
Biological Resources Reconnaissance Survey Report

8999 Wild Horse Road
Unincorporated Napa County (APNs: 033-190-014, -015, 033-130-046)

Prepared for:

David Abreu
David Abreu Vineyard Management
945 Main Street
St. Helena, CA 94574

Contact:

Matt Richmond
richmond@wra-ca.com

Aaron Arthur
arthur@wra-ca.com

Jason Yakich
yakich@wra-ca.com

Date:

January 2021

WRA Project:

28023



[Page left intentionally blank]

EXECUTIVE SUMMARY

This report details the regulatory background, methods, results, and recommendations of a Biological Resources Reconnaissance Survey (BRRS) for the proposed development of two vineyard blocks comprising approximately 11 net acres of vines within approximately 13.5 acres of clearing limit (Project Area) located at 8999 Wild Horse Road in unincorporated Napa County, California. WRA, Inc. performed field surveys on April 11 and May 24, 2018. The Project Area is composed primarily non-native grassland; with peripheral stands of oak woodland; a seasonal wetland and ephemeral stream are also present.

Approximately 3.2 acres of coast live woodland 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 3:1 preservation for any impacts to oak woodlands. As there are approximately 199 acres of oak woodland across the two respective primary subject parcels, retention of this land cover type will substantially exceed the County's policy requirement.

The Project Area is intentionally sited to avoid the on-site seasonal wetland and ephemeral stream. A protocol-level rare plant survey resulted in the detection of two special-status plants: Dwarf downingia (*Downingia pusilla*, CRPR 2B) and Lobb's aquatic buttercup (*Ranunculus lobbii*, CRPR 4). On-site populations of both plants are restricted entirely to the seasonal wetland and thus will be completely avoided by the proposed project.

Two special-status bats and one special-status bird, 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.

TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	REGULATORY BACKGROUND	1
2.1	Federal and State Regulatory Setting	2
2.1.1	Sensitive Land Cover Types	2
2.1.2	Special-status Species	3
2.2	Napa County Regulatory Setting	4
3.0	ENVIRONMENTAL SETTING	8
3.1	Topography and Soils	8
3.2	Climate and Hydrology	9
3.3	Land Cover and Land Use	9
4.0	ASSESSMENT METHODS	10
4.1	Land Cover Types.....	11
4.1.1	Terrestrial Land Cover Types.....	11
4.1.2	Aquatic Resources.....	11
4.2	Special-status Species.....	12
4.2.1	General Assessment.....	12
4.2.2	Special-status Plants.....	12
4.2.3	Special-status Wildlife	13
4.2.4	Critical Habitat, Essential Fish Habitat, and Wildlife Corridors	13
5.0	ASSESSMENT RESULTS	13
5.1	Land Cover Types.....	13
5.1.1	Terrestrial Land Cover Types.....	13
5.1.2	Aquatic Resources.....	14
5.2	Special-status Species.....	15
5.2.1	Special-status Plant Species	15
5.2.2	Special-status Wildlife Species	17
5.2.3	Critical Habitat, Essential Fish Habitat, and Wildlife Corridors	19
6.0	PROJECT ANALYSIS AND RECOMMENDATIONS.....	19
6.1	Land Cover Types.....	19
6.1.1	Terrestrial Land Cover Types.....	19
6.1.2	Aquatic Resources.....	19
6.2	Special-status Species.....	20
6.2.1	Special-status Plants.....	20
6.2.2	Special-status Wildlife	20
6.2.3	Wildlife Movement	21
7.0	REFERENCES	22

LIST OF TABLES

Table 1. Napa County Stream Setbacks.....	7
---	---

LIST OF APPENDICES

Appendix A – Figures	
Appendix B – Species Observed in the Study Area	
Appendix C – Potential for Special-status Species to Occur in the Study Area	
Appendix D – Representative Photographs	
Appendix E – Statement of Qualifications	

LIST OF PREPARERS

Matt Richmond – Principal-in-Charge
Aaron Arthur – Associate Plant Biologist
Jason Yakich – Associate Wildlife Biologist

DEFINITIONS

Study Area: The area throughout which the assessment was performed, inclusive of approximately 24.1 acres spanning across portion of three contiguous parcels APNs 033-190-015, -190-015, and -130-046

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
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 Act
MBTA	Migratory Bird Treaty Act
NCBDR	Napa County Baseline Data Report
NOAA	National Oceanic and Atmospheric Administration
NMFS	National Marine Fisheries Service
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
NWPL	National Wetland Plant List
OHWM	Ordinary High Water Mark
Rank	California Rare Plant Ranks
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
SFP	State Fully Protected Species
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 11 and May 24, 2018, WRA, Inc. (WRA) performed an assessment of biological resources within a portion of the property at 8999 Wild Horse Road (hereafter Study Area; APNs 033-190-014, -015, 033-130-046) (Figure A-1, Appendix A). The purpose of this study was to gather the information necessary to complete a review of biological resources under the California Environmental Quality Act (CEQA) to meet the guidelines outlined by Napa County in *Guidelines for Preparing Biological Resources Reconnaissance Surveys* (Napa County 2016a) and *Guidelines for Preparing Special-status Plant Studies* (Napa County 2016b).

A biological resources reconnaissance survey (BRRS) provides general information on the presence, or potential presence, of sensitive species and habitats. These survey(s) contain the results of a focused protocol-level survey for listed plant species in the Study Area; however, protocol-level surveys for wildlife 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 visit, 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 two vineyard blocks totaling approximately 11 net acres (13.5 gross acres). Associated with the installation of the grape vines will be vineyard avenues, fences, irrigation lines, etc., as well as the installation of a rock bench retention structure. Site preparation (ripping, installation of erosion control measures, seeding cover crop, and installation of irrigation pipelines and trellis) will occur during the grading window of April 1 through September 15. By September 15, the site will be winterized with placement of straw wattles, seeding of vineyard avenues and planting areas, and straw mulch spread over disturbed areas as will be 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 (CFG). 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 (CNDDDB; CDFW 2018a). CNDDDB 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 added to Code Section 18.108.025 the requirement of a 35-foot setback for ephemeral or intermittent streams not meeting Napa County’s criteria for a stream. Likewise, 18.108.026 was added to the Napa County Code to include the requirement of a 50-foot setback from the delineated edge of wetland boundaries.

Vegetation Preservation and Replacement

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

Existing vegetation shall be preserved to the maximum extent consistent with the project. Vegetation shall not be removed if it is identified as being necessary for erosion control in the approved erosion control plan or if necessary for the preservation of threatened or endangered plant or animal habitats as designated by state or federal agencies with jurisdiction and identified on the County’s environmental sensitivity maps.

Existing trees six inches in diameter or larger, measured at diameter breast height (DBH), or tree stands of trees six inches DBH or larger located on a site for which either an administrative or discretionary permit

is required shall not be removed until the required permits have been approved by the decision-making body and tree removal has been specifically authorized.

- Trees to be retained or designated for retention shall be protected through the use of barricades or other appropriated methods to be placed and maintained at their outboard drip line during the construction phase. Where appropriate, the director may require an applicant to install and maintain construction fencing around the trees to ensure their protection during earthmoving activities. Where removal of vegetation is necessitated or authorized, the director or designee may require the planting of replacement vegetation of an equivalent kind, quality and quantity.

Water Quality and Tree Protection Ordinance

In 2019, the Napa County Board of Supervisors adopted the Water Quality and Tree Protection Ordinance (WQTPO) modifying Chapter 18.108 Conservation Regulations with 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.

3.0 ENVIRONMENTAL SETTING

The approximately 19.9-acre Study Area is set across a small portion of each of the three respective subject parcels. It is located in southern Napa County, approximately 5.5 aerial miles east of downtown Napa. It is situated in the western Vaca Mountains of Napa County. Detailed descriptions of the local setting are below.

3.1 Topography and Soils

The overall topography of the Study Area is nearly flat with elevations ranging from approximately 1,550 to 1,650 feet above sea level. According to the *Soil Survey of Napa County* (USDA 1978), the Study Area is underlain by three soil mapping units: Sobrante loam, 30 to 50 percent slopes, Perkins gravelly loam, 5 to 9 percent slopes and Hambright-Rock Outcrop complex, 30 to 75 percent slopes. These soil mapping units are shown in Figure A-2 (Appendix A), and their parent soil series are summarized below.

Sobrante Series: This series consists of moderately deep silt loam soils weathered from basic igneous and metamorphic rock sources situated on foothills at elevations ranging from 125 to 3,500 feet (CSRL 2019, USDA 1978). The soil pH is moderately to slightly acidic (pH 6.0 to 6.3) through the profile. These soils are not considered hydric and are well drained, with moderate permeability, and low to very high runoff (USDA 2014, USDA 1978). Native and naturalized vegetation is oak (*Quercus* spp.) savannah, while predominant land uses are irrigated hay pasture and dry land crops (USDA 1978).

Perkins Series: This series consists of gravelly loam soils that formed in alluvium derived from igneous rock sources on terraces at elevations ranging from 150 to 1,500 feet (USDA 1978). The soil pH is slightly acidic (pH 6.5) throughout the profile. These soils are not considered hydric, and are well drained with slow to medium runoff and slow permeability (USDA 2014, USDA 1978). Native vegetation consists of oak savannah. Typical land uses include vineyards, orchards, and hay production (USDA 1978).

Hambright Series: This series consists of shallow loamy soils formed from residuum weathered from basic volcanic rock, and is situated on backslope hills at elevations ranging from 300 to 3,000 feet (CSRL 2019, USDA 1978). The soil pH is moderately acidic (pH 5.6) throughout the profile. These soils are not considered hydric, and are well drained with medium to very rapid runoff, and moderate permeability (USDA 2014, USDA 1978). Native and naturalized vegetation includes annual grasses, with scattered blue oak (*Quercus douglasii*) and shrubs, while the land uses are predominantly livestock grazing (USDA 1978).

Rock outcrop: Rock outcrop consists of ridges of igneous bedrock and of outcrops of sandstone and shale. These areas are more than 90 percent rock with soil less than 6 inches deep. Runoff is very rapid. Native vegetation typically includes small shrubs and few stunted trees in cracks. (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 Green Valley Creek (HUC 12: 180500010104) and the regional watershed is Suisun Bay (HUC 8: 18050001). The Study Area is situated in the Napa County Planning Watershed of Green Valley Creek; Wooden Valley Creek. There are no mapped blue-line streams or wetlands in the Study Area (USGS 2015, NWI 2019a, SFEI 2019). A small seasonal wetland is located in the western portion of the Study Area while an ephemeral drainage is located along the eastern slope, into the Study Area. The primary hydrologic sources are direct precipitation and consequent sheet flows. Precipitation in the majority of the Study Area infiltrates moderately due to loam soils with some rock content. Detailed descriptions of aquatic resources are in Section 5.1 below.

3.3 Land Cover and Land Use

The Study Area is undeveloped non-native grassland surrounded by oak forests; Wild Horse Valley Road borders the western edge of the Study Area while a ranch road borders the southern edge. The Study Area is a small portion of a much larger estate, which contains several residences, vineyards and undeveloped land. The majority of the estate, including the Study Area burned during the 2017 Atlas Fire. Detailed plant community descriptions are included in Section 5.1 below, and all observed plants are included in Appendix B. Regional land uses include rural residential, wineries, livestock grazing, and vineyards (Google Earth 2019). 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 2019).

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)
- Mount George 7.5-minute quadrangle (USGS 2015)
- Contemporary aerial photographs (Google Earth 2020)
- Historical aerial photographs (Historical Aerials 2020)
- National Wetlands Inventory (USFWS 2020a)
- California Natural Diversity Database (CNDDDB, CDFW 2020)
- California Native Plant Society Electronic Inventory (CNPS 2020a)
- Consortium of California Herbaria (CCH 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 2018a)

Database searches (i.e., CNDDDB, CNPS) focused on the Yountville, Capell Valley, Mt. Vaca, Napa, Mt. George, Fairfield North, Cutting Wharf, Cordelia, and Fairfield South 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. Appendix A contains observations of 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 present¹. Site visits occurred on April 11 and May 24, 2018.

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.

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 2018a), *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), and *A Manual of California Vegetation, Online Edition* (CNPS 2019b). 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.

Within the two primary subject parcels that host the Study Area, the extent of oak woodland was delineated using a combination of field mapping and desktop analysis. The latter employed aerial photography from 2017 (pre-wildfire); see additional details in Section 6.1.1.

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. Because one such area was observed, WRA biologists took sample point data following the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Corps 2008).

If streams potentially jurisdictional under the CWA and/or the CFGC are noted on a site, they are delineated using a mix of surveyed topography data, high-resolution aerial photographs, and a sub-meter GPS unit. The 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).

² Ranking of CDFW List of Vegetation Alliances is based on NatureServe Rankings (NatureServe 2020).

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 11 and May 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. CNDDDB, 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, focused surveys were conducted within the Study Area on April 11 and May 24, 2018. The surveys correspond to the period sufficient to observe and identify those special-status plants determined to have the potential to occur. The field surveys were conducted by botanists familiar with the flora of Napa and surrounding counties. The surveys were performed in accordance with those outlined by Napa County (2016b), which follow those described by resource experts and agencies (CNPS 2001, CDFW 2018b, USFWS 1996). Plants were identified using *The Jepson Manual, 2nd Edition* (Baldwin et. al. 2012) and Jepson Flora Project (eFlora 2018), to the taxonomic level necessary to determine whether or not they were sensitive. Plant names follow those of Jepson Flora Project (eFlora 2018), 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 Earth 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, coast live oak woodland, ephemeral drainage, and seasonal wetland. Land cover types within the Study Area are illustrated in Figure A-3, and land covers overlain with the Project's limits of disturbance in Figure A-4 (Appendix A). The non-sensitive land cover types in the Study Area and Project Area include non-native grasslands, while the sensitive communities include the oak woodlands, stream, and seasonal wetland. The Project Area (vineyards and clearing limits) have been intentionally sited to avoid the seasonal wetland and short ephemeral drainage.

5.1.1 *Terrestrial Land Cover Types*

Non-sensitive

Developed Area (no vegetation alliance). CDFW Rank: None. Within the Study Area, development is present in two areas. The first is the paved access road along the western and southern peripheries, accounting for 0.65 acre (> 0.01 acre of which is within the Project Area). Associated vegetation is virtually non-existent and what is present consists of ruderal grasses and weeds. The second is a highly disturbed area with sparse ruderal vegetation where it appears rock has been placed, and a roadbed is also present; this area accounts for 1.33 acres (0.21 acre within the Project Area). The Urban/Built-up NCLC type is synonymous with the developed areas (Thorne et al. 2004). This land cover type 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 2019b). These grasslands are typically situated on a variety of landscapes including coastal terraces, valley bottoms, and foothills underlain by a variety of soil types (Sawyer et al. 2009). The Study Area contains 13.17 acres of non-native annual grassland, of which 9.92 acres are situated in the Project Area.

The dominant cover is the herbaceous layer, but there are scattered coast live oak trees (*Quercus agrifolia*) and coyote brush shrubs (*Baccharis pilularis*). The herbaceous layer is dominated by non-native grasses of wild oat (*Avena barbata*), little rattlesnake grass (*Briza minor*), soft chess (*Bromus hordeaceus*), dogtail grass (*Cynosurus echinatus*), Italian rye grass (*Festuca perennis*), and harding grass (*Phalaris aquatica*). In addition to the suite of grasses, several forbs dominate the plant assemblage including woolly-pod vetch (*Vicia villosa*), rose clover (*Trifolium hirtum*), wild radish (*Raphanus sativus*), and foothill filaree (*Erodium brachycarpum*).

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. These grasslands are not considered sensitive by the CDFW or Napa County.

Sensitive

Coast Live Oak Woodland (*Quercus agrifolia* Woodland Alliance). CDFW Rank: G5 S4. Coast live oak woodlands occur in the outer and inner Coast Ranges, Transverse Ranges, and southern coast from northern Mendocino County south to San Diego County (Sawyer et al. 2009, CNPS 2019b). These woodlands are typically situated on terraces, canyon bottoms, slopes, and flats underlain by deep, well-drained sandy or loam substrates with high organic content (Sawyer et al. 2009). The Study Area contains 7.57 acres of coast live oak woodland, with 3.23 acres in the Project Area (see additional discussion of property-wide oak woodland retention in Section 6.1.1.).

Within the Study Area, the dominant tree is coast live oak (*Quercus agrifolia*), with scattered cover of blue oak (*Q. douglasii*), and madrone (*Arbutus menziesii*). Predominant understory species include poison oak (*Toxicodendron diversilobum*), Robert's geranium (*Geranium robertianum*), common bedstraw (*Galium aparine*), Italian thistle (*Carduus pycnocephalus*), dogtail grass (*Cynosurus echinatus*), and false brome (*Brachypodium distachyon*).

This community is synonymous with the Coast Live 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 special-status species associated with woodlands. The CDFW does not consider coast live 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 fields (*Festuca perennis* [*Lolium perenne*] Semi-Natural Alliance). Rank: None; CWA 404/401. 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, one seasonal wetland occupies 1.41 acres as a seasonal swale; this swale is intentionally sited entirely outside of the Project Area.

The vegetation is herbaceous and almost entirely composed of a dense mixture of hydrophytes. Dominant species include Italian rye grass (*Festuca perennis*), Mediterranean barley (*Hordeum marinum*), toad rush (*Juncus bufonius*), Douglas' meadowfoam (*Limnanthes douglasii*), hyssop loosestrife (*Lythrum hyssopifolia*), and spiny buttercup (*Ranunculus muricatus*). Secondary species include smooth goldfields (*Lasthenia glabberima*), stalked popcornflower (*Plagiobothrys stipitatus*), cowbag clover (*Trifolium depauperatum*), variegated clover (*T. variegatum*), and seep monkeyflower (*Erythranthe guttata*). Indicators of hydric soils include dark matrix soils with prominent redoximorphic (i.e., rust) (Corps 2008). Indicators of wetland hydrology include pockets of inundation, nearly universal saturation, sediment deposits, algal mats, oxidized rhizospheres (i.e., rusted root-zones) (Corps 2008).

