Biological Resources Reconnaissance Survey Report

G1 Financial Corporation: 1220 Soda Canyon Road
Napa, Napa County (APN: 039-150-091)

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EXECUTIVE SUMMARY

This report details the regulatory background, methods, results, and recommendations of a Biological Resources Reconnaissance Survey (BRRS) for the proposed development of six vineyard blocks comprising 1.7 net acres of vines within 2.8 acres of clearing limit (Project Area) located at 1220 Soda Canyon Road in unincorporated Napa County, California. WRA, Inc. performed field surveys on April 24, June 20, and August 30, 2019. The Project Area is composed of developed areas, non-native grasslands, and oak woodlands.

Approximately 0.71 acres, of a total 3.71 acres of oak woodlands across the property (19.1 percent) are proposed to be converted to vineyard and associated infrastructure. Oak woodlands are considered sensitive under Napa County General Plan Conservation Element Policy CON-24 which requires a ratio of 2:1 preservation for any impacts to oak woodlands. A combination of avoidance and preservation is recommended to ensure consistency with this policy. The remainder of the vineyard blocks are situated in the non-sensitive land cover types of developed/disturbed areas and non-native grassland.

The Project Area is intentionally sited to avoid on-site seasonal wetlands and streams and the Proposed Project will avoid special-status plants situated on the property.

Two special-status bats, one special-status bird, and one special-status amphibian, as well as non-status birds with baseline legal protections, have the potential to occur in the 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, inclusive of approximately 10.02 acres spanning across parcel APN 039-150-091.

Project Area: The area encompassing the Proposed Project; the area evaluated for potential impacts to sensitive biological resources

LIST OF ABBREVIATIONS & ACRONYMS

BGEPA	Bald and Golden Eagle Protection Act
BIOS	Biogeographic Information and Observation System
BRRS	Biological Resources Reconnaissance Survey
CCH	Consortium of California Herbaria
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
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
CRLF	California Red-legged Frog
CSRL	California Soils Resources Lab
CTS	California Tiger Salamander
CWA	Clean Water Act
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ESA	(Federal) Endangered Species Act
Magnusen-Stevens Act	Magnuson-Stevens Fishery Conservation & Management
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
SWRCB	State Water Resource Control Board
TOB	Top of Bank
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 April 24, June 20, and August 30, 2019 WRA, Inc. (WRA) performed an assessment of biological resources at a private residence located at 1220 Soda Canyon Road (APN: 039-150-091; hereafter Study Area) (Figure 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 may or may not be 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 Project 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 five vineyard blocks totaling approximately 1.7 net acres (2.8 gross acres) in the eastern portion of the Study Area. Associated with the installation of the grape vines will be vineyard avenues, fences, irrigation lines, etc. The broader property has been deer fenced; therefore, there will be no new fencing specific to the proposed vineyard blocks. 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 October 15. By October 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 phenomenon. 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 2020a). CNDDB vegetation alliances are ranked 1 through 5 based on NatureServe's (2020) 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 are 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 cause 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 [3:1 ratio; see below] 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:

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 adopted Ordinance No. 1438 adding 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 Ordinance No. 1438 known as 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 retention based on vegetation that existed within the parcel in 1993. In addition, Chapter 18.108.020 subsections C and D were added to the Code that require a minimum of 70 percent retention of canopy cover based on the vegetation that existed within the parcel in 2016, and the preservation or mitigation of trees 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 15 percent slope and less than 5 acres.

3.0 ENVIRONMENTAL SETTING

The approximately 10.02-acre Study Area is set across the subject parcel (Appendix A). It is located in central Napa County, approximately five aerial miles southeast of the Yountville and 4.75 aerial miles north of Napa. It is situated in the Howell Mountains, southwest of Atlas Peak. Detailed descriptions of the local setting are below.

3.1 Topography and Soils

The overall topography of the Study Area is gently to moderately sloped with all aspects represented, and elevations ranging from approximately 130 to 450 feet above sea level. According to the *Soil Survey of Napa County* (USDA 1978), the Study Area is underlain by two soil mapping units: Sobrante loam, 30 to 50 percent slopes and Kidd loam, 15 to 30 percent slopes. The parent soil series of all the Study Area's mapping units are summarized below.

Kidd Series: This series consists of very shallow gravelly loam soils formed from weathered rhyolitic tuff and rhyolite situated on upland hillslopes at elevations ranging from 500 to 4,300 feet. These soils are not considered hydric, and are well- to excessively drained with medium to very rapid runoff, and moderately rapid to rapid permeability (CSRL 2020, USDA 1972). Native and naturalized vegetation include hoary manzanita (*Arctostaphylos canescens*), chamise (*Adenostoma fasciculatum*), ceanothus (*Ceanothus* spp.), scrub oak (*Quercus berberidifolia*), knobcone pine (*Pinus attenuata*), ponderosa pine (*P. ponderosa*), and mixed herbs. Typical land use is for watershed, recreation, and limited grazing.

Sobrante Series: This series consists of moderately deep to shallow fine loam soils formed from residuum weathered from igneous and metamorphic rock situated on upland hillslopes at elevations ranging from 125 to 3,500 feet (CSRL 2020, USDA 1978). This series is not considered hydric in Sonoma County, and well drained, with moderate permeability, and low to very high runoff (USDA 2014, USDA 1978). Native and naturalized vegetation is oak (*Quercus* spp.) savannah and woodland dominated by annual grasses and forbs, and predominant land uses are rangeland, irrigated hay and pasture, and dry land crops (USDA 1978).

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 the majority of rain falls between November and March, with a combined average of 22.08 inches (USDA 2020).

The local watershed is Milliken Creek (HUC 12: 180500020204) and the regional watershed is Napa River-San Pablo Bay Estuaries (HUC 8: 18050002). The Study Area is situated in the Napa County Planning Watershed of Soda Creek. There is one unnamed dashed blue-line stream in the Study Area (USGS 2015). This stream is also mapped as Riverine in the National Wetlands Inventory (NWI; USFWS 2020a) and Fluvial in the California Aquatic Resources Inventory (CARI; SFEI 2020). The primary hydrologic sources in the Study Area are direct precipitation and consequent sheet- and in-channel flows. Precipitation in the majority of the

Study Area infiltrates quickly due to coarse textured soils with a high percent of rock content. Detailed descriptions of aquatic resources are provided in Section 5.1 below.

3.3 Land Cover and Land Use

The southern extent of the Study Area is developed with a residence and associated infrastructure, with the remainder being open, undeveloped areas. Undeveloped areas consist of non-native grassland, blue oak woodland, and seasonal wetland. Nearly the entire Study Area was burned in the Atlas Fire of October 2017, and the residence sustained extensive damage. Detailed plant community descriptions are included in Section 5.1 below, and all observed plants are included in Appendix B. Likewise, a house was being reconstructed at the time of the site visits. Regional land uses include rural residential, wineries, livestock grazing, and vineyards (Google Earth 2020). Historically, the region was open rangeland of larger ranches and vineyards. There is no history of intensive agriculture, quarrying, mining, or timbering in the Study Area (Historic Aerials 2020).

4.0 ASSESSMENT METHODS

Prior to the site visit, 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)
- Yountville 7.5-minute quadrangle (USGS 2015)
- Contemporary aerial photographs (Google Earth 2020)
- Historical aerial photographs (Historical Aerials 2020)
- National Wetlands Inventory (USFWS 2020a)
- California Aquatic Resources Inventory (SFEI 2020)
- California Natural Diversity Database (CNDDB, CDFW 2020a)
- California Native Plant Society Electronic Inventory (CNPS 2020a)
- Consortium of California Herbaria (CCH 2020)
- California Aquatic Resource Inventory (SFEI 2020)
- USFWS List of Federal Endangered and Threatened Species (USFWS 2020b)
- *eBird* Online Database (eBird 2020)
- 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 2020b)
- *Preliminary Descriptions of the Terrestrial Natural Communities* (Holland 1986)
- Napa County Land Cover (NCLC) map (Thorne et al. 2004)
- *California Natural Community List* (CDFW 2018b)

Database searches (i.e., CNDDB, CNPS) focused on the Saint Helena, Chiles Valley, Lake Berryessa, Rutherford, Yountville, Capell Valley, Sonoma, Napa, and Mount 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. Figures A-2 and A-3 illustrate special-status species documented within a five-mile radius of the Study Area.

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) existing conditions and to determine if such provide suitable habitat for any special-status plant or wildlife species, (3) if and what type of aquatic natural communities (e.g., wetlands) are present, and (4) if special-status species are present[1].

4.1 Land Cover Types

4.1.1 Terrestrial Land Cover Types

The Study Area's terrestrial land cover types were evaluated to determine if such areas have the potential to support special-status plants or wildlife. In most instances, communities are delineated based on distinct shifts in plant assemblage (vegetation), and follow the *California Natural Community List* (CDFW 2018b), *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), and *A Manual of California Vegetation, Online Edition* (CNPS 2020b). 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.[2] 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. WRA biologists conducted sample points in suspected wetland features following the *Corps of Engineers Wetlands Delineation*

[1] 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.
[2] Ranking of CDFW List of Vegetation Alliances is based on NatureServe Rankings (NatureServe 2018)

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 ordinary high water mark 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).

4.2 Special-status Species

4.2.1 General Assessment

Potential occurrence of special-status species in the Project Area was evaluated by first determining which special-status species occur in the vicinity of the Project Area 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 site visit was made on April 24, 2019 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 deemed necessary, 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, protocol-level surveys were conducted within the Study Area on April 24, June 20, and August 30, 2019. 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 2018a, 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 whether or not they were sensitive. Plant names follow those of Jepson Flora Project (eFlora 2020), unless otherwise noted.

4.2.3 Special-status Wildlife

The general assessment for special-status wildlife determined that a few species have the potential to occur in the Study Area. Targeted assessments (e.g., in-depth evaluation of ponds for aquatic organisms) and protocol-level surveys were deemed inapplicable or infeasible at the time of the site visit, due to inappropriate timing between such a survey and Project initiation.

4.2.4 Critical Habitat, Essential Fish Habitat, and Wildlife Corridors

Prior to the site visit the USFWS Critical Habitat Mapper (USFWS 2020b) and the NMFS Essential Fish Habitat Mapper (NMFS 2020) 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 (CalTrans 2010), habitat connectivity data available through the CDFW Biogeographic Information and Observation System (BIOS) (CDFW 2020a), and the NCBDR (Napa County 2005). Additionally, aerial imagery (Google 2020) 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

WRA observed five land cover types within the Study Area: developed, non-native grassland, blue oak woodland, seasonal wetland, and intermittent stream. Land cover types within the Study Area are illustrated in Figure A-4 (Appendix A). The non-sensitive land cover types in the Study Area and Project Area include non-native grasslands and developed areas, while the sensitive communities include the oak woodlands and seasonal wetland. The Project Area (clearing limits) has been intentionally sited to avoid the seasonal wetland.

5.1.1 Terrestrial Land Cover Types

Developed Area (no vegetation alliance). CDFW Rank: None. A little under half of the subject parcel is developed in roads and residence (in development after destruction in the 2017 Atlas Peak Fire). The developed areas total 2.72 acres in the Study Area, and 1.22 acres within the Project Area (44.9 percent of the total land cover type in the Study Area). In the developed areas, the vegetation is minimal and composed of common weeds such as Italian thistle (*Carduus pycnocephalus*), black mustard (*Brassica nigra*), red sand spurry (*Spergularia rubra*), and field bindweed (*Convolvulus arvensis*). The Urban/Built-up NCLC type is synonymous with the developed areas (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 2020b). 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 3.26 acres of which 0.89 acre is situated in the Project Area (27.3 percent of the total land cover type in the Study Area).

The dominant cover is the herbaceous layer, but there are scattered trees and shrubs including blue oak (*Quercus douglasii*), coyote brush (*Baccharis pilularis*), and whiteleaf manzanita (*Arctostaphylos manzanita* ssp. *manzanita*). The herbaceous layer is dominated by non-native grasses of wild oat (*Avena barbata*), big rattlesnake grass (*Briza maxima*), soft chess (*Bromus hordeaceus*), dogtail grass (*Cynosurus echinatus*), and Italian rye grass (*Festuca perennis*). Native wildflowers are common in portions of the grassland including sky lupine (*Lupinus nanus*), California poppy (*Eschscholzia californica*), common soap plant (*Chlorogalum pomeridianum*), purple sanicle (*Sanicula bipinnatifida*), 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.

