Although the Study Area contains chaparral, it is south-facing and exposed.	Presumed Absent. No further actions are recommended for this species.
<i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i> Rincon manzanita	CRPR 1B	Chaparral, cismontane woodland; highly restricted to red rhyolite soils. Elevation range: 245 – 1215 feet. Blooms: February – April.	Moderate Potential. The Study Area contains volcanic soils that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Astragalus breweri</i> Brewer's milk-vetch	CRPR 4	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland; located on open, gravelly serpentine or volcanic substrate; serpentine indicator: SI. Elevation range: 290 – 2375 feet. Blooms: April – June.	Unlikely. Although one soil mapping unit in the Study Area is derived from serpentine, there is in-fact no serpentine substrate to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Astragalus claranus</i> Clara Hunt's milk-vetch	FE; ST; CRPR 1B	Cismontane woodland, valley and foothill grassland, chaparral; on open grassy hillsides, especially exposed shoulders with thin, volcanic or serpentine clay soils; serpentine indicator: SI. Elevation range: 245 – 900 feet. Blooms: March – May.	Moderate Potential. The Study Area contains volcanic soils that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Astragalus clevelandii</i> Cleveland's milk-vetch	CRPR 4	Chaparral, cismontane woodland, riparian forest; located on serpentine seeps; serpentine indicator: SE. Elevation range: 650 – 4875 feet. Blooms: June – September.	Unlikely. Although one soil mapping unit in the Study Area is derived from serpentine, there is in-fact no serpentine substrate to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Astragalus tener</i> var. <i>tener</i> alkali milk-vetch	CRPR 1B	Playas, vernal pools, valley and foothill grassland; located in vernal pools and similar wetlands/mesic areas on alkaline substrate. Elevation range: 0 – 195 feet. Blooms: March – June.	Unlikely. The Study Area does not contain vernal pools or similar seasonal wetlands to support this species.	Presumed Absent. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Balsamorhiza macrolepis</i> big-scale balsamroot	CRPR 1B	Valley and foothill grassland, cismontane woodland; situated on rocky substrates, typically derived from metavolcanics, sometimes on serpentine substrate; serpentine indicator: SI. Elevation range: 295 – 3100 feet. Blooms: March – June.	Moderate Potential. The Study Area contains rocky, volcanic woodland that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Blennosperma bakeri</i> Sonoma sunshine	FE, SE, CRPR 1B	Vernal pools, vernal swales, and mesic areas in valley grassland; highly restricted to the Santa Rosa Plain and Valley of the Moon. Elevation range: 35 – 360 feet. Blooms: March – April.	Unlikely. The Study Area does not contain vernal pools or similar seasonal wetlands to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Brodiaea leptandra</i> narrow-anthered brodiaea	CRPR 1B	Broadleaf upland forest, chaparral, lower montane coniferous forest; situated on gravelly soils derived from volcanics, particularly rhyolitic tuff, sometimes serpentine; serpentine indicator: WI. Elevation range: 360 – 3000 feet. Blooms: May – July.	Moderate Potential. The Study Area contains rocky, volcanic chaparral that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Calamagrostis ophitidis</i> serpentine reed grass	CRPR 4	Chaparral, lower montane coniferous forest, meadows and seeps, valley and foothill grassland; located in openings, often north-facing, underlain by rocky serpentine substrate; serpentine indicator: SE. Elevation range: 290 – 3465 feet. Blooms: April – July.	Unlikely. Although one soil mapping unit in the Study Area is derived from serpentine, there is in-fact no serpentine substrate to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Calandrinia breweri</i> Brewer's Calandrinia	CRPR 4	Chaparral, coastal scrub; located on sandy or loamy substrate in areas often recently disturbed or burned. Elevation range: 30 – 3965 feet. Blooms: March – June.	Moderate Potential. The Study Area contains burned chaparral that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Calystegia collina</i> ssp. <i>oxyphylla</i> Mt. Saint Helena morning-glory	CRPR 4	Chaparral; located on serpentine barrens, slopes, and hillsides; serpentine indicator: SE. Elevation range: 815 – 3315 feet. Blooms: April – June.	Unlikely. Although one soil mapping unit in the Study Area is derived from serpentine, there is in-fact no serpentine substrate to support this species.	Presumed Absent. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Castilleja ambigua</i> var. <i>ambigua</i> Johnny-nip	CRPR 4	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pool margins. Elevation range: 0 – 1415 feet. Blooms: March – August.	Unlikely. The Study Area does not contain vernal pools or similar seasonal wetlands to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Castilleja ambigua</i> var. <i>meadii</i> Mead's owl's-clover	CRPR 1B	Meadows and seeps, vernal pools; located in mesic areas or wetlands underlain by gravelly clay soils derived from volcanics. Elevation range: 1460 – 1545 feet. Blooms: April – May.	Unlikely. The Study Area does not contain vernal pools or similar seasonal wetlands to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Ceanothus confusus</i> Rincon Ridge ceanothus	CRPR 1B	Closed-cone coniferous forest, chaparral, cismontane woodland; known from volcanic and serpentine substrate; typically situated on dry shrubby slopes; serpentine indicator: WI/IN. Elevation range: 245 – 3495 feet. Blooms: February – April.	Unlikely. Although the Study Area contains chaparral and volcanic soils, this species is restricted to the Sonoma Mayacamas.	Presumed Absent. No further actions are recommended for this species.
<i>Ceanothus divergens</i> Calistoga ceanothus	CRPR 1B	Chaparral, cismontane woodland; on rocky, serpentine sites; serpentine indicator: WI. Elevation range: 560 – 3115 feet. Blooms: February – March.	Unlikely. Although the Study Area contains chaparral and volcanic soils, this species is restricted to the Sonoma Mayacamas.	Presumed Absent. No further actions are recommended for this species.
<i>Ceanothus purpureus</i> holly-leaved ceanothus	CRPR 1B	Chaparral, cismontane woodland; located on rocky, volcanic slopes. Elevation range: 395 – 3000 feet. Blooms: February – June.	Moderate Potential. The Study Area contains volcanic soils that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Ceanothus sonomensis</i> Sonoma ceanothus	CRPR 1B	Chaparral; located on sandy serpentine or volcanic substrates; serpentine indicator: WI/IN. Elevation range: 705 – 2625 feet. Blooms: February – April.	Unlikely. Although the Study Area contains chaparral and volcanic soils, this species is restricted to the Sonoma Mayacamas.	Presumed Absent. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Centromadia parryi</i> ssp. <i>rudis</i> Parry's rough tarplant	CRPR 4	Valley and foothill grassland, vernal pools; situated on vernal mesic sites underlain by alkaline soils, frequently seeps, swales, and roadsides. Elevation range: 0 – 330 feet. Blooms: May – October.	No Potential. The Study Area does not contain alkali grassland or wetland fringe habitat to support this species.	Not Present. No further actions are recommended for this species.
