

Exhibit B-1

Biological Resources Reconnaissance Survey Report

2100 Curry Lane
Napa County, California (APN: 045-380-010)

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EXECUTIVE SUMMARY

This report details the regulatory background, methods, results, and recommendations of a Biological Resources Reconnaissance Survey (BRRS) for the proposed development of four vineyard blocks comprising 6.2 net acres of vines within 8.9 gross acres (Project Area) located at the 2100 Curry Lane in unincorporated Napa County, California. WRA, Inc. performed field surveys on April 25 and June 21, 2018. The Project Area is comprised of oak woodland, non-native grasslands, an abandoned olive orchard, and developed areas.

Approximately 2.07 acres, of a total 6.74 acres of oak woodlands across the property (30.7 percent) are proposed to be converted to vineyard. Oak woodlands are considered sensitive under Napa County General Plan Conservation Element Policy CON-24 which requires a ratio of 2:1 preservation for any impacts to oak woodlands. A combination of avoidance and preservation is recommended to ensure consistency with this policy. The remainder of the vineyard blocks are situated in the non-sensitive areas of developed portions, non-native grassland, and an abandoned olive orchard.

The Project Area is intentionally sited to avoid on-site streams and man-made ponds, and will maintain protective setbacks.

A protocol-level rare plant survey was performed; the Project Area does not support special-status plants.

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

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DEFINITIONS

Study Area: The area throughout which the assessment and survey effort was performed, inclusive of the undeveloped portions of 2100 Curry Lane, which includes the entire Project Area

Project Area: The area within which the proposed vineyard(s) will be installed; area evaluated for potential impacts to sensitive biological resource

LIST OF 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 |
| CNPS | California Native Plant Society |
| County | County of Napa |
| Corps | U.S. Army Corps of Engineers |
| CSRL | California Soils Resources Lab |
| CWA | Clean Water Act |
| EFH | Essential Fish Habitat |
| EPA | U.S. Environmental Protection Agency |
| ESA | Federal Endangered Species Act |
| MBTA | Migratory Bird Treaty Act |
| NCBDR | Napa County Baseline Data Report |
| NOAA | National Oceanic and Atmospheric Administration |
| NMFS | National Marine Fisheries Service |
| NRCS | Natural Resource Conservation Service |
| NWI | National Wetland Inventory |
| NWPL | National Wetland Plant List |
| OHWM | Ordinary High Water Mark |
| CRPR | California Rare Plant Ranks |
| RWQCB | Regional Water Quality Control Board |
| SFP | State Fully Protected Species |
| SSC | Species of Special Concern |
| SWRCB | State Water Resource Control Board |
| USDA | U.S. Department of Agriculture |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geological Survey |
| WBWG | Western Bat Working Group |

1.0 INTRODUCTION

1.1 Purpose of Assessment

On April 25 and June 21, 2018, WRA, Inc. (WRA) performed an assessment of biological resources at a private residence located 2113 Curry Lane, unincorporated Napa County (APN: 045-380-010; hereafter Study Area) (Figure 1, Appendix A). The purpose of this study was to gather the information necessary to complete a review of biological resources under the California Environmental Quality Act (CEQA) to meet the guidelines outlined by Napa County in *Guidelines for Preparing Biological Resources Reconnaissance Surveys* (Napa County 2016a) and *Guidelines for Preparing Special-status Plant Studies* (Napa County 2016b).

A biological resources reconnaissance survey (BRRS) provides general information on the presence, or potential presence, of sensitive species and habitats. These survey(s) contain the results of a focused protocol-level survey for listed plant species previously documented 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 biological communities, (2) the potential for biological communities 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.

Figures are included in Appendix A. A list of plants and wildlife observed during the site visits is included as Appendix B. An assessment of all of the special-status species documented from the general vicinity and their potential to occur in the Project Areas is included as Appendix C. Representative photographs of the Study Area are included as Appendix D. The qualifications of the biologists who prepared this report are included as Appendix E.

1.2 Project Summary

The proposed project (Project) involves the installation of four vineyard blocks totaling approximately 6.2 acres net (8.9 gross acres) in the central and southern portions of the 40-acre property. Associated with the installation of the grape vines will be vineyard avenues, fences, irrigation lines, etc. Site preparation (ripping, installation of erosion control measures, seeding cover crop, and installation of irrigation pipelines and trellis) will occur during the grading window of April 1 through October 15. By October 15, the site will be winterized with placement of straw wattles, seeding of vineyard avenues and planting areas, and straw mulch spread over disturbed areas as required by the Erosion Control Plan (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 Biological Communities*

Herein, biological communities are understood to be those areas of a particular vegetation type, soil or bedrock formation, aquatic features, and/or other distinct phenomenon. Typically, biological communities have distinct boundaries that can be delineated based on changes in plant assemblages, soil types, and/or changes in surface/near-surface hydroperiod. The several regulations defining and protecting sensitive biological communities 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 (CFGF). 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 2018b) and keeps records of their occurrences in its California Natural Diversity Database (CNDDB; CDFW 2018). CNDDB vegetation alliances are ranked 1 through 5 based on NatureServe's (2018) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or U.S. Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3, Appendix G). The Napa County Baseline Data Report (NCBDR) identifies sensitive Napa County natural communities, discussed further in Section 2.2 below (Napa County 2005).

2.1.2 Special-status Species

Plants: Special-status plants include species/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). 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 Table 1. Additionally, any plant species listed as sensitive within the Napa County General Plan or NCBDR are likewise considered sensitive.

Table 1. CNPS Ranks and Threat Codes

| California Rare Plant Ranks (formerly known as CNPS Lists) | |
|-------------------------------------------------------------------|--------------------------------------------------------------------------|
| Rank 1A | Presumed extirpated in California and either rare or extinct elsewhere |
| Rank 1B | Rare, threatened, or endangered in California and elsewhere |
| Rank 2A | Presumed extirpated in California, but more common elsewhere |
| Rank 2B | Rare, threatened, or endangered in California, but more common elsewhere |
| Rank 3 | Plants about which more information is needed - A review list |
| Rank 4 | Plants of limited distribution - A watch list |
| Threat Ranks | |
| 0.1 | Seriously threatened in California |
| 0.2 | Moderately threatened in California |
| 0.3 | Not very threatened in California |

Wildlife: As with plants, special-status wildlife include 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 guided by the Napa County General Plan (Napa County 2008) and regulated by Napa County Code Section 18.108. 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 biological communities are identified in the NCBDR (Napa County 2005). In addition to those biological communities 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:
 - Sufficient dissolved oxygen in the water.
 - Adequate amounts of proper food.
 - Adequate amounts of feeding, escaping, and nesting habitat.
 - Proper temperature through maintenance and enhancement of streamside vegetation volume flows, and velocity of water.
- b) Employ supplemental planting and maintenance of grasses, shrubs and trees of like quality and quantity to provide adequate vegetation cover to enhance water quality, minimize sedimentation and soil transport, and provide adequate shelter and food for

wildlife and special-status species and maintain the watersheds, especially streams side areas, in good condition.

- c) Provide protection for habitat supporting special-status species through buffering or other means.
- d) Provide replacement habitat of like quantity and quality on- or off-site for special-status species to mitigate impacts to special-status species.
- e) Enhance existing habitat values, particularly for special-status species, through restoration and replanting of native plant species as part of discretionary permit review and approval.
- f) Require temporary or permanent buffers of adequate size (based on the requirements of the special-status species) to avoid nest abandonment of birds and raptors associated with construction and site development activities.
- g) Demonstrate compliance with applicable provisions and regulations of recovery plans for listed species.

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

- a) Prevent removal or disturbance of sensitive natural plant communities that contain special-status plant species or provide critical habitat to special-status animal species.
- b) In other areas, avoid disturbances to or removal of sensitive natural plant communities and mitigate potentially significant impacts where avoidance is infeasible.
- c) Promote protection from overgrazing and other destructive activities.
- d) Encourage scientific study and require monitoring and active management where biotic communities and habitats of limited distribution or sensitive natural plant communities are threatened by the spread of invasive non-native species.
- e) Require no net loss of sensitive biotic communities and habitats of limited distribution through avoidance, restoration, or replacement where feasible. Where avoidance, restoration, or replacement is not feasible, preserve like habitat at a 2:1 ratio or greater within Napa County to avoid significant cumulative loss of valuable habitats.

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

- a) In sensitive domestic water supply drainages where new development is required to retain between 40 and 60 percent of the existing (as of June 16, 1993) vegetation onsite, the vegetation selected for retention should be in areas designed to maximize habitat value and connectivity.
- b) Outside of sensitive domestic water supply drainages, streamlined permitting procedures should be instituted for new vineyard projects that voluntarily retain valuable habitat and connectivity, including generous setbacks from streams and buffers around ecologically sensitive areas.
- c) Preservation of habitat and connectivity of adequate size, quality and configuration to support special-status species should be required within the project area. The size of habitat and connectivity to be preserved shall be determined based on the specific needs of the species.

- d) The County shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat.
- e) The County shall require new vineyard development to be designed to minimize the reduction of wildlife movement to the maximum extent feasible. In the event the County concludes that such development will have a significant impact on wildlife movement, the County may require the applicant to relocate or remove existing perimeter fencing installed on or after February 16, 2007 to offset the impact caused by the new vineyard development.

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

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

- a) Preserve, to the extent feasible, oak trees and other significant vegetation that occur near the heads of drainages or depressions to maintain diversity of vegetation type and wildlife habitat as part of agriculture projects.
- b) Comply with the Oak Woodlands Preservation Act regarding oak woodland preservation to conserve the integrity and diversity of oak woodlands, and retain, to the maximum extent feasible, existing oak woodland and chaparral communities and other significant vegetation as part of the residential, commercial, and industrial approvals.
- c) Provide replacement of lost oak woodlands or preservation of like habitat at a 2:1 ratio 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, to the extent feasible, a mixture of oak species which is needed to ensure acorn production. Black, canyon, live, and brewer oaks as well as blue, white, scrub and live oaks are common associations.

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.

3.0 ENVIRONMENTAL SETTING

The Project Area is set in a single parcel of approximately 23.7 acres, located in southern Napa County, approximately 2.5 miles southeast of downtown Napa. It is situated at the foot of Sugarloaf. Detailed descriptions of the local setting are below.

3.1 Topography and Soils

The overall topography of the Study Area is gently- to moderately-sloped with a predominantly north-facing aspect, and elevations ranging from approximately 140 to 240 feet above sea level. According to the *Soil Survey of Napa County* (USDA 1978), the Project Area is underlain by three soil mapping units: Haire loam, 2 to 9 percent slopes; Hambright-Rock Outcrop Complex, 30 to 75 percent slope; and Sobrante loam, 5 to 30 percent slopes. The parent soil series of these mapping units are summarized below.

Haire Series: This series consists of moderately deep clay loam soils formed in alluvium derived from sedimentary rock situated in upland terraces at elevations ranging from 20 to 2,400 feet (USDA 1978, CSRL 2018). Several mapping units of this series are considered hydric in Sonoma County, which are moderately well drained, with very slow permeability, and slow to rapid runoff (USDA 2014, USDA 1978). Native and naturalized vegetation predominantly consists of annual grasses and forbs, and predominant land uses are dry and irrigated pasture grazing (USDA 1978).

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

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 rock fissures. (USDA 1978).

Sobranite Series: This series consists of moderately deep to shallow fine loam soils formed from residuum weathered from igneous and metamorphic rock situated on upland hillslopes at elevations ranging from 125 to 3,500 feet (USDA 1972, CSRL 2018). This series is not considered hydric in Sonoma County, and well drained, with moderate permeability, and low to very high runoff (USDA 2014, USDA 1972). Native and naturalized vegetation is oak (*Quercus* spp.) savannah and woodland dominated by annual grasses and forbs, and predominant land uses are rangeland, irrigated hay and pasture, and dry land crops (USDA 1972).

3.2 Climate and Hydrology

The Study Area is located above of the coastal fog belt of the Bay Area, but annual rainfall is substantial in winter through early spring. 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 2018).

The local watershed is Tulucay Creek (HUC 12: 180500020402) and the regional watershed is San Pablo Bay Estuaries (HUC 8: 18050002). The parcel is located within the Fagan Creek and Spencer Creek planning watershed. There are two dashed blue-line streams, one of which is Kreuse Creek, in the Study Area (USGS 1973). These two streams are also mapped in the California Aquatic Resources Inventory (CARI; SFEI 2018) and the National Wetlands Inventory (NWI; USFWS 2018a). Additionally there is a wetland (PUBHh) mapped in the NWI; however, there is no evidence on-site of this wetland¹. The primary hydrologic sources are direct precipitation and consequent in-channel flow and sheetflow. Precipitation infiltrates quickly with excessive events resulting in short-lived sheetflows that either exit the site or collect in two narrow swales (see Section 5.1).

3.3 Biota and Land Use

The Study Area is composed of developed, landscaped, and vineyards in the northern portion, and native or naturalized vegetation in the southern portion. Detailed plant community descriptions are included in Section 5.1 below and all observed plant species are included in Appendix B.

Currently the Study Area supports a single-family residence and associated infrastructure (roads, gardens), three existing vineyard blocks in the north, and open areas used for grazing for fire protection. Historically, the southern portion of the property was an olive orchard. Regional land-uses include rural residential and vineyards (Google Earth 2018). Historically, the region was open rangeland of larger ranches and vineyards. There is nothing in the historical record that suggests the Study Area was dense chaparral, forest, or extensive wetland, and there is no history of quarrying, mining, or timbering (Historic Aerials 2018).

¹ Aquatic features mapped in the NWI are not necessarily jurisdictional and the USFWS expressly states “There is no attempt to define the limits of proprietary jurisdiction of the any Federal, state, or local government, or to establish the geographical scope of the regulatory programs of government agencies”.

