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Biological Resources Assessment
JAMCAN Tentative Parcel Map
P19-00456-TPM

BIOLOGICAL RESOURCES ASSESSMENT

JAEGER PROPERTY

NAPA, CALIFORNIA

LSA

April 2, 2020

BIOLOGICAL RESOURCES ASSESSMENT

JAEGER PROPERTY

CITY OF AMERICAN CANYON

NAPA COUNTY, CALIFORNIA

Submitted to:

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Project No. JVD1801.1

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EXECUTIVE SUMMARY

This report identifies the existing biological resources for the Jaeger Property (Property) in southern Napa County, near the town of American Canyon (Figure 1). The primary focus of this assessment was to evaluate the potential impacts associated with subdividing the Property on special-status species, primarily the California red-legged frog (CRLF). The CRLF is federally listed as threatened and considered a Species of Special Concern by the California Department of Fish and Wildlife (CDFW). The subdivision of the Property will create three new parcels, each at least 160 acres in size and containing agricultural areas and a home site.

A 321-acre portion of the property is proposed for a conservation easement (CE) for the purpose of mitigating the impacts of the Watson Ranch Specific Plan (WRSP) Project in American Canyon. This mitigation includes permanently protecting the 321-acre eastern portion of the property (the "Conservation Area") with a CE to implement offside mitigation measures for the WRSP. Prior to conveying a CE on the Conservation area, the Property is proposed to be subdivided into three parcels. The Conservation Area will contain portions of two of these parcels. A Long-Term Management Plan, habitat establishment plans, and funding mechanism approved by the City and USFWS will provide compensatory mitigation for the CRLF. Funding for management shall include direct costs for initial establishment of the mitigation site, interim management, and establishment of a non-depleting endowment for the long-term maintenance, management, and monitoring of the Conservation Easement (CE). The Conservation Area will not include croplands or vineyards.

The general habitat of the Property is annual grassland with a few scattered woodlands. Grasslands are dominated by nonnative plants that respond to repeated disturbance such as grazing and burning. Riparian habitat is limited to riparian trees and shrubs growing along the main drainage in the center of the Property. Riparian species include willow (*Salix spp)* and blackberry (*Rubus armeniacus* and *R. ursinus*). Portions of the drainages contain plant species associated with year-round saturated soils, such as cattails (*Typha* spp.). These plants are strongly associated with aquatic habitat for CRLF. In the western portion of the property, vineyards and agricultural infrastructure are prevalent. Groves of native Coast live oak and California bay laurel woodlands are present on the property. Approximately 20 acres of woodland exist on the Property, split among four patches, each at least 800 feet from the other. With the exception of the above-mentioned drainage patters and intermittent stream channels, there are no wetlands, pond or other water features on the Conservation Area. During extensive wildlife and plant surveys from 2015 through 2019, no special status plants, animals, or sensitive natural vegetation communities known to occur in the area were observed. A follow-up survey of the 3 proposed homes site building envelopes and access roads was conducted on March 31, 2020. No special status plants, animals, or sensitive natural vegetation communities were observed in these areas.

Management of the Conservation Area within the portions of two of the proposed parcels will be governed by a Deed of Conservation Easement and a Long-Term Management Plan. Any future owners of the property will be required to manage the Conservation Area subject to the restrictions contained in these two documents. Furthermore, no development or agricultural activity aside from grazing will occur in the Conservation Area. The protection of the Conservation Area will have beneficial impacts, by creating secure permanently protected habitat, much of it being situated

within critical habitat for CRLF. The Deed of Conservation Easement and the associated Long-Term Management Plan will prescribe beneficial management and enhancements of habitat features for CRLF, such as ponds, riparian habitat and dispersal habitat. Virtually all life stages of CRLF will benefit from careful grazing management, which tends to increase biodiversity of grasslands and riparian habitats. While the Jaeger Property does not currently contain any suitable breeding habitat for CRLF, there are several old slumps along the drainages that in years past may have impounded water long enough to support breeding, an which could be enhanced to support breeding. Where necessary, breeding ponds should be equipped with water control structures that will allow periodic drawn down to control potential predators for CRLF (e.g., bullfrogs).

The proposed subdivision of the parcel and conveyance of a conservation easement, along with the long-term management of the Conservation Area is not expected to adversely impact species or habitats. Thus, there are no recommended mitigation measures to avoid, minimize, or offset potential project-related impacts to special-status plant and animal species, as well as buffers or avoidance areas to watercourse, wetlands and other aquatic resources.

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INTRODUCTION

This report identifies the existing biological resources for the Jaeger Property (Property) in southern Napa County, near the town of American Canyon (Figure 1). The purpose of this Biological Assessment is to determine whether there are significant biological resources which may be adversely affected by the proposed subdivision of the Jaeger Property into three lots and placement of a conservation easement over 321 acres. This report incorporates information to satisfy County of Napa requirements for both the Biological Resources Survey and the Special Status Plant Study.

BACKGROUND

The proposed Watson Ranch Specific Plan Project (WRSP) in American Canyon, Napa County requires offsite mitigation for the development of up to 1,253 residential units, a mixed use town center, a network of open space, parks, and trails, a new elementary school, and associated infrastructure including two offsite water tanks. The WRSP applicant has identified approximately 321 acres on the Jaeger Property for implementing off-site mitigation measures, northeast of the Specific Plan area.

LSA Associates, Inc. (LSA) has assessed the potential of a portion of the Jaeger Property in eastern Napa County to be used as habitat mitigation for development of the WRSP and the EIR identify the need to preserve and manage habitat for several species including CRLF, Swainson's hawk (*Buteo swainsoni*), Callippe silverspot butterfly (*Speyeria callippe callippe*), badger (*Taxidea taxus*), pond turtle (*Actinemys marmorata*), and possibly several other species. The EIR mitigation measures do not establish specific acreage requirements but set mitigation ratios based on certain assumptions and results of additional studies conducted prior to construction. In general, the EIR mitigation ratios are a minimum 1:1 (mitigation to impact) ratio. LSA also anticipates that the United States Fish and Wildlife Service (USFWS) will also require mitigation for impacts to CRLF as part of the federal permitting for the Watson Ranch project.

Prior to implementing the mitigation action for the WRSP project, a subdivision of the Property into three smaller parcels (each of at least 160 acres) is desired. Management of the Conservation Area within the portions of two of the proposed will be governed by a Deed of Conservation Easement and the associated Long-term Management Plan. Any future owners of the property will be required to manage the Conservation Area subject to the restrictions contained in these two documents.

LSA has evaluated the entire Property to address the potential impacts of the proposed subdivision, especially as they pertain to the CRLF. The CRLF is federally listed as threatened and considered a Species of Special Concern by the California Department of Fish and Wildlife (CDFW). LSA expects the CRLF be the primary driver for the acreage necessary for the habitat mitigation. Since the habitat needs of other species identified in the EIR substantially overlap with the upland habitat for CRLF, the suitability of the Property for CRLF is expected to satisfy the majority of the mitigation requirements for other species. Approximately 49 percent of the Property is within designated CRLF critical habitat.

PROJECT DESCRIPTION

The Property is located in the foothills on the eastern side of the Napa River Valley, as shown in Figure 1. The property is located east of Napa Junction and northeast of the WRSP Area in southern Napa County, California. The Property can be found on the U.S. Geological Survey [USGS] Cordelia 7.5 minute quadrangle, in the eastern ½ of Section 24, Township 4 North, Range 4 West and the western ½ of Section 19, Township 4 North, Range 3 West (centered approximately on UTM 4227196N/567453E). Access to the property is via State Highway 29 to Paoli Loop Road, to Watson Lane. Elevations range from about 200 feet NGVD (National Geodetic Vertical Datum) at the western edge of the property to approximately 870 feet on the top of a hill toward the eastern edge of the Property (Figure 1).

The 508-acre Property, including the proposed 321-acre Conservation Area is bounded on the west and north by active vineyards and agricultural lands while the eastern and southern boundaries abut Open Space that include Newell Ranch Open Space and the Watson Ranch Special Plan Area (Figure 2). Lands further to the east and south include Lynch Canyon Open Space and mitigation lands for the Newell Ranch development, American Canyon High School, and the I-80 HW 12 intersection (Ferrari Ranch).

The owners of the Property desire to subdivide the property into three parcels (Figure 2). Parcel 1 (160.54 acres) will contain agricultural and natural areas (but no Conservation Easement), while the majority of Parcel 2 (160.015 aces) and Parcel 3 (175.61 acres) will comprise each a portion of the 321-acre Conservation Area. Each parcel will have a designated building envelope and access road. All parcels contribute to the preservation of the area's agricultural soil productivity and allow for viable farming and ranching operations. This complies with the Napa County General Plan, Agricultural Preservation and Land Use policies. The 321-acre portion of the Property will be protected in perpetuity to implement offside mitigation measures for the WRSPP project. Management of the Conservation Area within the portions of two of the proposed parcels will continue to provide grazing opportunities.

Future work on the Conservation Area consists of the following elements:

- Implementation of compensatory mitigation measures on the Conservation Area, pursuant to the WRSPP environmental permits and regulatory agency requirements. Characteristics of the Jaeger Property make it an excellent location to establish breeding ponds for the CRLF. The development of breeding ponds for CRLF is part of the WRSPP mitigation strategy and involves restoring previous natural, ephemeral impoundments (with a sufficient hydroperiod to allow CRLF life cycle to complete). It is recommended that more than one pond is built.

- Preserving suitable habitat for foraging and nesting Swainson's hawk, badger, Western pond turtle, and Callippe silverspot butterfly.

- Habitat management pursuant to a Long-Term Management Plan, including grazing, habitat monitoring and general protection of the site from development, trespass, fire and other detrimental impacts.

METHODS

To determine which special-status plant and animal species could potentially occur on or in vicinity of the Property, LSA searched the California Natural Diversity Database (CNDDB) for records of special-status species and sensitive communities in the Cordelia and Cuttings Wharf 7.5-minute U.S. Geological Survey quadrangles (Quadcodes 38122-B3 and 38122-B2, respectively). The California Native Plant Society's (CNPS 2019) on-line database of special-status plants was also searched for special-status plant and sensitive plant community records in the two quadrangles.

LSA also reviewed the results of two CRLF assessments (2015, 2018) and botanical and wildlife surveys for the Project Site. This information was further supplemented and updated with information from the California Natural Diversity Database (CNDDB 2016) for all special-status species records, reports of CRLF status from other locations in Napa and Solano counties, and recent sightings by biologists working in Solano and Napa County. These information sources were used to identify known records of CRLF within 5 miles (8 km) of the Project Site. These records were digitized and analyzed relative to their proximity to the Project Site using a Geographical Information System (GIS) (Arcview 8.1).

Additional sources of site-specific information include the Watson Ranch EIR Biological Resources section and data gathered from various sources for the preparation of the WRSP. LSA also reviewed the results of three CRLF assessments and surveys for the WRSP Site. Field reconnaissance information for the Jaeger Property biological assessment was collected during site visits by LSA biologists in 2015 and 2018, 2019 and 2020 (Table A). The site visits consisted of walking the site while recording information on the vegetation communities and wildlife present, and searching for evidence of special-status species or habitats that could support them. Approximate survey areas are shown in Figure 5. Plants and animals observed during the survey were recorded in field notes; a list of encountered plant and animal species is presented in Appendix B.