<i>Clarkia breweri</i> Brewer's clarkia	CRPR 4	Chaparral, cismontane woodland, coastal scrub; frequently on serpentine substrate; serpentine indicator: BE/SI. Elevation range: 695 – 3625 feet. Blooms: April – June.	Unlikely. Although one soil mapping unit in the Study Area is derived from serpentine, there is in-fact no serpentine substrate to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Clarkia gracilis</i> ssp. <i>tracyi</i> Tracy's clarkia	CRPR 4	Chaparral; located in openings and situated on substrates often derived from serpentine; serpentine indicator: BE. Elevation range: 210 – 2115 feet. Blooms: April – July.	Unlikely. Although one soil mapping unit in the Study Area is derived from serpentine, there is in-fact no serpentine substrate to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Collomia diversifolia</i> serpentine collomia	CRPR 4	Chaparral, cismontane woodland; situated on rocky to gravelly serpentine substrates; serpentine indicator: SE. Elevation range: 975 – 1950 feet. Blooms: May – June.	Unlikely. Although one soil mapping unit in the Study Area is derived from serpentine, there is in-fact no serpentine substrate to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i> serpentine bird's-beak	CRPR 4	Closed-cone coniferous forest, chaparral, cismontane woodland; typically located serpentine substrate; serpentine indicator: BE. Elevation range: 1540 – 2975 feet. Blooms: July – August.	Unlikely. Although one soil mapping unit in the Study Area is derived from serpentine, there is in-fact no serpentine substrate to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Delphinium uliginosum</i> swamp larkspur	CRPR 4	Chaparral, valley and foothill grassland; located in seeps and wet meadows underlain by serpentine substrate; serpentine indicator: SE. Elevation range: 1105 – 1985 feet. Blooms: May – June.	Unlikely. Although one soil mapping unit in the Study Area is derived from serpentine, there is in-fact no serpentine substrate to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Downingia pusilla</i> dwarf downingia	CRPR 2B	Valley and foothill grassland, vernal pools; located in mesic grassy sites, pool and lake margins. Elevation range: 3 – 1450 feet. Blooms: March – May.	No Potential. The Study Area does not contain vernal pools or similar seasonal wetlands to support this species.	Not Present. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Eleocharis parvula</i> small spikerush	CRPR 4	Marshes and swamps. Elevation range: 5 – 9815 feet. Blooms: sometimes April, June – August, sometimes September.	No Potential. The Study Area does not contain perennial wetland (marsh) habitat to support this species.	Not Present. No further actions are recommended for this species.
<i>Erigeron biolettii</i> Streamside daisy	CRPR 3	Broadleaf upland forest, cismontane woodland, North Coast coniferous forest; on rocky, mesic. Elevation range: 95 – 3610 feet. Blooms: June – October.	Moderate Potential. The Study Area contains woodland habitat that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Erigeron greenei</i> Greene's narrow-leaved daisy	CRPR 1B	Chaparral; located on volcanic or serpentine substrate. Elevation range: 260 – 3270 feet. Blooms: May – September.	Moderate Potential. The Study Area contains volcanic soils that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Eryngium jepsonii</i> Jepson's coyote thistle	CRPR 1B	Valley and foothill grassland, vernal pools; situated on clay substrate that is vernaly saturated. Elevation range: 10 – 975 feet. Blooms: April – August.	No Potential. The Study Area does not contain vernal pools or similar seasonal wetlands to support this species.	Not Present. No further actions are recommended for this species.
<i>Erythronium helenae</i> St. Helena fawn lily	CRPR 4	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland; located on volcanic or serpentine substrate; serpentine indicator: BE. Elevation range: 1135 – 3965 feet. Blooms: March – May.	Moderate Potential. The Study Area contains volcanic soils that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Extriplex joaquiniana</i> San Joaquin spearscale	CRPR 1B	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland; located on alkaline substrate. Elevation range: 0 – 2715 feet. Blooms: April – October.	No Potential. The Study Area does not contain alkali grassland or alkali wetland fringe habitat to support this species.	Not Present. No further actions are recommended for this species.
<i>Fritillaria purdyi</i> Purdy's fritillary	CRPR 4	Chaparral, cismontane woodland, lower montane coniferous forest; usually situated on serpentine substrates; serpentine indicator: BE. Elevation range: 565 – 7330 feet. Blooms: March – June.	Unlikely. Although one soil mapping unit in the Study Area is derived from serpentine, there is in-fact no serpentine substrate to support this species.	Presumed Absent. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Harmonia nutans</i> nodding harmonia	CRPR 4	Chaparral, cismontane woodland; located on rocky to gravelly substrates derived from volcanics. Elevation range: 240 – 3170 feet. Blooms: March – May.	Moderate Potential. The Study Area contains volcanic soils that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Hemizonia congesta</i> ssp. <i>congesta</i> congested-headed hayfield tarplant	CRPR 1B	Coastal scrub, valley and foothill grassland; serpentine indicator: WI/IN. Elevation range: 65 – 1840 feet. Blooms: April – October.	Moderate Potential. The Study Area contains grassland that may support this species. The majority of occurrences are from coastal and Bayland sites in Sonoma and Marin counties.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Hesperolinon bicarpellatum</i> Two-carpellate western flax	CRPR 1B	Chaparral; located on serpentine substrate; serpentine indicator: SE. Elevation range: 195 – 3270 feet. Blooms: May – July.	Unlikely. Although one soil mapping unit in the Study Area is derived from serpentine, there is in-fact no serpentine substrate to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Hesperolinon sharsmithiae</i> Sharsmith's western flax	CRPR 1B	Chaparral; located on serpentine or volcanic substrate. Elevation range: 875 – 975 feet. Blooms: May – July.	Moderate Potential. The Study Area contains volcanic chaparral that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Horkelia tenuiloba</i> thin-lobed horkelia	CRPR 1B	Broadleaf upland forest, coastal scrub, valley and foothill grassland, chaparral; in mesic openings, on sandy substrate. Elevation range: 165 – 1640 feet. Blooms: May – July.	Unlikely. The Study Area does not contain sandy substrate to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE; CRPR 1B	Valley and foothill grassland, vernal pools, cismontane woodland; located in pools, swales, and depressions in mesic grassy sites underlain by alkaline substrate. Elevation range: 0 – 1530 feet. Blooms: March – June.	No Potential. The Study Area does not contain vernal pools or similar seasonal wetlands to support this species.	Not Present. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i> Delta tule pea	CRPR 1B	Freshwater and brackish marshes; typically located near or on slough margins, closely associated with cattail, tules, bulrushes, Baltic rush, California rose, and Suisun Marsh aster; known widely throughout Suisun Bay and Delta regions. Elevation range: 0 – 15 feet. Blooms: May – July, sometimes September.	No Potential. The Study Area does not contain coastal marsh habitat to support this species.	Not Present. No further actions are recommended for this species.
<i>Layia septentrionalis</i> Colusa layia	CRPR 1B	Chaparral, cismontane woodland, valley and foothill grassland; on sandy, serpentine substrate; typically occurs in fields, grassy slopes; serpentine indicator: SI. Elevation range: 330 – 3595 feet. Blooms: April – May.	Unlikely. Although one soil mapping unit in the Study Area is derived from serpentine, there is in-fact no serpentine substrate to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Leptosiphon aureus</i> bristly leptosiphon	CRPR 4, LR	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland; often located on shallow, rocky substrate in foothill positions. Elevation range: 175 – 4875 feet. Blooms: April – July.	Moderate Potential. The Study Area contains volcanic soils that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Leptosiphon jepsonii</i> Jepson's leptosiphon	CRPR 1B	Chaparral, cismontane woodland; on open to partially shaded grassy slopes on volcanic or the periphery of serpentine substrate. Elevation range: 330 – 1640 feet. Blooms: April – May.	Moderate Potential. The Study Area contains volcanic soils that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Leptosiphon latisectus</i> broad-lobed leptosiphon	CRPR 4	Broadleaf upland forest, cismontane woodland; frequently situated on serpentine or volcanic substrate; serpentine indicator: WI. Elevation range: 550 – 4875 feet. Blooms: April – June.	