Blue Oak Woodland (*Quercus douglasii* Woodland Alliance). CDFW Rank G4 S4: Blue oak woodland is known from the interior North Coast Range, South Coast Range, southern Cascade Range, and Sierra Nevada Foothills from Humboldt County south to Ventura County (Sawyer et al. 2009, CNPS 2020b). These woodlands are typically situated on valley bottoms, foothills, and rocky outcrops underlain by moderately to excessively drained shallow, rocky, low-fertility substrate (Sawyer et al. 2009). The Study Area contains 3.71 acres of which 0.71 acres situated in the Project Area (19.1 percent of the total land cover type in the Study Area).

The dominant tree is blue oak (*Quercus douglasii*), with scattered cover of coast live oak (*Q. agrifolia*). Predominant understory species include poison oak (*Toxicodendron diversilobum*), soap plant (*Chlorogalum pomeridianum*), hedge parsley (*Torilis arvensis*), purple sanicle (*Sanicula bipinnatifica*), common fiddleneck (*Amsinckia intermedia*), and numerous non-native annual grasses.

This community is synonymous with the Blue 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 woodlands. The CDFW does not consider blue oak woodland a sensitive natural community. Conversely, these woodlands are considered sensitive Napa County under the General Plan Conservation Element Policy CON-24 (oak woodland retention).

5.1.2 Aquatic Resources

Seasonal Wetland – Italian Rye Grass Grassland (*Festuca perennis* Semi-natural Herbaceous Stands) / Himalayan blackberry bramble (*Rubus armeniacus* Semi-natural Shrubland Stands). Rank: G2? S2?: Seasonal wetlands are known from a variety of topographic positions and soil types where surface waters collect and flows are reduced, or subsurface waters approach the soil surface as a rising water table or seep. In the Study Area, four seasonal wetlands occupy 0.33 acre as fringe wetlands and seeps, all of which are entirely outside of the Project Area.

The vegetation is dominated by either Himalayan blackberry (*Rubus armeniacus*) or Italian rye grass (*Festuca perennis*). Other hydrophytes present in the wetlands include arroyo willow (*Salix lasiolepis*), Pacific rush (*Juncus effusus*), common rush (*J. patens*), pennyroyal (*Mentha pulegium*), and hyssop loosestrife (*Lythrum hyssopifolia*). Indicators of wetland hydrology include direct observation of inundation and saturation, flow patterns, sediment deposition, and algal mats (in micro-depressions). The soils were saturated in April and contain redoximorphic (rust) features. Because all three wetland parameters (vegetation, soil, and hydrology) are clearly evidenced, those areas mapped as wetland in the Study Area would be considered sensitive by Napa County and jurisdictional under the CWA.

Intermittent Stream (no vegetation alliance). Section 404/401 CWA: The Study Area contains one intermittent drainage. This drainage is an unnamed dashed blue-line stream on the Napa 7.5-minute quadrangle (USGS 2015). Flows run for the entire wet season and receive groundwater discharge to the channel extending the surface hydrology later in the season, but dries out by late spring/early summer. The stream is low gradient with steep, shallow banks of primarily stable, fine sediments (clays, loams), while the bed contains a mix of sorted sands, gravels, and cobbles with exposed bed rock and sizable boulders. This stream is likely jurisdictional under Section 404/401 of the CWA and Section 1602 of the CFGC and meets the Napa County stream definition pursuant to Napa County Code 18.108.025.

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, 82 special-status plant species have been documented in the vicinity of the Study Area. Twenty-five of these plants have the potential to occur in the Study Area. The remaining species 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;
- The historical landscape and/or habitat(s) of the Study Area were not suitable habitat prior to land/type conversion (e.g., reclaimed shoreline) to support the special-status plant species;
- Land use history and contemporary management (e.g., grading, intensive grazing) has degraded the localized habitat necessary to support the special-status plant species.

WRA biologists conducted the protocol-level surveys during a period sufficient to identify all 25 special-status plant species with the potential to occur. Two potential special-status plants were located in the Study Area during protocol-level surveys: Greene's narrow-leaved daisy (*Erigeron greenei*, CRPR 1B) and narrow-anthered Brodiaea (*Brodiaea leptandra*, CRPR 1B). All species with the potential to occur are listed below and described in Appendix C.

Special-status Plants Present in the Study Area

Narrow-anthered Brodiaea (*Brodiaea leptandra*). CRPR 1B. Moderate Potential (Present). Narrow-anthered California Brodiaea is a perennial herb in the brodiaea family (Themidaceae) that blooms from May to July. It typically occurs in broadleaf upland forest, chaparral, and lower montane coniferous forest habitat at elevations ranging from 360 to 3,000 feet (CDFW 2019a, CNPS 2019a). Soil survey data from documented locations suggest this species is associated with gravelly loam and clay loam substrates derived from rhyolites, metavolcanics, and serpentine (CSRL 20179, CDFW 2019a). This species has a serpentine affinity rank of weak indicator (2.0) (Safford et al. 2005). Associated species include chamise (*Adenostoma fasciculatum*), mountain mahogany (*Cercocarpus betuloides*), scrub oak (*Quercus berberidifolia*), white oak (*Q. garryana*), Ponderosa pine (*Pinus ponderosa*), knobcone pine (*P. attenuata*), Pacific madrone (*Arbutus menziesii*), manzanitas (*Arctostaphylos* spp.), buck brush (*Ceanothus cuneatus*), harvest brodiaea (*Brodiaea elegans*), California oat grass (*Danthonia californica*), narrow leaf mules ears (*Wyethia angustifolia*), and Sonoma sage (*Salvia sonomensis*) (CDFW 2019a, personal observation 2012, 2015).

Narrow-anthered brodiaea is known from 16 USGS 7.5-minute quadrangles in Lake, Napa, and Sonoma counties (CNPS 2019a). There are twelve CNDDB (CDFW 2019a) records from Napa County, 14 CCH (2019) records from Napa County, and 24 CCH (2019) records from Sonoma County. There are 10 individuals in one population located within the Study Area, but entirely outside of the Project Area. The population is situated within the cracks of large, emergent rocks (Appendix A, Appendix D). The Study Area is situated in the center of the broader Napa County distribution of this species (i.e., it is not a fringe or edge population).

Greene's narrow-leaved daisy (*Erigeron greenei*). CRPR 1B. Moderate Potential (Present). Greene's narrow-leaved daisy is a perennial forb in the sunflower family (Asteraceae) that blooms from May to September. It typically occurs on rocky substrate derived from volcanics or serpentine within shrubby vegetation in chaparral habitat at elevations ranging from 260 to 3,270 feet (CDFW 2019a, CNPS 2019a). This species has a serpentine affinity rank of strict endemic (5.7) (Safford et al. 2005); however, this species has been documented from volcanic substrates as well. Associated species include chamise (*Adenostoma fasciculatum*), musk brush (*Ceanothus jepsonii*), leather oak (*Quercus durata* var. *durata*), Baker's manzanita (*Arctostaphylos bakeri* ssp. *bakeri*), serpentine monardella (*Monardella purpurea*), whickerstem buckwheat (*Eriogonum vimineum*), yellow hayfield tarweed (*Hemizonia congesta* ssp. *lutescens*), and turpentine weed (*Trichostema laxum*) (CDFW 2019a, personal observation 2016, 2018, 2019).

Greene's narrow-leaved fleabane is known from 13 USGS 7.5-minute quadrangles in Lake, Napa, and Sonoma counties (CNPS 2019a). There are twelve CNDDB (CDFW 2019a) records from Napa County, eleven CCH (2019) records from Napa County, and five CCH (2019) records from Sonoma County. There are five individuals in one subpopulation which is located in the Study Area, but entirely outside of the Project Area. The population is situated on thin, rocky soils in open grassland with a few shrubs in the general vicinity (Appendix A). The Study Area is situated in the center of the broader Napa County distribution of this species (i.e., it is not a fringe or edge population).

Special-status Plants Not Observed in the Study Area

The following special-status plants have the potential to occur within the Study Area based on database searches discussed above, but were not observed during focused surveys conducted during the appropriate bloom season for the species:

- Henderson's bentgrass (*Agrostis hendersonii*); CRPR 3
- Franciscan onion (*Allium peninsulare* var. *franciscanum*); 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
- Small-flowered Calycadenia (*Calycadenia micrantha*); CRPR 1B
- Johnny-nip (*Castilleja ambigua* ssp. *ambigua*); CRPR 4
- Streamside daisy (*Erigeron biolettii*); CRPR 3
- Nodding harmonia (*Harmonia nutans*); CRPR 4
- White hayfield tarplant (*Hemizonia congesta* ssp. *congesta*); CRPR 1B
- Bristly leptosiphon (*Leptosiphon acicularis*); CRPR 4
- Jepson's leptosiphon (*Leptosiphon jepsonii*); CRPR 1B
- Napa lomatium (*Lomatium repostum*); CRPR 4
- California loosestrife (*Lythrum californicum*); LR
- Mt. Diablo cottonweed (*Micropus amphibolus*); CRPR 3
- Green Monardella (*Monardella viridis*); CRPR 4
- Lobb's buttercup (*Ranunculus lobbii*); CRPR 4
- California beaked-rush (*Rhynchospora californica*); CRPR 1B

- Sanford's arrowhead (*Sagittaria sanfordii*); CRPR 1B
- Napa bluecurls (*Trichostema ruygtii*); CRPR 1B
- Showy Rancheria clover (*Trifolium amoenum*); FE, CRPR 1B
- 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 2020a, Napa County 2005). Five of these species have a moderate to high potential to occur in the Study Area/Project Area. The remaining 53 species are unlikely or have no potential to occur due to one or more of the following reasons:

- Aquatic habitats (e.g., rivers, estuaries) necessary to support the special-status wildlife species are not present in the Study Area;
- Vegetation habitats (e.g., coast redwood forest, coastal prairie) 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, old-growth coniferous trees) 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.

The following special-status wildlife with the potential to occur in the Study Area.

<u>Pallid bat (*Antrozous pallidus*). CDFW Species of Special Concern, WBWG High Priority. Moderate Potential (Presence Unknown)</u>. Pallid bats are distributed from southern British Columbia and Montana to central Mexico, and east to Texas, Oklahoma, and Kansas. This species occurs in a number of 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 2020). Trees within the Study Area (primarily oaks) may contain cavities or snags suitable for roosting by this species, and there are CNDDB occurrences in the vicinity (CDFW 2020a). A targeted bat habitat assessment was not performed under this biological assessment.

<u>Fringed myotis (*Myotis thysanodes*). WBWG High Priority. Moderate Potential (Presence Unknown)</u>. The fringed myotis ranges through much of western North America from southern British Columbia, Canada, south to Chiapas, Mexico and from Santa Cruz Island in California, east to the Black Hills of South Dakota. 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 2020). The trees within the Study Area may contain cavities or exfoliating bark suitable for roosting. A targeted bat habitat assessment was not performed under this biological assessment.

Grasshopper sparrow (*Ammodramus savannarum*). CDFW Species of Special Concern, Napa County Local Rare. Moderate Potential (Presence Unknown). Grasshopper sparrow generally prefers moderately open grasslands and prairies with patchy bare ground. They select different components of vegetation, depending on grassland ecosystem. This sparrow typically avoids grasslands with extensive shrub cover, although some level of shrub cover is important for birds in western regions (Vickery 1996). Grasshopper sparrows are ground-nesting birds. The nest cup is domed with overhanging grasses and a side entrance. Eggs are usually laid in early to mid-June and hatch twelve days later. Males and females provide care to the young and second broods are common. This species feeds primarily on insects (Vickery 1996). This species was not observed; however, a targeted bird survey was not performed during this assessment.

White-tailed kite (*Elanus leucurus*). CDFW Fully Protected Species. Moderate Potential (Presence Unknown). 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 oaks for nesting and open areas in close proximity for foraging. This species was not observed; however, a targeted bird survey was not performed during this assessment.

Foothill yellow-legged frog (*Rana boylii*). State Candidate (Threatened), CDFW Species of Special Concern. High Potential (Presence Unknown). The foothill yellow-legged frog (FYLF) historically occurred in coastal and mountain streams from southern Oregon to Los Angeles County, but has declined in many parts of this range. This species is strongly associated with rivers and perennial creeks, and prefers shallow, flowing water with a rocky substrate. FYLF individuals do not typically move overland and are rarely observed far from a source of permanent water (typically less than ten feet). Aquatic breeding sites are in-stream, often near confluences, with eggs typically deposited behind or sometimes under rocks in low-flow areas with cobble and/or gravel (Thomson et al. 2016). Metamorphosis takes at least 15 weeks. The lower reach of the intermittent stream within the Study Area provides a rocky substrate and may be occupied when the stream is flowing; any individuals present would presumably retreat downstream when flow ceases. The lower portion of the intermittent stream may support breeding, but the upper reaches likely draw down too early in the season to support breeding. This species was not observed; however, a protocol-level frog survey was not performed during this assessment.