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 1973)
- Contemporary aerial photographs (Google Earth 2018)
- Historical aerial photographs (Historical Aerials 2018)
- National Wetlands Inventory (USFWS 2018a)
- California Natural Diversity Database (CNDDDB, CDFW 2018a)
- California Native Plant Society Electronic Inventory (CNPS 2018a)
- Consortium of California Herbaria (CCH 2018)
- California Aquatic Resource Inventory (SFEI 2018)
- USFWS List of Federal Endangered and Threatened Species (USFWS 2018b)
- *eBird* Online Database (eBird 2018)
- 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 2018b)
- *Preliminary Descriptions of the Terrestrial Natural Communities* (Holland 1986)
- Napa County Land Cover (NCLC) map (Thorne et al. 2004)
- *California Natural Community List* (CDFW 2018b)

Database searches (i.e., CNDDDB, CNPS) focused on the Yountville, Capell Valley, Mount Vaca, Napa, Mount George, Fairfield North, Cuttings 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 Project Area.

Following the remote assessment, a botanist with 40-hour Corps wetland delineation and wildlife biologist training traversed the entire Project Area on foot to document: (1) biological communities (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 present².

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

4.1 Biological Communities

4.1.1 Terrestrial Biological Communities

The Study Area's terrestrial natural communities were evaluated to determine if such areas have the potential to support special-status plants or wildlife. In most instances, communities are delineated based on distinct shifts in plant assemblage (vegetation), and follow the *California Natural Community List* (CDFW 2018b), *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), and *A Manual of California Vegetation, Online Edition* (CNPS 2018b). In some cases it may be necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature; should an undescribed variant be used, it will be noted in the description.

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

4.1.2 Aquatic Natural Resources

Aquatic natural 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, 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 were noted. In these areas WRA biologists performed sample points 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).

When present, streams potentially jurisdictional under the CWA and/or the CFGC were delineated using a mix of surveyed topography data, high resolution aerial photographs, and a sub-meter GPS unit. The ordinary high water mark was used to determine the extent of potential Section 404 jurisdiction, while the top-of-bank was 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).

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

4.2 Special-status Species

4.2.1 General Assessment

Potential occurrence of special-status species in the 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 25 and June 21, 2018 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, protocol-level surveys were conducted within the Study Area in both April and June. 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 2018c, 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 some such 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 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 2018b) and the NMFS Essential Fish Habitat Mapper (NMFS 2018) 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 2018a), and the NCBDR (Napa County 2005). Additionally, aerial imagery (Google 2018) 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 Biological Communities

WRA observed six biological communities within the Study Area: developed, vineyard, non-native grassland, blue oak woodland, (abandoned) olive orchard, and man-made pond and streams. Biological communities within the Study Area are illustrated in Figure A-4 (Appendix A). The non-sensitive biological communities in the Study Area and Project Area include non-native grasslands, olive orchard, developed areas (including vineyards). Sensitive biological communities within the Study Area are both the oak woodland and aquatic resources.

5.1.1 *Terrestrial Biological Communities*

Non-sensitive

Developed Areas (no vegetation alliance). CDFW Rank: None: The Study Area is partially developed in residences, associated outbuildings, access roads, landscaping, and vineyards. The developed areas, including existing vineyards, total 9.61 acres, across the Study Area. The Project Area contains 1.02 acres of developed and vineyard areas, or 10.6 percent of these areas across the Study Area. In the developed and landscaped areas, the vegetation is minimal and composed of ornamentals and common weeds, while the vineyards are dominated by wine grape (*Vitis vinifera*), with common weeds along vineyard avenues and rows. The Urban/Built-up and the Agricultural Cropland NCLC types are synonymous with the developed and vineyard areas, respectively (Thorne et al. 2004). This community is not considered sensitive by Napa County, CDFW, or any other regulatory entity.

Non-native Annual Grassland – Wild Oat Grassland (*Avena barbata* Semi-Natural Herbaceous Stands). CDFW Rank: None: The Study Area contains 3.73 acres of non-native grassland, with 2.53 acres situated in the Project Area (67.8 percent of the total community type mapped in the Study Area). These grasslands are dominated by non-native grasses including wild oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), dogtail grass (*Cynosurus echinatus*), and brome fescue (*Festuca bromoides*). Due to high thatch accumulation from the annual grasses, native wildflowers are limited in density and diversity. Such species include miniature lupine (*Lupinus bicolor*), blue-eyed grass (*Sisyrinchium bellum*), long-tube iris (*Iris macrosiphon*), soap plant (*Chlorogalum pomeridianum*), California poppy (*Eschscholzia californica*), and California buttercup (*Ranunculus californicus*). This community is synonymous with the California Annual Grasslands biotic community in the NCLC (Thorne et al. 2004). This community is not considered sensitive by Napa County, CDFW, or any other regulatory entity.

Abandoned Olive Orchard (*Olea europea* Semi-Natural Woody Stand). CDFW Rank: None: The Study Area contains 3.3 acres, with 3.24 acres situated in Project Area (98 percent of the total community type mapped in the Study Area). The orchard appears to have been abandoned for several decades. The shrub and small tree canopy is dominated by olive (*Olea europaea*), with interstitial coyote brush (*Baccharis pilularis*), buck brush (*Ceanothus cuneatus*), and firethorn (*Pyracantha angustifolia*). The herbaceous layer is dominated by non-native grasses such as wild oat (*Avena barbata*), false brome (*Brachypodium distachyon*), big rattlesnake grass (*Briza maxima*), and soft chess (*Bromus hordeaceus*). This community is most closely associated with Agricultural Cropland biotic community in the NCLC (Thorne et al. 2004); however, it has not been actively managed for several decades. This community is not considered sensitive by Napa County, CDFW, or any other regulatory entity.

Sensitive

Blue Oak Woodland (*Quercus douglasii* Woodland Alliance). CDFW Rank: G4 S4: Blue oak woodland is known from the interior North Coast Range, South Coast Range, southern Cascade Range, and Sierra Nevada Foothills from Humboldt County south to Ventura County (Sawyer et al. 2009). They are typically situated on valley bottoms, foothills, and rocky outcrops, underlain by shallow, low in fertility, moderately- to excessively-drained with extensive rock fragments (Sawyer et al. 2009). The property contains 6.74 acres of blue oak woodland, which 2.07 acres is situated in the Project Area (30.7 percent of the total community type on the property).

The dominant tree is blue oak (*Quercus douglasii*), with substantial cover of coast live oak (*Q. agrifolia*), Oregon white oak (*Q. garryana*), and scattered Pacific madrones (*Arbutus menziesii*). In areas where the canopy is dense and nearly closed, sunlight is suppressed, limiting species richness and density. Understory species include poison oak (*Toxicodendron diversilobum*), hedge parsley (*Torilis arvensis*), Pacific sanicle (*Sanicula crassicaulis*), dogtail grass (*Cynosurus echinatus*), and Italian thistle (*Carduus pycnocephalus*). In open canopied areas, the understory contains a higher diversity and density of herbaceous species, similar in composition to the non-native grasslands.

This community is synonymous with the Blue Oak Alliance biotic community in the NCLC (Thorne et al. 2004). These woodlands provide habitat for numerous common native plants and wildlife, as well as have the potential to support several special-status species associated with woodlands. Likewise, they are sensitive to Napa County under the General Plan Conservation Element Policy CON-24 (oak woodland retention).

5.1.2 Aquatic Natural Resources

Intermittent Streams (no vegetation alliance). Section 404/401 CWA: The Study Area contains two intermittent streams. Both features are dashed blue-line streams on the Mount George 7.5-minute quadrangle (USGS 1973), one of which is named, Kreuse Creek. Both streams meet on the western edge of the property line, and continue for approximately 1.25 river miles where they drain into Tulucay Creek. Tulucay Creek then flows for another 1.3 river miles where it drain into Napa River. The streams total 1,136 linear feet in the Study Area.

Flows in the intermittent stream run for the entire wet season and receive groundwater discharge to the channel extending their surface hydrology later in the season, but likely dry out by late spring/early summer. Both streams are low- to moderate-gradient and have narrow channels. On the western boundary of the property there is small historic-era bridge over Kreuse Creek which has backed up waters, creating a seasonal pond (see below). Due to the presence of this dam and another off-site downstream, these streams do not have the potential to support salmonids or other fishes. Both streams are likely jurisdictional under Section 404/401 of the CWA and Section 1602 of the CFGC; therefore, they are considered sensitive natural resources. The ephemeral drainages do meet the Napa County stream definition pursuant to Napa County Code 18.108.025.

Man-made Pond (no vegetation alliance). Section 404/401 CWA: The Study Area contains a 0.32 acre of man-made ponds. One pond is entirely within the Study Area, while the second pond is situated on the neighboring parcel to the west with waters backing up into the Study Area. These ponds are separated by a historic bridge with an elevated culvert that partially dams the stream. Both ponds are in-stream on Kreuse Creek. The lower pond appears to be perennial, while the pond entirely within the Study Area may draw and dry out in the summer.

The banks are vegetated with coast live oak (*Quercus agrifolia*), valley oak (*Q. lobata*), Oregon ash (*Fraxinus latifolia*), walnut (*Juglans* spp.), red willow (*Salix laevigata*), and Himalayan blackberry (*Rubus armeniacus*). Common cattail (*Typha latifolia*) and creeping spikerush (*Eleocharis macrostachya*) are situated on the edge at or below the ordinary high water mark. Because the ponds are in-stream on Kreuse Creek, they are likely jurisdictional under Section 404/401 of the CWA and Section 1602 of the CFGC.

5.2 Special-status Species

5.2.1 Special-status Plant Species

Based upon a review of the resource databases listed in Section 4.0, 75 special-status plant species have been documented in the vicinity of the Project Area. Ten of these species have the potential to occur in the Study Area. The remaining species documented from the greater vicinity of the Study Area are unlikely or have no potential to occur for one or more of the following:

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

WRA biologists conducted the protocol-level surveys during a period sufficient to identify all ten special-status plant species with the potential to occur. No special-status plants were observed in the Study Area. All species with the potential to occur are listed below and summarized in Appendix C.

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

- Franciscan onion (*Allium peninsulare* var. *franciscanum*); Rank 1B
- Big-scale balsamroot (*Balsamorhiza macrolepis*); Rank 1B
- Streamside daisy (*Erigeron biolettii*); Rank 3
- Nodding harmonia (*Harmonia nutans*); Rank 4
- Diablo Helianthella (*Helianthella castanea*); Rank 1B
- Jepson's leptosiphon (*Leptosiphon jepsonii*); Rank 1B
- Mt. Diablo cottonweed (*Micropus amphibolus*); Rank 3
- Lobb's buttercup (*Ranunculus lobbii*); Rank 4
- Showy rancheria clover (*Trifolium amoenum*); FE, Rank 1B
- Oval-leaved viburnum (*Viburnum ellipticum*); Rank 2B

5.2.2 Special-status Wildlife Species

A total of 58 special-status wildlife species have been documented in Napa County (CDFW 2018a, Napa County 2005). Seven of these species have a moderate to high potential to occur in the Study Area and Project Area. The remaining 51 species are unlikely or have no potential to occur due to one or more of the following reasons:

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

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

Special-status Wildlife that Occur in the Study Area

No special-status wildlife species were observed in the Study Area; however, without targeted assessments or protocol-level surveys, their presence cannot be ruled out. Those with the potential to occur, but their presence is unknown are discussed below.

Special-status Wildlife with the Potential to Occur, but Presence Unknown

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 2018). Trees within the Project Area may contain cavities or snags suitable for roosting, and it has a moderate potential to occur given documented occurrences in the vicinity (CDFW 2018a). 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 2018). The trees within the

Project Area may contain cavities or exfoliating bark suitable for roosting for fringed myotis. A targeted bat habitat assessment was not performed under this biological assessment.

White-tailed kite (*Elanus leucurus*). CDFW Fully Protected Species. Moderate Potential. The 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. This species has a moderate potential to occur within the Study Area (including the Project Area) due to the presence of trees suitable for nesting, as well as grassland and open woodland for foraging.

Loggerhead shrike (*Lanius ludovicianus*). CDFW Species of Special Concern, Locally Rare. Moderate Potential. Loggerhead shrikes are common residents of lowlands and foothills throughout California. They prefer open habitats with scattered trees, shrubs, posts, fences, utility lines, or other vertical perches. Nests are usually built on stable branches in densely-foliated shrubs or small trees. This species is found most often in open-canopied valley foothill hardwood, conifer, pinyon-juniper, or desert riparian habitats. While this species eats mostly arthropods, they also forage on small amphibians, reptiles, mammals, or other birds. Occasionally, they forage on carrion. The loggerhead shrike has a moderate potential to occur in the Study Area due to the presence of open woodland habitat that provides suitable foraging and nesting habitat.

Western pond turtle (*Emys marmorata*). CDFW Species of Special Concern. High Potential. The Western pond turtle (WPT) is the only native freshwater turtle in California. This turtle is uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest and Transverse Ranges. Western pond turtles inhabit perennial aquatic habitats, such as lakes, ponds, rivers, streams, and canals that provide submerged cover and suitable basking structures, such as rocks and logs (Zeiner et al. 2000). Western pond turtles prefer to nest on unshaded upland slopes close to their aquatic habitat (15 to 300 feet distant), and hatchlings require shallow water with relatively dense emergent and submergent vegetation for foraging for aquatic invertebrates (Rathbun et al. 1992, Jennings and Hayes 1995). WPT may utilize the on-site and adjacent man-made ponds for aquatic foraging habitat as well as the adjacent uplands for nesting. There were no observations of this species during the site visits; however, an extensive survey was not performed during this assessment.

Foothill yellow-legged frog (*Rana boylei*). State Candidate (Threatened), CDFW Species of Special Concern. Moderate Potential. The foothill yellow-legged frog (FYLF) historically occurred in coastal and mountain streams from southern Oregon to Los Angeles County, but has declined in many parts of this range. This species is strongly associated with rivers and perennial creeks, and prefers shallow, flowing water with a rocky substrate. FYLF individuals do not typically move overland and are rarely observed far from a source of permanent water (typically less than ten feet). Aquatic breeding sites are in-stream, often near confluences, with eggs typically deposited behind or sometimes under rocks in low-flow areas with cobble and/or gravel (Thomson et al. 2016). Metamorphosis takes at least 15 weeks. The lower reach of the

intermittent stream within the Study Area provides a rocky substrate and may be occupied when the stream is flowing; any individuals present would presumably retreat downstream when flow ceases. Breeding within the stream is unlikely given the limited water depth and intermittent nature of the flow. There were no observations of this species during the site visits; however, a protocol-level survey was not performed during this assessment.