Table A: Field survey dates, personnel and results, Jaeger Conservation Area, Napa County 2018-2020

Date	Type	Man hours	Personnel	Special Status Species observed?
4/2/2018	Wildlife	6.5	John Kunna, Senior Wildlife Biologist	None
4/26/2018	Botanical	7	Tim Milliken, Senior Botanist	None
6/6/2018	Botanical	12.5	Tim Milliken, Senior Botanist; Steve Kohlmann, PhD, Senior Wildlife Biologist	None
5/28/2019	Wildlife	7.25	Steve Kohlmann, PhD, Senior wildlife biologist	None
3/21/2020	Wildlife habitat	3.5	Steve Kohlmann, PhD, Senior wildlife biologist	None

LSA reviewed the relevant published literature regarding the life history, status, and habitat requirements for CRLF. Designated Critical Habitat was mapped using GIS shape files provided by the United States Fish and Wildlife Service (USFWS). Current and historical land use and vegetation

cover types were reviewed using Google Earth. Soil types on the property were mapped using the Natural Resource Conservation Service's online Web Soil Survey (Soil Survey Staff, 2019).

For the purpose of this Biological Resources Report, special-status species are defined as follows:

- Species that are listed, formally proposed, or designated as candidates for listing as threatened or endangered under the Federal Endangered Species Act (FESA).
- Species that are listed, or designated as candidates for listing, as rare, threatened, or endangered under the California Endangered Species Act (CESA).
- Plant species on Lists 1A, 1B and 2 in the CNPS *Inventory of Rare and Endangered Vascular Plants of California.*
- Animal species designated as Species of Special Concern or Fully Protected by the CDFG.
- Species that meet the definition of rare, threatened, or endangered under Section 15380 of the *CEQA Guidelines.*

The vegetation community descriptions and terminology used in this analysis are based on "A Manual of California Vegetation" (CNPS, 2015b) and Holland's "Preliminary Description of Terrestrial Natural Communities of California" (Holland, 1986). Plant taxonomy and nomenclature follows *The Jepson Manual (*Hickman 1993*).* Nomenclature for special-status plant and wildlife species follows the CNDDB. The vegetation classification system used to describe plant communities in this report are from CDFG's "List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Data Base" *(CDFW 2003).* Scientific names for bird species are not provided in the text since common names of birds are standardized in the American Ornithologists' Union "Check-list of North American Birds and supplements" (AOU 1998).

BIOLOGICAL SETTING

Napa County's Guidelines for Preparing Biological Resources Surveys require designating a Biological Resources Evaluation Area "including all lands within 1 mile of the boundaries of the parcel(s) involved plus the entire Napa County defined drainage within which the subject parcel(s) lies upstream of the project site". This section discusses the biological setting of the Project site, the methods used for analyzing biological resources, applicable regulations, and the existing site conditions.

GEOPHYSICAL LOCATION

Napa County is located at the convergence of the North Coast, Central Valley, and Central Coast ecoregions. The landscape is characterized by northwest trending mountains and valleys with elevations ranging from near sea level at San Francisco Bay to 4,000 feet on Mount Saint Helena. The climate of Napa County ranges from cool coastal areas to hot and dry areas inland. The project site lies within the southern Napa Valley, which is bordered on the north, east, and west by the California Costal Ranges and on the south by San Pablo Bay. The area has a Mediterranean climate, which is influenced by large hills to the east, the Napa River, numerous creeks, sloughs and tidal channels, and San Pablo Bay, which is located about 7 miles to the southwest. Elevations range from just above 200 ft to over 800 ft. Ridgelines are trending predominantly north to south. Slopes face primarily southwest and west, and can be steep (30 to 80%).The property contains structures including an old greenhouse, stockpiles of farm and vineyard equipment and materials, cattle pastures, and fenced irrigated vineyards.

HYDROLOGY

The Jaeger Property is located within the San Pablo Bay Watershed and the American Canyon Creek-Frontal San Pablo Bay Estuaries (HUC 12 180500020401). It contains no perennial streams. Approximately 3 km (1.8 miles) of intermittent streams are within the site, forming the upper reaches and tributaries to North Slough, which runs north of the project site and enters the Napa River west of American Canyon. Drainages are primarily trending north and west. In addition, the agricultural area (future Parcel 1) has ditches and other linear drainage features that are typical of agricultural operations.

GEOLOGY AND SOILS

The geology of the site includes early tertiary assemblages, such as Markley Sandstone and Jameson shale on hill slopes, and quarternary alluvial fan deposits in the drainages and floodplains. The primary soil type is Fagan Clay Loam, covering over virtually all of the Property. Along steeper slopes, slippage is frequent. The parent material consists of residuum weathered from sandstone and shale. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 60 inches. The natural drainage class is well drained and water movement in the most restrictive layer is moderately low. The soil's shrink-swell potential is high. There is no zone of water saturation within a depth of 72 inches and does not meet hydric criteria. Organic matter content in the surface horizon is about 2 percent and there are no saline horizons within 30 inches of the soil surface. The Property is within

the Fine Loamy (R015XD024CA) ecological site. The primary soil is a Fagan clay loam on steep slopes (Table 3); this soil has a high slippage potential. The soil map is shown in Figure 3.

Table B: Soil types of the Jaeger Property, Napa County, California

Map Unit Symbol	Map Unit Name	Acres	Percent
116	Clear Lake clay, drained, 0 to 2 percent slopes, MLRA 14	1.6	0.3%
131	Fagan clay loam, 5 to 15 percent slopes	13.3	2.6%
132	Fagan clay loam, 15 to 30 percent slopes	111.1	21.9%
134	Fagan clay loam, 30 to 50 percent slopes, slipped	382.0	75.2%
	Total	**508.0**	**100.0%**

GENERAL HABITAT DESCRIPTION

Napa County is located within the California Floristic Province; it is characterized by high natural level of biodiversity compared to California as a whole. The County's biodiversity provides valuable ecosystem services (e.g., food, fiber, clean air and water, pollination, nutrient cycles, primary production) and critical social functions (recreation, spiritual and aesthetic values, scenic views). Southern Napa County is primarily characterized by agriculture, interspersed within expansive grasslands and savannah-like oak woodlands, mostly in remnant patches.

The general habitat at the project site is annual grassland with a few scattered woodlands. Riparian habitat is very limited. In the western portion of the property, vineyards and agricultural infrastructure are prevalent. Figure 4 presents the project area and shows the natural vegetation communities that exist within its boundaries. Vegetation communities are assemblages of plant species that occur together in the same area and are defined by species composition and relative abundance.

Annual Grassland

The primary natural habitat of the area is annual grassland, i.e., vegetation communities composed primarily of annual plant species. Native grasslands at this site likely consisted of climax stands of perennial bunchgrasses, such as purple needle grass (Bartolome and Gemmill, 1981). Although annual grasslands are a result of invasion by non-native species introduced by Europeans, these can now be considered climax communities (Heady et al., 1977), because they effectively prevent the reestablishment of native species. Today, introduced annuals are considered naturalized plant species and are managed accordingly. Structure and species composition is greatly influenced by seasonal and annual fluctuations in rainfall patterns. As soon as the first fall rains exceed about 0.5, annuals begin to grow, first slowly during the winter and rapidly with spring rains. Plant composition changes throughout the growing season as different species germinate, mature and seed out at different times of the year. Moderate levels of livestock grazing are considered beneficial in annual grasslands, as grazing tends to control tall, dense stands of grasses. Residual dry matter (RDM) during summer can be high in years of abundant rainfall and light to moderate grazing pressure. Rangeland productivity ranges from 1,600 lbs./ac to over 3,200 lbs./ac, averaging 2,500 lbs./ac in normal years.

Grasslands on the Project site are dominated by aggressively-growing, nonnative plants that respond to repeated disturbance such as grazing and tilling. These include non-native annual grasses and few non-native herbaceous forbs. Dominant plant species include soft chess (*Bromus hordeaceous*), burclover (*medicago polymorpha*), stork's bill (*erodium spp*.), wild oat (*Avena fatua*), blue wildrye (*Elymus glaucus*), California brome (*Bromus carinatus*), purple needlegrass (*Stipa pulchra*), red brome (*Bromus madritensis*), ripgut brome (*Bromus hordaeceous*), Italian ryegrass (*Festuca perennis*), and hare barley (*Hordeum murinum* var. *leporinum*). Perennial grasses (e.g., wild rye, purple needdlegrass) are more common on sites with northerly exposure. Herbaceous forbs include California burclover (*Medicago polymorpha*), cutleaf geranium (*Geranium dissectum*), star-thistles (*Centaurea* spp.), wild radish (*Raphanus sativa*), black mustard (*Brassica nigra*), Italian thistle (*Carduus pycnocephalus*), filaree (*Erodium cicutarium*) and uncommonly, California poppy (*Eschscholzia californica*), California buttercup (*Ranunculus californica*), and dove lupine (*Lupinus bicolor*).

Non-native annual grasslands support a generally low diversity of wildlife, which is typical for much of the study area. Many wildlife species use both native and non-native grasslands for refugia, foraging, and nesting materials. Amphibians in this community include CRLF, western toad (*Anaxyrus boreas*), Sierra treefrog (*Pseudacris sierra*), and California slender salamander (*Batrachoseps attenuatus*). Common reptiles in Napa grassland habitats include western fence lizard (*Sceloporus occidentals*), western skink (*Plestiodon skiltonianus*), gopher snake (*Pituophis catenifer*), and western rattlesnake (*Crotalus oreganus*), which are often found in association with woody debris or rocks. Coyote (*Canis latrans*), blacktail jackrabbit (*Lepus californicus*), Audubon's cottontail (*Sylvilagus audubonii*), California ground squirrel (*Otospermophilus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*) are common. Small rodents provide prey for mammalian predators and raptors (birds of prey), including red-tailed hawk (*buteo jamaicanus*), American kestrel (*Falco sparverius*), white-tailed kite (*Elanus leucurus*), barn owl (*Tyto alba*) and northern harrier (*Circus hudsonius*). Birds that nest and forage locally in grasslands include western meadowlark (*Sturnella neglecta*), red-winged blackbird (*Agelaius phoeniceus*), loggerhead shrike (*Lanius ludovicianus*) and song sparrow (*Melospiza melodia*). Principal game species in this habitat type include blacktail deer (*Odocoileus hemionus*), California quail (*Callipepla californica*) and mourning dove (*Zenaida macroura)*.

Cultivated/Agricultural

Agricultural land cover types make up approximately 68 acres (14 percent) of the Property and are exclusively located in the western portions of the Project site. Agricultural lands within the Property include vineyards, a 1-acre farmstead, and associated farm roads, fences, and ditches. Ruderal species commonly occurring in this habitat type include slender wild oats, ripgut brome, redstem filaree, wild radish, and vetches (*Vicia spp*.). These areas are generally considered to be of low value for wildlife; however, seed-eating birds and raptors as well as more common wildlife (such as coyote, striped skunk, mice, lizards, and avian species) may use these lands for foraging and movement.

Riparian

A 4-acre strip of non-native eucalyptus runs along the north-eastern border, extending approximately 1,500 feet along the intermittent portion of North Slough. The trees in this area were presumably planted along the ranch road as a windbreak.

Higher up in the same drainage, the vegetation consists of riparian trees and shrubs, such as willow (*Salix spp.)* and blackberry (*Rubus armeniacus* and *R. ursinus*), and portions of the drainages contain plant species associated with year-round saturated soils, such as cattails (*Typha spp*.). These plants are strongly associated with aquatic habitat.

Within the southern portion of Parcel 1, a seep is located under a topped redwood tree and a large willow. This site is likely influenced by irrigation water draining from a 9.0-acre vineyard block to the northeast, and a 15.2-acre vineyard block to the southeast. Proposed access roads and building envelopes have been designed to avoid this site.