5.2.3 Critical Habitat, Essential Fish Habitat, and Wildlife Corridors

The Study Area does not contain any designated Critical Habitat (USFWS 2019b) or Essential Fish Habitat (EFH). The site's stream is low gradient, does not have run-riffle-pool complexes, and draws down in spring; therefore, anadromous fish are unlikely to occur in the stream. The Study Area is not within a designated wildlife corridor (CalTrans 2010, Napa County 2005). The site is located within a much larger tract of agricultural/viticultural and lightly-developed land within a rural portion of Napa County. While common wildlife species presumably utilize the site to some degree for movement at a local scale, the Study Area itself does not provide corridor functions beyond connecting similar agricultural/viticultural land parcels in surrounding areas. Furthermore, the majority of the property contains a deer fence the precludes the movement of wildlife through the Study Area.

6.0 PROJECT ANALYSIS AND RECOMMENDATIONS

6.1 Land Cover Types

6.1.1 Terrestrial Land Cover Types

Blue Oak Woodlands

Blue oak woodlands are not 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. The project is utilizing the one-time exemption from Ordinance No. 1438 so it is not required to comply with the canopy retention requirements in Code Section 18.108.020(C) and Code Section 18.108.020(D).

The Study Area contains 3.71 acres of blue oak woodland; in order to ensure that a 2:1 ratio is maintained of 3 acres of oak woodland preserved for each 1 acre impacted, only 1.24 acres can be converted to vineyard. The Project Area currently contains 0.71 acre of oak woodland. No additional recommendations are required for oak woodlands.

6.1.2 Aquatic Resources

The seasonal wetlands and streams will be entirely avoided by the Project. Ground-breaking occurring during the dry season and protective setbacks will buffer effects to the on-site aquatic resources. The project is utilizing the one-time exemption from Ordinance No. 1438 so it is not required to comply with the wetland setback requirements in Code Section 18.108.026, however it has been designed with a 50-foot setback where 38 feet are undisturbed filter strip and 12 feet are vegetated turnaround avenue. The project is required to maintain no-touch stream setbacks from the USGS blue-line stream pursuant to Code Section 18.108.025, which have been incorporated into project design. No additional recommendations are required to protect aquatic resources.

6.2 Special-status Species

6.2.1 Special-status Plants

The Project Area contains two special-status plants: narrow-anthered Brodiaea and Greene's narrow-leaved daisy. Both populations of these species are entirely outside of the Project Area by 100 feet or greater. Therefore, they will not be impacted by the proposed project and no recommendations are required.

6.2.2 Special-status Wildlife

The Project Area has the potential to support five special-status wildlife species (two bats, two birds, and one amphibian), as well as non-status birds protected under the MBTA. 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 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 special-status bird species discussed above (white-tailed kite), a variety of 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 Proposed Project would not impact any nesting birds.

> Recommendation 2: 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 (let 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.

Foothill yellow-legged frog: When it is inundated and flowing, the central intermittent stream has the potential to support FYLF that have moved upstream from off-site perennial streams. However, because the on-site stream draws down following the end of the wet season, year-round residence is unlikely. Targeted surveys for FYLF were not performed as part of this assessment, and therefore, the presence/absence of this species is unknown. To avoid any potential impacts to this species, the following measures are provided.

Recommendation 3: Two surveys should be performed along the intermittent and ephemeral streams at least 14 days prior to project initiation. The surveys must have remarkably different light angles (e.g., early morning and early afternoon), but can be conducted on the same day. Survey areas (streams) will be systematically walked upstream, zig-zagging between the bank and the thalweg in wide areas, and bank-to-bank in narrow areas. All areas along the streams that could support frogs will be searched, including rocks, ledges, woody debris, overhanging vegetation, etc. as well as accessible natural cover within 50 feet of the wetted perimeter where frogs could be present. Surveyors will use binoculars to reduce disturbing frogs and flashlights for searching darkened crevices and shaded areas. Slow-moving and/or still waters will be closely inspected for the presence of tadpoles.

If FYLF are determined to be present, a one daytime survey is proposed for pre-construction activities to be completed within 48 hours of project initiation. If FYLF are or will likely be present at the time of ground-breaking, protective measures should be deployed. Such measures include: (1) installation of exclusion fencing, (2) presence of on-site biologist during ground disturbance activities, and (3) implementation of a worker education program. Exclusion fencing shall be installed along the inhabited stream(s) immediately adjacent to the vineyard blocks, extending 100 feet beyond the terminus of the proposed vineyard blocks in each direction. The on-site biologist will be present to perform a survey of the vineyard blocks in the morning prior to that day's ground-breaking activities. If a FYLF is present within the vineyard block, individual frogs shall be allowed to leave the disturbance area of their own accord, as confirmed by the biologist. Alternatively, other measures shall be derived and approved in coordination with the CDFW. Finally, the worker education program shall consist of a qualified biologist providing construction personnel with information regarding the identification and ecology of FYLF, the potential for occurrence of the species within work areas, the legal status of the species and ramifications for take, the specific measures being implemented to avoid impacts to FYLF, and the role of the on-site biologist.

6.2.3 Wildlife Movement

As stated in Section 5.2.3 above, the broader property is surrounded by deer fenced and there is no additional deer fencing proposed. There are no alterations proposed to the intermittent stream. Therefore, the proposed project will not affect localized wildlife movement.

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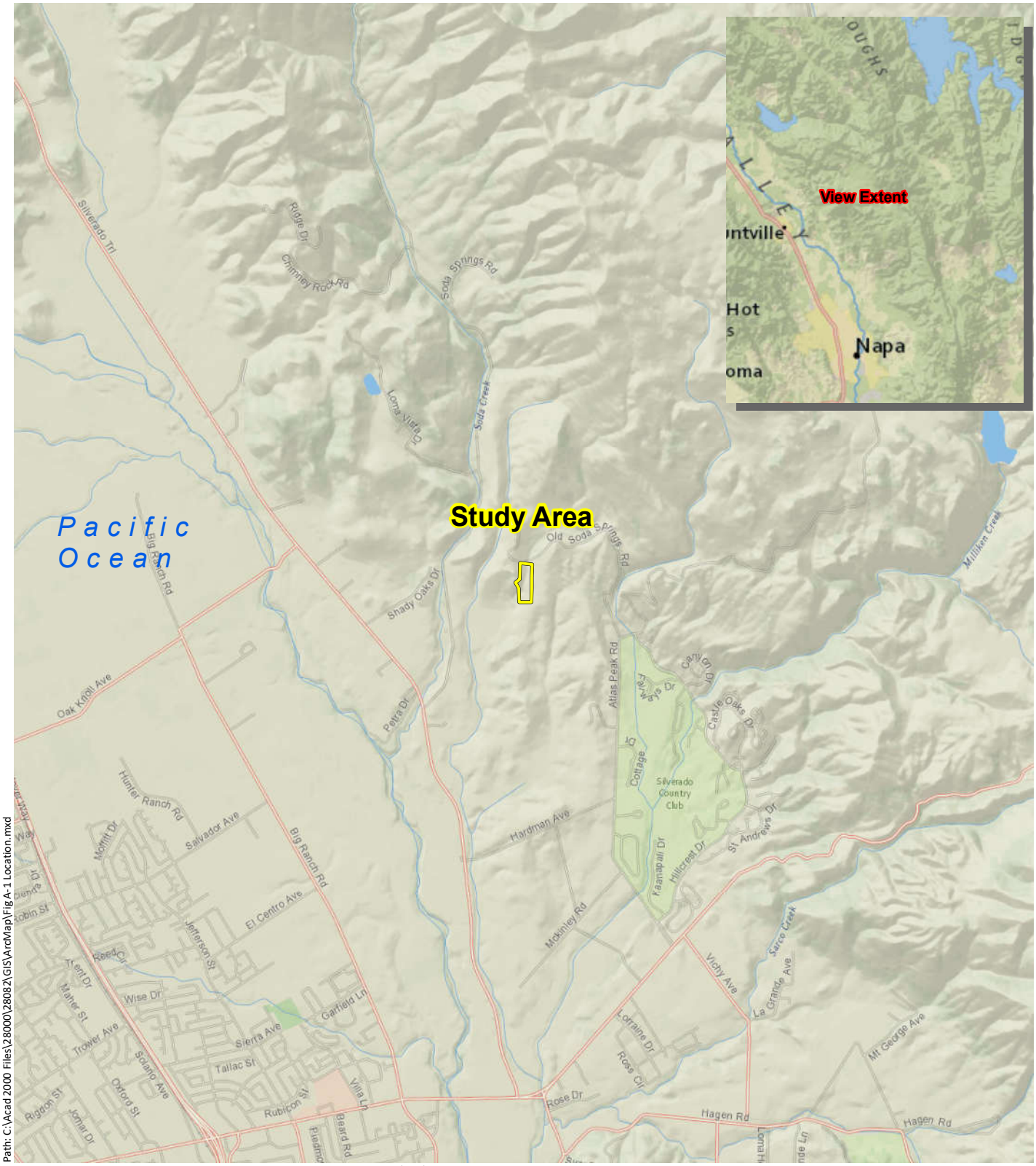
Appendix A

Figures



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Sources: National Geographic, WRA | Prepared By: aarthur, 3/11/2020

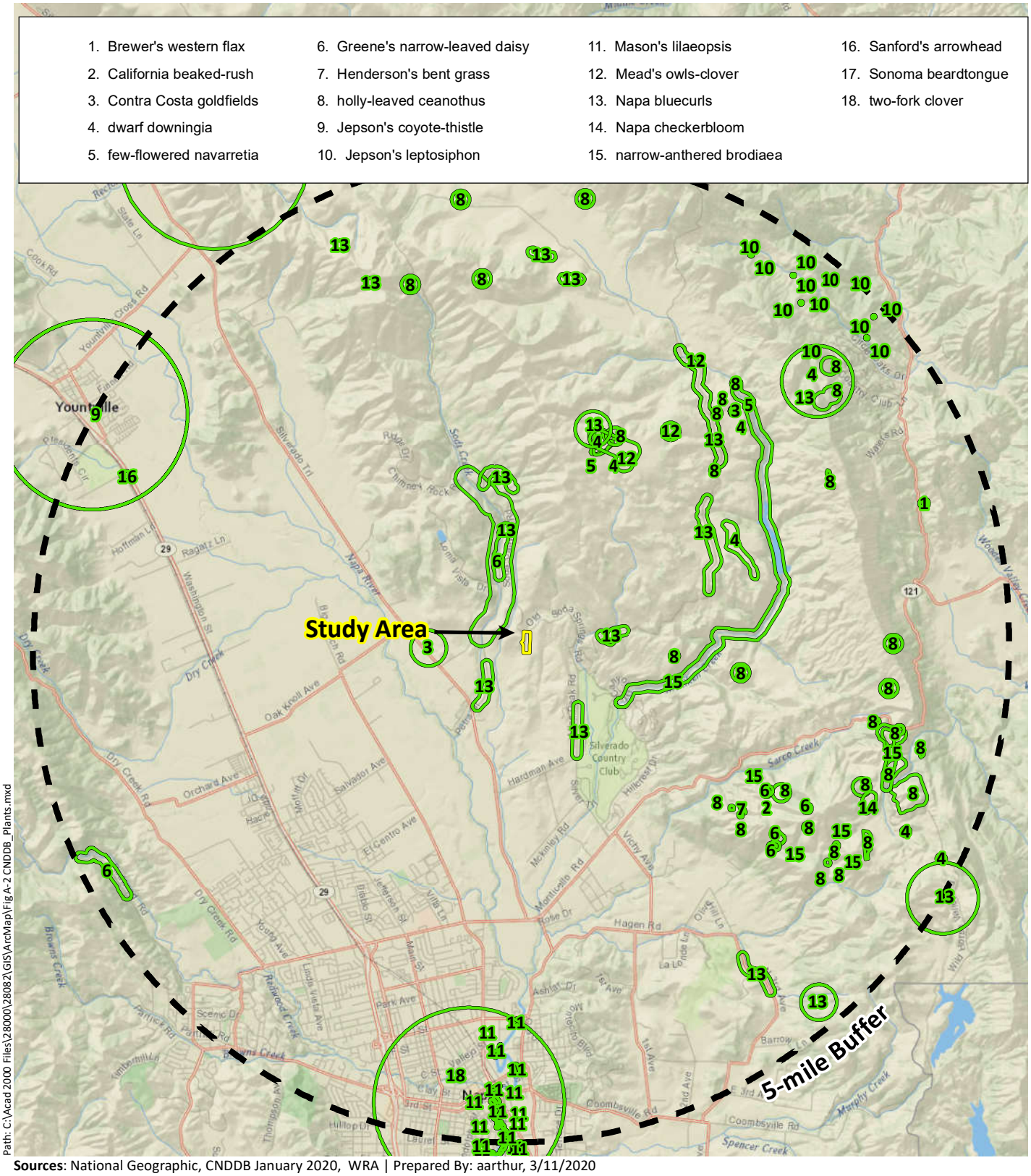
Figure A-1 Study Area Location

G1 Financial Corporation
1220 Soda Canyon Road
Napa County, California

0 1 2 Miles

N

wra
ENVIRONMENTAL CONSULTANTS



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Sources: National Geographic, CNDDB January 2020, WRA | Prepared By: aarthur, 3/11/2020