California red-legged frog (*Rana draytonii*). Federal Threatened, CDFW Species of Special Concern. Moderate Potential. California red-legged frog (CRLF) is dependent on suitable aquatic, estivation, and upland habitat. During periods of wet weather, starting with the first rainfall in late fall, red-legged frogs disperse away from their estivation sites to seek suitable breeding habitat. Aquatic and breeding habitat is characterized by dense, shrubby, riparian vegetation and deep, still or slow-moving water. Breeding occurs between late November and late April. CRLF estivate (period of inactivity) during the dry months in small mammal burrows, moist leaf litter, incised stream channels, and large cracks in the bottom of dried ponds in the instances where perennial aquatic habitat is absent. CRLF has a moderate potential to utilize the on-site and adjacent ponds for breeding and the adjacent uplands and intermittent stream for dispersal. There were no observations of this species during the site visits; however, a protocol-level survey was not performed during this assessment.

5.2.3 Critical Habitat, Essential Fish Habitat, and Wildlife Corridors

The Study Area does not contain any designated critical habitat (USFWS 2018b) or Essential Fish Habitat (NMFS 2018). The dam downstream likely precludes anadromous fishes (e.g., special-status salmonids) from occurring in the Study Area.

As per CDFW and Caltrans (2010) the Study Area is located within a mapped Essential Connectivity Area, specifically a large, north-south oriented tract of land east of Napa Valley that is approximately 3.5 miles wide in the vicinity of the Study Area. At the scale of landscape linkages, this tract provides connectivity between baylands of San Pablo Bay and areas from northern Napa County northward. At a more local scale, the Study Area provides connectivity between a patchwork of rural residential and undeveloped lands (primarily woodland and grassland) and low-density residential and agricultural developments. While the proposed project (vineyard blocks) will result in portions of the site having reduced potential for on-site wildlife movement, the preservation/avoidance of wetland swales within the Study Area, as well as the condition of surrounding lands, will continue to allow for movement through the vicinity. At a highly local scale, the preservation of stands of oak woodland will provide movement and shelter habitat for a variety of common wildlife species.

6.0 PROJECT ANALYSIS AND RECOMMENDATIONS

6.1 Biological Communities

6.1.1 Terrestrial Biological Communities

Blue Oak Woodland

Although blue oak woodlands are not considered sensitive by CDFW or included as sensitive in the NCBP, the Napa County General Plan Conservation Element Policy CON-24 requires that oak woodland be maintained and/or improved to the extent feasible to provide for oak woodland and wildlife habitat, slope stabilization, soil protection, and species diversity. Policy CON-24c specifically calls for the preservation of oak woodland (on an acreage basis) at a 2:1 ratio. The Study Area contains 6.74 acres of oak woodland; in order to ensure that a 2:1 ratio is maintained of 2 acres of oak woodland preserved for each 1 acre impacted, only 2.22 acres can be converted to vineyard. The Project Area currently contains 2.07 acres of oak woodland, which is below the threshold as given in General Plan Policy CON-24.

Recommendation 1: Maintain the current vineyard block/grading limits of 2.07 acres replacement of oak woodland. Any proposed expansion or alteration to the vineyard blocks/grading limits should be re-analyzed for impacts to oak woodlands.

6.1.2 Aquatic Natural Resources

Intermittent Stream and Man-made Pond

The intermittent streams and man-made pond will be entirely avoided by the Project. Ground-breaking occurring during the dry season and protective setbacks will buffer effects to these aquatic natural resources. The following recommendations are put forward to protect aquatic resources.

Recommendation 2: Stream setbacks ranging from 55 feet to 105 feet have been maintained from the two intermittent (blue-line) streams in compliance with Napa County Code Section 18.108.025. Grading shall occur during the dry season and should be suspended during unseasonable rainfalls of greater than one-half inch over a 24-hour period. If rainfall is in the forecast, standard erosion control measures (e.g., straw wattles, bales, silt fencing) should be deployed on the vineyard block edge paralleling the aquatic feature. Construction personnel should be informed of the location of the site's aquatic resources with high-visibility flagging or staking prior to construction. No materials or equipment shall be laid down or near the aquatic resources, and spill prevention materials shall be deployed for all construction equipment.

6.2 Special-status Species

6.2.1 Special-status Plants

The Study Area does not support special-status plants; therefore, there will be no impact to such, and no recommendations are provided herein.

6.2.2 *Special-status Wildlife*

The Project Area has the potential to support eight special-status wildlife species (two bats, two birds, two amphibians, and one reptile). 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, preconstruction surveys for bat habitat and recommendations for tree removal to avoid impacts to bat species are provided below.

Recommendation 3: 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 no more than 14 days 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 and loggerhead shrike), a variety of non-status bird species with baseline protections under the MBTA and CFGC may use vegetation within the Project Areas for nesting. Preconstruction surveys are recommended to ensure that the implementation of the Proposed Project would not impact any nesting birds.

Recommendation 4: 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.

Turtle and Frog Species: When it is inundated and flowing, the intermittent stream has the potential to support FYLF that may move upstream from off-site perennial streams. However, because the on-site stream draws down following the end of the wet season, on-site breeding by this species is unlikely. Likewise, the on-site and adjacent man-made ponds may provide aquatic breeding and foraging habitat for CRLF and WPT, while uplands and the intermittent stream may provide dispersal corridors. Targeted surveys for FYLF, CRLF, and WPT were not

performed as part of this assessment, and therefore, their on-site presence is unknown. To avoid any potential impacts to these species, the following measures are provided.

Recommendation 5: FYLF individuals require aquatic habitat and rarely stray far from such habitat. If construction is initiated following the complete draw-down of the site's streams, no further actions are recommended for FYLF.

If the site's streams are still running or contain sizable pools (greater than 25 square feet, and greater than one foot deep) at the initiation of project construction, a pre-construction survey for FYLF shall be performed by a qualified biologist. The survey will consist of walking the entirety of the site's streams to determine if FYLF is present. If FYLF are not present, no additional measures are needed.

If FYLF is present, ground-breaking can be delayed until the site's streams have drawn-down. In such a scenario, it is recommended that a second pre-construction survey be performed to ensure that FYLF is no longer present at the site. Alternatively, if the project proponent proposes to initiate ground-breaking with FYLF on-site, protective measures shall be deployed. Such measures include (1) installation of exclusion fencing, (2) presence of on-site biologist during ground disturbance activities, and (3) implementation of a worker education program. Exclusion fencing shall be installed along the inhabited stream(s) immediately adjacent to the vineyard blocks, extending 100 feet beyond the terminus of the proposed vineyard blocks in each direction. The on-site biologist will be present to perform a survey of the vineyard blocks in the morning prior to that day's ground-breaking activities. If a FYLF is present within the vineyard block, individual frogs shall be allowed to leave the disturbance area of their own accord, as confirmed by the biologist. Alternatively, other measures shall be derived and approved in coordination with the CDFW. Finally, the worker education program shall consist of a qualified biologist providing construction personnel with information regarding the identification and ecology of FYLF, the potential for occurrence of the species within work areas, the legal status of the species and ramifications for take, the specific measures being implemented to avoid impacts to FYLF, and the role of the on-site biologist.

Recommendation 6: CRLF and WPT require aquatic habitat, but may move away from such areas (i.e., man-made ponds) to disperse, seek refugia in the dry season as warranted, and to nest in adjacent uplands (WPT). To prevent CRLF and WPT (if such are present) from entering the proposed grading area and thereby reducing the potential for an impact to such, the following measures are recommended:

- Exclusion fence shall be installed during the wet season (prior to April 1) around the proposed blocks in such a manner as to preclude any of these species from entering ground disturbance areas from on-site aquatic features. The fencing shall have a minimum height above ground of 38 inches, the bottom of the fence buried to a minimum depth of 4 inches. Erosion control fencing (silt fencing) may serve as the exclusion fence, provided that it meets the requirements above. The area(s) of fence installation will be inspected by a qualified biologist prior to installation, the installed fencing again inspected by the biologist to ensure that it

is effective. The fencing shall remain installed until on-site mechanized ground disturbance is completed.

- Following fencing installation and within 48 hours of the initiation of ground disturbance, a pre-construction survey covering all ground disturbance areas shall be performed by the qualified biologist. If either of the subject species are observed within the covered areas, ground disturbance shall not proceed, and other measures will be derived in coordination with the CDFW, as well as the USFWS if CRLF is observed.
- Following the pre-construction survey and prior to the initiation of work, a biological education program shall be provided by the qualified biologist to all personnel that will be present at the site during ground disturbance and related activities. The worker education program shall include information regarding the identification and identification and natural history of CRLF and WPT (including photographs), the potential for occurrence of these species within work areas, the legal status of each and the ramifications for take, the purpose of the exclusion fencing and importance of maintaining it, and specific measures being implemented to avoid impacts to such species (which will include halting all ground disturbance and immediately alerting the qualified biologist if either species is observed in the course of the work).

6.2.3 Wildlife Movement

Wildlife may potentially move across the property, and the property has been designated as part of a 3.5-mile wide north-south Essential Connectivity Area. There are numerous residences to the north, east, and west of the property. Areas to the south of the property are undeveloped open space that would continue to provide wildlife movement opportunities even after development of the Proposed Project. While the Proposed Project will result in portions of the site having reduced potential for on-site wildlife movement, the preservation/avoidance of the streams within the Study Area with corridors of greater than 100 feet, as well as the condition of surrounding lands, will continue to allow for movement through the vicinity.

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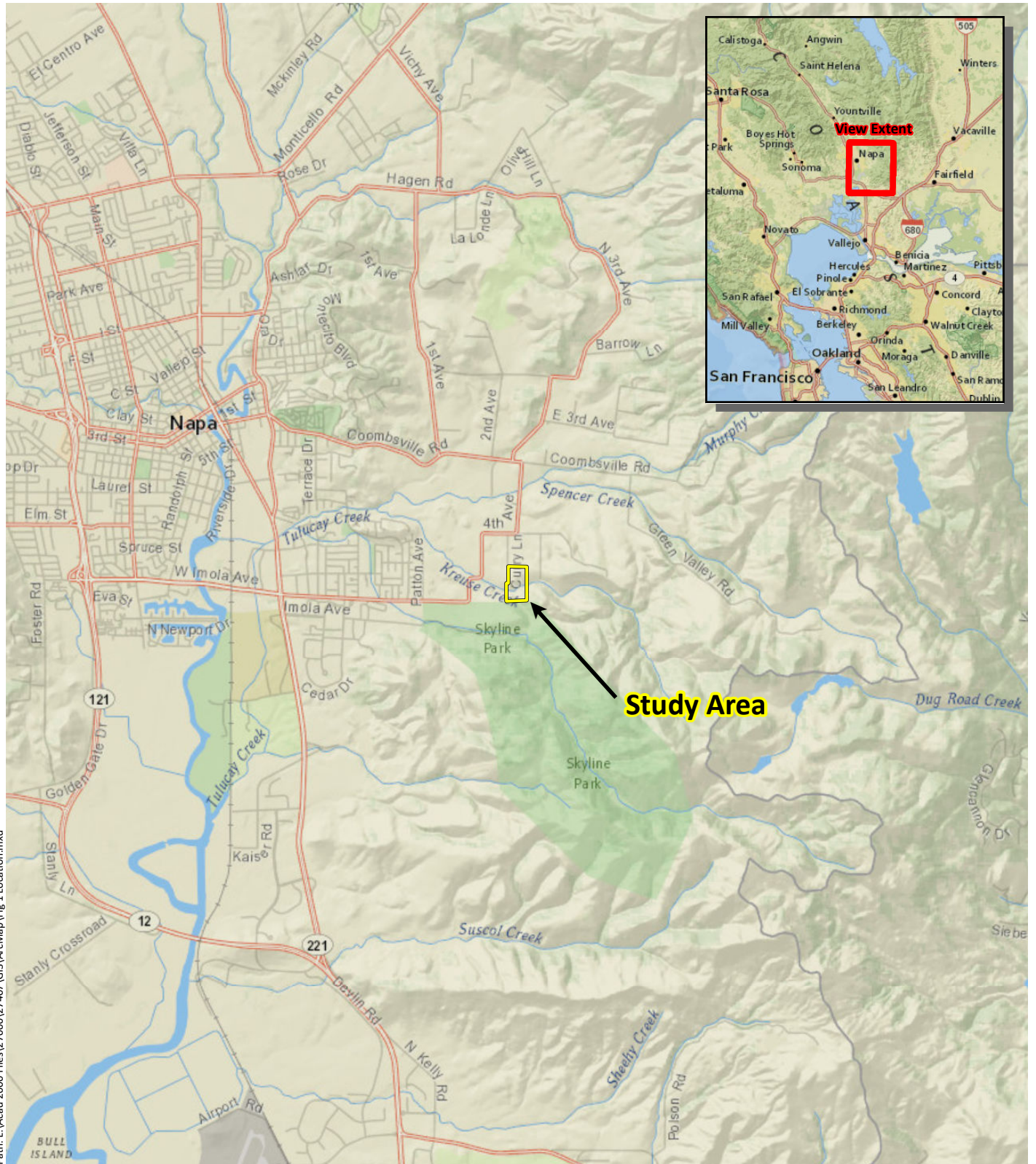
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Appendix A