Woodlands

Groves of oak/bay woodland and planted eucalyptus are present on the property. Approximately 20 acres of woodland exist on the property, split among four patches, each at least 800 feet from the other:

- The largest patch of native woodland is 12.2 acres and centrally located in Parcel 2 within the Conservation Area. The roughly L-shaped patch consists of approximately seventy percent mature coast live oak trees (*Quercus agrifolia*). The remainder are predominantly mature California bay laurel (*Umbellularia californica*). Understory is primarily blackberry (*Rubus spp*.)

- A small 1.7-acre patch of native woodland is located in Parcel 3 within the Conservation Area to the east of the central wooded area. This patch has approximately 65% of coast live oak and 35% California bay laurel.

- A woodland consisting primarily of non-native eucalyptus trees is within Parcel 1, near the farmstead. This woodland measures approximately 4.9 acres and is located in the upper reach of a small watershed. In the past, the site is said to have harbored a nesting eagle pair, but that information could not be verified during field visits.

- A row of planted eucalyptus (approximately 150 ft. wide and 1500 ft. long along the Property boundary to the northeast, partly containing the tributary drainage to North Slough. This woodlot abuts riparian vegetation to the south, continuing along the same drainage.

All of the woodlands provide nesting habitat for large raptors, including owls. A pair of red-tailed hawks was observed nesting in the trees near the farmstead. A golden eagle was observed perched in the eucalyptus grove at the northern property border, and golden eagles are often seen hunting in the area.

Wetlands

With the exception of the above-mentioned drainage patters and intermittent stream channels, there are no wetlands, pond or other water features on the Conservation Area. There are irrigation and conveyance ditches in the agricultural fields, but they do not hold water long enough for CRLF to complete their metamorphosis. Implementing the compensatory mitigation for CRLF entails the development of a Long-Term Management Plan and breeding pond habitat development for CRLF.

Connectivity

Habitat connectivity of the Jaeger Property is high towards the east, due to the virtual absence of man-made barriers and obstructions. The essentially contiguous habitat area bordered by State Highway 12 to the north, Interstate 80 to the east and American Canyon road to the south lies within the designated Critical Habitat Unit SOL-3. A portion of this designated critical habitat unit includes eastern portions of the property (Figure 2). Approximately 90.0 acres and 159.25 acres of critical habitat are included in parcel 2 and 3, respectively.

SPECIAL STATUS SPECIES

"Special-status species" are named as such because of their recognized rarity or vulnerability to habitat loss or population decline. Some of these species receive specific protection from federal or state endangered species legislation. Other species have been designated as "sensitive" on the basis of the following: adopted policies and expertise of state resource agencies; organizations with acknowledged expertise; or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. In addition, the CDFW has identified "Sensitive Natural Communities" based on standardized scoring of their rarity and threats to these communities. Natural Communities with ranks of S1-S3 are considered Sensitive Natural Communities to be addressed in the environmental review processes of CEQA and its equivalents.

The USFWS estimates that 13 endangered species and 1 critical habitat are potentially affected by activities at the project site (Appendix A, USFWS letter). In addition, a focused database and literature search identified 39 special-status plants and 19 special-status wildlife species with known occurrences near the project area. Table 3 lists these species, their general habitat requirements, and the potential for occurrence on the study area and project area. Many of the special-status species identified by database searches are associated with marsh habitats or other specialized natural communities, which do not occur within the study area or project area. These species have little to no potential for occurrence and are not considered further in this analysis. LSA conducted rare plant surveys of the Property in May and June of 2018 but did not identify any special-status plants.

Table C: Special-Status Species Potentially Occurring At The Jaeger Property, Napa County, California

S	Listing Status USFWS/ CDFW/CNPS	General Habitat Requirements	Potential for Species Occurrence Within the Project Area
Invertebrates			
Vernal pool fairy shrimp *Branchinecta lynchi*	FT/--	Central valley grasslands, Central Coast mountains, South Coast mountains in rain-fed pools.	**Absent.** Known only from one location in Napa County at the airport, outside the study area. Next nearest occurrence is in Solano County. No suitable habitat is present in the project area.
California freshwater shrimp *Syncaris pacifica*	FE/CE	Found in low-elevation, low gradient perennial freshwater streams in Sonoma, Marin and Napa Counties where banks are structurally diverse with undercut banks, exposed roots, or overhanging woody debris or vegetation.	**Absent.** No suitable aquatic habitat that would support this species.
Callippe silverspot butterfly *Speyeria callippe callippe*	FE/--	Restricted to the northern coastal scrub of the San Francisco peninsula. Host plant *Viola pedunculata.*	**Low-Moderate.** A butterfly assessment did not observe this species or its host plant, *viola pedunculata*.
San Bruno Elfin Butterfly Callophrys mossii bayensis	FE/--	Relic distribution around San Bruno Mtn, San Mateo County.	**Absent.** No suitable habitat is present in the project area.
Fish			
Delta smelt *Hypomesus transpacificus*	FT/CT	Found in large, main channels and open areas of the Bay. Occur from tidal freshwater reaches of the Delta west to eastern San Pablo Bay.	**Absent.** No suitable aquatic habitat that would support this species.
Amphibians			
California red-legged frog *Rana draytonii*	FT/CSC	Breed in stock ponds pools, and slow-moving streams.	**High. Portions of the property** is within CRLF critical habitat and supports suitable upland habitat. Nearest occurrence of CRLF 0.07 miles to the southeast.
Foothill yellow-legged frog *Rana Boylii*	CSC	Brreeds in small streams, needs moving water.	**Absent.** No suitable habitat in the project area.

S	Listing Status USFWS/ CDFW/CNPS	General Habitat Requirements	Potential for Species Occurrence Within the Project Area
Reptiles			
Giant Garter Snake *Thamnophis gigas*	FT/CT	Largely aquatic snake, found in wetlands and cultivated rice fields of the central valley.	**Absent.** No suitable habitat in the project area. Outside of known range.
Western pond turtle Actinemys marmorata	FC/CSC	Lakes, ponds reservoirs, and slow-moving streams and rivers, primarily in foothills and lowlands.	**Low**. No suitable aquatic habitat within the project area, but possible suitable habitat within the nearby tributaries to Newell Creek.
Birds			
Tricolored blackbird *Agelaius tricolor*	FC/CC	Scattered breeding locations in Sonoma County. Found among red-winged blackbird colonies. Nests in tall freshwater emergent marsh or weedy vegetation, brambles. Requires large foraging areas.	**Absent (nesting)**. No suitable habitat within the project area.
Swainson's hawk *Buteo swainsoni*	--/CT	Breeds in grasslands with scattered trees, riparian areas, savannahs.	**Low (nesting)**. The project area provides suitable foraging habitat, and few mature trees that may provide limited nesting potential.
Western snowy plover *Charadrius alexandrinus nivosus*	FT/CSC	Nests inland on salt pond levees and other open areas with sandy substrate and sparse vegetation.	**Absent.** No suitable salt pond or sandy habitat is present on within the project area.
California black rail *Laterallus jamaicensis coturniculus*	--/CT	Occurs in salt and brackish marshes, also freshwater marshes at low elevations.	**Absent.** There is no suitable marsh habitat within the project area.
California clapper rail*Rallus longirostris obsoletus*	FE/CE	Occurs in salt marshes and tidal sloughs. Requires tidal mudlfats for foraging habitat. Prefers cordgrass for cover and nesting, but can be occasionally found in bulrush and cattails.	**Absent.** There is no suitable marsh habitat within the project area.
Bank swallow *Riparia riparia*	--/CT	Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	**Low (nesting)**. There is no suitable nesting habitat within the project area.

S	Listing Status USFWS/ CDFW/CNPS	General Habitat Requirements	Potential for Species Occurrence Within the Project Area
Mammals			
Salt marsh harvest mouse *Reithrodontomys raviventris*	FE/CE	Tidally-influenced salt marshes with dense pickleweed and upland transitional vegetation.	**Absent.** There is no suitable marsh habitat within the project area
Pallid bat *Antrozous pallidus*	--/CSC	Day roosts are mainly in caves, crevices and mines; also found in buildings and under bark. Forages in open lowland areas.	**Moderate (roosting).** Potential habitat in mature trees, buildings nearby.
Townsend's big-eared bat Corynorhinus townsendii townsendii	--/CC	Forages in a variety of habitats; prefers mesic sites. Roosts in caves, mines, tunnels and buildings.	**Low (roosting).** The project area does not provide suitable roosting habitat.
Big free-tailed bat *Nyctinomops macrotis*	--/CSC	Need high cliffs or rocky outcrops for roosting sites.	**Low (roosting).** No suitable habitat exists within the project area. Only a single regional occurrence is documented in Martinez in 1979.
Suisun shrew *Sorex ornatus sinuosus*	FSC/CSC	Upper edges of tidal marshes within northern shores of San Pablo and Suisun Bays.	**Absent.** The project area is outside the known range and does not provide suitable habitat.
American badger *Taxidea taxus*	--/--/CSC	Prefers dry, open areas with friable soils.	**Low to Moderate.** The project area provides limited habitat suitability. No sandy loam soils identified within the area.
Plants			
Tiburon paintbrush *Castilleja affinis* spp. *neglecta*	FE/CT/1B	Valley and foothill grassland in serpentine soils.	**Low.** Last occurrence recorded in 1998. There is no serpentine habitat within the project area.
Showy rancheria clover *Trifolium amoenum*	FE/--/1B	Valley and foothill grassland, coastal bluff scrub.	**Low.** Was considered extinct until 1993, discovered in 1996 in Dillon Beach, Marin County, on privately-owned property.
Napa false indigo *Amorpha californica var. napensis*	FSC/--/1B	Openings in broadleafed forest, chaparral, cismontane woodland.	**Absent**. No suitable habitat onsite.
Alkali milk-vetch *Astragalus tener* var. *tener*	FSC/--/1B	Alkali playa, valley and foothill grassland, vernal pools.	**Low.** The project area provides limited habitat suitability.

S	Listing Status USFWS/ CDFW/CNPS	General Habitat Requirements	Potential for Species Occurrence Within the Project Area
San Joaquin spearscale *Atriplex joaquiniana*	FSC/--/1B	Valley and foothill grassland, alkali meadow, chenopod scrub.	**Low**. The project area is not known to support alkali soils preferred by this species.
Vernal pool smallscale *Atriplex persistens*	--/--/1B	Vernal pools.	**Absent.** No suitable vernal pool habitat onsite.
Big-scale balsamroot *Balsamorhiza macrolepis* var. *macrolepis*	--/--/1B	Valley and foothill grassland, cismontane woodland.	**Low.** Occurrence data indicates observations less than one mile south of project area.
Big tarplant *Blepharizonia plumosa*	--/--/1B	Valley and foothill grassland.	**Low**. Closest occurrence is documented in Benicia.
Narrow-anthered brodiaea *Brodiaea leptandra*	--/--/1B	Openings in broad leafed forest, chaparral, lower montane coniferous forest.	**Low**. The project area provides limited habitat suitability.
Mt. Diablo fairy-lantern *Calochortus pulchellus*	--/--/1B	Cismontane woodland, riparian woodland, valley and foothill grassland, and chaparral.	**Low**. The project area provides limited habitat suitability.
Holly-leaved ceanothus *Ceanothus purpureus*	--/--/1B	Chaparral, rocky volcanic slopes.	**Absent**. No suitable habitat onsite.
Congdon's tarplant *Centromadia parryi* spp. *congdonii*	--/--/1B	Valley and foothill grassland with alkaline soils.	**Low**. The project area provides limited habitat suitability.
Pappose tarplant *Centromadia parryi* spp. *parryi*	--/--/1B	Coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland.	**Low**. The project area provides limited habitat suitability
Western leatherwood *Dirca occidentalis*	--/--/1B	Broad leafed upland forest, chaparral, conifer forest, cismontane woodland, and riparian woodland.	**Absent.** No suitable habitat onsite.
Dwarf downingia *Downingia pusilla*	--/--/2	Mesic grasslands, vernal pools. Known to occur in Napa, Sonoma and Solano counties.	**Low**. The project area provides limited habitat suitability.
Greene's narrow-leaved daisy *Erigeron greenei*	--/--/1B	Found in serpentine soils on dry slopes among chaparral.	**Absent.** No suitable habitat onsite.