Moderate Potential. The Study Area contains volcanic soils that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Lessingia hololeuca</i> woolly-headed lessingia	CRPR 3, LR	Broadleaf upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland; typically on clay, serpentine substrate; serpentine indicator: SI. Elevation range: 3 – 2885 feet. Blooms: April – June.	Unlikely. Although one soil mapping unit in the Study Area is derived from serpentine, there is in-fact no serpentine substrate to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Lilium rubescens</i> redwood lily	CRPR 4, LR	Broadleaf upland forest, chaparral, lower montane coniferous forest, upper montane coniferous forest, North Coast coniferous forest; often located on serpentine substrates, and along roadcuts; serpentine indicator: WI. Elevation range: 95 – 6210 feet. Blooms: April – September.	Moderate Potential. The Study Area contains volcanic chaparral and woodland habitat that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Limnanthes vincularis</i> Sebastopol meadowfoam	FE, SE, CRPR 1B	Mesic meadows, valley and foothill grassland, vernal pools; located in swales, wet meadows, depressions, and pools in the oak savanna of the Santa Rosa Plain on heavy adobe clay substrate. Elevation range: 3 – 2885 feet. Blooms: April – June.	No Potential. The Study Area does not contain vernal pools or similar seasonal wetlands to support this species.	Not Present. No further actions are recommended for this species.
<i>Lomatium repostum</i> Napa Lomatium	CRPR 4	Chaparral, cismontane woodland; located on serpentine or volcanic substrates; serpentine indicator: SI. Elevation range: 290 – 2700 feet. Blooms: March – June.	Moderate Potential. The Study Area contains volcanic soils that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Lupinus sericatus</i> Cobb Mountain lupine	CRPR 1B	Broadleaf upland forest, chaparral, cismontane woodland, lower montane coniferous forest; typically located in stands of knobcone pine-oak woodland, on open wooded slopes in gravelly substrate typically derived from volcanics, sometimes serpentine. Elevation range: 890 – 4960 feet. Blooms: March – June.	Moderate Potential. The Study Area contains volcanic soils that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Malacothamnus helleri</i> Heller's bush-mallow	CRPR 4	Chaparral; situated on soils derived from sandstone. Elevation range: 1000 – 2085 feet. Blooms: June – August.	Moderate Potential. The Study Area contains volcanic chaparral habitat that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Micropus amphibolus</i> Mt. Diablo cottonweed	CRPR 3	Broadleaf upland forest, chaparral, cismontane woodland, valley and foothill grassland; typically on thin, rocky soils; serpentine indicator: WI. Elevation range: 145 – 2710 feet. Blooms: March – May.	Moderate Potential. The Study Area contains chaparral, woodland, and/or grassland with thin, rocky soils that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Monardella viridis</i> green monardella	CRPR 4	Broadleaf upland forest, chaparral, cismontane woodland; situated on serpentine or volcanic soils; serpentine indicator: BE/SI. Elevation range: 325 – 3285 feet. Blooms: June – September.	Moderate Potential. The Study Area contains volcanic chaparral habitat that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Navarretia cotulifolia</i> cotula navarretia	CRPR 4, LR	Chaparral, cismontane woodland, valley and foothill grassland; located on adobe substrate. Elevation range: 10 – 5950 feet. Blooms: May – June.	Unlikely. The Study Area does not contain adobe substrate to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Navarretia heterandra</i> Tehama navarretia	CRPR 4	Valley and foothill grasslands, vernal pools; situated in pools and mesic grasslands. Elevation range: 95 – 3285 feet. Blooms: April – June.	No Potential. The Study Area does not contain vernal pools or similar seasonal wetlands to support this species.	Not Present. No further actions are recommended for this species.
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia	CRPR 1B	Wet, mesic sites underlain by adobe and/or alkaline substrate in cismontane woodland, meadows, seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. Elevation range: 15 – 5710 feet. Blooms: April – July.	No Potential. The Study Area does not contain vernal pools or similar seasonal wetlands to support this species.	Not Present. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i> few-flowered navarretia	FE; ST; CRPR 1B	Vernal pools; located on volcanic ash flow and volcanic substrate pools. Elevation range: 1300 – 2780 feet. Blooms: May – June.	No Potential. The Study Area does not contain vernal pools or similar seasonal wetlands to support this species.	Not Present. No further actions are recommended for this species.
<i>Navarretia rosulata</i> Marin County navarretia	CRPR 1B	Closed-cone coniferous forest, chaparral; located on dry, rocky sites often formed from serpentine; serpentine indicator: SE. Elevation range: 650 – 2065 feet. Blooms: May – July.	Unlikely. Although one soil mapping unit in the Study Area is derived from serpentine, there is in-fact no serpentine substrate to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Penstemon newberryi</i> var. <i>sonomensis</i> Sonoma beardtongue	CRPR 1B	Chaparral; crevices in rock outcrops and talus slopes on ridgelines and mountain peaks. Elevation range: 2295 – 4495 feet. Blooms: April – August.	Unlikely. The Study Area does not contain large rock outcrops on ridgelines to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Ranunculus lobbii</i> Lobb's buttercup	CRPR 4	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools; located in mesic, vernal wet areas. Elevation range: 45 – 1530 feet. Blooms: February – May.	No Potential. The Study Area does not contain vernal pools or similar seasonal wetlands to support this species.	Not Present. No further actions are recommended for this species.
<i>Sagittaria sanfordii</i> Sanford's arrowhead	CRPR 1B	Marshes and swamps; located in assorted shallow freshwater habitats including canals and perennial drainage ditches. Elevation range: 0 – 2115 feet. Blooms: May – October, sometimes November.	No Potential. The Study Area does not contain freshwater marsh habitat to support this species.	Not Present. No further actions are recommended for this species.
<i>Sidalcea hickmanii</i> ssp. <i>napensis</i> Napa checkerbloom	CRPR 1B	Chaparral; located on rhyolitic substrates. Elevation range: 1345 – 1985 feet. Blooms: April – June.	Moderate Potential. The Study Area contains volcanic chaparral habitat that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Sidalcea keckii</i> Keck's checkerbloom	FE, CRPR 1B	Cismontane woodland, valley and foothill grassland; located in grassy areas in blue oak woodland underlain by serpentine substrate; serpentine indicator: SI. Elevation range: 240 – 2115 feet. Blooms: April – June.	Unlikely. Although one soil mapping unit in the Study Area is derived from serpentine, there is in-fact no serpentine substrate to support this species.	Presumed Absent. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Sidalcea oregana</i> ssp. <i>hydrophila</i> marsh checkerbloom	CRPR 1B	Meadows and seeps, riparian forest; located on wet soils along streambanks and meadows. Elevation range: 3575 – 7475 feet. Blooms: July – August.	No Potential. The Study Area does not contain riparian or marsh habitat to support this species.	Not Present. No further actions are recommended for this species.
<i>Streptanthus hesperidis</i> green jewelflower	CRPR 1B	Chaparral, cismontane woodland; located in openings in brushy/wooded sites on rocky serpentine substrate; serpentine indicator: SE. Elevation range: 420 – 2470 feet. Blooms: May – July.	Unlikely. Although one soil mapping unit in the Study Area is derived from serpentine, there is in-fact no serpentine substrate to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Symphyotrichum lentum</i> Suisun Marsh aster	CRPR 1B	Freshwater and brackish marshes and swamps; typically located on slough margins and edges, closely associated with cattail, tules, bulrushes, California rose, and Delta Tule pea. Elevation range: 0 – 10 feet. Blooms: May – November.	No Potential. The Study Area does not contain coastal marsh habitat to support this species.	Not Present. No further actions are recommended for this species.