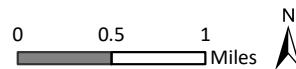
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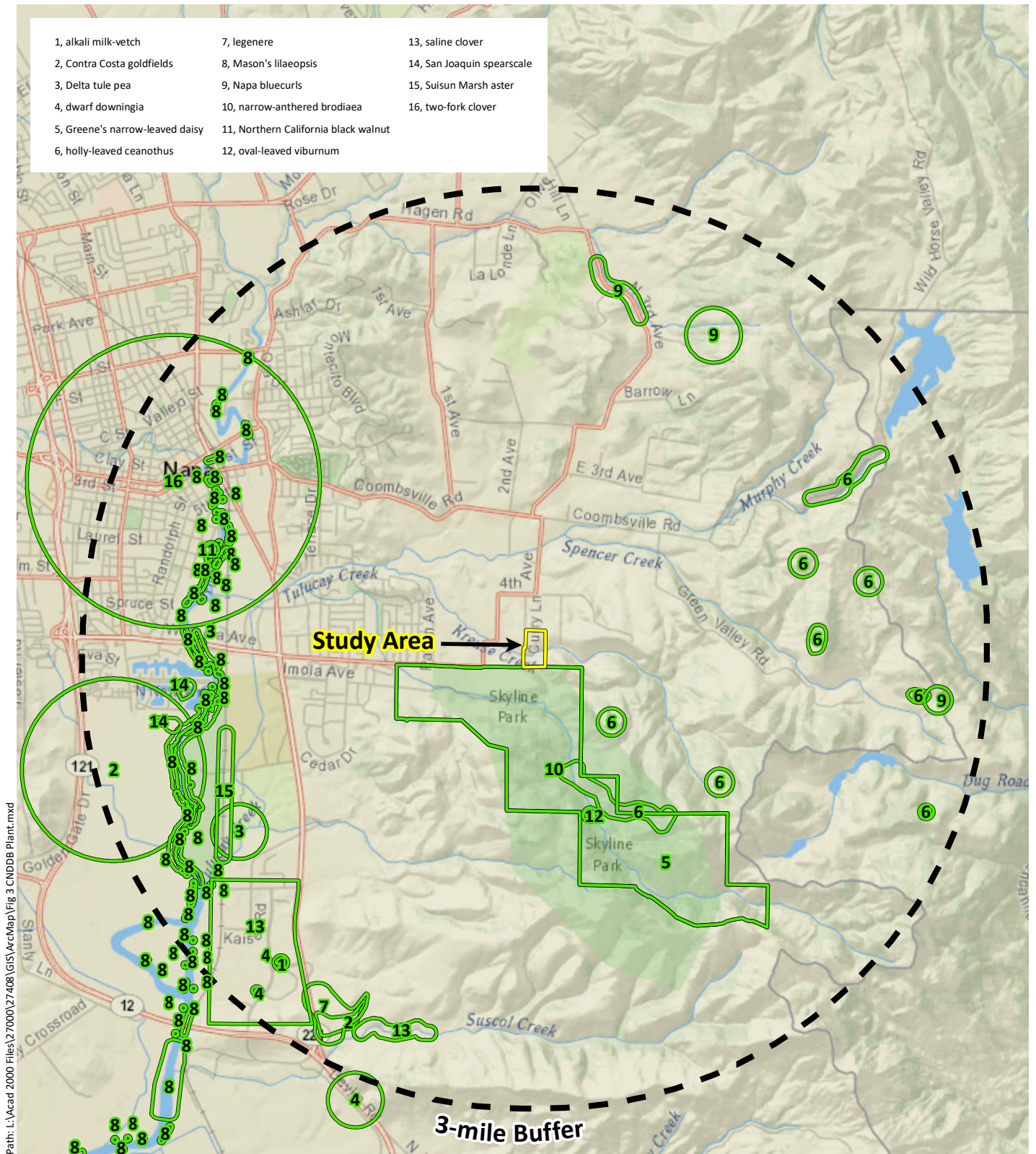


Sources: National Geographic, WRA | Prepared By: czumwalt, 8/15/2018

Figure A-1. Study Area Location

Darioush
Napa County, California





Sources: National Geographic, CNDDDB May 2018, WRA | Prepared By: czumwalt, 8/15/2018

Figure A-2. Special-Status Plant Species Documented within 3-miles of the Study Area

Darioush
Napa County, California

0 1 2 Miles



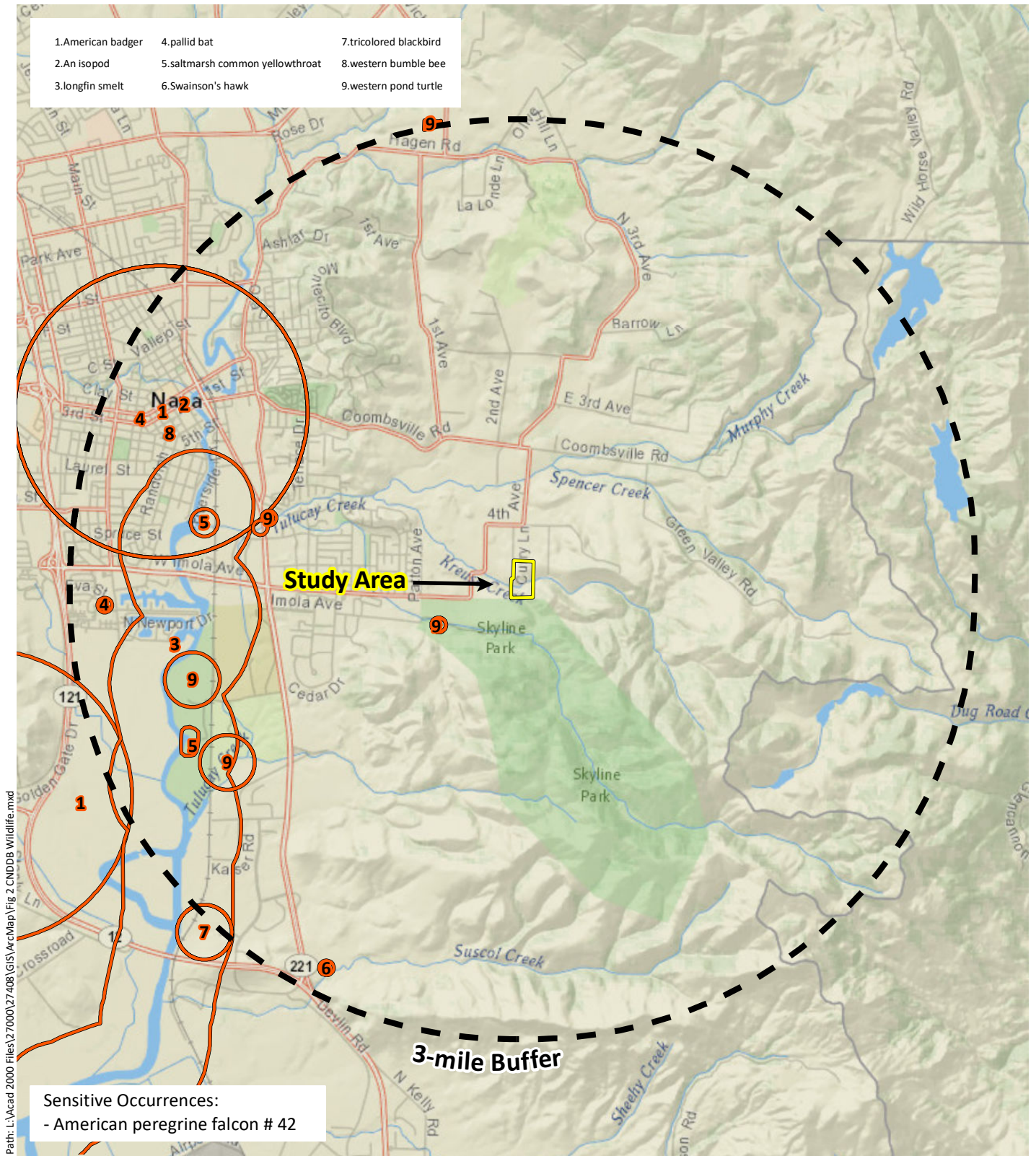
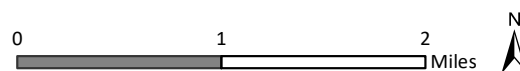


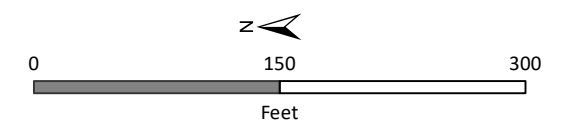
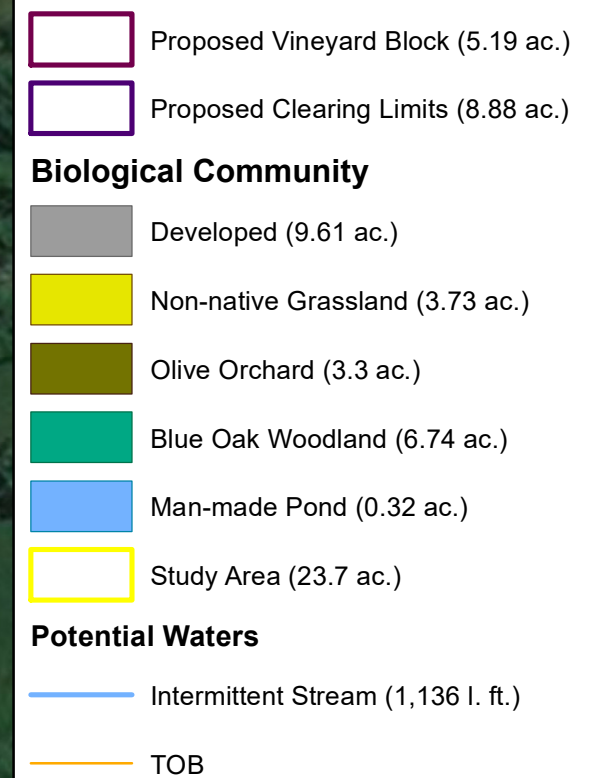
Figure A-3. Special-Status Wildlife Species Documented within 3-miles of the Study Area

Darioush
 Napa County, California



**Figure A-4.
Biological Communities**

Darioush
Napa County, California



Appendix B

Species Observed in the Study Area

Table B-1. Plant species observed in the Study Area, April 25 and June 21, 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 |
| Alismataceae | <i>Alisma triviale</i> | northern water plantain | perennial forb | native | - | - | OBL |
| Anacardiaceae | <i>Toxicodendron diversilobum</i> | poison oak | deciduous shrub | 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>Calendula arvensis</i> | field marigold | annual forb | non-native | - | - | NL |
| Asteraceae | <i>Carduus pycnocephalus</i> | Italian thistle | annual forb | non-native | - | moderate | NL |
| Asteraceae | <i>Centaurea calcitrapa</i> | purple star thistle | annual forb | non-native | - | moderate | NL |
| Asteraceae | <i>Centaurea solstitialis</i> | yellow star thistle | annual forb | non-native | - | high | NL |
| Asteraceae | <i>Dittrichia graveolens</i> | stinkwort | annual forb | non-native | - | moderate | NL |
| Asteraceae | <i>Erigeron canadensis</i> | Canadian horseweed | annual forb | native | - | - | FACU |
| Asteraceae | <i>Hemizonia congesta</i> ssp. <i>luzulifolia</i> | white hayfield tarweed | annual forb | native | - | - | NL |
| Asteraceae | <i>Hypochaeris radicata</i> | rough cat's-ear | perennial forb | non-native | - | moderate | 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>Matricaria discoidea</i> | pineapple weed | annual forb | native | - | - | FACU |
| Asteraceae | <i>Micropus californicus</i> | Q-tips | annual forb | native | - | - | NL |
| Asteraceae | <i>Microseris douglasii</i> ssp. <i>douglasii</i> | Douglas' silverpuffs | annual forb | native | - | - | FACU |
| Asteraceae | <i>Pseudognaphalium beneolens</i> | cudweed | perennial forb | native | - | - | NL |
| Asteraceae | <i>Solidago velutina</i> ssp. <i>californica</i> | California goldenrod | perennial forb | native | - | - | 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 |
| Asteraceae | <i>Sonchus oleraceus</i> | common sow thistle | annual forb | non-native | - | - | NL |
| Boraginaceae | <i>Amsinckia intermedia</i> | common fiddleneck | annual forb | native | - | - | NL |

| Family | Scientific name | Common name | Life form | Origin | Rare Status ¹ | Invasive Status ² | Wetland indicator ³ |
|-----------------|-------------------------------------------------------|------------------------|---------------------|------------|--------------------------|------------------------------|--------------------------------|
| Boraginaceae | <i>Cynoglossum grande</i> | Pacific hound's tongue | perennial forb | native | - | - | NL |
| Boraginaceae | <i>Phacelia distans</i> | distant phacelia | annual forb | native | - | - | OBL |
| Boraginaceae | <i>Plagiobothrys nothofulvus</i> | rusty popcornflower | annual forb | native | - | - | FAC |
| Brassicaceae | <i>Hirschfeldia incana</i> | short podded mustard | perennial forb | non-native | - | moderate | NL |
| Brassicaceae | <i>Raphanus sativus</i> | wild radish | perennial forb | non-native | - | limited | NL |
| Cactaceae | <i>Opuntia ficus-indica</i> | tuna cactus | evergreen shrub | non-native | - | - | NL |
| Caprifoliaceae | <i>Lonicera hispidula</i> | pink honeysuckle | evergreen shrub | native | - | - | FACU |
| Caprifoliaceae | <i>Symphoricarpos albus</i> | upright snowberry | deciduous shrub | native | - | - | FACU |
| Caryophyllaceae | <i>Cerastium glomeratum</i> | mouse-ear chickweed | annual forb | non-native | - | - | UPL |
| Caryophyllaceae | <i>Silene gallica</i> | windmill pink | annual forb | non-native | - | - | NL |
| Caryophyllaceae | <i>Spergula arvensis</i> | corn spurry | annual forb | non-native | - | - | NL |
| Chenopodiaceae | <i>Dysphania ambrosioides</i> | Mexican tea | perennial forb | non-native | - | - | FAC |
| Cyperaceae | <i>Carex densa</i> | dense sedge | perennial graminoid | native | - | - | OBL |
| Cyperaceae | <i>Carex praegracilis</i> | clustered field sedge | perennial graminoid | native | - | - | FACW |
| Cyperaceae | <i>Cyperus eragrostis</i> | tall flat-sedge | perennial graminoid | native | - | - | FACW |
| Cyperaceae | <i>Eleocharis macrostachya</i> | common spikerush | perennial graminoid | native | - | - | OBL |
| Dipsacaceae | <i>Dipsacus fullonum</i> | Fuller's teasel | perennial forb | non-native | - | moderate | FAC |
| Dryopteridaceae | <i>Dryopteris arguta</i> | California wood fern | perennial fern | native | - | - | NL |
| 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 |
| Fabaceae | <i>Acmispon parviflorus</i> | small flowered lotus | annual forb | native | - | - | NL |
| Fabaceae | <i>Genista monspessulana</i> | French broom | evergreen shrub | native | - | - | NL |
| Fabaceae | <i>Lupinus bicolor</i> | miniature lupine | annual forb | native | - | - | NL |
| Fabaceae | <i>Medicago polymorpha</i> | bur medic | annual forb | non-native | - | limited | FACU |
| Fabaceae | <i>Trifolium dubium</i> | Shamrock clover | annual forb | non-native | - | - | UPL |