S	Listing Status USFWS/ CDFW/CNPS	General Habitat Requirements	Potential for Species Occurrence Within the Project Area
Tiburon buckwheat *Eriogonum luteolum* var. *caninum*	--/--/1B	Found in sandy or gravelly serpentine soils of chaparral, coastal prairie, cismontane woodland, and valley and foothill grasslands.	**Low**. The project area provides limited habitat suitability.
Mt. Diablo buckwheat *Eriogonum truncatum*	--/--/1B	Found in chaparral, coastal scrub, and valley and foothill grassland.	**Low**. The project area provides limited habitat suitability.
Fragrant fritillary *Fritillaria liliacea*	FSC/--/1B	Found in loamy clay soils of open grassland; rocky soils; coastal scrub. Often associated with vernal pools and mima mounds.	**Low**. The project area provides limited habitat suitability
Woolly-headed gilia *Gilia capitata ssp. tomentosa*	--/--/1B	Found in serpentinite, rocky, outcrops, and coastal bluff scrub.	**Absent.** No suitable habitat onsite.
Diablo helianthella *Helianthella castanea*	--/--/1B	Found in broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley & foothill grassland.	**Low**. The project area Provides Limited Habitat suitability.
Brewer's western flax *Hesperolinon Breweri*	--/--/1B	Found in grassy or brushy slopes with serpentine soils along the inner Coast Ranges. Associated with chaparral; prefers shade.	**Absent**. No suitable habitat onsite.
Santa Cruz tarplant *Holocarpha macradenia*	--/--/1B	Found in clay or sandy soils in coastal prairie, coastal scrub, and valley and foothill grassland.	**Low**. The project area provides limited habitat suitability.
Carquinez goldenbush *Isocoma arguta*	--/--/1B	Found in valley and foothill grassland.	**Low**. The project area provides limited habitat suitability.
Northern California black walnut *Juglans hindsii*	--/--/1B	Found in riparian forest, and riparian woodland.	**Absent.** No suitable habitat onsite.
Delta tule pea *Lathyrus jepsonii* var. *jepsonii*	FSC/--/1B	Found in the freshwater marshes of Suisun and San Pablo Bays.	**Absent.** No suitable marsh habitat.
Legenere *Legenere limosa*	--/--/1B	Vernal pools.	**Absent.** No suitable vernal pool habitat.
Jepson's leptosiphon *Leptosiphon jepsonii*	--/--/1B	Openings in chaparral, cismontane woodland (usually volcanic or periphery of serpentinite).	**Absent.** No suitable habitat onsite.

S	Listing Status USFWS/ CDFW/CNPS	General Habitat Requirements	Potential for Species Occurrence Within the Project Area
Mason's lilaeopsis *Lilaeopsis masonii*	FSC/--/1B	Freshwater marshes, brackish flats, and coastal salt marshes.	**Absent.** No suitable marsh habitat onsite.
Delta mudwort *Limosella australis*	--/--/2B	Riparian scrub, freshwater marsh, brackish marsh. Usually on mud banks of the Delta in marshy or scrubby riparian associations.	**Absent.** No suitable marsh habitat onsite.
California beaked-rush *Rhynchospora californica*	--/--/1B	Lower montane coniferous forest, in meadows, seeps, bogs, marshes, and swamps.	**Absent.** No suitable habitat onsite.
Chaparral ragwort *Senecio aphanactis*	--/--/2B	Chaparral, cismontane woodland, coastal scrub.	**Absent.** No suitable habitat onsite.
Napa checkerbloom *Sidalcea hickmanii* ssp. *napensis*	--/--/1B	Chamise chaparral in rhyolitic volcanic soil.	**Absent.** No suitable habitat onsite.
Marin checkerbloom *Sidalcea hickmanii* ssp. viridis	--/--/1B	Found in serpentinite chaparral.	**Absent.** No suitable habitat onsite.
Slender-leaved pondweed *Stuckenia filiformis* ssp. *alpina*	--/--/2B	Found in marshes and swamps.	**Absent.** No suitable marsh habitat onsite.
Suisun marsh aster *Symphyotrichum lentum*	--/--/1B	Brackish and freshwater marshes and swamps.	**Absent.** No suitable marsh habitat onsite.
Napa bluecurls *Trichostema ruygtii*	--/--/1B	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland and vernal pools.	**Absent.** No suitable vernal pool habitat onsite.
Saline clover *Trifolium hydrophilum*	--/--/1B	Valley and foothill grassland, marshes and swamps, vernal pools.	**Low**. The project area provides limited habitat suitability.
Oval-leaved viburnum *Viburnum ellipticum*	--/--/2	Openings in chaparral, cismontane woodland, lower montane coniferous forest.	**Absent.** No suitable vernal pool habitat onsite.

S	Listing Status USFWS/ CDFW/CNPS	General Habitat Requirements	Potential for Species Occurrence Within the Project Area
Critical habitat			
California red-legged frog *Rana draytonii*	Final	Breed in stock ponds pools, and slow-moving streams.	CRLF critical habitat designated and covering approximately 80% of the Conservation Area.

STATUS CODES:

FEDERAL: (U.S. Fish and Wildlife Service)
FE = Listed as Endangered (in danger of extinction) by the Federal Government.
FT = Listed as Threatened (likely to become Endangered within the near future) by the Federal Government.
FC = Candidate to become a proposed species.
FSC = Federal Species of Concern. May be Endangered or Threatened, but not enough biological information has been gathered to support listing at this time.

STATE: (California Department of Fish and Game
CE = Listed as Endangered by the State of California
CT = Listed as Threatened by the State of California
CSC = California Species of Special Concern
CR = California Rare

California Native Plant Society Rare Plant Inventory
Rank 1A: Plants Presumed Extinct in California
Rank 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
Rank 2: 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
CC = State Candidate for listing as an Endangered Species
SOURCE: CNPS, 2015a; CDFW, 2016; USFWS, 2015.

FIELD SURVEY RESULTS

Vegetation

LSA conducted two rare plant surveys in 2018, one on April 26 and one on June 6. No rare plants were observed. In addition, two focused surveys for CRLF were conducted in 2015 and 2018, and a general wildlife habitat and rangeland surveys were conducted in 2019. In addition, a biological reconnaissance survey was conducted on March 20, 2020 of the building envelopes and proposed access roads. See Figure 5 for approximate survey routes.

Sensitive Natural Communities

The California Department of Fish and Wildlife recognizes 21 sensitive biotic communities in the County including native grassland, serpentine chaparral, riparian forest, and cypress woodland. Several of these sensitive natural communities are considered important to protect because of their relatively limited extent in the County and their importance to a large number of special-status plant and/or wildlife species. Purple needlegrass alliance grassland is a California sensitive natural community (CDFW rank S3). It was previously assumed to be a climax species in California's valley and coastal grasslands prior to European settlement. However, Holstein (2001) suggest that Creeping wild (beardless) rye (*Leymus triticoides*) may have been more dominant on heavier clays, while purple needlegrass was the dominant grass in more sandy areas. Small, scattered individuals of purple needle grass were verified during field surveys of the Jaeger Property. No sensitive natural vegetation communities known to occur in the area were observed.

Callippe Silverspot Butterfly

Callippe silverspot butterfly (*Speyeria callippe callippe*) is a federal endangered species. It has no state status. The species is found in native and non-native annual grassland habitats that support its host and food plants. Ridgelines and hilltops within grassland habitats are an important habitat component for this butterfly species, as these features are utilized for mate selection. The flight season for adult Callippe silverspots is typically from mid-May to mid-July. Female Callippe silverspots lay their eggs on Johnny jump up (*Viola pedunculata*) plants which provide the exclusive feed source for larvae. Adult nectar plants include Italian thistle (*Carduus pycnocephala*), milk thistle (*Silybum marianum*), bull thistle (*Cirsium vulgare*), California buckeye (*Aesculus californica*), and coyote mint (*Monardella villosa*), which occur on the Jaeger property. The Callippe silverspot butterfly is known from 14 historic populations in the San Francisco Bay region. There is one record in the Cordelia Hills between Vallejo and Cordelia, located approximately 4 miles southeast of the Project site (Occ. #14, CDFW, 2016), and the species is known to occur and reproduce at King Ranch in Solano County (6.6 miles southeast). Host plants for this species do not occur in the Property. Based on the results of LSA's field surveys, breeding habitat for Callippe silverspot is not present at the Jaeger Property but the butterfly could still use the ridgeline area for movement. No Callippe Silverspot butterflies were observed during numerous site visits by biologists.

Western Pond Turtle

The western pond turtle is a California species of special concern and impacts to the species would be considered significant under CEQA. Western pond turtle are largely aquatic, but require grasslands or oak woodlands near their aquatic habitats to build nests and lay eggs. Hatchlings

require dense vegetation mats for cover from predation; the presence of bullfrogs and predatory fish usually precludes successful recruitment in Western pond turtle populations. This long-lived species can persist for many years without recruitment. Habitat loss and egg and hatchling predation by non-native predators are the main reasons for the species' decline. Once the CRLF breeding ponds have been constructed in the Conservation Area, the Property is a potentially suitable release site for turtles removed and relocated from the WRSP area. No Western pond turtle individuals were observed on the Conservation Area.

California Red-Legged Frog

Habitat Requirements

CRLF require a moist environment for breeding, foraging, and estivating during the coldest months of the winter. Standing water must be available long enough for eggs to hatch and tadpoles to metamorphose. Emergent aquatic and shoreline vegetation is used for cover during breeding and foraging activities. CRLF habitat consists of quiet pools in streams, marshes, and occasionally ponds. The CRLF is threatened by habitat loss due to development, urbanization, agriculture, overgrazing, invasive species, stream diversions, pollution and predation by non-native species.

The USFWS has categorized the physical and biological feature necessary to conserve the frog. The USFWS defines these features as "primary constituent elements", or elements of habitat that are essential to the conservation of the species (i.e., those habitat components that are essential for the primary biological needs of foraging, sheltering, breeding, maturation, and dispersal). The USFWS (2010) has defined the primary constituent elements for CRLF as:

- Aquatic Breeding Habitat, standing bodies of fresh water (with salinities less than 4.5 parts per thousand), including natural and manmade (e.g., stock) ponds, slow-moving streams or pools within streams, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in all but the driest of years;

- Aquatic Non-Breeding Habitat, freshwater pond and stream habitats that may not hold water long enough for the species to complete its aquatic life cycle but which provide for shelter, foraging, predator avoidance, and aquatic dispersal of juvenile and adult CRLF. Other wetland habitats considered to meet these criteria include, but are not limited to: plunge pools within intermittent creeks, seeps, quiet backwaters within streams during high water flows, and springs of sufficient flow to provide mesic surface conditions during dry periods;

- Upland Habitat, upland areas adjacent to or surrounding breeding and non-breeding aquatic and riparian habitat up to a distance of 1 mile (1.6 km) in most cases (i.e., depending on surrounding landscape and dispersal barriers) including various vegetation types such as grassland, woodland, forest, wetland, or riparian areas that provide shelter, forage, and predator avoidance for the CRLF; and;

- Dispersal Habitat, accessible upland or riparian habitat within and between occupied or previously occupied sites that are located within 1 mile of each other, and that support movement between such sites.

California Red-legged Frog Observations and Records

No CRLF were observed on the Jaeger Property during any of the site visits conducted from 2015 through 2019.