<i>Toxicoscordion fontanum</i> marsh zigzag	CRPR 4	Chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, marshes and swamps; located in vernal mesic sites underlain by serpentine; serpentine indicator: BE/SI. Elevation range: 45 – 3250 feet. Blooms: April – July.	Unlikely. Although one soil mapping unit in the Study Area is derived from serpentine, there is in-fact no serpentine substrate to support this species.	Presumed Absent. No further actions are recommended for this species.
<i>Trichostema ruygtii</i> Napa bluecurls	CRPR 1B, LR	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest; located in open, sunny locations, and dried vernal pools. Elevation range: 95 – 2210 feet. Blooms: June – October.	Unlikely. Although the Study Area contains chaparral, this species is known from ash-flow rock slabs that collect winter and spring rainfalls.	Presumed Absent. No further actions are recommended for this species.
<i>Trifolium amoenum</i> showy rancheria clover	FE, CRPR 1B	Valley and foothill grassland, coastal bluff scrub, swales, open sunny sites, sometimes on serpentine; serpentine indicator: WI/IN. Elevation range: 15 – 1365 feet. Blooms: April – June.	Unlikely. This species is known from mesic grasslands in coastal and Bayland sites.	Presumed Absent. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Trifolium hydrophilum</i> saline clover	CRPR 1B	Marshes and swamps, mesic portions of alkali vernal pools; mesic, alkali valley and foothill grassland. Elevation range: 0 – 985 feet. Blooms: April – June.	No Potential. The Study Area does not contain vernal pools or similar seasonal wetlands to support this species.	Not Present. No further actions are recommended for this species.
<i>Triteleia lugens</i> dark-mouthed triteleia	CRPR 4, LR	Broadleaf upland forest, chaparral, lower montane coniferous forest, coastal scrub. Elevation range: 325 – 3250 feet. Blooms: April – June.	Moderate Potential. The Study Area contains chaparral, woodland, and/or forest habitat that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
<i>Viburnum ellipticum</i> oval-leaved viburnum	CRPR 2B	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation range: 705 – 4595 feet. Blooms: May – June.	Moderate Potential. The Study Area contains chaparral, woodland, and/or forest habitat that may support this species.	Not Observed. This species was not observed during protocol-level rare plant surveys. No further actions are recommended for this species.
WILDLIFE				
MAMMALS				
<i>Antrozous pallidus</i> pallid bat	SSC, WBWG High	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, forages along river channels. Roost sites include crevices in rocky outcrops and cliffs, caves, mines, trees and various manmade structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Moderate Potential. Woodland and forest within the Study Area provides trees suitable for roosting. Targeted bat assessment (i.e., close inspection of trees) was not performed.	Presence Unknown. Tree removal outside of maternity roosting season, or conduct pre-construction roost habitat assessment. See Section 6.0 for details.
<i>Bassariscus astutus</i> ringtail (ringtail cat)	SFP	Widely distributed throughout much of California. Found in a variety of habitats including riparian areas, semi-deserts, chaparral, oak and juniper woodlands, and montane conifer forests usually under 4,600 ft. elevation. Typically uses cliffs or large trees with suitable hollows for shelter.	Unlikely. The Study Area lacks cliffs and large tree cavities/hollows typical of dens for this species; no known occurrences in the vicinity.	Presumed Absent. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Corynorhinus townsendii townsendii</i> Townsend's western big-eared bat	SSC, WBWG High	Humid coastal regions of northern and central California. Roost in limestone caves, lava tubes, mines, buildings etc. Will only roost in the open, hanging from walls and ceilings; suitable roosting site limited. Extremely sensitive to disturbance	Unlikely. The Study Area does not contain caves, mines, or buildings suitable for roosting. CNDDDB occurrences in Napa County are all located in the northern portion of the County (CDFW 2021a).	Presumed Absent. No further recommendations for this species.
<i>Eumops perotis californicus</i> western mastiff bat	SSC, WBWG High	Found in a wide variety of open, arid and semi-arid habitats. Distribution appears to be tied to large rock structures which provide suitable roosting sites, including cliff crevices and cracks in boulders.	Unlikely. The Study Area lacks large rock structures that are suitable for roosting. There are no CNDDDB occurrences of this species in Napa County (CDFW 2021a).	Presumed Absent. No further recommendations for this species.
<i>Lasiurus blossevillii</i> western red bat	SSC, WBWG High	Highly migratory and typically solitary, roosting primarily in the foliage of trees or shrubs. It is associated with broad-leaved, riparian trees, including cottonwoods, sycamores, alders, and maples. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas.	Unlikely. The Study Area lacks riparian woodland and the tree species typically used for roosting by this species.	Presumed Absent. No further recommendations for this species.
<i>Myotis thysanodes</i> fringed myotis	WBWG High	Associated with a wide variety of habitats including dry woodlands, desert scrub, mesic coniferous forest, grassland, and sage-grass steppes. Building, mines, and large trees and snags are important day and night roosts.	Moderate Potential. Woodland/forest within the Study Area provides trees potentially suitable for roosting. Targeted bat assessment (i.e., close inspection of trees) was not performed.	Presence Unknown. Tree removal outside of maternity roosting season, or conduct pre-construction roost habitat assessment. See Section 6.0 for details.
<i>Myotis volans</i> long-legged myotis	WBWG High	Primarily found in coniferous forests, but also occurs seasonally in riparian and desert habitats. Large hollow trees, rock crevices, buildings, mines, and caves are important day roosts.	Unlikely. The Study Area does not contain stands of coniferous forest.	Presumed Absent. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Reithrodontomys raviventris</i> salt marsh harvest mouse	FE, SE, SFP	Endemic to emergent salt and brackish wetlands of the San Francisco Bay Estuary. Pickleweed marshes are primary habitat; also occurs in various other wetland communities with dense vegetation. Does not burrow, builds loosely organized nests. Requires higher areas for dryland refugia during high tides.	No Potential. The Study Area contains no tidal or brackish marsh and is outside of this species' Napa County range.	Not Present. No further recommendations for this species.
<i>Sorex ornatus sinuosus</i> Suisun shrew	SSC	Tidal marshes of the northern shores of San Pablo and Suisun bays. Require dense low-lying vegetation cover, driftwood, and other litter above the mean high tide line for nesting and foraging.	No Potential. The Study Area contains no tidal or brackish marsh and is outside of this species' Napa County range.	Not Present. No further recommendations for this species.
<i>Taxidea taxus</i> American badger	SSC	Most abundant in drier open stages of most shrub, woodland, and herbaceous vegetation types. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents.	Unlikely. The Study Area contains areas of grassland and woodland with some suitable habitat elements, but there are no occurrences within the eastern portion of Napa County (CDFW 2021a). Additionally, no burrows potentially made or occupied by this species were observed during site visits.	Presumed Absent. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
BIRDS				