Figure A-2. CNDDB Special-status Plants Documented w/in 5 miles of the Study Area

G1 Financial Corporation
1220 Soda Canyon Road
Napa County, California

0 1 2 Miles

N

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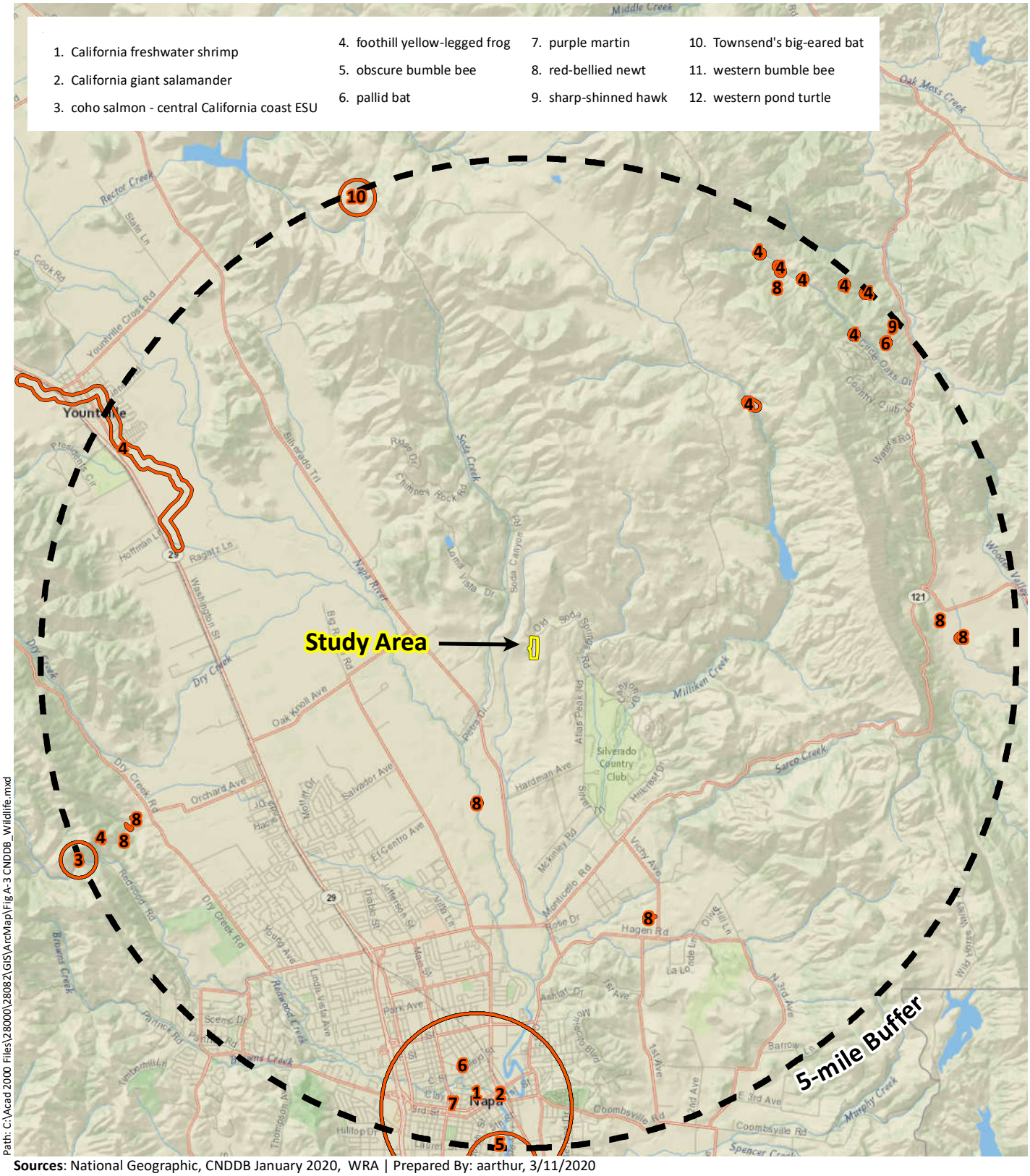
ENVIRONMENTAL CONSULTANTS



Sources: National Geographic, CNDDB January 2020, WRA | Prepared By: aarthur, 3/11/2020

Figure A-3. CNDDB Special-status Wildlife Documented w/in 5 miles of the Study Area

G1 Financial Corporation
1220 Soda Canyon Road
Napa County, California

0 1 2 Miles

N

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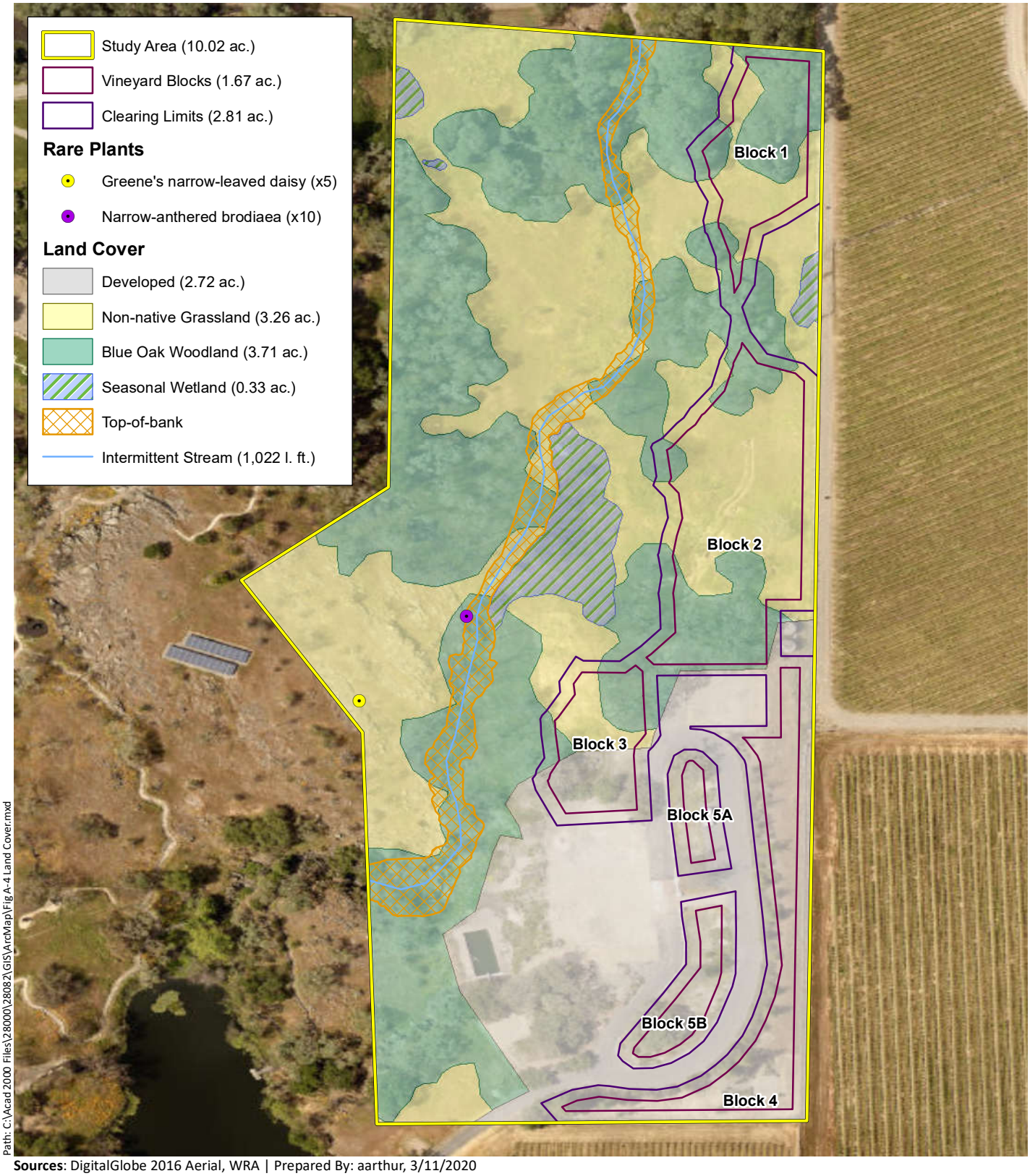
ENVIRONMENTAL CONSULTANTS



Path: C:\Acad 2000 Files\28000\28082\GIS\ArcMap\Fig A-4 Land Cover.mxd

Sources: DigitalGlobe 2016 Aerial, WRA | Prepared By: aarthur, 3/11/2020

Figure A-4. Land Cover, Rare Plants, & Proposed Project

G1 Financial Corporation
1220 Soda Canyon Road
Napa County, California

0 150 300 Feet

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Appendix B

Species Observed in the Study Area

Table B-1. Plant species observed in the Study Area, April 24, June 20, and August 30, 2019

Family	Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator[3]
Adoxaceae	*Sambucus nigra* ssp. *caerulea*	blue elderberry	deciduous shrub	native	--	--	FAC
Agavaceae	*Chlorogalum pomeridianum* var. *pomeridianum*	common soap plant	perennial forb	native	--	--	NL
Alismataceae	*Alisma triviale*	northern water plantain	perennial forb	native	--	--	OBL
Anacardiaceae	*Toxicodendron diversilobum*	poison oak	deciduous shrub	native	--	--	FACU
Apiaceae	*Anthriscus caucalis*	burr chervil	annual forb	non-native	--	--	NL
Apiaceae	*Daucus carota*	wild carrot	perennial forb	non-native	--	assessed	UPL
Apiaceae	*Lomatium utriculatum*	common lomatium	perennial forb	native	--	--	NL
Apiaceae	*Perideridia kelloggii*	Kellogg's yampah	perennial forb	native	--	--	NL
Apiaceae	*Sanicula bipinnatifida*	purple sanicle	perennial forb	native	--	--	NL
Apiaceae	*Torilis arvensis*	hedge parsley	annual forb	non-native	--	moderate	NL
Apocynaceae	*Asclepias fascicularis*	Mexican milkweed	perennial forb	native	--	--	FAC
Apocynaceae	*Nerium oleander*	oleander	evergreen shrub	non-native	--	assessed	NL
Apocynaceae	*Vinca major*	bigleaf periwinkle	perennial forb	non-native	--	moderate	NL
Asteraceae	*Achillea millefolium*	common yarrow	perennial forb	native	--	--	FACU
Asteraceae	*Agoseris heterophylla*	annual agoseris	annual forb	native	--	--	NL
Asteraceae	*Anthemis cotula*	stinking chamomile	annual forb	non-native	--	assessed	FACU
Asteraceae	*Artemisia douglasiana*	mugwort	perennial forb	native	--	--	FAC
Asteraceae	*Baccharis pilularis*	coyote brush	evergreen shrub	native	--	--	NL
Asteraceae	*Bidens frondosa*	devil's beggartick	annual forb	native	--	--	FACW
Asteraceae	*Carduus pycnocephalus*	Italian thistle	annual forb	non-native	--	moderate	NL
Asteraceae	*Centaurea calcitrapa*	purple star thistle	annual forb	non-native	--	moderate	NL
Asteraceae	*Centaurea melitensis*	tocalote	annual forb	non-native	--	moderate	NL
Asteraceae	*Centaurea solstitialis*	yellow star thistle	annual forb	non-native	--	high	NL
Asteraceae	*Cirsium vulgare*	bull thistle	perennial forb	non-native	--	moderate	FACU