| Family | Scientific name | Common name | Life form | Origin | Rare Status ¹ | Invasive Status ² | Wetland indicator ³ |
|--------------|------------------------------------------------|----------------------------------|---------------------|------------|--------------------------|------------------------------|--------------------------------|
| Fabaceae | <i>Trifolium glomeratum</i> | clustered clover | annual forb | non-native | - | - | NL |
| Fabaceae | <i>Trifolium hirtum</i> | rose clover | annual forb | non-native | - | moderate | NL |
| Fabaceae | <i>Trifolium microcephalum</i> | maiden clover | annual forb | native | - | - | FAC |
| Fabaceae | <i>Trifolium microdon</i> | thimble clover | annual forb | native | - | - | NL |
| Fabaceae | <i>Vicia sativa</i> ssp. <i>nigra</i> | garden vetch | annual forb | non-native | - | - | FACU |
| Fabaceae | <i>Vicia villosa</i> ssp. <i>villosa</i> | winter vetch | annual forb | non-native | - | assessed | NL |
| Fagaceae | <i>Quercus agrifolia</i> var. <i>agrifolia</i> | coast live oak | evergreen tree | native | - | - | NL |
| Fagaceae | <i>Quercus douglasii</i> | blue oak | deciduous tree | native | - | - | NL |
| Fagaceae | <i>Quercus lobata</i> | valley oak | deciduous tree | native | - | - | FACU |
| Gentianaceae | <i>Zeltnera muehlenbergii</i> | Monterey centaury | annual forb | native | - | - | FACW |
| Geraniaceae | <i>Erodium brachycarpum</i> | foothill filaree | annual forb | non-native | - | limited | NL |
| Geraniaceae | <i>Erodium cicutarium</i> | redstem filaree | annual forb | non-native | - | limited | NL |
| Geraniaceae | <i>Geranium dissectum</i> | cutleaf geranium | annual forb | non-native | - | moderate | NL |
| Geraniaceae | <i>Geranium robertianum</i> | Robert's geranium | annual forb | non-native | - | assessed | NL |
| Geraniaceae | <i>Pelargonium grossularioides</i> | gooseberry geranium | perennial forb | non-native | - | - | NL |
| Hypericaceae | <i>Hypericum perforatum</i> | Klamath weed | perennial forb | non-native | - | - | FACU |
| Iridaceae | <i>Iris macrosiphon</i> | long-tubed iris | perennial forb | native | - | - | NL |
| Iridaceae | <i>Sisyrinchium bellum</i> | blue-eyed grass | perennial forb | native | - | - | FACW |
| Juglandaceae | <i>Juglans hindsii</i> | Northern California black walnut | deciduous tree | native | Rank 1B* | - | FAC |
| Juglandaceae | <i>Juglans regia</i> | English walnut | deciduous tree | non-native | - | - | NL |
| Juncaceae | <i>Juncus occidentalis</i> | western rush | perennial graminoid | native | - | - | FACW |
| Juncaceae | <i>Juncus patens</i> | common rush | perennial graminoid | native | - | - | FACW |
| Lamiaceae | <i>Marrubium vulgare</i> | horehound | perennial forb | non-native | - | limited | FACU |
| Lamiaceae | <i>Mentha pulegium</i> | pennyroyal | perennial forb | non-native | - | moderate | OBL |
| Lamiaceae | <i>Stachys rigida</i> var. <i>rigida</i> | rough hedgenettle | perennial forb | native | - | - | FACW |

| Family | Scientific name | Common name | Life form | Origin | Rare Status ¹ | Invasive Status ² | Wetland indicator ³ |
|----------------|---------------------------------|--------------------------|---------------------|------------|--------------------------|------------------------------|--------------------------------|
| Lamiaceae | <i>Trichostema lanceolatum</i> | vinegarweed | annual forb | native | - | - | FACU |
| Liliaceae | <i>Agapanthus praecox</i> | lily-of-the-Nile | perennial forb | non-native | - | - | NL |
| Linaceae | <i>Linum bienne</i> | pale flax | annual forb | non-native | - | - | NL |
| Malvaceae | <i>Malva nicaeensis</i> | bull mallow | annual forb | non-native | - | - | NL |
| Myrsinaceae | <i>Lysimachia arvensis</i> | scarlet pimpernel | annual forb | non-native | - | - | NL |
| Myrtaceae | <i>Eucalyptus globulus</i> | blue gum | evergreen tree | non-native | - | moderate | NL |
| Oleaceae | <i>Fraxinus latifolia</i> | Oregon ash | deciduous tree | native | - | - | FACW |
| Oleaceae | <i>Olea europaea</i> | olive | evergreen tree | non-native | - | limited | NL |
| Onagraceae | <i>Epilobium brachycarpum</i> | annual willowherb | annual forb | native | - | - | NL |
| Onagraceae | <i>Ludwigia peploides</i> | floating water primrose | perennial forb | non-native | - | high | OBL |
| Orobanchaceae | <i>Castilleja attenuata</i> | valley tassels | annual forb | native | - | - | NL |
| Papaveraceae | <i>Eschscholzia californica</i> | California poppy | perennial forb | native | - | - | NL |
| Phrymaceae | <i>Mimulus aurantiacus</i> | sticky monkey | evergreen shrub | native | - | - | NL |
| Plantaginaceae | <i>Kickxia elatine</i> | sharp-leaf cancerwort | perennial forb | non-native | - | - | UPL |
| Plantaginaceae | <i>Plantago lanceolata</i> | English plantain | perennial forb | non-native | - | limited | FAC |
| Poaceae | <i>Aira caryophyllaea</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 | perennial graminoid | non-native | - | moderate | NL |
| Poaceae | <i>Briza maxima</i> | big rattlesnake grass | annual graminoid | non-native | - | limited | 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 laevipes</i> | Chinook brome | perennial graminoid | native | - | - | NL |
| Poaceae | <i>Bromus racemosus</i> | smooth brome | perennial graminoid | non-native | - | - | NL |
| Poaceae | <i>Cynosurus echinatus</i> | dogtail grass | annual graminoid | non-native | - | moderate | NL |

| Family | Scientific name | Common name | Life form | Origin | Rare Status ¹ | Invasive Status ² | Wetland indicator ³ |
|---------------|------------------------------------------------|------------------------|---------------------|------------|--------------------------|------------------------------|--------------------------------|
| Poaceae | <i>Festuca bromoides</i> | brome fescue | perennial graminoid | non-native | - | - | FAC |
| Poaceae | <i>Festuca perennis</i> | Italian rye grass | annual graminoid | non-native | - | moderate | FAC |
| Poaceae | <i>Hordeum marinum</i> | Mediterranean barley | annual graminoid | non-native | - | moderate | FAC |
| Poaceae | <i>Hordeum murinum</i> | mouse barley | annual graminoid | non-native | - | moderate | FACU |
| Poaceae | <i>Stipa pulchra</i> | purple needlegrass | perennial graminoid | native | - | - | NL |
| Polygonaceae | <i>Rumex conglomeratus</i> | clustered dock | perennial forb | non-native | - | - | FACW |
| Polygonaceae | <i>Rumex pulcher</i> | fiddle dock | perennial forb | non-native | - | - | FAC |
| Pteridaceae | <i>Pentagramma triangularis</i> | gold back fern | perennial fern | native | - | - | NL |
| Ranunculaceae | <i>Ranunculus californicus</i> | California buttercup | perennial forb | native | - | - | FACU |
| Ranunculaceae | <i>Ranunculus muricatus</i> | spiny buttercup | perennial forb | non-native | - | - | FACW |
| Rhamnaceae | <i>Ceanothus cuneatus</i> var. <i>cuneatus</i> | buck brush | evergreen shrub | native | - | - | NL |
| Rhamnaceae | <i>Frangula californica</i> | California coffeeberry | evergreen shrub | native | - | - | NL |
| Rosaceae | <i>Heteromeles arbutifolia</i> | toyon | evergreen shrub | native | - | - | NL |
| Rosaceae | <i>Prunus cerasifera</i> | cherry plum | deciduous tree | non-native | - | limited | NL |
| Rosaceae | <i>Pyracantha angustifolia</i> | firethorn | evergreen shrub | non-native | - | limited | NL |
| Rosaceae | <i>Rosa californica</i> | California rose | evergreen shrub | native | - | - | FAC |
| Rosaceae | <i>Rubus armeniacus</i> | Himalayan blackberry | evergreen shrub | non-native | - | high | FACU |
| Rubiaceae | <i>Galium aparine</i> | common bedstraw | annual forb | native | - | - | FACU |
| Rubiaceae | <i>Galium parisiense</i> | wall bedstraw | annual forb | non-native | - | - | UPL |
| Rubiaceae | <i>Sherardia arvensis</i> | blue fieldmadder | annual forb | non-native | - | - | NL |
| Salicaceae | <i>Populus fremontii</i> | Fremont's cottonwood | deciduous tree | native | - | - | FAC |
| Salicaceae | <i>Salix laevigata</i> | red willow | deciduous tree | native | - | - | FACW |
| Sapindaceae | <i>Aesculus californica</i> | California buckeye | deciduous tree | native | - | - | NL |
| Themidaceae | <i>Brodiaea elegans</i> ssp. <i>elegans</i> | harvest brodiaea | perennial forb | native | - | - | FACU |
| Themidaceae | <i>Dichelostemma capitatum</i> | blue dicks | perennial forb | native | - | - | FACU |
| Typhaceae | <i>Typha latifolia</i> | common cattail | perennial forb | native | - | - | OBL |

All species identified using the *Jepson Manual, 2nd Edition* (Baldwin et al. 2012); nomenclature follows *The Jepson Flora Project* (eFlora 2018) 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

*Rare in native/historic stands only; the Study Area does not support native/historic stands of Northern California black walnut

¹Rare Status: The CNPS Inventory of Rare and Endangered Plants (CNPS 2018a)

| | |
|----------|---------------------------------------------------------------------------------|
| 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, April 25, 2018

| Scientific Name | Common Name |
|----------------------------------------|--------------------------|
| Mammals | |
| <i>Odocoileus hemionus columbianus</i> | black-tailed (mule) deer |
| Birds | |
| <i>Agelaius phoeniceus</i> | red-winged blackbird |
| <i>Anas platyrhynchos</i> | mallard |
| <i>Baeolophus inornatus</i> | oak titmouse |
| <i>Callipepla californica</i> | California quail |
| <i>Calypte anna</i> | Anna's hummingbird |
| <i>Carduelis psaltria</i> | lesser goldfinch |
| <i>Carduelis tristis</i> | American goldfinch |
| <i>Carpodacus mexicanus</i> | house finch |
| <i>Cathartes aura</i> | turkey vulture |
| <i>Melospiza crissalis</i> | California towhee |
| <i>Mimus polyglottos</i> | northern mockingbird |
| <i>Molothrus ater</i> | Brown-headed Cowbird |
| <i>Myiarchus cinerascens</i> | ash-throated flycatcher |
| <i>Patagioenas fasciata</i> | band-tailed pigeon |
| <i>Pipilo maculatus</i> | spotted towhee |
| <i>Tachycineta thalassina</i> | violet-green swallow |
| <i>Thryomanes bewickii</i> | Bewick's wren |
| <i>Troglodytes aedon</i> | house wren |
| <i>Zenaida macroura</i> | mourning dove |

Appendix C

Special-status Species Potential Table

Table C. Potential for Special-status Species to Occur in the Project Area. List compiled from the California Department of Fish and Wildlife (CDFW) Natural Diversity Database (2018a), U.S. Fish and Wildlife Service (USFWS) Species Lists (2018b), and California Native Plant Society (CNPS) Electronic Inventory (2018a) searches. For plants, the Yountville, Capell Valley, Mount Vaca, Fairfield North, Fairfield South, Mount George, Napa, Cuttings Wharf, and Cordelia USGS 7.5' quadrangles were included in the search. For wildlife, the entirety of Napa County was considered.