Because all three wetland parameters (vegetation, soil, and hydrology) are clearly in evidence, those areas mapped as wetland in the Study Area would be considered jurisdictional under the CWA and therefore sensitive by Napa County subject to necessary setback requirements.

Ephemeral Stream-CWA Section 404/401. Rank: None. The Study Area contains one ephemeral drainage that emerges in coast live oak woodland, dissipating flows across a non-native grassland. This drainage does not appear on the Mount George 7.5-minute quadrangle (USGS 2015) or the NWI (USFWS 2019a), whereas there are several flow lines mapped as Fluvial in the CARI database (SFEI 2019). As noted the flows in this drainage are limited to 502 linear feet, then dissipate into upland grassland, and such flows appear to be during and shortly following substantial rainfall events. The banks of all of this drainage are shallow, steep, and primarily of fine sediments (clays, loams), while the bed contains a mix of sorted sands, gravels, and cobbles.

Although isolated, this stream is likely jurisdictional under Section 404/401 of the CWA and Section 1602 of the CFGC; therefore, it is considered a sensitive aquatic resource. The ephemeral drainage appears to meet the Napa County stream definition pursuant to Napa County Code 18.108.30.

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, 77 special-status plant species have been documented in the vicinity of the Study Area.³ CNDDDB occurrences of these species within 5 miles of the Study Area are shown in Figure A-5 (Appendix A). Twenty-three of these plants have the potential to occur in the Study Area. The remaining 54 special-status plants documented from the greater vicinity are unlikely or have no potential to occur for one or more of the following:

- Hydrologic conditions (e.g., tidal, riverine) necessary to support the special-status plant species are not present in the Study Area;

³ As per these databases, there are no documented occurrences of special-status mosses, bryophytes or lichens in Napa County. Additionally, few such species are documented from cismontane woodland (e.g., oak woodland/forest).

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

WRA biologists conducted two site visits during a period sufficient to identify all 23 special-status plant species with the potential to occur. Two such plants were located in the Study Area during protocol-level surveys: dwarf downingia (*Downingia pusilla*, CRPR 2B) and Lobb's aquatic buttercup (*Ranunculus lobbii*, CRPR 4); locations of these species are shown in Figure A-3 (Appendix A). All species with the potential to occur are listed below and described in Appendix C.

Special-status Plants Present in the Study Area

The following two special-status plants were observed within the Study Area during the April and May 2018 surveys.

Dwarf downingia (*Downingia pusilla*). CRPR 2B. High Potential. (Present). Dwarf downingia is annual forb in the harebell family (Campanulaceae) that blooms from March to May. It typically occurs on slightly acidic clay to clay loam mesic areas on the edge of pools and lakes in valley and foothill grassland and vernal pool habitat at elevations ranging from 3 to 1450 feet (CDFW 2019a, CNPS 2019a). This species is an obligate (OBL) wetland plant (Lichvar et al. 2016), and is regularly known from vernal pool habitat, but may occur in other wetland habitat types (VPA) (Keeler-Wolf et al. 1998). Associated species include maroon spot calico flower (*Downingia concolor*), California goldfields (*Lasthenia californica*), California oat grass (*Danthonia californica*), semaphore grass (*Pleuropogon californicus*), annual hairgrass (*Deschampsia danthonioides*), Mediterranean barley (*Hordeum marinum*), perennial rye grass (*Festuca perennis*), little rattlesnake grass (*Briza minor*), vetches (*Vicia* spp.), and docks (*Rumex crispus*, *R. pulcher*) (CDFW 2019a, personal observation 2011, 2018). Two individuals of this species were observed in the lower portion of the seasonal wetland during the May 2018 site visit; this species is completely confined to wetland habitats and cannot survive in upland areas.

Lobb's aquatic buttercup (*Ranunculus lobbii*). CRPR 4. High Potential (Present). Lobb's buttercup is annual aquatic forb in the buttercup family (Ranunculaceae) that blooms from February to May. It typically occurs in vernal wet areas within cismontane woodland, North Coast coniferous forest, valley and foothill grassland, and vernal pool habitat at elevations ranging from 45 to 1,530 feet (CNPS 2019a, Baldwin et al. 2012). This species is an obligate (OBL) wetland plant (Lichvar et al. 2016), and is known from vernal pool habitat in some regions of California, but is generalist in others (VPA?) (Keeler-Wolf et al. 1998). Associated species include mosquito fern (*Azolla filiculoides*), Northwest manna grass (*Glyceria occidentalis*), pale spike-rush (*Eleocharis macrostachya*), iris-leaf rush (*Juncus xiphioides*), common

monkey flower (*Mimulus guttatus*), calico flower (*Downingia* spp.), perennial rye grass (*Festuca perennis*), meadow barley (*Hordeum brachyantherum*), and Mediterranean barley (*H. marinum*) (personal observation 2010 through 2019). Approximately 50 individuals of this species were observed in the lowest portion of the seasonal wetland at a deep pool located at the culver underlying Wild Horse Valley Road during the April 2018 site visit; this species is completely confined to wetland habitats and cannot survive in upland areas.

Special-status Plants Not Observed in the Study Area

The following 21 special-status plants have the potential to occur within the Study Area but were not observed during protocol-level rare plant surveys conducted in April and May 2018.

- Henderson's bentgrass (*Agrostis hendersonii*); CRPR 3
- Franciscan onion (*Allium peninsulare* var. *franciscanum*); CRPR 1B
- Napa false indigo (*Amorpha californica* var. *napensis*); CRPR 1B
- Big-scale balsamroot (*Balsamorhiza macrolepis*); CRPR 1B
- Narrow-anthered Brodiaea (*Brodiaea leptandra*); CRPR 1B
- Johnny-nip (*Castilleja ambigua* ssp. *ambigua*); CRPR 4
- Mead's owl's-clover (*Castilleja ambigua* ssp. *meadii*); CRPR 1B
- Boggs Lake dodder (*Cuscuta howellii*); LR
- Dwarf downingia (*Downingia pusilla*); CRPR 2B
- Streamside daisy (*Erigeron biolettii*); CRPR 3
- Jepson's coyote thistle (*Eryngium jepsonii*); CRPR 1B
- Nodding harmonia (*Harmonia nutans*); CRPR 4
- Diablo helianthella (*Helianthella castanea*); CRPR 1B
- Legenere (*Legenere limosa*); CRPR 1B
- Jepson's leptosiphon (*Leptosiphon jepsonii*); CRPR 1B
- Sebastopol meadowfoam (*Limnanthes vinculans*); FE, SE, CRPR 1B
- Napa lomatium (*Lomatium repostum*); CRPR 4
- Few-flowered navarretia (*Navarretia leucocephala* ssp. *pauciflora*); FE, ST, CRPR 1B
- Douglas' mesamint (*Pogogyne douglasii*); LR
- Lobb's aquatic buttercup (*Ranunculus lobbii*); CRPR 4
- Showy Rancheria clover (*Trifolium amoenum*); FE, CRPR 1B
- Saline clover (*Trifolium hydrophilum*); CRPR 1B
- Oval-leaved viburnum (*Viburnum ellipticum*); CRPR 2B

5.2.2 *Special-status Wildlife Species*

A total of 62 special-status wildlife species have been documented in Napa County (CDFW 2020, Napa County 2005). Occurrences of these species in CNDDDB within 5 miles of the Study Area are shown on Figure A-6 (Appendix A). As outlined in Appendix C, four of these species were assessed as having the potential to occur in the Study Area. The remaining 59 species are unlikely or have no potential to occur due to one or more of the following reasons:

- Aquatic habitats (e.g., rivers/perennial streams, 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.

Pallid bat (*Antrozous pallidus*). CDFW Species of Special Concern, WBWG High Priority. Moderate Potential. 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 CNDDDB occurrences in the vicinity (CDFW 2019a). A targeted bat habitat assessment was not performed under this biological assessment.

Fringed myotis (*Myotis thysanodes*). WBWG High Priority. Moderate Potential. The fringed myotis ranges 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). Trees within the Study Area (as with pallid bat, primarily oaks) may contain cavities or exfoliating bark suitable for roosting. A targeted bat habitat assessment was not performed under this biological assessment.

White-tailed kite (*Elanus leucurus*). CDFW Fully Protected Species. Moderate Potential. White-tailed kite is resident in open to semi-open habitats throughout the lower elevations of California, including grasslands, savannahs, woodlands, agricultural areas, and wetlands. Vegetative structure and prey availability seem to be more important habitat elements than associations with specific plants or vegetative communities (Dunk 1995). Nests are constructed mostly of twigs and placed in trees, often at habitat edges. Nest trees are highly variable in size, structure, and immediate surroundings, ranging from shrubs to trees greater than 150 feet tall (Dunk 1995). This species preys upon a variety of small mammals, as well as other vertebrates and invertebrates. The Study Area provides suitable year-round habitat for

white-tailed kites, including stands of oaks for nesting and open areas in close proximity for foraging. This species was not observed during site visits but could be present in the area.

5.2.3 Critical Habitat, Essential Fish Habitat, and Wildlife Corridors

The Study Area does not contain any designated Critical Habitat (USFWS 2020b) or EFH (NMFS 2020). The site's stream is ephemeral, with very limited habitat complexity and connectivity; it has no potential to support anadromous fishes.

The Study Area is not within a designated wildlife corridor as outlined by CalTrans (2010) and Napa County (2005). The site is located within a much larger tract of and lightly- to undeveloped and agricultural/viticultural lands within a rural portion of Napa County. While common wildlife species presumably utilize the greater subject parcels to some degree for movement at a local scale, the Study Area is nearly surrounded by contiguous land covers with a greater degree of vegetative cover (woodland, chaparral). While it is understood that deer-exclusion fencing encompassing both vineyard blocks (together) will be installed, the Project is not anticipated to result in any potentially significant impacts to wildlife movement.

6.0 PROJECT ANALYSIS AND RECOMMENDATIONS

6.1 Land Cover Types

6.1.1 Terrestrial Land Cover Types

Coast Live Oak Woodlands

Coast live oak woodland is 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 (as modified in 2019) specifically calls for the preservation of oak woodland (on an acreage basis) at a 3:1 ratio. Of the 7.57 acres of coast live oak woodland within the Study Area, 3.23 acres are within the Project Area (scheduled for removal), and therefore a minimum of 9.69 acres of oak woodland would require retention to meet the ratio stipulated in Policy CON-24c. As shown in Figure A-7 (Appendix A), there are approximately 199.4 acres of oak woodland across the two respective primary subject parcels that host the Study Area. In this context, approximately 98.4 percent of oak woodland within these parcels will not be impacted by the Project, a level of retention that substantially exceeds County General Plan requirements. As such, no recommendations related to coast live oak woodland are warranted.

6.1.2 Aquatic Resources

The Study Area supports one seasonal wetland and one ephemeral stream, which the Project is avoiding by minimum setbacks of 50 and 35 feet respectively. As such there will be no impact to these features, thus there are no additional recommendations outside of those actions given in the ECP Application.

6.2 Special-status Species

6.2.1 *Special-status Plants*

Two special-status plants occur within the Study Area, both of which are confined entirely to the seasonal wetland and have no potential to occur outside of this habitat. Therefore, the setback required for the seasonal wetland will provide equal and adequate buffer protection for these species, and no additional recommendations are warranted.

6.2.2 *Special-status Wildlife*

The Project Area has the potential to support four special-status wildlife species (two bats and one bird), 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 (left the nest) or the nest

otherwise becomes inactive (e.g., due to predation), the buffer may be lifted and work may be initiated within the buffer.

6.2.3 *Wildlife Movement*

As stated in Section 5.2.3, the Study Area itself does not provide any notable corridor or movement functions, and the Project (including the installation of deer-exclusion fencing) is not anticipated to reduce wildlife movement through the greater subject parcels and surrounding area. As such, no additional recommendations related to corridors and wildlife movement are warranted.

7.0 REFERENCES

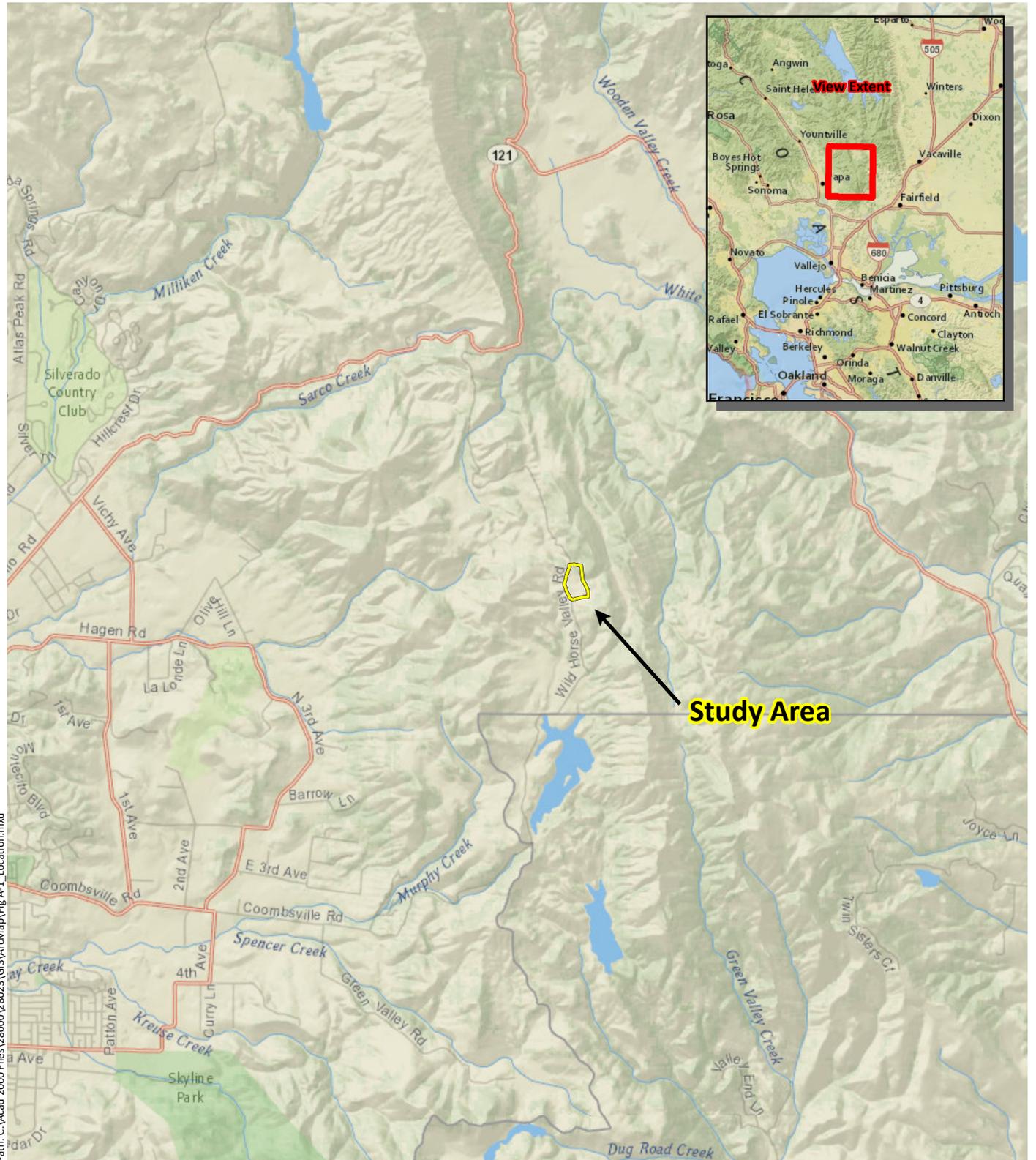
- Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken (eds.). 2012. The Jepson Manual: Vascular Plants of California, 2nd Edition. University of California Press, Berkeley, CA. 1568 pp.
- California Department of Fish and Game (CDFG). 1994. A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607. Environmental Service Division, California Department of Fish and Game, Sacramento, CA.
- (CDFG). 2010. List of Vegetation Alliances and Associations. Vegetation Classification and Mapping Program, California Department of Fish and Game, Sacramento, CA. September 2010.
- California Department of Fish and Wildlife (CDFW). 2020. California Natural Diversity Database (CNDDDB), Wildlife and Habitat Data Analysis Branch. Sacramento, CA. Accessed: December 2020.
- (CDFW). 2018a. California Natural Community List. Vegetation Classification and Mapping Program, California Department of Fish and Game, Sacramento, CA. January 24, 2018.
- (CDFW). 2018b. Protocols for Surveying and Evaluating Impacts to Special-status Native Plant Populations and Natural Communities. California Natural Resources Agency, California Department of Fish and Game. March 20, 2018.
- California Department of Transportation (CalTrans). 2020. California Essential Habitat Connectivity Project. Available at: <https://www.wildlife.ca.gov/conservation/planning>. Accessed: November 2020.
- California Invasive Plant Council (Cal-IPC). 2006. California Invasive Plant Inventory: Cal-IPC Publication 2006-2. California Invasive Plant Council, Berkeley, CA. Available online: <http://www.cal-ipc.org/ip/inventory/index.php>. Accessed: December 2020.
- California Native Plant Society (CNPS). 2001. CNPS Botanical Survey Guidelines. June 2, 2001.
- (CNPS). 2020a. Online Inventory of Rare, Threatened, and Endangered Plants of California. Available at: <http://www.rareplants.cnps.org/>. Accessed: December 2020.
- (CNPS). 2020b. A Manual of California Vegetation Online. Available at: <http://vegetation.cnps.org/>. Accessed: December 2020.
- California Soil Resources Lab (CSRL). 2020. Online Soil Survey. Available at: <http://casoilresource.lawr.ucdavis.edu/drupal/> Accessed: December 2020.
- Consortium of California Herbaria (CCH). 2020. Data provided by the participants of the Consortium of California Herbaria. Available at: <http://ucjeps.berkeley.edu/consortium>. Accessed: December 2020.