Family	Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator[3]
Asteraceae	*Erigeron greenei*	Greene's narrow-leaved daisy	perennial forb	native	Rank 1B	--	NL
Asteraceae	*Helminthotheca echioides*	bristly ox-tongue	perennial forb	non-native	--	limited	FAC
Asteraceae	*Hypochaeris radicata*	rough cat's-ear	perennial forb	non-native	--	moderate	FACU
Asteraceae	*Lactuca serriola*	prickly lettuce	annual forb	non-native	--	assessed	FACU
Asteraceae	*Madia gracilis*	gumweed tarweed	annual forb	native	--	--	NL
Asteraceae	*Matricaria discoidea*	pineapple weed	annual forb	native	--	--	FACU
Asteraceae	*Micropus californicus* var. *californicus*	Q-tips	annual forb	native	--	--	NL
Asteraceae	*Pseudognaphalium californicum*	ladies' tobacco	perennial forb	native	--	--	NL
Asteraceae	*Pseudognaphalium luteoalbum*	Jersey cudweed	annual forb	non-native	--	--	FAC
Asteraceae	*Senecio vulgaris*	old man in the Spring	annual forb	non-native	--	--	FACU
Asteraceae	*Silybum marianum*	milk thistle	perennial forb	non-native	--	limited	NL
Asteraceae	*Soliva sessilis*	field burweed	annual forb	non-native	--	--	FACU
Asteraceae	*Sonchus asper* ssp. *asper*	prickly sow thistle	annual forb	non-native	--	assessed	FAC
Asteraceae	*Sonchus oleraceus*	common sow thistle	annual forb	non-native	--	--	NL
Asteraceae	*Tragopogon porrifolius*	purple salsify	perennial forb	non-native	--	--	NL
Boraginaceae	*Amsinckia intermedia*	common fiddleneck	annual forb	native	--	--	NL
Boraginaceae	*Phacelia distans*	distant phacelia	annual forb	native	--	--	OBL
Brassicaceae	*Barbarea orthoceras*	erectpod wintercress	perennial forb	native	--	--	FACW
Brassicaceae	*Brassica nigra*	black mustard	annual forb	non-native	--	moderate	NL
Brassicaceae	*Brassica rapa*	field mustard	annual forb	non-native	--	limited	FACU
Brassicaceae	*Hirschfeldia incana*	short podded mustard	perennial forb	non-native	--	moderate	NL
Brassicaceae	*Nasturtium officinale*	watercress	perennial forb	native	--	--	OBL
Brassicaceae	*Raphanus sativus*	wild radish	perennial forb	non-native	--	limited	NL
Cactaceae	*Opuntia ficus-indica*	tuna cactus	evergreen shrub	non-native	--	--	NL

Family	Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator[3]
Caprifoliaceae	*Symphoricarpos albus* var. *laevigatus*	upright snowberry	deciduous shrub	native	--	--	FACU
Caryophyllaceae	*Minuartia douglasii*	Douglas' stitchwort	annual forb	native	--	--	NL
Caryophyllaceae	*Polycarpon tetraphyllum*	fourleaf manyseed	annual forb	non-native	--	--	NL
Caryophyllaceae	*Silene gallica*	windmill pink	annual forb	non-native	--	--	NL
Caryophyllaceae	*Spergularia rubra*	red sandspurry	perennial forb	non-native	--	--	FAC
Convolvulaceae	*Calystegia occidentalis* ssp. *occidentalis*	chaparral false bindweed	perennial forb	native	--	--	NL
Crassulaceae	*Crassula connata*	sand pygmyweed	annual forb	native	--	--	FAC
Crassulaceae	*Dudleya cymosa* ssp. *cymosa*	canyon liveforever	perennial forb	native	--	--	NL
Crassulaceae	*Sedella pumila*	Sierra mock stonecrop	annual forb	native	--	--	FAC
Cucurbitaceae	*Marah fabacea*	California manroot	perennial vine	native	--	--	NL
Cyperaceae	*Carex barbarae*	Santa Barbara sedge	perennial graminoid	native	--	--	FAC
Cyperaceae	*Carex densa*	dense sedge	perennial graminoid	native	--	--	OBL
Cyperaceae	*Carex praegracilis*	clustered field sedge	perennial graminoid	native	--	--	FACW
Cyperaceae	*Carex tumulicola*	slender sedge	perennial graminoid	native	--	--	FACU
Cyperaceae	*Cyperus eragrostis*	tall flat-sedge	perennial graminoid	native	--	--	FACW
Cyperaceae	*Eleocharis macrostachya*	common spikerush	perennial graminoid	native	--	--	OBL
Equisetaceae	*Equisetum arvense*	field horsetail	perennial fern	native	--	--	FAC
Ericaceae	*Arctostaphylos manzanita* ssp. *manzanita*	whiteleaf manzanita	evergreen shrub	native	--	--	NL
Euphorbiaceae	*Croton setiger*	turkey mullein	annual forb	native	--	--	NL
Euphorbiaceae	*Euphorbia lathyris*	moleplant	perennial forb	non-native	--	assessed	NL
Euphorbiaceae	*Euphorbia peplus*	petty spurge	annual forb	non-native	--	--	NL
Fabaceae	*Acmispon americanus*	American lotus	annual forb	native	--	--	NL
Fabaceae	*Acmispon parviflorus*	small flowered lotus	annual forb	native	--	--	NL
Fabaceae	*Hoita macrostachya*	large leather root	perennial forb	native	--	--	OBL

Family	Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator[3]
Fabaceae	*Lupinus bicolor*	miniature lupine	annual forb	native	--	--	NL
Fabaceae	*Lupinus nanus*	sky lupine	annual forb	native	--	--	NL
Fabaceae	*Medicago polymorpha*	bur medic	annual forb	non-native	--	limited	FACU
Fabaceae	*Thermopsis californica* var. *californica*	California goldenbanner	perennial forb	native	--	--	NL
Fabaceae	*Trifolium depauperatum* var. *depauperatum*	cowbag clover	annual forb	native	--	--	FAC
Fabaceae	*Trifolium glomeratum*	clustered clover	annual forb	non-native	--	--	NL
Fabaceae	*Trifolium gracilentum*	pinpoint clover	annual forb	native	--	--	NL
Fabaceae	*Trifolium hirtum*	rose clover	annual forb	non-native	--	moderate	NL
Fabaceae	*Trifolium incarnatum*	crimson clover	annual forb	non-native	--	--	NL
Fabaceae	*Trifolium microdon*	thimble clover	annual forb	native	--	--	NL
Fabaceae	*Vicia sativa*	garden vetch	annual forb	non-native	--	--	FACU
Fabaceae	*Vicia villosa*	woolly-pod vetch	annual forb	non-native	--	--	NL
Fagaceae	*Quercus agrifolia*	coast live oak	evergreen tree	native	--	--	NL
Fagaceae	*Quercus douglasii*	blue oak	deciduous tree	native	--	--	NL
Fagaceae	*Quercus kelloggii*	California black oak	deciduous tree	native	--	--	NL
Fagaceae	*Quercus lobata*	valley oak	deciduous tree	native	--	--	FACU
Geraniaceae	*Erodium botrys*	longbeak stork's bill	annual forb	non-native	--	assessed	FACU
Geraniaceae	*Erodium brachycarpum*	foothill filaree	annual forb	non-native	--	limited	NL
Geraniaceae	*Geranium dissectum*	cutleaf geranium	annual forb	non-native	--	moderate	NL
Geraniaceae	*Geranium robertianum*	Robert's geranium	annual forb	non-native	--	assessed	NL
Iridaceae	*Iris germanica*	German iris	perennial forb	non-native	--	--	NL
Iridaceae	*Sisyrinchium californicum*	golden blue eyed grass	perennial forb	native	--	--	FACW
Juncaceae	*Juncus bufonius*	toad rush	annual graminoid	native	--	--	FACW
Juncaceae	*Juncus effusus* ssp. *pacificus*	Pacific rush	perennial graminoid	native	--	--	FACW
Juncaceae	*Juncus patens*	common rush	perennial graminoid	native	--	--	FACW

Family	Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator[3]
Juncaceae	*Juncus phaeocephalus*	brownhead rush	perennial graminoid	native	--	--	FACW
Lamiaceae	*Mentha pulegium*	pennyroyal	perennial forb	non-native	--	moderate	OBL
Lamiaceae	*Mentha spicata*	spearmint	perennial forb	non-native	--	--	FACW
Lamiaceae	*Stachys rigida* var. *quercetorum*	rough hedgenettle	perennial forb	native	--	--	FACW
Lythraceae	*Lythrum hyssopifolia*	hyssop loosestrife	annual forb	non-native	--	moderate	OBL
Malvaceae	*Malva nicaeensis*	bull mallow	annual forb	non-native	--	--	NL
Montiaceae	*Claytonia perfoliata*	miner's lettuce	annual forb	native	--	--	FAC
Myrsinaceae	*Lysimachia arvensis*	scarlet pimpernel	annual forb	non-native	--	--	NL
Oleaceae	*Fraxinus latifolia*	Oregon ash	deciduous tree	native	--	--	FACW
Oleaceae	*Olea europaea*	olive	evergreen tree	non-native	--	limited	NL
Onagraceae	*Clarkia purpurea* ssp. *quadrivulnera*	winecup clarkia	annual forb	native	--	--	NL
Onagraceae	*Epilobium brachycarpum*	annual willowherb	annual forb	native	--	--	FAC
Onagraceae	*Epilobium ciliatum*	fringed willowherb	perennial forb	native	--	--	FACW
Onagraceae	*Epilobium densiflorum*	denseflower willowherb	annual forb	native	--	--	FACW
Onagraceae	*Ludwigia peploides* ssp. *montevidensis*	floating water primrose	perennial forb	non-native	--	high	OBL
Onagraceae	*Taraxia ovata*	sun cup	perennial forb	native	--	--	NL
Orobanchaceae	*Castilleja attenuata*	valley tassels	annual forb	native	--	--	NL
Papaveraceae	*Eschscholzia californica*	California poppy	perennial forb	native	--	--	NL
Phrymaceae	*Diplacus aurantiacus*	sticky monkey	evergreen shrub	native	--	--	NL
Phrymaceae	*Erythranthe guttata*	common monkeyflower	perennial forb	native	--	--	OBL
Pinaceae	*Pinus sabiniana*	digger pine	evergreen tree	native	--	--	NL
Plantaginaceae	*Veronica anagallis-aquatica*	water speedwell	perennial forb	non-native	--	--	OBL
Plantaginaceae	*Veronica peregrina* ssp. *xalapensis*	neckweed	annual forb	native	--	--	FAC
Poaceae	*Aira caryophyllea*	silver hairgrass	annual graminoid	non-native	--	assessed	FACU
Poaceae	*Avena barbata*	wild oat	annual graminoid	non-native	--	moderate	NL

Family	Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator[3]
Poaceae	*Avena fatua*	wild oat	annual graminoid	non-native	--	moderate	NL
Poaceae	*Brachypodium distachyon*	false brome	perennial graminoid	non-native	--	moderate	NL
Poaceae	*Briza maxima*	big rattlesnake grass	annual graminoid	non-native	--	limited	NL
Poaceae	*Briza minor*	little rattlesnake grass	annual graminoid	non-native	--	--	FAC
Poaceae	*Bromus carinatus*	California brome	perennial graminoid	native	--	--	NL
Poaceae	*Bromus catharticus*	Chilean brome	perennial graminoid	non-native	--	--	NL
Poaceae	*Bromus diandrus*	rip-gut brome	annual graminoid	non-native	--	moderate	NL
Poaceae	*Bromus hordeaceus*	soft chess	annual graminoid	non-native	--	limited	FACU
Poaceae	*Cynodon dactylon*	Bermuda grass	perennial graminoid	non-native	--	moderate	FACU
Poaceae	*Cynosurus echinatus*	dogtail grass	annual graminoid	non-native	--	moderate	NL
Poaceae	*Elymus glaucus*	blue wildrye	perennial graminoid	native	--	--	FACU
Poaceae	*Festuca arundinacea*	tall fescue	perennial graminoid	non-native	--	moderate	FACU
Poaceae	*Festuca bromoides*	brome fescue	perennial graminoid	non-native	--	--	FACU
Poaceae	*Festuca microstachys*	Pacific fescue	annual graminoid	native	--	--	NL
Poaceae	*Festuca perennis*	Italian rye grass	annual graminoid	non-native	--	moderate	FAC
Poaceae	*Hordeum marinum*	Mediterranean barley	annual graminoid	non-native	--	moderate	FAC
Poaceae	*Hordeum murinum*	blue foxtail	annual graminoid	non-native	--	moderate	FAC
Poaceae	*Melica californica*	California onion grass	perennial graminoid	native	--	--	NL
Poaceae	*Melica torreyana*	Torrey's onion grass	perennial graminoid	native	--	--	NL
Poaceae	*Phalaris aquatica*	harding grass	perennial graminoid	non-native	--	moderate	FACU
Poaceae	*Poa annua*	annual bluegrass	annual graminoid	non-native	--	--	FAC
Poaceae	*Polypogon monspeliensis*	rabbit's-foot grass	annual graminoid	non-native	--	limited	FACW
Poaceae	*Stipa pulchra*	purple needlegrass	perennial graminoid	native	--	--	NL
Poaceae	*Triticum aestivum*	bread wheat	annual graminoid	non-native	--	--	NL
Polygonaceae	*Eriogonum luteolum* var. *luteolum*	goldencarpet buckwheat	annual forb	native	--	--	NL
Polygonaceae	*Persicaria maculosa*	spotted lady's-thumb	annual forb	non-native	--	--	FACW