Records Within one mile of the Jaeger Property. On July 10, 2006, a single CRLF was observed in a cement-lined cistern/pit within the quarry ruins on the Watson Ranch Project Site. This observation was reported to the CNDDB and is recorded as CRLF occurrence Number 896. This occurrence represent the observation is of a single, adult frog within an atypical habitat area, and was approximately 0.5 mile south of the southern boundary of the Jaeger Property. There have been three separate USFWS protocol-level surveys for CRLF conducted for the nearby Watson Ranch property during the past seventeen year period. No tadpoles or frogs have been observed on the site during any of the other surveys in 1999, 2005, 2006, or 2013 (see Watson Ranch Specific Plan Area EIR, ESA 2018).

On August 4, 2008, a single CRLF was observed in a small side pool in North Slough Creek, approximately 1200 feet west of the edge of the Jaeger Property (CNDDB 2016). This observation has been reported to the CNDDB and is recorded as CRLF occurrence Number 1062. The report of this occurrence states that the pond upstream of where the frog was seen contains "good quality breeding habitat." This pond is located approximately 500 feet east of the northern corner of the Jaeger Property.

Between 1996 and 2007, numerous tadpole and adult CRLF were observed approximately 0.9 mile south of the southern boundary of the Jaeger Property (CNDDB 2016). These observations have been reported to the CNDDB and are recorded as CRLF occurrence Number 228. This land (Newell Open Space) is now protected for the CRLF as well as the endangered Callippe Silverspot butterfly. The most recent surveys of the area in the summer of 2015 detected juvenile CRLF, indicating the species successfully bred there the previous year.

American Canyon / Napa Junction Vicinity.CRLF have been documented within the hills lying east of American Canyon and Vallejo (CNDDB 2016). CRLF have been reported from approximately 14 locations in the hills in western Solano County and southeastern Napa County, including 1) just north of Hwy 12 in Jameson Canyon; 2) the Napa Junction area; 3) around and within Page Flat in Sky Valley; 4) the Rindler Creek area just north of Cummings Skyway; and 5) several locations just west of Interstate 680.

The essentially contiguous habitat area bordered by State Highway 12 to the north, Interstate 80 to the east and American Canyon road to the south lies within the designated Critical Habitat Unit SOL-3[1]. A portion of this designated critical habitat unit includes eastern portions of the property (Figure 2).

[1] Note: The boundaries of Unit SOL-3 extend slightly north of a State Highway 12 and south of Interstate 80. However, both highways create significant barriers to potential California red-legged frogs. Therefore the regional assessment was limited to the described contiguous habitat area.

The Conservation Area provides an opportunity to achieve mitigation for the temporary or permanent loss of CRLF habitat in the WSRPP area by preserving an area of high quality habitat than is present in the Project site. The Jaeger Property includes designated critical habitat for the species (SOL-3). CRLF have previously been reported from several locations near the Jaeger Property. The following survey results and records of CRLF are available:

- LSA Senior Biologist John Kunna visited the site on December 9, 2015. Mr. Kunna has extensive experience working with CRLF and holds a Section 10(a)(1)(A) Recovery Permit from the USFWS. He has been authorized by CDFW and USFWS to survey for and monitor CRLF on a project basis. Mr. Kunna traversed the entire property on foot and noted vegetative cover, drainages, and biological resources on the property. No CRLF were observed on the Jaeger Property during the December 2015 site visit.

- Mr. Kunna conducted a second CRLF survey of the Jaeger Property on Monday, April 2, 2018. Survey efforts were focused on the drainages where CRLF were most likely to be present. No CRLF were detected during the survey, and there is currently no suitable CRLF breeding habitat on the property. Most of the undeveloped portions of the property are suitable upland habitat for CRLF, and the drainages were wet and provide suitable non-breeding aquatic habitat.

- On July 10, 2006, a single CRLF was observed in a cement-lined cistern/pit within the quarry ruins on the Watson Ranch Project Site. This observation was reported to the CNDDB and is recorded as CRLF occurrence Number 896. This occurrence represent the observation is of a single, adult frog within an atypical habitat area, and was approximately 0.5 mile south of the southern boundary of the Jaeger Property. There have been three separate USFWS protocol-level surveys for CRLF conducted for the nearby Watson Ranch property during the past seventeen year period. No tadpoles or frogs have been observed on the site during any of the surveys.

- On August 4, 2008, a single CRLF was observed in a small side pool in North Slough Creek, approximately 1200 feet west of the edge of the Jaeger Property (CNDDB 2016). This observation has been reported to the CNDDB and is recorded as CRLF occurrence Number 1062. The report of this occurrence states that the pond upstream of where the frog was seen contains “good quality breeding habitat.” This pond is located approximately 500 feet east of the northern corner of the Jaeger Property. Between 1996 and 2007, numerous tadpole and adult CRLF were observed approximately 0.9 mile south of the southern boundary of the Jaeger Property (CNDDB 2016). These observations have been reported to the CNDDB and are recorded as CRLF occurrence Number 228. This land is now protected for the CRLF as well as the endangered Callippe silverspot butterfly. The most recent surveys of the area in the summer of 2015 detected juvenile CRLF, indicating the species successfully bred there the previous year (G. Monk, pers. comm.).

Other Amphibians

The only amphibian observed was one California slender salamander (*Batrachoseps attenuatus*), which was found in 2018 under woody debris in a grove of oak trees. Slender salamanders do not

require standing water for reproduction because they lay their eggs in moist areas under rotting logs.

Swainson's Hawk

Swainson's hawk (*Buteo swansonii*) is a California threatened species. These medium-sized opportunistic predators feed on rodents, rabbits, bats, large arthropods, amphibians, reptiles, birds, and, rarely, fish. The Swainson's hawk (is a highly migratory raptor that nests over a vast area of western North America and winters in Argentina. A small number of individuals also winter in the Sacramento-San Joaquin Delta region of California. There have been significant declines in Swainson's hawk numbers in California from historic population levels and this species is now a State listed threatened species. This species arrives in California in late February and departs for wintering grounds in early September. Eggs are typically laid in April and early May. Swainson's hawks reside in a wide variety of open habitats, including prairies, grasslands and intensively farmed areas. Nests are usually constructed in riparian corridors adjacent to agricultural fields or pastures. The nearest nesting Swainson's hawks to the Jaeger Property occur south of the Highway 29 bridge over the Napa River, approximately 3 miles northwest of the site. Although Swainson's hawks may occasionally forage in the Project Area, this species has not been observed in the Project area. However, it is conceivable that Swainson's hawks may establish nest sites in the woodlands of the Jaeger Conservation Area, especially if grassland management through grazing and weed control enhances habitat quality for rodents. Long-term management of the Jaeger Property and the permanent protection of a large acreage of breeding and foraging habitat will benefit Swainson's hawk. No Swainson's hawk individuals were observed on the Conservation Area.

American Badger

American badger (*Taxidea taxus*) is a medium-sized mammal. It has a long, flat body shape, with short but powerful legs adapted to digging. The badger lives in burrows it excavates. The badger is primarily nocturnal; it feeds on insects, small mammals, amphibians and reptiles, and occasionally on plant matter (fruits, crops). Badgers occasionally hunt communally with coyotes in open grasslands of agricultural lands. The CDFW designated the American badger as a California species of special concern. The badger potentially could occur on the Jaeger Property, although no verified burrows or signs have been observed during LSA's surveys, and no badgers were observed on the Conservation Area.

IMPACT ASSESSMENT

POTENTIAL IMPACTS

The proposed project activities entail the following:

1. Subdivision of the entire property into 3 parcels, each measuring at least 160 acres in compliance with the County General Plan's zoning. Each Parcel would have approximately 150-160 acres of agricultural land, including rangeland, vineyards and associated farm building locations, and one allowed home site.

2. The 321-acre Jaeger Conservation Area will be protected in perpetuity under a CE, management plan, habitat establishment plans, and funding mechanism approved by the City and USFWS to provide compensatory mitigation for the CRLF. Funding for management shall include direct costs for initial establishment of the site, interim management, and establishment of a non-depleting endowment for the long-term maintenance, management, and monitoring of the CE. Any future owners of the property will be required to manage the Conservation Area subject to the restrictions contained in the Deed of Conservation Easement and the associated Long Term Management Plan.

3. The Conservation Area will not include croplands or vineyards. No construction of new roads, farmsteads or other buildings would be allowed within the Conservation Area. Maintenance of existing ranch roads for fire prevention, monitoring and patrol purposes is an allowed activity.

4. Management of the Conservation Area will including controlled grazing by domestic herbivores (cattle) to reduce non-native plant cover and increase biodiversity of grasslands. Fencing for livestock, weed management and livestock handling facilities, such as gates, water troughs, chutes and corrals will be permitted to facilitate proper rangeland management.

5. Habitat enhancements in the Conservation Area, to benefit CRLF and other species potentially impacted by the Watson Ranch Specific Plan Area project may include building up to three small breeding ponds to enhance habitat for CRLF and Western Pond Turtle, fencing of stream or riparian corridors to protect stream habitat, and managing woodlands to increase nesting habitat for raptors.

Impacts to Habitat by Proposed Building Sites and Access Roads.

The proposed building sites for the 3 parcels are located outside the Conservation Area and are located within an intensively farmed area of the Jaeger Property (Figure 4). A brief description of potential impacts of each Parcel's building site and access roads is as follows:

- **Parcel 1:** The 5-acre proposed home site is located ca 200 ft. east of the existing main farm road. The topography is gentle, sloping towards the west and north. The building envelope for Parcel 1 and its proposed access driveway is situated along the existing common farm road, downslope from a 9-acre vineyard. The site is within a former vineyard, currently overgrown with non-

native weedy forbs and grasses. Water storage tanks are stored on the site. There is no significant wildlife habitat on the site. No sensitive species were observed.

- **Parcel 2:** The proposed building envelope for this parcel is 5 acres and located at the northern edge of the Jaeger Property. The home site is within an existing, actively farmed vineyard. The access road is the only part of the project that crosses lands that have never been farmed before. The road winds through non-native grasslands along a west-facing slope that has evidence of active slippage. There are no wetlands or sensitive habitats along the propose access road alignment. A white-tailed kite (*Elanus leucurus*, a CDFW fully protected species) was observed foraging over the adjacent vineyards, but there is no breeding habitat for this species within 500 feet of the proposed road or building envelope. No other special status species were observed.

- **Parcel 3:** The proposed home site is 5 acres, located at the southern boundary of the Jaeger Property. Approximately half of the proposed home site is within an existing vineyard, the other half is rangeland. The proposed access road is an extension of a farm road used to access vineyards. The proposed route of the access road for Parcel 2 leads up a minor valley, overgrown with non-native vegetation (wild radish, black mustard and Italian thistle). Aside from the non-native grassland, there is not significant wildlife habitat on the site. No sensitive species were observed.

Impacts on Special-Status Species

California Red-Legged Frog

The subdivision of the property will not have any negative impacts on the CRL or any other potentially present special status species, because it does not cause habitat loss for the species. Subdividing the parcel will not change the current existing baseline habitat conditions.

The permanent conservation of 321 acres of the Jaeger Property under a Conservation Easement and Long-Term Management Plan will protect important non-breeding aquatic and upland habitat and will implement many beneficial management practices that enhance habitat quality and quantity for the CRLF. In addition, the planned construction of multiple breeding ponds will provide new breeding habitat, additional aquatic non-breeding and foraging habitat. Managing grasslands with appropriate grazing and weed control will enhance dispersal/upland habitat that is connected to other high-quality habitat on adjacent open space. Finally, managing non-native predators (such as bullfrogs) of the Jaeger Property will address a major risk factor to the species.