<i>Agelaius tricolor</i> tricolored blackbird	SC (E), SSC	Nearly endemic to California, where it is most numerous in the Central Valley and vicinity. Highly colonial, nesting in dense aggregations over or near freshwater in emergent growth or riparian thickets. Also uses flooded agricultural fields. Abundant insect prey near breeding areas essential.	Unlikely. The Study Area does not contain vegetated ponds or marshes.	Presumed Absent. No further recommendations for this species.
<i>Ammodramus savannarum</i> grasshopper sparrow	SSC, LR	Summer resident. Breeds in open grasslands in lowlands and foothills, generally with low- to moderate-height grasses and scattered shrubs. Well-hidden nests are placed on the ground.	Unlikely. While the Study Area provides open albeit disturbed grassland, this species' Napa County breeding range is largely restricted to southern baylands (Smith 2003); nearest recent observations at Milliken Reservoir, 4 miles to the south (eBird 2022). Not detected during site visits.	Presumed Absent. No further recommendations for this species.
<i>Aquila chrysaetos</i> golden eagle	BGEPA, SFP	Occurs year-round in rolling foothills, mountain areas, sage-juniper flats, and deserts. Cliff-walled canyons provide nesting habitat in most parts of range; also nests in large trees and on taller, manmade structures, usually within otherwise open areas.	Unlikely. The Study Area does not provide large cliffs, and lacks typical large, isolated nest trees. No indication of presence observed during site visits. May forage in the vicinity.	Presumed Absent. No further recommendations for this species.
<i>Ardea alba</i> great egret	no status (breeding sites protected by CDFW)	Year-round resident. Nests colonially or semi-colonially, usually in trees, occasionally on the ground or elevated platforms. Breeding sites usually in close proximity to foraging areas: marshes, lake margins, tidal flats, and rivers. Forages primarily on fishes and other aquatic prey, also smaller terrestrial vertebrates.	Unlikely. The Study Area is not within close proximity to suitable waters to support a breeding colony.	Presumed Absent. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Ardea herodias</i> great blue heron	LR (breeding sites protected by CDFW)	Year-round resident. Nests colonially or semi-colonially in tall trees and cliffs, also sequestered terrestrial substrates. Breeding sites usually in close proximity to foraging areas: marshes, lake margins, tidal flats, and rivers. Forages primarily on fishes and other aquatic prey, also smaller terrestrial vertebrates.	Unlikely. The Study Area is not within close proximity to suitable waters to support a breeding colony.	Presumed Absent. No further recommendations for this species.
<i>Asio flammeus</i> short-eared owl	SSC	Occurs year-round, but primarily as a winter visitor; breeding very restricted in most of California. Found in open, treeless areas (e.g., marshes, grasslands) with elevated sites for foraging perches and dense herbaceous vegetation for roosting and nesting. Preys mostly on small mammals, particularly voles.	Unlikely. Known distribution (wintering) is restricted to the Napa baylands; breeding in the County has never been documented (Smith 2003).	Presumed Absent. No further recommendations for this species.
<i>Asio otus</i> long-eared owl	SSC	Occurs year-round in California. Nests in trees in a variety of woodland habitats, including oak and riparian, as well as tree groves. Requires adjacent open land with rodents for foraging, and the presence of old nests of larger birds (hawks, crows, magpies) for breeding.	Unlikely. Rare in Napa County, with the nearest observations consisting of wintering birds on the Napa Valley floor (eBird 2022). The only known breeding record is from a wooded canyon north of Lake Berryessa (Smith 2003, eBird 2022).	Presumed Absent. No further recommendations for this species.
<i>Athene cunicularia</i> burrowing owl	SSC	Year-round resident and winter visitor. Occurs in open, dry grasslands and scrub habitats with low-growing vegetation, perches and abundant mammal burrows. Preys upon insects and small vertebrates. Nests and roosts in old mammal burrows, most commonly those of ground squirrels.	Unlikely. Breeding and wintering distribution within Napa County are restricted to the vicinity of Lake Berryessa and southern baylands (Smith 2003, CDFW 2021a).	Presumed Absent. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Buteo swainsoni</i> Swainson's hawk	ST	Summer resident in the Central Valley and limited other coastal and interior valleys. Nests in tree groves and isolated trees in riparian and agricultural areas, including near buildings. Forages in grasslands and scrub habitats as well as agricultural fields, especially alfalfa. Preys on arthropods year-round as well as smaller vertebrates during the breeding season.	Unlikely. Napa County's small breeding population is restricted to the vicinity of the Napa River and southern baylands; the nearest nesting occurrence in CNDDB is located greater than 8 miles to the west (CDFW 2022a).	Presumed Absent. No further recommendations for this species.
<i>Charadrius alexandrinus nivosus</i> western snowy plover	FT, SSC	Federal listing applies only to the Pacific coastal population. Year-round resident and winter visitor. Occurs on sandy beaches, salt pond levees, and the shores of large alkali lakes. Nests on the ground, requiring sandy, gravelly or friable soils.	No Potential. The Study Area does not contain beaches or other suitable barren habitat near water.	Not Present. No further recommendations for this species.
<i>Circus cyaneus</i> northern harrier	SSC	Year-round resident and winter visitor. Found in open habitats including grasslands, prairies, marshes and agricultural areas. Nests on the ground in dense vegetation, typically near water or otherwise moist areas. Preys on small vertebrates.	Unlikely. Grassland within the Study Area is generally arid and dense cover is limited; no indication of presence or nesting observed during site visits.	Presumed Absent. No further recommendations for this species.
<i>Contopus cooperi</i> olive-sided flycatcher	SSC	Summer resident. Typical breeding habitat is montane coniferous forests. At lower elevations, also occurs in wooded canyons and mixed forests and woodlands. Often associated with forest edges. Arboreal nest sites located well off the ground.	Moderate Potential. Black oak forest within the Study Area provides suitable nesting habitat, including forest edges. Has been recently observed in the vicinity (eBird 2022).	Presence Unknown. Tree/vegetation removal and initial ground disturbance should occur outside of nesting season, or conduct pre-construction surveys and avoid any active nests found. See Section 6.0 for details.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Coturnicops noveboracensis</i> yellow rail	SSC	Summer resident in eastern Sierra Nevada in Mono County, breeding in shallow freshwater marshes and wet meadows with dense vegetation. Also a rare winter visitor along the coast and other portions of the state. Extremely cryptic.	No Potential. The Study Area does not provide any suitable marsh/wetland habitat.	Not Present. No further recommendations for this species.
<i>Cypseloides niger</i> black swift	SSC	Summer resident with a fragmented breeding distribution; most occupied areas in California either montane or coastal. Breeds in small colonies on cliffs behind or adjacent to waterfalls, in deep canyons, and sea-bluffs above surf. Forages aerially over wide areas. No modern nesting records in Napa County.	No Potential. The Study Area does not contain waterfalls; there are no modern breeding records for Napa County (Smith 2003, Shuford and Gardali 2008).	Not Present. No further recommendations for this species.
<i>Egretta thula</i> snowy egret	no status (breeding sites protected by CDFW)	Year-round resident. Nests colonially, usually in trees, at times in sequestered beds of dense emergent vegetation (e.g., tules). Rookery sites usually situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.	Unlikely. The Study Area is not within close proximity to suitable waters to support a breeding colony.	Presumed Absent. No further recommendations for this species.