Family	Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator[3]
Polygonaceae	*Polygonum aviculare*	dooryard knotweed	perennial forb	non-native	--	--	FAC
Polygonaceae	*Polygonum bolanderi*	Bolander's knotweed	perennial forb	native	--	--	NL
Polygonaceae	*Rumex acetosella*	sheep sorrel	perennial forb	non-native	--	moderate	FACU
Polygonaceae	*Rumex conglomeratus*	clustered dock	perennial forb	non-native	--	--	FACW
Polygonaceae	*Rumex crispus*	curly dock	perennial forb	non-native	--	limited	FAC
Polygonaceae	*Rumex pulcher*	fiddle dock	perennial forb	non-native	--	--	FAC
Polypodiaceae	*Polypodium californicum*	California polypody	perennial fern	native	--	--	NL
Pteridaceae	*Pentagramma triangularis* ssp. *triangularis*	gold back fern	perennial fern	native	--	--	NL
Ranunculaceae	*Ranunculus californicus*	California buttercup	perennial forb	native	--	--	FACU
Ranunculaceae	*Ranunculus muricatus*	spiny buttercup	perennial forb	non-native	--	--	FACW
Rosaceae	*Adenostoma fasciculatum*	chamise	evergreen shrub	native	--	--	NL
Rosaceae	*Heteromeles arbutifolia*	toyon	evergreen shrub	native	--	--	NL
Rosaceae	*Holodiscus discolor* var. *discolor*	ocean spray	deciduous shrub	native	--	--	FACU
Rosaceae	*Prunus cerasifera*	cherry plum	deciduous tree	non-native	--	limited	NL
Rosaceae	*Rubus armeniacus*	Himalayan blackberry	evergreen shrub	non-native	--	high	FAC
Rubiaceae	*Galium aparine*	common bedstraw	annual forb	native	--	--	FACU
Rubiaceae	*Galium parisiense*	wall bedstraw	annual forb	non-native	--	--	UPL
Rubiaceae	*Sherardia arvensis*	blue fieldmadder	annual forb	non-native	--	--	NL
Salicaceae	*Salix babylonica*	weeping willow	deciduous tree	non-native	--	--	FACW
Salicaceae	*Salix laevigata*	red willow	deciduous tree	native	--	--	FACW
Salicaceae	*Salix lasiolepis*	arroyo willow	deciduous tree	native	--	--	FACW
Sapindaceae	*Aesculus californica*	California buckeye	deciduous tree	native	--	--	NL
Scrophulariaceae	*Scrophularia californica*	bee plant	perennial forb	native	--	--	FAC
Selaginellaceae	*Selaginella wallacei*	Wallace's moss fern	perennial fern	native	--	--	NL
Tecophilaeaceae	*Odontostomum hartwegii*	Hartweg's doll's lily	perennial forb	native	--	--	NL

Family	Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator[3]
Themidaceae	*Brodiaea elegans ssp. elegans*	harvest brodiaea	perennial forb	native	--	--	FACU
Themidaceae	*Brodiaea leptandra*	narrow-anthered Brodiaea	perennial forb	native	Rank 1B	--	NL
Typhaceae	*Typha latifolia*	common cattail	perennial forb	native	--	--	OBL

All species identified using the *Jepson Manual, 2nd Edition* (Baldwin et al. 2012); nomenclature follows *The Jepson Flora Project* (eFlora 2019) unless otherwise noted
Sp.: "species", intended to indicate that the observer was confident in the identity of the genus but uncertain which species
Cf.: intended to indicate a species appeared to the observer to be specific, but was not identified based on diagnostic characters

[1]Rare Status: The CNPS Inventory of Rare and Endangered Plants (CNPS 2019a)

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

[2]Invasive 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

[3]Wetland Status: National List of Plant Species that Occur in Wetlands, Arid West Region (Lichvar et al. 2016)

- 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 observed in and around the Study Area