Moreover, the protection of the Conservation Area will have beneficial impacts, by creating secure, permanently protected habitat within critical habitat. The Conservation Easement and the associated Long-Term Management Plan will prescribe beneficial management and enhancements of habitat features for CRLF, such as ponds, riparian habitat and dispersal habitat. Virtually all life stages of CRLF will benefit from grazing management, which tends to increase biodiversity of grasslands and riparian habitats. In addition, the future potential restoration of breeding habitat will allow the species to breed. While the Jaeger Property does not currently contain any suitable breeding habitat for CRLF, there are several old slumps along the drainages that in years past may have impounded water long enough to support breeding, an which could be enhanced to support

breeding. Where necessary, breeding ponds should be equipped with water control structures that will allow periodic drawn down to control potential predators for CRLF (e.g., bullfrogs).

Western Pond Turtle

The subdivision of the property will not have any negative impacts on the Western pond turtle because it does not cause habitat loss for the species. Likewise, placing a conservation easement over the 321 acre Conservation Area will not negatively impact Western pond turtles, because it does not contribute to habitat loss or degradation. Pursuant to a CDFW approved relocation plan, Western pond turtles could be captured during construction at WRSP and may be released into suitable habitat at the Jaeger Property, thereby expanding the current range of Western pond turtle. Release of pond turtles into aquatic habitat where predators are absent could increase reproductive success by increasing hatchling survival. Habitat protection of riparian and pond communities will benefit Western pond turtle by providing foraging and aestivation habitat, including sites for nests.

Swainson's Hawk

The Conservation Area within the Jaeger Property will be managed with grazing to control invasive weeds and improve habitat conditions for a wide range of species, including rodents. Swainson's hawk will benefit from grazing by making prey more accessible. Protection of existing woodlots on the Mitigation property will ensure that potential nest trees for Swainson's hawk are preserved. The same benefits will also apply to other raptors (e.g., white-tailed kite, Great-horned owl, Golden eagle).

Impacts to Rare Plants

No rare or special-status plants were found during field surveys. A potential reason for the absence of rare plants is the extensive cover of invasive and exotic species that compete with native plants. The non-native grasslands of the Jaeger Mitigation site have not been grazed sufficiently, resulting in monotypical stands of annual grasses and weeds. Native forbs, wildflowers and perennial grasses can persist for decades or even centuries and will germinate and bloom sporadically under the right circumstances, but the ecological impacts of annual weeds and grass invasion has greatly diminished the diversity and viability of native plant communities (Bartolome et al. 2014). Cattle grazing reduces competition by annual invasive grasses and thus can increase plant diversity. Although annual grasslands are characterized by significant inter-annual variation in community composition, non-native and invasive species cover is consistently and negatively correlated with native plant richness. Selective grazers, such as cattle, sheep and goats can modify the composition and diversity of plant communities (Milchunas et al., 1988). Especially in California Mediterranean grasslands, grazing tends to increase the temporal stability of plant communities by decreasing year-to-year variation in native forb cover, native plant diversity, and native species richness (Stahlheber et al., 2013). It also can reduce the risk of catastrophic wildfires.

Cumulative Effects

The proposed subdivision of the Jaeger Property and the associated permanent preservation of 321 acres of habitat adds significant acreage to protected habitat for special-status and common species in the area. The Conservation Area adds protected habitat to CRLF critical habitat (SOL-3). The Conservation Area is contiguous with existing protected habitat at Newell Open Space (642 acres),

Lynch Canyon Open Space Preserve (1,039 acres) and the 265-acre Ferrari Ranch Preserve. The combined area will provide 2,267 acres of contiguous protected habitat for the benefit of the numerous species, including CRLF and Callippe silverspot butterfly, thus effectively counterbalancing the ongoing fragmentation of habitat in the region.

Recommended Additional Surveys

Upon conveyance of a conservation easement, the establishment of a baseline survey, including photo points is mandatory to document the condition of the property at the time of easement conveyance. A final biological survey for presence of rare or special status species (plants and animals) should be repeated at that time.

MITIGATION MEASURES

The proposed subdivision of the 508 acre parcel and conveyance of a conservation easement, along with the long-term management of the Conservation Area is not expected to impact species or habitats. Thus, there are no recommended mitigation measures to avoid, minimize, or offset potential project-related impacts to special-status plant and animal species, as well as buffers or avoidance areas to watercourse, wetlands and other aquatic resources.

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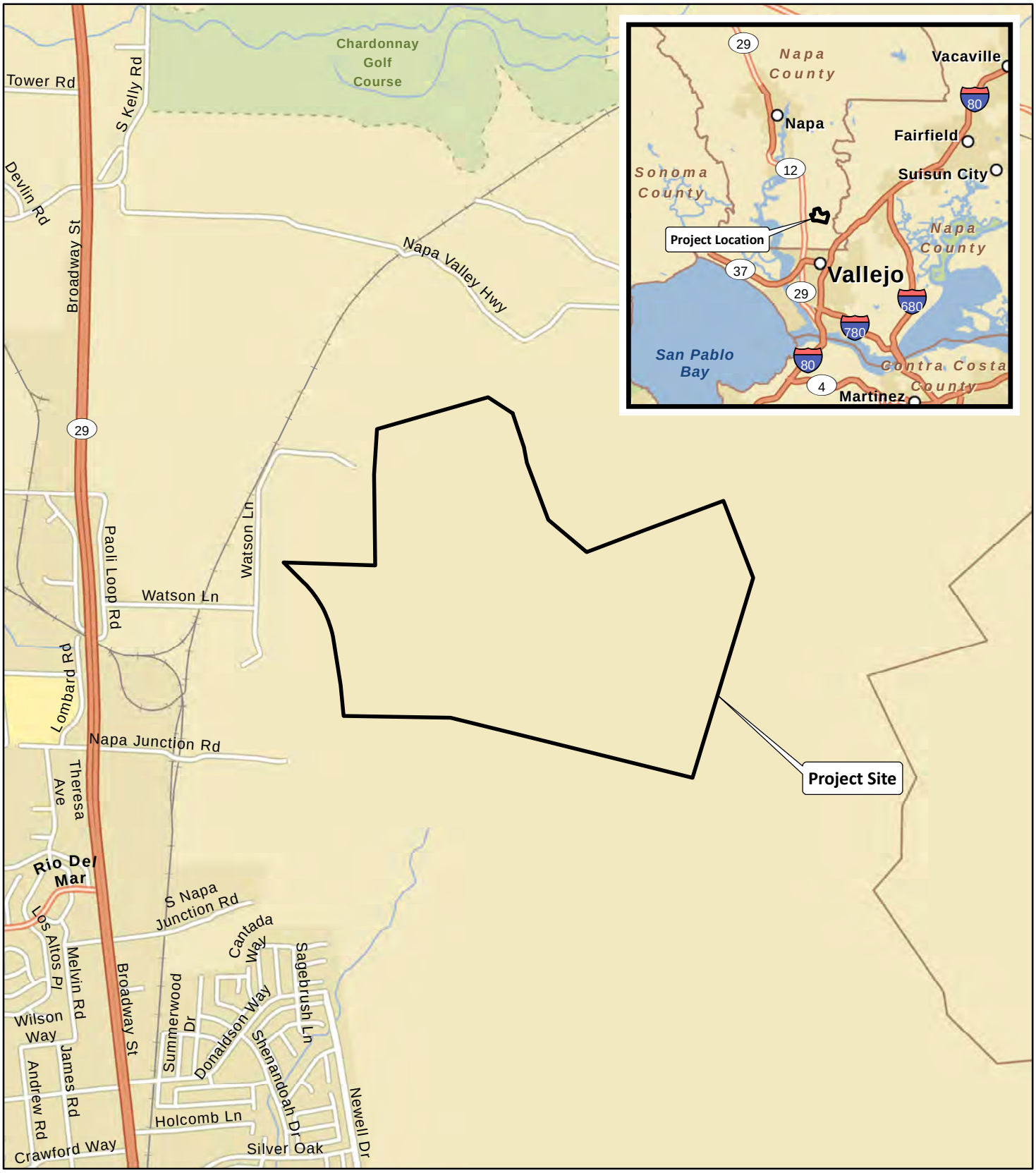
FIGURES



LSA

FIGURE 1

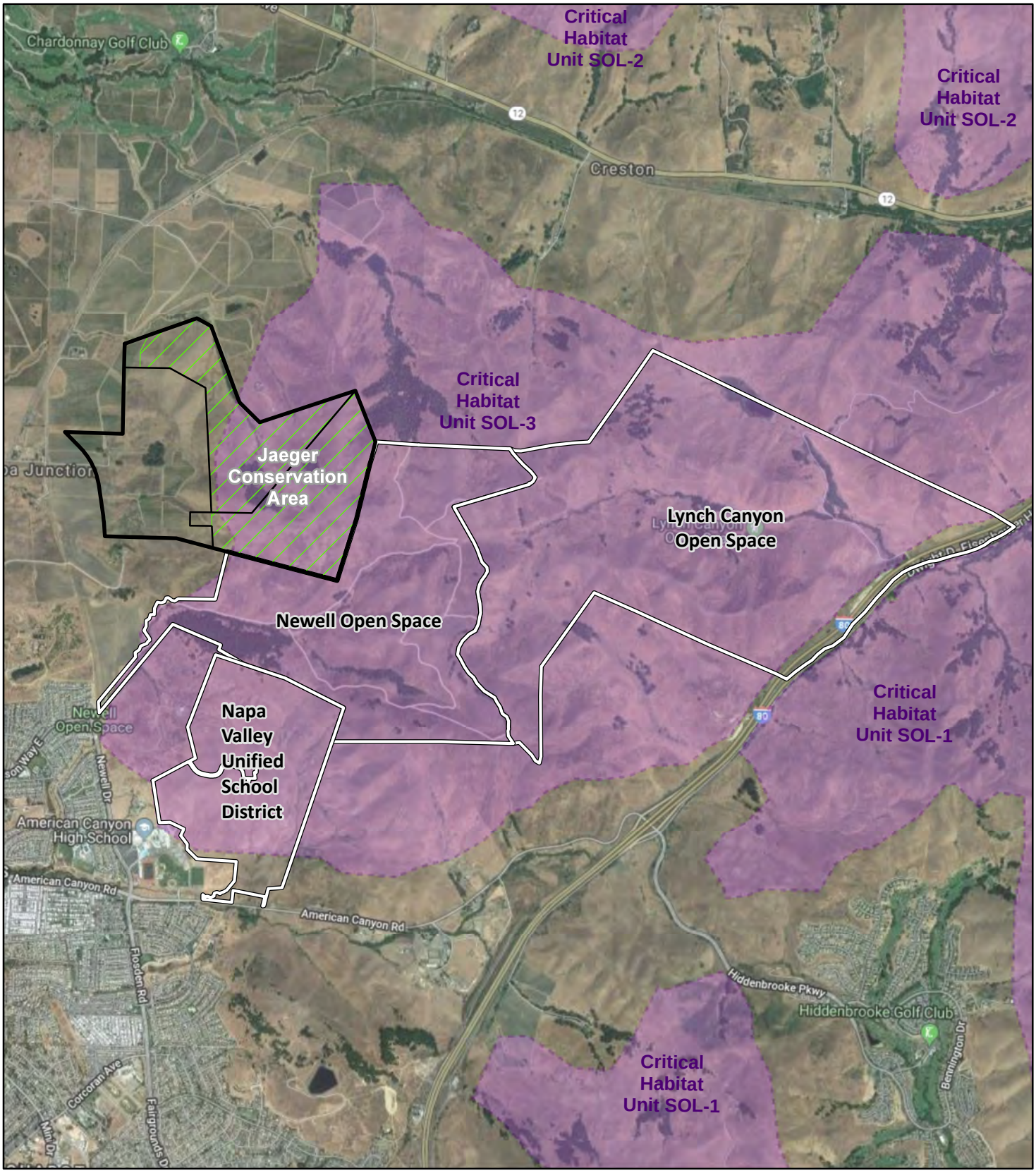
N

0 1000 2000
FEET

SOURCE: ESRI StreetMap North America.