- Dunk, JR. 1995. White-tailed Kite (*Elanus leucurus*), The Birds of North America Online (A Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/178>.
- eBird. 2020. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available at: <http://www.ebird.org>. Accessed: December 2020.
- Jepson Herbarium. Jepson Flora Project (eFlora). 2019. Jepson eFlora Online at: <http://ucjeps.berkeley.edu/IJM.html>. Accessed: October 2019.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Department of the Army, Waterways Experiment Station, Vicksburg, Mississippi 39180-0631.
- Google Earth. 2020. Napa area: 38.3296°, -122.1929°. Image dates: 1993-2018. Accessed: December 2020.
- Historical Aerials. 2020. Available at: <http://historicalaerials.com>. Accessed: December 2020.
- Holland, R. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. California Department of Fish and Game, Sacramento, CA. 156 pp.
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. *Phytoneuron* 2016-30: 1-17.
- Martin, J.W. and M.K. Wicksten. Review and Redescription of the Freshwater Atyid Shrimp Genus *Syncaris* Holmes, 1900, in California. *Journal of Crustacean Biology* 24(3): 447-462.
- Napa County. 2019. Napa County Public Browser (Online Map). Available at: http://gis.napa.ca.gov/Html5Viewer/Index.html?viewer=Public_HTML. Accessed: October 2019.
- Napa County. 2016a. Attachment B: Guidelines for Preparing Biological Resources Reconnaissance Surveys. Planning, Building, and Environmental Services. August 2016.
- Napa County. 2016b. Attachment C: Guidelines for Preparing Special-status Plant Studies. Planning, Building, and Environmental Services. August 2016.
- Napa County. 2008. Napa County General Plan. June 2, 2008. Available at: <http://www.co.napa.ca.us/GOV/Departments/>
- Napa County. 2005. Napa County Baseline Data Report. Available at: <http://www.co.napa.us/gov/>
- National Marine Fisheries Service (NMFS). 2020 Essential Fish Habitat Mapper. Available at: <https://www.habitat.noaa.gov/protection/efh/efhmapper/>. Accessed: December 2020.
- NatureServe. 2020. NatureServe Explorer: NatureServe Conservation Status. Available at: <http://www.natureserve.org/explorer/ranking#relationship>. Accessed: December 2020.
- Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation, 2nd Edition. California Native Plant Society in collaboration with California Department of Fish and Game. Sacramento, CA. 1300 pp.

- Shuford, W.D. and Gardali, T., eds. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.
- Smith, A., ed. 2003. Breeding Birds of Napa County, California. Napa-Solano Audubon Society, Vallejo, California. 199 pp.
- Stebbins, R.C. 2003. A Field Guide to Western Reptiles and Amphibians, Third Edition. Houghton Mifflin Company, Boston, MA and New York, NY.
- Thomson, R.C., A.N. Wright, and H.B. Shaffer. 2016. California Amphibian and Reptile Species of Special Concern. Co-published by the California Department of Fish and Wildlife and University of California Press. Oakland, California.
- Thorne, J., Kennedy, J., Quinn, J., McCoy, M., Keeler-Wolfe, T. A Vegetation Map of Napa County Using the Manual of California Vegetation Classification and its Comparison to Other Digital Vegetation Maps. Information Center for the Environment (ICE). University of California, Davis. 2004.
- U.S. Army Corps of Engineers (Corps). 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). U.S. Army Corps of Engineers, Engineer Research and Development Center, Vicksburg, MS. September 28, 2008.
- U.S. Department of Agriculture (USDA), Soil Conservation Service (SCS). 1978. Soil Survey of Napa County, California. In cooperation with the University of California Agricultural Experiment Station.
- (USDA), Natural Resources Conservation Service (NRCS). 2014. Official List of California Hydric Soils.
- (USDA), Natural Resources Conservation Service (NRCS). 2020. Climate Information for Napa County in the State of California. Available at: <http://www.wcc.nrcs.usda.gov/>. Accessed: December 2020.
- U.S. Fish and Wildlife Service (USFWS). 2020a. National Wetlands Inventory. Available at: <http://www.fws.gov/wetlands/index.html>. Accessed: December 2020.
- U.S. Fish and Wildlife Service (USFWS). 2020b. List of Federal Endangered and Threatened Species that Occur in Napa County, California. Available at: <https://ecos.fws.gov/ipac/>. Accessed: December 2020.
- U.S. Geological Survey (USGS). 2015. Mount George, California 7.5-minute quadrangle topographic map.
- Western Bat Working Group (WBWG). 2020. Species Accounts. Available at: http://www.wbwg.org/speciesinfo/species_accounts/species_accounts.html. Accessed: December 2020.

Appendix A

Figures



Sources: National Geographic, WRA | Prepared By: aarthur, 12/3/2019

Figure A-1. Study Area Location

8999 Wild Horse Valley Road
Napa County, CA



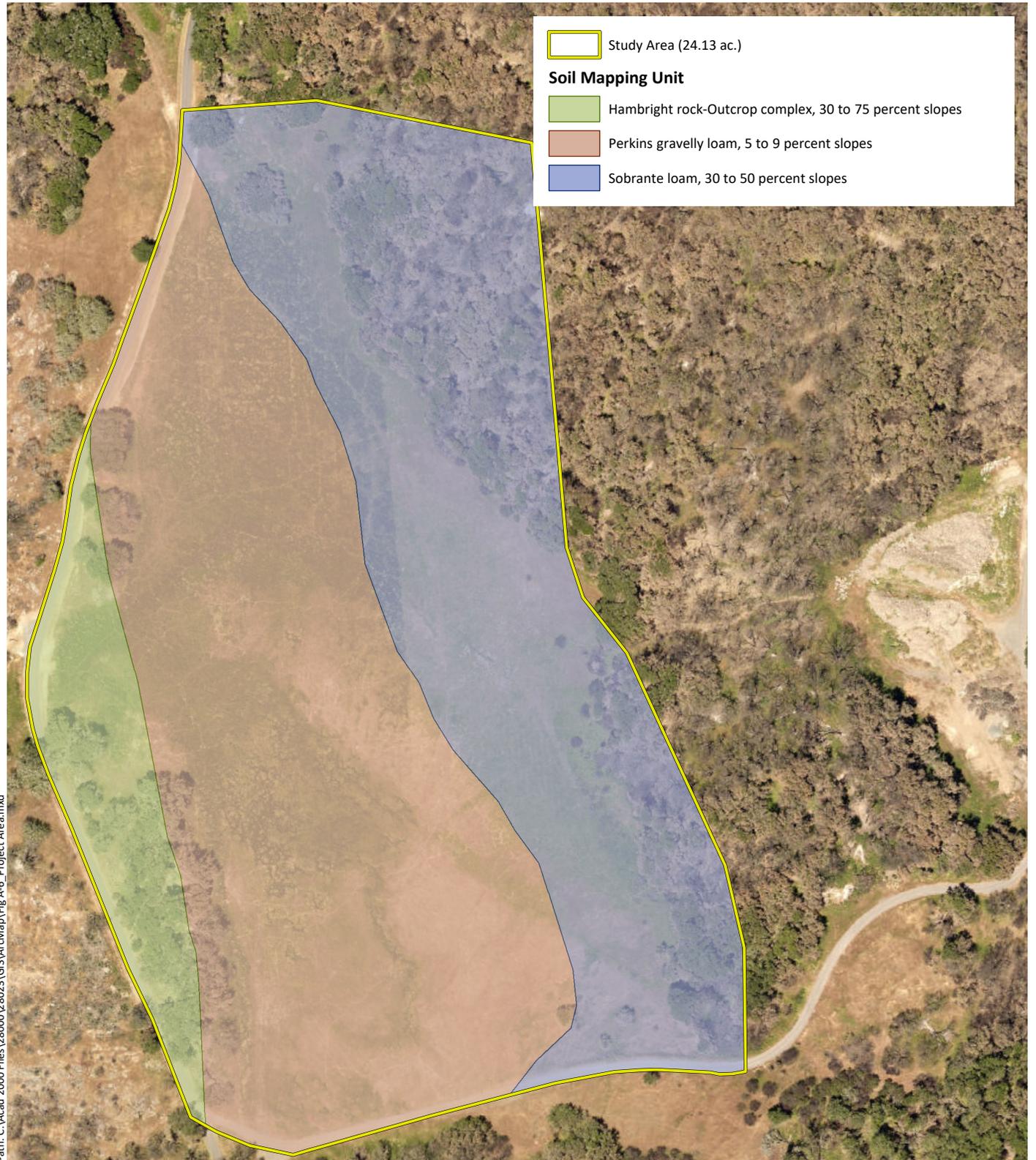


Figure A-2. Study Area Soil Mapping Unit

8999 Wild Horse Valley Road
Napa County, CA



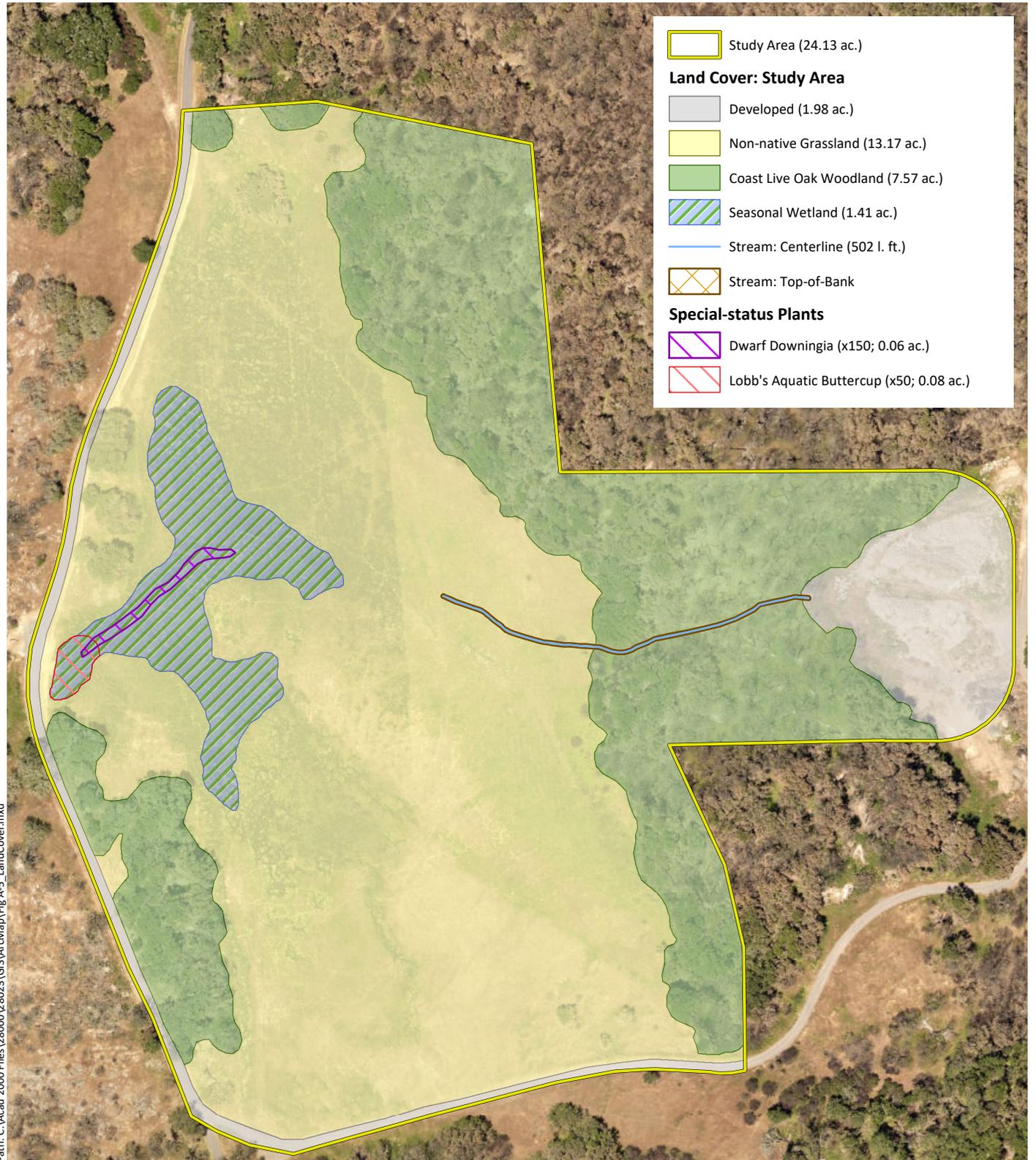
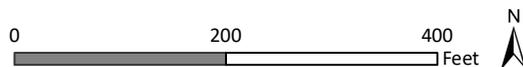


Figure A-3. Study Area Land Cover & Special-status Plants

8999 Wild Horse Valley Road
Napa County, CA



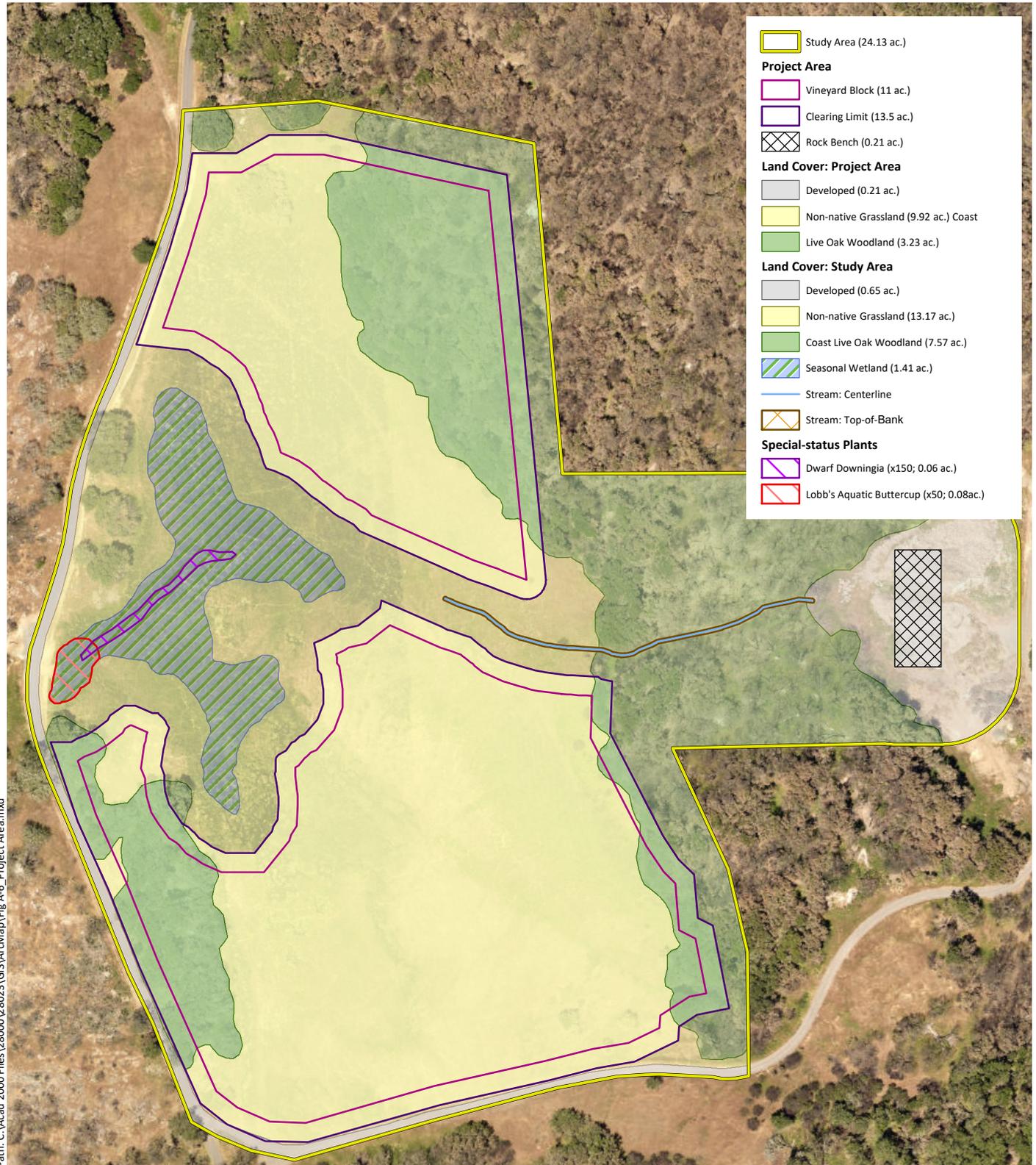
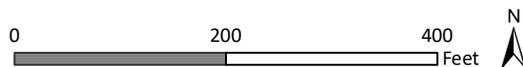