<i>Elanus leucurus</i> white-tailed kite	SFP	Year-round resident in coastal and valley lowlands with scattered trees and large shrubs, including grasslands, marshes and agricultural areas. Nests in trees, of which the type and setting are highly variable. Preys on small mammals and other vertebrates.	Moderate Potential. Woodland areas within the Study Area provides suitable nesting trees, with adjacent scrub and open areas for foraging. Not observed during site visits, but may occur in the future.	Presence Unknown. Tree/vegetation removal and initial ground disturbance should occur outside of nesting season, or conduct pre-construction surveys and avoid any active nests found. See Section 6.0 for details.
<i>Falco peregrinus anatum</i> American peregrine falcon	SE, SFP	Year-round resident and winter visitor. Occurs near water, including coastal areas, wetlands, lakes and rivers. Usually nests on sheltered cliffs or tall man-made structures. Preys primarily on waterbirds.	Unlikely. The Study Area does not contain large cliffs or suitable man-made structures for nesting.	Presumed Absent. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Geothlypis trichas sinuosa</i> San Francisco (saltmarsh) common yellowthroat	SSC	Resident of the San Francisco Bay region, in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	No Potential. No marsh vegetation is present within the Study Area, and this species' Napa County distribution is restricted to baylands (Shuford and Gardali 2008).	Not Present. No further recommendations for this species.
<i>Haliaeetus leucocephalus</i> bald eagle	BGEPA, SE, SFP	Occurs year-round in California, but primarily a winter visitor; breeding population is growing. Nests in large trees in the vicinity of larger lakes, reservoirs, and rivers. Wintering habitat somewhat more variable but usually features large concentrations of waterfowl or fish.	Unlikely. Larger water bodies are not within or in close proximity to the Study Area. As per Smith (2003) and CDFW (2021a), nesting within Napa County is known only from the immediate vicinity of Lake Berryessa.	Presumed Absent. No further recommendations for this species.
<i>Icteria virens</i> yellow-breasted chat	SSC, LR	Summer resident, occurring in riparian areas with an open canopy, very dense understory, and trees for song perches. Nests in thickets of willow (<i>Salix</i> spp.), blackberry (<i>Rubus</i> spp.), and wild grape (<i>Vitis californicus</i>).	No Potential. The Study Area does not contain stands of dense riparian understory favored by this species for nesting.	Not Present. No further recommendations for this species.
<i>Lanius ludovicianus</i> loggerhead shrike	SSC, LR	Year-round resident in open woodland, grasslands, savannah, and scrub. Prefers areas with sparse shrubs, trees, posts, and other suitable perches for foraging. Preys upon large insects and small vertebrates. Nests are well-concealed in densely-foliaged shrubs or trees.	Unlikely. The Study Area provides some suitable habitat elements, i.e., open areas with scattered shrubbery. However, there are no observations in the area (eBird 2022), and this usually conspicuous species was not observed during site visits.	Presumed Absent. No further recommendations for this species.
<i>Laterallus jamaicensis coturniculus</i> California black rail	ST, SFP	Year-round resident in marshes (saline to freshwater) with dense vegetation within four inches of the ground. Prefers larger, undisturbed marshes that have an extensive upper zone and are close to a major water source. Extremely secretive and cryptic.	No Potential. The Study Area does not contain tidal or brackish marsh. Within Napa County, this species is restricted to baylands and the lower Napa River.	Not Present. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Melospiza melodia samuelis</i> San Pablo song sparrow	SSC	Year-round resident of tidal marshes along the north side of San Francisco and San Pablo Bays. Typical habitat is dominated by pickleweed, with gumplant and other shrubs present in the upper zone for nesting. May forage in areas adjacent to marshes.	No Potential. The Study Area contains no tidal or brackish marsh and is outside of this species' limited Napa County range (Shuford and Gardali 2008).	Not Present. No further recommendations for this species.
<i>Nycticorax nycticorax</i> black-crowned night heron	no status (breeding sites protected by CDFW)	Year-round resident. Nests colonially, usually in trees but also in patches of emergent vegetation. Rookery sites are often on islands and usually located adjacent to foraging areas: margins of lakes and bays.	No Potential. The Study Area and adjacent lands lack aquatic foraging habitat; no indication of presence observed during site visits.	Not Present. No further recommendations for this species.
<i>Passerculus sandwichensis alaudinus</i> Bryant's savannah sparrow	SSC	Year-round resident associated with the coastal fog belt, primarily between Humboldt and northern Monterey Counties. Occupies low tidally influenced habitats and adjacent areas, including grasslands. Also uses drier, more upland coastal grasslands. Nests near the ground in taller vegetation, including along levees and canals.	Unlikely. While the Study Area provides open albeit disturbed grassland, this species' Napa County breeding range is restricted to southwestern baylands and Pope Valley (Shuford and Gardali 2008, Smith 2003).	Presumed Absent. No further recommendations for this species.
<i>Progne subis</i> purple martin	SSC, LR	Summer resident. Inhabits woodlands and low-elevation coniferous forests. Nests in old woodpecker cavities and man-made structures (bridges, utility towers). Nest is often located in tall, isolated tree or snag.	Unlikely. The Study Area does not contain coniferous forest and lacks typical nesting habitat; in Napa County, known primarily from forests in its northwestern portion (Smith 2003, CDFW 2022a).	Presumed Absent. No further recommendations for this species.
<i>Rallus obsoletus obsoletus</i> California Ridgway's (clapper) rail	FE, SE, SFP	Year-round resident in tidal marshes of the San Francisco Bay estuary. Requires tidal sloughs and intertidal mud flats for foraging, and dense marsh vegetation for nesting and cover. Typical habitat features abundant growth of cordgrass and pickleweed. Feeds primarily on mollusks and crustaceans.	No Potential. The Study Area does not contain tidal or brackish marsh. Within Napa County, this species is restricted to baylands and the lower Napa River system.	Not Present. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Riparia riparia</i> bank swallow	ST	Summer resident in riparian and other lowland habitats near rivers, lakes and the ocean in northern California. Nests colonially in excavated burrows on vertical cliffs and bank cuts (natural and manmade) with fine-textured soils. Currently known to breed in Siskiyou, Shasta, and Lassen Cos., portions of the north coast, and along Sacramento River from Shasta Co. south to Yolo Co.	No Potential. The Study Area does not contain cliffs or cuts with fine-textured soils or any other potentially suitable nesting substrate. Not known to nest in Napa County as per Smith (2003).	Not Present. No further recommendations for this species.
<i>Setophaga petechia brewsteri</i> (Brewster's) yellow warbler	SSC	Summer resident throughout much of California. Breeds in riparian vegetation close to water, including streams and wet meadows. Microhabitat used for nesting is variable, but dense willow growth is typical. Occurs widely on migration.	Unlikely. The Study Area does not contain perennial streams and associated dense willow cover favored by this species for breeding. Individuals presumably occur during migration.	Presumed Absent. No further recommendations for this species.
<i>Spizella atrogularis</i> black-chinned sparrow	LR	Summer resident. Typically occurs on arid, rocky slopes with brushy vegetation, e.g. mixed chaparral, and sagebrush.	Unlikely. Brushy habitat within the Study Area is limited in extent; no observations in the vicinity (eBird 2022).	Presumed Absent. No further recommendations for this species.