| SPECIES | STATUS* | HABITAT REQUIREMENTS | POTENTIAL TO OCCUR IN THE STUDY AREA | RESULTS AND RECOMMENDATIONS |
|------------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| PLANTS | | | | |
| <i>Agrostis hendersonii</i> Henderson's bentgrass | Rank 3 | Valley and foothill grassland, vernal pools; situated in mesic grasslands. Elevation range: 225 – 995 feet. Blooms: April – June. | Unlikely. Although the Study Area contains grasslands, this species is located in seasonal wetlands, particularly vernal pools. | Not Present. No further actions are recommended for this species. |
| <i>Allium peninsulare</i> var. <i>franciscanum</i> Franciscan onion | Rank 1B | Cismontane woodland, valley and foothill grassland; on clay substrate, often derived from serpentine. Elevation range 170 – 985 feet. Blooms: May – June. | Moderate Potential. The Study Area contains grasslands and open woodlands that may support this species. | Not Observed. This species was not observed during protocol-level surveys. No further actions are recommended for this species. |
| <i>Amorpha californica</i> var. <i>napensis</i> Napa false indigo | Rank 1B | Openings in broadleaf upland forest, chaparral, cismontane woodland. Elevation range: 395 – 6560 feet. Blooms: April – July. | Unlikely. This species is closely associated with white oak (<i>Quercus garryana</i>) and black oak (<i>Q. kelloggii</i>) woodlands. Additionally, there are no documented occurrences from southeast Napa County. | Not Present. No further actions are recommended for this species. |
| <i>Antirrhinum virga</i> twig-like snapdragon | Rank 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 have forest or 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>Arabis modesta</i> modest rockcress | Rank 4 | Chaparral, lower montane coniferous forest; located on steep slopes, cliffs, and shaded canyons underlain by deep soils. Elevation range: 390 – 2600 feet. Blooms: March – July. | No Potential. The Study Area does not contain cliffs or steep slopes, nor is there chaparral or forest habitat to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Astragalus clevelandii</i> Cleveland's milk-vetch | Rank 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 to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Astragalus tener</i> var. <i>tener</i> alkali milk-vetch | Rank 1B | Playas, vernal pools, valley and foothill grassland; located in mesic grassy areas on alkaline substrate. Elevation range: 0 – 195 feet. Blooms: March – June. | No Potential. The Study Area does not support vernal pools, playas, or seasonal wetlands to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Atriplex persistens</i> vernal pool smallscale | Rank 1B | Vernal pools, alkaline. Elevation range: 30 – 374 feet. Blooms: June – August, sometimes into October. | No Potential. The Study Area does not support vernal pools, playas, or seasonal wetlands to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Balsamorhiza macrolepis</i> big-scale balsamroot | Rank 1B | Valley and foothill grassland, cismontane woodland, chaparral; located on open, rocky slopes, underlain by volcanic or serpentine substrate. Elevation range: 295 – 3100 feet. Blooms: March – June. | Moderate Potential. The Study Area contains rocky grasslands that may support this species. Serpentine is lacking and volcanic derived soils are minimal. | Not Observed. This species was not observed during protocol-level surveys. 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 | Rank 1B | Chaparral, broadleaf upland forest, lower montane coniferous forest; situated on gravelly soils derived from volcanics, particularly rhyolitic tuff. Elevation range: 360 – 3000 feet. Blooms: May – July. | Unlikely. The Study Area does not contain chaparral or forest habitat to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Calandrinia breweri</i> Brewer's Calandrinia | Rank 4 | Chaparral, coastal scrub; located on sandy or loamy substrate in areas often recently disturbed or burned. Elevation range: 30 – 3965 feet. Blooms: March – June. | No Potential. The Study Area does not support chaparral or scrub habitat to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Calochortus pulchellus</i> Mt. Diablo fairy lantern | Rank 1B | Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. Elevation range: 98 – 2730 feet. Blooms: April – June. | No Potential. This species is highly restricted to the Mount Diablo area. Reports from Napa County are widely regarded as erroneous. | Not Present. No further actions are recommended for this species. |
| <i>Calycadenia micrantha</i> small-flowered Calycadenia | Rank 1B | Chaparral, meadows and seeps, valley and foothill grassland; located on volcanic or serpentine substrate in sparsely vegetated rocky, talus, or scree areas. Elevation range: 15 – 4875 feet. Blooms: June – September. | Unlikely. Although the Study Area contains grassland, there are not sparsely vegetated rocky areas to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Castilleja affinis</i> ssp. <i>neglecta</i> Tiburon paintbrush | FE, ST, Rank 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 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>Castilleja ambigua</i> ssp. <i>ambigua</i> johnny-nip | Rank 4 | Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pool margins. Elevation range: 0 – 1415 feet. Blooms: March – August. | Unlikely. This species is closely associated with mesic grasslands and seasonal wetlands not present in the Study Area. | Not Present. No further actions are recommended for this species. |
| <i>Castilleja ambigua</i> var. <i>meadii</i> Mead's owl's-clover | Rank 1B | Meadows and seeps, vernal pools; located in mesic areas or wetlands underlain by gravelly clay soils derived from volcanics. Elevation range: 1460 – 1545 feet. Blooms: April – May. | No Potential. The Study Area does not contain seasonal wetlands to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Ceanothus purpureus</i> holly-leaved ceanothus | Rank 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 chaparral to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Centromadia parryi</i> ssp. <i>parryi</i> pappose tarplant | Rank 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. | Unlikely. The Study Area does not contain alkali grassland to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Centromadia parryi</i> ssp. <i>rudis</i> Parry's rough tarplant | Rank 4 | Valley and foothill grassland, vernal pools; alkaline, vernal mesic, seeps. Elevation range: 0 – 325 feet. Blooms: May – October. | Unlikely. The Study Area does not contain alkali grassland 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>Chloropyron molle</i> ssp. <i>molle</i> soft bird's-beak | FE, SR, Rank 1B | Coastal brackish or salt marshes; located in low-growing saltgrass (<i>Distichlis spicata</i>) and pickleweed (<i>Salicornia pacifica</i>) mats. Elevation range: 0 – 10 feet. Blooms: June – November. | No Potential. The Study Area does not contain coastal marsh habitat to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Cicuta maculata</i> var. <i>bolanderi</i> Bolander's water hemlock | Rank 2B | Marshes and swamps; coastal fresh or brackish water. Elevation range: 0 – 600 feet. Blooms: July – September. | No Potential. The Study Area does not contain coastal marsh habitat to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Cirsium hydrophilum</i> var. <i>hydrophilum</i> Suisun thistle | FE, Rank 1B | Marshes and swamps. Elevation range: 0 – 5 feet. Blooms: June – September. | No Potential. The Study Area does not contain coastal marsh habitat to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Clarkia gracilis</i> ssp. <i>tracyi</i> Tracy's clarkia | Rank 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 substrate to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Collomia diversifolia</i> serpentine collomia | Rank 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 substrate to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Cryptantha dissita</i> serpentine cryptantha | Rank 1B | Chaparral; located on serpentine outcrops. Elevation range: 1280 – 1885 feet. Blooms: April – June. | No Potential. 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>Downingia pusilla</i> dwarf downingia | Rank 2B | Valley and foothill grassland, vernal pools; located in mesic grassy sites, pool and lake margins. Elevation range: 3 – 1450 feet. Blooms: March – May. | No Potential. The Study Area does not contain vernal pools or seasonal wetlands to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Eleocharis parvula</i> small spikerush | Rank 4 | Marshes and swamps. Elevation range: 5 – 9815 feet. Blooms: sometimes, April, June – August, sometimes September. | No Potential. The Study Area does not contain coastal marsh habitat to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Erigeron biolettii</i> Streamside daisy | Rank 3 | Broadleaf upland forest, cismontane woodland, North Coast coniferous forest; on rocky, mesic. Elevation range: 95 – 3610 feet. Blooms: June – October. | Moderate Potential. The Study Area contains woodland habitat that may support this species. | Not Observed. This species was not observed during protocol-level surveys. No further actions are recommended for this species. |
| <i>Erigeron greenei</i> Greene's narrow-leaved daisy | Rank 1B | Chaparral, cismontane woodland, conifer forest; generally on serpentine substrate, sometimes volcanics. Elevation range: 260 – 3270 feet. Blooms: May – September. | Unlikely. The Study Area does not contain serpentine substrate to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Eriogonum luteolum</i> var. <i>caninum</i> Tiburon buckwheat | Rank 1B | Chaparral, valley and foothill grassland, cismontane woodland, coastal prairie; located on sandy or gravelly substrate derived | No Potential. 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>Eriogonum truncatum</i> Mount Diablo buckwheat | Rank 1B | Chaparral, coastal scrub, valley and foothill grassland; sandy. Elevation range: 5 – 1115 feet. Blooms: April – September, sometimes December. | No Potential. The Study Area does not contain sandy substrate to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Eryngium jepsonii</i> Jepson's coyote thistle | Rank 1B | Valley and foothill grassland, vernal pools; located on clay soil. Elevation range: 9 – 900 feet. Blooms: April – August. | No Potential. The Study Area does not contain vernal pools or seasonal wetlands to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Extriplex joaquinana</i> San Joaquin spearscale | Rank 1B | Chenopod scrub, meadows and seeps, playas, valley and foothill grassland; located on alkaline substrate. Elevation range: 0 – 2715 feet. Blooms: April – October. | No Potential. The Study Area does not contain vernal pools or seasonal wetlands to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Gilia capitata</i> ssp. <i>tomentosa</i> woolly-headed gilia | Rank 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 scrub habitat to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Harmonia nutans</i> nodding harmonia | Rank 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 woodland that may support this species. | Not Observed. This species was not observed during protocol-level surveys. No further actions are recommended for this species. |

| SPECIES | STATUS* | HABITAT REQUIREMENTS | POTENTIAL TO OCCUR IN THE STUDY AREA | RESULTS AND RECOMMENDATIONS |
|------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <i>Helianthella castanea</i> Diablo Helianthella | Rank 1B | Broadleaf upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland; usually rocky, azonal soils, partial shade. Elevation range: 180 – 4225 feet. Blooms: March – June. | Moderate Potential. The Study Area contains rocky woodland and grassland that may support this species. | Not Observed. This species was not observed during protocol-level surveys. No further actions are recommended for this species. |
| <i>Hesperolinon bicarpellatum</i> Two-carpellate western flax | Rank 1B | Chaparral; located on serpentine substrate. Elevation range: 195 – 3270 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>Hesperolinon breweri</i> Brewer's western flax | Rank 1B | Chaparral, cismontane woodland, valley and foothill grassland; typically located in serpentine grassland and serpentine chaparral underlain by rocky substrates. Elevation range: 95 – 2925 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>Hesperolinon sharsmithiae</i> Sharsmith's western flax | Rank 1B | Chaparral; located on serpentine substrate. Elevation range: 875 – 975 feet. Blooms: May – July. | No Potential. The Study Area does not contain serpentine substrate to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Iris longipetala</i> coast iris | Rank 4 | Coastal prairie, lower montane coniferous forest, meadows and seeps; located on mesic sites. Elevation range: 0 – 1950 feet. Blooms: March – May. | Unlikely. The Study Area does not contain forest, prairie, or meadow 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 |
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| <i>Isocoma arguta</i> Carquinez goldenbush | Rank 1B | Valley and foothill grassland; located in alkali grasslands. Elevation range: 0 – 60 feet. Blooms: August – December. | No Potential. The Study Area does not contain alkali grassland. | Not Present. No further actions are recommended for this species. |
| <i>Juglans hindsii</i> North California black walnut | Rank 1B | Riparian forest, riparian woodland. Only native stands are considered special-status by CNPS and CDFW. Elevation range: 0 – 1430 feet. Blooms: April – May. | No Potential. The Study Area is not within a documented historic stand of this species. | Not Present. No further actions are recommended for this species. |
| <i>Lasthenia conjugens</i> Contra Costa goldfields | FE; Rank 1B | Valley and foothill grassland, vernal pools, cismontane woodland; located in pools, swales, and depressions in mesic grassy sites underlain by alkaline substrate. Elevation range: 0 – 1530 feet. Blooms: March – June. | No Potential. The Study Area does not contain vernal pools or seasonal wetlands to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Lasthenia ferrisiae</i> Ferris' goldfields | Rank 4 | Vernal pools; substrate of pools is alkali clays. Elevation range: 60 – 2100 feet. Blooms: February – May. | No Potential. The Study Area does not contain vernal pools or seasonal wetlands to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Lathyrus jepsonii</i> var. <i>jepsonii</i> Delta tule pea | Rank 1B | Freshwater and brackish marshes; typically located near or on slough margins, closely associated with cattail, tules, bulrushes, Baltic rush, California rose, and Suisun Marsh aster; known widely throughout Suisun Bay and Delta regions. Elevation range: 0 – 15 feet. Blooms: May – July, sometimes September. | No Potential. The Study Area does not contain coastal marsh habitat to support this species. | Not Present. No further actions are recommended for this species. |

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| <i>Legenere limosa</i> Legenere | Rank 1B | Vernal pools; typically located in the deepest portions of pools. Elevation range: 0 – 2860 feet. Blooms: April – June. | No Potential. The Study Area does not contain vernal pools or seasonal wetlands to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Leptosiphon jepsonii</i> Jepson's leptosiphon | Rank 1B | Chaparral, cismontane woodland; on open to partially shaded grassy slopes on volcanic or the periphery of serpentine substrate. Elevation range: 330 – 1640 feet. Blooms: April – May. | Moderate Potential. The Study Area has some volcanic soils and woodland that may support this species. | Not Present. No further actions are recommended for this species. |
| <i>Leptosiphon latisectus</i> broad-lobed leptosiphon | Rank 4 | Broadleaf upland forest, cismontane woodland; located in openings and partially shaded grassy slopes, frequently underlain by serpentine. Elevation range: 550 – 4875 feet. Blooms: April – June. | Unlikely. This species is typically located on serpentine substrates that are lacking in the Study Area. | Not Present. No further actions are recommended for this species. |
| <i>Lessingia hololeuca</i> woolly-headed Lessingia | Rank 3 | Broadleaf upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland; typically on clay, serpentine substrate. Elevation range: 0 – 2885 feet. Blooms: April – June. | 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>Lilaeopsis masonii</i> Mason's Lilaeopsis | SR, Rank 1B | Freshwater and brackish coastal marshes, riparian scrub; located on channel banks in the splash zone on bare mud substrate. Elevation range: 0 – 35 feet. Blooms: April – November. | No Potential. The Study Area does not contain coastal marsh habitat to support this species. | Not Present. No further actions are recommended for this species. |

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| <i>Lilium rubescens</i> redwood lily | Rank 4 | 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 forest or chaparral habitat to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Limnanthes vincularis</i> Sebastopol meadowfoam | FE, SE, Rank 1B | Mesic meadows, valley and foothill grassland, vernal pools; located in swales, wet meadows, depressions, and pools in the oak savanna of the Santa Rosa Plain on heavy adobe clay substrate. Elevation range: 3 – 2885 feet. Blooms: April – June. | No Potential. The Study Area does not contain vernal pools or seasonal wetlands to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Lomatium repostum</i> Napa Lomatium | Rank 4 | Chaparral, cismontane woodland; located on serpentine substrate. Elevation range: 290 – 2700 feet. Blooms: March – June. | 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>Micropus amphibolus</i> Mt. Diablo cottonweed | Rank 3 | Broadleaf upland forest, chaparral, cismontane woodland, valley and foothill grassland; typically on thin, rocky soils. Elevation range: 145 – 2710 feet. Blooms: March – May. | Moderate Potential. There are a few small areas with thin soils to support this species. | Not Observed. This species was not observed during protocol-level surveys. No further actions are recommended for this species. |