Figure A-4. Project Area Land Cover & Special-status Plants

8999 Wild Horse Valley Road
Napa County, CA



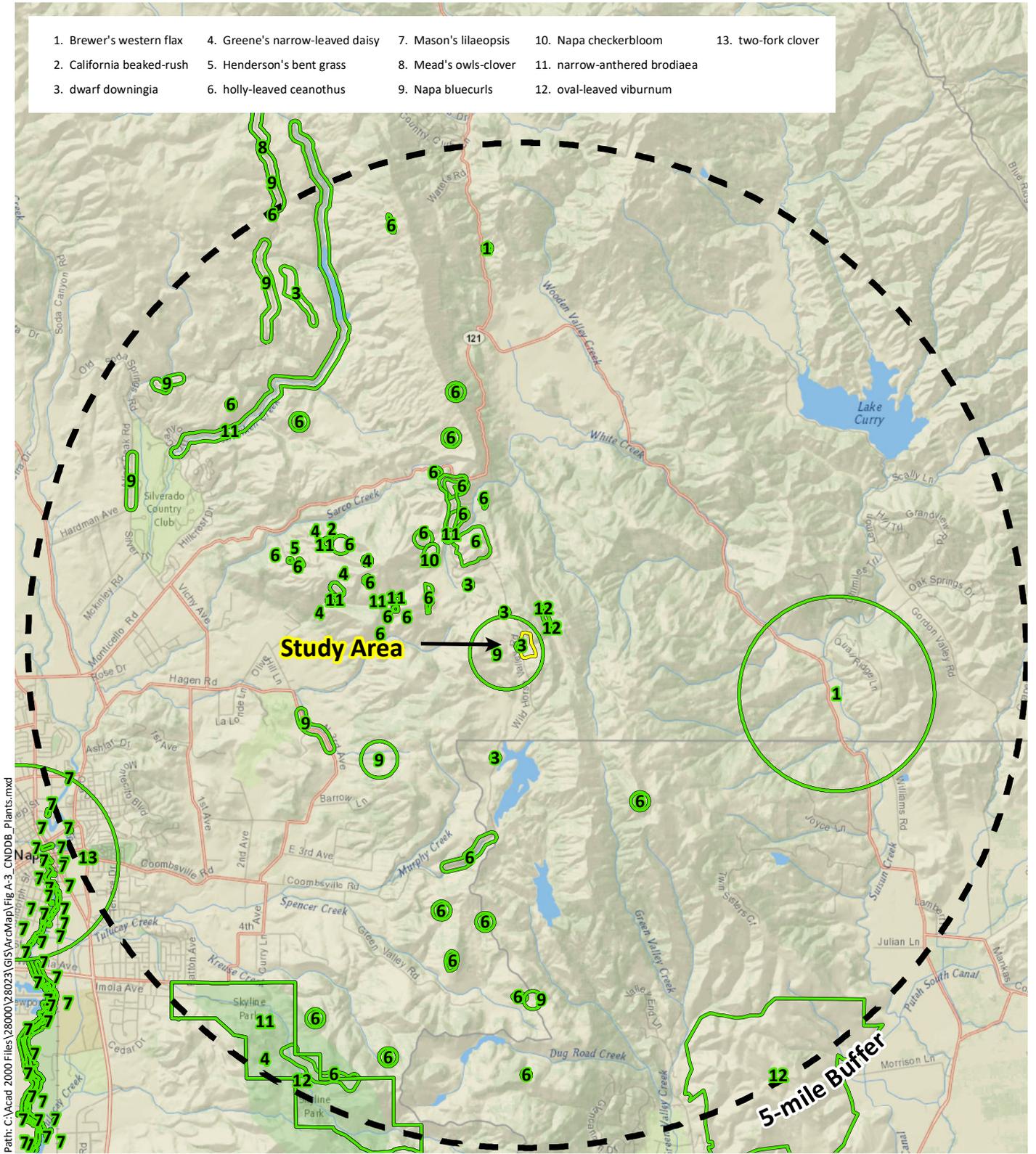
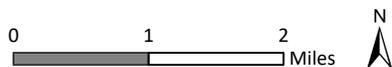


Figure A-5. CNDDDB Special-status Plants Documented within 5 Miles of the Study Area

8999 Wild Horse Valley Road
Napa County, CA



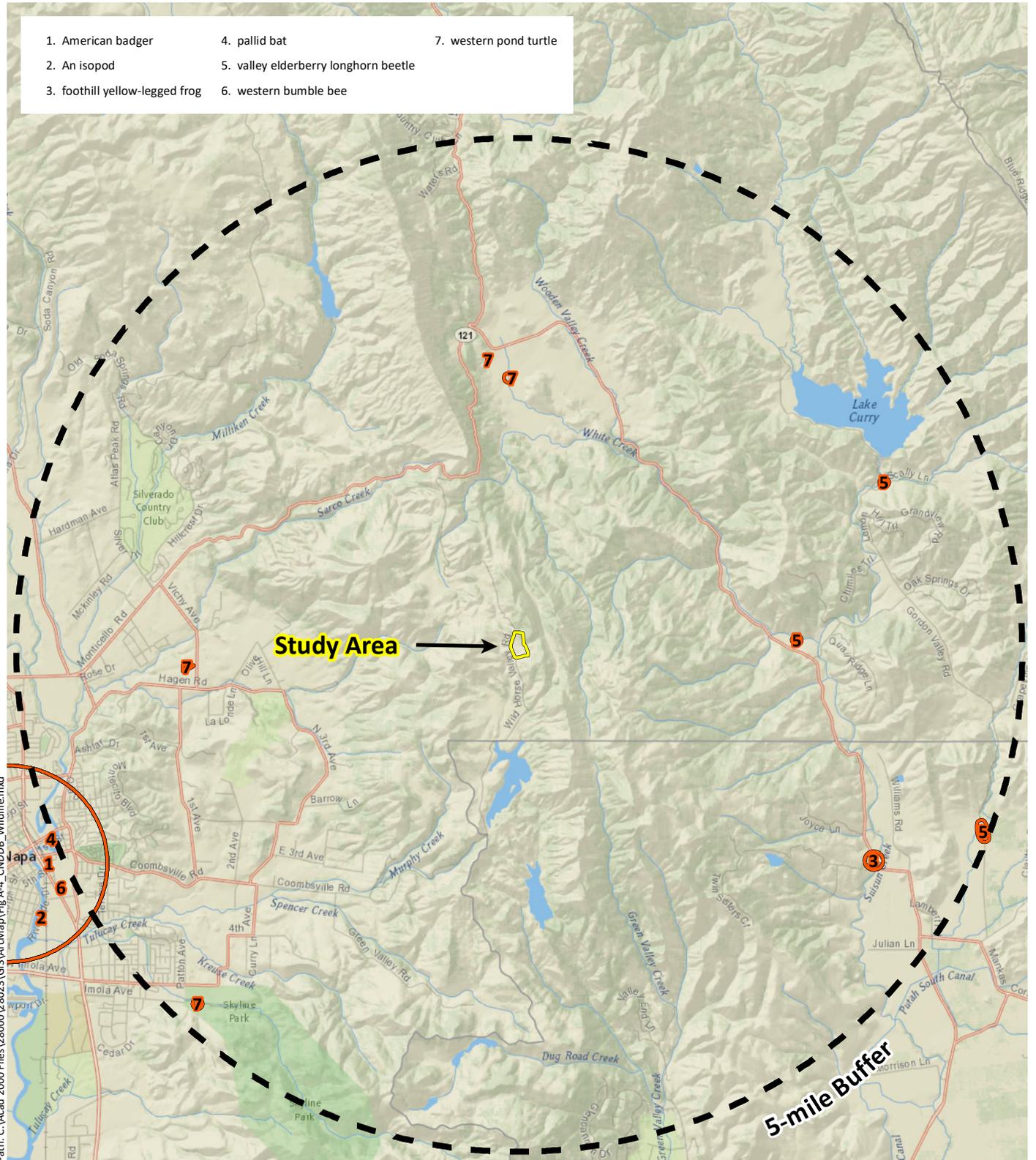
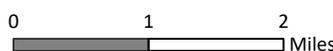


Figure A-6. CNDDB Special-status Wildlife Documented within 5 Miles of the Study Area

8999 Wild Horse Valley Road
 Napa County, CA



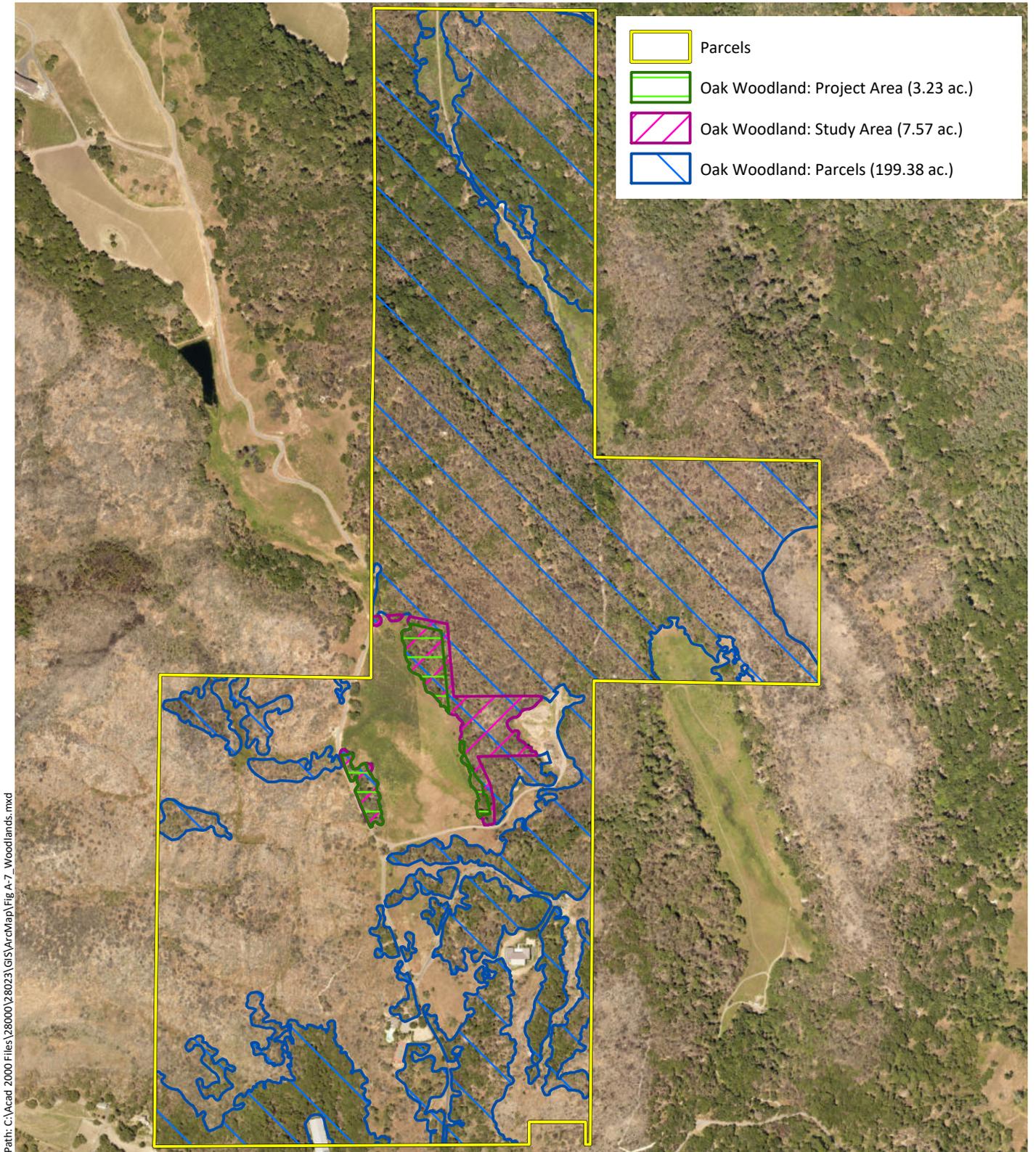
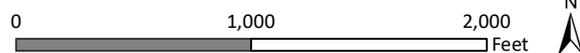


Figure A-7. Oak Woodlands

8999 Wild Horse Valley Road
Napa County, CA



Appendix B

Species Observed in the Study Area

Table B-1. Plant species observed in the Study Area, April 11 and May 24, 2018

Family	Scientific name	Common name	Life form	Origin	Rare Status ¹	Invasive Status ²	Wetland indicator ³
Agavaceae	<i>Chlorogalum pomeridianum</i> var. <i>pomeridianum</i>	common soap plant	perennial forb	native	--	--	NL
Anacardiaceae	<i>Toxicodendron diversilobum</i>	poison oak	deciduous shrub	native	--	--	FACU
Apiaceae	<i>Lomatium utriculatum</i>	common lomatium	perennial forb	native	--	--	NL
Apiaceae	<i>Sanicula bipinnatifida</i>	purple sanicle	perennial forb	native	--	--	NL
Apiaceae	<i>Sanicula crassicaulis</i>	Pacific sanicle	perennial forb	native	--	--	NL
Apiaceae	<i>Torilis arvensis</i>	hedge parsley	annual forb	non-native	--	moderate	NL
Asteraceae	<i>Anthemis cotula</i>	stinking chamomile	annual forb	non-native	--	assessed	FACU
Asteraceae	<i>Baccharis pilularis</i>	coyote brush	evergreen shrub	native	--	--	NL
Asteraceae	<i>Carduus pycnocephalus</i>	Italian thistle	annual forb	non-native	--	moderate	NL
Asteraceae	<i>Centaurea solstitialis</i>	yellow star thistle	annual forb	non-native	--	high	NL
Asteraceae	<i>Eurybia radulina</i>	roughleaf aster	perennial forb	native	--	--	NL
Asteraceae	<i>Hypochaeris glabra</i>	smooth catsear	annual forb	non-native	--	limited	NL
Asteraceae	<i>Hypochaeris radicata</i>	rough cat's-ear	perennial forb	non-native	--	moderate	FACU
Asteraceae	<i>Lactuca serriola</i>	prickly lettuce	annual forb	non-native	--	assessed	FACU
Asteraceae	<i>Lasthenia glaberrima</i>	smooth goldfields	annual forb	native	--	--	OBL
Asteraceae	<i>Leontodon saxatilis</i> ssp. <i>longirostris</i>	hawkbit	annual forb	non-native	--	--	FACU
Asteraceae	<i>Logfia gallica</i>	narrowleaf cottonrose	annual forb	non-native	--	--	NL
Asteraceae	<i>Madia gracilis</i>	gumweed tarweed	annual forb	native	--	--	NL
Asteraceae	<i>Psilocarphus brevissimus</i> var. <i>brevissimus</i>	short woollyheads	annual forb	native	--	--	FACW
Asteraceae	<i>Rhagadiolus stellatus</i>	endive daisy	annual forb	non-native	--	--	NL
Asteraceae	<i>Senecio vulgaris</i>	old man in the Spring	annual forb	non-native	--	--	FACU
Asteraceae	<i>Silybum marianum</i>	milk thistle	perennial forb	non-native	--	limited	NL
Asteraceae	<i>Soliva sessilis</i>	field burweed	annual forb	non-native	--	--	FACU
Asteraceae	<i>Sonchus asper</i> ssp. <i>asper</i>	prickly sow thistle	annual forb	non-native	--	assessed	FAC

Family	Scientific name	Common name	Life form	Origin	Rare Status ¹	Invasive Status ²	Wetland indicator ³
Asteraceae	<i>Sonchus oleraceus</i>	common sow thistle	annual forb	non-native	--	--	NL
Asteraceae	<i>Taraxacum officinale</i>	common dandelion	perennial forb	non-native	--	assessed	FACU
Boraginaceae	<i>Amsinckia intermedia</i>	common fiddleneck	annual forb	native	--	--	NL
Boraginaceae	<i>Amsinckia menziesii</i>	Menzies' fiddleneck	annual forb	native	--	--	NL
Boraginaceae	<i>Cynoglossum grande</i>	Pacific hound's tongue	perennial forb	native	--	--	NL
Boraginaceae	<i>Nemophila menziesii</i> var. <i>menziesii</i>	baby blue eyes	annual forb	native	--	--	NL
Boraginaceae	<i>Phacelia imbricata</i>	imbricate phacelia	perennial forb	native	--	--	NL
Boraginaceae	<i>Plagiobothrys nothofulvus</i>	rusty popcornflower	annual forb	native	--	--	FAC
Boraginaceae	<i>Plagiobothrys stipitatus</i>	stalked popcornflower	annual forb	native	--	--	FACW
Brassicaceae	<i>Barbarea orthoceras</i>	erect pod wintercress	perennial forb	native	--	--	FACW
Brassicaceae	<i>Cardamine oligosperma</i>	Idaho bittercress	annual forb	native	--	--	NL
Brassicaceae	<i>Raphanus sativus</i>	wild radish	perennial forb	non-native	--	limited	NL
Brassicaceae	<i>Sinapis arvensis</i>	charlock	annual forb	non-native	--	limited	NL
Brassicaceae	<i>Thysanocarpus curvipes</i>	fringe pod	annual forb	native	--	--	NL
Campanulaceae	<i>Downingia pusilla</i>	dwarf downingia	annual forb	native	Rank 2B	--	OBL
Caryophyllaceae	<i>Cerastium glomeratum</i>	mouse-ear chickweed	annual forb	non-native	--	--	UPL
Dennstaedtiaceae	<i>Pteridium aquilinum</i> var. <i>pubescens</i>	bracken fern	perennial fern	native	--	--	FACU
Ericaceae	<i>Arbutus menziesii</i>	Pacific madrone	evergreen tree	native	--	--	NL
Ericaceae	<i>Arctostaphylos manzanita</i> ssp. <i>manzanita</i>	whiteleaf manzanita	evergreen shrub	native	--	--	NL
Euphorbiaceae	<i>Euphorbia peplus</i>	petty spurge	annual forb	non-native	--	--	NL
Fabaceae	<i>Acmispon parviflorus</i>	small flowered lotus	annual forb	native	--	--	NL
Fabaceae	<i>Acmispon wrangelianus</i>	Wrangel's lotus	annual forb	native	--	--	NL
Fabaceae	<i>Lathyrus angulatus</i>	angled pea	annual forb	non-native	--	--	NL
Fabaceae	<i>Lathyrus vestitus</i> var. <i>vestitus</i>	common Pacific pea	perennial forb	native	--	--	NL
Fabaceae	<i>Lupinus bicolor</i>	miniature lupine	annual forb	native	--	--	NL