<i>Strix occidentalis caurina</i> northern spotted owl	FT,ST, SSC	Year-round resident in dense, structurally complex forests, primarily those with stands of mature conifers. In Napa County, uses both coniferous and mixed (coniferous-hardwood) forests. Nests on platform-like substrates in the forest canopy, including in tree cavities. Preys on mammals.	No Potential. The Study Area does not contain dense/mature coniferous or mixed forest; the nearest occurrences are located west of Napa Valley or in forested areas greater than 9 miles to the north (CDFW 2022b).	Not Present. No further recommendations for this species.
<i>Xanthocephalus xanthocephalus</i> yellow-headed blackbird	SSC, LR	Summer resident. Breeds colonially in freshwater emergent wetlands with dense vegetation and deep water, often along borders of lakes or ponds. Requires abundant large insects such as dragonflies; nesting is timed for maximum emergence of insect prey.	No Potential. The Study Area lacks emergent marsh.	Not Present. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
REPTILES AND AMPHIBIANS				
<i>Dicamptodon ensatus</i> California giant salamander	SSC	Occurs in the north-central Coast Ranges. Moist coniferous and mixed forests are typical habitat; also uses woodland and chaparral. Adults are terrestrial and fossorial, breeding in cold, permanent or semi-permanent streams. Larvae usually remain aquatic for over a year.	No Potential. The Study Area lacks perennial or near-perennial streams; the nearest occurrences are in forested areas west and north of Napa Valley (CDFW 2022a).	Not Present. No further recommendations for this species.
<i>Emys marmorata</i> western pond turtle	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.	Unlikely. The Study Area lacks ponds or other typical aquatic habitat features (e.g., perennial or near-perennial streams); vineyard ponds on adjacent property appear highly disturbed.	Presumed Absent. No further recommendations for this species.
<i>Rana boylei</i> foothill yellow-legged frog	SSC	Found in or near rocky streams in a variety of habitats; highly aquatic. Prefers partially-sunlit, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Feeds on invertebrates (aquatic and terrestrial).	No Potential. The Study Area lacks perennial or near-perennial, rocky streams.	Not Present. No further recommendations for this species.
<i>Rana draytonii</i> California red-legged frog	FT, SSC	Lowlands and foothills in or near permanent sources of deep water with dense emergent and/or overhanging riparian vegetation. Favors perennial to intermittent ponds, marshes, and stream pools. Requires 11 to 20 weeks of continuous inundation for larval development. Disperses through upland habitats during and after rains.	Unlikely. The Study Area lacks ponds or other typical aquatic habitat, and there are no modern CNDDB records within 5 miles of the site (CDFW 2022a).	Presumed Absent. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
FISHES				
<i>Acipenser medirostris</i> green sturgeon	FT, SSC	Spawns in the Sacramento River and Klamath Rivers, at temperatures between 8-14 degrees C. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	No Potential. The Study Area does not contain suitable anadromous or estuarine waters.	Not Present. No further recommendations for this species.
<i>Eucyclogobius newberryi</i> tidewater goby	FE, SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches. Requires fairly still but not stagnant water and high oxygen levels.	No Potential. The Study Area does not contain brackish or ore estuarine waters.	Not Present. No further recommendations for this species.
<i>Hypomesus transpacificus</i> Delta smelt	FT, ST	Endemic to the Sacramento-San Joaquin estuary in areas where salt and freshwater systems meet. Occurs seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 ppt; most often at salinities < 2 ppt.	No Potential. The Study Area does not contain estuarine waters.	Not Present. No further recommendations for this species.
<i>Lampetra ayresi</i> river lamprey	SSC	Lower Sacramento River, San Joaquin River and Russian River. May occur in coastal streams north of San Francisco Bay. Adults need clean, gravelly riffles, Ammocoetes need sandy backwaters or stream edges, good water quality and temps < 25 degrees C.	No Potential. The Study Area does not contain suitable anadromous or estuarine waters.	Not Present. No further recommendations for this species.
<i>Mylopharodon conocephalus</i> hardhead	SSC	Known from mid-elevation streams in the Sacramento, San Joaquin, Napa River, and Russian River drainages. Prefer clear, deep pools with sand-gravel-boulder bottoms and slow water velocity.	No Potential. The Study Area does not contain suitable anadromous or estuarine waters.	Not Present. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Oncorhynchus mykiss irideus</i> steelhead - central CA coast DPS	FT	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	No Potential. The Study Area does not contain suitable anadromous or estuarine waters.	Not Present. No further recommendations for this species.
<i>Oncorhynchus tshawytscha</i> Chinook salmon - California coastal ESU	FT	This ESU includes all naturally spawned populations of Chinook salmon from rivers and streams south of the Klamath River (exclusive) to the Russian River (inclusive). Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temps >27 degrees C lethal to adults.	No Potential. The Study Area does not contain suitable anadromous or estuarine waters.	Not Present. No further recommendations for this species.
<i>Pogonichthys macrolepidotus</i> Sacramento splittail	SSC	Formerly endemic to the lakes and rivers of the Central Valley, but now confined to the Sacramento Delta, Suisun Bay and associated marshes. Occurs in slow-moving river sections and dead-end sloughs. Requires flooded vegetation for spawning and foraging for young. A freshwater species, but tolerant of moderate salinity (10-18 parts per thousand).	No Potential. The Study Area does not contain riverine or estuarine waters.	Not Present. No further recommendations for this species.
<i>Spirinchus thaleichthys</i> longfin smelt	FC, ST, SSC	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15 to 30 ppt, but can be found in completely freshwater to almost pure seawater.	No Potential. The Study Area does not contain riverine or estuarine waters.	Not Present. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
INVERTEBRATES				
<i>Branchinecta lynchi</i> vernal pool fairy shrimps	FT	Endemic to the grasslands of the Central Valley, central coast mountains, and south coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	No Potential. The Study Area does not contain vernal pools or other suitable seasonal aquatic features (e.g., swales deep and ponded enough to support this species).	Not Present. No further recommendations for this species.
<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	FT	Known from the Central Valley and adjacent foothills, in riparian and oak savannah where elderberry (<i>Sambucus</i> sp.), the host plant, is present.	No Potential. Elderberry was not observed during the site visit; CNDDB occurrences are restricted to Napa County's southeastern-most portion (CDFW 2022a).	Not Present. No further recommendations for this species.
<i>Speyeria callippe callippe</i> Callippe silverspot butterfly	FE	Two populations are recognized, on San Bruno Mountain and the Cordelia Hills. Host plant is Johnny jump-up (<i>Viola pedunculata</i>), which is found on serpentine soils. Most adults found on east-facing slopes; males congregate on hilltops in search of females.	No Potential. Violet was not observed within the Study Area during the site visit. Additionally, this species' known range with Napa County is restricted to the immediate vicinity of the Cordelia Hills.	Not Present. No further recommendations for this species.
<i>Syncaris pacifica</i> California freshwater shrimp	FE, SE	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from main stream flow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water.	No Potential. The Study Area lacks perennial streams. Additionally, the only documented occurrence in Napa County is from Huichica Creek in the southwest portion of the county (Marin and Wicksten 2004, CDFW 2022a).	Not Present. No further recommendations for this species.