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| <i>Monardella viridis</i> green monardella | Rank 4 | Broadleaf upland forest, chaparral, cismontane woodland; typically situated on serpentine. Elevation range: 325 – 3285 feet. Blooms: June – 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>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia | Rank 1B | Wet, mesic sites underlain by adobe and/or alkaline substrate in cismontane woodland, meadows, seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. Elevation range: 15 – 5710 feet. Blooms: April – July. | No Potential. The Study Area does not contain vernal pools or seasonal wetlands to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Penstemon newberryi</i> var. <i>sonomensis</i> Sonoma beardtongue | Rank 1B | Chaparral; crevices in rock outcrops and talus slopes on ridgelines and mountain peaks. Elevation range: 2295 – 4495 feet. Blooms: April – August. | No Potential. The Study Area does not contain rock outcrops, nor is it on a ridgeline. | Not Present. No further actions are recommended for this species. |
| <i>Polygonum marinense</i> Marin knotweed | Rank 3 | Salt and brackish coastal marsh. Elevation range: 0 – 35 feet. Blooms: sometimes April, May – August, sometimes October. | No Potential. The Study Area does not contain coastal marsh habitat to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Puccinellia simplex</i> California alkali grass | Rank 1B | Chenopod scrub, meadow and seep, valley and foothill grassland, vernal pool; situated vernaly mesic alkaline substrate in sinks, flats, playas, and lake margins. Elevation range: 5 – 3025 feet. Blooms: March – May. | No Potential. The Study Area does not contain vernal pools or seasonal wetlands to support this species. | Not Present. No further actions are recommended for this species. |

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| <i>Ranunculus lobbii</i> Lobb's buttercup | Rank 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 a pond that has slack water that may support this species. | Not Observed. This species was not observed during protocol-level surveys. No further actions are recommended for this species. |
| <i>Rhynchospora californica</i> California beaked-rush | Rank 1B | Bogs and fens, lower montane coniferous forest, meadows and seeps, freshwater marshes and swamps. Elevation range: 145 – 3315 feet. Blooms: May – July. | Unlikely. The Study Area does not contain marsh or other perennial wetland habitat to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Sagittaria sanfordii</i> Sanford's arrowhead | Rank 1B | Marshes and swamps; assorted shallow freshwater. Elevations form 0 – 2115 feet. Blooms: May – October, sometimes November. | Unlikely. The Study Area does not contain marsh habitat to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Senecio clelandii</i> var. <i>clelandii</i> Cleveland's ragwort | Rank 4 | Chaparral; situated on serpentine seeps. Elevation range: 1185 – 2925 feet. Blooms: June – July. | No Potential. The Study Area does not contain serpentine seeps to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Sidalcea hickmanii</i> ssp. <i>napensis</i> Napa checkerbloom | Rank 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. |
| <i>Sidalcea hickmanii</i> ssp. <i>viridis</i> Marin checkerbloom | Rank 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 to support this species. | Not Present. No further actions are recommended for this species. |

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| <i>Sidalcea keckii</i> Keck's checkerbloom | FE, Rank 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 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 | Rank 1B | Meadow and seep, marshes and swamps; often alkali vernal pools. Elevation range: 0 – 830 feet. Blooms: February – March. | No Potential. The Study Area does not contain vernal pools or seasonal wetlands to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Streptanthus hesperidis</i> green jewelflower | Rank 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 | Rank 2B | Marshes and swamps; located in shallow freshwater. Elevation range: 900 – 6990 feet. Blooms: May – July. | No Potential. The Study Area does not contain marsh habitat to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Symphyotrichum lentum</i> Suisun Marsh aster | Rank 1B | Freshwater and brackish marshes and swamps; typically located on slough margins and edges, closely associated with cattail, tules, bulrushes, California rose, and Delta Tule pea. Elevation range: 0 – 10 feet. Blooms: May – November. | No Potential. The Study Area does not contain coastal marsh habitat to support this species. | Not Present. No further actions are recommended for this species. |

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| <i>Trichostema ruygtii</i> Napa bluecurls | Rank 1B | Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest; located in open, sunny locations, and dried vernal pools underlain by thin, clay soils that are typically seasonally saturated. Elevation range: 95 – 2210 feet. Blooms: June – October. | Unlikely. The Study Area does contain thin, clay soils that seasonally inundated or saturated to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Trifolium amoenum</i> showy rancheria clover | FE, Rank 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 grasslands that may support this species. | Not Observed. This species was not observed during protocol-level surveys. No further actions are recommended for this species. |
| <i>Trifolium hydrophilum</i> saline clover | Rank 1B | Marshes and swamps, mesic portions of alkali vernal pools; mesic, alkali valley and foothill grassland. Elevation range: 0 – 985 feet. Blooms: April – June. | No Potential. The Study Area does not contain vernal pools or seasonal wetlands to support this species. | Not Present. No further actions are recommended for this species. |
| <i>Triteleia lugens</i> dark-mouthed triteleia | Rank 4 | Broadleaf upland forest, chaparral, lower montane coniferous forest, coastal scrub. Elevation range: 325 – 3250 feet. Blooms: April – June. | No Potential. The Study Area does not contain forest or chaparral habitat to support this species. | Not Present. No further actions are recommended for this species. |

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| <i>Viburnum ellipticum</i> oval-leaved viburnum | Rank 2B | Chaparral, cismontane woodland, lower montane coniferous forest. Elevation range: 705 – 4595 feet. Blooms: May – June. | Moderate Potential. The Study Area has woodland habitat that may support this species. | Not Observed. This species was not observed during protocol-level surveys. No further actions are recommended for this species. |

| SPECIES | STATUS* | HABITAT REQUIREMENTS | POTENTIAL TO OCCUR IN THE STUDY AREA | RESULTS AND RECOMMENDATIONS |
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| 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 CNDDB occurrences in the greater vicinity (CDFW 2018a). Targeted bat assessment (i.e., close inspection of trees) was not performed. | Presence Unknown. Tree removal outside of maternity roosting season, or conduct pre-construction roost habitat assessment. See Section 6.0 for details. |
| <i>Bassariscus astutus</i> ringtail (ringtail cat) | SFP | Widely distributed throughout much of California. Found in a variety of habitats including riparian areas, semi-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 recommendations for this species. |

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| <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. CNDDDB occurrences in Napa County are all located in the northern portion of the County (CDFW 2018a). | Presumed Absent. No further recommendations for this species. |
| <i>Eumops perotis californicus</i> western mastiff bat | SSC, WBWG High | Found in a wide variety of open, arid and semi-arid habitats. Distribution appears to be tied to large rock structures which provide suitable roosting sites, including cliff crevices and cracks in boulders. | Unlikely. The Study Area lacks large rock structures that are suitable for roosting. There are no CNDDDB occurrences of this species in Napa County. | Presumed Absent. No further recommendations for this species. |
| <i>Lasiurus blossevillei</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 recommendations for this species. |
| <i>Myotis thysanodes</i> fringed myotis | WBWG High | Associated with a wide variety of habitats including dry woodlands, desert scrub, mesic coniferous forest, grassland, and sage-grass steppes. Building, mines, and large trees and snags are important day and night roosts. | Moderate Potential. 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. |

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| <i>Myotis volans</i> long-legged myotis | WBWG High | Primarily found in coniferous forests, but also occurs seasonally in riparian and desert habitats. Large hollow trees, rock crevices, buildings, mines, and caves are important day roosts. | Unlikely. The Study Area lacks caves, buildings or similar refugia and does not contain coniferous forest. | Presumed Absent. No further recommendations 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 recommendations for this species. |
| <i>Sorex ornatus sinuosus</i> Suisun shrew | SSC | Tidal marshes of the northern shores of San Pablo and Suisun bays. Require dense low-lying vegetation cover, driftwood, and other litter above the mean high tide line for nesting and foraging. | No Potential. The Study Area contains no tidal or brackish marsh and is outside of this species' Napa County range. | Not Present. No further recommendations for this species. |
| <i>Taxidea taxus</i> American badger | SSC | Most abundant in drier open stages of most shrub, forest, and herbaceous habitats. 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 2018a). Additionally, large burrows were not observed during the site visits. | Presumed Absent. No further recommendations for this species. |

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| Birds | | | | |
| <i>Agelaius tricolor</i> tricolored blackbird | SC (E), SSC | Nearly endemic to California, where it is most numerous in the Central Valley and vicinity. Highly colonial, nesting in dense aggregations over or near freshwater in emergent growth or riparian thickets. Also uses flooded agricultural fields. Abundant insect prey near breeding areas essential. | Unlikely. Although there are cattails on the edge of the Study Area's pond, they are not dense or extensive enough to provide typical habitat for this intensely colonial species. | Presumed Absent. No further recommendations for this species. |
| <i>Ammodramus savannarum</i> grasshopper sparrow | SSC, LR | Summer resident. Breeds in open grasslands in lowlands and foothills, generally with low- to moderate-height grasses and scattered shrubs. Well-hidden nests are placed on the ground. | Unlikely. Grassland cover within the Study Area is patchy and larger contiguous areas are absent. | Presumed Absent. No further recommendations for this species. |
| <i>Aquila chrysaetos</i> golden eagle | BGEPA, SFP | Occurs year-round in rolling foothills, mountain areas, sage-juniper flats, and deserts. Cliff-walled canyons provide nesting habitat in most parts of range; also nests in large trees, usually within otherwise open areas. | Unlikely. The Study Area does not provide large cliffs or typical large trees for nesting; may forage in the vicinity. | Presumed Absent. No further recommendations for this species. |

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| <i>Ardea alba</i> great egret | no status (breeding sites protected by CDFW) | Year-round resident. Nests colonially or semi-colonially, usually in trees, occasionally on the ground or elevated platforms. Breeding sites usually in close proximity to foraging areas: marshes, lake margins, tidal flats, and rivers. Forages primarily on fishes and other aquatic prey, also smaller terrestrial vertebrates. | Unlikely. The Study Area is not within close proximity to suitable waters to support a breeding colony. | Presumed Absent. No further recommendations for this species. |
| <i>Ardea herodias</i> great blue heron | LR (breeding sites protected by CDFW) | Year-round resident. Nests colonially or semi-colonially in tall trees and cliffs, also sequestered terrestrial substrates. Breeding sites usually in close proximity to foraging areas: marshes, lake margins, tidal flats, and rivers. Forages primarily on fishes and other aquatic prey, also smaller terrestrial vertebrates. | Unlikely. The Study Area is not within close proximity to suitable waters to support a breeding colony. | Presumed Absent. No further recommendations for this species. |
| <i>Asio flammeus</i> short-eared owl | SSC | Occurs year-round, but primarily as a winter visitor; breeding very restricted in most of California. Found in open, treeless areas (e.g., marshes, grasslands) with elevated sites for foraging perches and dense herbaceous vegetation for roosting and nesting. Preys mostly on small mammals, particularly voles. | Unlikely. Known distribution (wintering) is restricted to the Napa baylands; breeding in the County has never been documented (Smith 2003). | Presumed Absent. No further recommendations for this species. |

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| <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 2018). | Presumed Absent. No further recommendations for this species. |
| <i>Athene cunicularia</i> burrowing owl | SSC | Year-round resident and winter visitor. Occurs in open, dry grasslands and scrub habitats with low-growing vegetation, perches and abundant mammal burrows. Preys upon insects and small vertebrates. Nests and roosts in old mammal burrows, most commonly those of ground squirrels. | Unlikely. Breeding and wintering distribution within Napa County are restricted to the vicinity of Lake Berryessa and southern baylands (Smith 2003, CDFW 2018a). | Presumed Absent. No further recommendations for this species. |
| <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 2018a). | Presumed Absent. No further recommendations for this species. |

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| <i>Charadrius alexandrinus nivosus</i> western snowy plover | FT, SSC | Federal listing applies only to the Pacific coastal population. Year-round resident and winter visitor. Occurs on sandy beaches, salt pond levees, and the shores of large alkali lakes. Nests on the ground, requiring sandy, gravelly or friable soils. | No Potential. The Study Area does not contain beaches or other suitable barren habitat near water. | Not Present. No further recommendations for this species. |
| <i>Circus cyaneus</i> northern harrier | SSC | Year-round resident and winter visitor. Found in open habitats including grasslands, prairies, marshes and agricultural areas. Nests on the ground in dense vegetation, typically near water or otherwise moist areas. Preys on small vertebrates. | Unlikely. Open grassland areas within the Study Area are generally arid and relatively rocky; this species is not known to nest in this portion of Napa County as per Smith (2003). May forage or pass through the area during the non-breeding season. | Presumed Absent. No further recommendations for this species. |
| <i>Contopus cooperi</i> olive-sided flycatcher | SSC | Summer resident. Typical breeding habitat is montane coniferous forests. At lower elevations, also occurs in wooded canyons and mixed forests and woodlands. Often associated with forest edges. Arboreal nest sites located well off the ground. | Unlikely. The Study Area does not contain forest or woodland stands of the type typically used by this species. | Presumed Absent. No further recommendations for this species. |

| SPECIES | STATUS* | HABITAT REQUIREMENTS | POTENTIAL TO OCCUR IN THE STUDY AREA | RESULTS AND RECOMMENDATIONS |
|--------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| <i>Cypseloides niger</i> black swift | SSC | Summer resident with a fragmented breeding distribution; most occupied areas in California either montane or coastal. Breeds in small colonies on cliffs behind or adjacent to waterfalls, in deep canyons, and sea-bluffs above surf. Forages aerially over wide areas. No modern nesting records in Napa County. | No Potential. The Study Area does not contain waterfalls; there are no modern breeding records for Napa County (Smith 2003, Shuford and Gardali 2008). | Not Present. No further recommendations for this species. |
| <i>Dendroica 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 streams and associated dense riparian thickets (e.g., willow cover) favored by this species for breeding. Individuals presumably occur during migration. | Presumed Absent. No further recommendations for this species. |
| <i>Egretta thula</i> snowy egret | no status (breeding sites protected by CDFW) | Year-round resident. Nests colonially, usually in trees, at times in sequestered beds of dense emergent vegetation (e.g., tules). Rookery sites usually situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes. | Unlikely. The Study Area is not within close proximity to suitable waters to support a breeding colony. | Presumed Absent. No further recommendations for this species. |

| SPECIES | STATUS* | HABITAT REQUIREMENTS | POTENTIAL TO OCCUR IN THE STUDY AREA | RESULTS AND RECOMMENDATIONS |
|------------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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 recommendations 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 extensive marsh vegetation is present within the Study Area. | Presumed Absent. No further recommendations for this species. |
| <i>Haliaeetus leucocephalus</i> bald eagle | BGEPA, SE, SFP | Occurs year-round in California, but primarily a winter visitor; breeding population is growing. Nests in large trees in the vicinity of larger lakes, reservoirs, and rivers. Wintering habitat somewhat more variable but usually features large concentrations of waterfowl or fish. | Unlikely. Larger water bodies are not within or in close proximity to the Study Area. As per Smith (2003) and CDFW (2018a), nesting within Napa County is known only from the immediate vicinity of Lake Berryessa. | Presumed Absent. No further recommendations for this species. |