Family	Scientific name	Common name	Life form	Origin	Rare Status ¹	Invasive Status ²	Wetland indicator ³
Fabaceae	<i>Lupinus nanus</i>	sky lupine	annual forb	native	--	--	NL
Fabaceae	<i>Lupinus succulentus</i>	succulent lupine	annual forb	native	--	--	NL
Fabaceae	<i>Medicago polymorpha</i>	bur medic	annual forb	non-native	--	limited	FACU
Fabaceae	<i>Trifolium depauperatum</i> var. <i>depauperatum</i>	cowbag clover	annual forb	native	--	--	FAC
Fabaceae	<i>Trifolium dubium</i>	Shamrock clover	annual forb	non-native	--	--	UPL
Fabaceae	<i>Trifolium gracilentum</i>	pinpoint clover	annual forb	native	--	--	NL
Fabaceae	<i>Trifolium hirtum</i>	rose clover	annual forb	non-native	--	moderate	NL
Fabaceae	<i>Trifolium microdon</i>	thimble clover	annual forb	native	--	--	NL
Fabaceae	<i>Trifolium repens</i>	white clover	perennial forb	non-native	--	--	FACU
Fabaceae	<i>Trifolium subterraneum</i>	subterranean clover	annual forb	non-native	--	--	NL
Fabaceae	<i>Trifolium variegatum</i> var. <i>variegatum</i>	variegated clover	annual forb	native	--	--	FAC
Fabaceae	<i>Trifolium willdenovii</i>	tomcat clover	annual forb	native	--	--	FACW
Fabaceae	<i>Vicia sativa</i>	garden vetch	annual forb	non-native	--	--	FACU
Fabaceae	<i>Vicia villosa</i>	woolly-pod vetch	annual forb	non-native	--	--	NL
Fagaceae	<i>Quercus agrifolia</i>	coast live oak	evergreen tree	native	--	--	NL
Fagaceae	<i>Quercus garryana</i>	Oregon white oak	deciduous tree	native	--	--	UPL
Geraniaceae	<i>Erodium botrys</i>	longbeak stork's bill	annual forb	non-native	--	assessed	FACU
Geraniaceae	<i>Erodium brachycarpum</i>	foothill filaree	annual forb	non-native	--	limited	NL
Geraniaceae	<i>Erodium cicutarium</i>	redstem stork's bill	annual forb	non-native	--	limited	NL
Geraniaceae	<i>Geranium dissectum</i>	cutleaf geranium	annual forb	non-native	--	moderate	NL
Juncaceae	<i>Juncus bufonius</i>	toad rush	annual graminoid	native	--	--	FACW
Lamiaceae	<i>Lamium amplexicaule</i>	henbit deadnettle	annual forb	non-native	--	--	NL
Limnanthaceae	<i>Limnanthes douglasii</i>	Douglas' meadowfoam	annual forb	native	--	--	OBL
Linaceae	<i>Linum bienne</i>	pale flax	annual forb	non-native	--	--	NL
Lythraceae	<i>Lythrum hyssopifolia</i>	hyssop loosestrife	annual forb	non-native	--	moderate	OBL

Family	Scientific name	Common name	Life form	Origin	Rare Status ¹	Invasive Status ²	Wetland indicator ³
Melanthiaceae	<i>Toxicoscordion fremontii</i>	Fremot's star lily	perennial forb	native	--	--	NL
Montiaceae	<i>Calandrinia menziesii</i>	common redmaids	annual forb	native	--	--	FACU
Montiaceae	<i>Claytonia perfoliata</i>	miner's lettuce	annual forb	native	--	--	FAC
Myrsinaceae	<i>Lysimachia arvensis</i>	scarlet pimpernel	annual forb	non-native	--	--	NL
Onagraceae	<i>Epilobium brachycarpum</i>	annual willowherb	annual forb	native	--	--	FAC
Orobanchaceae	<i>Castilleja attenuata</i>	valley tassels	annual forb	native	--	--	NL
Orobanchaceae	<i>Castilleja densiflora</i>	denseflower owl's clover	annual forb	native	--	--	NL
Orobanchaceae	<i>Triphysaria pusilla</i>	dwarf owl's clover	annual forb	native	--	--	NL
Papaveraceae	<i>Eschscholzia californica</i>	California poppy	perennial forb	native	--	--	NL
Phrymaceae	<i>Erythranthe guttata</i>	seep monkeyflower	annual forb	native	--	--	OBL
Plantaginaceae	<i>Callitriche heterophylla</i>	water starwort	annual forb	native	--	--	OBL
Plantaginaceae	<i>Plantago erecta</i>	foothill plantain	annual forb	native	--	--	NL
Plantaginaceae	<i>Plantago lanceolata</i>	English plantain	perennial forb	non-native	--	limited	FAC
Poaceae	<i>Aira caryophyllea</i>	silver hairgrass	annual graminoid	non-native	--	assessed	FACU
Poaceae	<i>Avena barbata</i>	wild oat	annual graminoid	non-native	--	moderate	NL
Poaceae	<i>Avena fatua</i>	wild oat	annual graminoid	non-native	--	moderate	NL
Poaceae	<i>Brachypodium distachyon</i>	false brome	annual graminoid	non-native	--	moderate	NL
Poaceae	<i>Briza minor</i>	little rattlesnake grass	annual graminoid	non-native	--	--	FAC
Poaceae	<i>Bromus diandrus</i>	rip-gut brome	annual graminoid	non-native	--	moderate	NL
Poaceae	<i>Bromus hordeaceus</i>	soft chess	annual graminoid	non-native	--	limited	FACU
Poaceae	<i>Bromus madritensis</i>	foxtail chess	annual graminoid	non-native	--	--	NL
Poaceae	<i>Cynosurus echinatus</i>	dogtail grass	annual graminoid	non-native	--	moderate	NL
Poaceae	<i>Elymus glaucus</i>	blue wildrye	perennial graminoid	native	--	--	FACU
Poaceae	<i>Festuca bromoides</i>	brome fescue	perennial graminoid	non-native	--	--	FACU
Poaceae	<i>Festuca myuros</i>	rattail fescue	perennial graminoid	non-native	--	moderate	FACU
Poaceae	<i>Festuca perennis</i>	Italian rye grass	annual graminoid	non-native	--	moderate	FAC

Family	Scientific name	Common name	Life form	Origin	Rare Status ¹	Invasive Status ²	Wetland indicator ³
Poaceae	<i>Hordeum marinum</i>	Mediterranean barley	annual graminoid	non-native	--	moderate	FAC
Poaceae	<i>Phalaris aquatica</i>	harding grass	perennial graminoid	non-native	--	moderate	FACU
Poaceae	<i>Triticum aestivum</i>	bread wheat	annual graminoid	non-native	--	--	NL
Polemoniaceae	<i>Leptosiphon parviflorus</i>	variable linanthus	annual forb	native	--	--	NL
Polygonaceae	<i>Rumex acetosella</i>	sheep sorrel	perennial forb	non-native	--	moderate	FACU
Polygonaceae	<i>Rumex conglomeratus</i>	clustered dock	perennial forb	non-native	--	--	FACW
Polygonaceae	<i>Rumex crispus</i>	curly dock	perennial forb	non-native	--	limited	FAC
Ranunculaceae	<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	annual forb	native	Rank 4	--	OBL
Ranunculaceae	<i>Ranunculus muricatus</i>	spiny buttercup	perennial forb	non-native	--	--	FACW
Rosaceae	<i>Heteromeles arbutifolia</i>	toyon	evergreen shrub	native	--	--	NL
Rubiaceae	<i>Galium aparine</i>	common bedstraw	annual forb	native	--	--	FACU
Rubiaceae	<i>Sherardia arvensis</i>	blue fieldmadder	annual forb	non-native	--	--	NL
Saxifragaceae	<i>Lithophragma affine</i>	woodland star	perennial forb	native	--	--	NL
Themidaceae	<i>Dichelostemma capitatum</i>	blue dicks	perennial forb	native	--	--	FACU

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

¹Rare 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

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

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

³Wetland Status: National List of Plant Species that Occur in Wetlands, Arid West Region (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 the Study Area

Scientific Name	Common Name
Mammals	
<i>Sciurus griseus</i>	western (California) gray squirrel
Birds	
<i>Aphelocoma californica</i>	western scrub-jay
<i>Colaptes auratus</i>	northern flicker
<i>Corvus corax</i>	common raven
<i>Junco hyemalis</i>	dark-eyed junco
<i>Pipilo maculatus</i>	spotted towhee
<i>Vermivora celata</i>	orange-crowned warbler
<i>Zenaida macroura</i>	mourning dove
Reptiles and Amphibians	
<i>Sceloporus occidentalis</i>	western fence lizard
<i>Taricha torosa</i>	California newt