***Key to status codes:**

FC	Federal Candidate for Listing
FE	Federal Endangered
BGEPA	Bald and Golden Eagle Protection Act Species
FT	Federal Threatened
LR	Locally Rare as per Napa County Baseline Report
SC (E/T)	State Candidate for Listing (Endangered/Threatened)
SE	State Endangered
SFP	State Fully Protected Animal
SR	State Rare
SSC	State Species of Special Concern
ST	State Threatened
CRPR 1A	CNPS CRPR 1A: Plants presumed extinct in California
CRPR 1B	CNPS CRPR 1B: Plants rare, threatened or endangered in California and elsewhere
CRPR 2A	CNPS CRPR 2A: Plants presumed extirpated in California, but more common elsewhere
CRPR 2B	CNPS CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
CRPR 3	CNPS CRPR 3: Plants about which CNPS needs more information (a review list)
CRPR 4	CNPS CRPR 4: Plants of limited distribution (a watch list)
WBWG	Western Bat Working Group High or Medium-high Priority Species

Potential to Occur:

No Potential: Habitat on and adjacent to the site is clearly unsuitable for the species requirements (cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

Unlikely: Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.

Moderate Potential: Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

High Potential: All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

Results and Recommendations:

Present: Species was observed on the site or has been recorded (i.e., CNDDDB, other reports) on the site recently.

Assumed Present: Species is assumed to be present on-site based on the presence of key habitat components.

Assumed Present without Impact: Species assumed present; however, project activities will not have an impact on the species.

Presumed Absent: Species is presumed to not be present due to a lack of key habitat components.

Not Present: Species is considered not present due to a clear lack of any suitable habitat and/or local range limitations.

Not Observed: Species was not observed during dedicated/formal surveys.

Presence Unknown: Species has the potential to be present, but no dedicated surveys to determine absence/presence were performed.

Appendix D

Representative Photographs



Photo 1. California black oak forest (burned) with the Study Area. (Taken: March 26, 2021)



Photo 2. Non-native annual grassland (foreground), and California black oak forest (background). (Taken: March 26, 2021)



Photo 3. Toyon chaparral (burned) within the Study Area. (Taken: June 23, 2021)



Photo 4: Developed spring within the Study Area. (Taken: March 26, 2021)

Appendix E

Statement of Qualifications

Appendix E. Statement of Qualifications

WRA is an environmental consulting firm with over 30 years of experience conducting biological resources assessments, wetland delineations, protocol-level rare plant surveys, special-status wildlife assessments and species-specific surveys, as well as preparing applications with state and federal natural resource agencies for avoiding, minimizing, and mitigating impacts to sensitive natural resources. Other services and products with which WRA has expertise include preparation of CEQA/NEPA documents, habitat mitigation and monitoring plans, natural resource management plans, mitigation and conservation bank enabling instruments, grazing management plans, and wetland and other natural resources restoration plans.

Matt Richmond, BS, Principal with WRA, has over eighteen years of experience performing botanical assessments, rare plant surveys, environmentally sensitive habitat area surveys, wetland delineations, and vegetation mapping. He also has experience performing protocol-level surveys for California red-legged frog, Ridgway's rail, marbled murrelet, northern spotted owl, Point Arena mountain beaver, and Behren's silverspot butterfly. His project focus is in conservation and mitigation banking, coastal development projects, vineyard development, and timber resources. Mr. Richmond regularly manages large-scale mitigation banking projects, as well as coastal development permits, coastal restoration projects, and vineyard grading permits with a focus in Mendocino, Napa, Lake, and Sonoma counties. Mr. Richmond's technical training includes the flora of Northern California, plant ecology, and forest ecology. Additionally, he has completed the 40-hour Corps wetland delineation training. Mr. Richmond received his Bachelor of Science in Biology from Humboldt State University.

Jason Yakich, MS, Senior Wildlife Biologist with WRA, has over 15 years of experience performing wildlife habitat assessments, biological monitoring for special-status wildlife species, breeding bird and other avian surveys, and protocol-level surveys for several special-status wildlife species. Additionally, he prepares and oversees a variety of general biological assessments and technical reports at WRA, with a geographic focus on the North Bay counties and North Coast. Mr. Yakich has respective permit authorizations from the USFWS and CDFW to conduct active (call-playback) surveys for California clapper rail and California black rail. Mr. Yakich received his Bachelor of Arts in Biology from U.C. Santa Cruz, and received his Master of Science in Biology from San Francisco State University with a focus on marine and estuarine biology.

Aaron Arthur, MS, Senior Plant Biologist with WRA, has over 15 years of experience performing vegetation & habitat mapping, rare plant surveys, botanical assessments, vegetation change analysis, and wetland delineations. His project focus is on vineyard development, timber resources, coastal development permits, habitat mitigation and monitoring plans, conservation and mitigation banking, and long-term management plans in Sonoma, Marin, Napa, and Mendocino counties. Mr. Arthur's technical training includes the flora of Northern California, the flora of the Pacific Northwest, agrostology, aquatic botany, plant ecology, forest ecology, and soil science. Additionally, he has completed the 40-hour Corps wetland delineation course, holds 2081(a) Plant Voucher Permit, and is Certified California Consulting Botanist #0016 from the California Native Plant Society. Mr. Arthur received his Bachelor of Arts in Geography and received his Master of Science in Physical Geography from Oregon State University, where his research focused on forest floristics and vegetation change.