| SPECIES | STATUS* | HABITAT REQUIREMENTS | POTENTIAL TO OCCUR IN THE STUDY AREA | RESULTS AND RECOMMENDATIONS |
|---------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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 (eBlrd 2018). | Presumed Absent. No further recommendations for this species. |
| <i>Lanius ludovicianus</i> loggerhead shrike | SSC, LR | Year-round resident in open woodland, grasslands, savannah, and scrub. Prefers areas with sparse shrubs, trees, posts, and other suitable perches for foraging. Preys upon large insects and small vertebrates. Nests are well-concealed in densely-foliaged shrubs or trees. | Moderate Potential. The Study Area provides some suitable habitat elements. | 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>Laterallus jamaicensis coturniculus</i> California black rail | ST, SFP | Year-round resident in marshes (saline to freshwater) with dense vegetation within four inches of the ground. Prefers larger, undisturbed marshes that have an extensive upper zone and are close to a major water source. Extremely secretive and cryptic. | No Potential. The Study Area does not contain tidal or brackish marsh. Within Napa County, this species is restricted to baylands and the lower Napa River. | Not Present. No further recommendations for this species. |

| SPECIES | STATUS* | HABITAT REQUIREMENTS | POTENTIAL TO OCCUR IN THE STUDY AREA | RESULTS AND RECOMMENDATIONS |
|-------------------------------------------------------------------------|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| <i>Melospiza melodia samuelis</i> San Pablo song sparrow | SSC | Year-round resident of tidal marshes along the north side of San Francisco and San Pablo Bays. Typical habitat is dominated by pickleweed, with gumplant and other shrubs present in the upper zone for nesting. May forage in areas adjacent to marshes. | No Potential. The Study Area contains no tidal or brackish marsh and is outside of this species' limited Napa County range. | Not Present. No further recommendations for this species. |
| <i>Nycticorax nycticorax</i> black-crowned night heron | no status (breeding sites protected by CDFW) | Year-round resident. Nests colonially, usually in trees but also in patches of emergent vegetation. Rookery sites are often on islands and usually located adjacent to foraging areas: margins of lakes and bays. | No Potential. The Study Area and adjacent lands lack aquatic foraging habitat. | Not Present. No further recommendations for this species. |
| <i>Passerculus sandwichensis alaudinus</i> Bryant's savannah sparrow | SSC | Year-round resident associated with the coastal fog belt, primarily between Humboldt and northern Monterey counties. Occupies low tidally influenced habitats and adjacent areas, including grasslands. Also uses drier, more upland coastal grasslands. Nests near the ground in taller vegetation, including along levees and canals. | Unlikely. Grassland cover within the Study Area is patchy and larger contiguous areas are absent. | Presumed Absent. No further recommendations for this species. |

| SPECIES | STATUS* | HABITAT REQUIREMENTS | POTENTIAL TO OCCUR IN THE STUDY AREA | RESULTS AND RECOMMENDATIONS |
|-----------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| <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 2018). | Presumed Absent. No further recommendations for this species. |
| <i>Rallus obsoletus obsoletus</i> California Ridgway's (clapper) rail | FE, SE, SFP | Year-round resident in tidal marshes of the San Francisco Bay estuary. Requires tidal sloughs and intertidal mud flats for foraging, and dense marsh vegetation for nesting and cover. Typical habitat features abundant growth of cordgrass and pickleweed. Feeds primarily on mollusks and crustaceans. | No Potential. The Study Area does not contain tidal or brackish marsh. Within Napa County, this species is restricted to baylands and the lower Napa River. | Not Present. No further recommendations for this species. |

| SPECIES | STATUS* | HABITAT REQUIREMENTS | POTENTIAL TO OCCUR IN THE STUDY AREA | RESULTS AND RECOMMENDATIONS |
|-----------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| <i>Riparia riparia</i> bank swallow | ST | Summer resident in riparian and other lowland habitats near rivers, lakes and the ocean in northern California. Nests colonially in excavated burrows on vertical cliffs and bank cuts (natural and manmade) with fine-textured soils. 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 counties, portions of the north coast, and along Sacramento River from Shasta County south to Yolo County. | No Potential. The Study Area does not contain cliffs or cuts with fine-textured soils or any other potentially suitable nesting substrate. Not known to nest in Napa County as per Smith (2003). | Not Present. No further recommendations for this species. |
| <i>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 similar habitats with dense, mature brush. | Presumed Absent. No further recommendations for this species. |
| <i>Strix occidentalis caurina</i> northern spotted owl | FT,ST, SSC | Year-round resident in dense, structurally complex forests, primarily those with stands of mature conifers. In Napa County, uses both coniferous and mixed (coniferous-hardwood) forests. Nests on platform-like substrates in the forest canopy, including in tree cavities. Preys on mammals. | No Potential. The Study Area does not contain conifer or mixed broadleaf-conifer forest nor is any present in the immediate vicinity. | Not Present. No further recommendations for this species. |

| SPECIES | STATUS* | HABITAT REQUIREMENTS | POTENTIAL TO OCCUR IN THE STUDY AREA | RESULTS AND RECOMMENDATIONS |
|-----------------------------------------------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Xanthocephalus xanthocephalus</i> yellow-headed blackbird | SSC, LR | Summer resident. Breeds colonially in freshwater emergent wetlands with dense vegetation and deep water, often along borders of lakes or ponds. Requires abundant large insects such as dragonflies; nesting is timed for maximum emergence of insect prey. | No Potential. The Study Area lacks marsh vegetation suitable for nesting. | Not Present. No further recommendations for this species. |
| 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. | Unlikely. Mixed and coniferous forest is lacking and the Study Area's intermittent stream courses lack deeper perennial pools and other habitat elements. All of the documented occurrences in CNDDB are located west of Napa Valley (CDFW 2018). | Presumed Absent. No further recommendations for this species. |
| <i>Emys marmorata</i> Pacific (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. | High Potential. The man-made pond in the Study Area and adjacent to the Study Area may provide potential foraging habitat, while the adjacent uplands may provide nesting sites. The nearest documented occurrence in the CNDDB is from 5.9 miles to the south of the Study Area (CDFW 2018a). | Presence Unknown. Install exclusion fencing between the proposed grading limits and the stream/ponds and preconstruction survey by a qualified biologist should be performed. See Section 6.0 for details. |

| SPECIES | STATUS* | HABITAT REQUIREMENTS | POTENTIAL TO OCCUR IN THE STUDY AREA | RESULTS AND RECOMMENDATIONS |
|-----------------------------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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). | Moderate Potential. The intermittent stream contains substrate and boulders that may support foraging frogs; however, frogs would likely migrate downstream during the spring/early summer draw-down of this stream. Therefore, breeding is unlikely, but foraging may occur. The nearest documented occurrence in the CNDDB is from 6 miles to the south of the Study Area (CDFW 2018a). | Presence Unknown. If ground disturbance occurs after the stream has ceased flowing for the year, there are no further recommendations for this species. If ground disturbance during stream flows, a preconstruction survey by a qualified biologist should be performed. See Section 6.0 for details. |
| <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. | Moderate Potential. The man-made pond in the Study Area and adjacent to the Study Area may provide potential breeding habitat. Likewise, the intermittent stream may provide aquatic non-breeding (dispersal) habitat. The nearest documented occurrence in the CNDDB is from 5.9 miles to the south of the Study Area (CDFW 2018a). | Presence Unknown. Install exclusion fencing between the proposed grading limits and the stream/ponds and preconstruction survey by a qualified biologist should be performed. See Section 6.0 for details. |

| SPECIES | STATUS* | HABITAT REQUIREMENTS | POTENTIAL TO OCCUR IN THE STUDY AREA | RESULTS AND RECOMMENDATIONS |
|--------------------------------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| <i>Scaphiopus hammondi</i> western spadefoot | SSC | Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Shallow temporary pools formed by winter rains are essential for breeding and egg-laying. Range within Napa County is extremely restricted. | Unlikely. The Study Area lacks vernal pools and similar temporary water features; in Napa County the known range is restricted to a very small area in its eastern portion. | Presumed Absent. No further recommendations for this species. |
| Fishes | | | | |
| <i>Acipenser medirostris</i> green sturgeon | FT, SSC | Spawns in the Sacramento River and Klamath Rivers, at temperatures between 45-57 degrees F. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock. | No Potential. The Study Area does not contain suitable anadromous or estuarine waters. | Not Present. No further recommendations for this species. |
| <i>Eucyclogobius newberryi</i> tidewater goby | FE, SSC | Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches. Requires fairly still but not stagnant water and high oxygen levels. | No Potential. The Study Area does not contain brackish or ore estuarine waters. | Not Present. No further recommendations for this species. |

| SPECIES | STATUS* | HABITAT REQUIREMENTS | POTENTIAL TO OCCUR IN THE STUDY AREA | RESULTS AND RECOMMENDATIONS |
|---------------------------------------------------------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| <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 parts per thousand; most often at salinities <2 parts per thousand. | No Potential. The Study Area does not contain estuarine waters. | Not Present. No further recommendations for this species. |
| <i>Lampetra ayresi</i> river lamprey | SSC | Lower Sacramento River, San Joaquin River and Russian River. May occur in coastal streams north of San Francisco Bay. Adults need clean, gravelly riffles, Ammocoetes need sandy backwaters or stream edges, good water quality and temps <77 degrees F. | No Potential. The Study Area does not contain suitable anadromous or estuarine waters. | Not Present. No further recommendations for this species. |
| <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. There is a downstream reservoir that creates a passage barrier. | Not Present. No further recommendations for this species. |

| SPECIES | STATUS* | HABITAT REQUIREMENTS | POTENTIAL TO OCCUR IN THE STUDY AREA | RESULTS AND RECOMMENDATIONS |
|----------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| <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 >80 degrees F lethal to adults. | No Potential. The Study Area does not contain suitable anadromous or estuarine waters. There is a downstream reservoir that creates a passage barrier. | Not Present. No further recommendations for this species. |
| <i>Pogonichthys macrolepidotus</i> Sacramento splittail | SSC | Formerly endemic to the lakes and rivers of the Central Valley, but now confined to the Sacramento Delta, Suisun Bay and associated marshes. Occurs in slow-moving river sections and dead-end sloughs. Requires flooded vegetation for spawning and foraging for young. A freshwater species, but tolerant of moderate salinity (10-18 parts per thousand). | No Potential. The Study Area does not contain riverine or estuarine waters. | Not Present. No further recommendations for this species. |
| <i>Spirinchus thaleichthys</i> longfin smelt | FC, ST, SSC | Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15 to 30 parts per thousand, but can be found in completely freshwater to almost pure seawater. | No Potential. The Study Area does not contain riverine or estuarine waters. | Not Present. No further recommendations for this species. |

| SPECIES | STATUS* | HABITAT REQUIREMENTS | POTENTIAL TO OCCUR IN THE STUDY AREA | RESULTS AND RECOMMENDATIONS |
|-------------------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| Invertebrates | | | | |
| <i>Branchinecta lynchi</i> vernal pool fairy shrimps | FT | Endemic to the grasslands of the Central Valley, central coast mountains, and south coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools. | No Potential. The Study Area does not contain vernal pools or other suitable seasonal aquatic features (e.g., swales deep and ponded enough to support this species). | Not Present. No further recommendations for this species. |
| <i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle | FT | 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; CNDDB occurrences are restricted to its southeastern-most portion (CDFW 2018a). | Not Present. No further recommendations for this species. |
| <i>Speyeria callippe callippe</i> Callippe silverspot butterfly | FE | Two populations are recognized, on San Bruno Mountain and the Cordelia Hills. Host plant is golden violet (<i>Viola pedunculata</i>), which is found on serpentine soils. Most adults found on east-facing slopes; males congregate on hilltops in search of females. | No Potential. Violet was not observed within the Study Area during the site visit. Additionally, this species' known range with Napa County is restricted to the immediate vicinity of the Cordelia Hills. | Not Present. No further recommendations for this species. |

| SPECIES | STATUS* | HABITAT REQUIREMENTS | POTENTIAL TO OCCUR IN THE STUDY AREA | RESULTS AND RECOMMENDATIONS |
|----------------------------------------------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| <i>Syncaris pacifica</i> California freshwater shrimp | FE, SE | Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from main stream flow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water. | Unlikely. Although the Study Area contains an intermittent stream, this species is known from perennial streams. Additionally, the only documented occurrence in Napa County is from Huichica Creek in the southwest portion of the county (Marin and Wicksten 2004, CDFW 2018a). | Presumed Absent. No further recommendations for this species. |

***Key to status codes:**

| | |
|----------|-----------------------------------------------------------------------------------------------|
| FC | Federal Candidate for Listing |
| FE | Federal Endangered |
| BGEPA | Bald and Golden Eagle Protection Act Species |
| FT | Federal Threatened |
| LR | Locally Rare as per Napa County Baseline Report |
| SC (E/T) | State Candidate for Listing (Endangered/Threatened) |
| SE | State Endangered |
| SFP | State Fully Protected Animal |
| SR | State Rare |
| SSC | State Species of Special Concern |
| ST | State Threatened |
| 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



Non-native grassland in the central portion of the Study Area



Intermittent stream in central portion of the Study Area



Abandoned olive orchard in the southern portion of the Study Area



Blue oak woodland in the central portion of the Study Area

Appendix E

Statement of Qualifications

Appendix E. Statement of Qualifications

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

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

Jason Yakich, MS, Associate Wildlife Biologist with WRA, has nearly fifteen years of experience performing wildlife habitat assessments, biological monitoring for special-status wildlife species, breeding bird and other avian surveys, and protocol-level surveys for several special-status wildlife species. He prepares and oversees a variety of biological assessments and technical reports, and assures permit compliance for a wide array of public and private projects. Mr. Yakich has respective permit authorizations from the USFWS and CDFW to conduct active (call-playback) surveys for California clapper rail and California black rail. Mr. Yakich received his Bachelor of Arts in Biology from U.C. Santa Cruz, and received his Master of Science in Biology from San Francisco State University with a focus in marine biology.