Scientific Name	Common Name
Mammals	
Canus latrans	coyote
Lepus californicus	black-tailed jackrabbit
Odocoileus hemionus columbianus	black-tailed deer
Birds	
Aphelocoma californica	western scrub-jay
Callipepla californica	California quail
Chamaea fasciata	wrentit
Colaptes auratus	northern flicker
Corvus corax	common raven
Cyanocitta stelleri	Steller's jay
Junco hyemalis	dark-eyed junco
Troglodytes aedon	house wren
Turdus migratorius	American robin
Vermivora celata	orange-crowned warbler
Wilsonia pusilla	Wilson's warbler
Zenaida macroura	mourning dove
Reptiles and Amphibians	
Pseudacris regilla	northern Pacific chorus frog (treefrog)
Sceloporus occidentalis	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 the CDFW BIOS database (CDFW 2019a), USFWS IPaC Report (USFWS 2019), and CNPS Electronic Inventory (CNPS 2019a) searches. For plants, the Rutherford, Yountville, Capell Valley, Sonoma, Napa, Mount George, Sears Point, Cuttings Wharf, and Cordelia USGS 7.5' quadrangles were included in the search. For wildlife, the entirety of Napa County was considered.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
PLANTS				
Agrostis hendersonii Henderson's bentgrass	Rank 3	Valley and foothill grassland, vernal pools; situated in mesic grasslands; wetland indicator: FACW/FACW. Elevation range: 225 – 995 feet. Blooms: April – June.	**Moderate Potential.** The Study Area contains seasonal wetland habitat that may support this species.	**Not Observed.** No further actions are recommended for this species.
Allium peninsulare var. *franciscanum* Franciscan onion	Rank 1B	Cismontane woodland, valley and foothill grassland; on clay substrate, often derived from volcanics or serpentine; serpentine indicator: WI. Elevation range 170 – 985 feet. Blooms: May – June.	**Moderate Potential.** The Study Area contains volcanic grassland and woodland that may support this species.	**Not Observed.** No further actions are recommended for this species.
Amorpha californica var. *napensis* Napa false indigo	Rank 1B	Openings in broadleaf upland forest, chaparral, cismontane woodland. Elevation range: 395 – 6560 feet. Blooms: April – July.	**No Potential.** This species is not associated with open coast live oak or blue oak woodland.	**Not Present.** No further actions are recommended for this species.
Amsinckia lunaris bent-flowered fiddleneck	Rank 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 habitat that may support this species.	**Not Observed.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Antirrhinum virga twig-like snapdragon	Rank 4	Chaparral, lower montane coniferous forest; located on rocky openings often derived from serpentine; serpentine indicator: SI. Elevation range: 325 – 6550 feet. Blooms: June – July.	**No Potential.** The Study Area does not contain serpentine habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Arabis modesta modest rockcress	Rank 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.** The Study Area does not contain chaparral or forest to support this species.	**Not Present.** No further actions are recommended for this species.
Arctostaphylos bakeri ssp. *bakeri* Baker's manzanita	SR; Rank 1B	Broadleaf upland forest, chaparral, closed-cone coniferous forest; located on serpentine substrate; serpentine indicator: SE. Elevation range: 240 – 975 feet. Blooms: February – April.	**No Potential.** The Study Area does not contain serpentine habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Arctostaphylos stanfordiana ssp. *decumbens* Rincon manzanita	Rank 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 woodland that may support this species.	**Not Observed.** No further actions are recommended for this species.
Astragalus claranus Clara Hunt's milk-vetch	FE; ST; Rank 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 grassland and woodland that may support this species.	**Not Observed.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Astragalus clevelandii Cleveland's milk-vetch	Rank 4	Chaparral, cismontane woodland, riparian forest; located on serpentine seeps; serpentine indicator: SE. Elevation range: 650 – 4875 feet. Blooms: June – September.	**No Potential.** The Study Area does not contain serpentine habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Astragalus tener var. *tener* alkali milk-vetch	Rank 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's wetlands are not vernal pools or similar wetland types to support this species.	**Not Present.** No further actions are recommended for this species.
Balsamorhiza macrolepis big-scale balsamroot	Rank 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 volcanic grassland and woodland that may support this species.	**Not Observed.** No further actions are recommended for this species.
Blennosperma bakeri Sonoma sunshine	FE, SE, Rank 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's wetlands are not vernal pools or similar wetland types 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
Brodiaea leptandra narrow-anthered brodiaea	Rank 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 volcanic grassland and woodland that may support this species.	**Present.** The Study Area supports XXX individuals in one small population; this population is entirely outside of the Project Area. No further actions are recommended for this species.
Calandrinia breweri Brewer's Calandrinia	Rank 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.	**Unlikely.** The Study Area does not contain chaparral or other brushy habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Calochortus pulchellus Mt. Diablo fairy-lantern	Rank 1B	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. Elevation range: 90 – 2500 feet. Blooms: April - June	**Unlikely.** Although the Study Area contains woodland and grassland, this species is known only from Mt. Diablo area outside of Napa County.	**Not Present.** No further actions are recommended for this species.
Calycadenia micrantha small-flowered Calycadenia	Rank 1B	Chaparral, meadows and seeps, valley and foothill grassland; located on volcanic or serpentine substrate in sparsely vegetated rocky, talus, or scree areas. Elevation range: 15 – 4875 feet. Blooms: June – September.	**Moderate Potential.** The Study Area contain volcanic grassland that may support this species.	**Not Observed.** No further actions are recommended for this species.
Carex lyngbyei Lyngbye's sedge	Rank 2B	Marshes and swamps; located in brackish or freshwater. Elevation range: 0 - 30 feet. Blooms April - August	**No Potential.** The Study Area does not contain coastal brackish marsh 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
Castilleja affinis ssp. *neglecta* Tiburon paintbrush	FE; ST; Rank 1B	Valley and foothill grassland; located in grassy, open areas and rock outcrops underlain by serpentine substrate; serpentine indicator: SE. Elevation range: 195 – 1300 feet. Blooms: April – June.	**No Potential.** The Study Area does not contain serpentine habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Castilleja ambigua ssp. *ambigua* Johnny-nip	Rank 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.	**Moderate Potential.** The Study Area contains grassland and wetland fringe that may support this species.	**Not Observed.** No further actions are recommended for this species.
Castilleja ambigua var. *meadii* mead's owl's-clover	Rank 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 pool or similar wetland types to support this species.	**Not Present.** No further actions are recommended for this species.
Ceanothus confusus Rincon Ridge ceanothus	Rank 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.** The Study Area does not contain chaparral or other brushy habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Ceanothus divergens Calistoga ceanothus	Rank 1B	Chaparral, cismontane woodland; on rocky, serpentine sites; serpentine indicator: WI. Elevation range: 560 – 3115 feet. Blooms: February – March.	**Unlikely.** The Study Area does not contain chaparral or other brushy habitat 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
Ceanothus purpureus holly-leaved ceanothus	Rank 1B	Chaparral, cismontane woodland; located on rocky, volcanic slopes. Elevation range: 395 – 3000 feet. Blooms: February – June.	**Unlikely.** The Study Area does not contain chaparral or other brushy habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Ceanothus sonomensis Sonoma ceanothus	Rank 1B	Chaparral; located on sandy serpentine or volcanic substrates; serpentine indicator: WI/IN. Elevation range: 705 – 2625 feet. Blooms: February – April.	**Unlikely.** The Study Area does not contain chaparral or other brushy habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Centromadia parryi ssp. *parryi* pappose tarplant	Rank 1B	Coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland; in vernally mesic sites, often with alkali substrate. Elevation range: 5 – 1380 feet. Blooms: May – November.	**No Potential.** The Study Area does not contain alkali habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Centromadia parryi ssp. *rudis* Parry's rough tarplant	Rank 4	Valley and foothill grassland, vernal pools; situated on vernally 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 habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Chloropyron molle ssp. *molle* soft bird's-beak	FE, SR, Rank 1B	Coastal brackish or salt marshes; located in low-growing saltgrass and picklweed mats. Elevation range: 0 – 10 feet. Blooms: June – November.	**No Potential.** The Study Area does not contain coastal brackish marsh 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
Chorizanthe valida Sonoma spineflower	FE, SE, Rank 1B	Coastal prairie; in sandy soils. Elevation range: 35 – 1000 feet. Blooms: June – August.	**No Potential.** The Study Area does not contain coastal prairie to support this species.	**Not Present.** No further actions are recommended for this species.
Clarkia breweri Brewer's clarkia	Rank 4	Chaparral, cismontane woodland, coastal scrub; frequently on serpentine substrate; serpentine indicator: BE/SI. Elevation range: 695 – 3625 feet. Blooms: April – June.	**No Potential.** The Study Area does not contain serpentine habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Clarkia gracilis ssp. *tracyi* Tracy's clarkia	Rank 4	Chaparral; located in openings and situated on substrates often derived from serpentine; serpentine indicator: BE. Elevation range: 210 – 2115 feet. Blooms: April – July.	**No Potential.** The Study Area does not contain serpentine habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Collomia diversifolia serpentine collomia	Rank 4	Chaparral, cismontane woodland; situated on rocky to gravelly serpentine substrates; serpentine indicator: SE. Elevation range: 975 – 1950 feet. Blooms: May – June.	**No Potential.** The Study Area does not contain serpentine habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Cryptantha dissita serpentine cryptantha	Rank 1B	Chaparral; located on serpentine outcrops; serpentine indicator: BE/SI. Elevation range: 1280 – 1885 feet. Blooms: April – June.	**No Potential.** The Study Area does not contain serpentine habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Downingia pusilla dwarf downingia	Rank 2B	Valley and foothill grassland, vernal pools; located in mesic grassy sites, pool and lake margins. Elevation range: 3 – 1450 feet. Blooms: March – May.	**Unlikely.** The Study Area's wetlands are not vernal pools or similar wetland types 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
Eleocharis parvula small spikerush	Rank 4	Marshes and swamps. Elevation range: 5 – 9815 feet. Blooms: sometimes April, June – August, sometimes September.	**Unlikely.** The Study Area does not contain freshwater marsh to support this species.	**Not Present.** No further actions are recommended for this species.
Erigeron biolettii Streamside daisy	Rank 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 volcanic rocky woodland that may support this species.	**Not Observed.** No further actions are recommended for this species.
Erigeron greenei Greene's narrow-leaved daisy	Rank 1B	Chaparral, valley and foothill grassland; located on volcanic or serpentine substrate. Elevation range: 260 – 3270 feet. Blooms: May – September.	**Moderate Potential.** The Study Area contains volcanic rocky grassland that may support this species.	**Not Observed.** No further actions are recommended for this species.
Eriogonum luteolum var. caninum Tiburon buckwheat	Rank 1B	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland; located on sandy to gravelly serpentine; serpentine indicator: SE. Elevation range: 0 – 2100 feet. Blooms: May – September.	**No Potential.** The Study Area does not contain serpentine habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Eryngium jepsonii Jepson's coyote thistle	Rank 1B	Valley and foothill grassland, vernal pools; situated on clay substrate that is vernally saturated. Elevation range: 10 – 975 feet. Blooms: April – August.	**Unlikely.** The Study Area's wetlands are not vernal pools or similar wetland types 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
Extriplex joaquiniana San Joaquin spearscale	Rank 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 habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Gilia capitata ssp. *tomentosa* woolly-headed gilia	Ran 1B	Coastal bluff scrub; rocky outcrops on the coast. Elevation range: 15 – 155 feet. Blooms: May – July.	**No Potential.** The Study Area does not contain coastal bluff scrub to support this species.	**Not Present.** No further actions are recommended for this species.
Harmonia nutans nodding harmonia	Rank 4	Chaparral, cismontane woodland; located on rocky to gravelly substrates derived from volcanics. Elevation range: 240 – 3170 feet. Blooms: March – May.	**High Potential.** The Study Area contains volcanic rocky woodland to support this species.	**Not Observed.** No further actions are recommended for this species.
Helianthella castanea Diablo helianthella	Rank 1B	Broadleaf upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Elevation range: 180 – 3900 feet. Blooms: March - June	**Unlikely.** This species is not known from Napa County; restricted to the East Bay and Peninsula.	**Not Present.** No further actions are recommended for this species.
Hemizonia congesta ssp. congesta Hayfield tarplant	Rank 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 habitat that may support this species.	**Not Observed.** No further actions are recommended for this species.
Hesperolinon bicarpellatum Two-carpellate western flax	Rank 1B	Chaparral; located on serpentine substrate; serpentine indicator: SE. Elevation range: 195 – 3270 feet. Blooms: May – July.	**No Potential.** The Study Area does not contain serpentine habitat 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
Hesperolinon breweri Brewer's western flax	Rank 1B	Chaparral, cismontane woodland, valley and foothill grassland; typically located in serpentine grassland and serpentine chaparral underlain by rocky substrates; serpentine indicator: SI. Elevation range: 95 – 2925 feet. Blooms: May – July.	**No Potential.** The Study Area does not contain serpentine habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Hesperolinon sharsmithiae Sharsmith's western flax	Rank 1B	Chaparral; located on serpentine substrate. Elevation range: 875 – 975 feet. Blooms: May – July.	**No Potential.** The Study Area does not contain serpentine habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Horkelia tenuiloba thin-lobed horkelia	Rank 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 acidic sands to support this species.	**Not Present.** No further actions are recommended for this species.
Iris longipetala coast iris	Rank 4	Coastal prairie, lower montane coniferous forest, meadows and seeps; located on mesic sites. Elevation range: 0 – 1950 feet. Blooms: March – May.	**No Potential.** The Study Area does not contain prairie or other coastal habitats to support this species.	**Not Present.** No further actions are recommended for this species.
Juglans hindsii North California black walnut	Rank 1B	Riparian forest, riparian woodland. Only native stands are considered special-status by CNPS and CDFW. Elevation range: 0 – 1430 feet. Blooms: April – May.	**Unlikely.** The Study Area is not located within an historic stand of 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
Lasthenia conjugens Contra Costa goldfields	FE; Rank 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.	**Unlikely.** The Study Area's wetlands are not vernal pools or similar wetland types to support this species.	**Not Present.** No further actions are recommended for this species.
Lathyrus jepsonii var. *jepsonii* Delta tule pea	Rank 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 brackish marsh to support this species.	**Not Present.** No further actions are recommended for this species.
Legenere limosa legenere	Rank 1B	Vernal pools; typically located in the deepest portions of pools. Elevation range: 3 – 2860 feet. Blooms: April – June.	**Unlikely.** The Study Area's wetlands are not vernal pools or similar wetland types to support this species.	**Not Present.** No further actions are recommended for this species.
Leptosiphon acicularis bristly leptosiphon	Rank 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 rocky grassland and woodland that may support this species.	**Not Observed.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Leptosiphon jepsonii Jepson's leptosiphon	Rank 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 rocky grassland and woodland that may support this species.	**Not Observed.** No further actions are recommended for this species.
Leptosiphon latisectus broad-lobed leptosiphon	Rank 4	Broadleaf upland forest, cismontane woodland; frequently situated on serpentine substrate; serpentine indicator: WI. Elevation range: 550 – 4875 feet. Blooms: April – June.	**Unlikely.** The Study Area does not contain serpentine substrate to support this species.	**Not Present.** No further actions are recommended for this species.
Lessingia hololeuca woolly-headed lessingia	Rank 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.	**No Potential.** The Study Area does not contain serpentine habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Lilaeopsis masonii Mason’s Lilaeopsis	SR, Rank 1B	Freshwater and brackish coastal marshes, riparian scrub; located on channel banks in the splash zone on bare mud substrate. Elevation range: 0 – 35 feet. Blooms: April – November.	**No Potential.** The Study Area does not contain coastal brackish marsh 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
Lilium rubescens redwood lily	Rank 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.	**No Potential.** The Study Area does not contain forest or chaparral habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Limnanthes vinculans Sebastopol meadowfoam	FE, SE, Rank 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.	**Unlikely.** The Study Area's wetlands are not vernal pools or similar wetland types to support this species.	**Not Present.** No further actions are recommended for this species.
Lomatium repostum Napa Lomatium	Rank 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 rocky volcanic woodland that may support this species.	**Not Observed.** No further actions are recommended for this species.
Lupinus sericatus Cobb Mountain lupine	Rank 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.	**Unlikely.** The Study Area does not contain forest, chaparral, or knobcone pine woodland to support this species. Not known from the Vaca Mountains.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Lythrum californicum California loosestrife	LR	Yellow pine forest, cismontane woodland, chaparral, valley and foothill grassland, meadows and seeps; located in wetlands. Elevation range: 0 – 7150 feet. Blooms: April – September.	**Moderate Potential.** The Study Area contains woodland and wetland habitat that may support this species.	**Not Observed.** No further actions are recommended for this species.
Micropus amphibolus Mt. Diablo cottonweed	Rank 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 rocky, thin soils that may support this species.	**Not Observed.** No further actions are recommended for this species.
Monardella viridis green monardella	Rank 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 rocky volcanic woodland that may support this species.	**Not Observed.** No further actions are recommended for this species.
Navarretia leucocephala ssp. *pauciflora* few-flowered navarretia	FE; ST; Rank 1B	Vernal pools; located on volcanic ash flow and volcanic substrate pools. Elevation range: 1300 – 2780 feet. Blooms: May – June.	**Unlikely.** The Study Area's wetlands are not vernal pools or similar wetland types to support this species.	**Not Present.** No further actions are recommended for this species.
Penstemon newberryi var. *sonomensis* Sonoma beardtongue	Rank 1B	Chaparral; crevices in rock outcrops and talus slopes on ridgelines and mountain peaks. Elevation range: 2295 – 4495 feet. Blooms: April – August.	**No Potential.** The Study Area is not situated on a ridgeline or mountain peak.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Polygonum marinense Marin knotweed	Rank 3	Salt and brackish coastal marshes. Elevation range: 0 – 35 feet. Blooms: sometimes April, May – August, sometimes October.	**No Potential.** The Study Area does not contain coastal brackish marsh to support this species.	**Not Present.** No further actions are recommended for this species.
Ranunculus lobbii Lobb's buttercup	Rank 4	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools; located in mesic, vernally inundated areas. Elevation range: 45 – 1530 feet. Blooms: February – May.	**Moderate Potential.** The Study Area contains slow-moving water that may support this species.	**Not Observed.** No further actions are recommended for this species.
Rhynchospora californica California beaked-rush	Rank 1B	Bogs and fens, lower montane coniferous forest, meadows and seeps, freshwater marshes and swamps. Elevation range: 145 – 3315 feet. Blooms: May – July.	**Moderate Potential.** The Study Area contains wetland habitat that may support this species.	**Not Observed.** No further actions are recommended for this species.
Sagittaria sanfordii Sanford's arrowhead	Rank 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.	**Moderate Potential.** The Study Area contains wetland and slow-moving water habitat that may support this species.	**Not Observed.** No further actions are recommended for this species.
Senecio clevelandii var. *clevelandii* (=*Packera clevelandii*) Cleveland's ragwort	Rank 4	Chaparral; situated on serpentine seeps; serpentine indicator: SE. Elevation range: 1185 – 2925 feet. Blooms: June – July.	**No Potential.** The Study Area does not contain serpentine habitat 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
Sidalcea hickmanii ssp. *napensis* Napa checkerbloom	Rank 1B	Chaparral; located on rhyolitic substrates. Elevation range: 1345 – 1985 feet. Blooms: April – June.	**Unlikely.** The Study Area does not contain chaparral habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Sidalcea hickmanii ssp. *viridis* Marin checkerbloom	Rank 1B	Chaparral; located on serpentine or volcanic substrate, often located in burns; serpentine indicator: SE. Elevation range: 160 – 1400 feet. Blooms: May – June.	**No Potential.** The Study Area does not contain serpentine habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Sidalcea keckii Keck's checkerbloom	FE; Rank 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.	**No Potential.** The Study Area does not contain serpentine habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Streptanthus hesperidis green jewelflower	Rank 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.	**No Potential.** The Study Area does not contain serpentine habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Symphyotrichum lentum Suisun Marsh aster	Rank 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 brackish marsh 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
Trichostema ruygtii Napa bluecurls	Rank 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.	**Moderate Potential.** The Study Area contains volcanic grassland and woodland that may support this species.	**Not Observed.** No further actions are recommended for this species.
Trifolium amoenum showy rancheria clover	FE, Rank 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.	**Moderate Potential.** The Study Area contains volcanic grassland and woodland that may support this species.	**Not Observed.** No further actions are recommended for this species.
Trifolium hydrophilum saline clover	Rank 1B	Marshes and swamps, mesic portions of alkali vernal pools; mesic, alkali valley and foothill grassland. Elevation range: 0 – 985 feet. Blooms: April – June.	**Unlikely.** The Study Area's wetlands are not vernal pools or similar wetland types to support this species.	**Not Present.** No further actions are recommended for this species.
Triteleia lugens dark-mouthed triteleia	Rank 4, LR	Broadleaf upland forest, chaparral, lower montane coniferous forest, coastal scrub. Elevation range: 325 – 3250 feet. Blooms: April – June.	**Unlikely.** The Study Area does not contain forest or chaparral habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Viburnum ellipticum oval-leaved viburnum	Rank 2B	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation range: 705 – 4595 feet. Blooms: May – June.	**Moderate Potential.** The Study Area contains woodland habitat that may support this species.	**Not Observed.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Mammals				
Antrozous pallidus 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.** Oak woodland within the Study Area provides trees suitable for roosting; there are several CNDDB occurrences in the greater vicinity (CDFW 2019a). 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 6.2 for details.
Bassariscus astutus ringtail (ringtail cat)	SFP	Widely distributed throughout much of California. Found in a variety of habitats including riparian areas, semi-arid country, deserts, chaparral, oak woodlands, pinyon pine woodlands, juniper woodlands and montane conifer forests usually under 4,600 ft. elevation. Typically uses cliffs or large trees for shelter.	**Unlikely.** The Study Area lacks cliffs and large tree cavities/hollows typical of dens for this species.	