I:\JVD1401\GIS\Maps\Figure 1_Regional Location and Project Site.mxd (5/11/2018)

Jaeger Property
Napa County, California
Regional Location and Project Site



LSA

LEGEND

- Project Site
- Proposed Parcel Lines
- Jaeger Conservation Area
- Other Conservation Lands
- California Red-legged Frog Final Critical Habitat

N

0 1500 3000
FEET

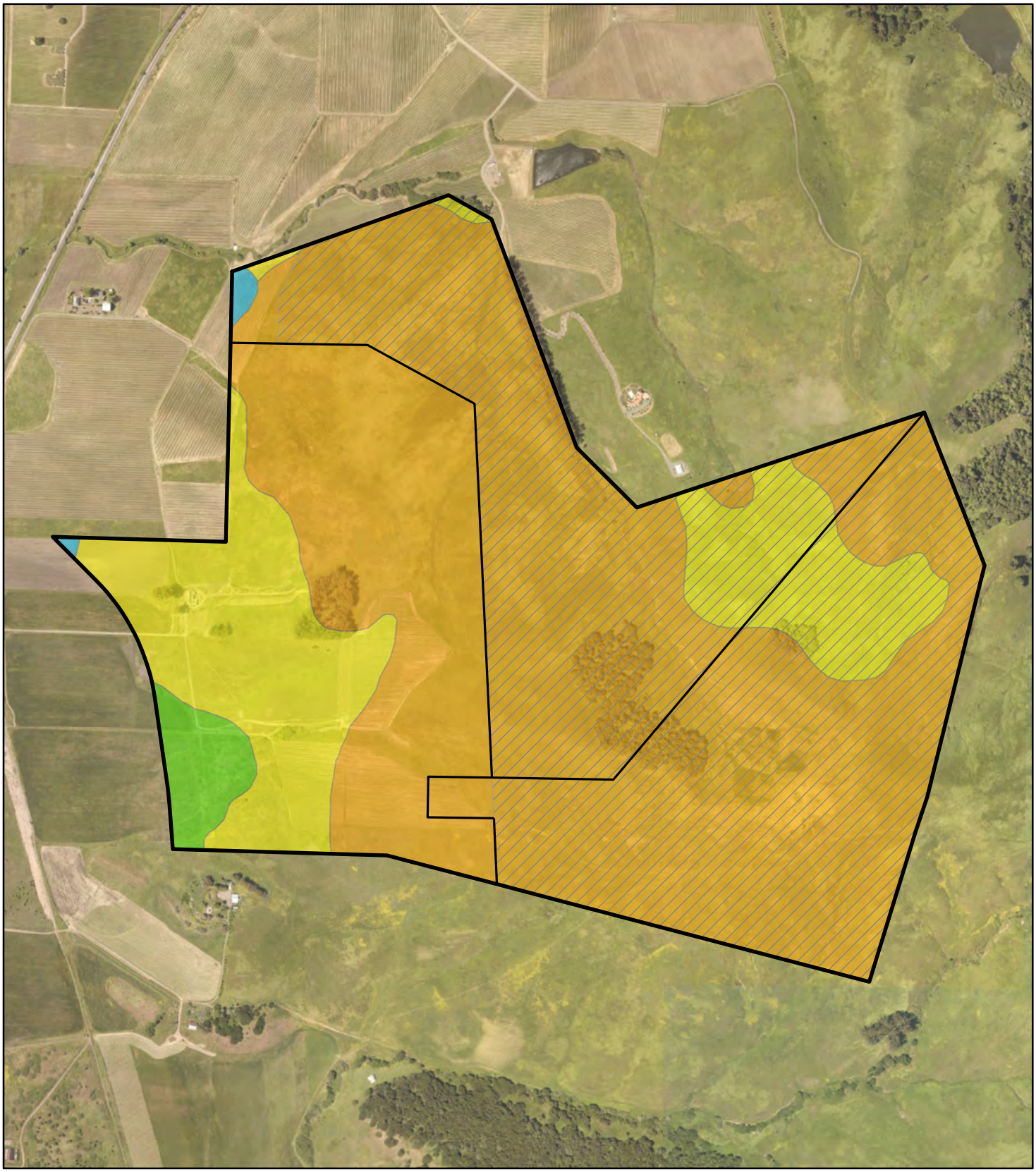
SOURCE: USFWS (03/2010); CPAD (2018); Chaudhary (09/2019); Google (c)2019.

I:\JVD1401\GIS\Maps\BA\Figure 2_Conservation Lands and Critical Habitat in the Vicinity.mxd (11/14/2019)

FIGURE 2

Jaeger Property
Napa County, California

Conservation Lands and Critical Habitat in the Vicinity



LSA

LEGEND

- Project Site
- Proposed Parcel Lines
- Jaeger Conservation Area

Soil Map Unit

- Clear Lake clay, drained
- Fagan clay loam, 5 to 15 percent slopes
- Fagan clay loam, 15 to 30 percent slopes
- Fagan clay loam, 30 to 50 percent slopes, slipped

N

0 500 1000
FEET

FIGURE 3

Jaeger Property
Napa County, California
Soil Types

SOURCE: USDA NRCS (10/2005); Esri World Imagery (c)2019.

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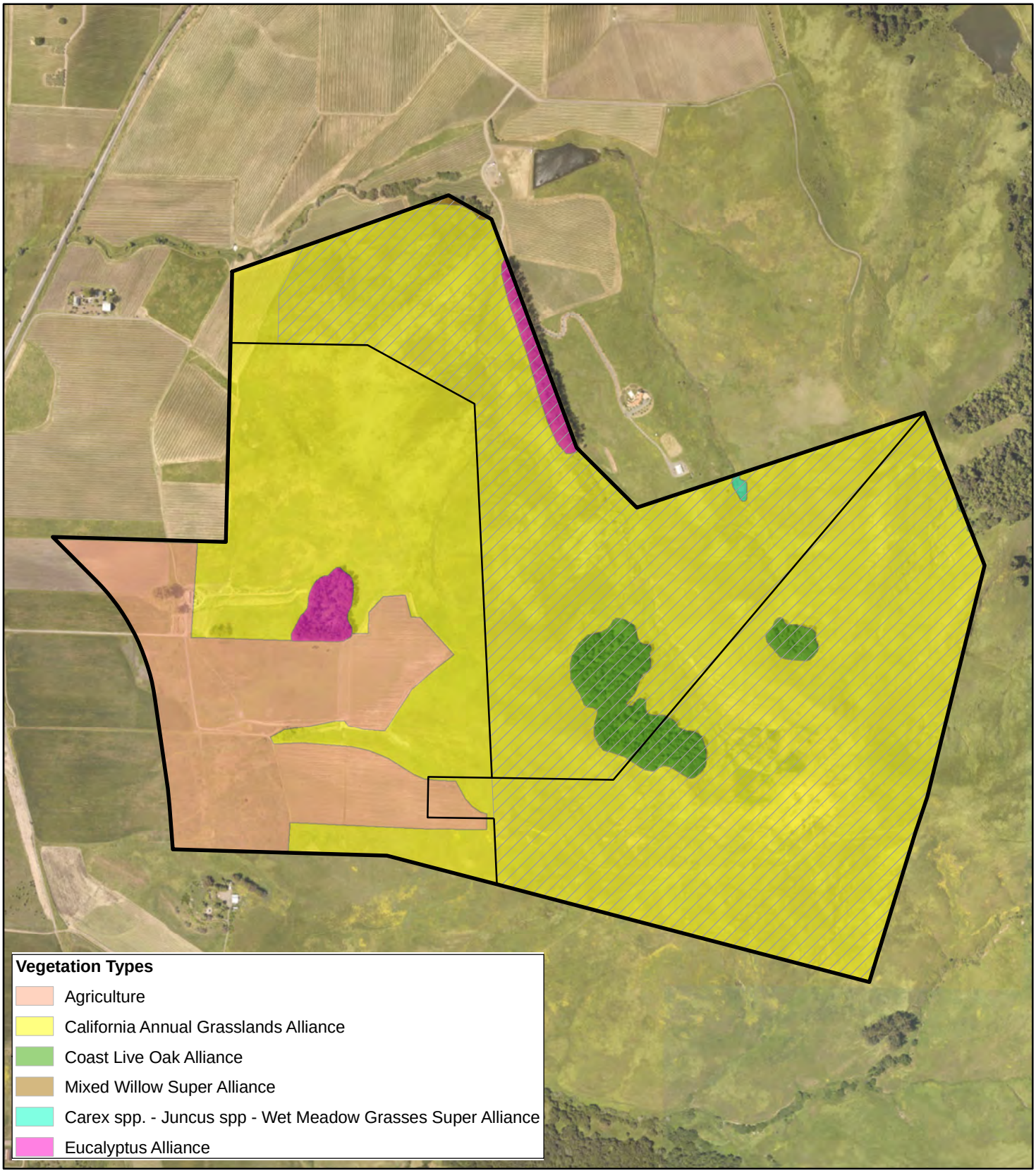