Appendix C

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

Table C-1. Potential for Special-status Species to Occur in the Study Area. List compiled from the CDFW BIOS database (CDFW 2020a), USFWS IPaC Report (USFWS 2020), and CNPS Electronic Inventory (CNPS 2020a) searches. For plants, Yountville, Capell Valley, Mount Vaca, Napa, Mount George, Fairfield North, Cuttings Wharf, Cordelia, and Fairfield South 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				
<i>Agrostis hendersonii</i> Henderson's bentgrass	CRPR 3	Valley and foothill grassland, vernal pools; situated in mesic grasslands. Elevation range: 225 – 995 feet. Blooms: April – June.	Moderate Potential. The seasonal wetland may support this species.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.
<i>Allium peninsulare</i> var. <i>franciscanum</i> Franciscan onion	CRPR 1B	Cismontane woodland, valley and foothill grassland; on clay substrate, often derived from serpentine or rocky volcanic. Elevation range 170 – 985 feet. Blooms: May – June.	Moderate Potential. The Study Area contains rocky volcanic woodland that may support this species.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.
<i>Amorpha californica</i> var. <i>napensis</i> Napa false indigo	CRPR 1B	Openings in broadleaf upland forest, chaparral, cismontane woodland. Elevation range: 395 – 6560 feet. Blooms: April – July.	Moderate Potential. The Study Area contains oak woodland that may support this species.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.
<i>Antirrhinum virga</i> twig-like snapdragon	CRPR 4	Chaparral, lower montane coniferous forest; located on rocky openings often derived from serpentine. Elevation range: 325 – 6550 feet. Blooms: June – July.	No Potential. The Study Area does not contain serpentine seeps.	Not Present. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Arabis modesta</i> modest rockcress	CRPR 4	Chaparral, lower montane coniferous forest; located on steep slopes, cliffs, and shaded canyons underlain by deep soils. Elevation range: 390 – 2600 feet. Blooms: March – July.	No Potential. The Study Area does not contain steep slopes, cliffs, or shaded canyons to support this species.	Not Present. No further actions are recommended for this species.
<i>Astragalus clevelandii</i> Cleveland's milk-vetch	CRPR 4	Chaparral, cismontane woodland, riparian forest; located on serpentine seeps. Elevation range: 650 – 4875 feet. Blooms: June – September.	No Potential. The Study Area does not contain serpentine seeps.	Not Present. No further actions are recommended for this species.
<i>Astragalus tener</i> var. <i>tener</i> alkali milk-vetch	CRPR 1B	Playas, vernal pools, valley and foothill grassland; located in vernal pools and similar wetlands/mesic areas on alkaline substrate. Elevation range: 0 – 195 feet. Blooms: March – June.	Unlikely. Although the Study Area contains seasonal wetlands similar to vernal pools, the substrate is not alkaline.	Not Present. No further actions are recommended for this species.
<i>Atriplex persistens</i> Vernal pool smallscale	CRPR 1B	Vernal pools; located in vernal pools and similar wetlands/mesic areas on alkaline substrate. Elevation range: 30 – 345 feet. Blooms: June, August-October	Unlikely. Although the Study Area contains seasonal wetlands similar to vernal pools, the substrate is not alkaline.	Not Present. No further actions are recommended for this species.
<i>Balsamorhiza macrolepis</i> big-scale balsamroot	CRPR 1B	Valley and foothill grassland, cismontane woodland; situated on rocky substrates, typically derived from metavolcanics, sometimes on serpentine substrate. Elevation range: 295 – 3100 feet. Blooms: March – June.	Moderate Potential. The Study Area contains woodland and grasslands underlain by gravelly volcanic substrate.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Brodiaea leptandra</i> narrow-anthered brodiaea	CRPR 1B	Broadleaf upland forest, chaparral, lower montane coniferous forest; situated on gravelly soils derived from volcanics, particularly rhyolitic tuff. Elevation range: 360 – 3000 feet. Blooms: May – July.	Moderate Potential. The Study Area contains volcanic substrate that may support this species.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.
<i>Calandrinia breweri</i> Brewer's Calandrinia	CRPR 4	Chaparral, coastal scrub; located on sandy or loamy substrate in areas often recently disturbed or burned. Elevation range: 30 – 3965 feet. Blooms: March – June.	Unlikely. Although the site burned, chaparral and scrub habitats are absent.	Not Present. No further actions are recommended for this species.
<i>Calochortus pulchellus</i> Mt. Diablo fairy-lantern	CRPR 1B	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. Elevation range: 90 – 2500 feet. Blooms: April - June	Unlikely. Although the site contains woodlands, this species is widely regarded as highly restricted to Mt. Diablo.	Not Present. No further actions are recommended for this species.
<i>Calycadenia micrantha</i> small-flowered Calycadenia	CRPR 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.	Unlikely. Although the site contains rocky volcanics, this species is known from very sparse scree and rocky areas that are absent from the Study Area.	Not Present. No further actions are recommended for this species.
<i>Carex lyngbyei</i> Lyngbye's sedge	CRPR 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 perennial wetland 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
<i>Castilleja affinis</i> ssp. <i>neglecta</i> Tiburon paintbrush	FE; ST; CRPR 1B	Valley and foothill grassland; located in grassy, open areas and rock outcrops underlain by serpentine substrate. Elevation range: 195 – 1300 feet. Blooms: April – June.	No Potential. The Study Area does not contain serpentine soils to support this species.	Not Present. No further actions are recommended for this species.
<i>Castilleja ambigua</i> ssp. <i>ambigua</i> Johnny-nip	CRPR 4	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pool margins. Elevation range: 0 – 1415 feet. Blooms: March – August.	Moderate Potential. The Study Area contains mesic grassland that may support this species.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.
<i>Castilleja ambigua</i> ssp. <i>meadii</i> Mead's owl's-clover	CRPR 1B	Meadows and seeps, vernal pools; located in mesic areas or wetlands underlain by gravelly clay soils derived from volcanics. Elevation range: 1460 – 1545 feet. Blooms: April – May.	Moderate Potential. The Study Area contains seasonal wetland and mesic grassland areas underlain by volcanic soils that may support this species.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.
<i>Ceanothus purpureus</i> holly-leaved ceanothus	CRPR 1B	Chaparral, cismontane woodland; located on rocky, volcanic slopes. Elevation range: 395 – 3000 feet. Blooms: February – June.	No Potential. The Study Area does not contain volcanic chaparral or similar woodland to support this species.	Not Present. No further actions are recommended for this species.
<i>Centromadia parryi</i> ssp. <i>parryi</i> pappose tarplant	CRPR 1B	Coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland; in vernal mesic sites, often with alkali substrate. Elevation range: 5 – 1380 feet. Blooms: May – November.	No Potential. The Study Area does not support alkali grasslands or alkali wetlands to support this species.	Not Present. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Centromadia parryi</i> ssp. <i>rudis</i> Parry's rough tarplant	CRPR 4	Valley and foothill grassland, vernal pools; situated on vernal mesic sites underlain by alkaline soils, frequently seeps, swales, and roadsides. Elevation range: 0 – 330 feet. Blooms: May – October.	No Potential. The Study Area does not support alkali grasslands or alkali wetlands to support this species.	Not Present. No further actions are recommended for this species.
<i>Chloropyron molle</i> ssp. <i>molle</i> soft bird's-beak	FE, SR, CRPR 1B	Coastal brackish or salt marshes; located in low-growing saltgrass and pickleweed mats. Elevation range: 0 – 10 feet. Blooms: June – November.	No Potential. The Study Area does not contain coastal brackish marsh habitat to support this species.	Not Present. No further actions are recommended for this species.
<i>Cicuta maculata</i> var. <i>bolanderi</i> Bolander's water hemlock	CRPR 2B	Marshes and swamps; in coastal, fresh, or brackish perennial waters. Elevation range: 0 – 600 feet. Blooms: July – September.	No Potential. The Study Area does not contain coastal brackish or freshwater marsh habitat to support this species.	Not Present. No further actions are recommended for this species.
<i>Cirsium hydrophilum</i> var. <i>hydrophilum</i> Suisun thistle	CRPR 1B	Marshes and swamps; located in perennial brackish marsh. Elevation range: 0 – 3 feet. Blooms: June - September	No Potential. The Study Area does not contain coastal brackish marsh habitat to support this species.	Not Present. No further actions are recommended for this species.
<i>Clarkia gracilis</i> ssp. <i>tracyi</i> Tracy's clarkia	CRPR 4	Chaparral; located in openings and situated on substrates often derived from serpentine. Elevation range: 210 – 2115 feet. Blooms: April – July.	No Potential. The Study Area does not contain serpentine soils to support this species.	Not Present. No further actions are recommended for this species.
<i>Collomia diversifolia</i> serpentine collomia	CRPR 4	Chaparral, cismontane woodland; situated on rocky to gravelly serpentine substrates. Elevation range: 975 – 1950 feet. Blooms: May – June.	No Potential. The Study Area does not contain serpentine soils to support this species.	Not Present. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Cryptantha dissita</i> serpentine cryptantha	CRPR 1B	Chaparral; located on serpentine outcrops. Elevation range: 1280 – 1885 feet. Blooms: April – June.	No Potential. The Study Area does not contain serpentine soils to support this species.	Not Present. No further actions are recommended for this species.
<i>Cuscuta howelliana</i> Boggs Lake dodder	LR	Vernal pool; situated on the margins; hosts on <i>Eryngium</i> spp., <i>Navarretia</i> spp., <i>Polygonum polygaloides</i> , and <i>Epilobium campestre</i> . Elevation range: 455 – 5365 feet. Blooms: August – September.	Moderate Potential. The Study Area contains seasonal wetland habitat that that may support this species. Known from northern Napa County.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.
<i>Downingia pusilla</i> dwarf downingia	CRPR 2B	Valley and foothill grassland, vernal pools; located in mesic grassy sites, pool and lake margins. Elevation range: 3 – 1450 feet. Blooms: March – May.	High Potential. The Study Area contains seasonal wetland habitat that that may support this species. Previously documented from the Study Area (CDFW 2020a).	Present. A small population (~150 individuals) was observed in May in the lower portion of the seasonal wetland. Entirely confined to the seasonal wetland. No impacts are anticipated for this species. County required wetland buffer sufficient to protect this species.
<i>Eleocharis parvula</i> small spikerush	CRPR 4	Marshes and swamps. Elevation range: 5 – 9815 feet. Blooms: sometimes April, June – August, sometimes September.	No Potential. The Study Area does not contain perennial wetland 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
<i>Erigeron biolettii</i> Streamside daisy	CRPR 3	Broadleaf upland forest, cismontane woodland, North Coast coniferous forest; on rocky, mesic. Elevation range: 95 – 3610 feet. Blooms: June – October.	Moderate Potential. The Study Area contains rocky sites in woodland habitat that may support this species.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.
<i>Erigeron greenei</i> Greene's narrow-leaved daisy	CRPR 1B	Chaparral; located on volcanic or serpentine substrate. Elevation range: 260 – 3270 feet. Blooms: May – September.	No Potential. The Study Area does not contain chaparral or scrubby grassland to support this species.	Not Present. No further actions are recommended for this species.
<i>Eriogonum luteolum var. caninum</i> Tiburon buckwheat	CRPR 1B	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland; located on sandy to gravelly serpentine. Elevation range: 0 – 2100 feet. Blooms: May – September.	No Potential. The Study Area does not contain serpentine substrate to support this species.	Not Present. No further actions are recommended for this species.
<i>Eriogonum truncatum</i> Mt. Diablo buckwheat	CRPR 1B	Chaparral, coastal scrub, valley and foothill grassland; located on sandy soils. Elevation range: 9 – 1050 feet. Blooms: April – September (November-December).	Unlikely. The Study Area does not contain sandy soils to support this species.	Not Present. No further actions are recommended for this species.
<i>Eryngium jepsonii</i> Jepson's coyote thistle	CRPR 1B	Valley and foothill grassland, vernal pools; situated on clay substrate that is vernaly saturated. Elevation range: 10 – 975 feet. Blooms: April – August.	Moderate Potential. The Study Area contains seasonal wetland habitat that that may support this species.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Extriplex joaquiniana</i> San Joaquin spearscale	CRPR 1B	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland; located on alkaline substrate. Elevation range: 0 – 2715 feet. Blooms: April – October.	No Potential. The Study Area does not contain alkali grasslands or other alkali habitats to support this species.	Not Present. No further actions are recommended for this species.
<i>Gilia capitata ssp. tomentosa</i> 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.
<i>Harmonia nutans</i> nodding harmonia	CRPR 4	Chaparral, cismontane woodland; located on rocky to gravelly substrates derived from volcanics. Elevation range: 240 – 3170 feet. Blooms: March – May.	Moderate Potential. The Study Area contains rocky volcanic woodland that may support this species.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.
<i>Helianthella castanea</i> Diablo helianthella	CRPR 1B	Broadleaf upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Elevation range: 180 – 3900 feet. Blooms: March - June	Moderate Potential. The Study Area contains grassland and woodland substrate that may support this species.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.
<i>Hesperolinon bicarpellatum</i> Two-carpellate western flax	CRPR 1B	Chaparral; located on serpentine substrate. Elevation range: 195 – 3270 feet. Blooms: May – July.	No Potential. The Study Area does not contain serpentine soils to support this species.	Not Present. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Hesperolinon breweri</i> Brewer's western flax	CRPR 1B	Chaparral, cismontane woodland, valley and foothill grassland; typically located in serpentine grassland and serpentine chaparral underlain by rocky substrates. Elevation range: 95 – 2925 feet. Blooms: May – July.	No Potential. The Study Area does not contain serpentine soils to support this species.	Not Present. No further actions are recommended for this species.
<i>Hesperolinon sharsmithiae</i> Sharsmith's western flax	CRPR 1B	Chaparral; located on serpentine substrate. Elevation range: 875 – 975 feet. Blooms: May – July.	No Potential. The Study Area does not contain serpentine soils to support this species.	Not Present. No further actions are recommended for this species.
<i>Iris longipetala</i> coast iris	CRPR 4	Coastal prairie, lower montane coniferous forest, meadows and seeps; located on mesic sites. Elevation range: 0 – 1950 feet. Blooms: March – May.	Unlikely. Although the Study Area contains seasonal wetland/mesic grassland, this species is known primarily from coastal prairie habitat.	Not Present. No further actions are recommended for this species.
<i>Juglans hindsii</i> North California black walnut	CRPR 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 does not contain riparian habitat or perennial stream(s) to support this species.	Not Present. No further actions are recommended for this species.
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE; CRPR 1B	Valley and foothill grassland, vernal pools, cismontane woodland; located in pools, swales, and depressions in mesic grassy sites underlain by alkaline substrate. Elevation range: 0 – 1530 feet. Blooms: March – June.	Unlikely. Although the Study Area contains seasonal wetlands similar to vernal pools, the substrate is not alkaline.	Not Present. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Lasthenia ferrisiae</i> Ferris' goldfields	CRPR 4	Vernal pools; located on alkaline soils. Elevation range: 60 – 2100. Blooms: February – May.	Unlikely. Although the Study Area contains seasonal wetlands similar to vernal pools, the substrate is not alkaline.	Not Present. No further actions are recommended for this species.
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i> Delta tule pea	CRPR 1B	Freshwater and brackish marshes; typically located near or on slough margins, closely associated with cattail, tules, bulrushes, Baltic rush, California rose, and Suisun Marsh aster; known widely throughout Suisun Bay and Delta regions. Elevation range: 0 – 15 feet. Blooms: May – July, sometimes September.	No Potential. The Study Area does not contain coastal brackish marsh necessary to support this species.	Not Present. No further actions are recommended for this species.
<i>Legenere limosa</i> legenere	CRPR 1B	Vernal pools; typically located in the deepest portions of pools. Elevation range: 3 – 2860 feet. Blooms: April – June.	Moderate Potential. The Study Area contains vernal pool-like seasonal wetland habitat that that may support this species.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.
<i>Leptosiphon jepsonii</i> Jepson's leptosiphon	CRPR 1B	Chaparral, cismontane woodland; on open to partially shaded grassy slopes on volcanic or the periphery of serpentine substrate. Elevation range: 330 – 1640 feet. Blooms: April – May.	Moderate Potential. The Study Area contains rocky volcanic woodland that may support this species.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Leptosiphon latisectus</i> broad-lobed leptosiphon	CRPR 4	Broadleaf upland forest, cismontane woodland; frequently situated on serpentine substrate. 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.
<i>Lessingia hololeuca</i> woolly-headed lessingia	CRPR 3, LR	Broadleaf upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland; typically on clay, serpentine substrate. Elevation range: 3 – 2885 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.
<i>Lilaeopsis masonii</i> Mason’s Lilaeopsis	SR, CRPR 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 necessary to support this species.	Not Present. No further actions are recommended for this species.
<i>Lilium rubescens</i> redwood lily	CRPR 4, LR	Broadleaf upland forest, chaparral, lower montane coniferous forest, upper montane coniferous forest, North Coast coniferous forest; often located on serpentine substrates, and along roadcuts. Elevation range: 95 – 6210 feet. Blooms: April – September.	Unlikely. The Study Area does not contain serpentine substrate to support this species.	Not Present. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Limnanthes vinculans</i> Sebastopol meadowfoam	FE, SE, CRPR 1B	Mesic meadows, valley and foothill grassland, vernal pools; located in swales, wet meadows, depressions, and pools in the oak savanna of the Santa Rosa Plain on heavy adobe clay substrate. Elevation range: 3 – 2885 feet. Blooms: April – June.	Moderate Potential. The Study Area contains seasonal wetland habitat that that may support this species.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.
<i>Lomatium repostum</i> Napa Lomatium	CRPR 4	Chaparral, cismontane woodland; located on serpentine or volcanic substrates. Elevation range: 290 – 2700 feet. Blooms: March – June.	Moderate Potential. The Study Area contains rocky volcanic woodland that may support this species.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.
<i>Micropus amphibolus</i> Mt. Diablo cottonweed	CRPR 3	Broadleaf upland forest, chaparral, cismontane woodland, valley and foothill grassland; on thin, rocky soils with very sparse vegetation. Elevation range: 145 – 2710 feet. Blooms: March – May.	Unlikely. The Study Area does not contain areas of thin rocky soils with extremely low cover of vegetation to support this species.	Not Present. No further actions are recommended for this species.
<i>Monardella viridis</i> green monardella	CRPR 4	Broadleaf upland forest, chaparral, cismontane woodland. Elevation range: 325 – 3285 feet. Blooms: June – September.	Unlikely. This species is closely associated with chaparral or extremely shrubby woodland/forest habitat knot present in 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
<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i> few-flowered navarretia	FE; ST; CRPR 1B	Vernal pools; located on volcanic ash flow and volcanic substrate pools. Elevation range: 1300 – 2780 feet. Blooms: May – June.	Moderate Potential. The Study Area contains seasonal wetland habitat that that may support this species. Volcanic ash soils absent.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.
<i>Penstemon newberryi</i> var. <i>sonomensis</i> Sonoma beardtongue	CRPR 1B	Chaparral; crevices in rock outcrops and talus slopes on ridgelines and mountain peaks. Elevation range: 2295 – 4495 feet. Blooms: April – August.	No Potential. The Study Area does not contain large rock outcrops, nor is it located on steep ridgelines or mountain peaks.	Not Present. No further actions are recommended for this species.
<i>Pogogyne douglasii</i> Douglas' mesamint	LR	Valley and foothill grassland, cismontane woodland, yellow pine forest, mixed evergreen forest, vernal pool; situated in vernal pools, swales, and similar seasonal wetlands. Elevation range: 0 – 2925 feet. Blooms: March – July.	Moderate Potential. The Study Area contains vernal pool-like seasonal wetland habitat that that may support this species.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.
<i>Polygonum marinense</i> Marin knotweed	CRPR 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 habitat to support this species.	Not Present. No further actions are recommended for this species.
<i>Puccinellia simplex</i> California alkali grass	CRPR 1B	Chenopod scrub, meadow and seep, valley and foothill grassland, vernal pool; situated vernal mesic alkaline substrate in sinks, flats, and lake margins. Elevation range: 5 – 3025 feet. Blooms: March – May.	No Potential. The Study Area does not support alkali grasslands or alkali wetlands to support this species.	Not Present. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Ranunculus lobbii</i> Lobb's aquatic buttercup	CRPR 4	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools; located in mesic, vernal wet areas. Elevation range: 45 – 1530 feet. Blooms: February – May.	High Potential. The Study Area contains vernal pool-like seasonal wetland habitat that that may support this species.	Present. A small population (~50 individuals) was observed in May in the lower portion of the seasonal wetland. Entirely confined to the seasonal wetland. No impacts are anticipated for this species. County required wetland buffer sufficient to protect this species.
<i>Rhynchospora californica</i> California beaked-rush	CRPR 1B	Bogs and fens, lower montane coniferous forest, meadows and seeps, freshwater marshes and swamps. Elevation range: 145 – 3315 feet. Blooms: May – July.	Unlikely. The Study Area does not contain perennial wetlands necessary to support this species.	Not Present. No further actions are recommended for this species.
<i>Sagittaria sanfordii</i> Sanford's arrowhead	CRPR 1B	Marshes and swamps; located in assorted shallow freshwater habitats including canals and perennial drainage ditches. Elevation range: 0 – 2115 feet. Blooms: May – October, sometimes November.	Unlikely. The Study Area does not contain perennial wetlands necessary to support this species.	Not Present. No further actions are recommended for this species.
<i>Senecio clevelandii</i> var. <i>clevelandii</i> Cleveland's ragwort	CRPR 4	Chaparral; situated on serpentine seeps. Elevation range: 1185 – 2925 feet. Blooms: June – July.	No Potential. The Study Area does not contain serpentine seep habitat necessary to support this species.	Not Present. No further actions are recommended for this species.
<i>Sidalcea hickmanii</i> ssp. <i>napensis</i> Napa checkerbloom	CRPR 1B	Chaparral; located on rhyolitic substrates. Elevation range: 1345 – 1985 feet. Blooms: April – June.	No Potential. The Study Area does not contain chaparral 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
<i>Sidalcea hickmanii</i> ssp. <i>viridis</i> Marin checkerbloom	CRPR 1B	Chaparral; located on serpentine or volcanic substrate, often located in burns. Elevation range: 160 – 1400 feet. Blooms: May – June.	No Potential. The Study Area does not contain chaparral habitat to support this species.	Not Present. No further actions are recommended for this species.
<i>Sidalcea keckii</i> Keck's checkerbloom	FE; CRPR 1B	Cismontane woodland, valley and foothill grassland; located in grassy areas in blue oak woodland underlain by serpentine substrate. Elevation range: 240 – 2115 feet. Blooms: April – June.	No Potential. The Study Area does not contain serpentine substrate necessary to support this species.	Not Present. No further actions are recommended for this species.
<i>Spergularia macrotheca</i> var. <i>longistyla</i> long-styled sand-spurry	CRPR 1B	Meadow and seep, marshes and swamps. Elevation range: 0 – 830 feet. Blooms: February – March.	No Potential. The Study Area does not support alkali grasslands or alkali wetlands to support this species.	Not Present. No further actions are recommended for this species.
<i>Streptanthus hesperidis</i> green jewelflower	CRPR 1B	Chaparral, cismontane woodland; located in openings in brushy/wooded sites on rocky serpentine substrate. Elevation range: 420 – 2470 feet. Blooms: May – July.	No Potential. The Study Area does not contain serpentine substrate to support this species.	Not Present. No further actions are recommended for this species.
<i>Stuckenia filiformis</i> ssp. <i>alpina</i> slender-leaved pondweed	CRPR 2B	Marshes and swamps; located in shallow freshwater. Elevation range: 975 – 6990 feet. Blooms: May – July.	No Potential. The Study Area does not contain perennial freshwater necessary to support this species.	Not Present. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Symphytotrichum lentum</i> Suisun Marsh aster	CRPR 1B	Freshwater and brackish marshes and swamps; typically located on slough margins and edges, closely associated with cattail, tules, bulrushes, California rose, and Delta Tule pea. Elevation range: 0 – 10 feet. Blooms: May – November.	No Potential. The Study Area does not contain coastal brackish marsh necessary to support this species.	Not Present. No further actions are recommended for this species.
<i>Trichostema ruygtii</i> Napa bluecurls	CRPR 1B, LR	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest; located in open, sunny locations, and dried vernal pools. Elevation range: 95 – 2210 feet. Blooms: June – October.	Unlikely. The Study Area does not contain open, rocky volcanic areas to support this species. Documented occurrences from nearby chaparral, but such habitat does not exist in the Study Area.	Not Present. No further actions are recommended for this species.
<i>Trifolium amoenum</i> showy rancheria clover	FE, CRPR 1B	Valley and foothill grassland, coastal bluff scrub, swales, open sunny sites, sometimes on serpentine. Elevation range: 15 – 1365 feet. Blooms: April – June.	Moderate Potential. The Study Area contains mesic grassland that may support this species.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.
<i>Trifolium hydrophilum</i> saline clover	CRPR 1B	Marshes and swamps, mesic portions of alkali vernal pools; mesic, alkali valley and foothill grassland. Elevation range: 0 – 985 feet. Blooms: April – June.	Moderate Potential. The Study Area contains seasonal wetland habitat that that may support this species.	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Triteleia lugens</i> dark-mouthed triteleia	CRPR 4, LR	Broadleaf upland forest, chaparral, lower montane coniferous forest, coastal scrub. Elevation range: 325 – 3250 feet. Blooms: April – June.	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.
<i>Viburnum ellipticum</i> oval-leaved viburnum	CRPR 2B	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation range: 705 – 4595 feet. Blooms: May – June.	High Potential. The Study Area contains woodland habitat that may support this species. Documented occurrences within one mile (CDFW 2020a).	Not Observed. This species was not observed during the protocol-level survey. No further actions are recommended for this species.
WILDLIFE				
Mammals				
<i>Antrozous pallidus</i> pallid bat	SSC, WBWG High	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, forages along river channels. Roost sites include crevices in rocky outcrops and cliffs, caves, mines, trees and various manmade structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Moderate Potential. Oak woodland within the Study Area provides trees suitable for roosting; there are several CNDDDB occurrences in the greater vicinity (CDFW 2020a). Targeted bat assessment (i.e., close inspection of trees) was not performed.	Presence Unknown. Tree removal outside of maternity roosting season, or conduct pre-construction roost habitat assessment. See Section 6.0 for details.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Bassariscus astutus</i> 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.	Presumed Absent. No further actions are recommended for this species.
<i>Corynorhinus townsendii townsendii</i> Townsend's western big-eared bat	SSC, WBWG High	Humid coastal regions of northern and central California. Roost in limestone caves, lava tubes, mines, buildings etc. Will only roost in the open, hanging from walls and ceilings. 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. CNDDDB occurrences in Napa County are all located in the northern portion of the County (CDFW 2020a).	Presumed Absent. No further actions are recommended for this species.
<i>Lasiurus blossevillii</i> western red bat	SSC, WBWG High	Highly migratory and typically solitary, roosting primarily in the foliage of trees or shrubs. It is associated with broad-leaved 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
<i>Myotis thysanodes</i> fringed myotis	WBWG High	Associated with a wide variety of habitats including dry woodlands, desert scrub, mesic coniferous forest, grassland, and sage-grass steppes. Building, mines, and large trees and snags are important day and night roosts.	Moderate Potential. 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 6.0 for details.
<i>Myotis volans</i> long-legged myotis	WBWG High	Primarily found in coniferous forests, but also occurs seasonally in riparian and desert habitats. Large hollow trees, rock crevices, buildings, mines, and caves are important day roosts.	No Potential. The Study Area lacks caves, buildings or similar refugia and does not contain coniferous forest.	Not Present. No further actions are recommended for this species.
<i>Reithrodontomys raviventris</i> salt marsh harvest mouse	FE, SE, SFP	Endemic to emergent salt and brackish wetlands of the San Francisco Bay Estuary. Pickleweed marshes are primary habitat; also occurs in various other wetland communities with dense vegetation. Does not burrow, builds loosely organized nests. Requires higher areas for dryland refugia during high tides.	No Potential. The Study Area contains no tidal or brackish marsh and is outside of this species' Napa County range.	Not Present. No further actions are recommended for this species.
<i>Sorex ornatus sinuosus</i> Suisun shrew	SSC	Tidal marshes of the northern shores of San Pablo and Suisun bays. Require dense low-lying vegetation cover, driftwood, and other litter above the mean high tide line for nesting and foraging.	No Potential. The Study Area contains no tidal or brackish marsh and is outside of this species' Napa County range.	Not Present. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Taxidea taxus</i> American badger	SSC	Most abundant in drier open stages of most shrub, woodland, and herbaceous vegetation types. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents.	Unlikely. The Study Area provides grassland and woodland with some suitable habitat elements, but there are no occurrences within the eastern portion of Napa County (CDFW 2020a). No burrows of a sufficient were observed during the multiple site visits.	Presumed Absent. No further actions are recommended for this species.
Birds				
<i>Agelaius tricolor</i> tricolored blackbird	SC (E), SSC	Nearly endemic to California, where it is most numerous in the Central Valley and vicinity. Highly colonial, nesting in dense aggregations over or near freshwater in emergent growth or riparian thickets. Also uses flooded agricultural fields. Abundant insect prey near breeding areas essential.	No Potential. The Study Area does not provide vegetated ponds or emergent marsh suitable for nesting.	Not Present. No further actions are recommended for this species.
<i>Ammodramus savannarum</i> grasshopper sparrow	SSC, LR	Summer resident. Breeds in open grasslands in lowlands and foothills, generally with low- to moderate-height grasses and scattered shrubs. Well-hidden nests are placed on the ground.	Unlikely. Grassland cover within the Study Area is limited in size relative to typical conditions, and this species has not been documented in this portion of the County as per available sources (Smith 2003, eBird 2020).	Presumed Absent. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Aquila chrysaetos</i> golden eagle	BGEPA, SFP	Occurs year-round in rolling foothills, mountain areas, sage-juniper flats, and deserts. Cliff-walled canyons provide nesting habitat in most parts of range; also nests in large trees, usually within otherwise open areas.	No Potential. 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.
<i>Ardea alba</i> great egret	no status (breeding sites protected by CDFW)	Year-round resident. Nests colonially or semi-colonially, usually in trees, occasionally on the ground or elevated platforms. Breeding sites usually in close proximity to foraging areas: marshes, lake margins, tidal flats, and rivers. Forages primarily on fishes and other aquatic prey, also smaller terrestrial vertebrates.	Unlikely. The Study Area is not within close proximity to suitable waters to support a breeding colony.	Presumed Absent. No further actions are recommended for this species.
<i>Ardea herodias</i> great blue heron	LR (breeding sites protected by CDFW)	Year-round resident. Nests colonially or semi-colonially in tall trees and cliffs, also sequestered terrestrial substrates. Breeding sites usually in close proximity to foraging areas: marshes, lake margins, tidal flats, and rivers. Forages primarily on fishes and other aquatic prey, also smaller terrestrial vertebrates.	Unlikely. The Study Area is not within close proximity to suitable waters to support a breeding colony.	Presumed Absent. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Asio flammeus</i> short-eared owl	SSC	Occurs year-round, but primarily as a winter visitor; breeding very restricted in most of California. Found in open, treeless areas (e.g., marshes, grasslands) with elevated sites for foraging perches and dense herbaceous vegetation for roosting and nesting. Preys mostly on small mammals, particularly voles.	Unlikely. Known distribution (wintering) is restricted to the Napa baylands; breeding in the County has never been documented (Smith 2003).	Presumed Absent. No further actions are recommended for this species.
<i>Asio otus</i> long-eared owl	SSC	Occurs year-round in California. Nests in trees in a variety of woodland habitats, including oak and riparian, as well as tree groves. Requires adjacent open land with rodents for foraging, and the presence of old nests of larger birds (hawks, crows, magpies) for breeding.	Unlikely. Rare in Napa County, with the nearest observations located on the Napa Valley floor (eBird 2020).	Presumed Absent. No further actions are recommended for this species.
<i>Athene cunicularia</i> burrowing owl	SSC	Year-round resident and winter visitor. Occurs in open, dry grasslands and scrub habitats with low-growing vegetation, perches and abundant mammal burrows. Preys upon insects and small vertebrates. Nests and roosts in old mammal burrows, most commonly those of ground squirrels.	Unlikely. Breeding and wintering distribution within Napa County are restricted to the vicinity of Lake Berryessa and southern baylands (Smith 2003, CDFW 2020a).	Presumed Absent. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Buteo swainsoni</i> 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 2020a).	Presumed Absent. No further actions are recommended for this species.
<i>Charadrius alexandrinus nivosus</i> western snowy plover	FT, SSC	Federal listing applies only to the Pacific coastal population. Year-round resident and winter visitor. Occurs on sandy beaches, salt pond levees, and the shores of large alkali lakes. Nests on the ground, requiring sandy, gravelly or friable soils.	No Potential. The Study Area does not contain beaches or other suitable barren habitat near water.	Not Present. No further actions are recommended for this species.
<i>Circus cyaneus</i> northern harrier	SSC	Year-round resident and winter visitor. Found in open habitats including grasslands, prairies, marshes and agricultural areas. Nests on the ground in dense vegetation, typically near water or otherwise moist areas. Preys on small vertebrates.	Unlikely. Open grassland within the Study Area is restricted in area relative to typically favored expansive areas; 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.	Presumed Absent. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Contopus cooperi</i> olive-sided flycatcher	SSC	Summer resident. Typical breeding habitat is montane coniferous forests. At lower elevations, also occurs in wooded canyons and mixed forests and woodlands. Often associated with forest edges. Arboreal nest sites located well off the ground.	Unlikely. The Study Area does not contain forest or woodland stands of the type typically used by this species.	Presumed Absent. No further actions are recommended for this species.
<i>Coturnicops noveboracensis</i> yellow rail	SSC	Summer resident in eastern Sierra Nevada in Mono County, breeding in shallow freshwater marshes and wet meadows with dense vegetation. Also a rare winter visitor along the coast and other portions of the state. Extremely cryptic.	No Potential. The Study Area does not 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.
<i>Cypseloides niger</i> black swift	SSC	Summer resident with a fragmented breeding distribution; most occupied areas in California either montane or coastal. Breeds in small colonies on cliffs behind or adjacent to waterfalls, in deep canyons, and sea-bluffs above surf. Forages aerially over wide areas. No modern nesting records in Napa County.	No Potential. The Study Area does not contain streams and associated 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
<i>Egretta thula</i> snowy egret	no status (breeding sites protected by CDFW)	Year-round resident. Nests colonially, usually in trees, at times in sequestered beds of dense emergent vegetation (e.g., tules). Rookery sites usually situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.	Unlikely. The Study Area is not within close proximity to suitable waters to support a breeding colony.	Presumed Absent. No further actions are recommended for this species.
<i>Elanus leucurus</i> white-tailed kite	SFP	Year-round resident in coastal and valley lowlands with scattered trees and large shrubs, including grasslands, marshes and agricultural areas. Nests in trees, of which the type and setting are highly variable. Preys on small mammals and other vertebrates.	Moderate Potential. Woodland 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.
<i>Falco peregrinus anatum</i> American peregrine falcon	SE, SFP	Year-round resident and winter visitor. Occurs near water, including coastal areas, wetlands, lakes and rivers. Usually nests on sheltered cliffs or tall man-made structures. Preys primarily on waterbirds.	Unlikely. The Study Area does not contain large cliffs or suitable man-made structures for nesting.	Presumed Absent. No further actions are recommended for this species.
<i>Geothlypis trichas sinuosa</i> San Francisco (saltmarsh) common yellowthroat	SSC	Resident of the San Francisco Bay region, in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	Unlikely. No marsh vegetation is present within the Study Area.	Presumed Absent. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Haliaeetus leucocephalus</i> bald eagle	BGEPA, SE, SFP	Occurs year-round in California, but primarily a winter visitor; breeding population is growing. Nests in large trees in the vicinity of larger lakes, reservoirs, and rivers. Wintering habitat somewhat more variable but usually features large concentrations of waterfowl or fish.	Unlikely. Larger water bodies are not within or in close proximity to the Study Area. As per Smith (2003) and CDFW (2020a), nesting within Napa County is known only from the immediate vicinity of Lake Berryessa.	Presumed Absent. No further actions are recommended for this species.
<i>Icteria virens</i> yellow-breasted chat	SSC, LR	Summer resident, occurring in riparian areas with an open canopy, very dense understory, and trees for song perches. Nests in thickets of willow (<i>Salix</i> spp.), blackberry (<i>Rubus</i> spp.), and wild grape (<i>Vitis californicus</i>).	Unlikely. The Study Area does not contain stands of dense riparian understory favored by this species for nesting. There are no recent observations in the vicinity (eBird 2020).	Presumed Absent. No further actions are recommended for this species.
<i>Lanius ludovicianus</i> loggerhead shrike	SSC, LR	Year-round resident in open woodland, grasslands, savannah, and scrub. Prefers areas with sparse shrubs, trees, posts, and other suitable perches for foraging. Preys upon large insects and small vertebrates. Nests are well-concealed in densely-foliaged shrubs or trees.	Unlikely. The Study Area provides some suitable habitat elements, but this species has not been documented in this portion of the County as per available sources (Smith 2003, eBird 2020).	Presumed Absent. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<p><i>Laterallus jamaicensis coturniculus</i> California black rail</p>	ST, SFP	<p>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.</p>	<p>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.</p>	<p>Not Present. No further actions are recommended for this species.</p>
<p><i>Melospiza melodia samuelis</i> San Pablo song sparrow</p>	SSC	<p>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.</p>	<p>No Potential. The Study Area contains no tidal or brackish marsh and is outside of this species' limited Napa County range.</p>	<p>Not Present. No further actions are recommended for this species.</p>
<p><i>Nycticorax nycticorax</i> black-crowned night heron</p>	no status (breeding sites protected by CDFW)	<p>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.</p>	<p>No Potential. The Study Area and adjacent lands lack aquatic foraging habitat.</p>	<p>Not Present. No further actions are recommended for this species.</p>