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Corynorhinus townsendii townsendii 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. Roosting sites limiting. Extremely sensitive to disturbance	**Unlikely.** The Study Area does not contain caves, mines, or buildings suitable for roosting; the on-site barn appeared to be regularly used/occupied. CNDDB occurrences in Napa County are all located in the northern portion of the County (CDFW 2019a).	**Presumed Absent.** No further actions are recommended for this species.
Eumops perotis californicus 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 CNDDB occurrences of this species in Napa County.	**Presumed Absent.** No further actions are recommended for this species.
Lasiurus blossevillii 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 tree species 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 large, broadleaved trees of the type typically used for roosting (maples, sycamores, etc.).	**Presumed Absent.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Myotis thysanodes 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.** Oak woodland 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 6.2 for details.
Myotis volans 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 lacks caves, buildings or similar refugia and does not contain coniferous forest.	**Presumed Absent.** No further actions are recommended for this species.
Reithrodontomys raviventris 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 actions are recommended for this species.
Sorex ornatus sinuosus 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 actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Taxidea taxus 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 provides grassland and woodland with some suitable habitat elements, but there are no occurrences within the eastern portion of Napa County (CDFW 2019a).	**Presumed Absent.** No further actions are recommended for this species.
Birds				
Agelaius tricolor 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.	**No Potential.** The pond's wetland fringe is not large enough to support a breeding colony of this species.	**Not Present.** No further actions are recommended for this species.
Ammodramus savannarum 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.	**Moderate Potential.** The Study Area's grassland may support this species.	**Presence Unknown.** 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
Aquila chrysaetos 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, usually within otherwise open areas.	**Unlikely.** The Study Area does not provide large cliffs or typical large trees for nesting; may forage in the vicinity.	**Not Present.** No further actions are recommended for this species.
Ardea alba 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.	**Not Present.** No further actions are recommended for this species.
Ardea herodias great blue heron	LR (breeding sites protected by CDFW)	Year-round resident. Nests colonially or semi-colonially in tall trees and cliffs, also sequested 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.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Asio flammeus 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).	**Not Present.** No further actions are recommended for this species.
Asio otus 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 located on the Napa Valley floor (eBird 2019).	**Not Present.** No further actions are recommended for this species.
Athene cunicularia 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 2019a).	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Buteo swainsoni Swainson's hawk	ST	Summer resident in Central Valley and limited portions of the southern California interior. 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 very small breeding population is restricted to the Napa Valley floor in association with the Napa River and baylands (CDFW 2019a).	**Not Present.** No further actions are recommended for this species.
Charadrius alexandrines nivosus 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 actions are recommended for this species.
Circus cyaneus 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.** Open grassland areas within the Study Area are arid and extremely rocky; this species is not known to nest in this portion of Napa County as per Smith (2003). May forage or pass through the area during the non-breeding season.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Contopus cooperi 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.	**Unlikely.** The Study Area does not contain forest or woodland stands of the type typically used by this species.	**Not Present.** No further actions are recommended for this species.
Coturnicops noveboracensis 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 contain waterfalls; there are no modern breeding records for Napa County (Smith 2003, Shuford and Gardali 2008).	**Not Present.** No further actions are recommended for this species.
Cypseloides niger 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.	**Unlikely.** The Study Area does not contain extensive and dense riparian thickets (e.g., willow cover) favored by this species for breeding. Individuals presumably occur during migration.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Egretta thula 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.	**Not Present.** No further actions are recommended for this species.
Elanus leucurus 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 within the Study Area provides suitable nesting trees, and open areas for foraging.	**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.
Falco peregrinus anatum 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.	**Not Present.** No further actions are recommended for this species.
Geothlypis trichas sinuosa 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.	**Unlikely.** No coastal marsh vegetation is present within the Study Area.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Haliaeetus leucocephalus 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 (2019a), nesting within Napa County is known only from the immediate vicinity of Lake Berryessa.	**Not Present.** No further actions are recommended for this species.
Icteria virens 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 (*Salix* ssp.), blackberry (*Rubus* spp.), and wild grape (*Vitis californicus*).	**Unlikely.** The Study Area does not contain extensive stands of dense riparian understory favored by this species for nesting. There are no recent observations in the vicinity (eBird 2019).	**Not Present.** No further actions are recommended for this species.
Lanius ludovicianus 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, but this species has not been documented in this portion of the County as per available sources (Smith 2003, eBird 2019).	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Laterallus jamaicensis coturniculus 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 actions are recommended for this species.
Melospiza melodia samuelis 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.	**Not Present.** No further actions are recommended for this species.
Nycticorax nycticorax 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.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Passerculus sandwichensis alaudinus 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.** Grassland cover within the Study Area is relatively arid, and this species has not been documented in this portion of the County as per available sources (Smith 2003, eBird 2019).	**Not Present.** No further actions are recommended for this species.
Progne subis 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.** Typical mixed or coniferous forest habitat is not present, and this species' Napa County range is restricted to the forested, northwestern portion of the County (Smith 2003, CDFW 2019a).	**Not Present.** No further actions are recommended for this species.
Rallus obsoletus obsoletus 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.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Riparia riparia 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. Historical nesting range in southern and central areas of California has been eliminated by habitat loss. 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 actions are recommended for this species.
Setophaga petechia brewsteri (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 contain extensive, dense riparian habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Spizella atrogularis black-chinned sparrow	LR	Summer resident. Typically occurs on arid, rocky slopes with brushy vegetation, e.g. mixed chaparral, and sagebrush.	**No Potential.** The Study Area does not contain chaparral or similar habitats with dense, mature brush.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Strix occidentalis caurina 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 conifer or mixed broadleaf-conifer forest nor is any present in the immediate vicinity.	**Not Present.** No further actions are recommended for this species.
Xanthocephalus xanthocephalus 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.	**Unlikely.** The Study Area does contain extensive, dense riparian habitat 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
Reptiles and Amphibians				
Dicamptodon ensatus 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.	**Unlikely.** The Study Area's intermittent stream courses lack deeper perennial pools and other habitat elements. The nearest documented occurrences in CNDDB are a minimum distance of five miles to the west. All documented Napa County occurrences are from the Mayacama Mountains in the western portion of the county (CDFW 2019a).	**Not Present.** No further actions are recommended for this species.
Emys marmorata 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.** Although there is a nearby pond that may support this species, the Project Area is greater than 300 feet distant.	**Presumed Absent.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Rana boylii foothill yellow-legged frog	SC (T), 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).	**Moderate Potential.** The lower reach of the intermittent stream contains substrate and boulders that may support foraging frogs.	**Presence Unknown.** If ground disturbance occurs after the stream has ceased flowing for the year, there are no further recommendations for this species. If ground disturbance during stream flows, a preconstruction survey by a qualified biologist should be performed. See Section 6.0 for details.
Rana draytonii 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 contains some habitat elements; however the nearby pond contains bullfrog and bass that provide predation at levels likely to preclude this species. There are no documented occurrences of this this species from the Vaca Mountains.	**Presumed Absent.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Scaphiopus hammondii western spadefoot	SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Shallow temporary pools formed by winter rains are essential for breeding and egg-laying. Range within Napa County is extremely restricted.	**Unlikely.** The Study Area lacks vernal pools and similar temporary water features; in Napa County the known range is restricted to a very small area in its eastern portion.	**Not Present.** No further actions are recommended for this species.
Taricha rivularis red-bellied newt	SSC	Inhabits coastal forests from southern Sonoma County northward, with an isolated population in Santa Clara County. Redwood forest provides typical habitat, though other forest types (e.g., hardwood) are also occupied. Adults are terrestrial and fossorial. Breeding occurs in streams, usually with relatively strong flows.	**No Potential.** The Study Area does not contain mesic forest habitat 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
Fishes				
Acipenser medirostris 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 actions are recommended for this species.
Eucyclogobius newberryi 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 actions are recommended for this species.
Hypomesus transpacificus 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 actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Lampetra ayresi 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 actions are recommended for this species.
Oncorhynchus mykiss irideus 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 actions are recommended for this species.
Oncorhynchus tshawytscha 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 actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Pogonichthys macrolepidotus 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 actions are recommended for this species.
Spirinchus thaleichthys 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 actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Invertebrates				
Branchinecta lynchi 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 actions are recommended for this species.
Desmocerus californicus dimorphus valley elderberry longhorn beetle	FT	Found in riparian and oak savannah where elderberry (*Sambucus* sp.), the host plant, is present.	**No Potential.** Elderberry was not observed during the site visit; CNDDB occurrences are restricted to its southeastern-most portion (CDFW 2019a).	**Not Present.** No further actions are recommended for this species.
Speyeria callippe callippe Callippe silverspot butterfly	FE	Two populations are recognized, on San Bruno Mountain and the Cordelia Hills. Host plant is Johnny jump-up (*Viola pedunculata*), which is found on serpentine soils. Most adults found on east-facing slopes; males congregate on hilltops in search of females.	**No Potential.** Although *Viola* was observed within the Study Area during the site visit, this species' known range with Napa County is restricted to the immediate vicinity of the Cordelia Hills.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Syncaris pacifica 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.	**Unlikely.** Although the Study Area contains an intermittent stream, this species is known from 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 2019a).	**Not Present.** No further actions are recommended 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
Rank 1A	CNPS Rank 1A: Plants presumed extinct in California
Rank 1B	CNPS Rank 1B: Plants rare, threatened or endangered in California and elsewhere
Rank 2A	CNPS Rank 2A: Plants presumed extirpated in California, but more common elsewhere
Rank 2B	CNPS Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3	CNPS Rank 3: Plants about which CNPS needs more information (a review list)
Rank 4	CNPS Rank 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. CNDDB, 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

Non-native grassland immediately outside of the Project Area

Non-native grassland and blue oak woodland outside of the Project Area

Blue oak woodland near the residence, south of the Project Area

Blue oak woodland and non-native grassland in the Project Area

Intermittent stream in the lower portion of the Study Area

Intermittent stream in the upper portion of the Study Area

Narrow-anthered Brodiaea (*Brodiaea leptandra*); CRPR 1B; located outside of the Project Area

Greene's narrow-leaved daisy (*Erigeron greenei*); CRPR 1B; located outside of the Project Area

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.

Aaron Arthur, MS, Associate Plant Biologist with WRA, has twelve years performing vegetation & habitat mapping, rare plant surveys, botanical assessments, vegetation change analysis, and wetland delineations. His project focus is in 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.

Jason Yakich, MS, Associate Wildlife Biologist with WRA, has nearly fifteen 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. He prepares and oversees a variety of biological assessments and technical reports, and assures permit compliance for a wide array of public and private projects. 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 in marine biology.