LSA

LEGEND

Project Site

Proposed Parcel Lines

Jaeger Conservation Area

N

0 500 1000

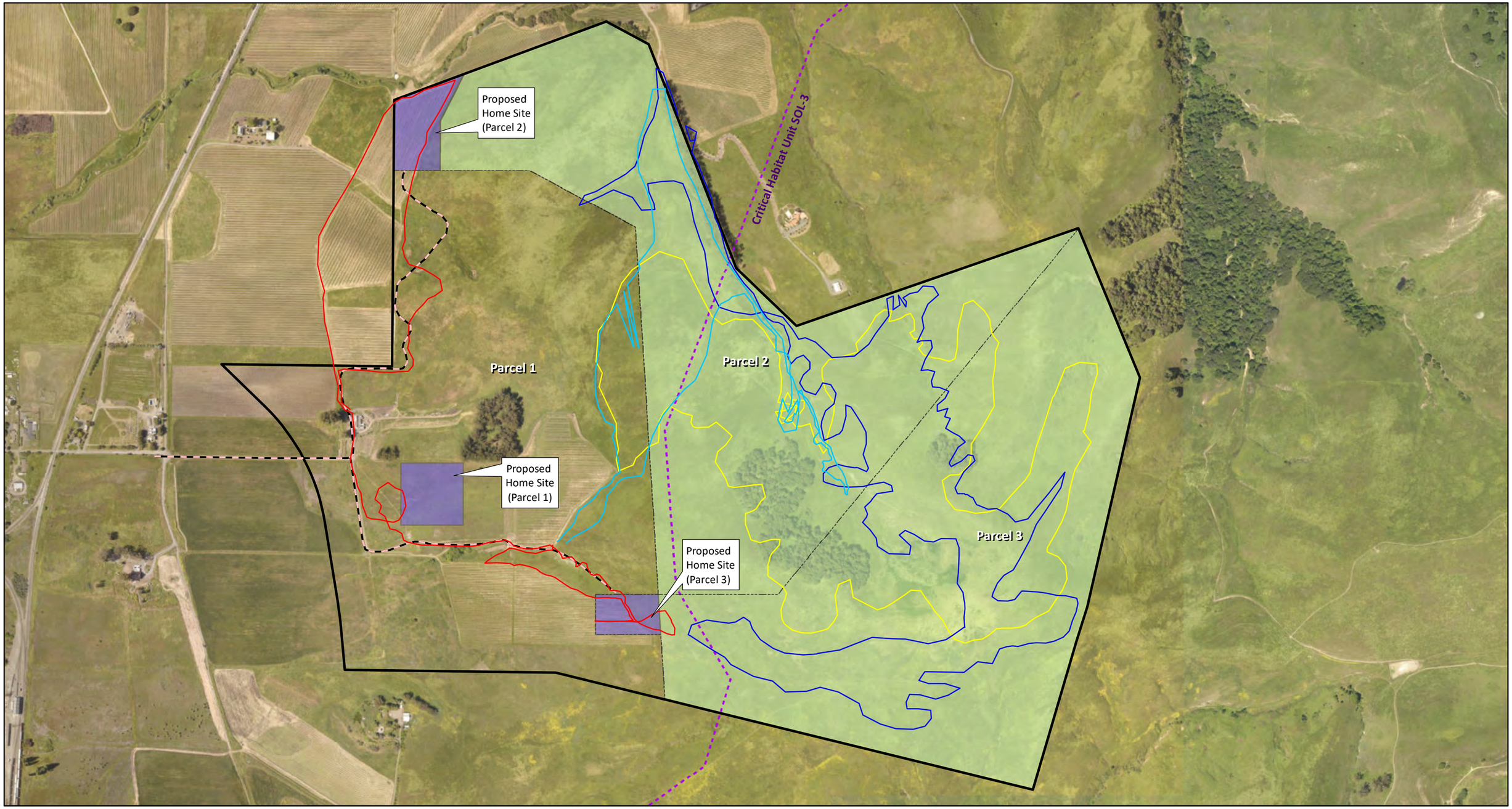
FEET

FIGURE 4

Jaeger Property
Napa County, California
Vegetation Map

SOURCE: UC Davis, ICE (06/2003); Esri World Imagery (c)2019.

I:\JVD1401\GIS\Maps\BA\Figure 4_Vegetation Map.mxd (11/14/2019)



LSA

LEGEND

- Proposed Access Routes
- Proposed Parcel Lines
- Proposed Home Sites
- California Red-legged Frog Final Critical Habitat
- Jaeger Conservation Area

Survey Routes

- 3/31/20
- 4/2/2018
- 5/28/2019
- 6/6/2018

N

0 350 700
FEET

SOURCE: USFWS (03/2010); ESRI World Imagery (09/2019).

I:\JVD1401\GIS\Maps\Figure 4_Jaeger Property and Conservation Area and Survey Routes.mxd (4/3/2020)

FIGURE 5

Jaeger Property
Napa County, California
Jaeger Property and Conservation Area and Survey Routes

APPENDIX A

USFWS LETTER CONTAINING A LIST OF ALL SENSITIVE AND SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING AT THE JAEGER PROPERTY, NAPA COUNTY

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Consultation Code: 08ESMF00-2018-SLI-2104
Event Code: 08ESMF00-2018-E-06181
Project Name: Jaeger Mitigation Area

May 14, 2018

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2018-SLI-2104

Event Code: 08ESMF00-2018-E-06181

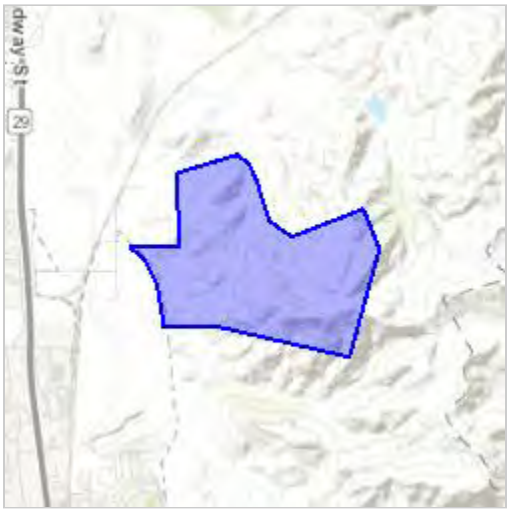
Project Name: Jaeger Mitigation Area

Project Type: LAND - EASEMENT / RIGHT-OF-WAY

Project Description: Mitigation site for Watson Ranch

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.1917744431151N122.2331759992949W



Counties: Napa, CA

Endangered Species Act Species

There is a total of 13 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Salt Marsh Harvest Mouse *Reithrodontomys raviventris* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/613	Endangered

Birds

NAME	STATUS
California Clapper Rail *Rallus longirostris obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern *Sterna antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Western Snowy Plover *Charadrius alexandrinus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Reptiles

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Callippe Silverspot Butterfly *Speyeria callippe callippe* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3779	Endangered
San Bruno Elfin Butterfly *Callophrys mossii bayensis* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3394	Endangered

Crustaceans

NAME	STATUS
California Freshwater Shrimp *Syncaris pacifica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7903	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
Showy Indian Clover *Trifolium amoenum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6459	Endangered
Tiburon Paintbrush *Castilleja affinis ssp. neglecta* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2687	Endangered

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
California Red-legged Frog *Rana draytonii* https://ecos.fws.gov/ecp/species/2891#crithab	Final

APPENDIX B

LISTS OF ALL PLANTS AND ANIMALS OBSERVED AT THE JAEGER PROPERTY, NAPA COUNTY

A list of all plants and animals observed on the project site. Plants were identified to the taxonomic level necessary to determine whether they are of special-status.

List of Plant Species Observed at the Jaeger Property, Napa County (April 26, 2018)

FAMILY/Species Name - Scientific	FAMILY/ Common Name	Native?
FERNS and FERN ALLIES		
DRYOPTERACEAE	WOOD FERN FAMILY	
Dryopteris expansa	Common wood fern	Yes
EQUISETACEAE	HORSETAIL FAMILY	
Equisetum hyemale	Scouring rush horsetail	Yes
MAGNOLIIDS		
LAURACEAE	LAUREL FAMILY	
Umbellularia californica	California laurel	Yes
EUDICOTS		
APIACEAE	CARROT	
Conium maculatum	Poison hemlock	No
Scandix pectin veneris	Venus's needle	No
ASTERACEAE	SUNFLOWER FAMILY	
Achillea millefolium	Common yarrow	Yes
Carduus pycnocephalus	Italian thistle	No
Centaurea solstitialis	Yellow star-thistle	No INVASIVE SPECIES
Cirsium vulgare	Bull thistle	No
Cynara cardunculus	Artichoke	No INVASIVE SPECIES
Helminthotheca echioides	Bristly ox-tongue	No
Silybum marianum	Milk thistle	No
Sonchus asper	Sow thistle	No
Tragopogon porrifolius	Salsify	No

FAMILY/Species Name - Scientific	FAMILY/ Common Name	Native?
BORAGINACEAE	BORAGE FAMILY	
Amsinckia intermedia	Common fiddleneck	Yes
BRASSICACEAE	MUSTARD FAMILY	
Brassica nigra	Black mustard	No
Nasturtium officinale	Small-leaved watercress	Yes
CARYOPHYLLACEAE	PINK FAMILY	
Cerastium glomeratum	Mouse-eared chickweed	No
CONVOLVULACEAE	MORNING GLORY	
Calystegia subacaulis	Stemless morning glory	Yes
FABACEAE	LEGUME FAMILY	
Lotus corniculatus	Bird's-foot trefoil	No
Lupinus succulentus	Arroyo lupine	Yes
Medicago polymorpha	Bur-clover	No
Melilotus indicus	Sourclover	No
Trifolium hirtum	Rose clover	No
Trifolium repens	White clover	No
Vicia americana	American vetch	Yes
Vicia benghelensis	Purple vetch	No
Vicia sativa	Spring vetch	No
FAGACEAE	OAK FAMILY	
Quercus agrifolia	Coast live oak	Yes
GERANIACEAE	GERANIUM FAMILY	
Geranium dissectum	Cutleaf geranium	No
LAMIACEAE	MINT FAMILY	
Mentha pulegium	Pennyroyal	No
Stachys ajugoides	Hedgenettle	Yes
LINACEAE	FLAX	
Linum bienne	Flax	No
MONTIACEAE	PURSLANE FAMILY	

FAMILY/Species Name - Scientific	FAMILY/ Common Name	Native?
Claytonia parviflora	Miner'lettuce	Yes
MYRSINACEAE		
Lysimachia arvensis	Scarlet pimpernel	No
MYRTACEAE	MYRTLE FAMILY	
Eucalyptus globulus	Blue gum eucalyptus	No
ONAGRACEAE	EVENING PRIMROSE FAMILY	
Epilobium brachycarpum	Willowherb	Yes
OROBANCHACEAE		
Bellardia trixago	Mediterranean linseed	No
PLANTAGINACEAE	PLANTIAN FAMILY	
Plantago lanceolata	English plantain	No
POLYGONACAE	BUCKWHEAT FAMILY	
Rumex crispus	Curly dock	No
ROSACEAE	ROSE FAMILY	
Prunus cerasifera	Wild plum	No
Rubus armeniacus	Himalayan blackberry	Yes
RUBIACEAE	MADDER FAMILY	
Galium aparine	Goose grass	Yes
SALICACEAE	WILLOW FAMILY	
Salix lasiolepis	Arroyo willow	Yes
SOLANACEAE	NIGHTSHADE FAMILY	
Solanum americanum	American black nightshade	Yes
MONOCOTS		
AGAVACEAE		
Chlorogalum pomeridianum	Soap plant	Yes
CYPERACEAE	SEDGE FAMILY	
Carex praegracilis	Clustered field edge	Yes

FAMILY/Species Name - Scientific	FAMILY/ Common Name	Native?
Eleocharis macrostachya	Common spikerush	Yes
JUNCACEAE	RUSH FAMILY	
Juncus bufonius	Toad rush	Yes
Juncus effuses	Common rush	Yes
Juncus xiphioides	Irisleaf rush	Yes
Juncus patens	Blue rush	Yes
POACEAE	GRASS FAMILY	
Avena barbata	Slender wild oat	No
Brachypodium distachyon	False brome	No
Bromus diandrus	Ripgut brome	No
Bromus hordeaceus	Soft chess	No
Bromus madritensis	Foxtail chess	No
Elymus triticoides	Creeping wildrye	Yes
Festuca perennis	Italian ryegrass	No
Hordeum brachyantherum	Meadow barley	Yes
Hordeum marinum subsp. *gussoneanum*	Mediterranean barley	No
Hordeum murinum	Foxtail barley	No
Phalaris aquatica	Harding grass	No
Poa annua	Annual bluegrass	No
Polypogon monspeliensis	Rabbit's-foot grass	No
Stipa pulchra	Purple needle grass	Yes
THEMIDACEAE	BRODIAEA FAMILY	
Dichelostemma congestum	Fork-tooth ookow	Yes
TYPHACEAE	CATTAIL FAMILY	
Typha angustifolia	Narrowleaf cattail	Yes

List of Animal Species Observed At the Jaeger Property, Napa County

Species Name - Scientific	Common Name	Native?
BIRDS		
Aquila chrysaetos	Golden Eagle	Yes
Elanus leucurus	White-Tailed Kite	Yes
Corvus corax	Common Raven	Yes
Zenaida macroura	Mourning Dove	Yes
Sayornis nigricans	Black Phoebe	Yes
Corvus brachyrhynchos	American Crow	Yes
Melozone crissalis	California Towhee	Yes
Sturnella neglecta	Western Meadowlark	Yes
Agelaius phoeniceus	Red-Winged Blackbird	Yes
Passeridae	Unidentified Sparrows	Yes
AMPHIBIANS		
Batrachoseps attenuatus	Slender Salamander	Yes
Otospermophilus beecheyi	California Ground Squirrel (Burrows)	Yes