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Passerculus sandwichensis alaudinus</i> Bryant's savannah sparrow	SSC	Year-round resident associated with the coastal fog belt, primarily between Humboldt and northern Monterey Counties. Occupies low tidally influenced habitats and adjacent areas, including grasslands. Also uses drier, more upland coastal grasslands. Nests near the ground in taller vegetation, including along levees and canals.	Unlikely. Open grassland within the Study Area is restricted in total contiguous area; this species is not known to nest in this portion of Napa County as per (Smith 2003, Shuford and Gardali 2008, CDFW 2020).	Presumed Absent. No further recommendations for this species.
<i>Progne subis</i> purple martin	SSC, LR	Summer resident. Inhabits woodlands and low-elevation coniferous forests. Nests in old woodpecker cavities and man-made structures (bridges, utility towers). Nest is often located in tall, isolated tree or snag.	Unlikely. 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 2020a).	Presumed Absent. No further actions are recommended for this species.
<i>Rallus obsoletus obsoletus</i> California Ridgway's (clapper) rail	FE, SE, SFP	Year-round resident in tidal marshes of the San Francisco Bay estuary. Requires tidal sloughs and intertidal mud flats for foraging, and dense marsh vegetation for nesting and cover. Typical habitat features abundant growth of cordgrass and pickleweed. Feeds primarily on mollusks and crustaceans.	No Potential. The Study Area does not contain tidal or brackish marsh. Within Napa County, this species is restricted to baylands and the lower Napa River.	Not Present. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Riparia riparia</i> bank swallow	ST	Summer resident in riparian and other lowland habitats near rivers, lakes and the ocean in northern California. Nests colonially in excavated burrows on vertical cliffs and bank cuts (natural and manmade) with fine-textured soils. 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.
<i>Setophaga petechia brewsteri</i> (Brewster's) yellow warbler	SSC	Summer resident throughout much of California. Breeds in riparian vegetation close to water, including streams and wet meadows. Microhabitat used for nesting is variable, but dense willow growth is typical. Occurs widely on migration.	Unlikely. The Study Area does not contain dense riparian vegetation to support nesting.	Not Present. No further actions are recommended for this species.
<i>Spizella atrogularis</i> black-chinned sparrow	LR	Summer resident. Typically occurs on arid, rocky slopes with brushy vegetation, e.g. mixed chaparral, and sagebrush.	Unlikely. The Study Area does not contain chaparral or scrub habitat preferred by this species.	Presumed Absent. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<p><i>Strix occidentalis caurina</i> northern spotted owl</p>	<p>FT,ST, SSC</p>	<p>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.</p>	<p>No Potential. The Study Area does not contain old-growth coniferous forest to provide nesting habitat for this species.</p>	<p>Not Present. No further actions are recommended for this species.</p>
<p><i>Xanthocephalus xanthocephalus</i> yellow-headed blackbird</p>	<p>SSC, LR</p>	<p>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.</p>	<p>No Potential. The Study Area does not provide vegetated ponds or emergent marsh suitable for nesting.</p>	<p>Not Present. No further actions are recommended for this species.</p>

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Reptiles and Amphibians				
<i>Dicamptodon ensatus</i> California giant salamander	SSC	Occurs in the north-central Coast Ranges. Moist coniferous and mixed forests are typical habitat; also uses woodland and chaparral. Adults are terrestrial and fossorial, breeding in cold, permanent or semi-permanent streams. Larvae usually remain aquatic for over a year.	No Potential. The Study Area does not contain stream courses with deep, perennial pools and other habitat elements to support this species.	Not Present. No further actions are recommended for this species.
<i>Emys marmorata</i> western pond turtle	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.	No Potential. The Study Area does not contain, nor is it within 500 feet of a perennial waterbody (i.e. pond, lake) to provide aquatic habitat for this species.	Not Present. No further actions are recommended for this species.
<i>Rana boylei</i> 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).	No Potential. The Study Area does not contain intermittent or perennial streams to support this species.	Not Present. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Rana draytonii</i> California red-legged frog	FT, SSC	Lowlands and foothills in or near permanent sources of deep water with dense emergent and/or overhanging riparian vegetation. Favors perennial to intermittent ponds, marshes, and stream pools. Requires 11 to 20 weeks of continuous inundation for larval development. Disperses through upland habitats during and after rains.	Unlikely. Aquatic features within the Study Area are restricted to seasonal wetlands and a short, ephemeral stream that has insufficient hydrology (depth, duration) to support breeding. The nearest occurrences in CNDDDB in Napa County are located greater than 5.0 miles to the northeast (Napa) (CDFW 2020).	Presumed Absent. No further actions are recommended for this species.
<i>Taricha rivularis</i> 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.
Fishes				
<i>Acipenser medirostris</i> green sturgeon	FT, SSC	Spawns in the Sacramento River and Klamath Rivers, at temperatures between 8-14 degrees C. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	No Potential. The Study Area does not contain suitable anadromous or estuarine waters.	Not Present. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Eucyclogobius newberryi</i> tidewater goby	FE, SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches. Requires fairly still but not stagnant water and high oxygen levels.	No Potential. The Study Area does not contain brackish or ore estuarine waters.	Not Present. No further actions are recommended for this species.
<i>Hypomesus transpacificus</i> Delta smelt	FT, ST	Endemic to the Sacramento-San Joaquin estuary in areas where salt and freshwater systems meet. Occurs seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 ppt; most often at salinities < 2 ppt.	No Potential. The Study Area does not contain estuarine waters.	Not Present. No further actions are recommended for this species.
<i>Lampetra ayresi</i> river lamprey	SSC	Lower Sacramento River, San Joaquin River and Russian River. May occur in coastal streams north of San Francisco Bay. Adults need clean, gravelly riffles, Ammocoetes need sandy backwaters or stream edges, good water quality and temps < 25 degrees C.	No Potential. The Study Area does not contain suitable anadromous or estuarine waters.	Not Present. No further actions are recommended for this species.

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

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Spirinchus thaleichthys</i> longfin smelt	FC, ST, SSC	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15 to 30 ppt, but can be found in completely freshwater to almost pure seawater.	No Potential. The Study Area does not contain riverine or estuarine waters.	Not Present. No further actions are recommended for this species.
Invertebrates				
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	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.	Unlikely. Although the Study Area contains a seasonal wetland, this species has never been documented from the Napa Valley, Vaca Mountains, or similar environs.	Presumed Absent. No further actions are recommended for this species.
<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	FT	Found in riparian and oak savannah where elderberry (<i>Sambucus</i> sp.), the host plant, is present.	No Potential. Elderberry was not observed during the site visit; CNDDDB occurrences are restricted to its southeastern-most portion (CDFW 2020a).	Not Present. No further actions are recommended for this species.
<i>Speyeria callippe callippe</i> Callippe silverspot butterfly	FE	Two populations are recognized, on San Bruno Mountain and the Cordelia Hills. Host plant is Johnny jump-up (<i>Viola pedunculata</i>), which is found on serpentine soils. Most adults found on east-facing slopes; males congregate on hilltops in search of females.	No Potential. Violet was not observed during the site visit. This species' known range with Napa County is restricted to the immediate vicinity of the Cordelia Hills (CDFW 2020a).	Not Present. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<p><i>Syncaris pacifica</i> California freshwater shrimp</p>	<p>FE, SE</p>	<p>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.</p>	<p>No Potential. The Study Area does not contain intermittent or perennial streams to support this species. This species' only documented occurrence in Napa County is from Huichica Creek in the southwest portion of the county (Marin and Wicksten 2004, CDFW 2020a).</p>	<p>Not Present. No further actions are recommended for this species.</p>

***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. CNDDDB, other reports) on the site recently.

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

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

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

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

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

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

Appendix D
Representative Photographs



Study Area overview, view to the north; non-native grassland (foreground) and oak woodland (background)



Seasonal wetland situated within the central-west portion of the Study Area



Non-native grassland situated immediate south of the seasonal wetland



Lobb's aquatic buttercup (*Ranunculus lobbii*; CRPR 4) situated in lowest end of Study Area seasonal wetland

Appendix E
Statement of Qualifications

Appendix E. Statement of Qualifications

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

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

Aaron Arthur, MS, Senior 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, Senior 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.



July 14, 2021

Pamela Arifian, Planner III
County of Napa
Planning, Building, and Environmental Services
1195 Third Street, Suite 210
Napa, California 94559

Re: Kenzo Estate Vineyard, Napa County ECP – Response to Napa County comments on biological resources (File # P21-00086-ECPA)

Ms. Arifian:

This letter provides a response to a request from Napa County (County) for additional information/analysis regarding biological resources at Kenzo Estate Vineyard, located at 8999 Wild Horse Valley Road (APNs 033-190-014, -015, -130-046) in unincorporated Napa County, California. The request is outlined in a letter from the Planning, Building, and Environmental Services Department, *Application Completeness Determination – Kenzo Estate Vineyard Agricultural Erosion Control Plan (ECPA) # P21-00086-ECPA*. The request was made in the context of a previous Biological Resources Reconnaissance Survey (BRRS) report covering the site/project by WRA, Inc. (WRA) dated January 2021. This letter is effectively an addendum to WRA's January 2021 report.

Response to County Request

The section below directly addresses the comments from the County point-by-point (with text from the County in *italics*); the relevant pages from the County's letter are included as Attachment B.

2. Supplemental Environmental Information...

a. Biological Resource Information...

i-ii. Figure A-7 does not include APN 033-190-014...Please revise aerial baseline and [BRRS report] Section 6.1.1 regarding vegetation removal and retention accordingly.

ii. Please provide details of oak woodland acreage and proposed removal on each parcel to evaluate the requirements for retention and mitigation pursuant to Conservation Regulations 18.108.020(D) and 18.108.027(B) for each parcel.

The extent of oak woodlands and proposed impacts to these woodlands on a per-parcel basis is shown in Figure A-1 (Attachment A) and summarized in Table 1.

Table 1. Oak Woodlands By Project Parcel

Parcel (APN)	Oak woodlands present (acres)	Proposed impacts (acres)	Percent retention
033-190-014	12.1	0.0	100
033-190-015	58.7	1.7	97
033-130-046	140.7	1.5	99

As is the case with the two primary project parcels in aggregate (outlined in the BRRS report), retention of oak woodlands within each of the three respective project parcels substantially exceeds County General Plan requirements for oak woodland (acreage) and canopy retention.

iii. Provide additional information and details on any significant trees (i.e., Trees with Unique Wildlife Value such as bat habitat, etc.) within the project area and ecological benefits they may provide.

On July 2, 2021 a field assessment was performed by WRA biologists Jason Yakich and Aaron Arthur (co-authors), focused on all trees scheduled for removal specifically, and adjacent woodland stands more generally. Trees scheduled for removal were identified using a GPS unit loaded with the limits of development. The assessment focused on potential bat roosting habitat/substrates within the trees, but included other indicators of notable wildlife use, e.g. the presence of raptor nest structures.

Most of the trees scheduled for removal are coast live oaks (*Quercus agrifolia*), with smaller numbers of Pacific madrones (*Arbutus menziesii*) and blue oaks (*Q. douglasii*) also included. Five individual coast live oaks and one blue oak scheduled for removal were noted as providing potential bat roosting substrates; locations of these trees are shown in Figure A-2 (Attachment A). The focal trees each contained at least one apparent hollow within the trunk and/or a sizeable limb, with ingress/egress points; the quality of these features overall (relative to bats) may have been enhanced via recent fire impacts to the stand. Given the solar exposure and presumed internal temperature variations, these features are not suitable for winter hibernation use by bats but may be used as day/night roosts, and potentially as maternity roosts by some species. No raptor nest structures or other notable elements were observed within the trees scheduled for removal.

Adjacent woodland stands in the vicinity of the project disturbance limits feature similar characteristics overall to those described above, including the dominant tree species and tree density, apparent age/size of the stands, and indications of fire impact. Several larger oaks were observed with apparent hollows that may support bat roosting.

Recommendation 1 in the BRRS report addresses avoidance of potential impacts to bats, which should be applied to the six focal trees described herein. In summary, it is recommended that these trees be removed from September 1 to March 31, outside of the general bat maternity

season. If removal during this period is not feasible, a pre-removal survey effort should be performed by a qualified biologist to determine if active bat roosts are present. If special-status bats or bat maternity roosts are detected, then the trees should be avoided until the end of the maternity period, or until appropriate species- and roost-specific measures mitigation measures have been developed in consultation with California Department of Fish and Wildlife (CDFW). Irrespective of time of year, once felled, the focal 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.

Please contact us if you have questions or require additional information.

Sincerely,

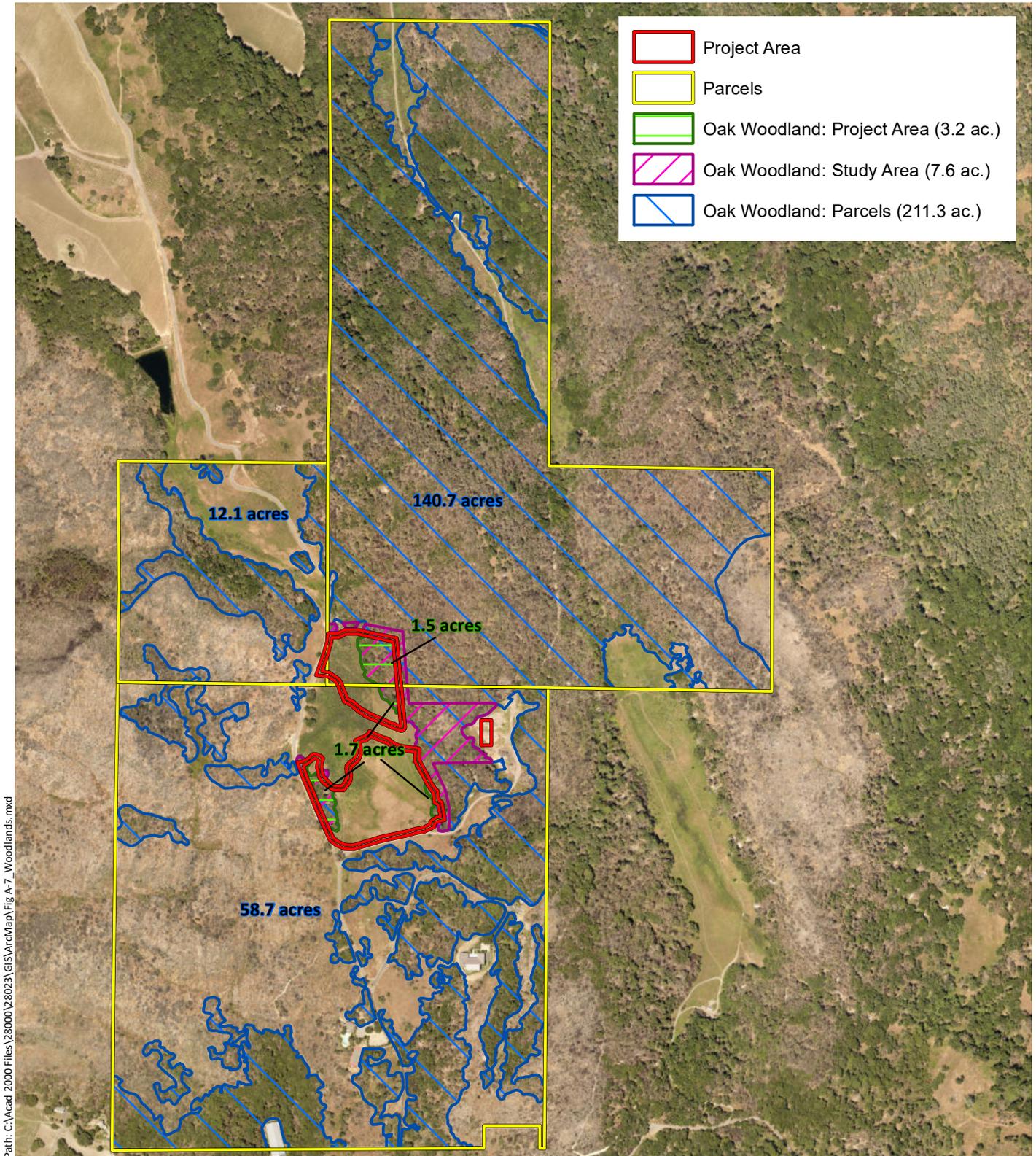


Jason Yakich
Senior Biologist
yakich@wra-ca.com



Aaron Arthur
Senior Associate Plant Biologist
Certified California Consulting Botanist #0016
arthur@wra-ca.com

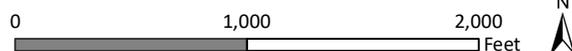
Enclosures: Attachment A – Figures
Attachment B – Excerpt pages from County letter



Sources: DigitalGlobe 2016 Aerial, WRA | Prepared By: aarthur, 7/3/2021

Figure A-1. Oak Woodlands

Kenzo Estate
Wild Horse Valley Road
Napa County, CA



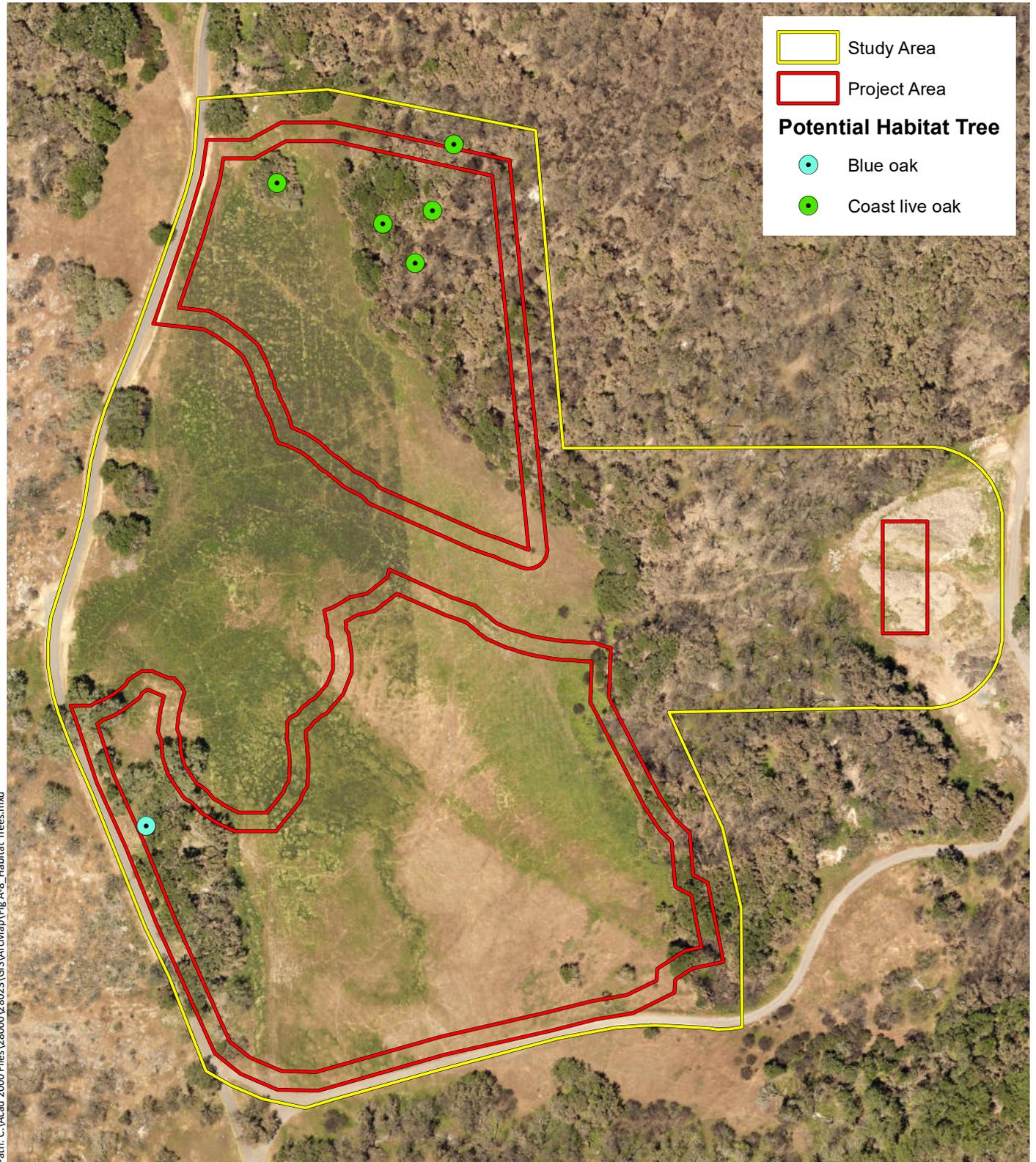


Figure A-2. Potential Habitat Trees

Kenzo Estate
Wild Horse Valley Road
Napa County, CA

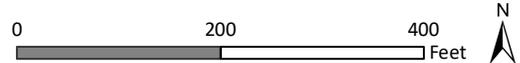


EXHIBIT A
APPLICATION COMPLETENESS DETERMINATION – INFORMATION REQUEST
Kenzo Estate Vineyard Conversion #P21-00086-ECPA: 033-190-014, 033-190-015 & 033-130-046

1) Agricultural Erosion Control Plan Application Completeness Items: This information is necessary to and to complete the ECPA application for continued review and processing, describe the full extent of the proposed project, and adequately disclose and assess potential impacts of the project pursuant to CEQA.

a) Vegetation Canopy Cover in Sensitive Domestic Water Supply Drainage:

- i. While it is evident that the proposed project would comply with the 70% canopy cover and 40% of the shrub, brush and associated annual and perennial herbaceous vegetation retention requirement based on 1993 configurations for projects within a sensitive domestic water supply drainage (pursuant to Napa County Code Section 18.108.027), it appears that the proposed project parcels are included on historic parcels 033-190-001, 033-130-001 and 033-130-003 (see enclosed archival Assessor's Parcel pages). Please revise the proposed conditions vs. 1993 conditions table and the combined parcels table and narrative accordingly.
- ii. Provide an exhibit based on the 2018 aerial (pursuant to NCC 8.80.130, attached) accompanied by a table indicating the amount of vegetation canopy cover on each of the three project parcels, the amount proposed for removal on each parcel, and the proposed 3:1 mitigation area pursuant to NCC 18.108.020(D) for each parcel.

b) ECPA Plans and/or Narrative: Please provide revised plans or narrative (or addendums thereto) that include, show and/or clarify the following:

- i. Sheet C3 shows slope transects that extend into in the wetland, outside of the project boundaries. Please revise transects A-A and D-D to include the project area only, and revise narrative and project details as appropriate.

2) Supplemental Environmental Information: The following information is necessary for the County to adequately describe the project and evaluate potentially significant impacts of the proposed project pursuant to CEQA, and to complete the ECPA application to continue its review and processing:

a) Biological Resource Information: Please provide documentation that includes and/or expands on the following information so that the environmental setting and potential impacts of the proposed project can adequately be disclosed and assessed:

- i. Figure A-7 does not include APN 033-190-014 (refer to 1(a)(i), above). While it is understood that oak woodland is not proposed for removal on this parcel, the parcel is still subject to the vegetation retention requirements found in Napa County Code 18.108.027(B) and General Plan Policy CON-18, which require that projects in sensitive domestic water supply drainages maintain a minimum of 70% tree canopy cover and 40% of the shrub, brush and associated annual and perennial herbaceous vegetation on the project parcels as configured on June 16, 1993. Please revise aerial baseline and Section 6.1.1 regarding vegetation removal and retention accordingly.
- ii. Please provide details of oak woodland acreage and proposed removal on each parcel to evaluate the requirements for retention and mitigation pursuant to Conservation Regulations 18.108.020(D) and 18.108.027(B) for each parcel.
- iii. Provide additional information and details on any significant trees (i.e. Trees with Unique Wildlife Value such as bat habitat, etc.) within the project area and ecological benefits they may provide.

- b. Water Availability Analysis (WAA):** The WAA analysis is based on 10.5 acres of proposed vines. Please revise the analysis to be consistent with the proposed 11 net vine acres.

3. Notification Information/Listing: A listing of the current owners of all the properties located within 1,000 feet of the project site/holding will be necessary to circulate the CEQA document for public review and comment. The notification information shall include the property owner's names, their addresses, and the assessor's parcel numbers of the property owned. Also see the enclosed *Adjoining Property Owner List Requirements* instruction sheet. You will be advised when the notification information will need to be provided.